March 16th, 2020

Zach Mosher, Town Planner
Town of Standish
175 Northeast Road
Standish, Maine 04084

Re: Pine Gate Renewables – Sea Dog Solar LLC

Dear Zach,

We appreciate the upfront collaboration to date on our project and are excited to begin the next phase of the permitting process. This Application for Site Plan Review includes the requested supporting documentation as well as additional information that will be helpful in evaluating the unique characteristics of this solar project. The application also describes how the project meets the requirements of the proposed Standish Solar Ordinance.

Should you have any questions, please do not hesitate to reach out to our team. Thank you for your time and consideration.

Sincerely,

Chris Byers
Senior Program Manager
Boyle Associates
cbyers@boyleassociates.net
207-631-9134

Julianne Wooten
Project Manager
Pine Gate Renewables
jwooten@pgrenewables.com
254-624-7496

ATTACHMENT A

Application for Site Plan Review

&

Site Plan Checklist

Planning Department
Standish Town Hall
175 Northeast Rd
Standish, Maine 04084

Zach Mosher
Town Planner
zmosher@standish.org
Phone: (207) 642 4536

Application for Site Plan Review

Applicant & Owner Information

Applicant's Name: Sea Dog Solar, LLC

Applicant's Mailing Address: 130 Roberts Street, Asheville, NC 28801

Applicant's Telephone: (855) 969-3380

What is Applicant's legal interest in the property?

☐ Owner ☐ Potential Buyer with Contract ☒ Lease/Rental Agreement

Owner's Name: Margaret S. Marean

Owner'sAddress: 81 Oak Hill Road

Telephone: 207-642-2843

Agent's Name: Dale Knapp

Agent's Address: 254 Commersical Street, Merrill's Wharf Suite 101 Portland ME, 04101

Telephone: (207) 631-9134

Engineer/Surveyor: Krebs & Lansing Consulting Engineers, Inc.

Engineer/Surveyor's Address: 164 Main St #201, Colchester, VT 05446

Telephone: (802) 878-0375

Project Information

3) Street Address: 425 Cape Road, Standish, ME 04084

(From County Registry of Deeds): Book 22167 Page 0204 (from Tax Maps): Map 3 Lot(s) 43

4a) Current zoning: Residential Shoreland Zoning : N/A

Name of Project/Business: Sea Dog Solar, LLC

Is any portion of the property within 250 feet of a great pond or river? Yes No

Is any portion of the property within the direct watershed of great pond? Yes No

4b) Total Acreage of Parcel: 117 Acres Lot Frontage: ~1,055 ft

Total new square feet footprint of structures: 238,304 Sq Ft

Total new square feet paving/parking: N/A

If in a Shoreland Zone:

Percent of residential lot coverage (Max. 20%): N/A

Percent of structure expansion: N/A

Existing Use of Property: Residential

Proposed Use of Property: Ground-mount solar project

Estimated Cost of Project: $4,500,000

Is project proposed to disturb more than 1 acre?_	Yes	No	
Are there any wetlands or waterbodies on the site?	Yes	No	If yes, attach information
Do you plan to bring fill onto the lot?	Yes	No	If yes, attach information

Property is Currently Serviced By:

- ☒ Town Road
- ☐ Private Road
- ☐ Private Well
- ☐ Public Water
- ☐ Septic System

Is any of the above going to change as a result of the project? If yes, please specify: No

Identify method of fire protection for the proposed development:

- ☐ Hydrants from public water main
- ☐ Dry hydrants located on an existing pond or water body
- ☐ Existing fire pond
- ☐ If other, please specify: _____

Required Signatures:

By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application.
- I certify that the information contained in this application and its attachments are true and correct.
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record.
- I understand that copies of this information may be supplied upon request to an interested party or parties.
- I understand that additional funds may be required through the course of review for special studies, legal review costs, and/or third-party engineering review.
- I understand that by submitting this application I am not guaranteed a place on any particular agenda.
- I further understand that the Town Planner will place me on an agenda for review when the application is deemed substantially complete.

Signature of applicant: _____ Date: 3/16/20

Signature of owner of property: DocuSigned by: Patty Wright D9B829E9C0E8472... Date: 3/16/2020

The application fee is non-refundable. The time limit on this application is 90 days from the first meeting. No extensions will be given unless the delay is caused by a governmental agency. Pursuant to Standish Land Use Code, § 181-70.1, Following the issuance of site plan approval for a specified use by the Planning Board, the applicant shall make a substantial start, as defined in Part 1, § 181-3, and determined by the Code Enforcement Officer, on the approved use within three years from the original date of approval. If no such substantial start is made, the Planning Board approval shall lapse and become void. Standish Land Use Code, § 181-3 defines substantial start as completion of 30% of a permitted structure or use, measured as a percentage of total estimated value to complete. Certify that the information submitted for this application is true and correct. All proposed uses will be in conformance with the application and the Standish Zoning Ordinance. Please also understand that this application is for development and Planning Board review only; the applicant will be required to obtain building permits, and possibly a performance guaranty to the town prior to the start of construction.

Planning Department
Standish Town Hall
175 Northeast Rd
Standish, Maine 04084

Zach Mosher
Town Planner
zmosher@standish.org
Phone: (207) 642 4536

Site Plan Checklist

Application Materials

☒ Letter to Planning Board describing site history, proposed project, waiver requests, proposed improvements, and permit requirements. (See Attachment B)

☒ Application Form. (See Attachment A)

☒ Interest of applicant in property. (See Attachment B)

☒ Covenants/deed restrictions, easements, or rights of way existing or planned. (See Attachment I)

☒ Construction schedule. (See Attachment N)

☐ Proof of financial capability.

☒ A copy of deed, right, title, or interest in property. (See Attachment I)

Site Plan Requirements

☒ Date, north point, scale and project address. (See Attachments A & C)

☒ A boundary outline with exact dimensions and lot area, in relation to surrounding streets, walls and adjoining land uses. (See Attachments C, F & H)

☒ Names and addresses of present landowners and abutting landowners. (See Attachment G)

☒ Contours at intervals of not less than two feet. (See Attachment E)

n/a Locations of existing buildings and other structures, fire hydrants/ponds, street lights, utility poles, underground water and sewer facilities, culverts, and storm drains.

☒ Preliminary design/architectural drawings of site plans, floor plans, elevations in sufficient detail to show access, layout and building construction or modification. (See Attachment C)

☒ A landscape plan and open space areas indicating grade change, vegetation to be preserved, new plantings used to stabilize areas of cut and fill, screening; plus size, location, purpose and type of vegetation. (See Attachment C)

n/a Location and size of any signs or advertising features.

n/a Location of natural features such as stands of trees, watercourses, rock outcroppings, etc.

n/a Location and dimension of pedestrian access ways.

☐ Performance bond guaranty

☒ All necessary easements.

n/a Accurate dimensions of streets, right-of-ways, width of pavement, off-street parking, loading and associated curbing.

n/a Stamp and signature of either a Maine licensed land surveyor, professional engineer, or architect responsible for said plan.

Copies

☒ 15 copies of Application Materials. 10 copies, per Zach Mosher

☒ 3 full-size plan sets with a size of 24”x 36" and at a scale that is appropriate for the size of the project.

☒ 12 plans sets on 11” x 17” sized paper.

☒ An electronic copy of all application materials shall be submitted with the initial and each subsequent submission. This shall be in PDF format.

ATTACHMENT B

Application Written Responses

&

Solar Ordinance Responses

Sea Dog Solar – Application for Site Plan Review
Written Responses

Pine Gate Renewables is interested in constructing a ground-mount solar array, identified as the Sea Dog LLC Solar Project, on the property identified as Lot 043 on Tax Map 003 and the address of 425 Cape Road in Standish, ME.

This proposed Project will not have any adverse impact on Standish municipal services. No water, sewage, storm drain, or solid waste disposal will be required during operations. The possibility of requiring emergency services at this location are very low, and any possible emergency services that may be required are discussed in Section B-2.

Section B-1: Preserve & Enhance the Landscape

Once tree clearing in complete, the proposed Project will preserve the landscape to the maximum extent practicable. Solar installations are low impact by their nature, and do not leave any permanent impact on the land or soil. Once the construction of the Project is, the area will be seeded with a native conservation seed mix resulting in meadow with natural appearance. The Project is set back from Cape Road approximately 500 feet and bordered on all sides with mature tree cover to visually shield the Project from neighbors. Additionally, no permanent parking areas will be associated with this Project.

A standard agricultural fence will surround the Project, to protect the solar panels and electrical equipment. The fence will fit the rural character of the area and blend into the scenery more easily an industrial chain link fence.

Importantly, the proposed Project leaves very little impact on the soil. Fixed tilt panel racking is supported by pilings with a very low area of disturbance. When the Project is decommissioned, these pilings can be removed, and the land remains suitable for agricultural or other uses.

Section B-2: Emergency Vehicular Access

Emergency vehicles can access the site through the proposed access road off Cape Rd. The access road is currently proposed to be 16ft wide and a 50ft turn around area is also proposed. If the Fire Department or Police Department request access to the locked gate, a Knox box can be installed. The development team is willing to meet with local Fire and Police Chiefs to discuss any questions they may have regarding emergency access of the project.

Section B-3: Drainage / Storm Water

The proposed Project will not change surface water drainage in a way that will adversely affect neighboring properties. The Maine Department of Environmental Protection (MDEP) does not consider solar panels to be an impervious surface. Because the solar racking is raised off the ground at least 36”, a continuous meadow stormwater buffer can be maintained throughout the entire Project. The meadow buffer will sufficiently infiltrate stormwater from the site and is not a substantive difference from the stormwater handling capacity of the existing site. In order to meet the meadow buffer treatment requirements, the site will not be mowed

more than two times per year. A Stormwater Permit by Rule from MDEP was filed and approved and is attached to this application within Attachment J.

Section B-4: Water Supply

The proposed Project does not have any operational water demand. No water source will be needed on site.

Section B-5: Soil Erosion

The proposed Project will be constructed in a manner to avoid soil erosion and will not reduce the land's capacity to hold water. As currently designed, the Project has prioritized the avoidance of alterations to all jurisdictional natural resources; therefore, development will be restricted to non-jurisdictional upland areas. Specifically, no development is proposed to occur within 75 feet of any jurisdictional streams within the Site.

The stormwater design and maintenance plan incorporates erosion and sedimentation control Best Management Practices (see list below) to avoid risk for sediment detachment and transportation. For example, site-preparation for the Project will occur incrementally in 5-acre blocks, waiting until an entire block has been stabilized before the opening of subsequent blocks. Additionally, during operation and maintenance of the Project, mowing of the Site will be restricted to no more than two times per year, thus new vegetation within the Site qualifies as a meadow buffer.

List of Best Management Practices:

- Meadow buffer present under solar modules and across Site will be mowed no more than twice per year;
- A conservation seed mix will be used to stabilize and revegetate the Site;
- Site preparation will be completed incrementally in 5-acre blocks and stabilized prior to the opening of subsequent blocks;
- No more than 10 acres of exposed bare soil on-Site at any given time;
- Silt fence will be properly installed around the Project perimeter during the entire construction phase;
- Hay bales will be available on-Site at an appropriate volume to address stabilization;
- An Environmental Inspector (EI) will be employed to oversee the installation and condition of all erosion and sedimentation control BMPs employed at the Site both prior to and during construction;
- The use of pile-driven foundations will allow the racking to follow the contours of the existing Site and will minimize the need for Site grading and soil disturbance.
- After construction is completed, the site will be permanently stabilized through meadow buffer plantings. This vegetation will not be mowed more than twice per year as required under the MDEP standards for stormwater buffers.

Section B-6: Sewage Waste Disposal

The proposed Project will not produce any sewage and does not include a subsurface waste disposal system.

Section B-7: Waiver Requests

The proposed Project does not request any waivers from the town.

Sea Dog Solar – Application for Site Plan Review
Conformance to Solar Energy System Ordinance

Description of Project

- The proposed project is a ground mounted, fixed tilt solar photovoltaic energy system.

Size of Project

- The proposed Project is categorized as "Solar Energy System, Large Scale" because it occupies 238,304 square feet of surface area which is measured by the total area of the solar collector at maximum tilt that occupies a given space.

Use

- The proposed Project is located within the R-Residential District. The Town of Standish has deemed Large Scale Solar Energy Systems as allowed use within the Residential District.

Construction Process

- The proposed Project will be designed by qualified and certified civil, structural, and electrical engineers in accordance with all applicable federal, state, and local codes, regulations, and standards.
- System installations will be installed in compliance with NFPA 1 code, and all wiring shall be designed and installed in compliance with NEC 2017 code.
- Conductors between solar racking and to pad mounted equipment will be placed underground in conduit. Conductors installed on the underside of the solar modules will be dressed neatly in accordance with NEC code. Conductors related to interconnection equipment that connect the customer owned transformer to the distributed generation lines owned by CMP will be installed overhead on poles.
- The transformer(s) will be mounted on a pad within the Project fence.
- An interconnection agreement has been filed with CMP, and once the solar energy project is fully constructed and ready to energize the project from the grid, CMP will have the right to conduct inspections of the system and perform witness testing (unless waived) after the solar energy system has been fully commissioned.
- The Standish Code Enforcement Officer will conduct required inspections on the project.

Dimensional Requirements

- The height of the racking will be 12ft or less depending on topographic site conditions.
- Setbacks required by the Solar Ordinance compared to the proposed setbacks on the Sea Dog Solar Project are depicted in Table 1.

Table 1: Setbacks

	Solar Ordinance Required Minimum Setbacks (Residential)	Sea Dog Solar Project Setbacks measure
Front	50 ft	350 ft
Rear	30 ft	+/- 1300ft
Side	30 ft	50 ft

Safety

- The project team will provide a copy of this application to the Fire Chief in order to provide them with information that will inform how the Standish Fire Department will respond to any emergencies on site. The applicant or their representatives invite any member of the Fire Department for a site walk once the project is constructed in order to identify proper site access, safety considerations, and electrical disconnects.
- Required placards per NEC code will be installed on electrical equipment that identify any hazards associated with that specific equipment.
- A sign will be installed on the gate that will include the 24 hour emergency contact information. A responsible person will be identified, and their contact information will be provided to the Fire Chief.

Visual

- Very little visual impact is expected from this Project due to the cleared solar array being set back in the woods away from abutters and passersby.
- The visual impact of the Project along Cape Rd to the southeast will be buffered by keeping approximately 350 ft of mature trees between Cape Rd and the clearing limit.
- The visual impact of the Project to the southwest towards the abutter in the nearby field will be buffered by keeping approximately 300 ft of mature trees when measuring from clearing limit to the field (total distance from clearing limit to property line is ~584ft)

Lighting

- No lighting will be installed on the Project.

Glare

- Solar panels are designed to absorb light and are manufactured with type of tempered glass that reduces glare. Because this project will not be installed within eyesight of Cape Rd or any abutters, there is no glare impact.

Operations & Maintenance Plan

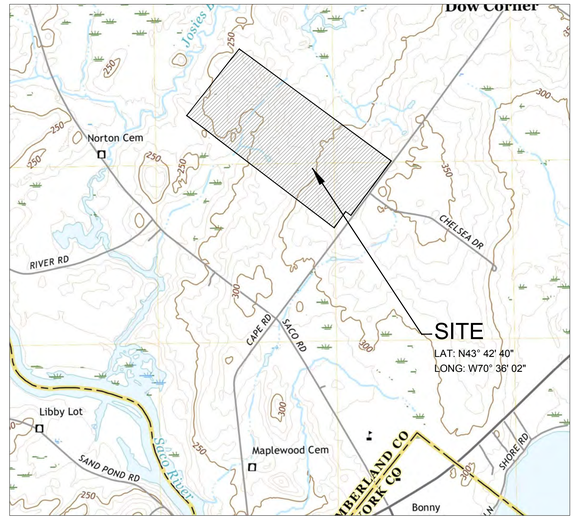
- A sediment and control plan has been provided in the Maine DEP Stormwater Permit By Rule (See Attachment J) to address the construction and long term operation of the project from a stormwater and civil perspective.
- A Solar Energy System Operations and Maintenance Plan (See Attachment O) has been provided. This document will address the operations and maintenance of the solar specific equipment.

Decommissioning

- A Decommissioning Plan and Cost Estimate has been included in Attachment L.
- The cost to decommission the project is based on data provided by NYSERDA (New York State Energy Research and Development Authority). Scrap and recycling value that may be realized during decommissioning has been omitted from the Decommissioning Plan.

ATTACHMENT C

Site Plan

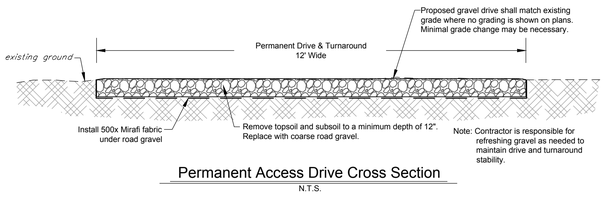


LOCATION MAP
SCALE: 1" = ½ Mile

LEGEND

- EXISTING POWER POLE / PROPOSED POLE
- APPROXIMATE PROPERTY LINES
- APPROXIMATE PROJECT PARCEL
- EXISTING GRADE CONTOUR LINES (5 FOOT INTERVALS)
- EXISTING ROW FENCE
- PROPOSED PROJECT FENCE
- PROPOSED TREELINE
- EXISTING OVERHEAD POWER
- PROPOSED OVERHEAD POWER
- PROPOSED UNDERGROUND POWER
- PROPOSED PROJECT EQUIPMENT
- PROPOSED FIXED SOLAR PANEL RACKING
- DELINEATED STREAM
- ENVIRONMENTAL RESOURCE BUFFER
- DELINEATED WETLAND
- PROPOSED 12' GRAVEL ACCESS DRIVE
- LIMIT OF DISTURBANCE
- STAGING AREA FOR CONSTRUCTION
- POTENTIAL VERNAL POOL WITH DESIGN 250' SETBACK
- SURVEY AREA

STRUCTURE FOOTPRINT AREA = 238,304 S.F.



Permanent Access Drive Cross Section
N.T.S.

NOTES:

1. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
2. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 MAINE STATE PLANES, WEST ZONE (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD88 (US SURVEY FEET).
3. EXISTING GROUND CONTOUR ELEVATIONS ARE BASED ON LIDAR DATA FROM THE MAINE OFFICE OF GIS.
4. UTILITIES ARE NOT WARRANTED TO BE COMPLETE OR ACCURATE, CONTRACTOR SHALL CONTACT DIG SAFE BEFORE BEGINNING ANY EXCAVATION.
5. THIS IS IN NO WAY A BOUNDARY SURVEY. PROPERTY LINES ARE FROM PARCEL INFORMATION PROVIDED BY THE MAINE OFFICE OF GIS.
6. THIS IS A PRELIMINARY DESIGN PLAN. FINAL DESIGN WILL BE MODIFIED TO MATCH EQUIPMENT PURCHASED AND POSSIBLE PERMIT CONSTRAINTS REVEALED DURING PROJECT'S REVIEW.
7. PRELIMINARY ENVIRONMENTAL SITE REVIEW DATA IS BASED ON INFORMATION DOWNLOADED FROM THE MAINE OFFICE OF GIS WEBSITE AND PRELIMINARY FIELD REVIEWS.

SEADOG SOLAR

Standish, Maine

BOYLE ASSOCIATES

KREBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

SOURCE DATA LEGEND

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:

Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:

Boyle Associates
254 Commercial Stree
Merrill's Wharf, Suite 101
Portland, ME 04101

0' 100' 200' 400' 600'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 200')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

Proposed
3.25 MW AC
Solar Array

REV. NO.	REVISIONS/COMMENTS	DATE
1	Added disconnect locations and road width	3/13/20
2	Adjusted road width and turnaround radii	3/30/20

Drawing Title:

SEADOG SOLAR
OVERALL
SITE PLAN

DATE of Issue: 12/17/2019

Drawn by: EJM | Checked by: IAJ

Project No.: 19318 | Scale: 1" = 200'

Drawing No.: C-1.0 | Rev No.: 2

ATTACHMENT D

Natural Resource Map

Legend

- Survey Area - 127 acres
- Parcel Boundaries
- Potential Vernal Pool
- Streams
- Wetlands

N

1 inch = 350 feet

0 350 700

Feet

Coordinate System: NAD 1983 StatePlane Maine West FIPS 1802 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community; Boyle Associates; Pine Gate Renewables; Maine Geolibrary;

NATURAL RESOURCE MAP
SEA DOG SOLAR
Standish, Maine

PINEGATE RENEWABLES

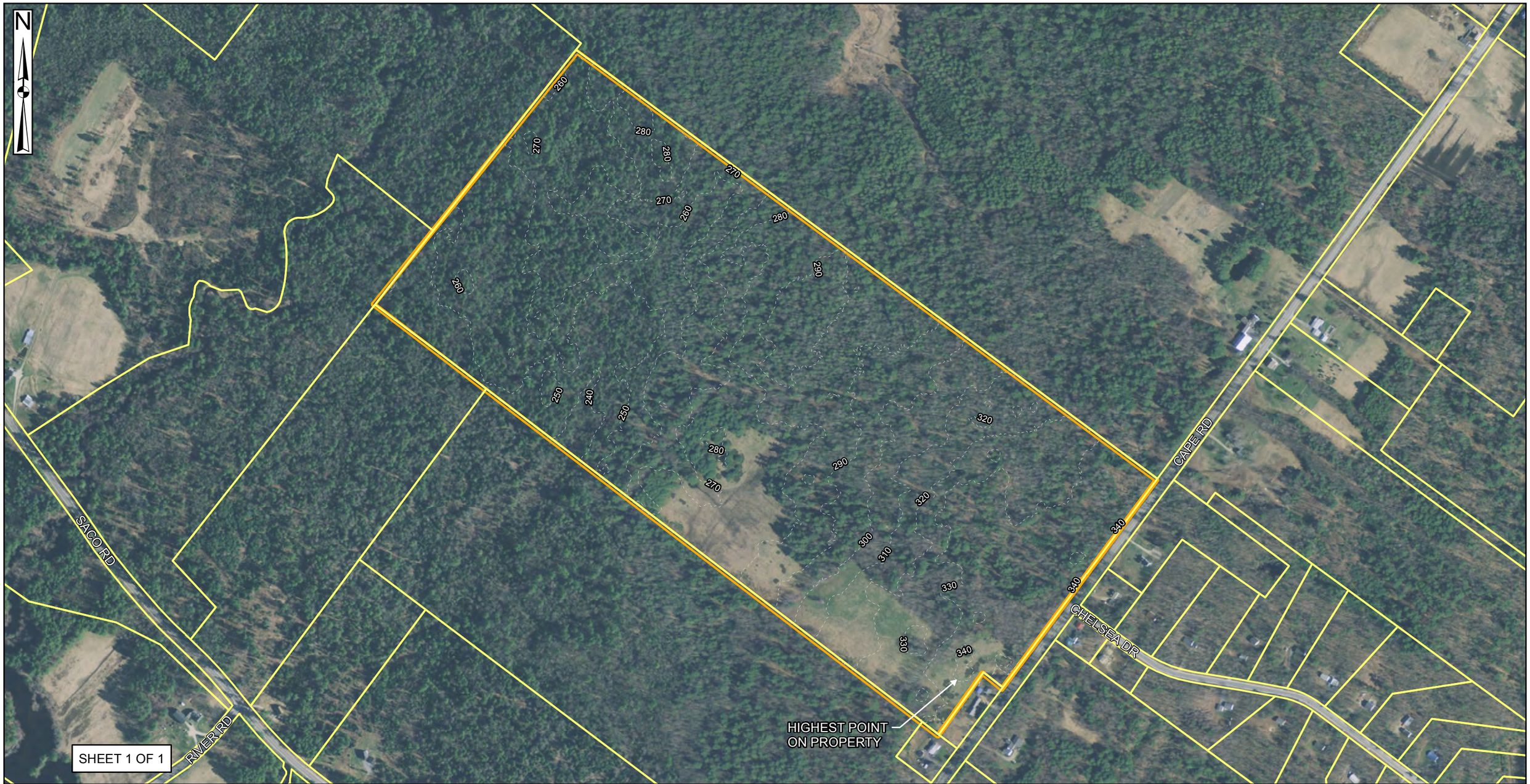
BOYLE ASSOCIATES

Plot Date: 10/23/2019 2:08:31 PM

Document Path: C:\ESRI\PROJECTS\Pine Gate\Sea Dogs\Sea Dogs.mxd

ATTACHMENT E

Topography Map



INDEX MAP

LEGEND

- Project Boundary
- Approx. Parcel Boundaries
- 5ft Contour Interval
- Project Location

BOYLE ASSOCIATES

SCALE:

0 450 900 Feet

1 inch = 450 feet

PINEGATE RENEWABLES

PROJECT AREA TOPOGRAPHICAL DATA MAP SEADOG SOLAR SITE: STANDISH, MAINE

PROJECT NUMBER: 601

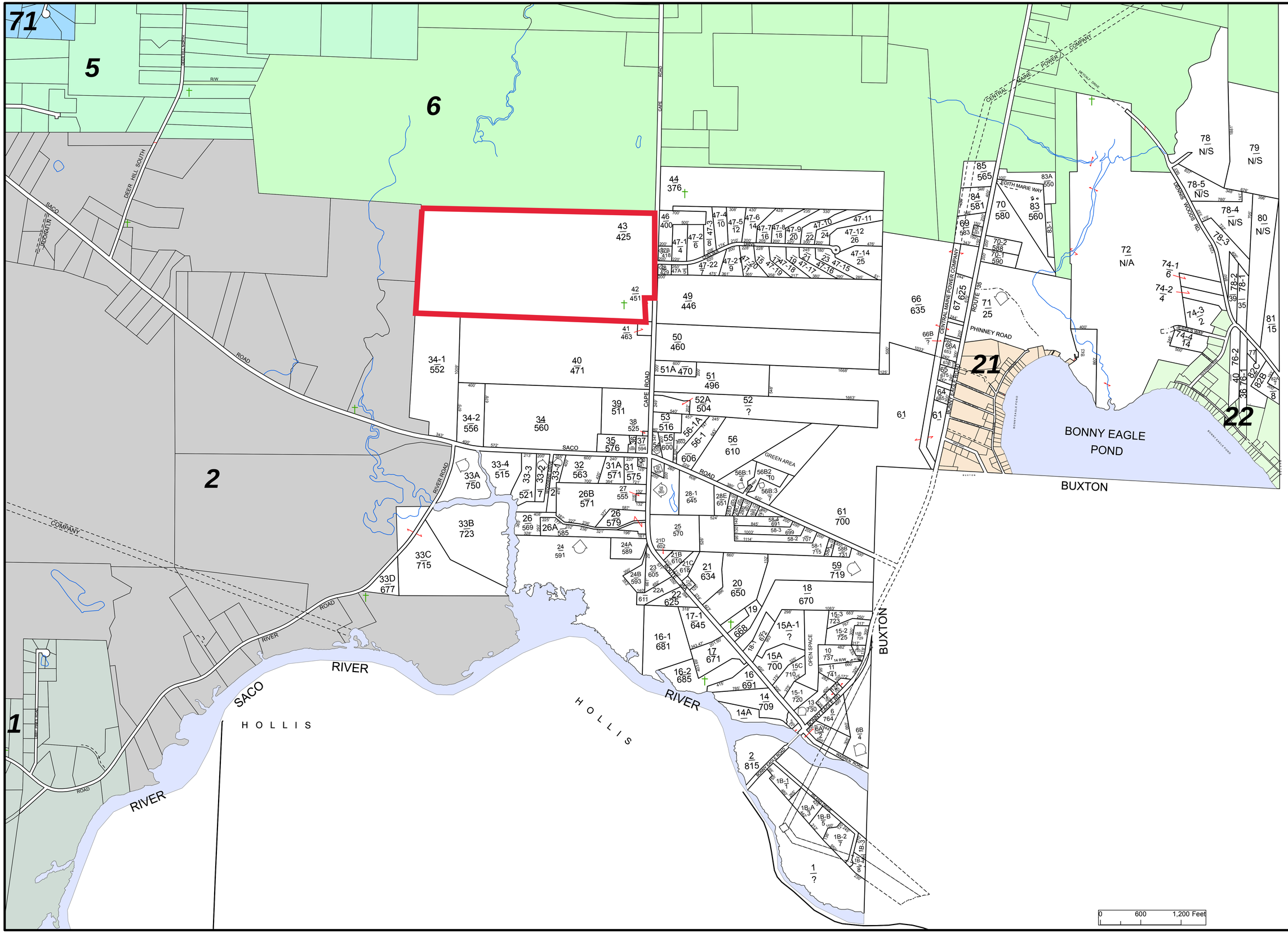
MARCH 7, 2020

ATTACHMENT F

Town of Standish – Tax Map 3

PROPERTY MAPS
TOWN OF STANDISH, MAINE

BUXTON



Revised to April 1st

Scale: 1 Inch = 600

These maps are intended to be used for the purpose of Property Tax Assessments and should not be used for conveyances.

James H. Thomas
gisSolutions of Maine
Cumberland, Maine
jht@maine.rr.com

Hooks
Matchline
ROW
Streams
TownBoundar
Shore

Subject Map
Bordering Map
Bordering Map
Bordering Map
Bordering Map

2018
MAP: 3

ATTACHMENT G

Project Abutters List

Pine Gate Renewables - Sea Dog Solar, LLC
Abutters List

M-B-L	Owner Name	Address
6-1	David H Bradbury	349 Cape Road
2-66	Karen Smith	400 Saco Road
2-68	Williard F. Daupinee	440 Saco Road
3-34-1	Steven K Banks	552 Saco Road
3-40	Neal C. Dow	471 Saco Road
3-41	Anne E Ranger	463 Cape Road
3-42	Joanne Merrill	451 Cape Road
3-49	Dale Wilson	446 Cape Road
3-48	Waltraud Damon I	428 Cape Road
3-47B	Bertrand W Gilman	418 Cape Road
3-46	Susanne M Murphy	400 Cape Road
3-44	Lisa Howard Edge	376 Cape Road

ATTACHMENT H

Town of Standish – Zoning Map

TOWN WIDE ZONING

- Freshwater wetlands
- High value IWWH freshwater wetlands
- Resource Protection District
- Shoreland Development District
- Stream Protection District
- Business and Commercial
- Industrial
- Residential
- Rural
- Rural Residential
- Sebago Lake Village District
- Standish Corner District
- Village Center
- Water
- Water Oriented Commercial
- Parcels
- Flood
- Stream Intermittent

Feet

3,000 1,500 0 3,000 6,000

1 inch = 1,500 feet

THE DEPICTION OF THE FLOODPLAIN AND SHORELAND OVERLAY DISTRICTS SHOWN ON THE TOWN WIDE ZONING MAP OF STANDISH ARE MERELY ILLUSTRATIVE OF THEIR GENERAL LOCATION. THE BOUNDARIES OF SHORELAND DISTRICTS SHALL BE DETERMINED BY MEASUREMENT OF THE DISTANCE INDICATED IN THE ORDINANCE FROM THE NORMAL HIGH WATERLINE OF THE WATER BODY OR UPLAND EDGE OF WETLAND VEGETATION REGARDLESS OF THE LOCATION OF THE BOUNDARY SHOWN ON THIS MAP.

Baldwin

Sebago

Casco

Limington

SUBJECT PARCEL

Raymond

Frye Island

Hollis

Buxton

Gorham

Windham

ZONING MAP
STANDISH, MAINE

File Name:
2014ZoningMap36x52.mxd
Originally prepared by:
FairPoint communications

Adopted: Feb. 12, 2002
Revised: Nov. 7, 2002

gisSolutions
Revised: June 25, 2009
Revised: March 8, 2011
Dated: June 20, 2014

ATTACHMENT I

Title, Right or Interest – Redacted Lease

GROUND LEASE AGREEMENT

BASIC LEASE TERMS SUMMARY

Effective Date	The date that this Lease has been fully executed by both Landlord and Tenant as reflected on the signature page(s).
Landlord	Margaret S. Marean
Tenant	Pine Gate Real Estate, LLC, a North Carolina limited liability company
Land	Up to 60 acres, plus or minus, of the real property located at 425 Cape Rd., in the Town of Standish, Cumberland County (the "**County**"), Maine, Parcel ID Number 003/043/000, as approximately depicted on Exhibit A attached hereto.
Initial Diligence Period (Section 3)	365 days.
Initial Diligence Period Fee (Section 3)	[redacted]
Extended Diligence Periods (Section 3)	One (1) additional 365 day period after the expiration of the Initial Diligence Period ("**First Extended Diligence Period**"); plus one (1) additional 365 day period after the expiration of the First Extended Diligence Period ("**Second Extended Diligence Period**") [; plus one (1) additional 365 day period after the expiration of the Second Extended Diligence Period ("**Third Extended Diligence Period**").]
Extended Diligence Period Fees (Section 3)	[redacted] for the First Extended Diligence Period; for the Second Extended Diligence Period; [redacted] for the Third Extended Diligence Period.]
Initial Term (Section 4)	246 calendar months.
Renewal Terms (Section 4)	Four (4) successive renewal terms of five (5) years each.
Rent (Section 7)	[redacted] per Acre (prorated for any fractional Acre) per year, subject to the terms of Section 2.
Rent Escalation Date (Section 7)	The fifth (5th) anniversary of the first Rent Payment Date (as defined in Section 7(a))
Rent Escalation Percentage (Section 7)	[redacted]
Intended Use (Section 11)	The construction and operation of a solar photovoltaic power array (the "**System**") for the generation and distribution of electric power, and any related lawful use.
Landlord's Notice Address (Section 19)	Margaret S. Marean 81 Oak Hill Rd.

	[redacted] Phone: [redacted]
Tenant's Notice Address (Section 19)	c/o Pine Gate Renewables, LLC 1111 Hawthorne Lane, Suite 201 Charlotte, NC 28205 Attn: Legal Department

GROUND LEASE AGREEMENT

THIS GROUND LEASE AGREEMENT (this "**Lease**") is made and entered into by and between Landlord and Tenant, effective as of the Effective Date.

NOW THEREFORE, in consideration of the amounts to be paid to Landlord by Tenant and the other mutual promises and covenants set forth herein, the receipt and sufficiency of which is hereby conclusively established, Landlord and Tenant hereby agree as follows:

1. **Basic Lease Terms Summary.** References in the body of this Lease to a portion of the Basic Lease Terms Summary shall be deemed and construed to incorporate all the terms provided thereunder. Notwithstanding anything set forth above, if there is any inconsistency between the Basic Lease Terms Summary and another portion of this Lease, the terms of the Basic Lease Terms Summary shall control.

2. **Leased Premises.**

(a) Landlord hereby agrees to lease the Premises to Tenant, and Tenant hereby agrees to lease the Premises from Landlord, upon the terms and subject to the conditions set forth herein. The "**Premises**" as used herein shall be an area comprised of all or part of the Land (such area to be determined in accordance with this Section 2), together with all personal property, improvements and fixtures located on the Land and all other appurtenances, tenements, hereditaments, rights and easements pertaining to the Land. Landlord acknowledges and agrees that the exact size, shape and location of the area of the Land that will comprise the Premises (the "**Lease Boundary Line**") has not yet been determined, and any maps or depictions which Tenant has shown or will show to Landlord (including, without limitation, Exhibit A attached hereto) are approximations only and are subject to change. During the Diligence Period (as defined in Section 3(b) below), Tenant shall assess the Land to determine the most suitable location for the System, and Tenant shall establish the final Lease Boundary Line in accordance with Section 2(b) below. Until the final Lease Boundary Line is established, any reference to the Premises herein shall be deemed to include the entirety of the Land. To the extent the Premises is determined to be less than the entirety of the Land, Tenant shall use commercially reasonable efforts to limit the establishment of land which is unusable by Landlord. In the case that any portion of the Land is determined to be unsuitable for Tenant's Intended Use, which portion may have limited access thereto, Tenant agrees to use commercially reasonable efforts to grant to Landlord any necessary access easements for said portion of the Land, which easements shall not interfere with the development or the operation of the System.

(b) Within thirty (30) days following the Construction Commencement Date (as defined in Section 4(a) below), Tenant shall obtain and deliver to Landlord an ALTA survey (the "**Survey**"), which shall set forth and conclusively establish (1) the metes and bounds legal description of the Lease Boundary Line, and (2) the net acreage (the "**Acreage**", and each such acre, an "**Acre**") of the Premises, being the total Acreage located within the Lease Boundary Line. The parties agree that (A) the Lease Boundary Line and Acreage set forth in the Survey shall be incorporated into this Lease as if fully set forth herein without amendment to this Lease, and (B) the Acreage set forth in the Survey shall be the Acreage used for purposes of computing Rent. Landlord acknowledges, agrees and consents that the final Acreage of the Premises as established by the Survey may be less than the approximate acreage of the Land set forth in the Basic Lease Terms Summary, which would have the effect of reducing the Rent payable under this Lease. If requested by Tenant, Landlord shall provide written consent to the foregoing or an amendment to this Lease expressly incorporating the Survey into this Lease as provided in this Section 2(b).

3. **Diligence Period.**

(a) The Initial Diligence Period shall commence on the Effective Date, for which Tenant shall pay to Landlord the Initial Diligence Period Fee within thirty (30) days thereof. During the Diligence Period (as defined below), Tenant (and its agents, representatives, consultants and affiliates) shall be permitted access to the Premises at reasonable times and upon reasonable notice to Landlord, for purposes of conducting (at Tenant's expense) any and all investigations or testing of the Premises as Tenant may deem necessary, appropriate or convenient, including without limitation, the surveying or investigation of environmental, soils, biological, cultural, historical, boundary or geotechnical matters. Tenant is hereby authorized to undertake direct discussions and/or negotiations with any governmental entity or other agency, body or organization that has jurisdiction over the Premises (including, without limitation, any city, county state or federal agency) in regards to the Premises and the Intended Use. This Section 3(a) shall survive termination of the Lease.

(b) Tenant may elect to extend the Initial Diligence Period by the Extended Diligence Periods by providing written notice to Landlord prior to the expiration of the Initial Diligence Period (or the preceding Extended Diligence Period, as applicable), and paying to Landlord the applicable Extended Diligence Period Fee within thirty (30) days after the expiration of the Initial Diligence Period (or the preceding Extended Diligence Period, as applicable) if exercised. The Initial Diligence Period Fee (and the Extended Diligence Period Fees, if applicable) has been bargained for and agreed to as consideration for the Diligence Period, Tenant's right to terminate this Lease pursuant to Section 3(f), and for Landlord's execution and delivery of this Lease, and such consideration is nonrefundable in all events. If the Rent Commencement Date (as defined in Section 6(a)) occurs prior to the end of the Initial Diligence Period or any exercised Extended Diligence Period, any unamortized portion of the applicable Extended Diligence Period Fee shall be applied against the initial Rent payment. The Initial Diligence Period and the Extended Diligence Periods, if exercised, shall be collectively referred to as the "**Diligence Period**".

(c) Landlord shall provide to Tenant any of the following in Landlord's possession or control, within five (5) days following the Effective Date: (1) any notice of violation of any law or regulation, including zoning laws applicable to the Premises, (2) any "Phase I" and other environmental assessment reports regarding the Premises, (3) Landlord's most recent survey and title insurance policy relating to the Premises, (4) any governmental permits, licenses or approvals for the Premises, (5) tax bills, contracts and agreements relating to the Premises, and (6) any other surveys, physical condition reports, notices regarding zoning or government action with respect to the Premises.

(d) Landlord acknowledges that Tenant may obtain, at Tenant's expense, a title insurance policy insuring Tenant's leasehold interest in the Premises. Landlord agrees to reasonably assist Tenant in obtaining such title policy by supplying any information reasonably requested by the title insurance company in connection with issuing such title policy.

(e) During the Diligence Period, Tenant may terminate the Lease, for any reason or no reason, exercisable upon written notice from Tenant to Landlord of its election to terminate delivered on or before the expiration of the Diligence Period (as may be extended pursuant to Section 3(b) above), in which event Landlord and Tenant shall have no further rights or obligations under this Lease except as otherwise expressly provided in this Lease.

(f) During the Diligence Period, Tenant agrees to indemnify and hold Landlord harmless from and against any loss or damage arising out of or by reason of Tenant's due diligence

activities on the Property during the Due Diligence Period, as extended, by Tenant and/or its employees, contractors and/or agents; provided, however, this indemnity shall not apply to any claims, costs, expenses and liabilities arising out of (i) the mere discovery by Tenant and/or its employees, contractors and/or agents of any pre-existing adverse conditions at or upon the Property, or (ii) the negligence or willful misconduct of Landlord. This provision shall survive termination of this Lease. Prior to Tenant's entry upon the Land, Tenant shall provide to Landlord evidence of insurance as set forth in Section 23 below.

(g) To the extent commercially reasonable at Tenant's discretion, within sixty (60) days after receiving any data, report, or other information concerning the Premises, Tenant agrees to provide Landlord pertinent information derived from the investigations, surveys or testing conducted during any of the Due Diligence periods, including, without limitation, information obtained from consultant reports, raw data, and internal memoranda.

4. **Lease Term.**

(a) The Initial Term shall commence on the date that Tenant begins construction of the System on the Premises as confirmed by written notice from Tenant to Landlord (the "**Construction Commencement Date**") and shall continue for the entire Initial Term unless modified or earlier terminated pursuant to the terms hereof. If the Initial Term does not commence on the first day of a month, then the Initial Term shall not end until the last day of the last month of the Initial Term. For the avoidance of doubt, the Construction Commencement Date shall not be triggered by (i) Tenant's due diligence activities on the Premises (including, without limitation, any surveying, soil or environmental testing or similar work) or (ii) any work performed by or on behalf of the servicing utility company.

(b) Tenant shall have the option to extend the Initial Term for the Renewal Terms by providing Landlord with written notice no later than sixty (60) days prior to the expiration of the Initial Term (or the preceding Renewal Term, as applicable). The Renewal Terms shall be subject to all the terms and provisions of this Lease. The Initial Term and any Renewal Terms, if exercised, shall be collectively referred to as the "**Term**".

5. **Termination of Lease.**

(a) Tenant shall have the right to terminate this Lease as to all or any part of the Premises as follows: (i) pursuant to the failure of any condition described in Section 5(b) below, or (ii) after the expiration of the Diligence Period but prior to the construction and commercial operation of the System, upon Tenant's determination, in Tenant's sole and absolute discretion, that it would not be commercially reasonable to proceed with the construction and operation of the System; *provided,* that if Tenant so terminates pursuant to this clause (ii) after the occurrence of the Rent Commencement Date, then such termination shall be effective as of the date that Tenant pays to Landlord a termination fee equal to the unpaid balance of the total Rent that would otherwise be due for the first twelve months following the Rent Commencement Date.

(b) Tenant's obligation to pay Rent and continue this Lease is at all times expressly subject to satisfaction of each of the following conditions: (i) Tenant's obtaining and maintaining all necessary or required approvals from state, federal and local authorities, (ii) Tenant's obtaining and maintaining any agreement that is necessary for the operation of the System and the sale and delivery of the electricity generated by it, including without limitation an interconnection agreement and power purchase agreement with the applicable utility company, and (iii) Tenant's ability to continuously operate

the System and utilize the Premises for the Intended Use, which may include. but shall not be limited to, curtailment of the distribution of electric power by the applicable utility company. If any of the foregoing conditions are not satisfied at any time following the Effective Date, Tenant shall have the right to terminate this Lease upon written notice to Landlord.

6. **Rent Commencement.**

(a) Tenant's obligation to pay Rent shall commence on the earlier of: (i) the expiration of the Diligence Period (as may be extended pursuant to Section 3(b) above) or (ii) the Construction Commencement Date (the earlier of such dates, the "**Rent Commencement Date**"). For the avoidance of doubt, the Construction Commencement Date shall not be deemed to have occurred as a result of (and the Rent Commencement Date shall not be triggered by): (1) Tenant's due diligence activities on the Premises (including, without limitation, any surveying, soil or environmental testing or similar work) or (2) any work performed by or on behalf of the servicing utility company. Upon the occurrence of the Rent Commencement Date, Tenant shall send a written notice to Landlord confirming the occurrence of the Rent Commencement Date.

(b) Landlord shall furnish Tenant with a signed, completed form W-9 within twenty (20) business days following the Effective Date and thereafter within ten (10) days of any event causing a change in any of the information set forth in the previously-delivered W-9, including any transfer or assignment of the Landlord's interest in the Lease. Tenant shall be entitled to delay delivery of Rent or any other payment due under this Lease, including the Initial Diligence Period Fee, until it receives such W-9.

7. **Rent; Payment Schedule; Rent Escalation.**

(a) Excepting termination of this Lease prior to the Rent Commencement Date, Rent shall be payable in advance in semi-annual installments due on each January 15 and July 15 during the Term or any Renewal thereof (each, a "**Rent Payment Date**"); provided, that the first installment of Rent shall be due on the Rent Commencement Date and shall be prorated, on a daily basis, for the period between the Rent Commencement Date and the first Rent Payment Date.

(b) Beginning on the Rent Escalation Date, and for each anniversary thereafter, the annual Rent shall increase over the annual Rent payable for the immediately preceding year by the Rent Escalation Percentage.

(c) If any overdue installment of rent is not received by Landlord when due, Tenant will pay a late fee to Landlord in the amount of five percent (5%) of the unpaid delinquent rent amount, and Tenant shall pay interest of 1.5% per month on the unpaid balance due from the date of Landlord's notice until the principal and the interest is paid in full.

(d) If the Rent Commencement Date occurs prior to the establishment of the Lease Boundary Line, then the Rent payable on and after the Rent Commencement Date until the date that the Lease Boundary Line is established (such period, the "**Interim Rent Period**") shall be computed based on the approximate acreage of the Land set forth in the Basic Lease Terms Summary above. Once the Lease Boundary Line is established, the Rent payable on and after such date shall be computed based on the final Acreage set forth in the Survey (and the Rent shall be increased or decreased accordingly). If the Rent is increased as a result of an increase in the final Acreage as set forth in the Survey, Tenant shall make a one-time payment to Landlord on the next Rent Payment Date equal to the difference between (i) the amount of Rent which would have been payable during the Interim Rent Period if computed based on

the final Acreage set forth in the Survey, *minus* (ii) the amount of Rent actually paid during the Interim Rent Period. If the Rent is decreased as a result of a decrease in the final Acreage as set forth in the Survey, Tenant shall deduct from the next Rent payment owing to Landlord an amount equal to the difference between (i) the amount of Rent actually paid during the Interim Rent Period, *minus* (ii) the amount of Rent which would have been payable during the Interim Rent Period if computed based on the final Acreage set forth in the Survey.

8. **Utilities; Maintenance**. During the Term, (a) Tenant shall arrange and pay for all public utility services used on the Premises by Tenant, and (b) Tenant shall be responsible for the repair and maintenance of the entire Premises, including any portion of the Premises located outside of the proposed fenced area.

9. **Crops**. Prior to the Rent Commencement Date, Landlord may plant farm crops or enter into a lease for the planting of farm crops on the Premises (so long as any such lease does not have a term longer than one (1) year); provided, that Landlord shall provide Tenant with written notice thereof prior to the planting of such crops, or commencement of planting activities such as fertilizing, or execution of any such farm lease, which notice shall include the estimated date(s) for planting and harvesting such crops. Following receipt of such notice, Tenant may, in Tenant's sole and absolute discretion, elect to (i) delay the Rent Commencement Date until the earlier of the date that any crops actually planted on the Premises are harvested or one year following the date of such notice, or (ii) commence construction of the System and pay the owner of any crops actually planted an amount equal to the fair market value of the portion of any crop or agricultural input such as herbicides or fertilizer that cannot reasonably be harvested and sold solely as a result of the construction of the System. Even if farm crops are planted on the Premises prior to the Rent Commencement Date, Tenant shall nevertheless have the right to enter onto the Premises to extract soil samples, perform geotechnical tests, and conduct such other tests, studies, inspections and analyses on the Premises as Tenant deems necessary, useful or appropriate.

10. **Tenant's Property**.

(a) The System and its constituent parts, together with any and all improvements or other features constructed on, or personal property installed or placed on the Premises by or for Tenant, including without limitation, machinery, fixtures, trade fixtures, equipment, racking, inverters, cables, solar panels and other personal property (collectively, "**Tenant's Property**") are personal property within the meaning of Article 9 of the UCC (as defined in Section 46 below) regardless of the manner of attachment to the Premises, and shall at all times be deemed to be the property of Tenant (subject to any Transfer in accordance with Section 26(a)). The creation, attachment and perfection of security interests in Tenant's Property shall be governed exclusively by Article 9 of the UCC. Landlord hereby waives all rights to levy, distraint, possession or landlord's lien against Tenant's Property, if any, and shall not cause the creation of, or attachment to, Tenant's Property of any liens (including mechanics' and judgment liens) or other encumbrances, subject to Section 13 below, and Landlord is not responsible for payment of any Taxes assessed on Tenant's Property.

(b) The parties hereto acknowledge that the Premises consist of land only and do not include Tenant's Property. Any claim to a lien or encumbrance upon the Premises, arising from any act or omission of Landlord, shall accrue only against the real estate owned by Landlord, and not against Tenant's Property, and shall be subject to this Lease. If any such lien or encumbrance shall be filed against Tenant's Property as a result of Landlord's actions, Landlord shall, without cost or expense to Tenant, promptly and within a reasonable time cause such lien or encumbrance to be discharged of record by payment, statutory lien release bond, court order or otherwise as provided by law. Landlord shall not permit any sale, foreclosure or forfeiture of the Premises by reason of nonpayment of a lien caused by

Landlord or anyone claiming by or through Landlord. Landlord shall immediately notify Tenant of, and send Tenant a copy of, any notice Landlord receives claiming that Landlord is late or in default regarding any obligation Landlord has to pay money to any lender or third party holding a mortgage or other lien affecting the Premises.

11. **Use and Occupancy**. Tenant shall use the Premises for the Intended Use (including all lawful uses that are incidental to, or not inconsistent with the Intended Use).

12. **Alterations and Construction Rights**. Tenant may, at its expense and without the consent of Landlord, remove and/or alter any existing improvements on the Premises, and make any alterations, additions, improvements and changes to the Premises that Tenant deems reasonably necessary in the operation of its business and the Intended Use, including, without limitation, installation of the System, fencing, security devices and/or signage, and excavating, grading, leveling or otherwise modifying the Land; provided, that such alterations, additions, improvements and changes are made in compliance with applicable laws. Landlord shall sign and deliver all applications and other documents, and shall take all such other actions, as are reasonably requested by Tenant in connection with obtaining any re-zonings, variances or other approvals as Tenant shall deem necessary or desirable in connection with the operation of the Premises.

13. **End of Term**. Within one hundred twenty (120) days after the expiration or earlier termination of the Term, Tenant shall completely remove all of Tenant's Property, vacate the Premises, and restore the Premises to substantially the same condition in which it existed as of the Construction Commencement Date, which shall leave the Premises free of any conditions created by Tenant which present a current unreasonable risk of harm to Landlord or members of the public. During said removal period, Tenant shall continue paying Rent to Landlord monthly, in advance, at the same rate as immediately preceding Lease expiration or earlier termination. For the avoidance of doubt, Tenant shall have no obligation to restore any improvements demolished and removed from the Premises as permitted under Section 12 and shall not be required to replant any trees or farm crops removed in connection with the construction of the System. If Tenant fails to vacate the Premises in accordance with this Section 13, Landlord shall be entitled to holdover rent in the amount equal to one hundred twenty-five percent (125%) of Rent for the final year of the Term, prorated on a daily basis, for each day that Tenant fails to so vacate the Premises, which shall be limited to one hundred eighty (180) days following the final notice from Landlord in accordance with Tenant's cure rights, and those of any Additional Notice Party, as set forth in this Lease. Subsequent to written notice, the tolling of all applicable cure periods and the expiration of the aforementioned 180-day period, Tenant's Property may be deemed abandoned, and Landlord may assert ownership interest in Tenant's Property thereafter. Any such holdover shall be construed as a tenancy from month-to-month.

14. **Taxes**.

(a) During the Term, Tenant shall pay Tenant's Portion (calculated in accordance with this Section 14(a)) of the Tax Bill. Landlord shall provide Tenant with copies of all invoices, bills and notices (collectively, "**Tax Bills**") regarding all real estate and ad valorem taxes and assessments imposed or levied on the Premises by any applicable government taxing authority (each, a "**Tax**", and collectively, "**Taxes**"), within thirty (30) days of Landlord's receipt of any such Tax Bill. Landlord shall remit payment directly to the taxing authority for the entire amount of any Tax Bill and, within thirty (30) days after Landlord notifies Tenant that such payment has been made, Tenant shall reimburse Landlord for the portion of the Tax Bill allocable to the Premises (such portion, "**Tenant's Portion**"), which portion shall bear the same relationship to the total Tax Bill as the Premises bears to the larger tax parcel. In the case that the Premises is separately assessed, Tenant's Portion shall be one hundred percent

(100%). Once the Lease Boundary Line is established, the parties shall confirm Tenant's Portion in a written confirmation. Without limiting the foregoing, Tenant shall have the right, but not the obligation, at any time during the Term to pay the entire Tax Bill on Landlord's behalf and deduct any amounts not attributable to Tenant's Portion from future installment payments of Rent. To the extent permissible, Tenant agrees to make payments directly to any applicable government taxing authority for Tenant's Portion of any Tax Bill.

(b) Without limiting Section 14(a), if Tenant's use of the Premises results in the revocation of a classification of the Premises as "agricultural land", "forestry land" or similar classification, thereby triggering liability for "rollback" taxes, Tenant shall pay Tenant's Portion of such rollback tax liability, together with any related interest or penalties, other than interest and/or penalties arising from Landlord's failure to timely provide Tenant with a copy of such Tax Bill.

(c) Upon Tenant's reasonable request, Landlord shall take such reasonable actions and do such things as necessary or desirable to facilitate any action by Tenant to contest any Tax Bill or the assessed value of the property on which they are levied, or to otherwise seek the abatement of Taxes applicable to the Premises, or to seek the separate assessment of the Premises as a distinct tax parcel if the Premises are included within a larger tax parcel. Tenant shall have the right, but not the obligation to pursue any such action.

(d) Notwithstanding anything contained in this Lease, (1) Tenant shall not be under any obligation to pay any part of any franchise, excise, estate, inheritance, income or similar tax which is or may become payable by Landlord or which may be imposed against Landlord or against the Rent payable under this Lease or upon the income or profits of Landlord by reason of any law now in force or later enacted, and (2) in the event the Premises are re-assessed for tax purposes because of transfer of ownership of the Land during the Term of this Lease, Tenant shall not be responsible for payment of any increase in taxes, charges and assessments attributable to such re-assessment, which increase shall be the sole responsibility of Landlord.

15. **Fire or Other Casualty**. If during the Term, all or part of the Premises or Tenant's Property are damaged by fire, wind, flood, earthquake or other casualty, with the result that, in Tenant's sole and absolute discretion, it would not be commercially or economically reasonable or desirable to repair and restore the Premises and/or Tenant's Property, as applicable, then Tenant may terminate this Lease by providing Landlord with written notice of the same and vacating the Premises in compliance with Section 13 hereof. Tenant, or its successor in interest, shall be entitled to 100% of any proceeds from casualty insurance policies maintained by Tenant.

16. **Condemnation**.

(a) If all or part of the Premises and/or Tenant's Property shall be subject to condemnation, the exercise of the power of eminent domain, or other governmental taking (the foregoing, collectively, a "**Taking**") with the result that, in Tenant's sole and absolute discretion, the unaffected portion of the Premises is insufficient or otherwise unsuitable for Tenant's continued use of the Property for the Intended Use or such other use as existed at the time of the Taking (a "**Total Taking**"), then Tenant may terminate this Lease by providing Landlord with written notice of the Total Taking, the Lease shall terminate effective as of the date set forth in such notice, and Tenant shall vacate the Premises in accordance with Section 13.

(b) If all or part of the Premises and/or Tenant's Property shall be subject to a Taking that, in Tenant's sole and absolute discretion, does not constitute a Total Taking (a "**Partial Taking**")

then (i) concurrently with such Taking this Lease shall terminate with respect to the affected portion of the Premises, which Tenant shall vacate in accordance with Section 13, (ii) this Lease shall continue in full force and effect with respect to the unaffected portion of the Premises and (iii) the Acreage shall be reduced for each Acre (or portion thereof) subject to the Taking, and the Rent shall be reduced accordingly. For purposes of clarification only, Tenant shall be entitled to remove Tenant's Property from any portion of the Premises that is subject to a Taking.

(c) Tenant, at its own expense, shall have the right but not the obligation to participate in any proceedings with respect to a Taking; in such event Landlord shall cooperate with Tenant to facilitate such participation. Neither Landlord nor Tenant shall enter voluntarily into any binding agreement or settlement related to a Taking without the prior consent of the other party, which consent shall not be unreasonably withheld, conditioned or delayed.

(d) The proceeds of any Taking shall be apportioned as between Landlord and Tenant as follows: First, to Landlord an amount equal to the fair market value of the Land subject to the Taking and calculated with reference to the value of the Land for agricultural use or its use as of the Effective Date, but not the improvements constructed or placed by Tenant thereon. Second, to Tenant, such amounts as are necessary to compensate Tenant for the loss of use of the Premises so Taken, including any improvements constructed or placed by Tenant on the Land, and the loss or interruption of Tenant's business and the cost of any restoration or repair necessitated by such Taking, including consequential losses. If after giving effect to the foregoing there remain any un-apportioned proceeds, they will be equitably apportioned as between Landlord and Tenant. Notwithstanding the foregoing, however, in the event Tenant exercises its right to terminate this Lease under this Section 16, then Tenant shall first receive all condemnation proceeds until Tenant has received an amount equal to the appraised value of the System prior to the Taking.

17. **Default; Remedies.** The failure by a party hereto to perform (i) its monetary obligations under this Lease, if not remedied within thirty (30) calendar days of written notice of such failure from the other party, or (ii) for non-monetary defaults, if such failure is not capable of being remedied within sixty (60) days, remedial action is not commenced and diligently pursued within such sixty (60) day period, shall constitute a default hereunder (a "**Default**"). Following an event of Default, the non-defaulting party may pursue any available remedies at law or in equity, including, but not limited to, termination of this Lease, subject to Section 27(b). Notwithstanding the foregoing, the non-defaulting party shall take commercially reasonable measures to mitigate damages resulting from such Default. Tenant may, in its sole and absolute discretion, elect to cure a Default on the part of Landlord, in which case Tenant shall be entitled to offset future payments of Rent or other amounts due to Landlord hereunder together with the reasonable and documented out-of-pocket expenses incurred by Tenant in pursuing to cure such Default.

18. **Indemnifications.** Landlord shall indemnify, defend and hold Tenant harmless for, from and against any and all damages or claims caused by Landlord's negligence or willful misconduct, or Landlord's breach of this Lease, that Tenant may be compelled to pay or defend in connection with this Lease or Tenant's use of the Premises, except to the extent such damages or claims are directly attributable to the actions or omissions of Tenant or any of Tenant's agents or employees. Tenant agrees to indemnify, defend and hold Landlord harmless for, from and against any and all damages or claims caused by Tenant's negligence or willful misconduct, or Tenant's breach of this Lease, that Landlord may be compelled to pay or defend in connection with this Lease or Tenant's use of the Premises, except to the extent such damages or claims are directly attributable to the actions or omissions of Landlord or any of Landlord's agents or employees.

19. **Notices**. All notices, elections, demands, requests, and other communications hereunder shall be in writing, signed by the party making the same and shall be sent by certified or registered United States mail, postage prepaid, or by national overnight courier service which provides tracking and acknowledgement of receipts or by email transmission, addressed to the party to be served at the address indicated in the Basic Lease Terms Summary above or at such other address as may hereafter be designated in writing by either party hereto, or by any other method if actually received. The time and date on which mail is postmarked shall be the time and date on which such communication is deemed to have been given.

20. **Easements**. In accordance with the findings of the Survey as set forth in Section 2(b), Landlord hereby agrees to grant to Tenant during the Term of this Lease (a) an easement for light, solar energy resources, access (including vehicular and pedestrian ingress and egress) and utility access over, under and across all property owned by Landlord which is adjacent to or in the vicinity of the Premises as reasonably necessary for Tenant's conduct of the Intended Use on the Premises and to access the Premises, (b) an easement for any and all encroachments of Tenant's Property onto Landlord's adjacent property, and (c) an easement over, under and across the Landlord's adjacent property for audio, visual, view, light, flicker, noise, vibration and any other effects attributable to the Intended Use of the Premises. Without limiting the foregoing, Landlord agrees to execute and deliver any separate easement agreements for the benefit of Tenant and the Premises as Tenant or the utility to which the System is interconnected (the "**Utility**") may reasonably request to facilitate the construction, operation and removal of the System, or otherwise in connection with Tenant's use of the Premises during the Term (collectively, the "**Easements**"). Landlord and Tenant (and the Utility, as applicable) shall in good faith establish the location and terms of such Easements within twenty (20) days of the request therefor, and any such Easements shall be confirmed in writing, signed by the parties and recorded in the County records against the Land and/or any property adjacent to or in the vicinity of the Premises and shall run with the Lease and inure to the benefit of Tenant (or the Utility, as applicable) and its transferees, successors and assigns hereunder, including any Additional Notice Party.

21. **Non-Disturbance Agreement**. Upon Tenant's request, Landlord shall execute, and shall use commercially reasonable efforts to cause any current beneficiaries of any mortgages/deeds of trust, or any other parties with rights in, or interests secured by Landlord's interest in, the Land or any other property owned by Landlord which is subject to an easement benefiting Tenant (collectively, "**Landlord's Land**"), to enter into an agreement with Tenant, in form and substance reasonable agreeable to Tenant and any Additional Notice Party (defined in Section 27), confirming that such party subordinates its rights or interests in Landlord's Land to this Lease, or solely with respect to current beneficiaries of any mortgages/deeds of trust or other parties with a security interest in Landlord's Land, that such party will not disturb or extinguish Tenant's interest in Landlord's Land and in this Lease. If Tenant and Landlord are unable to obtain such agreements from any third party holding an interest in Landlord's Land, Tenant shall be entitled (but not obligated) to make payments or performance in fulfillment of Landlord's obligations to such third party and may offset the amount of such payments or performance from amounts due Landlord under this Lease; provided, that if such obligations cannot be satisfied by the payment of money or performance by Tenant, Tenant shall have the right to immediately terminate this Lease.

22. **Landlord's Representations and Warranties**.

(a) Landlord hereby represents and warrants to Tenant that: (i) Landlord owns the Land in fee simple, and has all requisite right, power and authority to enter into this Lease, without the consent or joinder of any party not joining in the execution hereof (including spouses); (ii) the execution of this Lease will not constitute a violation of nor be in conflict with nor constitute a default under any

term or provision of any agreement or instrument to which Landlord is a party or by which the Premises or any part thereof is bound; (iii) no hazardous or toxic substances have been released or manufactured, or are present on the Premises in amounts in excess of the lawful limit absent a permit, and no underground storage tanks (whether or not abandoned) exist on or under the Premises; (iv) Landlord has not received any notice of any pending or threatened Taking, zoning change or legal, regulatory or other noncompliance relating to the Premises, or of any possible widening of the streets abutting the Premises; (v) Landlord has not received any notice of proposed curtailment of utility services to the Premises; (vi) the Premises are free from any recorded or unrecorded use or occupancy restrictions or declarations of restrictive covenants, and there are no existing liens, mortgages, or deeds of trust encumbering all or any part of the Premises; (vii) there are no service or maintenance contracts affecting the Premises; (viii) there are no delinquent or outstanding Taxes, liens or other impositions levied or assessed against the Premises or any larger parcel of property of which the Premises is a part; (ix) except for this Lease, there are no leases, options to purchase, license agreements or other third party rights to use or possess the Premises, whether written or oral, recorded or unrecorded; (x) Landlord is not in the hands of a receiver nor is an application for such a receiver pending, nor has Landlord made an assignment for the benefit of creditors, nor filed, or had filed against it, any petition in bankruptcy nor is Landlord a defendant in any ongoing or pending litigation proceedings; (xi) if Landlord is a limited partnership, trust, limited liability company, corporation or other business entity, Landlord is in good standing under the laws of the state of its incorporation and the state in which the Premises are located, and the undersigned representatives of Landlord have full power and authority to execute and deliver this Lease; (xii) if Landlord is one or more natural persons, except for the spouse identified on the signature page to this Lease, such natural persons are unmarried, (xiii) there is no underground septic system or leach field located upon the Land; (xiv) there are no wells, dry wells, exploration wells or monitoring wells on the Land; (xv) no person or entity has buried any refuse, construction materials, garbage or any other matter of any kind or nature below the surface of the Land, (xvi) the Land does not support or affect any endangered species and is not within an area that is subject to any "environmentally sensitive" or "non-disturbance" designation under any law or zoning ordinance, and (xvii) no portion of the Land includes any archeological site, burial site, artifact or other condition of archeological, tribal or historical significance.

(b) The provisions of this Section 22 will survive the termination or expiration of this Lease. All of Landlord's representations and warranties contained in this Lease shall be true as of the Effective Date and shall be subject to any state of facts arising during the Term of this Lease without the direct or indirect, active or passive, involvement of Landlord.

23. **Insurance**. During the Term, Tenant shall maintain insurance on the terms set forth below, at Tenant's cost and expense:

(a) Commercial general liability insurance covering Tenant and System operations with coverage limits of no less than $1,000,000 for injuries or death to one or more persons or damage to property resulting from any one occurrence, a $2,000,000 general aggregate, and a products and completed operations liability aggregate limit of not less than $2,000,000. The commercial general liability policy shall also include a severability of interest clause with no exclusions or limitations on cross liability.

(b) Landlord shall be named as additional insureds under the commercial general liability insurance and umbrella/follow form excess insurance required above.

(c) Upon Landlord's request, Tenant will promptly furnish Landlord with certificates of insurance evidencing the insurance required to be maintained under this Section 23.

24. **Landlord Covenants**. From and after the Effective Date until the expiration or earlier termination of the Term:

(a) Landlord shall not, without the prior written consent of Tenant, which shall not be unreasonably or unduly withheld, delayed, or conditioned, (i) institute or consent to any rezoning of the Premises; (ii) further encumber or suffer to exist the further encumbrance or Transfer of the Premises (except as caused by or on behalf of Tenant) except in accordance with Section 26 of this Lease, and which may include payment of government property taxes and assessments (to the extend required under this Lease) and payment and performance of any mortgage or other financial obligations owed to lenders, which affect or related to the Premises; (iii) cause or permit any activities or conditions that would impair operation of the System (including, without limitation, by erecting or permitting to be erected any cell towers, water towers, billboards, silos, trees or any other natural or man-made structures to be placed, constructed, or to otherwise exist on any property owned or controlled by Landlord that may diminish the quantity of sunlight that otherwise would reach the Premises or that may cause shade or shadows upon the Premises or any portion thereof, and Landlord shall not emit or permit the emission of suspended particulate matter, smoke, fog or steam or other air-borne impediments to insolation on the Premises, or burn or permit the burning of garbage, plant, shrub, and yard trimmings or other vegetation that could adversely affect insolation levels on the Premises), and, upon written notice from Tenant, Landlord shall promptly remove any existing uses or improvements on any property adjacent to or in the vicinity of the Premises which Tenant reasonably determines will impair Tenant's use of the Premises; (iv) cause or permit the violation of any applicable laws, rules, regulations or ordinances applicable to the Premises; or (v) commence (or have commenced against it) any voluntary or involuntarily proceedings in bankruptcy, insolvency or similar proceedings with respect to Landlord.

(b) Landlord shall promptly give Tenant a copy of any notice of any kind received by Landlord regarding the Premises or any Taxes.

25. **Memorandum of Lease**. This Lease shall not be recorded; however, within five (5) days following either Party's request, Landlord and Tenant shall execute a memorandum of this Lease in recordable form, setting forth the following provisions of this Lease, including, without limitation: (a) all information required by law, (b) restrictions on Transfers, (c) any unexercised Renewal Term options, (d) rights of first offer or of first refusal of Tenant with respect to the Land, (e) Tenant's Exclusivity Right as set forth in Section 41, (f) the easement rights granted to Tenant hereunder, and (g) such other provisions of this Lease as the parties may mutually agree to incorporate therein. Tenant shall cause the memorandum of lease to be recorded in the County records against the Land and any other property of Landlord (if applicable).

26. **Assignments; Transfers**. This Lease shall be binding upon and inure to the benefit of the parties hereto and their legal representatives, successors and assigns, subject to the following terms and conditions:

(a) Tenant may assign this Lease, in whole or in part, or sublet the Premises, or any part thereof, without Landlord's prior consent; provided that Tenant shall notify Landlord within a reasonable time after such Transfer. If Tenant assigns its entire interest in this Lease to a party that expressly assumes in writing all obligations of Tenant under this Lease arising after the effective date of the assignment, Tenant shall be released or discharged from all of its covenants and obligations under this Lease, except such obligations as shall have accrued prior to the effective date of any such assignment or transfer, and Landlord agrees to look solely to Tenant's assignee for performance of such obligations.

(b) Landlord shall give Tenant at least thirty (30) days' prior notice of any transfer

(as defined in Section 27 below) by Landlord of its interest in the Land or in this Lease. Any such transfer shall be expressly subject to this Lease, and Landlord shall not transfer the fee interest in the Premises unless the assignee assumes all of Landlord's obligations under this Lease, any easements granted to Tenant (as applicable) and any consents granted to Tenant's lenders. Without limiting the foregoing, the Lease shall remain prior in interest to any mortgage entered into by Landlord after the Effective Date. For transfers pursuant to the death or disability of Landlord, Landlord's executor or successor in interest should endeavor to provide notice of such transfer (or proceedings that will result in such a transfer) to Tenant as promptly as possible under the circumstances. Landlord shall notify Tenant of the closing of such transfer, and if applicable, the name and contact information of the successor to Landlord's interest hereunder and payment instructions for future payments of Rent and other amounts due under the Lease; provided, that Landlord shall indemnify Tenant for, from and against losses arising from Tenant's payment of Rent or other amounts as so directed.

27. **Third Party Protections**. Tenant may pledge, sell, grant and/or assign, sublease, mortgage and otherwise transfer (each, a "**Transfer**") this Lease or Tenant's leasehold interest in the Premises, in whole or in part, without Landlord's prior consent, in connection with the financing or re-financing of Tenant's Property. If Tenant shall notify Landlord in writing of the existence of, and contact information for, any third party (including, without limitation, any tax-credit equity providers) with a security interest or other interest in the Lease, whether via a collateral Transfer, mortgage, deed of trust, or otherwise (any such third party, an "**Additional Notice Party**"), then the following provisions shall apply until such time as Landlord shall receive written confirmation that such Additional Notice Party's interests in this Lease, the System or the Premises are released:

(a) Without limiting Section 31, no assignment, amendment, election to terminate or other modification of this Lease shall be effective unless approved by the Additional Notice Party in writing. In the event Tenant acquires fee ownership of the Land, or in the event of Tenant's voluntary surrender of the leasehold estate, there shall be no merger of the leasehold estate created by this Lease with the fee without the prior written consent of the Additional Notice Party, which consent may be granted, conditioned or withheld in the Additional Notice Party's sole and absolute discretion.

(b) If any event of Default by Tenant remains uncured following the applicable cure period under Section 17, Landlord shall send written notice of such uncured Default to each Additional Notice Party at the address provided therefor, whereupon the Additional Notice Party shall have an additional thirty (30) days during which it may, in its sole and absolute discretion, cure such Default on Tenant's behalf. Landlord may not pursue any remedy for such Default unless it remains uncured following the expiration of such Additional Notice Party's thirty (30) day cure period. No notice shall be effective against an Additional Notice Party unless and until actually received by such Additional Notice Party.

(c) Neither the bankruptcy nor the insolvency of Tenant shall be grounds for terminating this Lease as long as the Rent and all other obligations of Tenant hereunder are paid or performed by or on behalf of Tenant or the Additional Notice Party in accordance with the terms of this Lease.

(d) Subject to Section 27(b), if this Lease is terminated pursuant to a Tenant Default, Landlord shall enter into a new lease with Additional Notice Party or its nominee on the same terms as set forth herein, and for a term equal to the then-unelapsed portion of this Lease, with an option to extend for any then-remaining Renewal Term(s). Such new lease shall be effective as of the date of termination of this Lease. If more than one Additional Notice Party makes a request for a new lease pursuant hereto, the new lease shall be delivered to the Additional Notice Party with a security interest in this Lease which is

prior in lien, and the request of any Additional Notice Party without a security interest in this Lease or whose lien is subordinate shall be void and of no further force or effect.

(e) If this Lease is terminated pursuant to a rejection in bankruptcy or other similar proceeding with respect to Landlord, then Landlord, or its successor in interest to the Land, if any, shall enter into a new lease with Tenant on substantially the same terms as this Lease and for the then otherwise unexpired portion of the Term. Such new lease shall be effective as of the date of termination of this Lease.

(f) An Additional Notice Party shall have the right, subject to the terms and conditions of this Lease: (a) to assign its security interest; (b) to enforce its lien and acquire title to the leasehold estate by any lawful means; (c) to take possession of and operate the Tenant's Property, the leasehold estate or any portion thereof and to perform all obligations to be performed by Tenant hereunder, or to cause a receiver to be appointed to do so; and (d) to acquire the leasehold estate by foreclosure or by an assignment in lieu of foreclosure and thereafter to assign or transfer the leasehold estate to a third party. Landlord's consent shall not be required for the acquisition of the encumbered leasehold estate or subleasehold estate by a third party who acquires the same by or subsequent to foreclosure or assignment in lieu of foreclosure. During any period of possession of the Premises by an Additional Notice Party (or a receiver requested by such Additional Notice Party) and/or during the pendency of any foreclosure proceedings instituted by an Additional Notice Party, the Additional Notice Party shall pay or cause to be paid all other monetary charges payable by Tenant hereunder which have accrued and are unpaid at the commencement of said period and those which accrue thereafter during said period. Following acquisition of Tenant's leasehold estate by the Additional Notice Party or its assignee or designee as a result of either foreclosure or acceptance of an assignment in lieu of foreclosure, or by a purchaser at a foreclosure sale and subject to the provisions of this Section 27(f), this Lease shall continue in full force and effect and the Additional Notice Party or party acquiring title to Tenant's leasehold estate shall, within thirty (30) days, commence the cure of all defaults hereunder and thereafter diligently process such cure to completion.

(g) Subject to the terms and conditions hereof, Landlord hereby waives any lien, security interest, or claim of any nature that Landlord now has or may hereafter have by statute, rule, regulation, common law, agreement or otherwise, in and to Tenant's Property and other of Tenant's property that is or may be from time to time hereafter located at the Premises and/or the Landlord's adjacent property, if any, and to which Tenant at any time has granted or will grant a security interest to an Additional Notice Party (all such property and the records relating thereto shall be hereafter called the "**Collateral**"). Landlord recognizes and acknowledges that any claim or claims ("**Claims**") that an Additional Notice Party has or may have against such Collateral by virtue of any lien or security interest are superior to any lien, security interest, or claim of any nature that Landlord now has or may hereafter have to such Collateral by statute, rule, regulation, common law, agreement or otherwise. The waiver provided for herein shall be effective until the discharge of the Claims. Landlord further agrees to notify any purchaser of the Premises and/or the Landlord's adjacent property and any subsequent mortgagee or other encumbrance holder of the existence of the foregoing waiver of Landlord's lien rights, which shall be binding upon the executors, administrators, successors and transferees of Landlord, and shall inure to the benefit of the successors and assigns of any Additional Notice Party. Landlord hereby irrevocably agrees and consents to refrain from taking any action to bar, restrain or otherwise prevent an Additional Notice Party from the Premises for the purpose of inspecting the Collateral.

(h) Landlord agrees to execute and deliver such documents and instruments, including, without limitation, an amendment to this Lease, an amendment to any recorded memorandum of lease or a subordination agreement, as may be reasonably requested by an Additional Notice Party or in

furtherance of a Transfer related to the financing or re-financing of the System, to allow such Additional Notice Party reasonable means to protect or preserve the System or its collateral interest in the Lease; provided, that Landlord shall not be required to amend this Lease in any way that would extend the Term, decrease the Rent or otherwise in any material respect adversely affect any rights of Landlord. Each party shall bear its own expenses, including legal expenses, in connection with any request for the execution and delivery of additional documents and instruments in accordance with this Section 27(h).

28. **Estoppel**. Upon the request of either party (or any Additional Notice Party), the non-requesting party shall deliver to the requesting party a certificate setting forth the material terms of the Lease, the existence of any Default under the Lease, the date through which Rent has been paid and any amounts on deposit with Landlord, the current Rent rate, and such other reasonable terms requested by the requesting party. The failure by the non-requesting party to respond to such request within fifteen (15) days shall constitute an event of Default, and shall result in the deemed acceptance, approval and confirmation of the truth of the matters set forth in the certificate sent with the original request.

29. **Brokerage Commission**. Except as pursuant to a separate agreement between Tenant and Tenant's broker, if any, Landlord and Tenant each represent and warrant to the other that they have not dealt with any real estate agent or broker in connection with this transaction. Landlord and Tenant each hereby indemnify and save the other harmless for, from and against all losses, costs and expenses incurred by reason of a breach of such representation and warranty.

30. **Governing Law**. This Lease shall be construed and enforced in accordance with the laws of the State of Maine, and any disputes arising from or relating to this Lease shall be construed, governed and interpreted and regulated under the laws of such state.

31. **Interpretation; Amendment**. The terms of this Lease shall not be amended, restated, changed or otherwise modified except in a writing signed by Landlord, Tenant and any Additional Notice Party. If any term or provision of this Lease shall to any extent be invalid or unenforceable, the remainder of this Lease shall not be affected thereby.

32. **Integration; Anti-Merger**. This instrument, including the attached Exhibits, contains the complete agreement of the parties regarding the subject matter of this Lease, and there are no oral or written conditions, terms, understandings or other agreements pertaining thereto which have not been incorporated herein. This instrument creates only the relationship of landlord and tenant between the parties as to the Premises; and nothing in this Lease shall in any way be construed to impose upon either party any obligations or restrictions not expressly set forth in this Lease. This Lease shall continue until the expiration or termination of the Lease and Term, and shall not be extinguished by operation of law pursuant to the acquisition by a single party of the interests in both Tenant and Landlord hereunder.

33. **Exclusive Control; Quiet Enjoyment**. Tenant shall have exclusive control, possession, occupancy, use and management of the Premises on and after the Rent Commencement Date, subject to any easements or security instruments existing on the Effective Date, or as caused by Tenant, and Landlord shall warrant and defend Tenant's right to quietly hold and enjoy the Premises. Tenant, and its agents, guests, subtenants and designees, and any Additional Notice Party, shall have access to the Premises at all times after the Rent Commencement Date, and neither Landlord nor any agent of Landlord shall, without a Tenant representative, enter upon any portion of the Premises except as specifically permitted hereunder. For the avoidance of doubt, this Lease does not convey any subsurface oil, gas, mineral, liquid or other subsurface rights (collectively, "**Mineral Rights**") to Tenant; provided, however, that Landlord shall not engage in, and shall not permit, any activity, including, without limitation, the extraction of minerals, oil, gas, liquid or other substances, if such activity could result, in Tenant's sole

and absolute discretion, in a failure of subsurface support for the Premises or otherwise impair or adversely affect Tenant's Property or Tenant's use of the Premises. The foregoing sentence shall be a covenant running with the Land binding upon any party owning any interest in, or rights to develop or use such Mineral Rights. To the best knowledge of Landlord, Landlord is the sole owner of the Mineral Rights and Landlord holds good, indefeasible and insurable title to the Mineral Rights.

34. **Waiver**. The waiver by any party of any instance of a breach of any covenant or agreement herein shall not be deemed to constitute waiver of any subsequent breach of the same or any other covenant or agreement under this Lease.

35. **Nonrecourse**. The performance of this Lease by Landlord and Tenant shall be secured by their respective interests in the Premises. Except for such interests in the Premises, neither Landlord's, nor Tenant's property or assets (including without limitation Tenant's Property), shall be subject to levy, execution or any other enforcement procedure in connection with the satisfaction of liability under this Lease.

36. **Further Assurances**. Each party shall execute and deliver such further documents and perform such other acts, as may be reasonably necessary to achieve the parties' intent in entering into this Lease. Except as may otherwise be expressly provided for herein, each party shall bear its own costs and expenses, including legal costs, in connection with all required consents or approvals of either Party.

37. **Counterparts**. This Lease may be executed in any number of counterparts, each of which shall be deemed an original once executed and delivered. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing with the same force and effect as if such facsimile were an original thereof.

38. **Survival**. Upon the expiration or earlier termination of this Lease in accordance with its terms, this Lease shall cease to have force and effect, unless the context requires otherwise to achieve the parties' intent with respect thereto.

39. **First Refusal to Lease.** Without limiting Tenant's rights to renew or extend the Term as set forth in this Lease, Landlord hereby grants to Tenant a right of first refusal to lease the Premises for a term commencing at the expiration or termination of this Lease, as extended, and/or any premises owned by Landlord located adjacent to the Premises, only upon the terms and conditions as contained in any valid, acceptable, bona fide lease offer Landlord or any subsequent Landlord may receive prior to the cancellation or termination of this Lease, as extended. Tenant shall have twenty (20) days after receipt from Landlord of written notice of such offer, with a certified full written statement of such offer and copy of the proposed lease (the "**Proposed Lease**"), within which time to exercise its option to lease and accept any such lease terms. Landlord agrees to promptly notify Tenant of receipt of any such acceptable offer to lease. Tenant shall exercise such right of first refusal by delivery of notice to Landlord accepting such offer. Thereafter, Tenant shall be deemed to have extended this Lease upon the economic terms of the Proposed Lease (i.e. rent, payment of taxes and expenses, options to extend, etc.). Tenant and Landlord shall be bound by all of the economic terms of the Proposed Lease. Landlord and Tenant shall enter into an amendment of this Lease extending the Term and incorporating the other economic terms of the Proposed Lease. Notwithstanding Tenant's failure to exercise such right of first refusal on a single occasion, such right of first refusal shall be a continuing right throughout the balance of the Term and Landlord shall be obligated to submit any future offers to Tenant.

40. **First Refusal to Purchase**. Without limiting Tenant's rights to renew or extend the Term

as set forth in this Lease, Landlord hereby grants to Tenant a right of first refusal to purchase the Premises, or any land of which the Premises is a part, upon the same terms and conditions as contained in any bona fide purchase offer Landlord, or its successors and assigns, may receive prior to the cancellation or termination of this Lease, as extended. Tenant shall have twenty (20) days after receipt from Landlord of written notice of such offer, with a certified full written statement of such offer and copy of the proposed sale agreement ("**Proposed Sale Agreement**") within which time to exercise its option to purchase and accept any such proposed sale terms. Tenant shall exercise such option of first refusal by delivery of notice to Landlord accepting such offer. If Tenant exercises its option, Landlord and Tenant shall enter into a commercially reasonable sale agreement ("**Sale Agreement**") upon the economic terms of the Proposed Sale Agreement; provided, however, irrespective of the terms of the Proposed Sale Agreement, the Sale Agreement shall provide that (a) Landlord shall deliver to Tenant a current commitment for an owners title insurance policy issued by a title company acceptable to Tenant committing to insure Tenant in the amount of the purchase price and showing title to be good and marketable fee simple, free and clear of all liens, reservations, easements encumbrances, restrictions of record and encroachments, except such matters approved by Tenant as part of a the Sale Agreement, (b) transfer of title by Landlord to Tenant shall be effected by warranty deed conveying such title, (c) Landlord shall satisfy and remove from title at closing any and all monetary encumbrances, including any mortgage or trust deed, and (d) Tenant shall have no obligations for payment of any brokerage fee in connection with the purchase and if any such payment is due to any party it shall be paid by Landlord. Notwithstanding Tenant's failure to exercise such right of first refusal on a single occasion, such right of first refusal shall be a continuing right throughout the balance of the Term and Landlord shall be obligated to submit any future offers to Tenant.

41. **Exclusivity**. Landlord covenants that it will not (i) use or lease or permit any tenant to use or lease or (ii) permit any occupant or subtenant or assignee of a tenant or occupant to use any other property in which Landlord has an interest and which is located within a radius of one (1) mile of the Premises, for the purpose of conducting a business that is engaged in the solar power generation business and/or a use similar to the Intended Use ("**Tenant's Exclusivity Right**").

42. **Confidentiality**. Landlord agrees to hold all confidential information of Tenant, including, without limitation, the terms of this Lease, in strict confidence, and will not disclose same to any person, other than as required by applicable law, rule, or regulation. Landlord acknowledges and stipulates that Tenant may suffer irreparable harm in the event of a breach of this confidentiality agreement, for which Tenant has no adequate remedy at law. Therefore, in addition to all other remedies available pursuant to the terms of this Lease or at law, Tenant shall have the right to obtain immediate injunctive or other equitable relief upon a breach of this confidentiality agreement by Landlord, without the necessity of giving any notice of such default or opportunity to cure the same.

43. **Attorneys' Fees**. In the event of any dispute under this Lease, the party against whom any final judgment is entered agrees to pay the prevailing party all reasonable costs, charges, and expenses, including attorneys' fees, expended or incurred in connection therewith.

44. **Tax Credits**. If under applicable law the holder of a leasehold interest in the nature of that held by Tenant or Tenant's assignee becomes ineligible for any tax credit, benefit or incentive for alternative energy expenditure established by any local, state or federal government, then, at Tenant's option, Landlord and Tenant shall amend this Lease or replace it with a different instrument so as to convert Tenant's interest in the Premises to a substantially similar interest that makes Tenant eligible for such tax credit, benefit or incentive.

45. **Marketing**. Following the Construction Commencement Date and continuing until the

expiration or earlier termination of this Lease, Landlord gives and grants to Tenant and Tenant's affiliates, and each of their respective licensees, agents, representatives, employees, successors and assigns (collectively, the "**Licensed Parties**"), the right and license to photograph, publish and use photographs (whether still or moving) of the Premises in all media and types of advertising and promotion by the Licensed Parties. Landlord agrees that all images of the Premises used and taken by the Licensed Parties are owned by the Licensed Parties and that the Licensed Parties may obtain copyright in material containing same. If Landlord should receive any print, negative or other copy thereof, Landlord shall not authorize its use by anyone else. Landlord agrees that no advertisement, promotion or other material utilizing or containing the Premises need be submitted to Landlord for approval and the Licensed Parties shall be without liability to Landlord for any distortion or illusionary effect resulting from the publication of the Premises. Landlord represents and warrants that the license granted hereunder (a) does not and will not violate or infringe upon the rights of any third party and entity; and (b) does not in any way conflict with any existing commitment on Landlord's part. Nothing herein shall constitute any obligation on the Licensed Parties to make use of any of the rights set forth in this Section 45.

[*end of text*]

IN WITNESS WHEREOF, the parties hereto have duly executed this Lease as of the later of the dates indicated below.

LANDLORD:

By: Margaret S. Marean

Printed Name: **Margaret S. Marean**

Title: _____

Date: May 7, 2019

TENANT:

Pine Gate Real Estate, LLC, a North Carolina limited liability company

By: _____

Printed Name: Ben Catt

Title: CEO

Date: 5/30/19

Exhibit A

Depiction of the Land

*POTENTIAL LEASE AREA OF ±60 ACRES SHADED IN GREEN (SUBJECT TO FINAL SURVEY)
**INCORPORATES PROPERTY ID: 003/043/000 OUTLINED IN PURPLE (SUBJECT TO FINAL SURVEY)
***REQUIRED MINIMUM 60' TENANT ACCESS VIA. CAPE RD. (INDICATED BY WHITE '----')

Cont. to Exhibit A

STANDISH,ME

VISION
GOVERNMENT SOLUTIONS

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425 CAPE RD

Sales | Print | Map It

Location	425 CAPE RD	**Mblu**	003/ 043/ 000/ /
Acct#	M1072R	**Owner**	MAREAN, MARGARET S
Assessment	$206,500	**Appraisal**	$206,500
PID	3973	**Building Count**	1

Parcel ID: 003/043/000

Source: Town of Standish, ME accessor database, Vision Government Solutions

ATTACHMENT J

MDEP Stormwater Permit By Rule Application

&

MDEP Acceptance Notification Email

STORMWATER PERMIT BY RULE APPLICATION
FOR THE
SEA DOG SOLAR PROJECT
Cape Road
Standish, Maine

For
Pine Gate Renewables

Prepared by:

Date:
February 2020

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors

28 State Street
Gorham, Maine 04038

Tel. (207) 839-2771
Fax (207) 839-8250

WILLIAM A. THOMPSON
ROBERT C. LIBBY Jr
WALTER E. PELKEY
ANDREW S. MORRELL
STEVEN J. BLAKE

February 7, 2020

Mr. James Beyer
Regional Licensing and Compliance Manager Bureau of Land Recourses
Eastern Maine Regional Office Maine Department of Environmental Protection
106 Hogan Road
Bangor, Maine 04401

Re: Sea Dog Solar Project
Proposed 3.25-MW Solar Array
Cape Road Standish
Stormwater Permit by Rule Application

.

Dear Jim,

On behalf of the Applicant, Pine Gate Renewables, we are submitting a Stormwater Permit by Rule Application for a proposed 3.25-MW solar array located in the town of Standish Maine. Boyle Associates and BH2M have worked collaboratively to prepare this permit application package. BH2M has prepared the erosion and sedimentation control plans for the project, in accordance with Maine DEP guidelines. Boyle Associates has prepared the preliminary site plan and will serve as the direct Agent for the Applicant.

Development Description

The Applicant is proposing to construct a 3.25-MW solar array on a previously undeveloped site in Standish, Maine. The project is located along Cape Road in Standish, Maine. The site consists of a regenerating forest that shows past evidence of timber harvesting activities. Development of the proposed project will include new construction of solar panels, gravel access road, temporary staging area, underground conductors, and project equipment. The total area proposed for disturbance is approximately 19.2 acres, of this there will be approximately 19.2 acres of tree clearing. The Project has been designed to avoid impacts to jurisdictional natural resources and avoid the need for permitting under the Natural Resources Protection Act (NRPA). Construction of the project will occur incrementally in blocks of no more than 5 acres. Sequencing of construction will be structured so that 5-acre blocks will be stabilized prior to commencing construction of subsequent 5-acre blocks. Access to the proposed array will be from a gravel access road connecting to Cape Road.

Permit Application Attachments

In support of the Application we have enclosed a check in the amount of $68 and the following:

- Stormwater Permit by Rule Application
- Attachment A – Figures
- Attachment B – Site Plan
- Attachment C – Erosion and Sedimentation Control Plans
- Attachment D – Erosion and Sedimentation Control Inspection and Maintenance Plan
- Attachment E – Site Photos
- Attachment F – Certificate of Good Standing
- Attachment G – Soils Report
- Attachment H – Construction Schedule

If you have any questions about this application, or require any additional information for this submission please contact myself or Dale Knapp with Boyle Associates. We look forward to working with you on this project.

Sincerely,

Steven J. Blake, PE
Senior Engineer

Encl.

Cc D. Knapp, Boyle Associates
C. Byers, Boyle Associates

STORMWATER PBR APPLICATION FORM PLEASE TYPE OR PRINT IN INK ONLY Page 1 02/14

1. Name of Applicant:	Pine Gate Renewables, Julianne Wooten	**5. Name of Agent: (if applicable)**	Boyle Associates, Dale Knapp
2. Applicant's Mailing Address:	130 Roberts Street Asheville, NC 28801	**6. Agent's Mailing Address:**	254 Commercial Street Merrill's Wharf Suite 101 Portland, Maine 04101
3. Applicant's Daytime Phone #:	(254)624-7496	**7. Agent's Daytime Phone #:**	(207) 631-9134
4. Applicant's email address:	jwooten@pgrenewables.com	**8. Agent's email address:**	dknapp@boyleassociates.net
9. Location of Project: (Road, Street, Rt.#)	Cape Road	**10. Town:**	Standish
		11. County:	Cumberland

12. Is this PBR for renewal of an individual stormwater permit? If yes, skip to Block 27 and signature page. ❑ Yes ☑ No

13. Type of Direct Watershed: (Check all that apply)	❑ Lake not most at risk ❑ Lake most at risk ❑ Lake most at risk, severely blooming ☑ River, stream or brook ❑ Urban impaired stream ❑ Freshwater wetland ❑ Coastal wetland ❑ Wellhead of public water supply	**14. Amount of Developed Area:**	☑ Total # of 0.28 acres OR ❑ Total # of _____ square feet
		15. Amount of Impervious Area:	☑ Total # of 0.34 acres OR ❑ Total # of _____ square feet

16. Creating a common plan of development or sale?	❑ Yes ☑ No	**17. Is this activity part of a larger project?**	❑ Yes ☑ No
18. Name of waterbody (ies) drained to	Josies Brook	**19. Name of impaired Waterbody, if appplicable**	N/A
20. Brief Project Description:	The Sea Dog Solar project proposes to construct a 3.25 MW solar array on land comprised of primarily wooded area (19.2 +/-) in the project envelope.		
21. Size of Lot or Parcel and UTM locations, if known:	❑ _____ square feet OR ☑ 117 acres	**UTM Northing, if known:** 15,882,619	**UTM Easting, if known:** 1,217,369
22. Deed Reference Numbers:	Book#: 22167 Page#: 204	**23. Map and Lot Numbers:**	Map #: 3 Lot #: 43
24. DEP Staff Previously contacted	James Beyer	**25. Project started prior to application?** ❑ Yes ☑ No	**If yes, Completed?:** ❑ Yes ❑ No
26. Resubmission of PBR Application?	❑ Yes ☑ No	**If yes, prior application #:**	**Prior project manager**:
27. Written Notice of Violation?	❑ Yes➔ ☑ No	**If yes, name of DEP enforcement staff involved:**	
28. Detailed Directions to the Project Site: (Attach separate sheet if necessary)	From the Intersection of Route 25 and Route 35 in Standish head northwest on Route 25 then turn left on Cape Road and go 2 miles, the property is on the right (west) side of Cape Road.		
29. Renewal of individual stormwater permit	DEP Permit#:	Project Manager:	

30. SUBMISSIONS ▼

☑ This form (signed and dated)	❒ Dept. of Inland Fisheries and Wildlife Approval (if in Essential Habitat)	☑ Photos of Area	**For Renewal of an individual Stormwater permit only:**
☑ Fee		☑ ESC Plan	❒ This form (signed and dated)
		☑ Location Map	❒ Copy of original stormwater permit
		☑ Site Plan	❒ Fee

Does the agent have an interest in this project? If yes, what is the interest?	No vested interest in project

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

CERTIFICATIONS / SIGNATURES

Applicant's Statement:

I am applying for a Stormwater PBR and have attached the required PBR submissions. I have read the requirements herein and I affirm that my project satisfies the applicable stormwater management standards. I authorize staff of State and Federal agencies having jurisdiction over this activity, to access the project site for the purpose of determining compliance with the rules.

Signed: [signature] **Date:** 2/11/20

Notice of Intent to Comply with Maine Construction General Permit	**With this Stormwater PBR notification form and my signature below, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit. I have read and will comply with all of the MCGP standards. In addition, I will file a Notice of Termination (NOT) within 20 days of project completion.** **If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.** **Signed** [signature] **Date:** 2/11/20

PINEGATE RENEWABLES

Asheville Office: 130 Roberts Street, Asheville, NC 28801
Charlotte Office: 529 W Summit Avenue Suite 3D, Charlotte, NC 28203
Jacksonville Office: 315 3rd Avenue N, Jacksonville Beach, FL 32250
info@pgrenewables.com • www.pgrenewables.com

Agent Authorization

This form herby authorizes Boyle Associates, a subsidiary of CEA, to act on behalf of Pine Gate Renewables for all Stormwater Permit by Rule filings.

Pine Gate Renewables, LLC

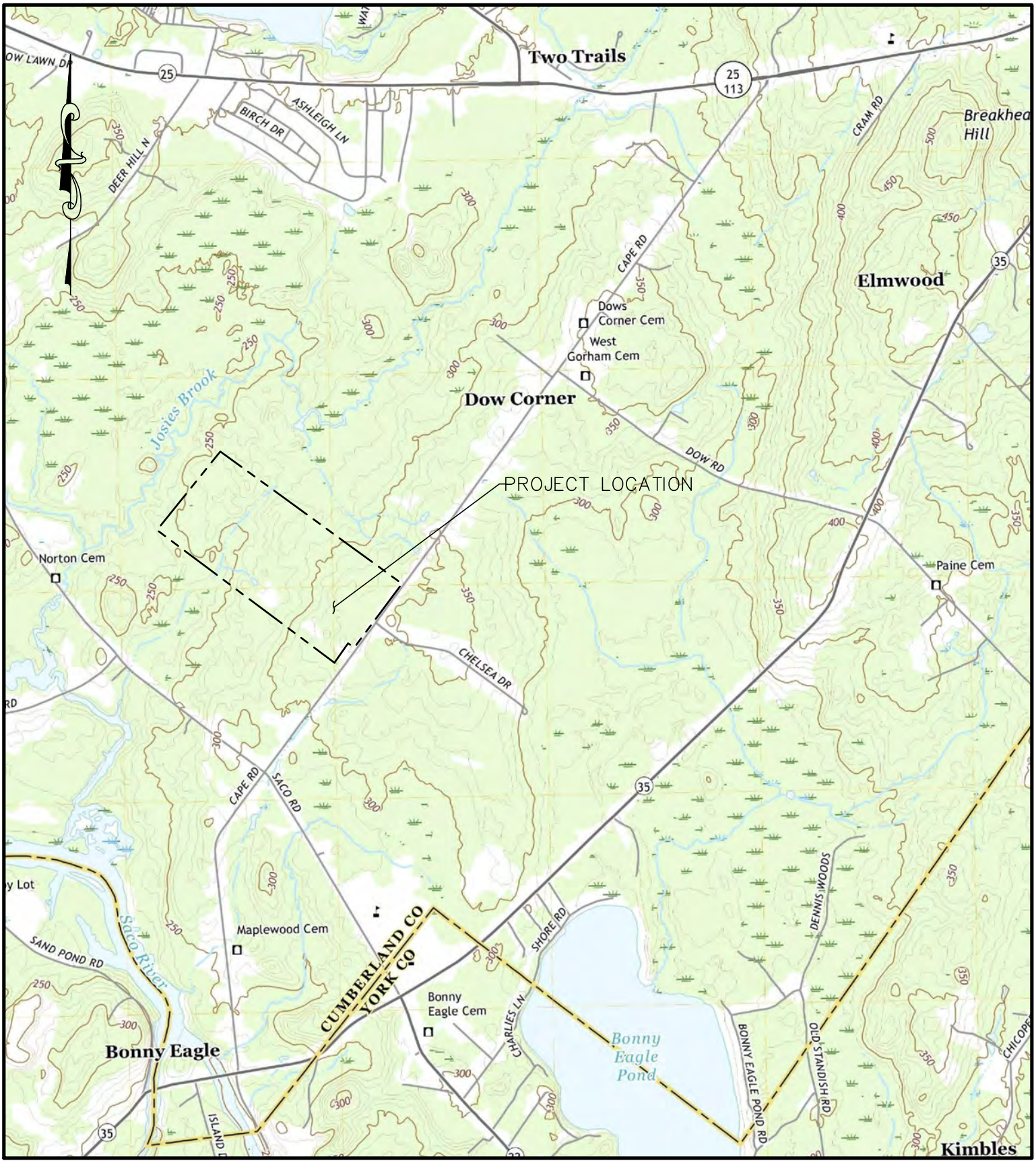
By:_____ DocuSigned by: Patty Wright D9B829E9C6E8472...

Name:____Patty Wright_____

Title:____Authorized Person_____

Date:___02.06.2020_____

Attachment A
Figures



REFERENCES:
1. USGS QUADRANGLE STANDISH, ME 2018

Scale: 1" = 2000'

2000' 0 2000' 4000'

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Gorham, Maine 04038
Tel. (207) 839-2771
Fax (207) 839-8250

PROPERTY MAPS
TOWN OF STANDISH, MAINE

BUXTON

James H. Thomas
gisSolutions of Maine
Cumberland, Maine
jht@maine.rr.com

These maps are intended to be used for the purpose of Property Tax Assessments and should not be used for conveyances.

Revised to April 1st

Scale: 1 Inch = 600

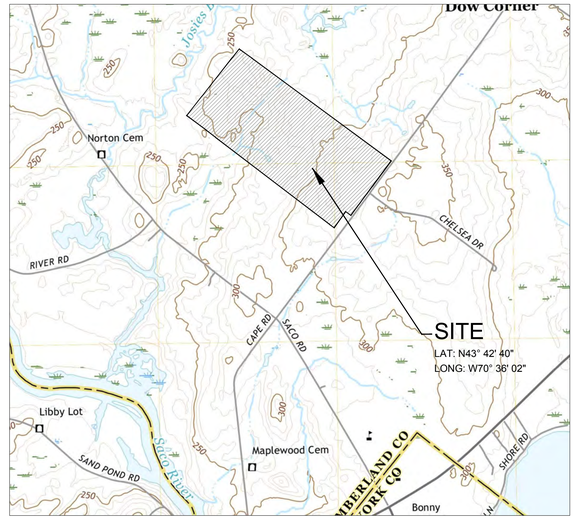
Hooks
Matchline
ROW
Streams
TownBoundar
Shore

Subject Map
Bordering Map
Bordering Map
Bordering Map
Bordering Map

2018
MAP: 3

0 600 1,200 Feet

Attachment B
Site Plan

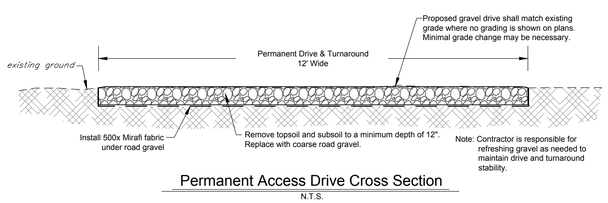


LOCATION MAP
SCALE: 1" = ½ Mile

LEGEND

- EXISTING POWER POLE / PROPOSED POLE
- APPROXIMATE PROPERTY LINES
- APPROXIMATE PROJECT PARCEL
- EXISTING GRADE CONTOUR LINES (5 FOOT INTERVALS)
- EXISTING ROW FENCE
- PROPOSED PROJECT FENCE
- PROPOSED TREELINE
- EXISTING OVERHEAD POWER
- PROPOSED OVERHEAD POWER
- PROPOSED UNDERGROUND POWER
- PROPOSED PROJECT EQUIPMENT
- PROPOSED FIXED SOLAR PANEL RACKING
- DELINEATED STREAM
- ENVIRONMENTAL RESOURCE BUFFER
- DELINEATED WETLAND
- PROPOSED 12' GRAVEL ACCESS DRIVE
- LIMIT OF DISTURBANCE
- STAGING AREA FOR CONSTRUCTION
- POTENTIAL VERNAL POOL WITH DESIGN 250' SETBACK
- SURVEY AREA

STRUCTURE FOOTPRINT AREA = 238,304 S.F.



Permanent Access Drive Cross Section
N.T.S.

NOTES:

1. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
2. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 MAINE STATE PLANES, WEST ZONE (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD88 (US SURVEY FEET).
3. EXISTING GROUND CONTOUR ELEVATIONS ARE BASED ON LIDAR DATA FROM THE MAINE OFFICE OF GIS.
4. UTILITIES ARE NOT WARRANTED TO BE COMPLETE OR ACCURATE, CONTRACTOR SHALL CONTACT DIG SAFE BEFORE BEGINNING ANY EXCAVATION.
5. THIS IS IN NO WAY A BOUNDARY SURVEY. PROPERTY LINES ARE FROM PARCEL INFORMATION PROVIDED BY THE MAINE OFFICE OF GIS.
6. THIS IS A PRELIMINARY DESIGN PLAN. FINAL DESIGN WILL BE MODIFIED TO MATCH EQUIPMENT PURCHASED AND POSSIBLE PERMIT CONSTRAINTS REVEALED DURING PROJECT'S REVIEW.
7. PRELIMINARY ENVIRONMENTAL SITE REVIEW DATA IS BASED ON INFORMATION DOWNLOADED FROM THE MAINE OFFICE OF GIS WEBSITE AND PRELIMINARY FIELD REVIEWS.

SEADOG SOLAR

Standish, Maine

BOYLE ASSOCIATES

KREBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

SOURCE DATA LEGEND

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Boyle Associates
254 Commercial Stree
Merrill's Wharf, Suite 101
Portland, ME 04101

0' 100' 200' 400' 600'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 200')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

Proposed
3.25 MW AC
Solar Array

REV. NO.	REVISIONS/COMMENTS	DATE

Drawing Title:

SEADOG SOLAR
OVERALL
SITE PLAN

DATE of Issue: 12/17/2019

Drawn by: EJM | Checked by: IAJ

Project No.: 19318 | Scale: 1" = 200'

Drawing No.: C-1.0

Rev No.:

SHEET 1 OF 1

INDEX MAP

LEGEND

- Project Boundary
- Approx. Parcel Boundaries
- Erosion Control-Silt Fence
- 5ft Contour Interval
- Project Location

BOYLE ASSOCIATES

SCALE:

0 445 890 Feet

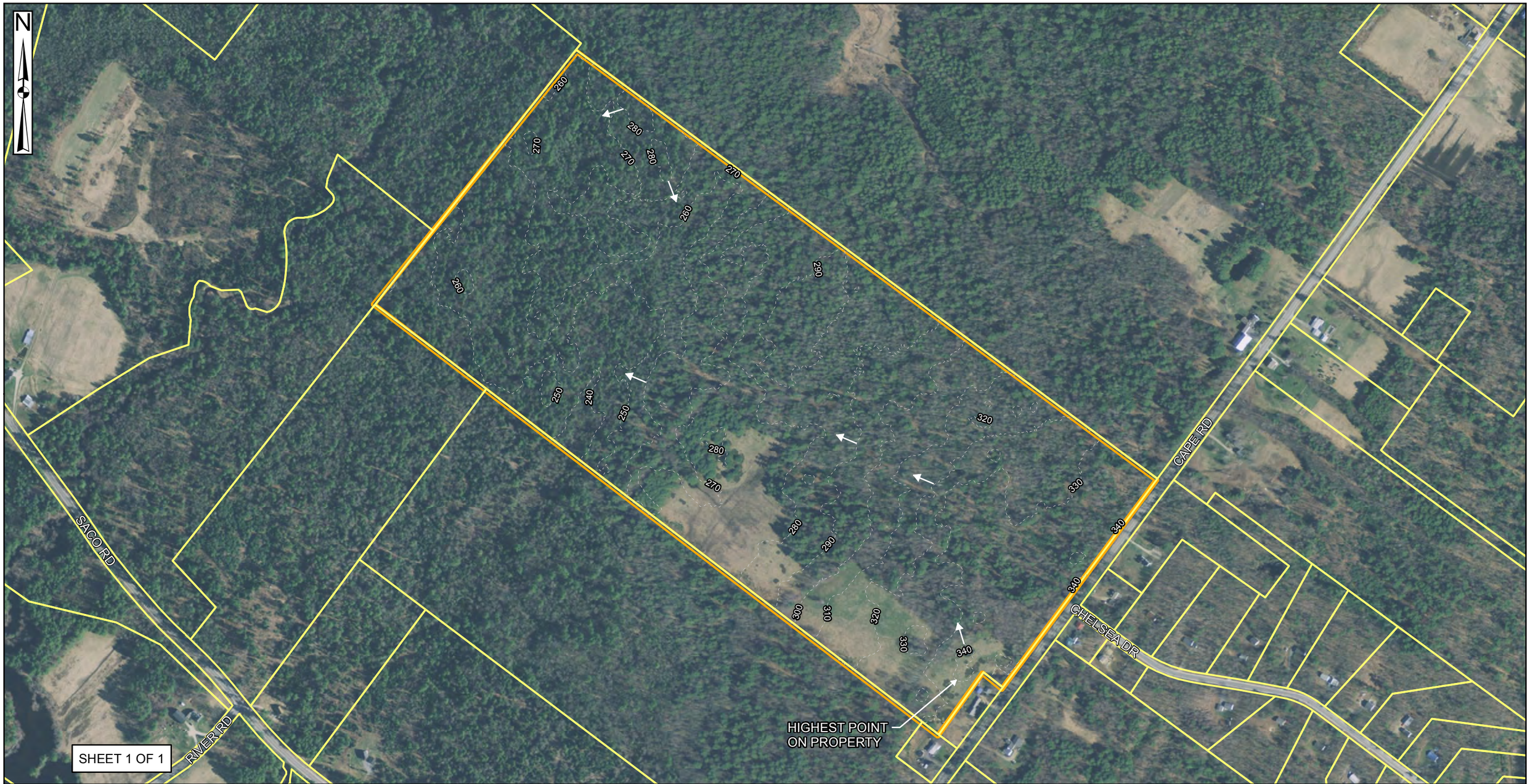
1 inch = 450 feet

PINEGATE RENEWABLES

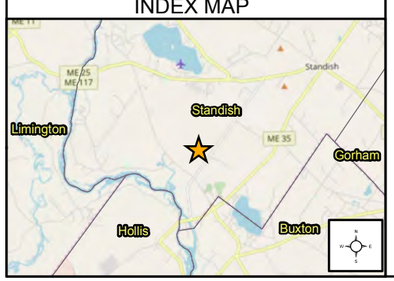
EROSION CONTROL MEASURES MAP
SEADOG SOLAR SITE: STANDISH, MAINE

PROJECT NUMBER: 601

MARCH 7, 2020



INDEX MAP



LEGEND

- Project Boundary
- Approx. Parcel Boundaries
- 5ft Contour Interval
- Anticipated Flow Direction
- Project Location

BOYLE ASSOCIATES

SCALE:

0 450 900 Feet

1 inch = 450 feet

PINEGATE RENEWABLES

PROJECT AREA TOPOGRAPHICAL DATA MAP
SEADOG SOLAR SITE: STANDISH, MAINE

PROJECT NUMBER: 601

MARCH 7, 2020

Attachment C
Erosion and Sedimentation Control Plans

EROSION AND SEDIMENT CONTROL PLAN

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN THE LATEST REVISION OF TO THE 2016 MAINE EROSION AND SEDIMENT CONTROL BMP'S MANUAL FOR DESIGNERS AND ENGINEERS, AND THE LATEST REVISION TO THE 2014 MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS. SEE MANUALS FOR ADDITIONAL INFORMATION AND DETAILS.

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES ARE SHOWN ON THE SITE PLAN.

1. ALL CONSTRUCTION INSPECTIONS SHALL BE CONDUCTED BY SOMEONE WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING STANDARDS AND PERMIT CONDITIONS. CONSTRUCTION INSPECTIONS SHALL BE PERFORMED AT LEAST ONCE A WEEK, AND PRIOR TO AND 24 HOURS AFTER A WET WEATHER EVENT (0.5 INCHES OR MORE IN A 24 HOUR PERIOD). CONSTRUCTION INSPECTION AND CORRECTIVE ACTION DOCUMENTATION RECORDS SHALL BE MAINTAINED FOR A MINIMUM OF 5 YEARS.
2. THE SCOPE OF CONSTRUCTION INSPECTIONS INCLUDE THE EROSION AND SEDIMENTATION CONTROL MEASURES AS WELL AS DISTURBED AREAS, MATERIAL STORAGE AREAS, AND LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMP'S", DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST REVISION.
4. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 75 FEET OF A WETLAND OR WATERBODY, THE AREA SHALL BE STABILIZED WITHIN 2 DAYS OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
5. EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRES OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
6. EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY.
7. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO MORE THAN ONE ACRE OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION.
8. SEDIMENT BARRIERS (EROSION CONTROL MIX, STONE CHECK DAMS, STABILIZED CONSTRUCTION ENTRANCE, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. THE CONTRACTOR SHALL MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
9. INSTALL EROSION CONTROL MIX AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE E.C. MIX DETAIL FOR PROPER INSTALLATION. EROSION CONTROL MIX WILL REMAIN IN PLACE PER NOTE #7. THE USE OF AN EROSION CONTROL MIX BERM IS PROHIBITED AT THE BASE OF SLOPES STEEPER THAN 8% OR WHERE THERE IS FLOWING WATER.
10. ALL ERSOION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED, AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY BEFORE AND FOLLOWING ANY SIGNIFICANT RAINFALL (0.5 INCH OR MORE IN A 24-HOUR PERIOD) OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSURE. IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF. EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF PERMANENT STABILIZATION. PERMANENT STABILIZATION IS 90% GRASS CATCH IN VEGETATED AREAS.
11. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN ONE AND ONE HALF TO ONE (1.5 TO 1).
12. IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
13. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED BY AUG. 15 OR 45 DAYS PRIOR TO THE FIRST KILLING FROST (OCT. 1) TO PROTECT FROM SPRING RUNOFF PROBLEMS.
14. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
15. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:
    a. FOUR INCHES OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
    b. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P205-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER 1,000 SQ. FT.).
    c. FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEEDED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUEGRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYEGRASS: SEEDING RATE IS 1.03 LBS PER 1000 SQ. FT. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED. SEED MIX SHALL CONTAIN 10% ANNUAL RYE GRASS.
    d. HAY MULCH AT THE RATE OF 70-90 LBS PER 1000 SQUARE FEET FOR OVER 75% COVERAGE. FOR UNPROTECTED OR WINDY AREAS, ANCHOR MULCH WITH PEG AND TWINE (1 SQ. YD./BLOCK). HYDRAULIC MULCHES MAY ALSO BE USED, APPLIED AT A RATE OF 5 LBS PER 1000 SQUARE FEET FOR PAPER MULCH OR 40 LBS PER 1000 SQUARE FEET OR AS DIRECTED BY THE MANUFACTURER. ON SLOPES GREATER THAN 3:1 EROSION CONTROL MIX MAY BE USED, SEE EROSION CONTROL MIX NOTES BELOW.
    e. FOR DISTURBED AREAS TO BE MAINTAINED IN POST-CONSTRUCTION AS A MEADOW BUFFER, APPLY NEW ENGLAND CONSERVATION WILDLIFE MIX BY NEW ENGLAND WETLAND PLANTS, INC., OF AMHERST, MASSACHUSETTS OR APPROVED EQUAL.
14. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS ONCE THE SITE IS STABILIZED WITH 90% GRASS CATCH IN VEGETATED AREAS. TEMPORARY EROSION AND SEDIMENT CONTROL BLANKET SHALL BE USED IN ALL DITCHES AND SWALES AS SHOWN IN DETAILS.
15. WETLANDS WILL BE PROTECTED WITH EROSION CONTROL MIX OR SILT FENCE INSTALLED AT THE EDGE FOR THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS DURING WINTER CONSTRUCTION.
16. ALL STORMWATER WILL BE PREVENTED FROM RUNNING ONTO STOCKPILES. SEDIMENT BARRIERS WILL BE INSTALLED DOWNGRADIENT OF ALL STOCKPILES.
17. PERMANENT POST-CONSTRUCTION BMP'S (VEGETATED SWALES, WET PONDS, ETC.) WILL NOT BE USED TO MANAGE FLOWS DURING CONSTRUCTION WITHOUT SPECIAL PROTECTION AND/OR RESTORATION.

ADDITIONAL TEMPORARY SEED MIXTURE (FOR PERIODS LESS THAN 12 MONTHS):

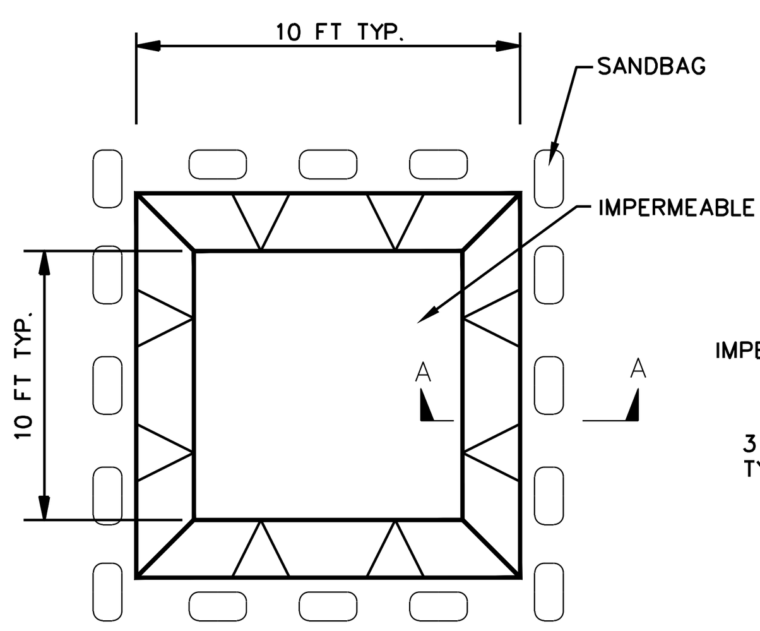
SEASON	SEED	RATE
SUMMER (5/15 – 8/15)	SUDANGRASS	40 LBS/ACRE
	OATS	80 LBS/ACRE
LATE SUMMER/EARLY FALL (8/15 – 9/15)	PERENNIAL RYEGRASS	40 LBS/ACRE
FALL (9/15 – 11/1)	WINTER RYE	112 LBS/ACRE
WINTER (11/1 – 4/1)	MULCH W/ DORMANT SEED	80 LBS/ACRE**
SPRING (4/1 – 7/1)	OATS	80 LBS/ACRE
	ANNUAL RYEGRASS	40 LBS/ACRE

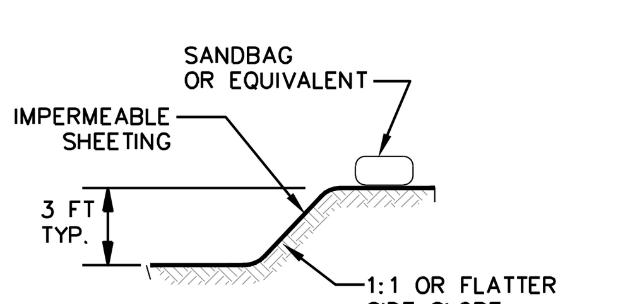
**SEED RATE ONLY

EROSION CONTROL MIX

EROSION CONTROL MIX (ECM) SHALL MEET THE REQUIREMENTS PROVIDED IN THE LATEST REVISION OF MAINE DEP'S EROSION AND SEDIMENTATION CONTROL BMP MANUAL. ECM IS ACCEPTABLE FOR USE ON SLOPES OF GREATER THAN 3:1 BUT LESS THAN 1:1. ECM SHALL CONSIST OF WELL-GRADED ORGANIC COMPONENT 50 – 100% OF DRY WEIGHT, AND COMPRISED OF FIBROUS AND ELONGATED FRAGMENTS. ECM SHALL BE FREE FROM REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR CONSTRUCTION DEBRIS. ECM SHALL BE EVENLY DISTRIBUTED AND APPLIED AT A THICKNESS OF 2" ON 3:1 SLOPES, WITH AN ADDITIONAL 1/2" PER 20' OF SLOPE FOR A MAXIMUM OF 100' IN LENGTH. SLOPES GREATER THAN 3:1, ECM SHALL BE APPLIED AT THICKNESS OF 4" OR 5" FOR SLOPES GREATER THAN 60' IN LENGTH.

SLOPES GREATER THAN 3:1 MAY ALSO REQUIRE ADDITIONAL SLOPE STABILIZATION DEPENDING ON UPGRADIENT RUNOFF AND OTHER SITE SPECIFIC CONDITIONS. SEE SLOPE STABILIZATION DETAIL FOR ADDITIONAL INFORMATION.





CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

CONCRETE WASHOUT STRUCTURE

NTS

EROSION CONTROL DURING CONSTRUCTION

WINTER CONSTRUCTION

1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15
2. OVERWINTER STABILIZATION OF DITCHES AND CHANNELS:
   ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL GRASS LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A DITCH OR CHANNEL IS NOT GRASS-LINED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.
   A. INSTALL A SOD LINING IN THE DITCH:
      A DITCH MUST BE LINED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES: PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING SOD AT THE BASE OF THE DITCH WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD FROM SLOUGHING DURING FLOW CONDITIONS. SEE THE PERMANENT VEGETATION BMP SECTION.
   B. INSTALL A STONE LINING IN THE DITCH:
      A DITCH MUST BE LINED WITH STONE RIPRAP BY NOVEMBER 15. A REGISTERED PROFESSIONAL ENGINEER MUST BE HIRED TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE CONTRACTOR WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.
3. OVERWINTER STABILIZATION OF DISTURBED SLOPES:
   ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED BY SEPTEMBER 1. THE DEPARTMENT WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS. BY OCTOBER 1 THE DISTURBED SLOPE MUST BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1, THEN THE CONTRACTOR WILL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP AS DESCRIBED IN THE FOLLOWING STANDARDS.
   A. STABILIZE THE SOIL WITH SOD:
      THE DISTURBED SLOPE MUST BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR WILL NOT USE LATE SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
   B. STABILIZE THE SOIL WITH EROSION CONTROL MIX:
      EROSION CONTROL MIX MUST BE PROPERLY INSTALLED BY NOVEMBER 15. THE CONTRACTOR WILL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE. SEE THE EROSION CONTROL MIX NOTES FOR ADDITIONAL CRITERIA.
   C. STABILIZE THE SOIL WITH STONE RIPRAP:
      PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.
4. OVERWINTER STABILIZATION OF DISTURBED SOILS:
   BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION:
      BY OCTOBER 1, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 90% OF THE DISTURBED SOIL BEFORE NOVEMBER 1, THEN MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED BELOW.
   B. STABILIZE THE SOIL WITH SOD:
      STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLINIG THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
   C. STABILIZE THE SOIL WITH MULCH:
      BY NOVEMBER 15, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL. PROVIDE NETTING ON ALL SLOPES GREATER THAN 8%.
5. MAINTENANCE:
   IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. ONCE A WEEK AND BEFORE AND AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES AND/OR BARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 85 TO 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

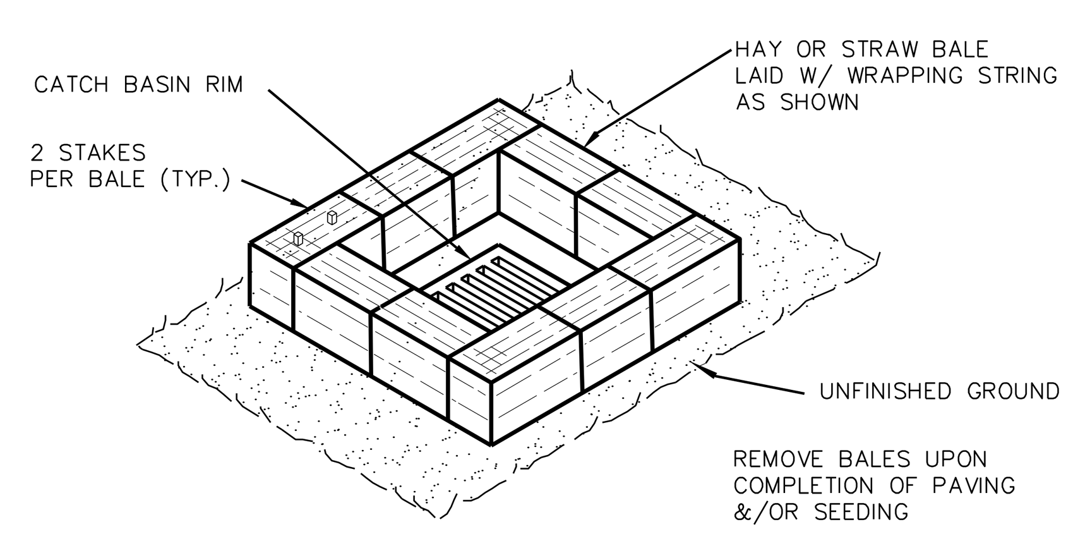
   STABILIZATION SCHEDULE BEFORE WINTER:

SEPTEMBER 15	ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. ALL GRASS LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR AN EROSION CONTROL BLANKET
OCTOBER 1	IF THE SLOPE IS STABILIZED WITH AN EROSION CONTROL BLANKET AND SEEDED. ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND MULCHED.
NOVEMBER 15	ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED. SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THAT DATE.

6. DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
7. AREAS WITHIN 75 FEET OF STREAMS, WETLANDS, AND OTHER PROTECTED NATURAL RESOURCES THAT ARE NOT STABILIZED WITH VEGETATION BY DEC. 1 SHALL BE MULCHED AND ANCHORED WITH NETTING. IF WORK CONTINUES IN THIS AREA DURING THE WINTER, A DOUBLE LINE OF SEDIMENT BARRIERS MUST BE USED.

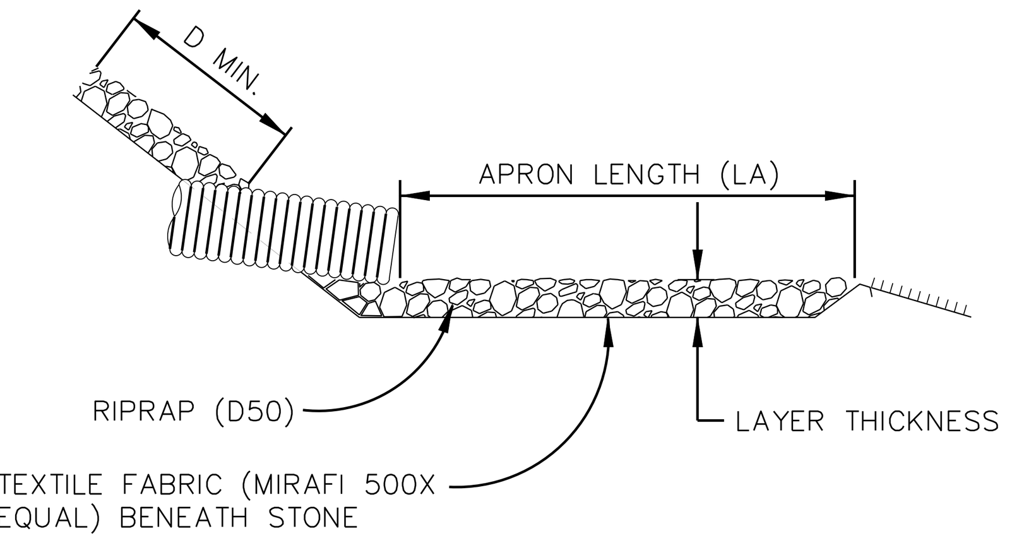
HOUSEKEEPING

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS 1. ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY, AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MY NOT BE USED FOR DUST CONTROL. ANY OFFSITE TRACKING OF MUD OR SEDIMENT SHALL BE VACUUMED IMMEDIATELY AND PRIOR TO THE NEXT SIGNIFICANT STORM EVENT.
4. DEBRIS AND OTHER MATERIALS: LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
5. TRENCH OR FOUNDATION DE-WATERING: TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER MUST BE REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, AND MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
6. NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
   - DISCHARGES FROM FIREFIGHTING ACTIVITY;
   - FIRE HYDRANT FLUSHINGS;
   - VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
   - DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3) OF MAINE DEP 06-096 CHAPTER 500;
   - ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
   - PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
   - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
   - UNCONTAMINATED GROUNDWATER OR SPRING WATER;
   - FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
   - UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5) MAINE DEP 06-096 CHAPTER 500);
   - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
   - LANDSCAPE IRRIGATION.
7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C(6) MAINE DEP 06-096 CHAPTER 500. SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   - WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
   - SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
   - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.
8. ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.



LOW POINTS SEDIMENT CONTROL BARRIER

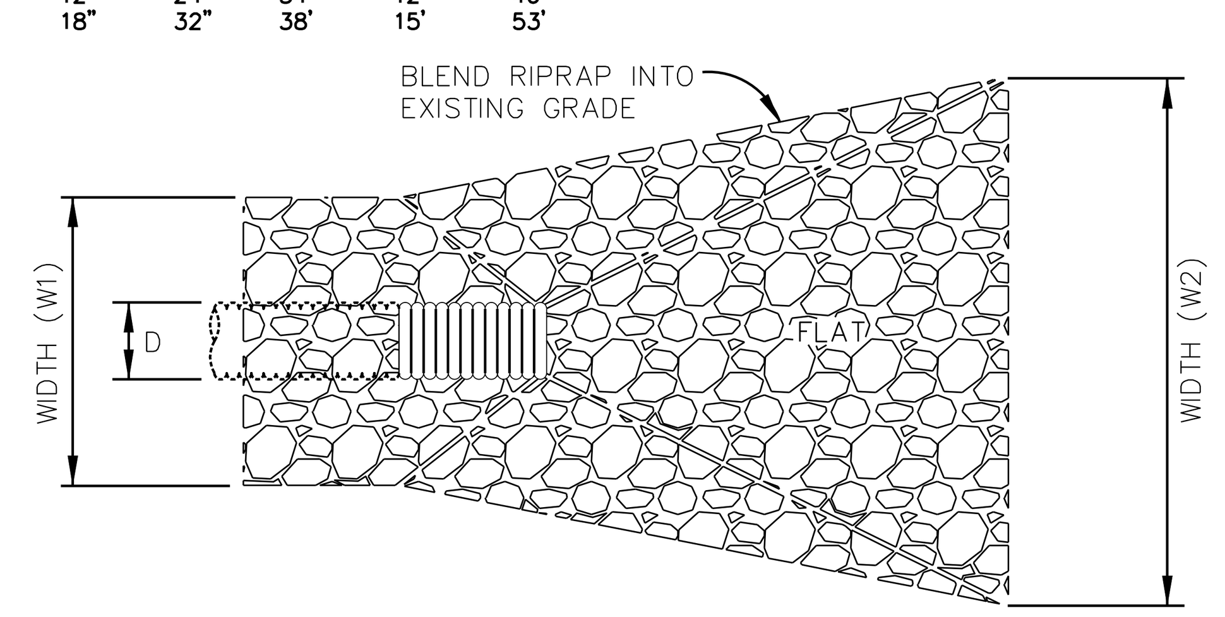
NTS



SECTION

APRON SCHEDULE

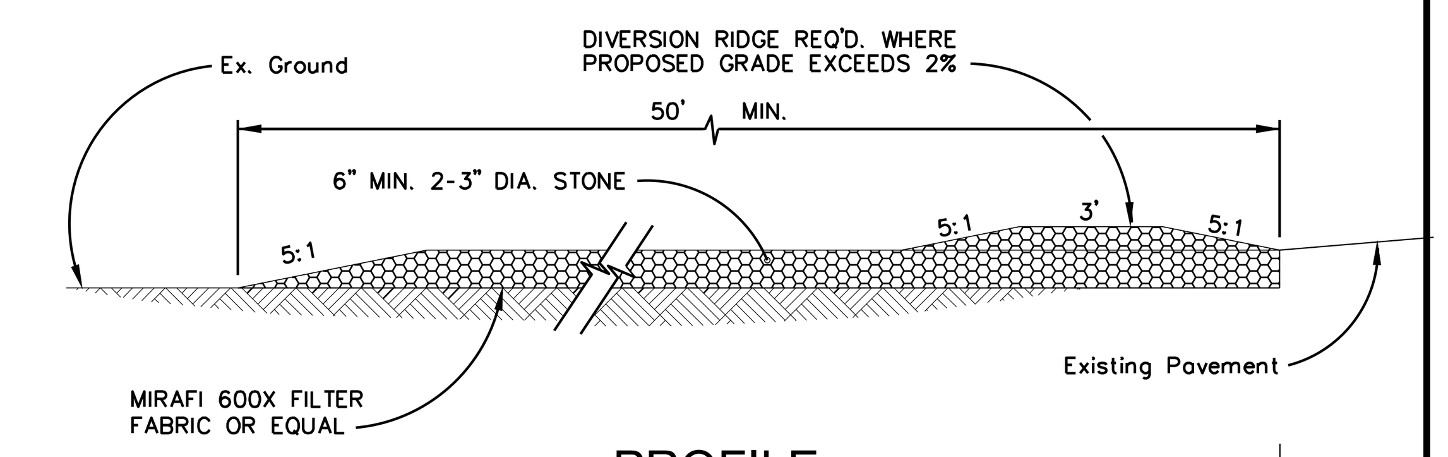
CULV. DIA. (D)	D50 (IN.)	T (IN.)	LA (FT.)	W1 (FT.)	W2 (FT.)
12" OR LESS	6"	15"	10'	3'	13'
15"	6"	15"	10'	3.75'	14'
18"	6"	15"	12'	4.5'	17'
24"	6"	15"	14'	6'	20'
30"	6"	15"	18'	7.5'	26'
36"	6"	18"	24'	9'	33'
42"	12"	24"	30'	10.5'	41'
48"	12"	24"	34'	12'	46'
60"	18"	32"	38'	15'	53'



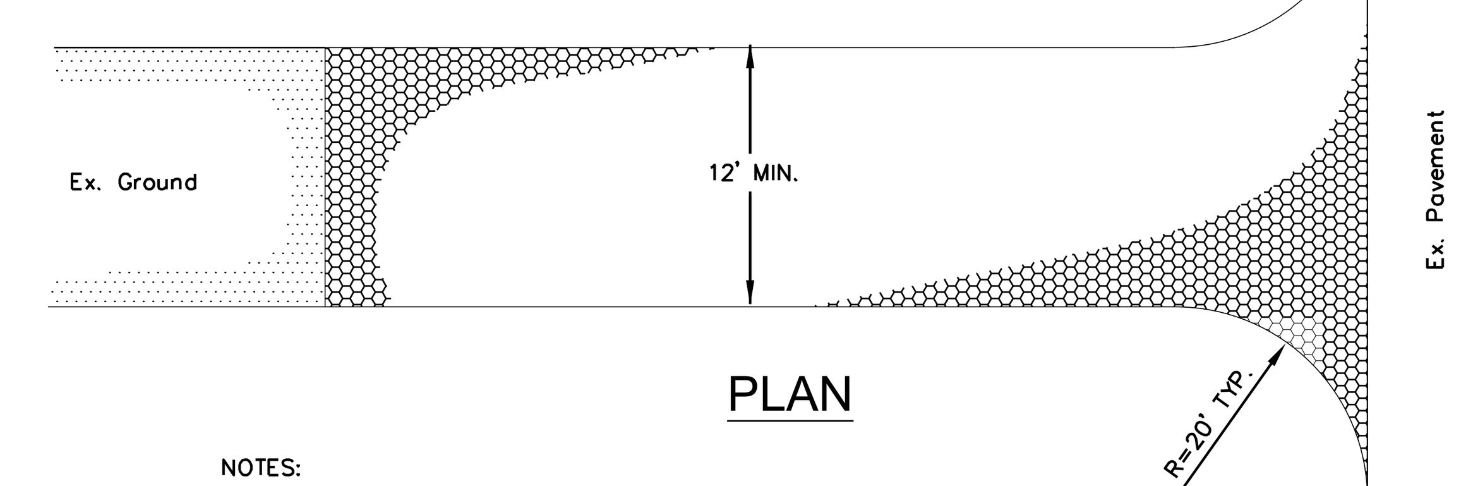
PLAN

PIPE OUTLET PROTECTION

NTS



PROFILE



PLAN

NOTES:

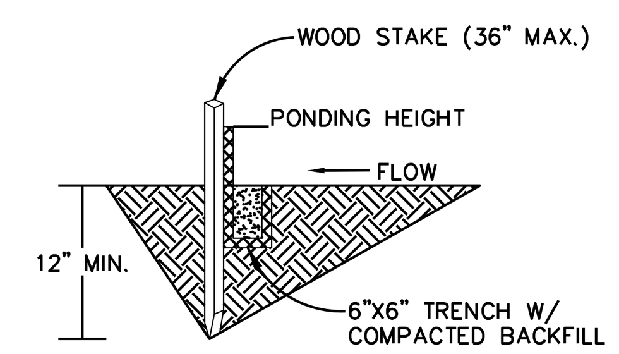
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY.

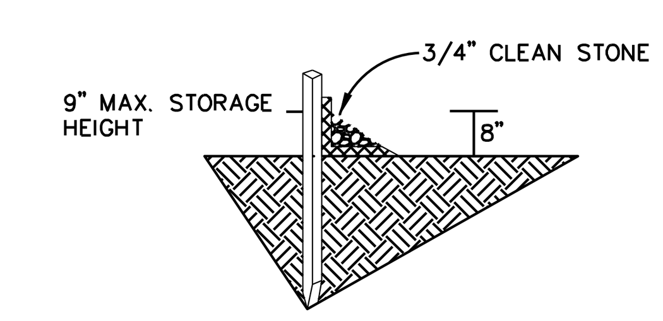
WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE

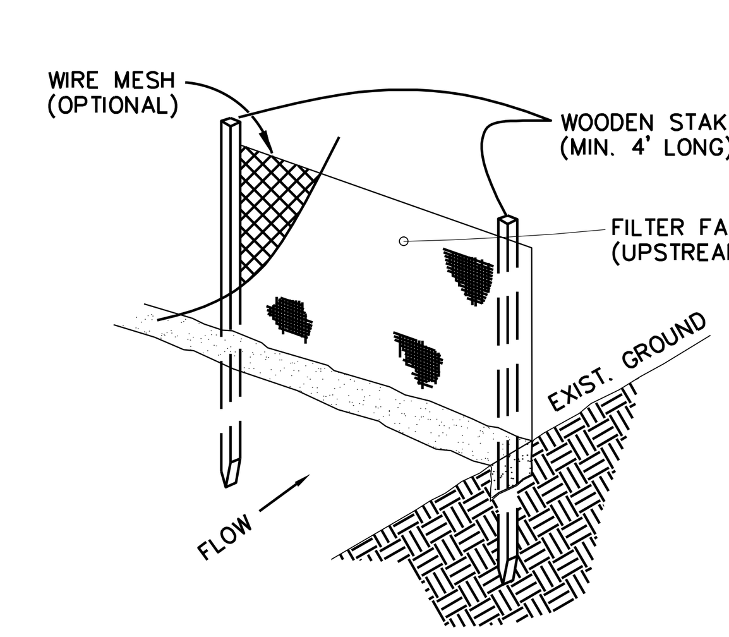
NTS

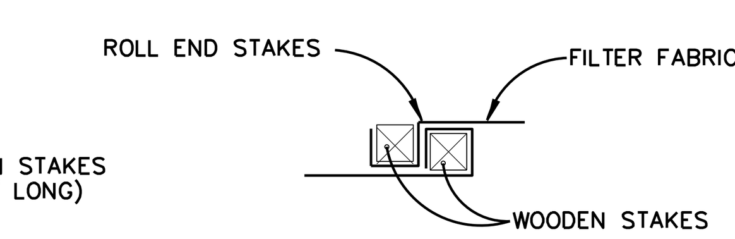


WITH TRENCHING



WITHOUT TRENCHING





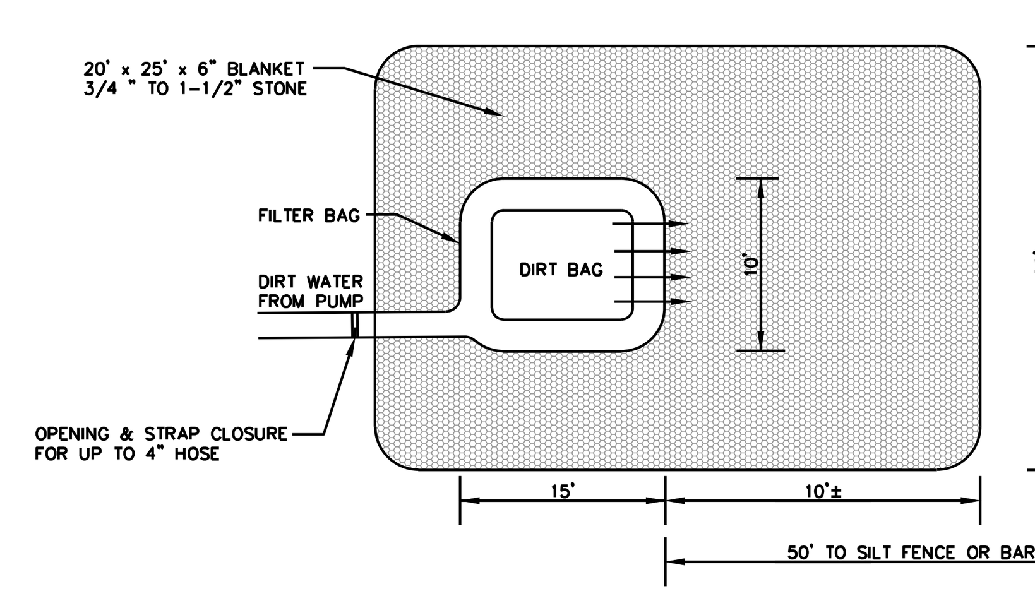
END POST DETAIL

NTS

1. KEY FABRIC IN A 6"X6" TRENCH W/ BACKFILL.
2. SILT FENCE SHALL BE A 3' FENCE OF 120LB/M (W/ REINF. BACK OF 6" WIRE MESH, POSTS 6' O.C. MAX) OR 200LB/M (W/ NO REINF. POSTS 6' O.C. MAX)

SILT FENCE DETAIL

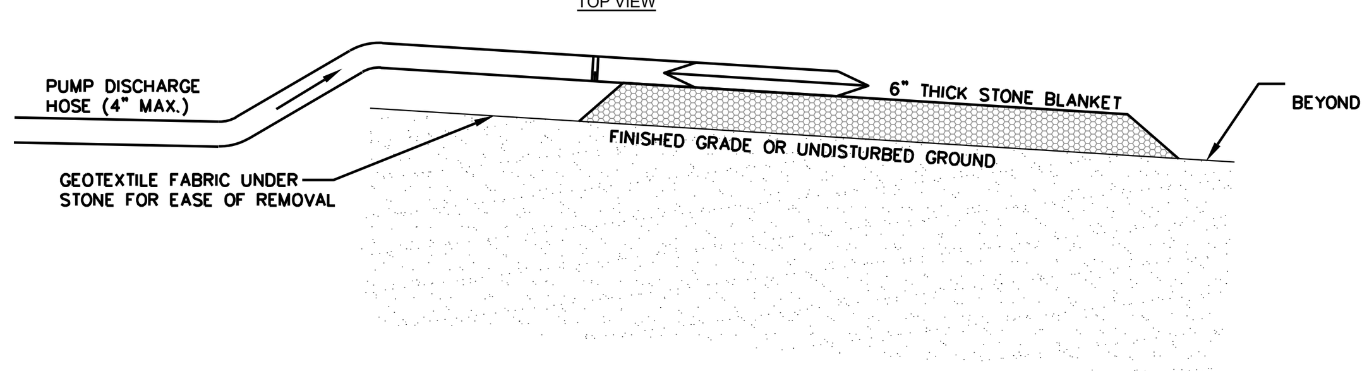
NTS



TOP VIEW

NOTES:

1. DIRT BAG MATERIAL BASED ON PARTICLE SIZE IN DIRTY WATER, I.E. FOR COARSE PARTICLES A WOVEN MATERIAL; FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
2. DO NOT OVER PRESSURIZE DIRT BAG OR USE BEYOND CAPACITY.
3. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
4. DOWN GRADIENT RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION, E.G. FOREST FLOOR OR COARSE GRAVEL/STONE.
5. DISCHARGE NOT PERMITTED WITHIN 25' OF A STREAM OR WETLAND. CONSULT DEP IF STRUCTURE MUST BE WITHIN 75' OF STREAM OR WATER BODY. SECONDARY CONTAINMENT MAY BE REQUIRED.



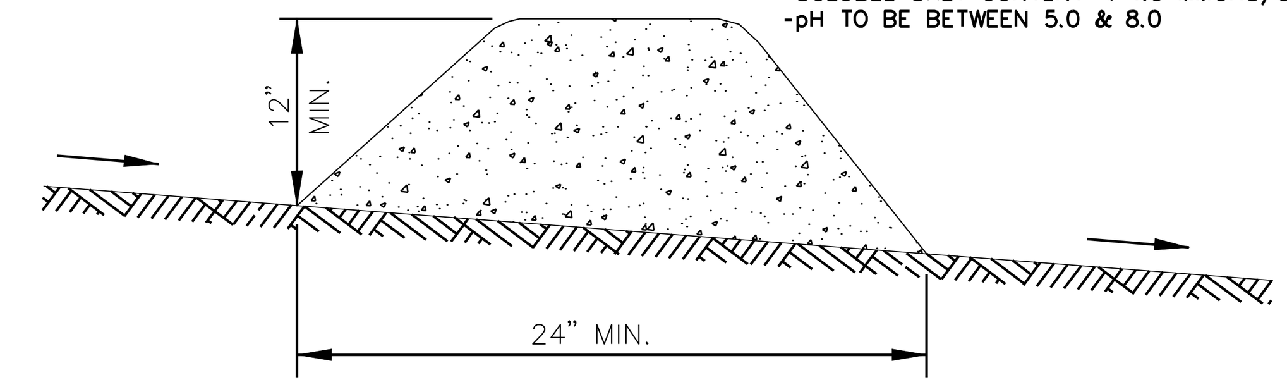
SIDE VIEW

PUMPED DISCHARGE SEDIMENT CONTROL DEVICE ("DIRT BAG")

PLACE BARRIER ALONG RELATIVELY LEVEL CONTOUR.
ECM BERM PROHIBITED AT THE BASE OF SLOPES > 8% OR WHERE THERE IS FLOWING WATER.
SEE MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS FOR INSTALLATION INSTRUCTIONS.

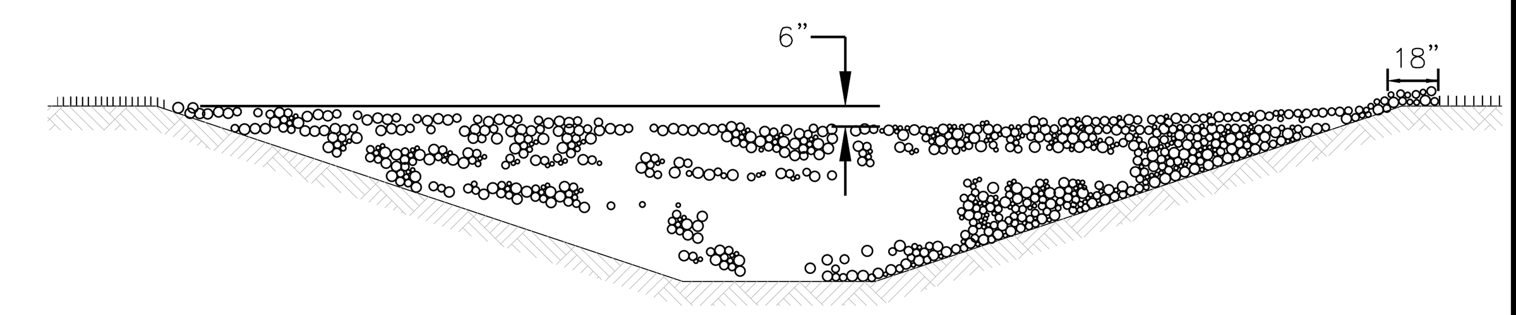
EROSION CONTROL MIX SHOULD CONTAIN A WELL GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. ECM SHOULD BE FREE OF REFUSE, PHYSICAL CONTAMINATES, AND MATERIAL TOXIC TO PLANT GROWTH.

- ORGANIC MATTER > 80% DRY WEIGHT
- PARTICLE SIZE BY WEIGHT: 100% PASSING 6" SCREEN
  75-85% PASSING 0.75" SCREEN
- ORGANIC PORTION TO BE FIBROUS & ELONGATED
- SOLUBLE SALT CONTENT < 4.0 MMOHS/CM.
- pH TO BE BETWEEN 5.0 & 8.0



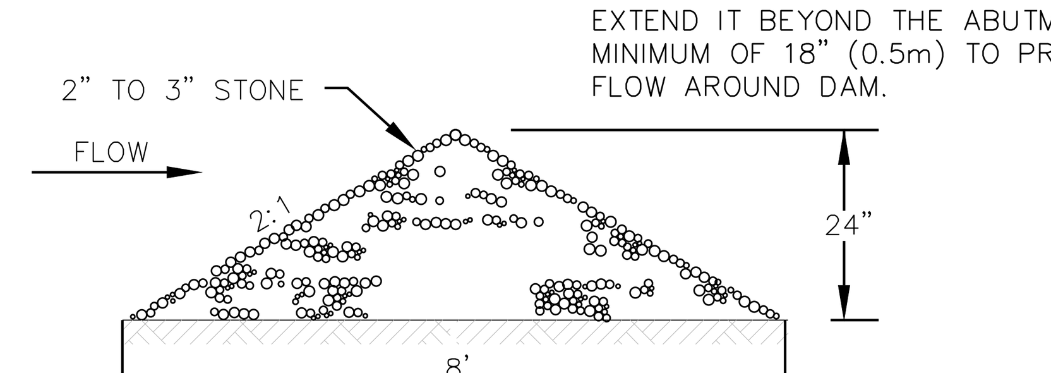
EROSION CONTROL MIX BERM

NTS



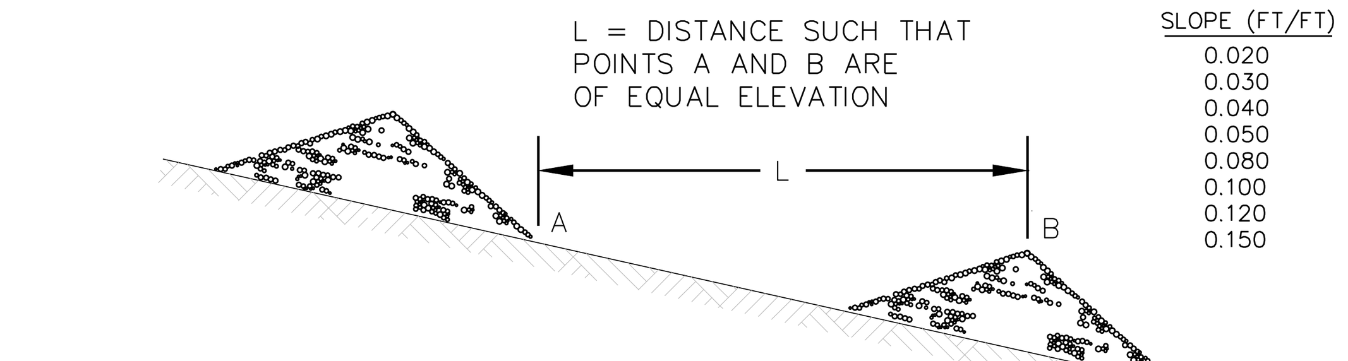
ELEVATION

NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" (0.5m) TO PREVENT FLOW AROUND DAM.



CROSS SECTION

L = DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION



SLOPE (FT/FT)	L (FT)
0.020	100
0.030	66
0.040	50
0.050	40
0.080	25
0.100	20
0.120	17
0.150	13

SPACING

STONE CHECK DAM DETAIL

NTS

SEA DOG SOLAR

Standish, Maine

BOYLE ASSOCIATES

KREBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Gorham, Maine 04038
Tel. (207) 839-2771
Fax (207) 839-8250

ISSUED FOR CLIENT REVIEW
NOT FOR CONSTRUCTION

SOURCE DATA LEGEND

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Boyle Associates
254 Commercial Street
Merrill's Wharf, Suite 101
Portland, ME 04101

Stormwater:
BH2M Inc.
28 State Street
Gorham, ME 04038

STATE OF MAINE
STEVEN J. BLAKE II
No. 11695
LICENSED
PROFESSIONAL ENGINEER

REV. NO.	REVISIONS/COMMENTS	DATE

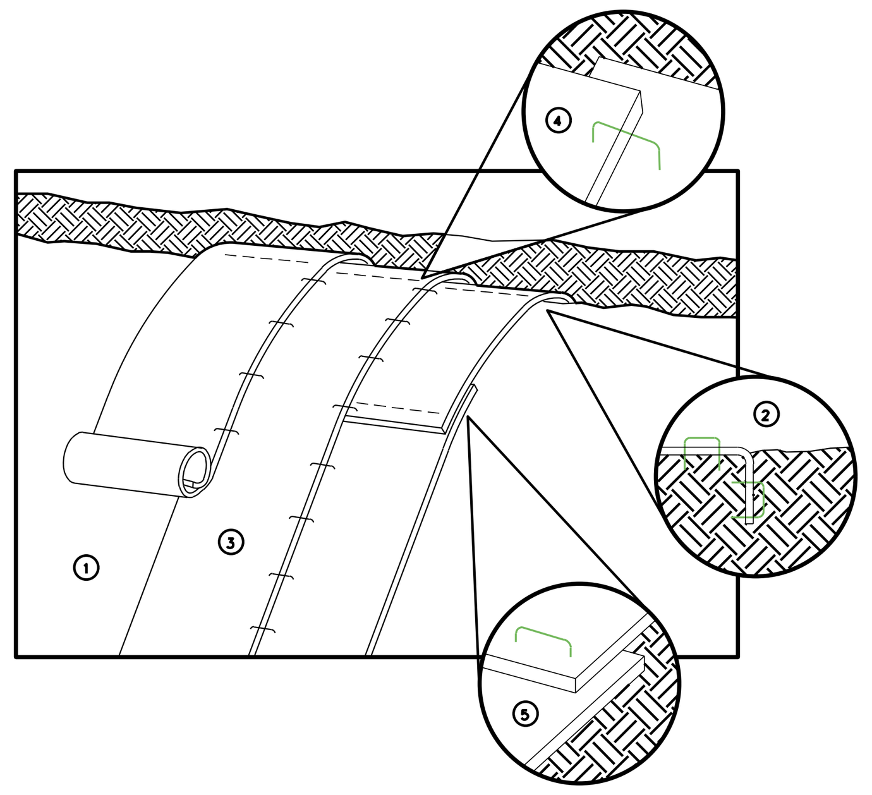
Drawing Title:
PINE GATE RENEWABLES
SEA DOG SOLAR
EROSION AND
SEDIMENTATION CONTROL
DETAILS

DATE of Issue: 1/30/2020

Drawn by: CRM   Checked by: SJB

Project No.: 19349   Scale: 1" = 150'

Drawing No.: C-5.0   Rev No.:

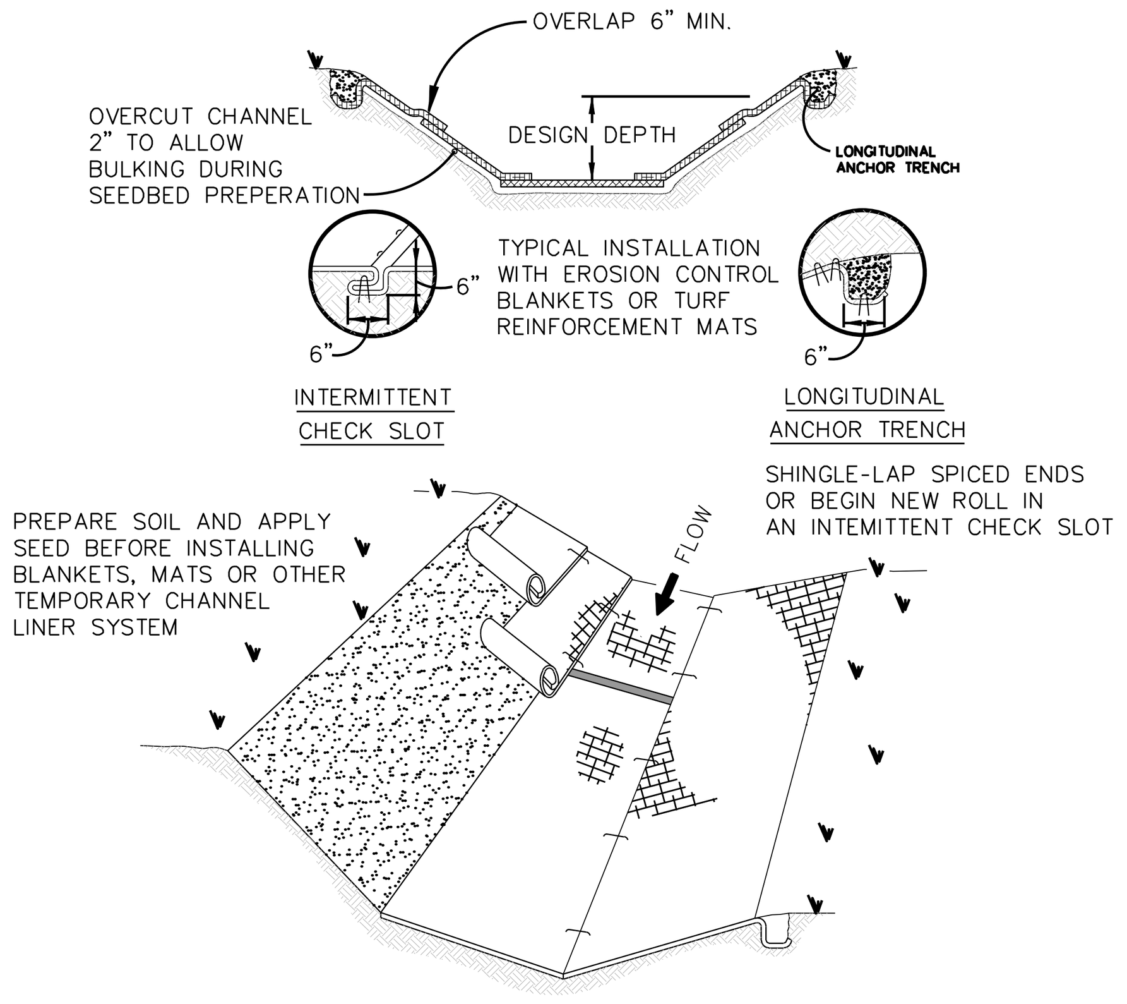


1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING LIME, FERTILZER & SEED.
2. BEGIN AT TOP OF SLOPE BY ANCHORING BLANKET IN 6" X 6" TRENCH. BACKFILL & COMPACT TRENCH AFTER STAPLING.
3. ROLL BLANKETS DOWN OR HORIZONTALLY ACROSS SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROX. 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROX. 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROX. 12" APART.
6. EROSION CONTROL BLANKETS SHALL BE USED ON SLOPES STEEPER THAN 3:1 BUT LIMITED TO A MAX. OF 2:1.

SLOPE STABILIZATION:
EROSION CONTROL BLANKET SHALL BE IN ACCORDANCE WITH M.D.O.T. STANDARD SPECIFICATIONS, SECTION 613, EROSION CONTROL BLANKETS

SLOPE STABILIZATION DETAIL

N.T.S.



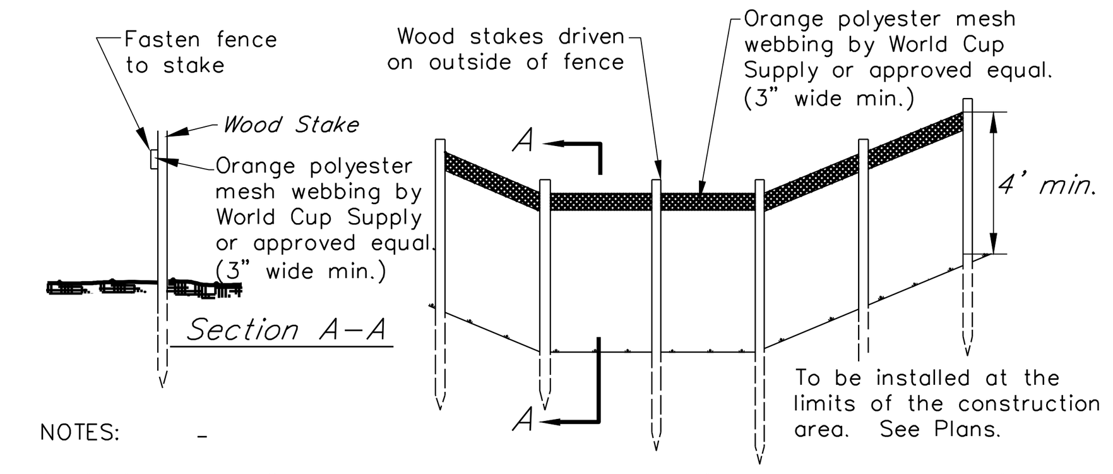
1. DESIGN VELOCITIES EXCEEDING 2 FT/SEC. REQUIRE TEMPORARY BLANKETS, MATS OR SIMILAR LINERS TO PROTECT SEED AND SOIL UNTIL VEGETATION BECOMES ESTABLISHED.
2. GRASS-LINED CHANNELS WITH DESIGN VELOCITIES EXCEEDING 5 FT/SEC SHOULD INCLUDE TURF REINFOREMENT MATS.
3. STAKE OR STAPLE BLANKETS AND MATS PER MANUFACTURERS SPECIFICATIONS.
4. EROSION CONTROL BLANKETS SHALL MEET MAINE D.O.T. SPEC 717.061.

REINFORCED GRASS LINED CHANNEL

NTS

NOTES:

1. Acceptable EC Measure details are provided below.
2. At a minimum, EC measures meet ME DEP Standards and Specifications or previously approved interchangeable practices.
3. Limits of disturbance (or "construction demarcation") shall be installed prior to any earth disturbing activities.
4. Barrier Tape/Rope: for use where proposed disturbance borders non-wooded, vegetated areas more than 100 ft from the nearest water resource (stream, brook, lake, pond, wetland, etc.). Barrier tape is high visibility fiber-glass tape, minimum 3" in width commonly used in ski areas for demarcating closed areas. Barrier tape and rope should be attached to stakes, at a minimum height of 4 ft from the ground.



NOTES:

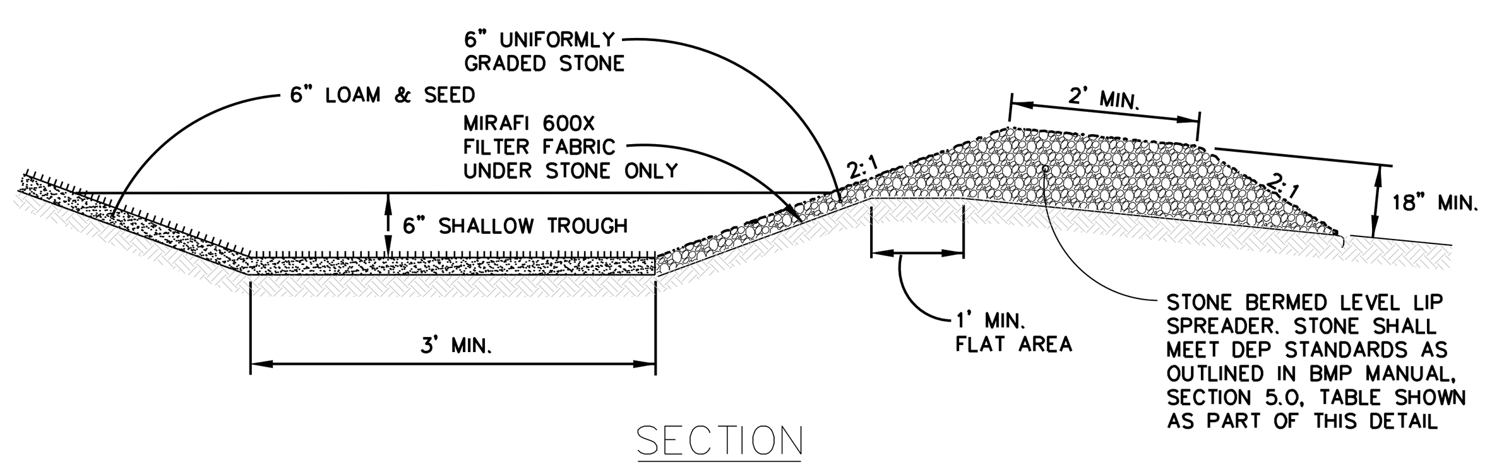
1. Minimum 1 to 2 rows of mesh barrier tape to be installed along construction perimeter.
2. Each row of barrier tape to be 3" wide minimum.
3. Barrier tape to be orange.
4. Secure barrier tape to stakes or existing tree trunks with bottom row at 4' distance from ground surface (minimum).
5. Maintain and replace as needed. Remove at completion of project.
6. In event the Contractor determines barrier tape is not sufficient, replace with orange construction fence or snow fence.

TYPICAL CONSTRUCTION LIMIT BARRIER

NTS

BERM STONE SIZE

SIEVE DISIGNATION METRIC	SIEVE DISIGNATION US CUSTOMARY	% BY WEIGHT PASSING SQUARE MESH SIEVES
300 MM	12"	100
150 MM	6"	84–100
75 MM	3"	68–83
25.4 MM	1"	42–55
4.75 MM	NO. 4	8–12



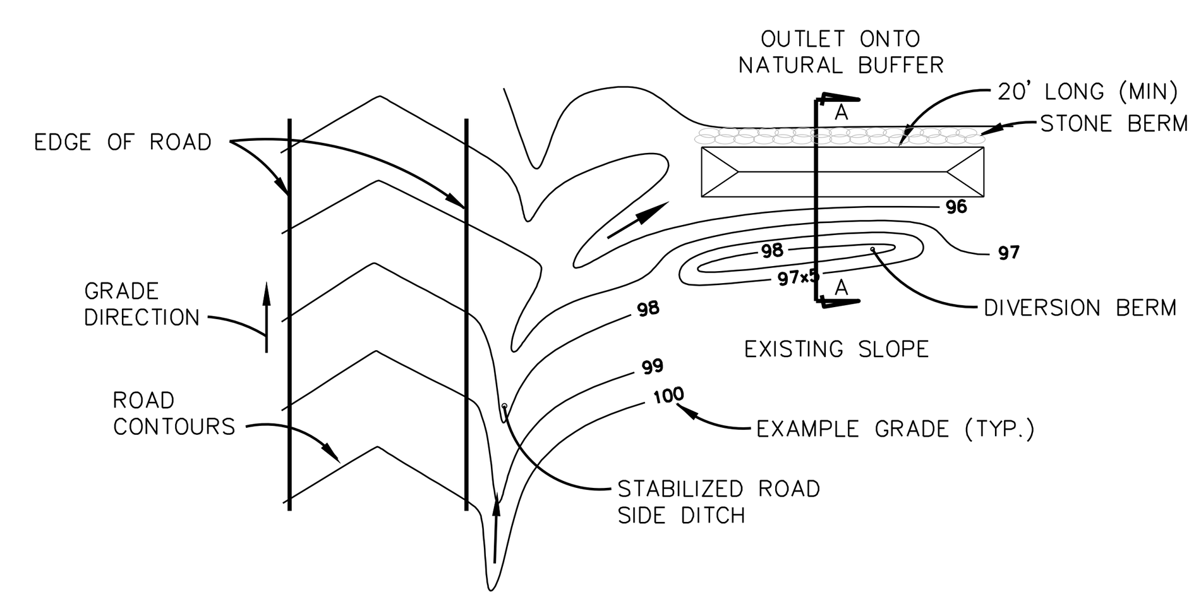
SECTION

CONSTRUCTION SPECIFICATIONS:

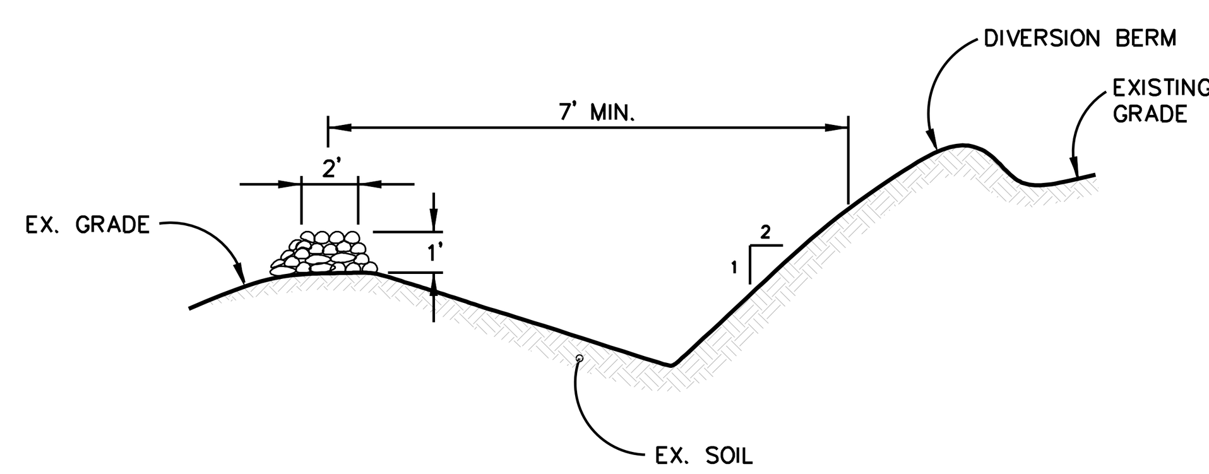
1. SPREADERS SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT LEVEL LIP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOWLEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL, NOT FILL.
2. SELECTED GEOTEXTILE FABRIC BASED ON UNDISTURBED SOILS (SANDS, SILTS, CLAYS, ETC.).
3. PLACE UNIFORMLY GRADED STONE (SEE TABLE).
4. THE INLET DITCH SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 20 FEET BEFORE ENTERING THE SPREADER.
5. STORM RUN-OFF CONVERTED TO SHEET FLOW ACROSS OUTLET APRON SHALL FLOW ONTO STABILIZED AREAS. AREAS. RUNOFF SHALL NOT BE RECONCENTRATED IMMEDIATELY BELOW THE POINT OF DISCHARGE.
6. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PROVIDED.
7. CONSTRUCTION OF LEVEL LIP SPREADER SHALL BE FROM UPHILL SIDE ONLY. LEVEL LIP AND AREA BELOW SPREADER SHALL BE AT EXISTING GRADES AND UNDISTURBED BY EARTHWORK OR EQUIPMENT EXCEPT AS NOTED ON PLAN.
8. CONSTRUCT SPREADER WITH LIP AT EXISTING ELEVATION AS SPECIFIED.
9. DOWN GRADIENT AND RECEIVING AREA MUST BE NATURALLY WELL VEGETATED.

LEVEL SPREADER DETAIL

N.T.S.



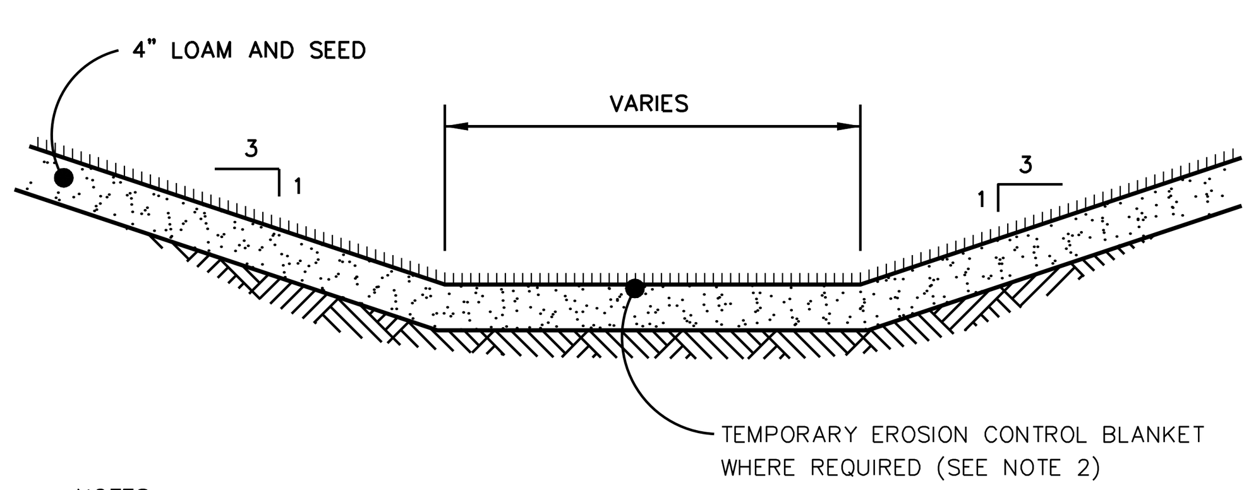
PLAN VIEW



SECTION A-A

DITCH TURNOUT DETAIL

NTS

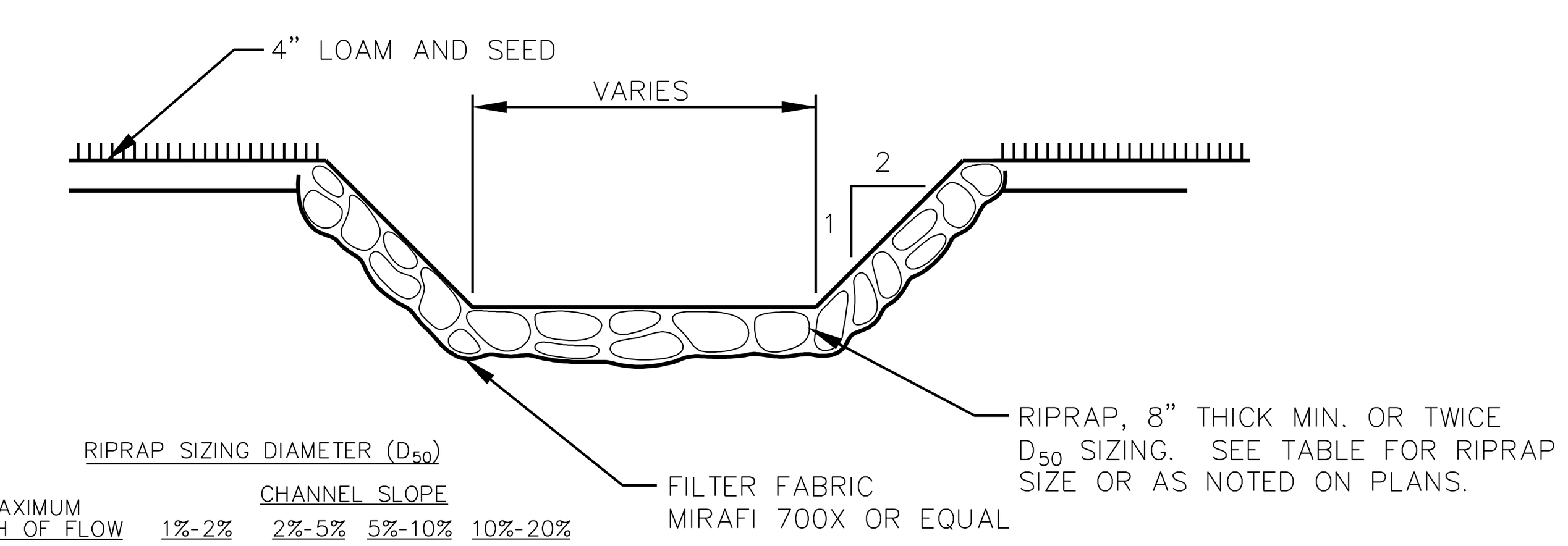


NOTES:

1. VEGETATED SWALES SHALL NOT EXCEED AN 8% RUNNING GRADE.
2. FOR RUNNING GRADES GREATER THAN 5% A TEMPORARY STRIP OF EROSION CONTROL BLANKET SHALL BE PROVIDED UNTIL VEGETATION IS ESTABLISHED. SEE REINFORCED GRASS LINED CHANNEL DETAIL FOR ADDITIONAL INFORMATION.
3. MOW SWALES NO LATER THAN 30 DAYS PRIOR TO THE FIRST KILLING FROST TO A MINIMUM HEIGHT OF 4"

VEGETATED DITCH DETAIL

NTS



RIPRAP SIZING DIAMETER (D_{50})

MAXIMUM DEPTH OF FLOW	CHANNEL SLOPE 1%-2%	2%-5%	5%-10%	10%-20%
<0.5'	3"	4"	4-6"	6-12"
1.0'	3"	6"	6-12"	12-18"
2.0'	4-6"	6-12"	12-18"	18-24"
3.0'	6-12"	6-18"	18-24"	24"

STONE LINED DITCH

NTS

SEA DOG SOLAR

Standish, Maine

BOYLE ASSOCIATES

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BH2M
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Engineers, Surveyors
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Gorham, Maine 04038
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Fax (207) 839-8250

ISSUED FOR CLIENT REVIEW
NOT FOR CONSTRUCTION

SOURCE DATA LEGEND

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Boyle Associates
254 Commercial Street
Merrill's Wharf, Suite 101
Portland, ME 04101

Stormwater:
BH2M Inc.
28 State Street
Gorham, ME 04038

STATE OF MAINE ★ STEVEN J. BLAKE II No. 11695 LICENSED ★ PROFESSIONAL ENGINEER
[illegible]

REV. NO.	REVISIONS/COMMENTS	DATE

Drawing Title:
PINE GATE RENEWABLES
SEA DOG SOLAR
EROSION AND
SEDIMENTATION CONTROL
DETAILS

DATE of Issue: 1/30/2020

Drawn by: CRM — Checked by: SJB

Project No.: 19349 — Scale: 1" = 150'

Drawing No.: C-5.1 — Rev No.:

G:\2020\20030\EC Details 2.dwg, 2/7/2020 1:52 PM

Attachment D

Erosion and Sedimentation Control Inspection and Maintenance Plan

EROSION AND SEDIMENTATION CONTROL

INSPECTION AND MAINTENANCE PLAN

SEA DOG SOLAR PROJECT
Standish, Maine

For
Pine Gate Renewables

Prepared by:

BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors

Date:
February 2020

TABLE OF CONTENTS

LIST OF APPENDICES

1.0 INTRODUCTION

The intent of this plan is to establish inspection and maintenance procedures to be implemented for erosion and sediment control best management practices (BMP's) during construction, as well as for post-construction stormwater BMP's, for the proposed Sea Dog Solar Project, located in Standish, Maine. This plan has been prepared in conformance with the requirements set forth in 06-096 Chapter 500 – Stormwater Management and the Maine Construction General Permit.

1.1 PROJECT DESCRIPTION

Pine Gate Solar is proposing to construct the Project, a fixed ground mount photovoltaic solar array off Cape Road in Standish, Maine. The Project is proposed to occupy 19.2 acres on a portion of the parcels known as Tax Map 3, Lot 43. The project is required to obtain a Stormwater Permit By Rule to be compliant with Chapter 500 Rules. The generation capacity of the Project is designed to be 3.25 megawatts and electricity generated at the site will be interconnected to the existing distributed generation 3-phase power line along Cape Road.

The scope of work includes but is not limited to:

- Tree clearing (19.2 acres)
- Stump and boulder removal
- Construction of a 12' wide gravel access road
- Construction of a temporary staging area
- Installation of solar panels and associated support equipment and structures
- Installation of buried and overhead collector lines
- Restoration of disturbed areas

Construction of the project will be planned to occur incrementally in blocks of no more than 5-acres. Sequencing of construction will be structured so that the 5-acre blocks will be stabilized prior to commencing construction of subsequent 5-acre blocks.

1.2 LIST OF PERMITS

The following is a list of Municipal, State, and Federal permits that have been granted for the Project:

Municipal
Town of Standish Site Plan Permit

State of Maine
Stormwater Management Law – Permit by Rule

Federal
None

1.3 REFERENCES

This plan has been developed in accordance with the following references:

- Stormwater Management Law 38 M.R.S. §420-C and §420-D
  http://legislature.maine.gov/statutes/38/title38sec420-C.html
  http://legislature.maine.gov/statutes/38/title38sec420-D.html

- 06-096 Chapter 500 – Stormwater Management
  http://www.maine.gov/sos/cec/rules/06/096/096c500.docx

- General Permit – Construction Activity
  Maine Pollutant Discharge Elimination System (MPDES)
  https://www.maine.gov/dep/land/stormwater/construction.html

- Maine Erosion and Sediment Control Best Management Practices (BMPs)
  Manual for Designers and Engineers
  https://www.maine.gov/dep/land/erosion/escbmps/esc_bmp_engineers.pdf

- Maine Erosion and Sediment Control Practices Field Guide for Contractors
  https://www.maine.gov/dep/land/erosion/escbmps/esc_bmp_field.pdf

- MaineDOT Best Management Practices for Erosion and Sedimentation Control
  https://www.maine.gov/mot/env/documents/bmp/BMP2008full.pdf

1.4 RESPONSIBLE PARTIES

Preparer/Design Engineer:	BH2M 28 State Street Gorham, ME 04038 (207) 839-2771
Owner:	Pine Gate Renewables _____ _____ _____
General Contractor:	_____ _____ _____ _____
Third Party Inspector:	_____ _____ _____ _____
Post Construction Stormwater Inspector:	_____ _____ _____ _____

During construction the General Contractor will be responsible for implementing the erosion and sediment control BMP's as well as routine inspections and maintenance of the BMP's. The Owner will retain a third-party inspector to perform weekly inspections of the erosion and sediment control BMP's during construction.

Post-construction stormwater BMP inspections, maintenance, reporting, and required recertifications will be the responsibility of the Owner or their representatives

1.5 INSPECTION AND MAINTENANCE – DURING CONSTRUCTION

Anyone who conducts or directs an activity that involves exposing, filling or displacing soil or other earthen materials should take appropriate measures to prevent erosion and the loss of sediment beyond the project site or into a sensitive resource. Erosion and sediment control measures should be in place before the activity begins and should remain functional until the site is permanently stabilized. All measures should remain effective until all areas are permanently stabilized. Any disturbed area should be regularly inspected until the site is fully stabilized with either 90% grass cover or a permanent impervious surface such as pavement. A person who has the knowledge of erosion and sediment control measures and of stormwater management practices should inspect the site at a minimum once a week, and before and after a storm event. Any failing measure should be repaired or modified to adequately stabilize the site prior to the next storm event or no later than 7 calendar days. The inspection frequency table found in Appendix F shall be used as a guide for inspecting each specific BMP. The inspection form found in Appendix B shall be used to record the inspection, its outcome, and the required maintenance.

Refer to the Plans found in Appendix A for additional erosion and sediment control details and narratives

General Inspection, Maintenance, and Documentation Requirements

1. Inspection and corrective action: Inspect disturbed and impervious areas, erosion control measures, and material storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and within 24 hours after a storm event, and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.

2. Maintenance: If BMP's need to be repaired, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If additional BMPs or significant repair of BMPs are necessary, implementation must be completed within 7 calendar days and prior to any storm event. All measures must be maintained in effective operating condition until areas are permanently stabilized.

3. Documentation: Maintain a binder with construction inspection forms summarizing the inspections and any corrective action taken. The forms must include the name and qualifications of the person making the inspections, the date of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Refer to Appendix B for the construction inspection form. Major observations must include BMP's that need maintenance, BMP's that failed to operate as designed or proved

inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the inspection form what corrective action taken and when it was taken. The Owner shall retain a copy of the inspection forms for a period of at least five years from the completion of permanent stabilization.

Site-Specific BMP's

Refer to Appendix D for inspection and maintenance requirements and frequencies of site-specific BMP's. Refer to the Plans found in Appendix A for narratives and details of the site-specific BMP's. The following is a list of the site-specific BMP's that may be required for the project:

- Sedimentation Barriers (Silt Fence or Erosions Control Mix Berm)
- Stabilized Construction Entrance
- Staging Area
- Construction Limit Barrier Fence
- Slope Stabilization
- Concrete Washout Structure
- Stone Check Dam
- Water Bar
- Level Spreader/Ditch Turnout
- Pumped Discharge Sediment Control Device "Dirt Bag"
- Temporary Sediment Trap
- Pipe Outlet Protection
- Temporary Grass/Stone Lined Swale

Winter Constriction

Winter construction is construction activity performed during the period from November 1 through April 15. If disturbed areas are not stabilized with permanent measures by November 1 or new soil disturbance occurs after November 1, but before April 15, then these areas must be protected and runoff from them must be controlled by additional measures and restrictions.

1. Site Stabilization: For winter stabilization, hay mulch is applied at twice the standard temporary stabilization rate. At the end of each construction day, areas that have been brought to final grade must be stabilized. Mulch may not be spread on top of snow.

2. Sediment Barriers: All areas within 75 feet of a protected natural resource must be protected with a double row of sediment barriers.

3. Ditches: All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period, must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by Maine DEP.

4. Slopes: Mulch netting must be used to anchor mulch on all slopes greater than 8%unless erosion control blankets or erosion control mix is being used on these slopes.

Refer to the Plans contained in Appendix A for additional winter construction erosion and sediment control requirements.

1.6 INSPECTION AND MAINTENANCE – POST-CONSTRUCTION

The long-term operation and maintenance of a stormwater management system is as critical to its performance as its design and construction. Proper operation and maintenance practices ensure that stormwater BMP's continue to improve water quality by removing pollutants effectively over the long-term and decreasing the risk of re-suspending sediment. Without proper maintenance, BMPs are likely to fail and will no longer provide treatment of stormwater. The following includes a summary of the inspection, maintenance, and documentation requirements for post-construction stormwater BMP's.

Refer to the Plans contained in Appendix A for details and locations of site-specific post-construction BMP's.

General Inspection, Maintenance, and Documentation Requirements

1. Inspection and maintenance: All measures must be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections. The following areas, facilities, and measures must be inspected and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.

    a. Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after significant rainfall events (0.5 inches in 24-hour period) to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

    b. Inspect ditches, swales and other open stormwater channels in the spring, in late fall, and after significant rainfall events (0.5 inches in 24-hour period) to remove any obstructions to flow, remove accumulated sediments and debris, to control vegetated growth that could obstruct flow, and to repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones

have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.

c. Inspect culverts in the spring, late fall, and after significant rainfall events (0.5 inches in 24-hour period) to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, outlet, and within the conduit. Repair any erosion damage at the culvert's inlet and outlet.

d. Inspect resource and treatment buffers once a year for evidence of erosion, concentrating flow, and encroachment by development. If flows are concentrating within a buffer, site grading, level spreaders, or ditch turn-outs must be used to ensure a more even distribution of flow into a buffer. Check down slope of all level spreaders and turn-outs for erosion. If erosion is present, adjust or modify the level spreader's or turn-out's lip to ensure a better distribution of flow into a buffer. Clean-out any accumulation of sediment within the level spreader bays or turn-out pools.

2. Regular maintenance

a. Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Grading of gravel roads, or grading of the gravel shoulders of gravel or paved roads, must be routinely performed to ensure that stormwater drains immediately off the road surface to adjacent buffer areas or stable ditches, and is not impeded by accumulations of graded material on the road shoulder or by excavation of false ditches in the shoulder. If water bars or open-top culverts are used to divert runoff from road surfaces, clean-out any sediments within or at the outlet of these structures to restore their function.

b. Manage each buffer's vegetation consistently with the requirements in any deed restrictions for the buffer. Wooded buffers must remain fully wooded and have no disturbance to the duff layer. Vegetation in non-wooded meadow buffers may not be mowed more than two times per year, and may not be cut shorter than six inches.

3. Documentation: Maintain a binder of inspection forms summarizing inspection, maintenance, and any corrective actions taken. The inspection forms must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. Refer to Appendix C for inspection forms. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed of after removal. The log must

be made accessible to Department staff and a copy provided to the Department upon request. The Owner shall retain a copy of the logs for a period of at least five years from the completion of permanent stabilization.

1.7 HOUSEKEEPING

The following performance standards shall apply:

1. Spill prevention**.** Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

NOTE: Any spill or release of toxic or hazardous substances must be reported to the Department. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous material, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Department's website at: http://www.maine.gov/dep/spills/emergspillresp/

2. Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

   See 06-096 Chapter 500 - Appendix D for license by rule standards for infiltration of stormwater.

NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R.S.A. §465-C(1).

3. Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE)

should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

NOTE: Dewatering a stream without a permit from the Department may violate state water quality standards and the *Natural Resources Protection Act*.

4. Debris and other materials. Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

NOTE: To prevent these materials from becoming a source of pollutants, construction and post- construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

5. Excavation de-watering. Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

NOTE: Dewatering controls are discussed in the "Maine Erosion and Sediment Control BMPs, Maine Department of Environmental Protection."

6. Authorized Non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

    a. Discharges from firefighting activity;

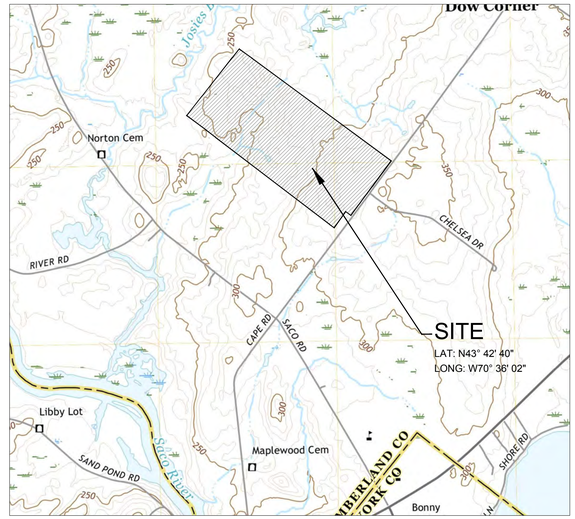
b. Fire hydrant flushings;
c. Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
d. Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
e. Dust control runoff in accordance with permit conditions and Appendix (C)(3);
f. Routine external building washdown, not including surface paint removal, that does not involve detergents;
g. Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
h. Uncontaminated air conditioning or compressor condensate;
i. Uncontaminated groundwater or spring water;
j. Foundation or footer drain-water where flows are not contaminated;
k. Uncontaminated excavation dewatering (see requirements in Appendix C(5));
l. Potable water sources including waterline flushings; and
m. Landscape irrigation.

7. Unauthorized non-stormwater discharges. The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with 06-096 Chapter 500 - Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:

    a. Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
    b. Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
    c. Soaps, solvents, or detergents used in vehicle and equipment washing; and
    d. Toxic or hazardous substances from a spill or other release.

8. Additional requirements. Additional requirements may be applied on a site-specific basis.

Appendix A
Plans

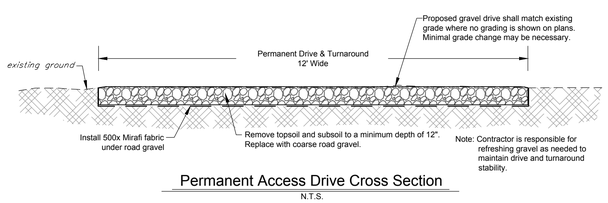


LOCATION MAP
SCALE: 1" = ½ Mile

LEGEND

- EXISTING POWER POLE / PROPOSED POLE
- APPROXIMATE PROPERTY LINES
- APPROXIMATE PROJECT PARCEL
- EXISTING GRADE CONTOUR LINES (5 FOOT INTERVALS)
- EXISTING ROW FENCE
- PROPOSED PROJECT FENCE
- PROPOSED TREELINE
- EXISTING OVERHEAD POWER
- PROPOSED OVERHEAD POWER
- PROPOSED UNDERGROUND POWER
- PROPOSED PROJECT EQUIPMENT
- PROPOSED FIXED SOLAR PANEL RACKING
- DELINEATED STREAM
- ENVIRONMENTAL RESOURCE BUFFER
- DELINEATED WETLAND
- PROPOSED 12' GRAVEL ACCESS DRIVE
- LIMIT OF DISTURBANCE
- STAGING AREA FOR CONSTRUCTION
- POTENTIAL VERNAL POOL WITH DESIGN 250' SETBACK
- SURVEY AREA

STRUCTURE FOOTPRINT AREA = 238,304 S.F.



Permanent Access Drive Cross Section
N.T.S.

NOTES:

1. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
2. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 MAINE STATE PLANES, WEST ZONE (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD88 (US SURVEY FEET).
3. EXISTING GROUND CONTOUR ELEVATIONS ARE BASED ON LIDAR DATA FROM THE MAINE OFFICE OF GIS.
4. UTILITIES ARE NOT WARRANTED TO BE COMPLETE OR ACCURATE, CONTRACTOR SHALL CONTACT DIG SAFE BEFORE BEGINNING ANY EXCAVATION.
5. THIS IS IN NO WAY A BOUNDARY SURVEY. PROPERTY LINES ARE FROM PARCEL INFORMATION PROVIDED BY THE MAINE OFFICE OF GIS.
6. THIS IS A PRELIMINARY DESIGN PLAN. FINAL DESIGN WILL BE MODIFIED TO MATCH EQUIPMENT PURCHASED AND POSSIBLE PERMIT CONSTRAINTS REVEALED DURING PROJECT'S REVIEW.
7. PRELIMINARY ENVIRONMENTAL SITE REVIEW DATA IS BASED ON INFORMATION DOWNLOADED FROM THE MAINE OFFICE OF GIS WEBSITE AND PRELIMINARY FIELD REVIEWS.

SEADOG SOLAR

Standish, Maine

BOYLE ASSOCIATES

KREBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

SOURCE DATA LEGEND

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:
Boyle Associates
254 Commercial Stree
Merrill's Wharf, Suite 101
Portland, ME 04101

0' 100' 200' 400' 600'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 200')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

Proposed
3.25 MW AC
Solar Array

REV. NO.	REVISIONS/COMMENTS	DATE

Drawing Title:

SEADOG SOLAR
OVERALL
SITE PLAN

DATE of Issue: 12/17/2019

Drawn by: EJM | Checked by: IAJ

Project No.: 19318 | Scale: 1" = 200'

Drawing No.: C-1.0

Rev No.:

EROSION AND SEDIMENT CONTROL PLAN

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN THE LATEST REVISION OF TO THE 2016 MAINE EROSION AND SEDIMENT CONTROL BMP'S MANUAL FOR DESIGNERS AND ENGINEERS, AND THE LATEST REVISION TO THE 2014 MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS. SEE MANUALS FOR ADDITIONAL INFORMATION AND DETAILS.

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES ARE SHOWN ON THE SITE PLAN.

1. ALL CONSTRUCTION INSPECTIONS SHALL BE CONDUCTED BY SOMEONE WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING STANDARDS AND PERMIT CONDITIONS. CONSTRUCTION INSPECTIONS SHALL BE PERFORMED AT LEAST ONCE A WEEK, AND PRIOR TO AND 24 HOURS AFTER A WET WEATHER EVENT (0.5 INCHES OR MORE IN A 24 HOUR PERIOD). CONSTRUCTION INSPECTION AND CORRECTIVE ACTION DOCUMENTATION RECORDS SHALL BE MAINTAINED FOR A MINIMUM OF 5 YEARS.
2. THE SCOPE OF CONSTRUCTION INSPECTIONS INCLUDE THE EROSION AND SEDIMENTATION CONTROL MEASURES AS WELL AS DISTURBED AREAS, MATERIAL STORAGE AREAS, AND LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMP'S", DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST REVISION.
4. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 75 FEET OF A WETLAND OR WATERBODY, THE AREA SHALL BE STABILIZED WITHIN 2 DAYS OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
5. EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRES OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
6. EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY.
7. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO MORE THAN ONE ACRE OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION.
8. SEDIMENT BARRIERS (EROSION CONTROL MIX, STONE CHECK DAMS, STABILIZED CONSTRUCTION ENTRANCE, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. THE CONTRACTOR SHALL MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
9. INSTALL EROSION CONTROL MIX AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE E.C. MIX DETAIL FOR PROPER INSTALLATION. EROSION CONTROL MIX WILL REMAIN IN PLACE PER NOTE #7. THE USE OF AN EROSION CONTROL MIX BERM IS PROHIBITED AT THE BASE OF SLOPES STEEPER THAN 8% OR WHERE THERE IS FLOWING WATER.
10. ALL ERSOION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED, AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY BEFORE AND FOLLOWING ANY SIGNIFICANT RAINFALL (0.5 INCH OR MORE IN A 24-HOUR PERIOD) OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSURE. IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF. EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF PERMANENT STABILIZATION. PERMANENT STABILIZATION IS 90% GRASS CATCH IN VEGETATED AREAS.
11. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN ONE AND ONE HALF TO ONE (1.5 TO 1).
12. IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
13. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED BY AUG. 15 OR 45 DAYS PRIOR TO THE FIRST KILLING FROST (OCT. 1) TO PROTECT FROM SPRING RUNOFF PROBLEMS.
14. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
15. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:
    a. FOUR INCHES OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
    b. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P205-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER 1,000 SQ. FT.).
    c. FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEEDED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUEGRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYEGRASS: SEEDING RATE IS 1.03 LBS PER 1000 SQ. FT. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED. SEED MIX SHALL CONTAIN 10% ANNUAL RYE GRASS.
    d. HAY MULCH AT THE RATE OF 70-90 LBS PER 1000 SQUARE FEET FOR OVER 75% COVERAGE. FOR UNPROTECTED OR WINDY AREAS, ANCHOR MULCH WITH PEG AND TWINE (1 SQ. YD./BLOCK). HYDRAULIC MULCHES MAY ALSO BE USED, APPLIED AT A RATE OF 5 LBS PER 1000 SQUARE FEET FOR PAPER MULCH OR 40 LBS PER 1000 SQUARE FEET OR AS DIRECTED BY THE MANUFACTURER. ON SLOPES GREATER THAN 3:1 EROSION CONTROL MIX MAY BE USED, SEE EROSION CONTROL MIX NOTES BELOW.
    e. FOR DISTURBED AREAS TO BE MAINTAINED IN POST-CONSTRUCTION AS A MEADOW BUFFER, APPLY NEW ENGLAND CONSERVATION WILDLIFE MIX BY NEW ENGLAND WETLAND PLANTS, INC., OF AMHERST, MASSACHUSETTS OR APPROVED EQUAL.
14. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS ONCE THE SITE IS STABILIZED WITH 90% GRASS CATCH IN VEGETATED AREAS. TEMPORARY EROSION AND SEDIMENT CONTROL BLANKET SHALL BE USED IN ALL DITCHES AND SWALES AS SHOWN IN DETAILS.
15. WETLANDS WILL BE PROTECTED WITH EROSION CONTROL MIX OR SILT FENCE INSTALLED AT THE EDGE FOR THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS DURING WINTER CONSTRUCTION.
16. ALL STORMWATER WILL BE PREVENTED FROM RUNNING ONTO STOCKPILES. SEDIMENT BARRIERS WILL BE INSTALLED DOWNGRADIENT OF ALL STOCKPILES.
17. PERMANENT POST-CONSTRUCTION BMP'S (VEGETATED SWALES, WET PONDS, ETC.) WILL NOT BE USED TO MANAGE FLOWS DURING CONSTRUCTION WITHOUT SPECIAL PROTECTION AND/OR RESTORATION.

ADDITIONAL TEMPORARY SEED MIXTURE (FOR PERIODS LESS THAN 12 MONTHS):

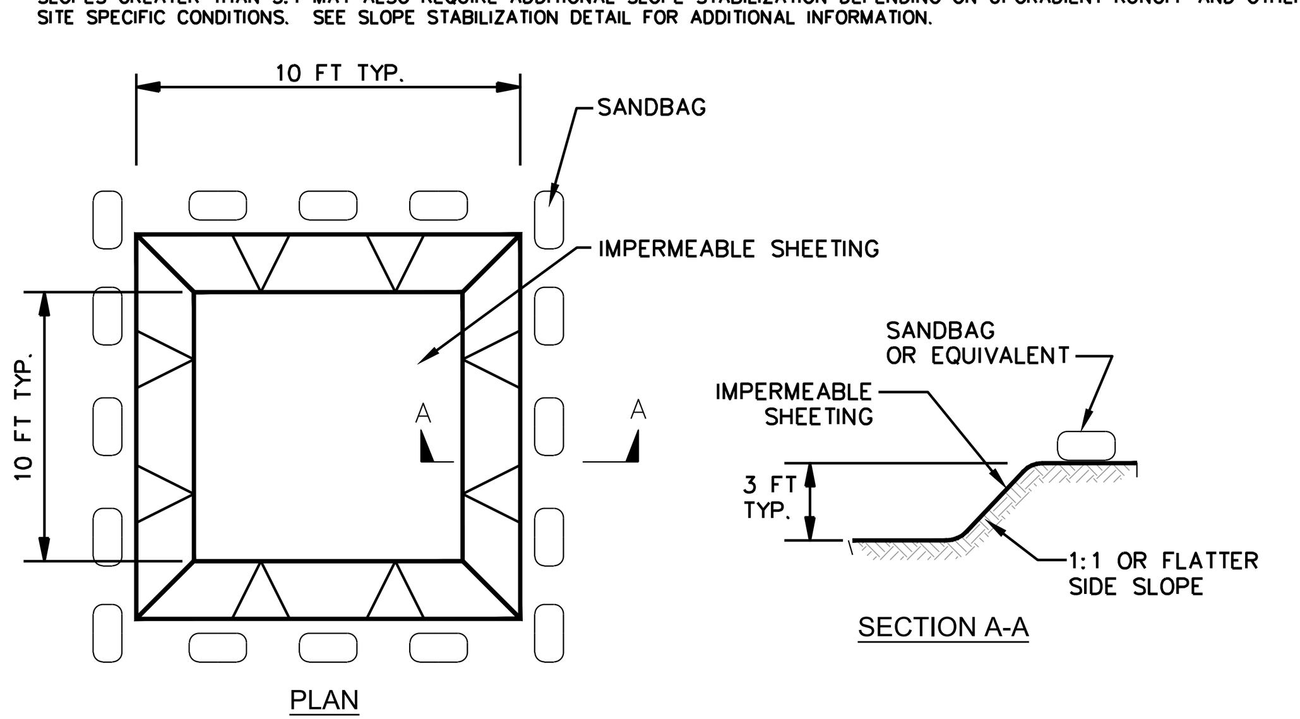
SEASON	SEED	RATE
SUMMER (5/15 - 8/15)	SUDANGRASS	40 LBS/ACRE
	OATS	80 LBS/ACRE
LATE SUMMER/EARLY FALL (8/15 - 9/15)	PERENNIAL RYEGRASS	40 LBS/ACRE
FALL (9/15 - 11/1)	WINTER RYE	112 LBS/ACRE
WINTER (11/1 - 4/1)	MULCH W/ DORMANT SEED	80 LBS/ACRE**
SPRING (4/1 - 7/1)	OATS	80 LBS/ACRE
	ANNUAL RYEGRASS	40 LBS/ACRE

**SEED RATE ONLY

EROSION CONTROL MIX

EROSION CONTROL MIX (ECM) SHALL MEET THE REQUIREMENTS PROVIDED IN THE LATEST REVISION OF MAINE DEP'S EROSION AND SEDIMENTATION CONTROL BMP MANUAL. ECM IS ACCEPTABLE FOR USE ON SLOPES OF GREATER THAN 3:1 BUT LESS THAN 1:1. ECM SHALL CONSIST OF WELL-GRADED ORGANIC COMPONENT 50 - 100% OF DRY WEIGHT, AND COMPRISED OF FIBROUS AND ELONGATED FRAGMENTS. ECM SHALL BE FREE FROM REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR CONSTRUCTION DEBRIS. ECM SHALL BE EVENLY DISTRIBUTED AND APPLIED AT A THICKNESS OF 2" ON 3:1 SLOPES, WITH AN ADDITIONAL 1/2" PER 20' OF SLOPE FOR A MAXIMUM OF 100' IN LENGTH. SLOPES GREATER THAN 3:1, ECM SHALL BE APPLIED AT THICKNESS OF 4" OR 5" FOR SLOPES GREATER THAN 60' IN LENGTH.

SLOPES GREATER THAN 3:1 MAY ALSO REQUIRE ADDITIONAL SLOPE STABILIZATION DEPENDING ON UPGRADIENT RUNOFF AND OTHER SITE SPECIFIC CONDITIONS. SEE SLOPE STABILIZATION DETAIL FOR ADDITIONAL INFORMATION.



CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

CONCRETE WASHOUT STRUCTURE
NTS

EROSION CONTROL DURING CONSTRUCTION

WINTER CONSTRUCTION

1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15
2. OVERWINTER STABILIZATION OF DITCHES AND CHANNELS:
   ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL GRASS LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A DITCH OR CHANNEL IS NOT GRASS-LINED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.
   A. INSTALL A SOD LINING IN THE DITCH:
      A DITCH MUST BE LINED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES: PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING SOD AT THE BASE OF THE DITCH WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD FROM SLOUGHING DURING FLOW CONDITIONS. SEE THE PERMANENT VEGETATION BMP SECTION.
   B. INSTALL A STONE LINING IN THE DITCH:
      A DITCH MUST BE LINED WITH STONE RIPRAP BY NOVEMBER 15. A REGISTERED PROFESSIONAL ENGINEER MUST BE HIRED TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE CONTRACTOR WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.
3. OVERWINTER STABILIZATION OF DISTURBED SLOPES:
   ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED BY SEPTEMBER 1. THE DEPARTMENT WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS. BY OCTOBER 1 THE DISTURBED SLOPE MUST BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1, THEN THE CONTRACTOR WILL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP AS DESCRIBED IN THE FOLLOWING STANDARDS.
   A. STABILIZE THE SOIL WITH SOD:
      THE DISTURBED SLOPE MUST BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR WILL NOT USE LATE SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
   B. STABILIZE THE SOIL WITH EROSION CONTROL MIX:
      EROSION CONTROL MIX MUST BE PROPERLY INSTALLED BY NOVEMBER 15. THE CONTRACTOR WILL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE. SEE THE EROSION CONTROL MIX NOTES FOR ADDITIONAL CRITERIA.
   C. STABILIZE THE SOIL WITH STONE RIPRAP:
      PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.
4. OVERWINTER STABILIZATION OF DISTURBED SOILS:
   BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION:
      BY OCTOBER 1, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 90% OF THE DISTURBED SOIL BEFORE NOVEMBER 1, THEN MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED BELOW.
   B. STABILIZE THE SOIL WITH SOD:
      STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLINIG THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
   C. STABILIZE THE SOIL WITH MULCH:
      BY NOVEMBER 15, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL. PROVIDE NETTING ON ALL SLOPES GREATER THAN 8%.
5. MAINTENANCE:
   IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. ONCE A WEEK AND BEFORE AND AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES AND/OR BARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 85 TO 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

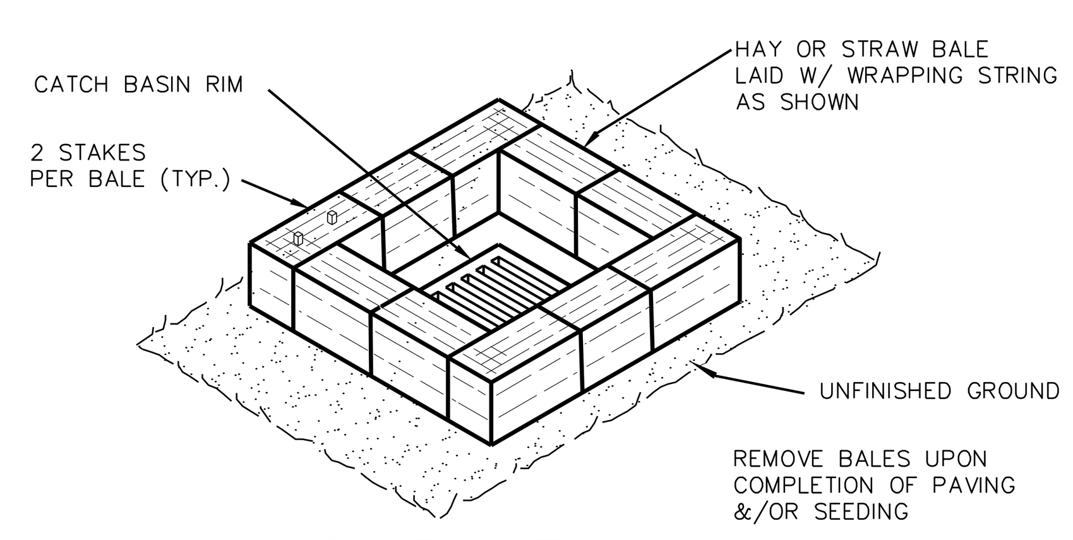
   STABILIZATION SCHEDULE BEFORE WINTER:

SEPTEMBER 15	ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. ALL GRASS LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR AN EROSION CONTROL BLANKET
OCTOBER 1	IF THE SLOPE IS STABILIZED WITH AN EROSION CONTROL BLANKET AND SEEDED. ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND MULCHED.
NOVEMBER 15	ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED. SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THAT DATE.

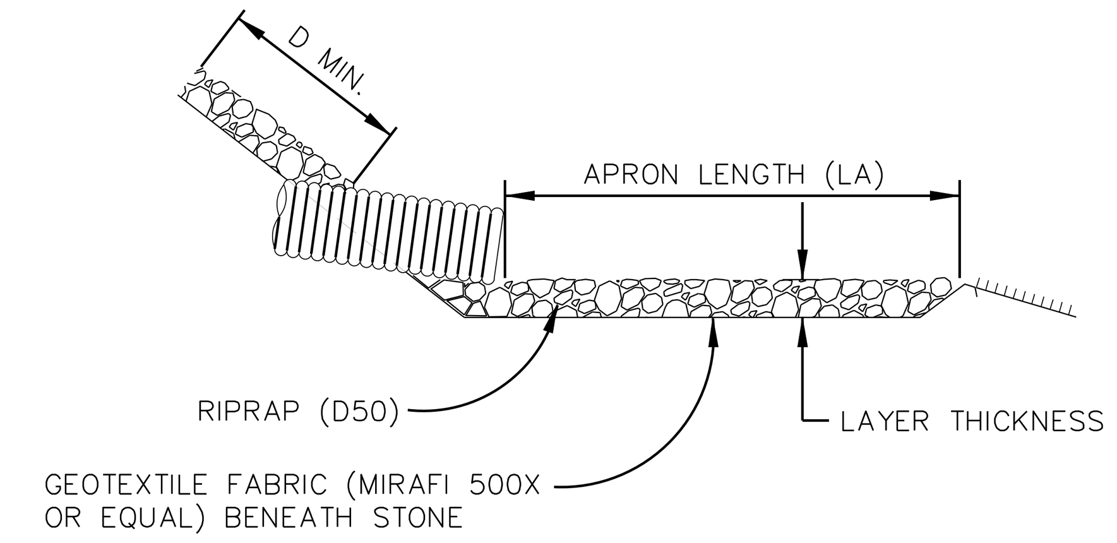
6. DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
7. AREAS WITHIN 75 FEET OF STREAMS, WETLANDS, AND OTHER PROTECTED NATURAL RESOURCES THAT ARE NOT STABILIZED WITH VEGETATION BY DEC. 1 SHALL BE MULCHED AND ANCHORED WITH NETTING. IF WORK CONTINUES IN THIS AREA DURING THE WINTER, A DOUBLE LINE OF SEDIMENT BARRIERS MUST BE USED.

HOUSEKEEPING

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS 1. ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY, AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MY NOT BE USED FOR DUST CONTROL. ANY OFFSITE TRACKING OF MUD OR SEDIMENT SHALL BE VACUUMED IMMEDIATELY AND PRIOR TO THE NEXT SIGNIFICANT STORM EVENT.
4. DEBRIS AND OTHER MATERIALS: LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
5. TRENCH OR FOUNDATION DE-WATERING: TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER MUST BE REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, AND MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
6. NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
   - DISCHARGES FROM FIREFIGHTING ACTIVITY;
   - FIRE HYDRANT FLUSHINGS;
   - VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
   - DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3) OF MAINE DEP 06-096 CHAPTER 500;
   - ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
   - PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
   - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
   - UNCONTAMINATED GROUNDWATER OR SPRING WATER;
   - FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
   - UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5) MAINE DEP 06-096 CHAPTER 500);
   - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
   - LANDSCAPE IRRIGATION.
7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C(6) MAINE DEP 06-096 CHAPTER 500. SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   - WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
   - SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
   - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.
8. ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.



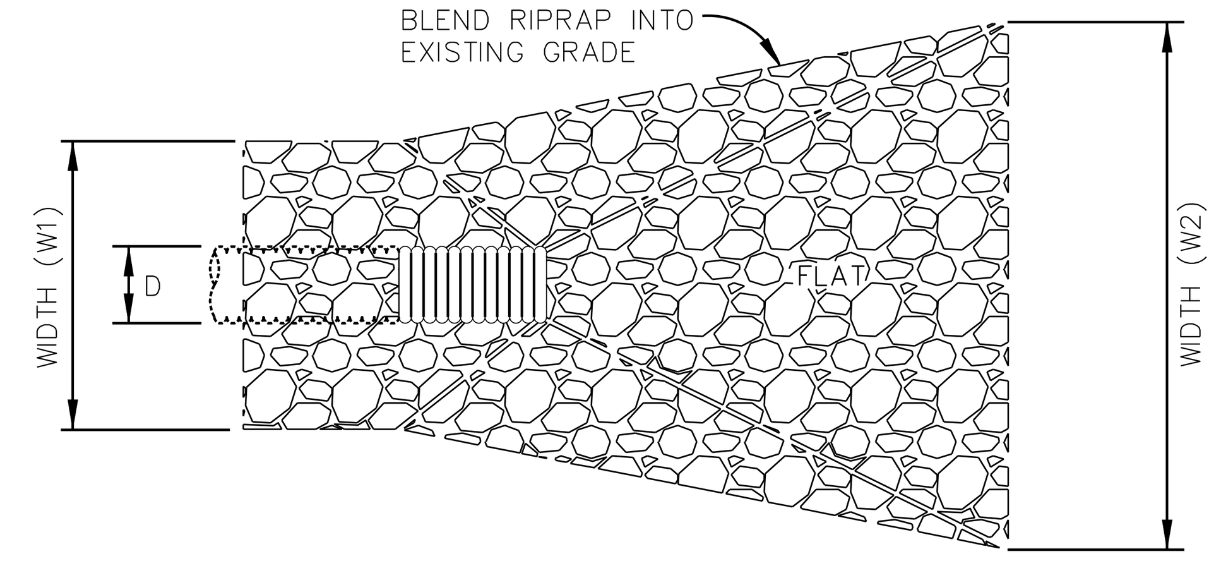
LOW POINTS SEDIMENT CONTROL BARRIER
NTS



SECTION

APRON SCHEDULE

CULV. DIA. (D)	D50 (IN.)	T (IN.)	LA (FT.)	W1 (FT.)	W2 (FT.)
12" OR LESS	6"	15"	10'	3'	13'
15"	6"	15"	10'	3.75'	14'
18"	6"	15"	12'	4.5'	17'
24"	6"	15"	14'	6'	20'
30"	6"	15"	18'	7.5'	26'
36"	6"	18"	24'	9'	33'
42"	12"	24"	30'	10.5'	41'
48"	12"	24"	34'	12'	46'
60"	18"	32"	38'	15'	53'



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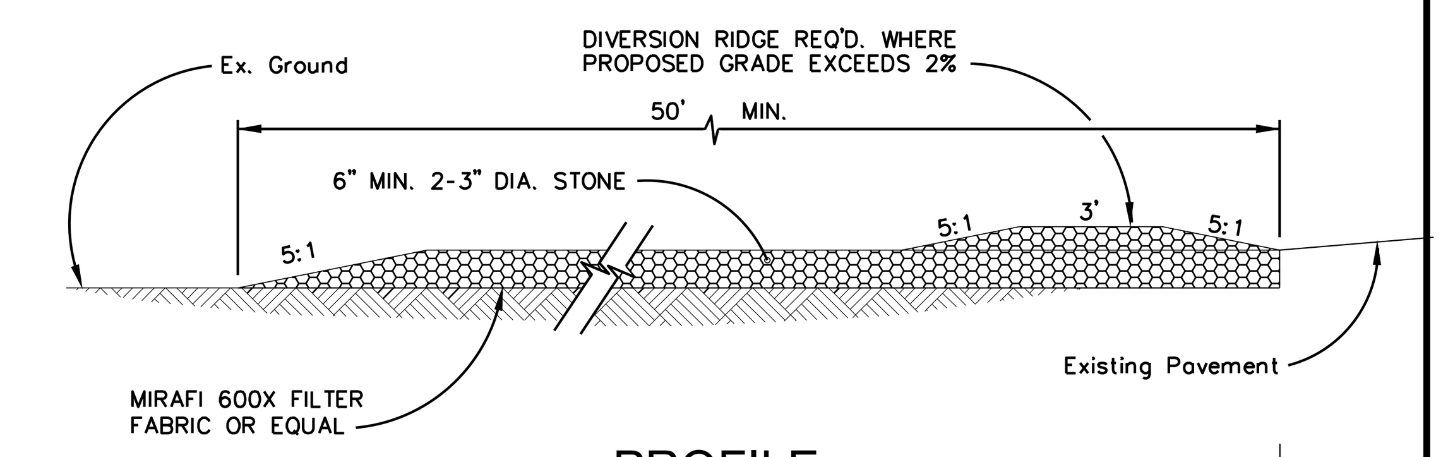
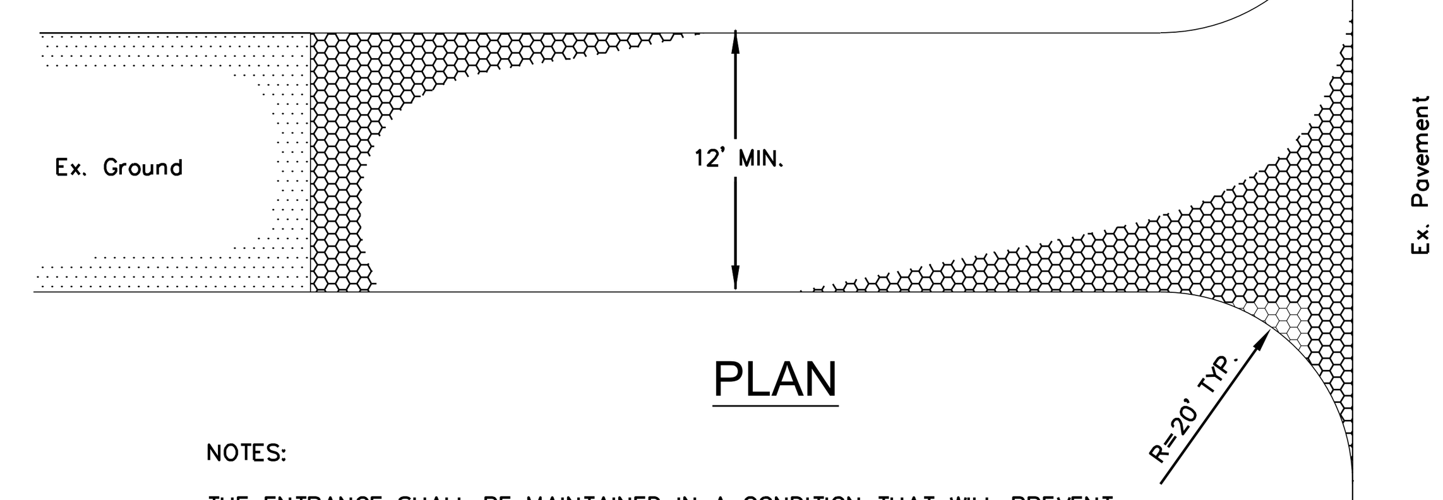
PIPE OUTLET PROTECTION
NTS



PROFILE



PLAN

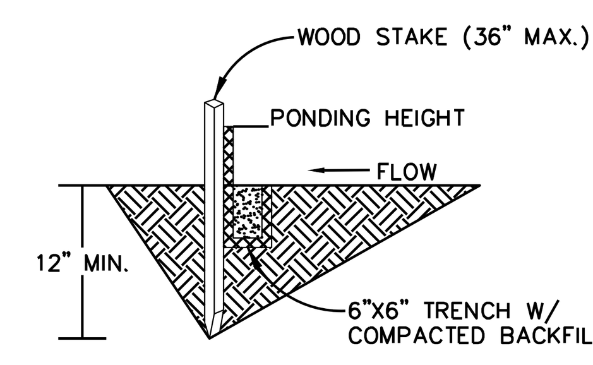
NOTES:

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

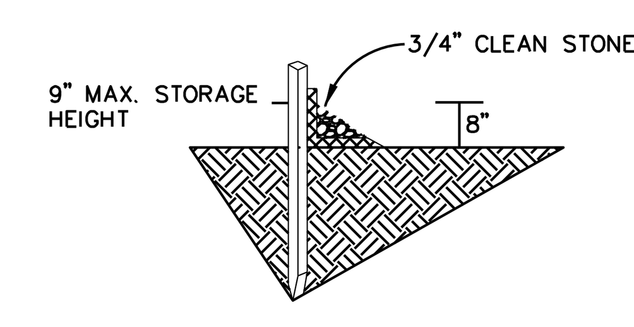
WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY.

WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE
NTS



WITH TRENCHING



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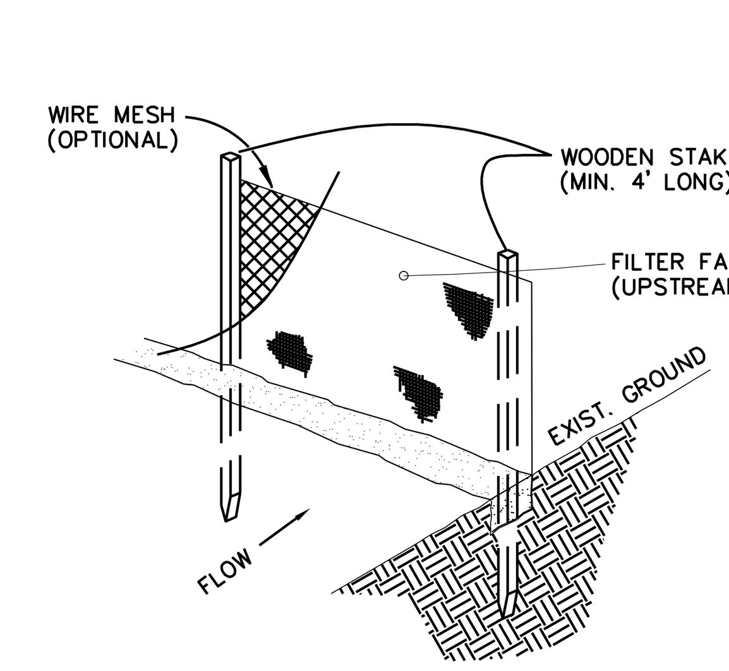
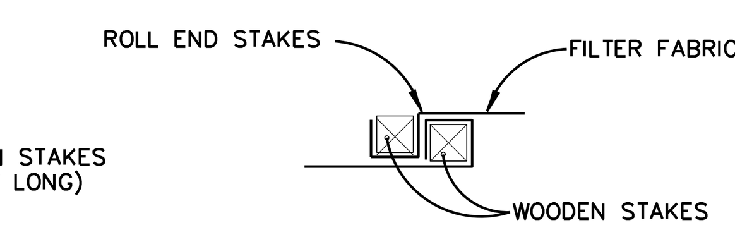
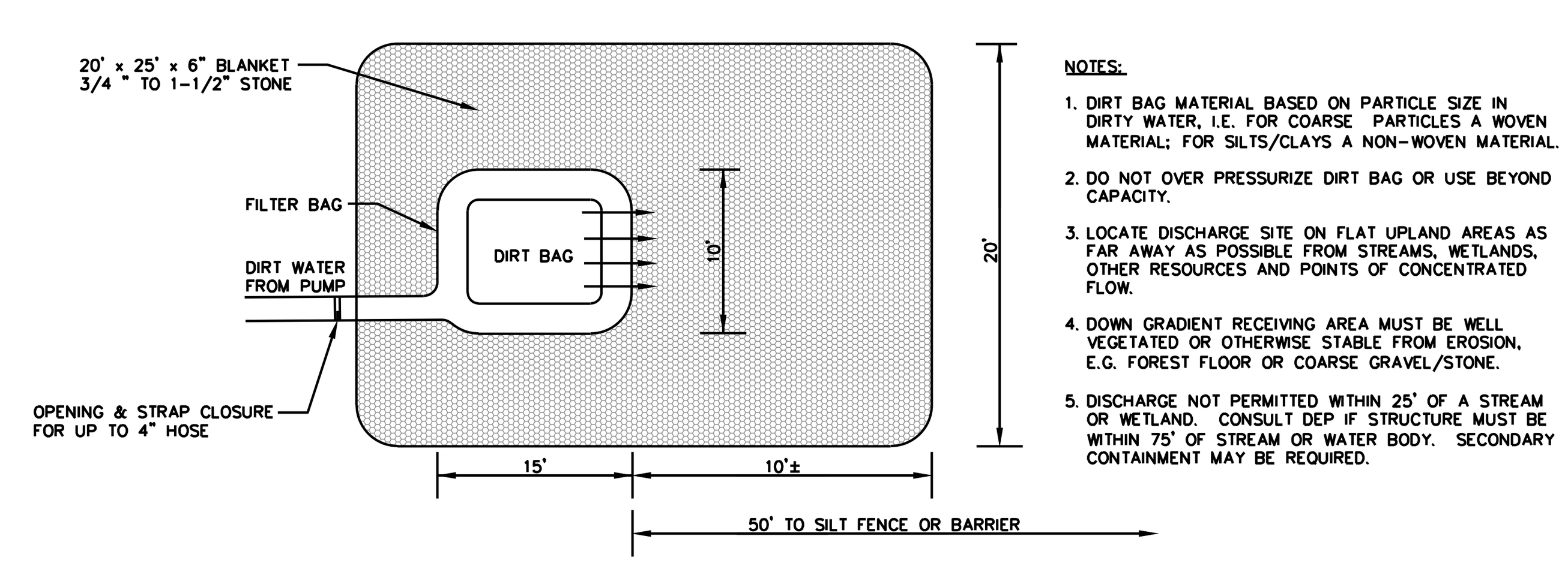




END POST DETAIL
NTS

1. KEY FABRIC IN A 6"X6" TRENCH W/ BACKFILL.
2. SILT FENCE SHALL BE A 3' FENCE OF 120LB/M (W/ REINF. BACK OF 6" WIRE MESH, POSTS 6' O.C. MAX) OR 200LB/M (W/ NO REINF. POSTS 6' O.C. MAX)

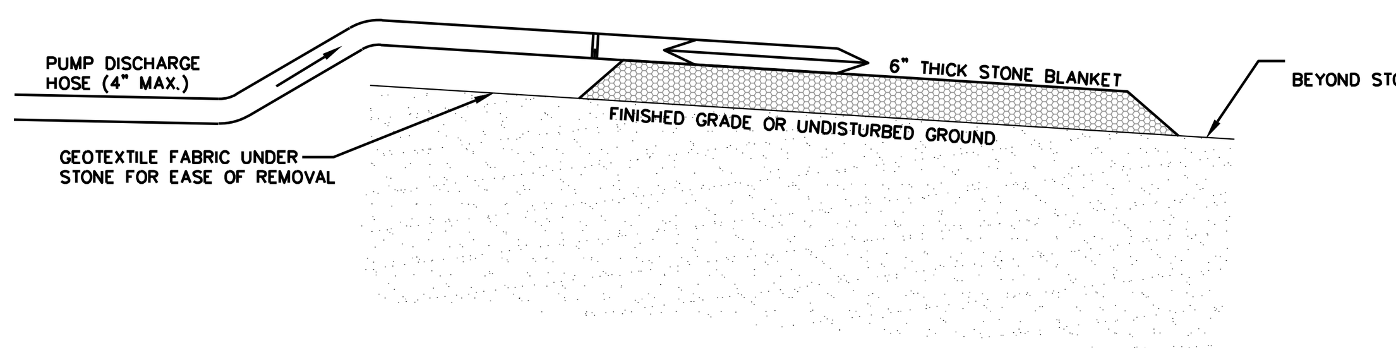
SILT FENCE DETAIL
NTS



TOP VIEW

NOTES:

1. DIRT BAG MATERIAL BASED ON PARTICLE SIZE IN DIRTY WATER, I.E. FOR COARSE PARTICLES A WOVEN MATERIAL; FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
2. DO NOT OVER PRESSURIZE DIRT BAG OR USE BEYOND CAPACITY.
3. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
4. DOWN GRADIENT RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION, E.G. FOREST FLOOR OR COARSE GRAVEL/STONE.
5. DISCHARGE NOT PERMITTED WITHIN 25' OF A STREAM OR WETLAND. CONSULT DEP IF STRUCTURE MUST BE WITHIN 75' OF STREAM OR WATER BODY. SECONDARY CONTAINMENT MAY BE REQUIRED.



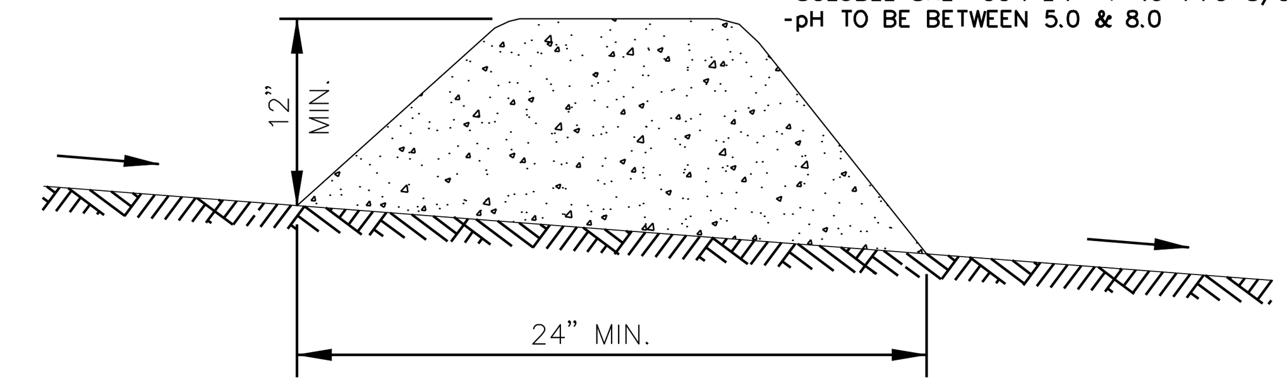
SIDE VIEW

PUMPED DISCHARGE SEDIMENT CONTROL DEVICE ("DIRT BAG")

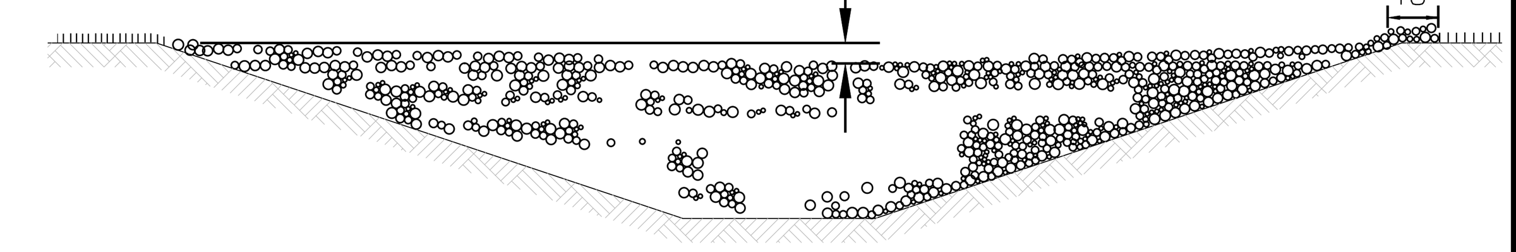
PLACE BARRIER ALONG RELATIVELY LEVEL CONTOUR.
ECM BERM PROHIBITED AT THE BASE OF SLOPES > 8% OR WHERE THERE IS FLOWING WATER.
SEE MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS FOR INSTALLATION INSTRUCTIONS.

EROSION CONTROL MIX SHOULD CONTAIN A WELL GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. ECM SHOULD BE FREE OF REFUSE, PHYSICAL CONTAMINATES, AND MATERIAL TOXIC TO PLANT GROWTH.

- -ORGANIC MATTER > 80% DRY WEIGHT
- -PARTICLE SIZE BY WEIGHT: 100% PASSING 6" SCREEN
  75-85% PASSING 0.75" SCREEN
- -ORGANIC PORTION TO BE FIBROUS & ELONGATED
- -SOLUBLE SALT CONTENT < 4.0 MMOHS/CM.
- -pH TO BE BETWEEN 5.0 & 8.0

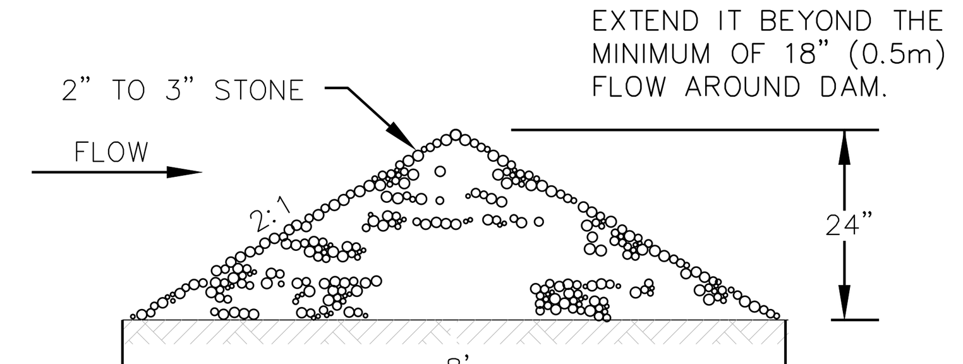


EROSION CONTROL MIX BERM
NTS



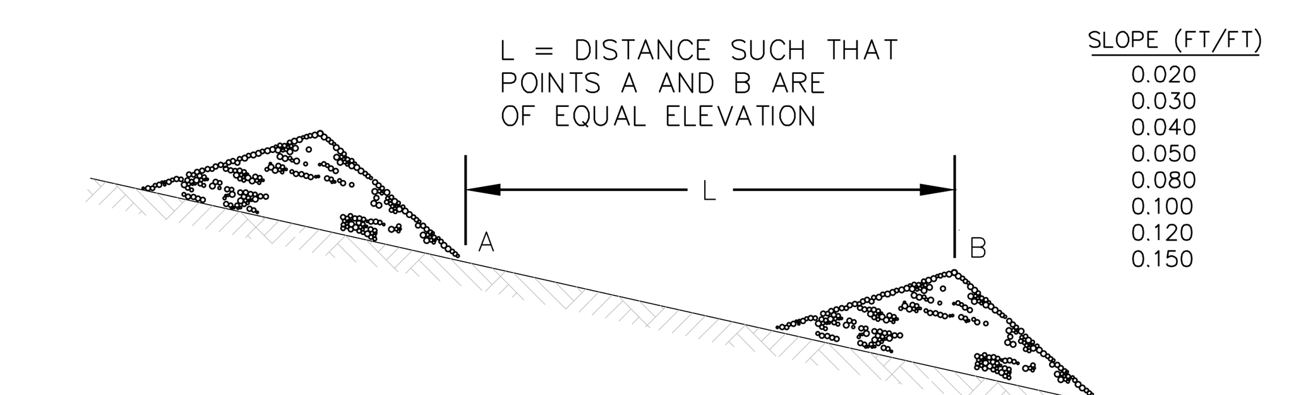
ELEVATION

NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" (0.5m) TO PREVENT FLOW AROUND DAM.



CROSS SECTION

L = DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION



SLOPE (FT/FT)	L (FT)
0.020	100
0.030	66
0.040	50
0.050	40
0.080	25
0.100	20
0.120	17
0.150	13

SPACING

STONE CHECK DAM DETAIL
NTS

SEA DOG SOLAR

Standish, Maine

BOYLE ASSOCIATES

KREBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
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BH2M
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28 State Street
Gorham, Maine 04038
Tel. (207) 839-2771
Fax (207) 839-8250

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SOURCE DATA LEGEND

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

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Environmental:
Boyle Associates
254 Commercial Street
Merrill's Wharf, Suite 101
Portland, ME 04101

Stormwater:
BH2M Inc.
28 State Street
Gorham, ME 04038

REV. NO.	REVISIONS/COMMENTS	DATE

Drawing Title:
PINE GATE RENEWABLES
SEA DOG SOLAR
EROSION AND
SEDIMENTATION CONTROL
DETAILS

DATE of Issue: 1/30/2020

Drawn by: CRM Checked by: SJB

Project No.: 19349 Scale: 1" = 150'

Drawing No.: C-5.0 Rev No.:

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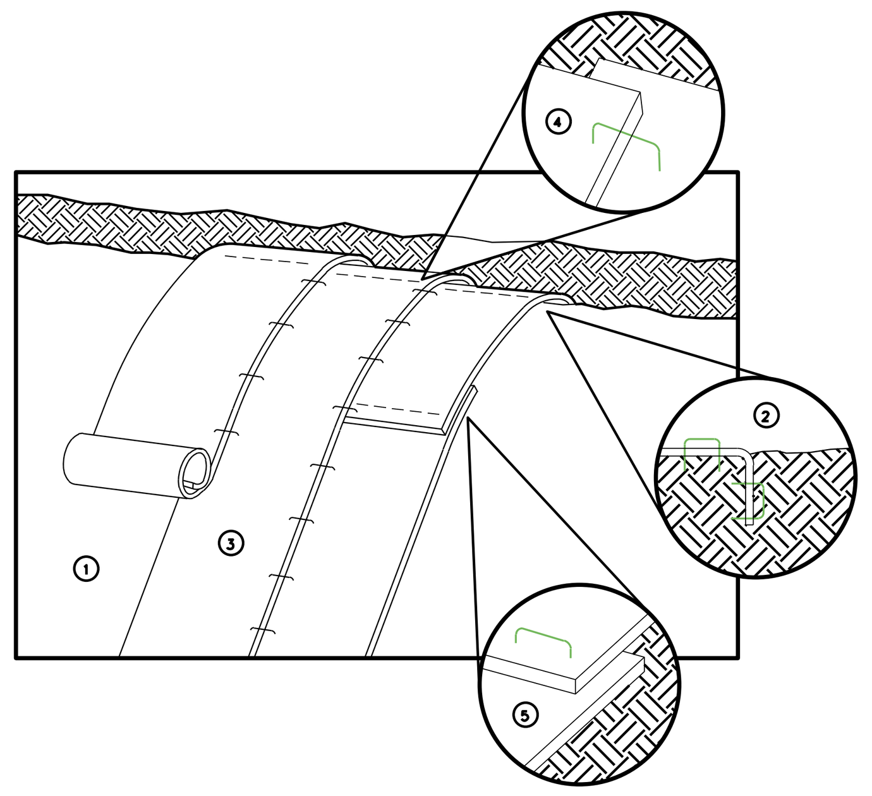
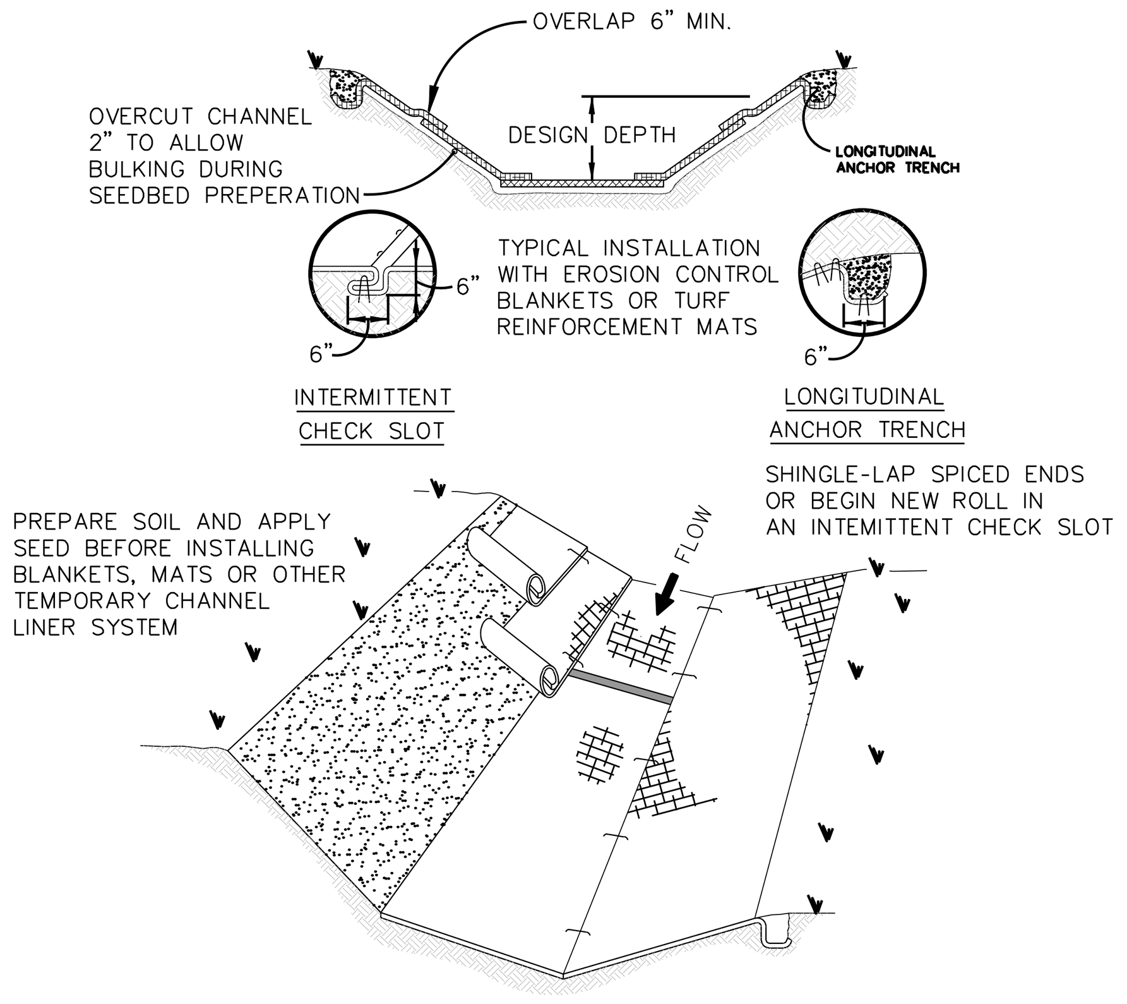


1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING LIME, FERTILZER & SEED.
2. BEGIN AT TOP OF SLOPE BY ANCHORING BLANKET IN 6" X 6" TRENCH. BACKFILL & COMPACT TRENCH AFTER STAPLING.
3. ROLL BLANKETS DOWN OR HORIZONTALLY ACROSS SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROX. 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROX. 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROX. 12" APART.
6. EROSION CONTROL BLANKETS SHALL BE USED ON SLOPES STEEPER THAN 3:1 BUT LIMITED TO A MAX. OF 2:1.

SLOPE STABILIZATION:
EROSION CONTROL BLANKET SHALL BE IN ACCORDANCE WITH M.D.O.T. STANDARD SPECIFICATIONS, SECTION 613, EROSION CONTROL BLANKETS

SLOPE STABILIZATION DETAIL

N.T.S.



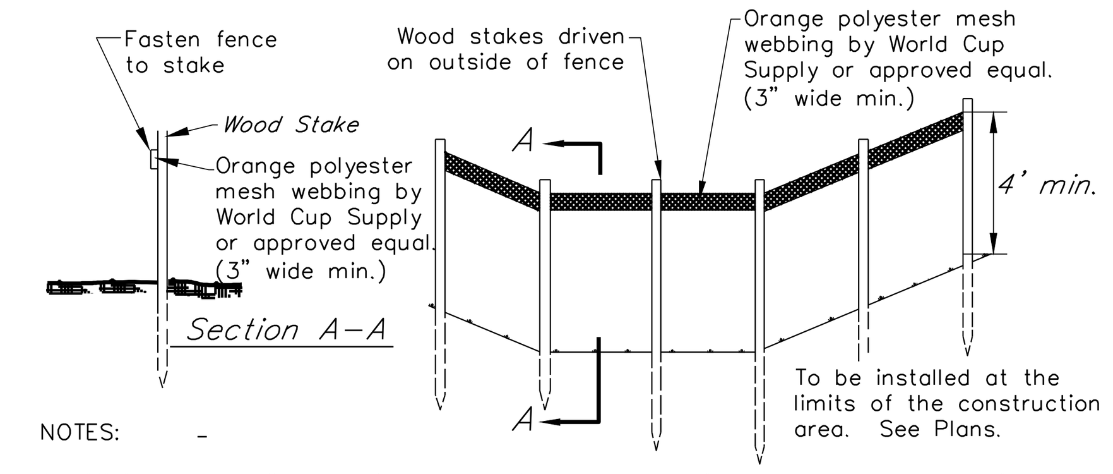
1. DESIGN VELOCITIES EXCEEDING 2 FT/SEC. REQUIRE TEMPORARY BLANKETS, MATS OR SIMILAR LINERS TO PROTECT SEED AND SOIL UNTIL VEGETATION BECOMES ESTABLISHED.
2. GRASS-LINED CHANNELS WITH DESIGN VELOCITIES EXCEEDING 5 FT/SEC SHOULD INCLUDE TURF REINFOREMENT MATS.
3. STAKE OR STAPLE BLANKETS AND MATS PER MANUFACTURERS SPECIFICATIONS.
4. EROSION CONTROL BLANKETS SHALL MEET MAINE D.O.T. SPEC 717.061.

REINFORCED GRASS LINED CHANNEL

NTS

NOTES:

1. Acceptable EC Measure details are provided below.
2. At a minimum, EC measures meet ME DEP Standards and Specifications or previously approved interchangeable practices.
3. Limits of disturbance (or "construction demarcation") shall be installed prior to any earth disturbing activities.
4. Barrier Tape/Rope: for use where proposed disturbance borders non-wooded, vegetated areas more than 100 ft from the nearest water resource (stream, brook, lake, pond, wetland, etc.). Barrier tape is high visibility fiber-glass tape, minimum 3" in width commonly used in ski areas for demarcating closed areas. Barrier tape and rope should be attached to stakes, at a minimum height of 4 ft from the ground.



NOTES:

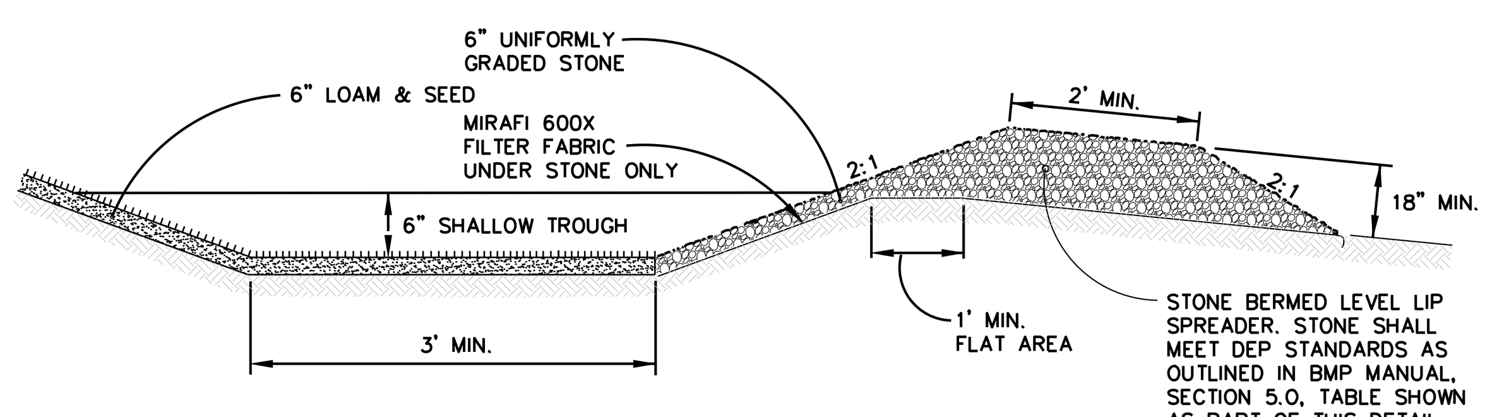
1. Minimum 1 to 2 rows of mesh barrier tape to be installed along construction perimeter.
2. Each row of barrier tape to be 3" wide minimum.
3. Barrier tape to be orange.
4. Secure barrier tape to stakes or existing tree trunks with bottom row at 4' distance from ground surface (minimum).
5. Maintain and replace as needed. Remove at completion of project.
6. In event the Contractor determines barrier tape is not sufficient, replace with orange construction fence or snow fence.

TYPICAL CONSTRUCTION LIMIT BARRIER

NTS

BERM STONE SIZE

SIEVE DISIGNATION METRIC	SIEVE DISIGNATION US CUSTOMARY	% BY WEIGHT PASSING SQUARE MESH SIEVES
300 MM	12"	100
150 MM	6"	84–100
75 MM	3"	68–83
25.4 MM	1"	42–55
4.75 MM	NO. 4	8–12



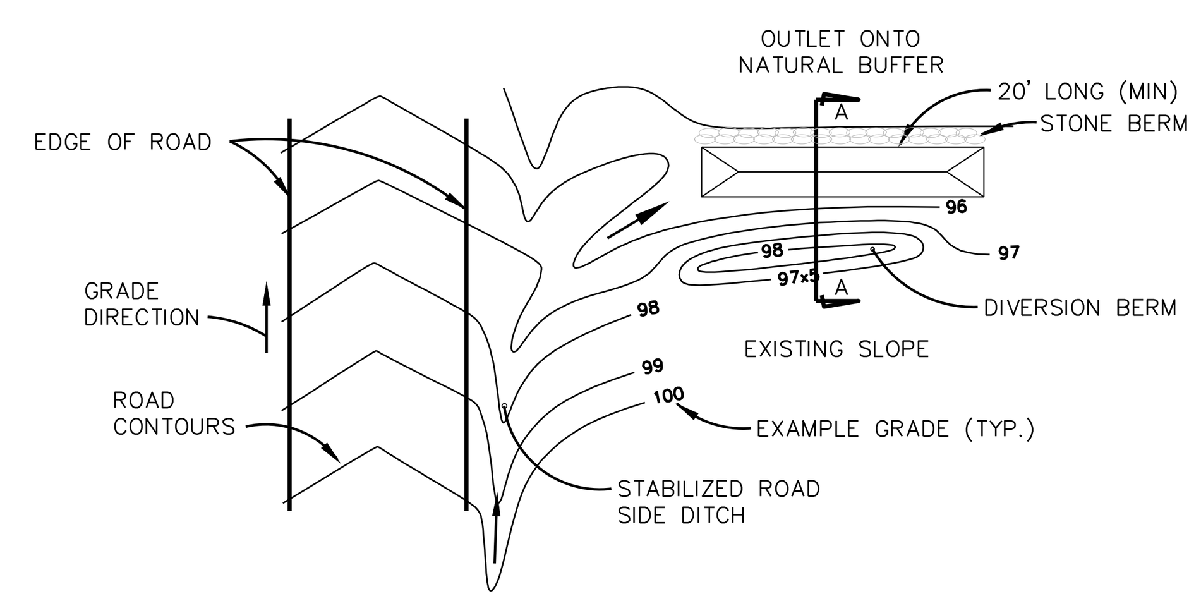
SECTION

CONSTRUCTION SPECIFICATIONS:

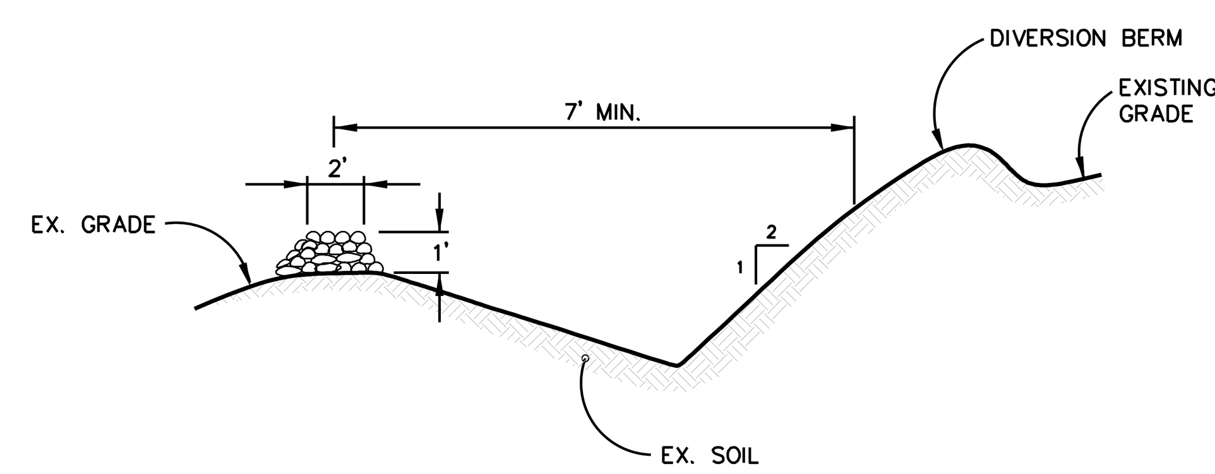
1. SPREADERS SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT LEVEL LIP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOWLEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL, NOT FILL.
2. SELECTED GEOTEXTILE FABRIC BASED ON UNDISTURBED SOILS (SANDS, SILTS, CLAYS, ETC.).
3. PLACE UNIFORMLY GRADED STONE (SEE TABLE).
4. THE INLET DITCH SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 20 FEET BEFORE ENTERING THE SPREADER.
5. STORM RUN-OFF CONVERTED TO SHEET FLOW ACROSS OUTLET APRON SHALL FLOW ONTO STABILIZED AREAS. AREAS. RUNOFF SHALL NOT BE RECONCENTRATED IMMEDIATELY BELOW THE POINT OF DISCHARGE.
6. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PROVIDED.
7. CONSTRUCTION OF LEVEL LIP SPREADER SHALL BE FROM UPHILL SIDE ONLY. LEVEL LIP AND AREA BELOW SPREADER SHALL BE AT EXISTING GRADES AND UNDISTURBED BY EARTHWORK OR EQUIPMENT EXCEPT AS NOTED ON PLAN.
8. CONSTRUCT SPREADER WITH LIP AT EXISTING ELEVATION AS SPECIFIED.
9. DOWN GRADIENT AND RECEIVING AREA MUST BE NATURALLY WELL VEGETATED.

LEVEL SPREADER DETAIL

N.T.S.



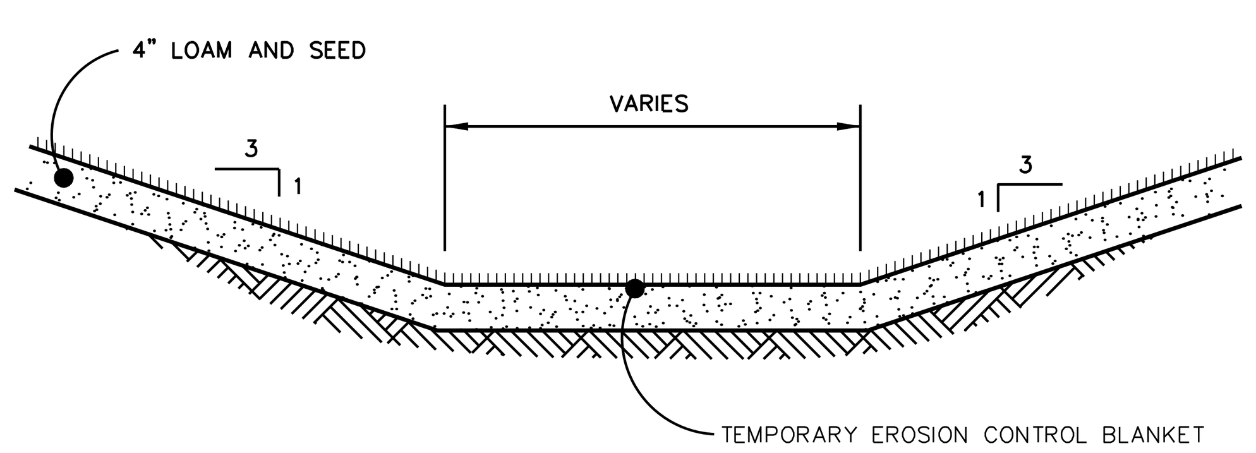
PLAN VIEW



SECTION A-A

DITCH TURNOUT DETAIL

NTS

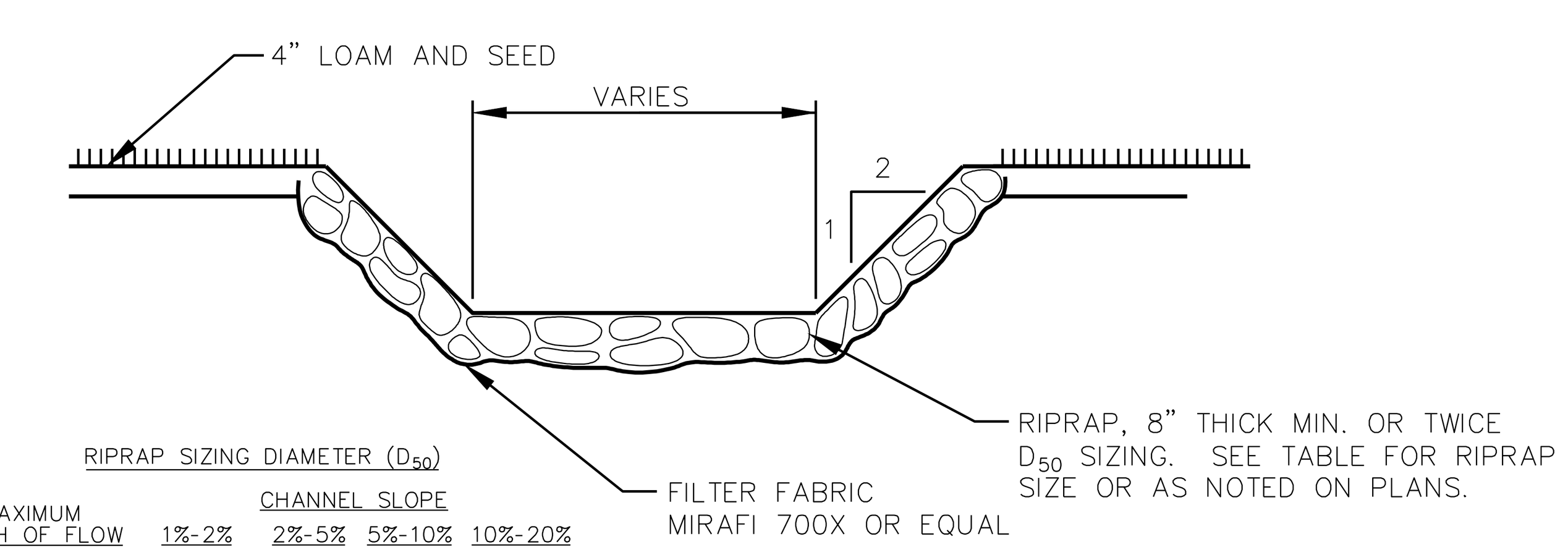


NOTES:

1. VEGETATED SWALES SHALL NOT EXCEED AN 8% RUNNING GRADE.
2. FOR RUNNING GRADES GREATER THAN 5% A TEMPORARY STRIP OF EROSION CONTROL BLANKET SHALL BE PROVIDED UNTIL VEGETATION IS ESTABLISHED. SEE REINFORCED GRASS LINED CHANNEL DETAIL FOR ADDITIONAL INFORMATION.
3. MOW SWALES NO LATER THAN 30 DAYS PRIOR TO THE FIRST KILLING FROST TO A MINIMUM HEIGHT OF 4"

VEGETATED DITCH DETAIL

NTS



RIPRAP SIZING DIAMETER (D_{50})

MAXIMUM DEPTH OF FLOW	CHANNEL SLOPE 1%-2%	2%-5%	5%-10%	10%-20%
<0.5'	3"	4"	4-6"	6-12"
1.0'	3"	6"	6-12"	12-18"
2.0'	4-6"	6-12"	12-18"	18-24"
3.0'	6-12"	6-18"	18-24"	24"

STONE LINED DITCH

NTS

SEA DOG SOLAR

Standish, Maine

BOYLE ASSOCIATES

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STATE OF MAINE
STEVEN J. BLAKE II
No. 11695
LICENSED
PROFESSIONAL ENGINEER
[illegible]

REV. NO.	REVISIONS/COMMENTS	DATE

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Project No.: 19349   Scale: 1" = 150'

Drawing No.: C-5.1   Rev No.:

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Appendix B
Construction Inspection Forms

CONSTRUCTION INSPECTION FORM FOR EROSION AND SEDIMENT CONTROL						
General Information:						
Site Name:	Date:		Inspected by:			
Owner:						
Retained 3PI:	Last Rain Date:			Amount:		
Reason for Inspection:	Weekly	Winter	Final	Rain Event	Complaint	
Description of disturbed area:						
Photos:						
	YES/NO/NA	**COMMENTS**				
1. Is an Erosion and Sediment Control Plan available?						
ESC plan on-site and followed						
Other:						
2. Are all erosion control practices installed properly, maintained and functioning?						
Disturbed areas stable						
Concentrated flow inlet/outlet protection						
All areas at final grade						
Disturbed dormant areas stabilized						
Access roads and parking						
Hillsides and stockpiles						
Other:						
3. Are all sedimentation control practices installed properly, maintained and functioning?						
Construction entrance						
Sedimentation basins/traps/diversions						
Perimeter controls						
Check dams						
Other:						
4. Is maintenance of ESC measures, construction activities and housekeeping kept-up?						
Sedimentation/erosion in ditches						
Tracked Sediment or dust at exits						
Hazardous material storage and spill control practices						
Waste management (concrete, hazardous material, etc.)						
Other:						
5. Violation, Corrective Actions, Recommendations						
Sediment discharged from site?						
Corrective action required?						
Site compliant with all permits?						
Notice of violation or stop work order issued?						
Comments/Corrective Actions (complete corrective actions before the next rain event and within 7 day)						

Appendix C
Post-Construction Inspection Forms

Sea Dog Solar Project **Post-Construction Inspection Form (Buffers/Level Spreaders)**					
Project name:	Date:		Inspected by:		
Owner name:					
Last rain date:	Amount:				
Reason for inspection:	Rain Event	Monthly	Annually	Maint. Performed	Other (Specify)
General description of BMP condition:					
Photos: (Attach)					

Inspection Details	**Comments**	**Maintenance Required**
Erosion or concentrated flows evident?		
Downgradient of level spreaders stable?		
Level spreaders built along contour?		
Evidence of accumulated sediment in level spreader trough?		
Number of level spreaders adequate for flow distribution?		
Buffer monumentation visible?		
Evidence of buffer vegetation removal or frequent mowing?		
Temporary or permanent structures within the buffer?		
Evidence of motorized vehicles operating in buffer?		
Trash, debris, or waste within buffer area?		
Additional Comments:		

Sea Dog Solar Project
Post-Construction Inspection Form (Roadway and Parking Areas)

Project name:	Date:		Inspected by:		
Owner name:					
Last rain date:	Amount:				
Reason for inspection:	Rain Event	Monthly	Annually	Maint. Performed	Other (Specify)
General description of BMP condition:					
Photos: (Attach)					

Inspection Details	**Comments**	**Maintenance Required**

Additional Comments:

Sea Dog Solar Project
Post-Construction Inspection Form (Storm Drain System)

Project name:	Date:		Inspected by:		
Owner name:					
Last rain date:	Amount:				
Reason for inspection:	Rain Event	Monthly	Annually	Maint. Performed	Other (Specify)
General description of BMP condition:					
Photos: (Attach)					

Inspection Details	**Comments**	**Maintenance Required**

Additional Comments:

Sea Dog Solar Project
Post-Construction Inspection Form (Vegetated Area)

Project name:	Date:		Inspected by:		
Owner name:					
Last rain date:	Amount:				
Reason for inspection:	Rain Event	Monthly	Annually	Maint. Performed	Other (Specify)
General description of BMP condition:					
Photos: (Attach)					

Inspection Details	**Comments**	**Maintenance Required**

Additional Comments:

Appendix D
Inspection Frequency Checklist

EROSION AND SEDIMENT CONTROL MEASURES AND ACTIVITY	INSPECTION FREQUENCY		
	Weekly	Before and After a Storm	After Construction
SEDIMENT BARRIERS			
Sediment barriers are installed prior to soil disturbances	X	X	
Silt fences are keyed in and tight	X	X	
Barriers are repaired and replaced as necessary	X	X	
Barriers are removed when the site is stabilized - Silt fence should be cut at the ground surface			X
TEMPORARY STABILIZATION			
Areas are stabilized if idle for 14 days or more	X	X	
Daily stabilization within 100 ft of a natural resource	X	X	
MULCH			
Seed and mulch within 7 days of final grading. Ground is not visible	X	X	
Erosion control mix is 4-6 inch thick	X	X	
Erosion control blankets or hay mulch are anchored	X	X	
VEGETATION			
Vegetation provides 90% soil cover	X		X
Loam or soil amendment were provided	X		X
New seeded areas are mulched and protected from vehicle, foot traffic and runoff	X	X	X
Areas that will remain unworked for more than 1 year are vegetated with grass	X		
SLOPES AND EMBANKMENTS			
Final graded slopes and embankments are stabilized	X	X	X
Diversions are provided for areas with rill erosion	X	X	X
Areas steeper than 2:1 are riprapped	X		
Stones are angular, durable and various in size	X		
Riprap is underlain with a gravel layer or filter fabric	X		
STORMWATER CHANNELS AND CULVERTS			
Ditches and swales are permanently stabilized–channels that will be riprapped have been over-excavated	X	X	X
Ditches are clear of obstructions, accumulated sediments or debris	X	X	X
Ditch lining/bottoms are free of erosion	X	X	X
Check dams are spaced correctly to slow flow velocity	X		
Underlying filter fabric or gravel is not visible	X	X	X
Culvert aprons and plunge pools are sized for expected flows volume and velocity	X		
Stones are angular, durable and various in size	X		
Culverts are sized to avoid upgradient flooding	X	X	
Culvert protection extends to the maximum flow elevation within the ditch	X	X	X
Culvert is embedded, not hanging	X	X	X

CATCH BASIN SYSTEMS			
Catch basins are built properly	X		
Accumulated sediments and debris are removed from sump, grate and collection area		X	X
Floating debris and floating oils are removed from trap			X
ROADWAYS AND PARKING SURFACES			
The gravel pad at the construction entrance is clear from sediments	X	X	
Roads are crowned		X	X
Cross drainage (culvert) is provided	X		
False ditches (from winter sand) are graded		X	X
BUFFERS			
Buffers are free of erosion or concentrated flows		X	X
The downgradient of spreaders and turnouts is stable		X	X
Level spreaders are on the contour			X
The number of spreaders and ditch turnouts is adequate for flow distribution		X	X
Any sediment accumulation is removed from within spreader or turnouts		X	X
STORMWATER BASINS AND TRAPS			
Embankments are free of settlement, slope erosion, internal piping, and downstream swamping		X	X
All flow control structure or orifices are operational and clear of debris or sediments		X	X
Any pre-treatment structure that collects sediment or hydrocarbons is clean or maintained		X	X
Vegetated filters and infiltration basins have adequate grass growth			X
Any impoundment or forebay is free of sediment		X	X
WINTER CONSTRUCTION (November 1st-April15th)			
Final graded areas are mulched daily at twice the normal rate with hay, and anchor (not on snow)	Daily		
A double row of sediment barrier is provided for all areas within 100 ft of a sensitive resource (use erosion control mix on frozen ground)	Daily		
Newly constructed ditches are riprapped	Daily		
Slopes greater than 8% are covered with an erosion control blanket or a 4-inch layer of erosion control mix	Daily		
HOUSEKEEPING PUNCH LIST			
All disturbed areas are permanently stabilized, and plantings are established (grass seeds have germinated with 90% vegetative cover)			X
All trash, sediments, debris or any solid waste have been removed from stormwater channels, catch basins, detention structures, discharge points, etc.			X
All ESC devices have been removed: (silt fence and posts, diversions and sediment structures, etc.)			X
All deliverables (certifications, survey information, as-built plans, reports, notice of termination (NOT), etc.) in accordance with all permit requirements have been submitted to town, Maine DEP, association, owner, etc.			X

INSPECTION AND MAINTENANCE PLAN FOR STORMWATER MANAGEMENT STRUCTURES (BMPS)

	INSPECTION SCHEDULE	CORRECTIVE ACTIONS
VEGETATED AREAS	Annually early spring and after heavy rains	Inspect all slopes and embankments and replant areas of bare soil or with sparse growth
		Armor rill erosion areas with riprap or divert the runoff to a stable area
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Mow vegetation as specified for the area
DITCHES, SWALES AND OPEN STORMWATER CHANNELS	Annually spring and late fall and after heavy rains	Remove obstructions, sediments or debris from ditches, swales and other open channels
		Repair any erosion of the ditch lining
		Mow vegetated ditches
		Remove woody vegetation growing through riprap
		Repair any slumping side slopes
		Repair riprap where underlying filter fabric or gravel is showing or if stones have dislodge
CULVERTS	Spring and late fall and after heavy rains	Remove accumulated sediments and debris at the inlet, outlet, or within the conduit
		Remove any obstruction to flow
		Repair any erosion damage at the culvert's inlet and outlet
CATCH BASINS	Annually in the spring	Remove sediments and debris from the bottom of the basin and inlet grates
		Remove floating debris and oils (using oil absorptive pads) from any trap
ROADWAYS AND PARKING AREAS	Annually in the spring or as needed	Clear and remove accumulated winter sand in parking lots and along roadways
		Sweep pavement to remove sediment
		Grade road shoulders and remove accumulated winter sand
		Grade gravel roads and gravel shoulders
		Clean out the sediment within water bars or open-top culverts
		Ensure that stormwater runoff is not impeded by false ditches of sediment in the shoulder
RESOURCE AND TREATMENT BUFFERS	Annually in the spring	Inspect buffers for evidence of erosion, concentrated flow, or encroachment by development
		Manage the buffer's vegetation with the requirements in any deed restrictions
		Repair any sign of erosion within a buffer
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Install more level spreaders, or ditch turn-outs if needed for a better distribution of flow
		Clean out any accumulation of sediment within the spreader bays or turnout pools
		Mow non-wooded buffers no shorter than six inches and less than three times per year
WETPONDS AND DETENTION BASINS	Annually in fall and after heavy rains	Inspect the embankments for settlement, slope erosion, piping, and slumping
		Mow the embankment to control woody vegetation
		Inspect the outlet structure for broken seals, obstructed orifices, and plugged trash racks
		Remove and dispose of sediments and debris within the control structure
		Repair any damage to trash racks or debris guards
		Replace any dislodged stone in riprap spillways
		Remove and dispose of accumulated sediments within the impoundment and forebay
FILTRATION AND INFILTRATION BASINS	Annually in the spring and late fall	Clean the basin of debris, sediment and hydrocarbons
		Provide for the removal and disposal of accumulated sediments within the basin
		Renew the basin media if it fails to drain within 72 hours after a one inch rainfall event
		Till, seed and mulch the basin if vegetation is sparse
		Repair riprap where underlying filter fabric or gravel is showing or where stones have dislodged
PROPRIETARY DEVICES	As specified by manufacturer	Contract with a third-party for inspection and maintenance
		Follow the manufacturer's plan for cleaning of devices
OTHER PRACTICES	As specified for devices	Contact the department for appropriate inspection and maintenance requirements for other drainage control and runoff treatment measures.

Attachment E
Site Photos

Sea Dog Solar Project Photos

Photo 1. Southern upland.

Photo 2. Northern upland of site.

Photo 3. Flat Forestland.

Photo 4. Proposed Access Road Entrance from Cape Road.

Attachment F
Certificate of Good Standing

State of Maine

Department of the Secretary of State

I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and that the paper to which this is attached is a true copy from the records of this Department.

In testimony whereof, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this fifth day of February 2020.

Matthew Dunlap
Secretary of State

Additional Addresses

Legal Name	Title	Name	Charter #	Status
SEA DOG SOLAR, LLC	Registered Agent		20202587DC	GOOD STANDING
Home Office Address (of foreign entity)	**Other Mailing Address**			

Attachment G
Soils Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine

Sea Dog Solar Project

February 6, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

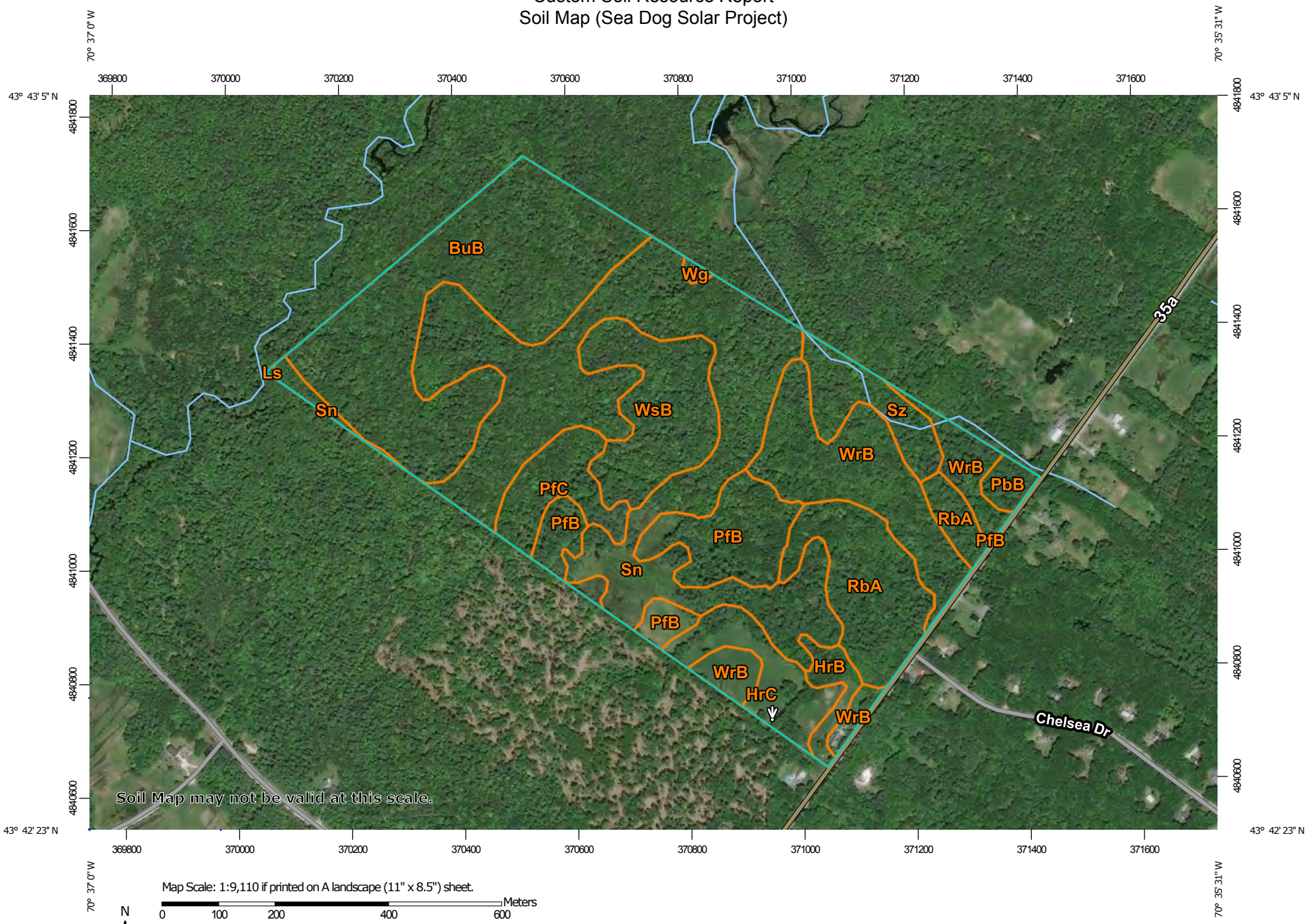
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Sea Dog Solar Project)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 16, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 7, 2019—Jul 2, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Sea Dog Solar Project)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BuB	Lamoine silt loam, 3 to 8 percent slopes	36.0	21.2%
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	2.4	1.4%
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	6.8	4.0%
Ls	Limerick-Saco silt loams	0.0	0.0%
PbB	Paxton fine sandy loam, 3 to 8 percent slopes	1.6	0.9%
PfB	Paxton very stony fine sandy loam, 3 to 8 percent slopes	12.8	7.5%
PfC	Paxton very stony fine sandy loam, 8 to 15 percent slopes	6.5	3.8%
RbA	Ridgebury fine sandy loam, 0 to 3 percent slopes	14.3	8.4%
Sn	Scantic silt loam, 0 to 3 percent slopes	49.4	29.0%
Sz	Swanton fine sandy loam	6.2	3.6%
Wg	Whately fine sandy loam	0.3	0.2%
WrB	Woodbridge fine sandy loam, 0 to 8 percent slopes	21.1	12.4%
WsB	Woodbridge very stony fine sandy loam, 0 to 8 percent slopes	12.7	7.5%
Totals for Area of Interest		**170.3**	**100.0%**

Map Unit Descriptions (Sea Dog Solar Project)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made

up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

BuB—Lamoine silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t0kc
Elevation: 10 to 490 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lamoine and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lamoine

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: silt loam
Bw - 7 to 13 inches: silt loam
Bg - 13 to 24 inches: silty clay loam
Cg - 24 to 65 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 17 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Scantic

Percent of map unit: 10 percent
Landform: Marine terraces, river valleys

Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Buxton

Percent of map unit: 3 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Ragmuff

Percent of map unit: 1 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope, base slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Biddeford

Percent of map unit: 1 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: Marine Terrace Depression (F144BY002ME)
Hydric soil rating: Yes

HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cx
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman and similar soils: 50 percent
Tunbridge and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam

Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Ragmuff

Percent of map unit: 10 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Abram

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Peru

Percent of map unit: 4 percent
Landform: Hills, ridges
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Landform: Hills, ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Nose slope, crest, free face
Down-slope shape: Convex

Across-slope shape: Convex
Hydric soil rating: No

HrC—Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cy
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman and similar soils: 45 percent
Tunbridge and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Ragmuff

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear

Hydric soil rating: No

Abram

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Peru

Percent of map unit: 4 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Rock outcrop

Percent of map unit: 1 percent
Landform: Ridges, hills
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Nose slope, crest, free face
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ls—Limerick-Saco silt loams

Map Unit Setting

National map unit symbol: blj2
Elevation: 10 to 2,000 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Limerick and similar soils: 55 percent
Saco and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Limerick

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium derived from slate

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 16 inches: silt loam
H3 - 16 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Very high (about 18.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Description of Saco

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-silty alluvium

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 24 inches: silt loam
H3 - 24 to 65 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Very high (about 15.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Rumney

Percent of map unit: 7 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Lovewell

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Cornish

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Podunk

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

PbB—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bljf
Elevation: 10 to 3,500 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 87 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 30 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Colonel

Percent of map unit: 4 percent
Landform: Drumlinoid ridges, till plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Berkshire

Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge

Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 2 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton, 0.1 to 3% stone cover

Percent of map unit: 1 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

PfB—Paxton very stony fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bljj
Elevation: 10 to 2,500 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 60 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
H1 - 2 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 30 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Tunbridge

Percent of map unit: 4 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Hollis

Percent of map unit: 4 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Colonel

Percent of map unit: 2 percent
Landform: Drumlinoid ridges, till plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Woodbridge

Percent of map unit: 2 percent
Landform: Drumlinoid ridges

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 2 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton, slopes >8%

Percent of map unit: 1 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

PfC—Paxton very stony fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: bljk
Elevation: 10 to 3,500 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 60 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton and similar soils: 86 percent
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material

H1 - 2 to 8 inches: fine sandy loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 30 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Berkshire

Percent of map unit: 4 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Tunbridge

Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Hollis

Percent of map unit: 2 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge

Percent of map unit: 2 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear

Across-slope shape: Linear
Hydric soil rating: No

Paxton, slopes >15%

Percent of map unit: 1 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Colonel

Percent of map unit: 1 percent
Landform: Drumlinoid ridges, till plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Paxton, slopes <8%

Percent of map unit: 1 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

RbA—Ridgebury fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: bljs
Elevation: 0 to 2,500 feet
Mean annual precipitation: 28 to 48 inches
Mean annual air temperature: 37 to 52 degrees F
Frost-free period: 80 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury

Setting

Landform: Till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 18 inches: fine sandy loam
H3 - 18 to 65 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 10 to 20 inches to densic material
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Colonel

Percent of map unit: 6 percent
Landform: Drumlinoid ridges, till plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Peru

Percent of map unit: 4 percent
Landform: Till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Sebago

Percent of map unit: 3 percent
Landform: Bogs
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Whitman

Percent of map unit: 1 percent
Landform: Till plains

Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 1 percent
Landform: Till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Sn—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2slv3
Elevation: 10 to 900 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Scantic and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: Marine terraces, river valleys
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciomarine deposits

Typical profile

Ap - 0 to 9 inches: silt loam
Bg1 - 9 to 16 inches: silty clay loam
Bg2 - 16 to 29 inches: silty clay
Cg - 29 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Lamoine

Percent of map unit: 8 percent
Landform: River valleys, marine terraces
Landform position (three-dimensional): Riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Biddeford

Percent of map unit: 3 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave, linear
Ecological site: Marine Terrace Depression (F144BY002ME)
Hydric soil rating: Yes

Roundabout

Percent of map unit: 2 percent
Landform: River valleys, marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Buxton

Percent of map unit: 2 percent
Landform: Marine terraces, river valleys
Landform position (three-dimensional): Riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Sz—Swanton fine sandy loam

Map Unit Setting

National map unit symbol: blk4

Elevation: 10 to 900 feet
Mean annual precipitation: 34 to 55 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 90 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Swanton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Swanton

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 32 inches: fine sandy loam
H3 - 32 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Scantic

Percent of map unit: 8 percent
Landform: Coastal plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Whately

Percent of map unit: 4 percent
Landform: Outwash plains

Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Elmwood

Percent of map unit: 3 percent
Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Wg—Whately fine sandy loam

Map Unit Setting

National map unit symbol: blk8
Elevation: 10 to 2,100 feet
Mean annual precipitation: 34 to 55 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Whately and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Whately

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy glaciolacustrine deposits

Typical profile

Oa - 0 to 2 inches: moderately decomposed plant material
H1 - 2 to 9 inches: fine sandy loam
H2 - 9 to 21 inches: fine sandy loam
H3 - 21 to 65 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Swanton

Percent of map unit: 8 percent
Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Wonsqueak

Percent of map unit: 5 percent
Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sebago

Percent of map unit: 2 percent
Landform: Bogs
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

WrB—Woodbridge fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: blkf
Elevation: 10 to 3,500 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge and similar soils: 86 percent
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge

Setting

Landform: Till plains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 3 inches: fine sandy loam
H2 - 3 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 16 to 36 inches to densic material
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Colonel

Percent of map unit: 6 percent
Landform: Drumlinoid ridges, till plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Paxton

Percent of map unit: 3 percent
Landform: Till plains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 3 percent
Landform: Till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Berkshire

Percent of map unit: 2 percent
Landform: Till plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

WsB—Woodbridge very stony fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: blkh
Elevation: 10 to 2,500 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Woodbridge and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge

Setting

Landform: Till plains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
H1 - 2 to 5 inches: fine sandy loam
H2 - 5 to 22 inches: fine sandy loam
H3 - 22 to 65 inches: fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 16 to 36 inches to densic material
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Colonel

Percent of map unit: 8 percent
Landform: Drumlinoid ridges, till plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 3 percent
Landform: Till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton

Percent of map unit: 3 percent
Landform: Till plains
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Crest, nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge, slopes >8%

Percent of map unit: 1 percent
Landform: Till plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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From:	Dorr, Dustin
To:	Dale Knapp
Subject:	RE: Updated Pine Gate Stormwater PBRs - Email 1 of 3
Date:	Tuesday, March 10, 2020 3:13:17 PM
Attachments:	image001.png

Hi Dale,

The permits have been accepted. Thank you,

Dustin Dorr
Biologist I
Maine Department of Environmental Protection
(207) 215-4525
www.maine.gov/dep

From: Dale Knapp <dknapp@boyleassociates.net>
Sent: Tuesday, March 10, 2020 8:43 AM
To: Dorr, Dustin <Dustin.Dorr@maine.gov>
Subject: Updated Pine Gate Stormwater PBRs - Email 1 of 3

Good morning Dustin,
We worked with BH2M and have updated the PBR's for Pine Gate and due to size sending in three messages.

- Footbridge (Harrington, ME)
- Kitt (Jonesboro, ME)

Dale F. Knapp, CSS, LSE, CEP, PWS
Principal
Boyle Associates, a subsidiary of CEA

254 Commercial Street
Merrill's Wharf, Suite 101
Portland, ME 04101
C: (207) 631-9134
dknapp@boyleassociates.net
www.boyleassociates.net
www.cea-inc.com

ATTACHMENT K

Agent Authorization

PINE GATE RENEWABLES

Asheville Office: 130 Roberts Street, Asheville, NC 28801
Charlotte Office: 529 W Summit Avenue Suite 3D, Charlotte, NC 28203
Jacksonville Office: 315 3rd Avenue N, Jacksonville Beach, FL 32250
info@pgrenewables.com • www.pgrenewables.com

Agent Authorization

This form herby authorizes Boyle Associates, a subsidiary of CEA, to act on behalf of Pine Gate Renewables regarding the submissions of all municipal permits and/or applications, MDOT Driveway/Entrance permit applications, DEP Stormwater Permit By Rule applications and any subsequent follow up related to these application submittals.

Pine Gate Renewables, LLC

By: DocuSigned by: Patty Wright D9B829E9C6E8472...

Name: Patty Wright

Title: Authorized Person

Date: 3/12/2020

ATTACHMENT L

Decommissioning Plan & Costs

Decommissioning Plan and Costs

Sea Dog Solar, LLC

Decommissioning Overview

The Sea Dog Solar LLC Project will be decommissioned at the end of its useful life or as required by lease agreement. Once the Project is to be decommissioned, Sea Dog Solar will be responsible to remove the solar facility from the site within one year of the end of useful life and all waste from decommissioning will be transported by licensed transporters and recycled or disposed of in accordance with all applicable local, State and federal regulations. Decommissioning activities include:

- Removal of the solar panels, racking structures, foundations, electrical equipment and connections, utility poles, vaults, security barriers, fencing.
- Proper disposal of all solid waste from the site in accordance with local, State, and Federal waste disposal regulations and;
- Restoration of the site including stabilization and re-vegetation of the site as necessary to minimize erosion and runoff.

Decommissioning Process

Provided below is a list of typical decommissioning tasks in generally sequential order, and final decommissioning plans are to be prepared by a qualified engineer prior to decommissioning.

Remove Rack Wiring
Remove Solar Panels
Dismantle Racks
Remove Electrical Equipment
Break Up and Remove Concrete Pads
Remove Racks
Remove Racking Foundations, UG Wiring and Poles
Remove Fence
Grading
Seed Disturbed Areas
Truck to Recycling Center

Equipment Removal and Site Restoration Process

All above ground wiring will be removed from the racking, including any underground wiring at depths of less than two feet; underground wiring deeper than two feet shall be abandoned in place. Electrical equipment, transformers, inverters and switchgear will be unbolted from their mounting structures and foundations and transported to a designated facility for recycling or reuse.

Following the removal of wiring and cables, solar panels will be unclamped and removed from the racking system and transported to a designated facility for recycling or reuse. Racking parts above grade will be removed first using tools and small machinery. Racking posts will either be pulled from the ground and recycled or cut off at a depth of at least two feet below grade and abandoned in place.

Where reasonably required, restoration will include regrading, mulching, and seeding to establish vegetation to prevent soil loss and erosion. Racking posts pulled from the ground are expected to create very minimal ground disturbance. Any disturbed areas will be seeded with the same conservation seed mix used across the site during the life of the Project.

Estimated Cost of Decommissioning

The total estimated cost of decommissioning is $105,350 (Table 1) which is based on typical costs available from NYSERDA[1].

Table 1. Estimated Decommissioning Labor

Labor Services	**Estimated Cost ($)**
Remove Rack Wiring	4,288
Remove Solar Panels	4,288
Dismantle Racks	21,613
Remove Electrical Equipment	3,238
Break Up and Remove Concrete Pads	2,625
Remove Racks	13,650
Remove Racking Foundations, UG Wiring and Poles	35,613
Remove Fence	8,663
Grading	7,000
Seed Disturbed Areas	438
Truck to Recycling Center	3,938
Total	**105,350**

[1] New York State Energy Research and Development Authority

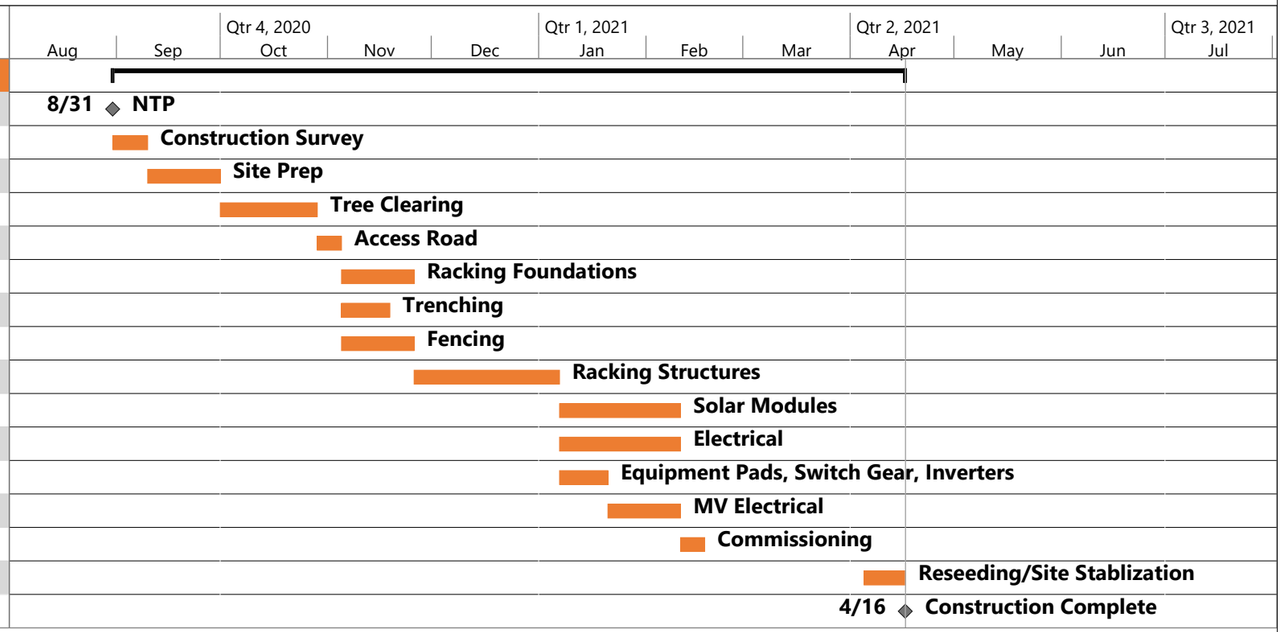
ATTACHMENT N

Construction Schedule

PINEGATE RENEWABLES

BOYLE ASSOCIATES

ID	Task Name	Duration	Start	Finish
1	**Sea Dog Solar- Standish, ME**	**165 days**	**Mon 8/31/20**	**Fri 4/16/21**
2	NTP	0 days	Mon 8/31/20	Mon 8/31/20
3	Construction Survey	8 days	Mon 8/31/20	Wed 9/9/20
4	Site Prep	15 days	Thu 9/10/20	Wed 9/30/20
5	Tree Clearing	20 days	Thu 10/1/20	Wed 10/28/20
6	Access Road	5 days	Thu 10/29/20	Wed 11/4/20
7	Racking Foundations	15 days	Thu 11/5/20	Wed 11/25/20
8	Trenching	10 days	Thu 11/5/20	Wed 11/18/20
9	Fencing	15 days	Thu 11/5/20	Wed 11/25/20
10	Racking Structures	30 days	Thu 11/26/20	Wed 1/6/21
11	Solar Modules	25 days	Thu 1/7/21	Wed 2/10/21
12	Electrical	25 days	Thu 1/7/21	Wed 2/10/21
13	Equipment Pads, Switch Gear, Inverters	10 days	Thu 1/7/21	Wed 1/20/21
14	MV Electrical	15 days	Thu 1/21/21	Wed 2/10/21
15	Commissioning	5 days	Thu 2/11/21	Wed 2/17/21
16	Reseeding/Site Stablization	10 days	Mon 4/5/21	Fri 4/16/21
17	Construction Complete	0 days	Fri 4/16/21	Fri 4/16/21



ATTACHMENT O

Operations & Maintenance Plan

Sea Dog Solar LLC

Operations and Maintenance Plan

March 2020

Asheville Office: 130 Roberts Street, Asheville, NC 28801
Charlotte Office: 529 W Summit Avenue Suite 3D, Charlotte, NC 28203
Jacksonville Office: 315 3rd Avenue N, Jacksonville Beach, FL 32250
info@pgrenewables.com • www.pgrenewables.com

Site Information

The site is comprised of approximately 19 acres located at 425 Cape Rd, Standish, ME on Tax Map 3, Lot 43.

Standard Maintenance

Sea Dog Solar LLC is committed to having the Project inspected by qualified electrical engineers before it is energized, and upon commissioning. Because of the passive nature of solar, long-term operations activities at the site will be minimal. The Project and associated electrical equipment will be operated with remote monitoring through a Data Acquisition System (DAS), and the equipment will undergo routine maintenance as needed.

Following construction of the Project, the Operations and Maintenance Plan will be followed to ensure site safety and cleanliness.

The Project Site will be mowed no more the two times per year during the growing season. This includes areas within the fence surrounding the solar array and outside the fence line of the project.

Regular maintenance activities to be conducted on the site are as follows:

- Annual preventative maintenance activities on major equipment
- Corrective maintenance to repair failed or damaged equipment
- Mowing vegetation onsite
- Mowing and weed-whacking fence lines
- Trash pickup within the array and along the fence line, if needed

Vegetation maintenance schedules will vary based on weather and site conditions but are anticipated to occur at least 2 times per year, primarily in the growing season. Preventative maintenance activities are expected to occur 2-4 times per year depending on the manufacturer's recommended service schedule.

A 24/7 emergency contact phone number will be posted on a sign at the site entrance in order to contact the site manager if there are concerns or emergencies to report.

Maintenance Personnel

A service technician will be ready to deploy to the Project to respond to all alarms, alerts and service requests pertaining to the system based on severity and typically within 24 hours of such alarm and/or service request, as personnel safety and weather conditions permit.

Stormwater & Erosion Control Maintenance

The proposed Project will be constructed in a manner to avoid soil erosion and will not reduce the land's capacity to hold water. As currently designed, the Project has prioritized the avoidance of

alterations to all jurisdictional natural resources; therefore, development will be restricted to non-jurisdictional upland areas.

Specifically, no development is proposed to occur within 75 feet of any jurisdictional streams within the Site.

The stormwater design and maintenance plan incorporates erosion and sedimentation control Best Management Practices (see list below) to avoid risk for sediment detachment and transportation. For example, site-preparation for the Project will occur incrementally in 5-acre blocks, waiting until an entire block has been stabilized before the opening of subsequent blocks. Additionally, during operation and maintenance of the Project, mowing of the Site will be restricted to no more than two times per year, thus new vegetation within the Site qualifies as a meadow buffer.

List of Best Management Practices:

- Meadow buffer present under solar modules and across Site will be mowed no more than twice per year
- A conservation seed mix will be used to stabilize and revegetate the Site
- Site preparation will be completed incrementally in 5-acre blocks and stabilized prior to the opening of subsequent blocks
- No more than 10 acres of exposed bare soil on-Site at any given time; Silt fence will be properly installed around the Project perimeter during the entire construction phase
- Hay bales will be available on-Site at an appropriate volume to address stabilization
- An Environmental Inspector (EI) will be employed to oversee the installation and condition of all erosion and sedimentation control BMPs employed at the Site both prior to and during construction; the use of pile-driven foundations will allow the racking to follow the contours of the existing Site and will minimize the need for Site grading and soil disturbance.
- After construction is completed, the site will be permanently stabilized through meadow buffer plantings. This vegetation will not be mowed more than twice per year as required under the MDEP standards for stormwater buffers.

Driveway Maintenance

Pine Gate will inspect roadways on site twice annually unless immediate maintenance concerns are identified or as required by permit compliance.

Safety Training

On-site training for local emergency personnel shall be offered prior to energization to local emergency response personnel to understand the location of disconnects and how to operate the disconnect equipment properly and safely.

ATTACHMENT P

Proof of Financial Capability

April 6, 2020

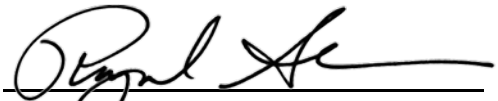
To Whom It May Concern,

This letter describes the financial capability to fund the development and construction of Sea Dog Solar, LLC or the ("Project"). The Project is wholly owned by Pine Gate Renewables, LLC, a North Carolina Limited Liability Company ("Pine Gate"). Founded in 2014, Pine Gate is a leader in the origination, development, financing, construction, and operation of ground-mount utility-scale solar and local distributed PV systems nationwide. The company is fully capable of delivering high value economic assets at scale, demonstrated by its 400+MW of assets in operation and pipeline of 1,000+MW to come online by the end of 2021. Pine Gate has raised over $600 million in committed project financing from a diverse group of banks, insurance companies, and private investment funds. By way of its aforementioned relationships, Pine Gate has access to funds which could meet the approximately $5 million in capital necessary to construct the Project, subject to customary board approvals. Prior to starting construction, Pine Gate can provide proof that adequate funding is in place to complete construction on the project, subject to such approvals.

If you have any further questions, please do not hesitate to contact us.

Sincerely,

Pine Gate Renewables, LLC



Name: Ray Shem
Title: Chief FinancialOfficer

ATTACHMENT Q

Agency Consultation Response Letters

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

November 6, 2019

Steve Knapp
Boyle Associates
254 Commercial Street
Merrill's Wharf, Suite 101
Portland, ME 04101

RE: Information Request - Cape Road, Standish

Dear Steve:

Per your request received October 28, 2019, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and fisheries habitat concerns within the vicinity of the *Cape Road Project* in Standish. Note that as project details are lacking, and due to the general nature and scale of the map that was provided, our comments are non-specific and should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bats

Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat.

While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during migration and/or the breeding season. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Significant Wildlife Habitat

Deer Wintering Areas

The project search area intersects with a Deer Winter Area (DWA). DWAs contain habitat cover components that provide conditions where deer find protection from deep snow and cold wind, which is important for overwinter survival. MDIFW recommends that development projects be designed to avoid losses or impacts to the continued availability of coniferous winter shelter. Any removal of vegetation should be conducted in such a way that improves the quality and vigor of the coniferous species providing this winter shelter.

Significant Vernal Pools

At this time, MDIFW Significant Wildlife Habitat maps indicate no known presence of Significant Vernal Pools in the project search area; however, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before to the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

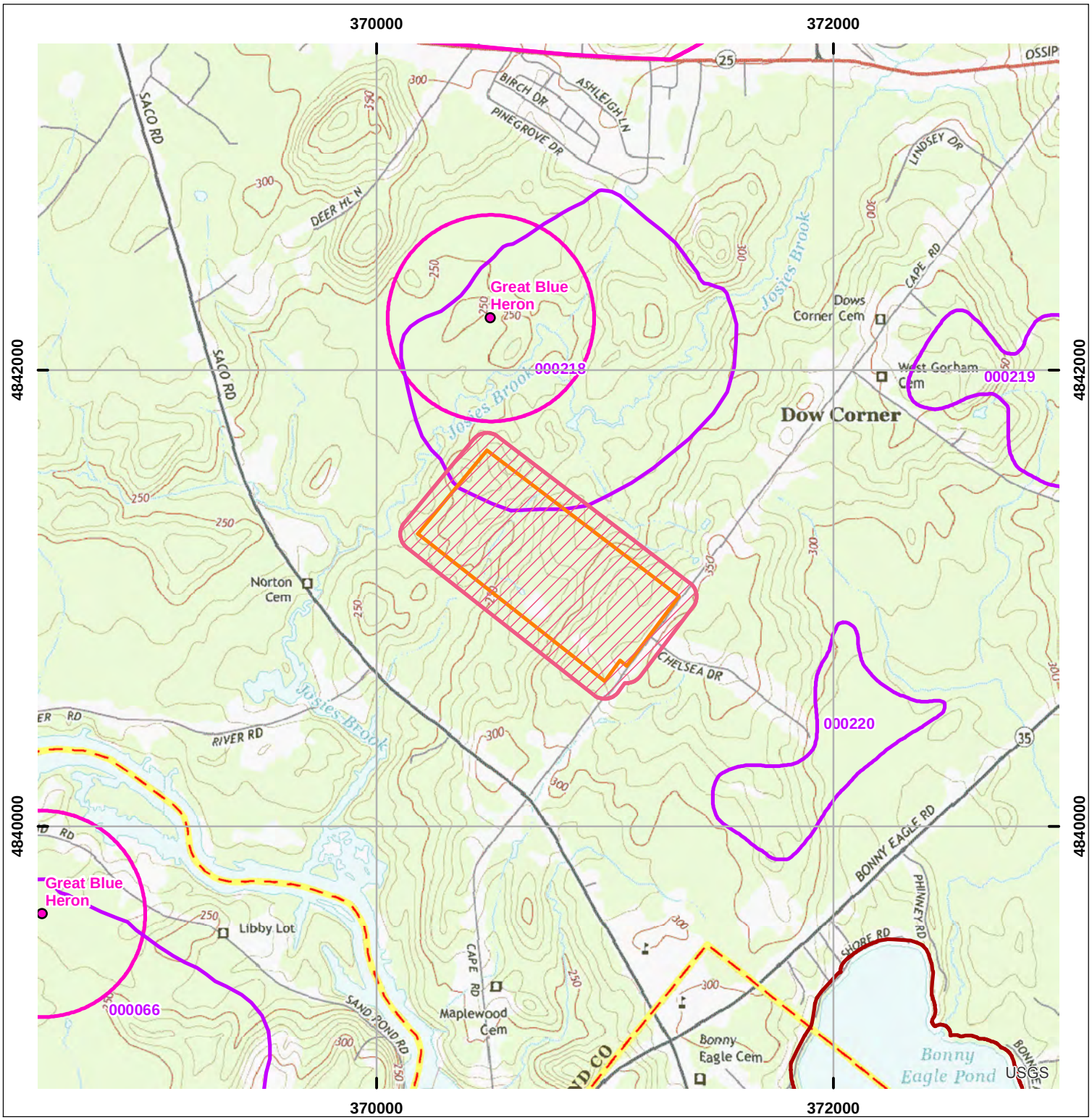
We recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams that support coldwater fisheries is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e. natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fish and fisheries habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Becca Settele
Wildlife Biologist



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Standish, Cape Road (Version 1)

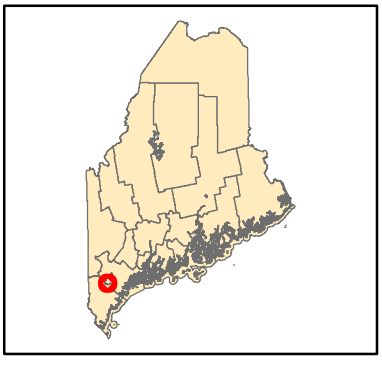
Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

Date: 11/1/2019

- ProjectPoints
- ProjectLines
- ProjectPolys
- ProjectSearchAreas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl and Wading Bird
- 2008 Iwwh - Shoreland Zoning
- Tidal Waterfowl and Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover and Least Tern
- Aquatic ETSc - 2.5 mi review
- Rare Mussels - 5 mi review
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel and Swamp Darter Habitats - buffer100ft
- Special Concern occupied habitats - 100ft buffer
- Wild Lake Trout Habitats



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

October 28, 2019

Steve Knapp
Boyle Associates
254 Commercial Street, Suite 101
Portland, ME 04101

Via email: sknapp@boyleassociates.net

Re: Rare and exemplary botanical features in proximity to: #601, 127-acres, Cape Road, Standish, Maine

Dear Mr. Boyle:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received October 25, 2019 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Standish, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING

PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Kristen Puryear | Ecologist | Maine Natural Areas Program
207-287-8043 | kristen.puryear@maine.gov

Rare and Exemplary Botanical Features within 4 miles of Project: #601, 127-acres, Cape Road, Standish, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Dwarf Bulrush						
	T	S1	G5	1985-09-26	2	Open wetland, not coastal nor rivershore (non-forested, wetland)
Fall Fimbry						
	SC	S2S3	G5	1992-09-09	3	Open wetland, not coastal nor rivershore (non-forested, wetland)
	SC	S2S3	G5	2012	1	Open wetland, not coastal nor rivershore (non-forested, wetland)
	SC	S2S3	G5	1995-10-20	2	Open wetland, not coastal nor rivershore (non-forested, wetland)
Fern-leaved False Foxglove						
	SC	S3	G5	1916-08-29	15	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Hollow Joe-pye Weed						
	SC	S2	G5?	2011-10-22	21	Open wetland, not coastal nor rivershore (non-forested, wetland),Old field/roadside (non-forested, wetland or upland)
Narrow-leaved Goldenrod						
	T	S2	G5	1992-09-01	5	Open wetland, not coastal nor rivershore (non-forested, wetland)
	T	S2	G5	2017-07-27	1	Open wetland, not coastal nor rivershore (non-forested, wetland)
Outwash Plain Pondshore						
	<null>	S1	G2G3	2010-08-13	3	Open water (non-forested, wetland),Open wetland, not coastal nor rivershore (non-forested, wetland)
	<null>	S1	G2G3	2005-06-22	4	Open water (non-forested, wetland),Open wetland, not coastal nor rivershore (non-forested, wetland)
Pitch Pine - Scrub Oak Barren						
	<null>	S2	G2	2010-08-13	7	Conifer forest (forest, upland),Dry barrens (partly forested, upland)
Pitch Pine Bog						
	<null>	S2	G3G5	2005-6-22	11	Forested wetland,Coastal non-tidal wetland (non-forested, wetland)
	<null>	S2	G3G5	2010-08-13	15	Forested wetland,Coastal non-tidal wetland (non-forested, wetland)

Rare and Exemplary Botanical Features within 4 miles of Project: #61, 127-acres, Cape Road, Standish, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Pocket Swamp						
	<null>	S2	G5	2005-06-22	13	Forested wetland,Hardwood to mixed forest (forest, upland)
Scarlet Oak						
	E	S1	G5	1916-08	2	Hardwood to mixed forest (forest, upland)
Silver Maple Floodplain Forest						
	<null>	S3	GNR	2005-06-22	2	Forested wetland
	<null>	S3	GNR	2017-07-25	70	Forested wetland
Small Rabbit Tobacco						
	PE	SH	G4G5T3?	1916-08-29	1	Hardwood to mixed forest (forest, upland)
Streamshore Ecosystem						
	<null>	S4	GNR	2010-08-13	1	Non-tidal rivershore (non-forested, seasonally wet),Open wetland, not coastal nor rivershore (non-forested, wetland)
Unpatterned Fen Ecosystem						
	<null>	S5	GNR	2010-08-13	16	Open wetland, not coastal nor rivershore (non-forested, wetland),Forested wetland
White Oak - Red Oak Forest						
	<null>	S3	GNR	2005-06-22	9	Hardwood to mixed forest (forest, upland)

STATE RARITY RANKS

S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

S3 Rare in Maine (20-100 occurrences).

S4 Apparently secure in Maine.

S5 Demonstrably secure in Maine.

SU Under consideration for assigning rarity status; more information needed on threats or distribution.

SNR Not yet ranked.

SNA Rank not applicable.

S#? Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

G1 Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.

G2 Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

G3 Globally rare (20-100 occurrences).

G4 Apparently secure globally.

G5 Demonstrably secure globally.

GNR Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.

T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.

PE Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
http://www.maine.gov/dacf/mnap

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588
http://www.fws.gov/mainefieldoffice/index.html

In Reply Refer To: October 23, 2019
Consultation Code: 05E1ME00-2020-SLI-0063
Event Code: 05E1ME00-2020-E-00303
Project Name: Seadog

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies the threatened, endangered, candidate, and proposed species and designated or proposed critical habitat that may occur within the boundary of your proposed project or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC Web site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the Endangered Species Consultation Handbook at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

This species list also identifies candidate species under review for listing and those species that the Service considers species of concern. Candidate species have no protection under the Act but are included for consideration because they could be listed prior to completion of your project. Species of concern are those taxa whose conservation status is of concern to the Service (i.e., species previously known as Category 2 candidates), but for which further information is needed.

If a proposed project may affect only candidate species or species of concern, you are not required to prepare a Biological Assessment or biological evaluation or to consult with the Service. However, the Service recommends minimizing effects to these species to prevent future conflicts. Therefore, if early evaluation indicates that a project will affect a candidate species or species of concern, you may wish to request technical assistance from this office to identify appropriate minimization measures.

Please be aware that bald and golden eagles are not protected under the Endangered Species Act but are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may require development of an eagle conservation plan: http://www.fws.gov/windenergy/eagle_guidance.html Information on the location of bald eagle nests in Maine can be found on the Maine Field Office Web site: http://www.fws.gov/mainefieldoffice/Project%20review4.html

Additionally, wind energy projects should follow the wind energy guidelines: http://www.fws.gov/windenergy/ for minimizing impacts to migratory birds and bats. Projects may require development of an avian and bat protection plan.

Migratory birds are also a Service trust resource. Under the Migratory Bird Treaty Act, construction activities in grassland, wetland, stream, woodland, and other habitats that would result in the take of migratory birds, eggs, young, or active nests should be avoided. Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g.,

cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm and at: http://www.towerkill.com; and at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
(207) 469-7300

Project Summary

Consultation Code: 05E1ME00-2020-SLI-0063

Event Code: 05E1ME00-2020-E-00303

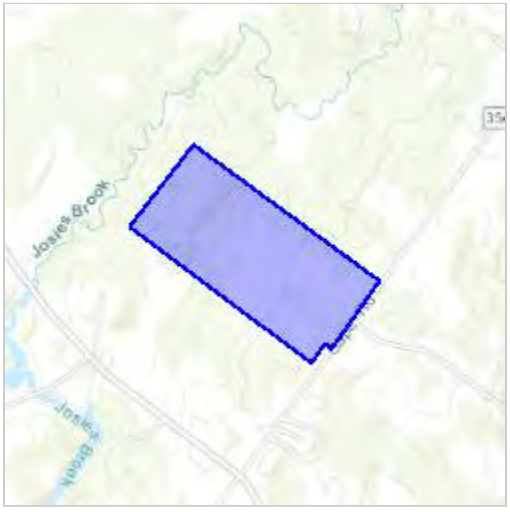
Project Name: Seadog

Project Type: DEVELOPMENT

Project Description: We're using this information for a desktop review of the natural resources within this survey area.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.712043038831325N70.60433722279903W



Counties: Cumberland, ME

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Flowering Plants

NAME	STATUS
Small Whorled Pogonia *Isotria medeoloides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.