

Residential Gas Service Installation Project
41 Lawrence Road, Boxford, Massachusetts

REQUEST FOR DETERMINATION OF APPLICABILITY

Boston Gas Company
d/b/a National Grid

August 2020

Tighe & Bond

WO #1356815
N5068-026
August 19, 2020

Ross Povenmire, Director
Boxford Conservation Commission
7A Spofford Lane
Boxford, Massachusetts 01921

Re: **Request for Determination of Applicability
Residential Gas Service Installation Project
Boston Gas Company d/b/a National Grid
41 Lawrence Road, Boxford, Massachusetts**

Dear Agent Povenmire and the Members of the Boxford Conservation Commission:

On behalf of the Boston Gas Company d/b/a National Grid, Tighe & Bond respectfully submits this Request for Determination of Applicability (RDA) for a proposed residential gas service installation at 41 Lawrence Road in Boxford, Massachusetts. The proposed project consists of the installation of approximately 646 linear feet (lf) of one-inch diameter plastic gas service line, extending to the north from the existing gas main located within Lawrence Road to service the residence located at 41 Lawrence Road. This proposed gas service will extend to the north from the existing main within Lawrence Road, along the western edge of the driveway, and then to the southern side of the house where it will connect into the residence.

This RDA is being filed because the proposed work will occur within the 100-foot Buffer Zone to Bordering Vegetated Wetlands (BVW). This area is regulated under the Massachusetts Wetlands Protection Act (WPA, M.G.L. c. 131 § 40) and the Town of Boxford Wetlands Protection Bylaw (Town Code Chapter 192) and implementing regulations. All of the proposed work will occur within previously disturbed areas with no anticipated impacts to the surrounding wetland resources. Please note, the proposed work is considered an exempt buffer zone minor activity under 310 CMR 10.02(2)(b)(2)(i), as it consists of "*Installation of underground utilities (e.g., electric, gas, water) within existing paved or unpaved roadways and private roadways/driveways, provided that all work is conducted within the roadway or driveway and that all trenches are closed at the completion of each workday.*"

Tighe & Bond respectfully requests that the Boxford Conservation Commission make a Negative Determination confirming that the proposed work does not require the filing of a Notice of Intent under the WPA or the Town of Boxford Wetlands Protection Bylaw and Regulations.

This RDA application includes the following items:

- Attachment A – WPA Form 1
- Attachment B – Figures
- Attachment C – Site Photographs
- Attachment D – Abutter Information
- Attachment E – National Grid Best Management Practice Details

The following text discusses the wetland resource areas, proposed activities, and proposed protective measures.



Wetland Resource Areas

Site reconnaissance and wetland resource area investigations of the project area were conducted by a Tighe & Bond Professional Wetland Scientist (PWS) on August 11, 2020. The reconnaissance was conducted in accordance with the Massachusetts Department of Environmental Protection (MassDEP) guidelines, 310 CMR 10.00, and the Town of Boxford Wetlands Protection Bylaw (Town Code Chapter 192). The resource area boundaries were surveyed using a Global Positioning System (GPS) unit with sub-meter accuracy. Please refer to Figure 4 in Attachment B for the resource area locations.

Bordering Vegetated Wetlands

Flag series 1A-1 to 1A-8, 1B-1 to 1B – 5, and 1C-1 to 1C-3: Wetland 1 is a BVW located to the north, east, and south of the residence at 41 Lawrence Road. The wetland is best classified as palustrine, forested, broad-leaved deciduous, with a seasonally flooded/saturated hydroperiod (PFO1E), with an isolated area to the west being best classified as palustrine, emergent, and persistent, with a seasonally flooded/saturated hydroperiod (PEM1E). Hydrologic indicators observed during the site visit included standing water, soil saturation, sediment deposits, a sparsely vegetated concave surface (in some areas), water stained leaves, drainage patterns, a hydrogen sulfide (H₂S) odor, and geomorphic position. The soils encountered were deep, very poorly drained sapric histosols (10YR 2/1, 10/YR 2/2, and/or 2.5/N) with few redoximorphic features in the mineral portion of the soil (7.5YR 4/6). Common vegetation observed included red maple (*Acer rubrum*), white pine (*Pinus strobus*), sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), swamp dewberry (*Rubus hispidus*), cinnamon fern (*Osmunda cinnamomea*), false nettle (*Boehmeria cylindrica*), skunk cabbage (*Symplocarpus foetidus*), poison ivy (*Toxicodendron radicans*), jack-in-the-pulpit (*Arisaema triphyllum*), grassleaf goldenrod (*Euthamia graminifolia*), white ash (*Fraxinus americana*), and woolgrass (*Scirpus cyperinus*).

Bordering Land Subject to Flooding

The Federal Emergency Management Agency (FEMA) flood map (Panel No. 25009C0242F, effective July 3, 2012) was consulted to evaluate the presence of jurisdictional Land Subject to Flooding on the property. No portion of the proposed project area falls within any area subject to flooding and/or inundation by a 100-year flood.

Rare Species

The Massachusetts Natural Heritage and Endangered Species Program (NHESP) Atlas (14th edition, effective August 2017) was reviewed during the preparation of this RDA. According to these sources, the entirety of the proposed project area lies within Priority Habitats of Rare Species (PH 1994). No Estimated Habitats of Rare Wildlife (EH) occur within any portion of the proposed project area. Please note that this project is exempt from review under 321 CMR 10.14(6), as it consists of "construction, repair, replacement or maintenance of septic systems, private sewage treatment facilities, utility lines, sewer lines, or residential water supply wells within existing paved areas and lawfully developed and maintained lawns or landscaped areas, provided there is no expansion of such existing paved, lawn and landscaped areas."

Proposed Activities

The proposed project consists of the installation of approximately 646 lf of one-inch diameter plastic gas service line, extending to the north from the existing gas main located within Lawrence Road to service the residence located at 41 Lawrence Road. This proposed gas

service will extend to the north from the existing main within Lawrence Road, along the western edge of the driveway, and then to the southern side of the house where it will connect into the residence.

Construction of the new gas main will require the excavation of an approximately two-foot wide trench for safe installation. The trench bottom will be excavated and graded so that the pipe will be supported for its entire length on undisturbed bottom at a depth of approximately three feet below surface grade. Upon the completion of work, the trench will be backfilled and the site will be restored to pre-existing conditions. Work will be conducted by conventional construction equipment mobilized on the existing driveway and residential lawn.

The proposed work will result in temporary impacts to the 100-foot Buffer Zone to BVW. Approximately 616 square feet of impacts will occur within this 100-foot Buffer Zone. The areas where the work is proposed consists of existing paved roadway, existing gravel driveway, and residential lawn. The proposed work will not change the general characteristics of the area, as the entire project is contained within previously disturbed areas.

Protective Measures

The proposed installation will be completed within the existing roadway, the existing driveway, and managed residential lawn. Prior to the commencement of work, appropriate erosion control measures will be installed at the downgradient limit-of-work as deemed necessary. The erosion controls will be maintained throughout the duration of work and will be removed after disturbed areas have been stabilized. Following the completion of construction activities, any disturbed soils will be restored in-kind. Attachment F of this submittal includes details of standard erosion control measures that have been used in past projects of similar scope.

Application Requirements

As required by the Town of Boxford, a check in the amount of \$100.00 has been submitted along with this application package (RDA filing fee). Abutters to the project area will be notified via Certificate of Mailing, in accordance with the abutter notification requirements. A copy of the list of abutters has been enclosed in Attachment D.

Summary

We look forward to having the opportunity to discuss this project with the Boxford Conservation Commission at the next available public hearing. We anticipate these materials are sufficient for the Commission to issue a Negative Determination confirming the proposed project may proceed without the filing of an NOI. Should you have any questions regarding this application or require any additional information, please do not hesitate to contact me at (508) 304-6354 or via email at AJHoule@tighebond.com.

Thank you in advance for your attention to this matter.

Respectfully,



Amanda J. Houle, PWS, CERP
Senior Environmental Scientist

Enclosures

Copy: MassDEP NERO
Andrew Shelby, National Grid
Alexander Soskov, property owner

\\tighebond.com\data\Data\Projects\N\N5068 National Grid 2020 L&P\026 Lawrence Road, Boxford\RDA\Archive\41
Lawrence Road RDA Cover Letter - Final.docx

ATTACHMENT A

WPA FORM 1



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

Boxford

City/Town

WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Applicant:

Boston Gas Company d/b/a National Grid

Name

drew.shelby@nationalgrid.com

E-Mail Address

40 Sylvan Road

Mailing Address

Waltham

City/Town

MA

State

02451

Zip Code

781.907.1867

Phone Number

N/A

Fax Number (if applicable)

2. Representative (if any):

Tighe & Bond

Firm

Amanda Houle

Contact Name

ajhoule@tighebond.com

E-Mail Address

4 Barlows Landing Road

Mailing Address

Pocasset

City/Town

MA

State

02559

Zip Code

508.304.6354

Phone Number

N/A

Fax Number (if applicable)

B. Determinations

1. I request the Boxford Conservation Commission make the following determination(s). Check any that apply:

- a. whether the area depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
b. whether the boundaries of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
c. whether the work depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any municipal wetlands ordinance or bylaw of:

Boxford

Name of Municipality

- e. whether the following scope of alternatives is adequate for work in the Riverfront Area as depicted on referenced plan(s).



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

<u>41 Lawrence Road</u>	<u>Boxford</u>
Street Address	City/Town
<u>Tax Map 27</u>	<u>Lot 30</u>
Assessors Map/Plat Number	Parcel/Lot Number

b. Area Description (use additional paper, if necessary):

A full description of the proposed project area is attached in the cover letter to this application.

c. Plan and/or Map Reference(s):

<u>Site Location Map & Orthophotograph (Figures 1 & 3, Attachment B)</u>	<u>8/13/2020</u>
Title	Date
<u>Priority Resources Map (Figure 2, Attachment B)</u>	<u>8/13/2020</u>
Title	Date
<u>Site Plan (Figure 4, Attachment B)</u>	<u>8/13/2020</u>
Title	Date

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

A full description of work to be completed is attached in the cover letter to this application.



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Project Description (cont.)

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

310 CMR 10.02(2)(b)(2)(i)

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- Single family house on a lot recorded on or before 8/1/96
- Single family house on a lot recorded after 8/1/96
- Expansion of an existing structure on a lot recorded after 8/1/96
- Project, other than a single family house or public project, where the applicant owned the lot before 8/7/96
- New agriculture or aquaculture project
- Public project where funds were appropriated prior to 8/7/96
- Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- Residential subdivision; institutional, industrial, or commercial project
- Municipal project
- District, county, state, or federal government project
- Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

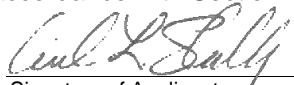
Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

Alexander Soskov	_____
Name	_____
41 Lawrence Road	_____
Mailing Address	_____
Boxford	_____
City/Town	_____
MA	_____
State	_____
	01921
	Zip Code

Signatures:

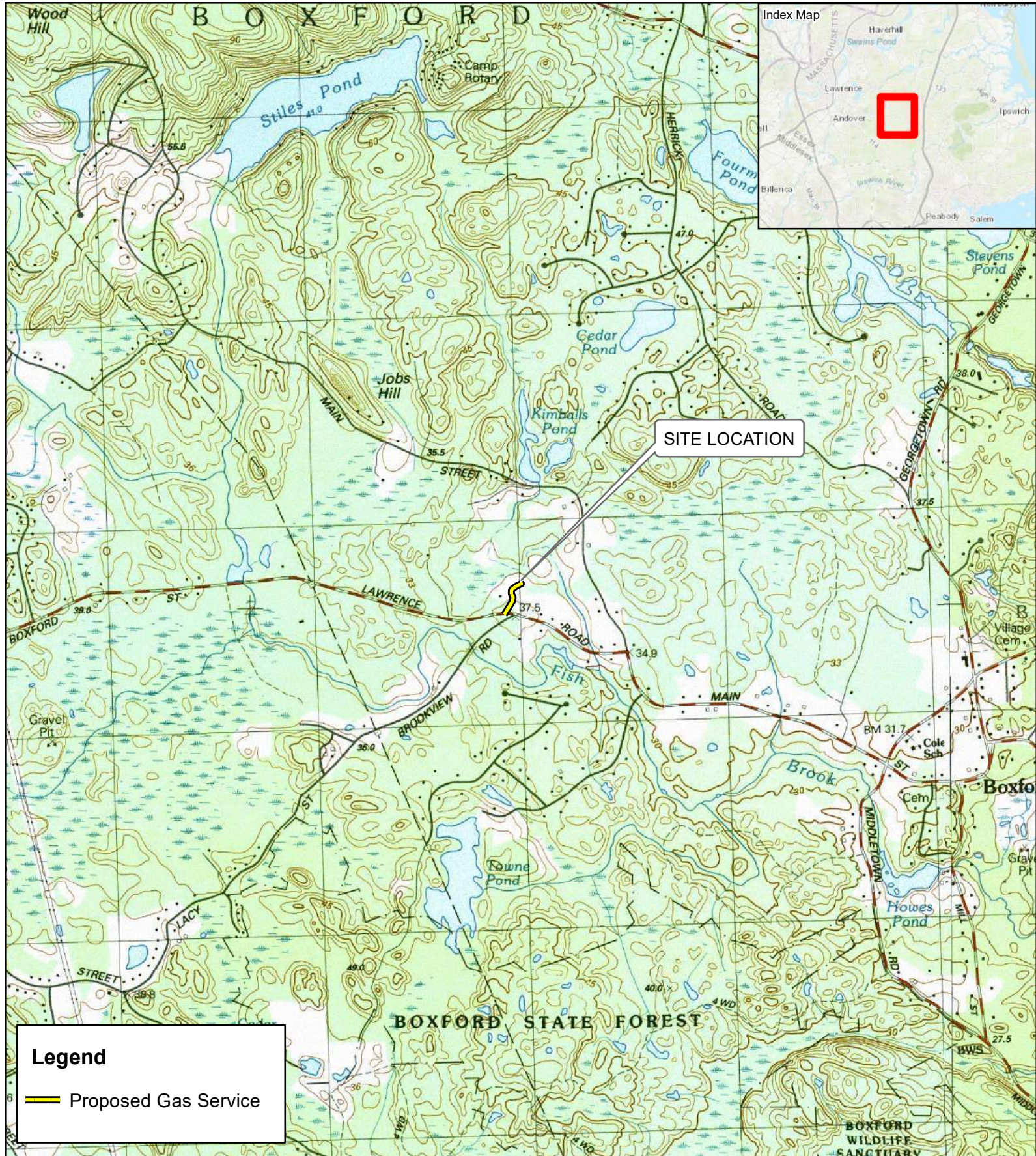
I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

	_____
Signature of Applicant	_____
	8/19/2020
	Date

	_____
Signature of Representative (if any)	_____
	8/19/2020
	Date

ATTACHMENT B

FIGURES



Legend

- Proposed Gas Service

N

1 inch = 2,000 feet

0 1,000 2,000 Feet

RESIDENTIAL GAS SERVICE INSTALLATION

Site Location

41 Lawrence Road
Boxford, Massachusetts

Figure 1

Based on USGS Topographic Map for South Groveland, MA Revised 1987 and Georgetown, MA Revised 1985.

nationalgrid
Tighe&Bond



Legend
- - - Proposed Gas Service

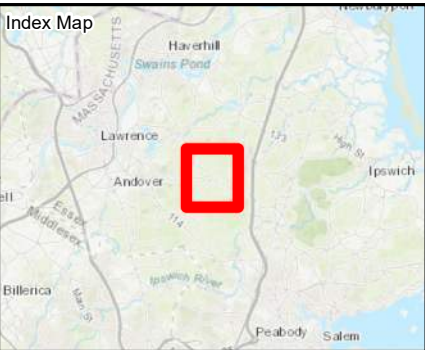
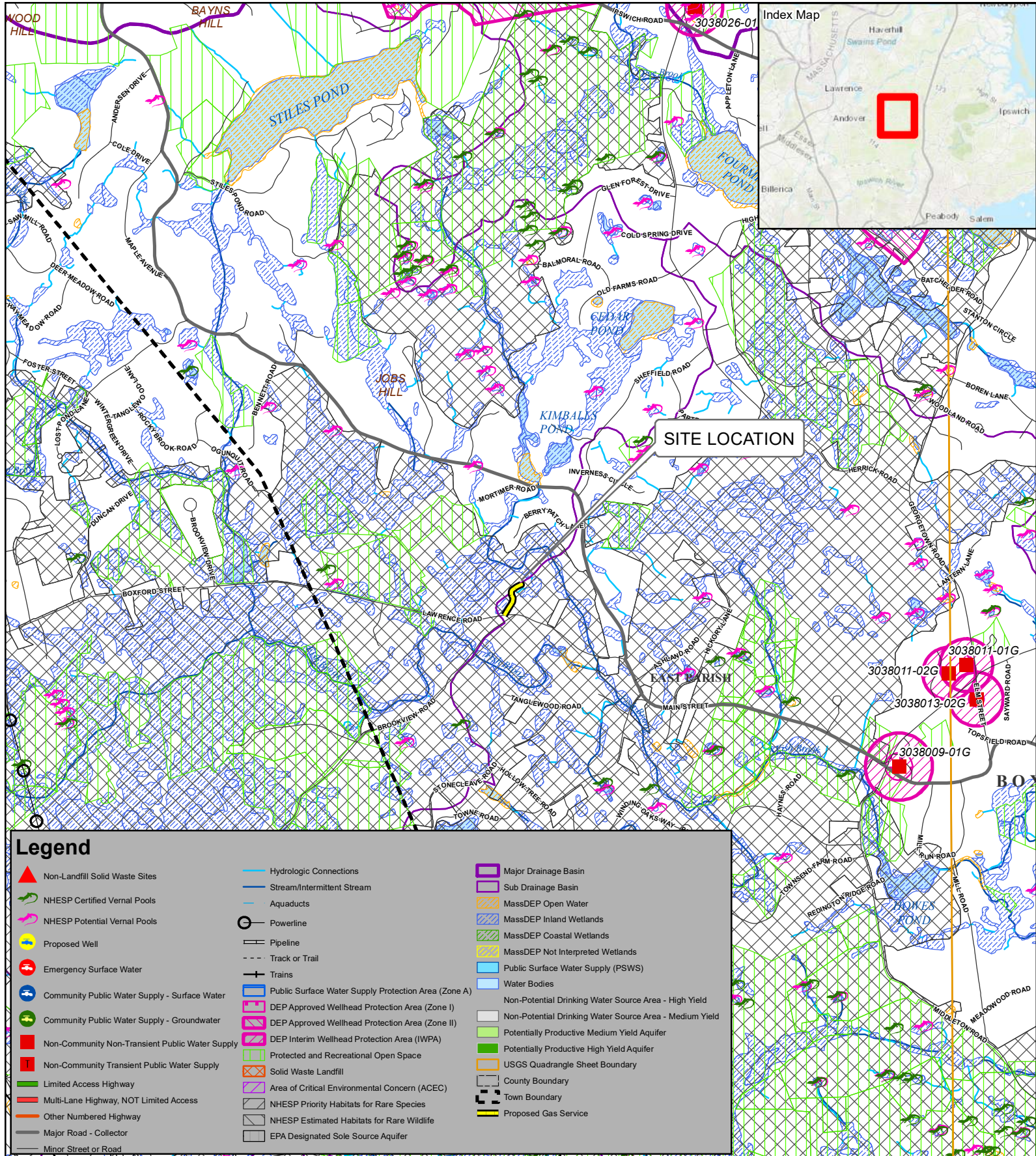
N

1 inch = 200 feet
0 100 200
Feet

RESIDENTIAL GAS SERVICE INSTALLATION

Orthophotograph
41 Lawrence Road
Boxford, Massachusetts
Figure 2

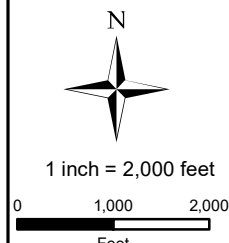
Based on MassGIS Color
Orthophotography (2019).



SITE LOCATION

Legend

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> Non-Landfill Solid Waste Sites NHESP Certified Vernal Pools NHESP Potential Vernal Pools Proposed Well Emergency Surface Water Community Public Water Supply - Surface Water Community Public Water Supply - Groundwater Non-Community Non-Transient Public Water Supply Non-Community Transient Public Water Supply Limited Access Highway Multi-Lane Highway, NOT Limited Access Other Numbered Highway Major Road - Collector Minor Street or Road | <ul style="list-style-type: none"> Hydrologic Connections Stream/Intermittent Stream Aquaducts Powerline Pipeline Track or Trail Trains Public Surface Water Supply Protection Area (Zone A) DEP Approved Wellhead Protection Area (Zone I) DEP Approved Wellhead Protection Area (Zone II) DEP Interim Wellhead Protection Area (IWPA) Protected and Recreational Open Space Solid Waste Landfill Area of Critical Environmental Concern (ACEC) NHESP Priority Habitats for Rare Species NHESP Estimated Habitats for Rare Wildlife EPA Designated Sole Source Aquifer | <ul style="list-style-type: none"> Major Drainage Basin Sub Drainage Basin MassDEP Open Water MassDEP Inland Wetlands MassDEP Coastal Wetlands MassDEP Not Interpreted Wetlands Public Surface Water Supply (PSWS) Water Bodies Non-Potential Drinking Water Source Area - High Yield Non-Potential Drinking Water Source Area - Medium Yield Potentially Productive Medium Yield Aquifer Potentially Productive High Yield Aquifer USGS Quadrangle Sheet Boundary County Boundary Town Boundary Proposed Gas Service |
|--|---|---|



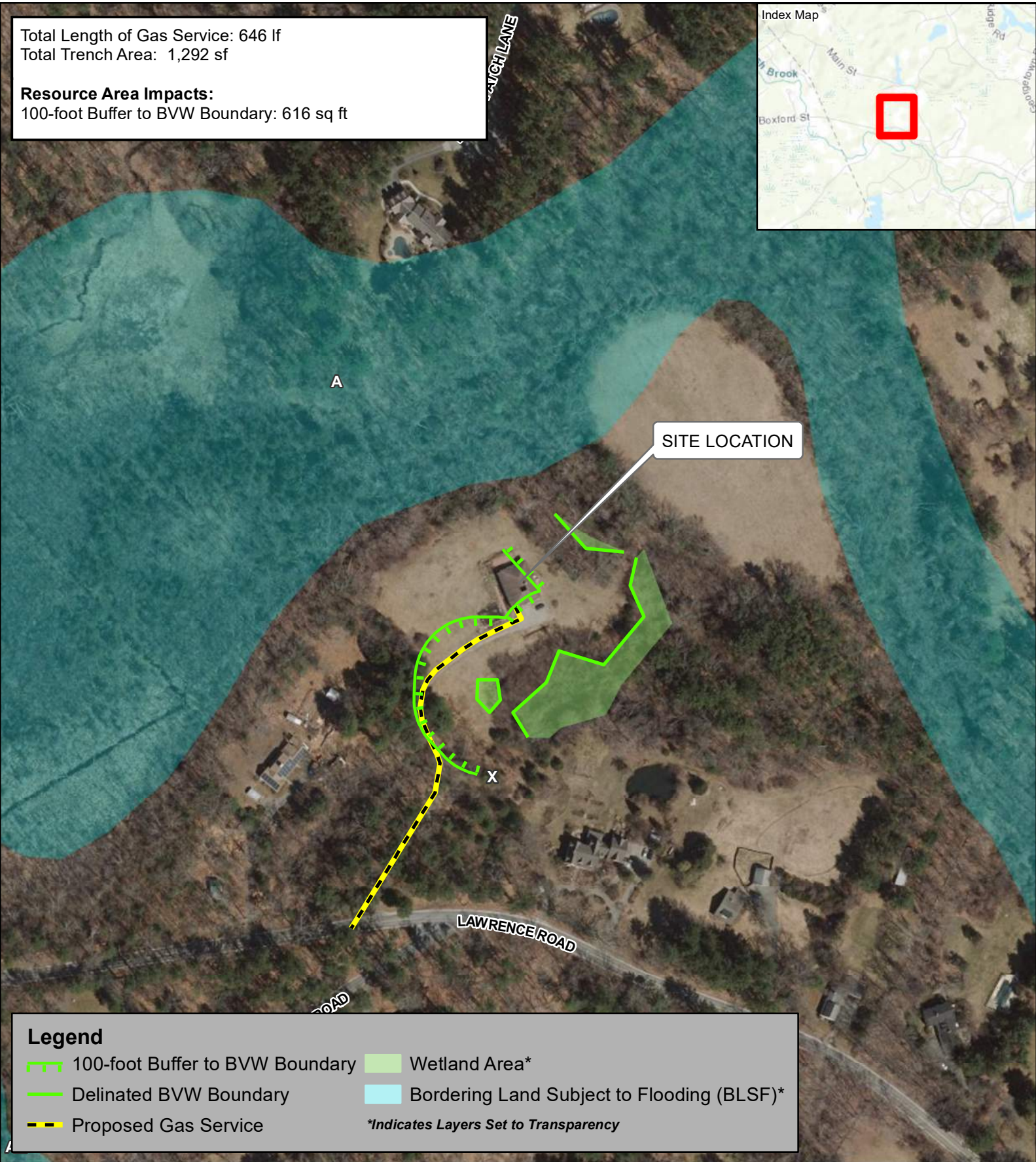
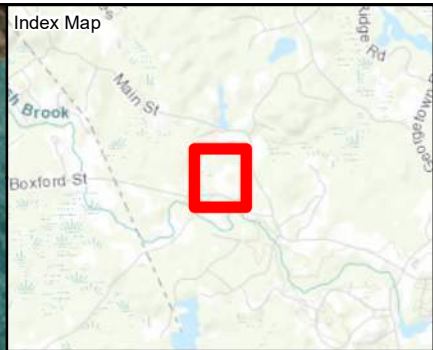
RESIDENTIAL GAS SERVICE INSTALLATION
Priority Resources
 41 Lawrence Road
 Boxford, Massachusetts
 Figure 3

Data source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology. Data valid as of August 2020.



Total Length of Gas Service: 646 lf
 Total Trench Area: 1,292 sf

Resource Area Impacts:
 100-foot Buffer to BVW Boundary: 616 sq ft



Legend

100-foot Buffer to BVW Boundary	Wetland Area*
Delineated BVW Boundary	Bordering Land Subject to Flooding (BLSF)*
Proposed Gas Service	<i>*Indicates Layers Set to Transparency</i>

1 inch = 200 feet

RESIDENTIAL GAS SERVICE INSTALLATION

Site Plan

41 Lawrence Road
 Boxford, Massachusetts
 Figure 4

Based on MassGIS Color Orthophotography (2019).

ATTACHMENT C
SITE PHOTOGRAPHS

Photographic Log

Client: Boston Gas Company d/b/a National Grid

Job Number: N5068-026

Site: 41 Lawrence Road, Boxford, Massachusetts - Residential Gas Service Installation

Photograph No.: 1	Date: 08/11/2020	Direction Taken: Northeast
Description: View from the southern terminus of the proposed gas service line (red line), extending north to the residence. The line ties in to the existing gas main (blue line) within Lawrence Road.		

Photograph No.: 2	Date: 08/11/2020	Direction Taken: North
Description: The proposed gas service line (red line) will be installed along the western edge of the driveway leading to 41 Lawrence Road.		


Photographic Log

Client: Boston Gas Company d/b/a National Grid

Job Number: N5068-026

Site: 41 Lawrence Road, Boxford, Massachusetts - Residential Gas Service Installation

Photograph No.: 3	Date: 08/11/2020	Direction Taken: Northeast
Description: The proposed gas service line (red line) continues along the western edge of the driveway before connecting to the southern side of the residence.		
		

Photograph No.: 4	Date: 08/11/2020	Direction Taken: East
Description: Representative overview of Wetland 1 (PFO1E). No wetland impacts will occur as part of this proposed gas service installation project.		
		

ATTACHMENT D
ABUTTER INFORMATION

**TOWN OF BOXFORD
CONSERVATION COMMISSION**

PARCEL # 27-01-30 - 41 LAWRENCE ROAD - PREPARED FOR CONSERVATION COMMISSION 250'

PARCEL ID	PARCEL ADDRESS	OWNER 1	OWNER 2	ADDRESS	TOWN	STATE	ZIP CODE
27-01-15-1	18 BERRY PATCH LN	LEON SCOTT E	LEON LORRAINE I	18 BERRY PATCH LN	BOXFORD	MA	01921
27-01-15-2	29 BERRY PATCH LN	MICHAEL HALL	DARLENE HALL	29 BERRY PATCH LN	BOXFORD	MA	01921
27-01-18	166 MAIN ST	LATTY ALEXANDER B TE	LATTY BONNIE A	166 MAIN ST	BOXFORD	MA	01921
27-01-24	47 LAWRENCE RD	WIRKKALA MATTHEW T		47 LAWRENCE RD	BOXFORD	MA	01921
27-01-24-1	27 LAWRENCE RD	PLUCINSKA-LAZAREWICZ ANNA M MATTHEW L	ANNA M PLUCINSKA-LAZAREWICZ REV TR	27 LAWRENCE RD	BOXFORD	MA	01921
27-01-30	41 LAWRENCE RD	SOSKOV ALEXANDER		41 LAWRENCE RD	BOXFORD	MA	01921
27-01-31	35 LAWRENCE RD	LAZAREWICZ MATTHEW L	ANNA M LAZAREWICZ	35 LAWRENCE RD	BOXFORD	MA	01921
27-02-17-8	9 BROOKVIEW RD	KELLEY GINA M		9 BROOKVIEW RD	BOXFORD	MA	01921
27-02-06	2 BROOKVIEW RD	GRABSKI CHARLES E	SAPIENZA-GRABSKI LAURA	2 BROOKVIEW RD	BOXFORD	MA	01921
27-02-07	32 LAWRENCE RD	PERKINS GWENDOLEN E TR	PERKINS CHARLES M JR TR	32 LAWRENCE RD	BOXFORD	MA	01921

CERTIFIED COPY



August 17, 2020

ATTACHMENT E

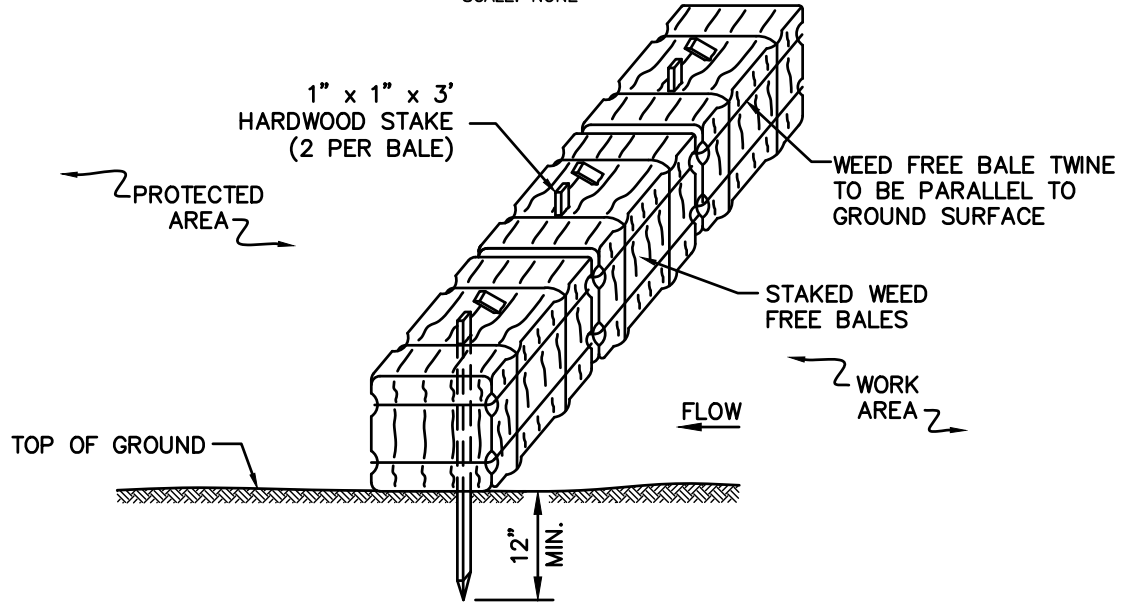
NATIONAL GRID BEST MANAGEMENT PRACTICES

SUBJECT
Access, Maintenance and Construction
Best Management Practices

Reference
EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

SCALE: NONE



NOTES:

1. THE GROUND SHALL BE PREPARED TO PROVIDE COMPLETE CONTACT WITH THE BALES.

BMP PICTURE



File: BALE_BARRIER.DWG

APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED
VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

SEC-1
WEED FREE BALE BARRIER

SUBJECT

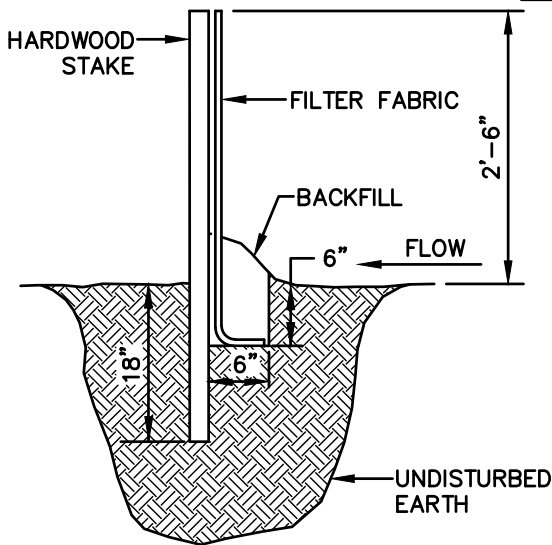
Access, Maintenance and Construction
Best Management Practices

Reference

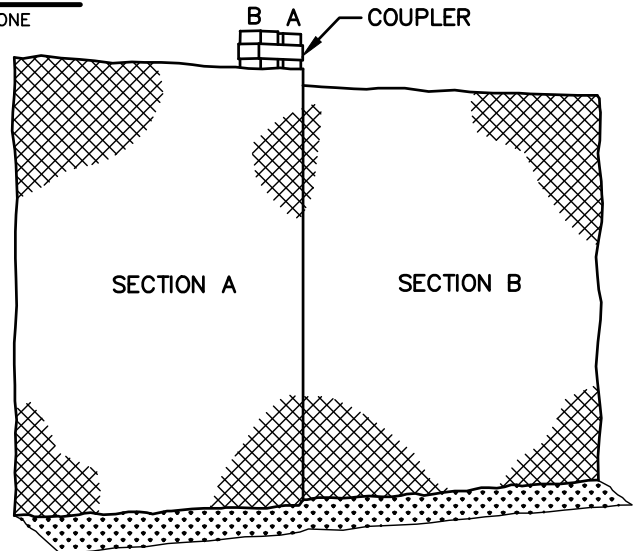
EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

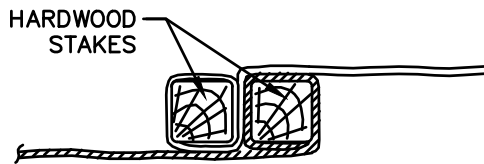
SCALE: NONE



PROFILE



SECTION



PLAN

BMP PICTURE



File: Sediment_Fence.dwg

APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED
VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

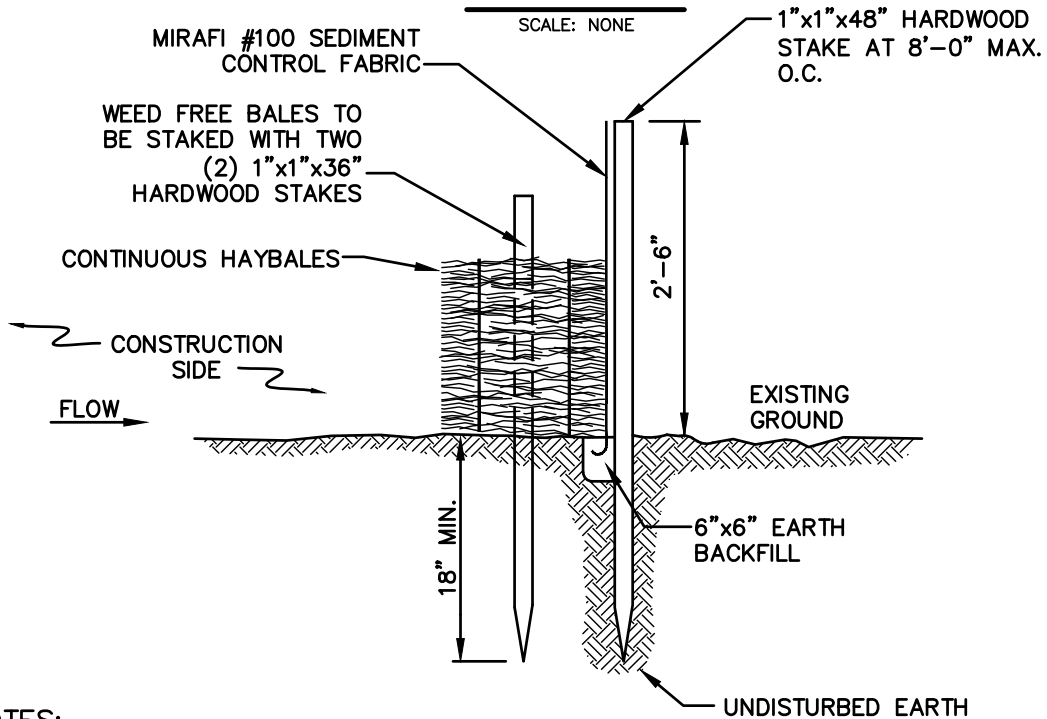
SEC-2
SEDIMENT CONTROL FENCE

SUBJECT
Access, Maintenance and Construction
Best Management Practices

Reference
EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

SCALE: NONE



NOTES:

1. BALES SHALL BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY TWO (2) 1"x1"x36" HARDWOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
4. BALES SHALL BE REMOVED AND REPLACED WHEN THEY BECOME FILLED WITH SEDIMENT AND BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
5. BALES SHALL BE REMOVED WHEN THE EMBANKMENTS STABILIZE.
6. BALES TO BE TWINE BOUND.

BMP PICTURE



File: Silt_Fence_&_Barrier.dwg

APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED
VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

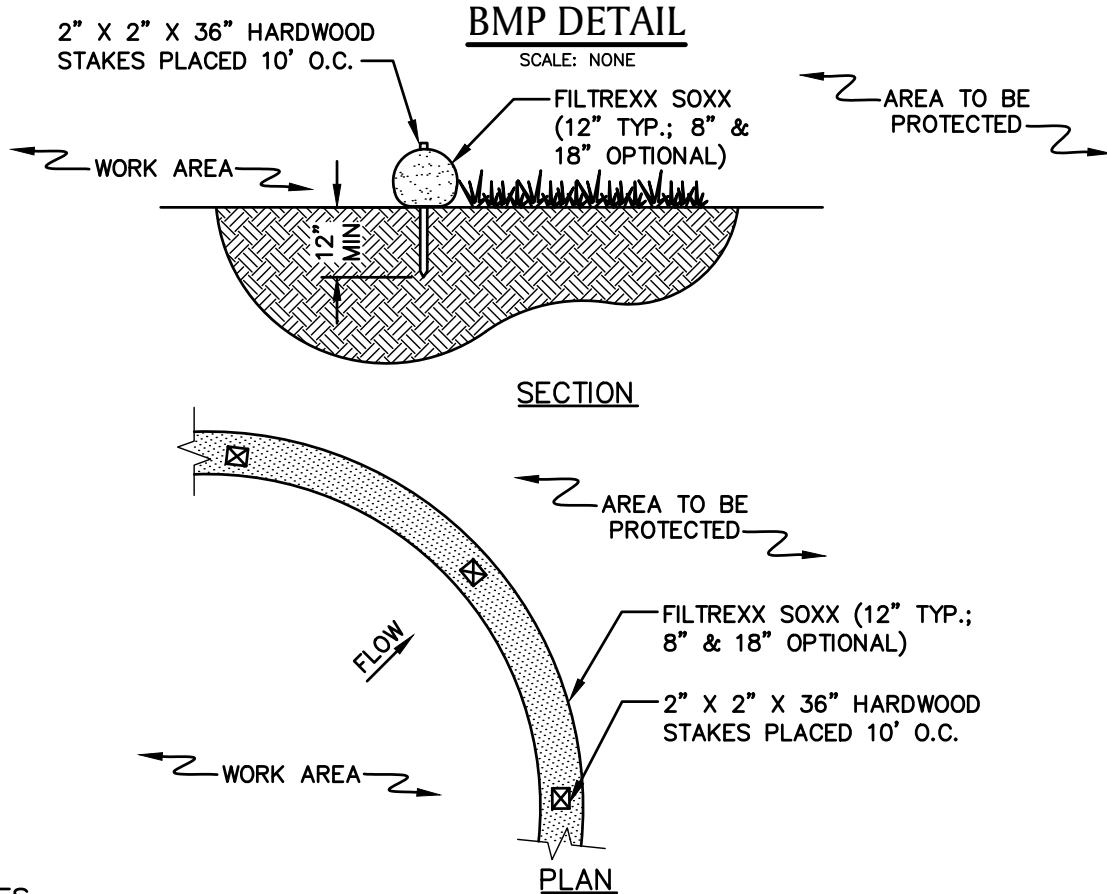
SEC-3
SILT FENCE /
WEED FREE BARRIER

SUBJECT

Access, Maintenance and Construction
Best Management Practices

Reference

EP No. 3 - Natural Resource
Protection (Chapter 6)



NOTES

1. PRODUCT TO BE FILTREXX SILT SOXX OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
3. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
4. MESH CONTAINMENT MATERIAL SHOULD BE KNITTED PHOTODEGRADABLE OR BIODEGRADABLE MATERIAL, WITH OPENING SIZES BETWEEN 1/8" - 3/8".
5. COMPOST MEDIA SHOULD HAVE PARTICLE SIZE WHERE 99% < 2", 50% > 1/2".
6. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.

BMP PICTURE



* PICTURE AND DETAIL PROVIDED BY FILTREXX LAND IMPROVEMENT SYSTEMS
APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED
VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

SEC-4
SILT SOXX *

SUBJECT

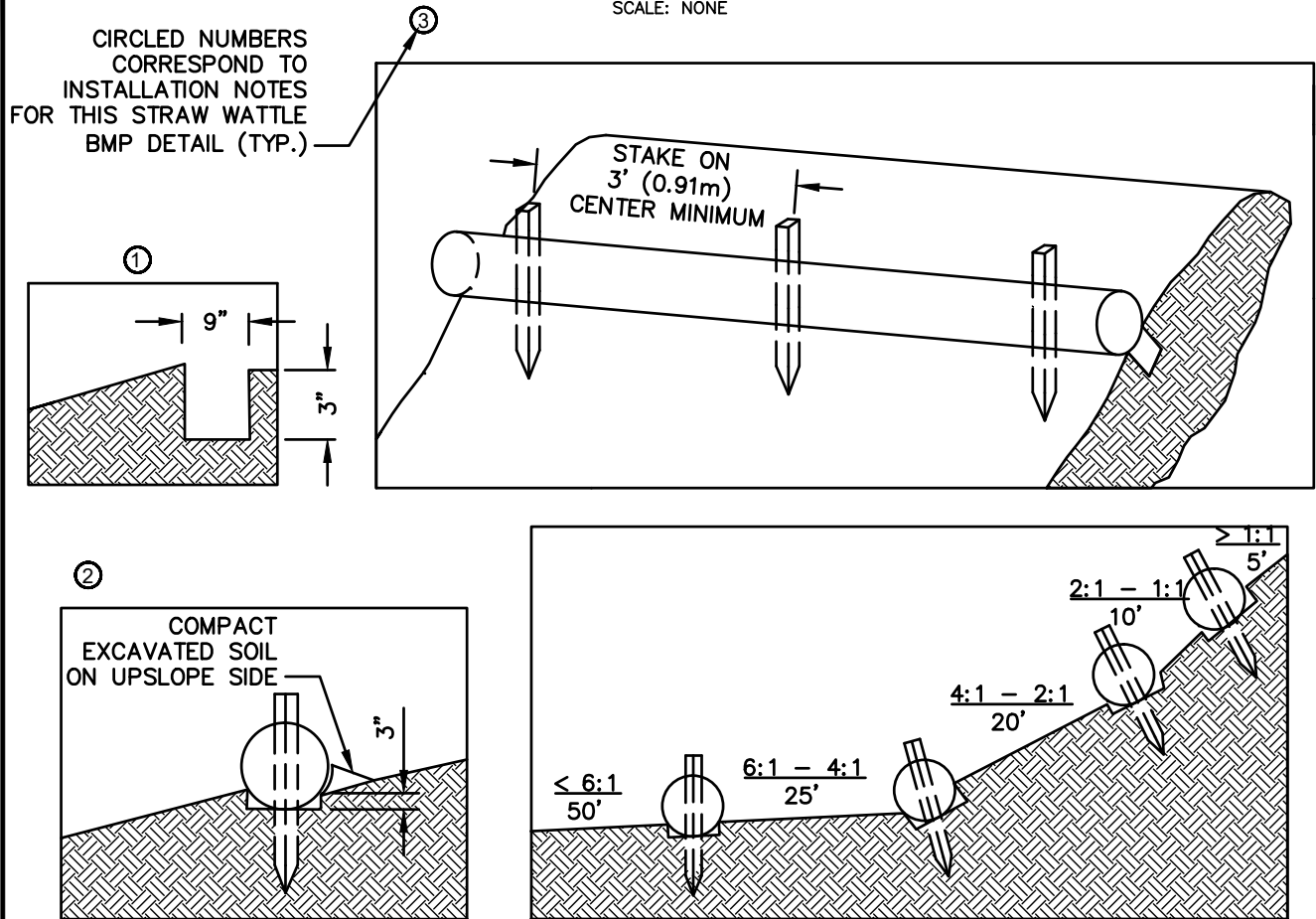
Access, Maintenance and Construction
Best Management Practices

Reference

EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

SCALE: NONE



TYPICAL WATTLE SPACING DETAIL

NOTES:

1. PRODUCT TO BE TENSAR NORTH AMERICAN GREEN STRAW WATTLE OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. TYPICAL WATTLE SPACING BASED ON SLOPE GRADIENT. COORDINATE SPACING AND LOCATION WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.
3. MINIMUM 12" DIAMETER WATTLES SHOULD BE USED FOR HIGHLY DISTURBED AREAS (I.E., HEAVILY USED ACCESS ROAD WITH ADJACENT WETLAND) AND MINIMUM 9-10" WATTLES SHOULD BE USED FOR LESS DISTURBED SOILS.

INSTALLATION NOTES:

1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" DEEP X 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UPSLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18-24" HARDWOOD STAKES EVERY 3-4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.

* DETAIL AND PICTURE PROVIDED BY TENSAR NORTH AMERICAN GREEN
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SEC-5
STRAW WATTLE * (1 OF 2)

SUBJECT

Access, Maintenance and Construction
Best Management Practices

Reference

EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP PICTURE



**STRAW WATTLE – SHALLOW SLOPE ($\leq 4:1$)
(ALTERNATE STAKING)**

ALTERNATE STAKING INSTALLATION NOTES:

1. ON SHALLOW SLOPES ($\leq 4:1$), STRAW WATTLE MAY BE SECURED WITH 18–24” HARDWOOD STAKES DRIVEN AGAINST THE SIDES OF THE WATTLE INSTEAD OF THROUGH. STAKES SHALL ALTERNATE SIDES, AND BE SPACED 3–4’ MAX.
2. TWINE SHALL BE TIED FROM STAKE TO STAKE, CRISS–CROSSING THE STRAW WATTLE. TIE TWINE TO STAKES BELOW THE HEIGHT OF THE WATTLE.

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**SEC-5
STRAW WATTLE * (2 OF 2)**

SUBJECT
Access, Maintenance and Construction
Best Management Practices

Reference
EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP PICTURE

SCALE: NONE



NOTES:

1. PRODUCT TO BE ALTURNAMATS' PREFABRICATED MATS OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. PRODUCT AVAILABLE IN 4X8' UNITS.
3. IF MATS ARE INSTALLED IN A WETLAND AREA, INSTALL EROSION CONTROLS TO CONTAIN MATERIAL UTILIZED IN THE MAT TRANSITIONS.

* PICTURE PROVIDED BY ALTURNAMATS
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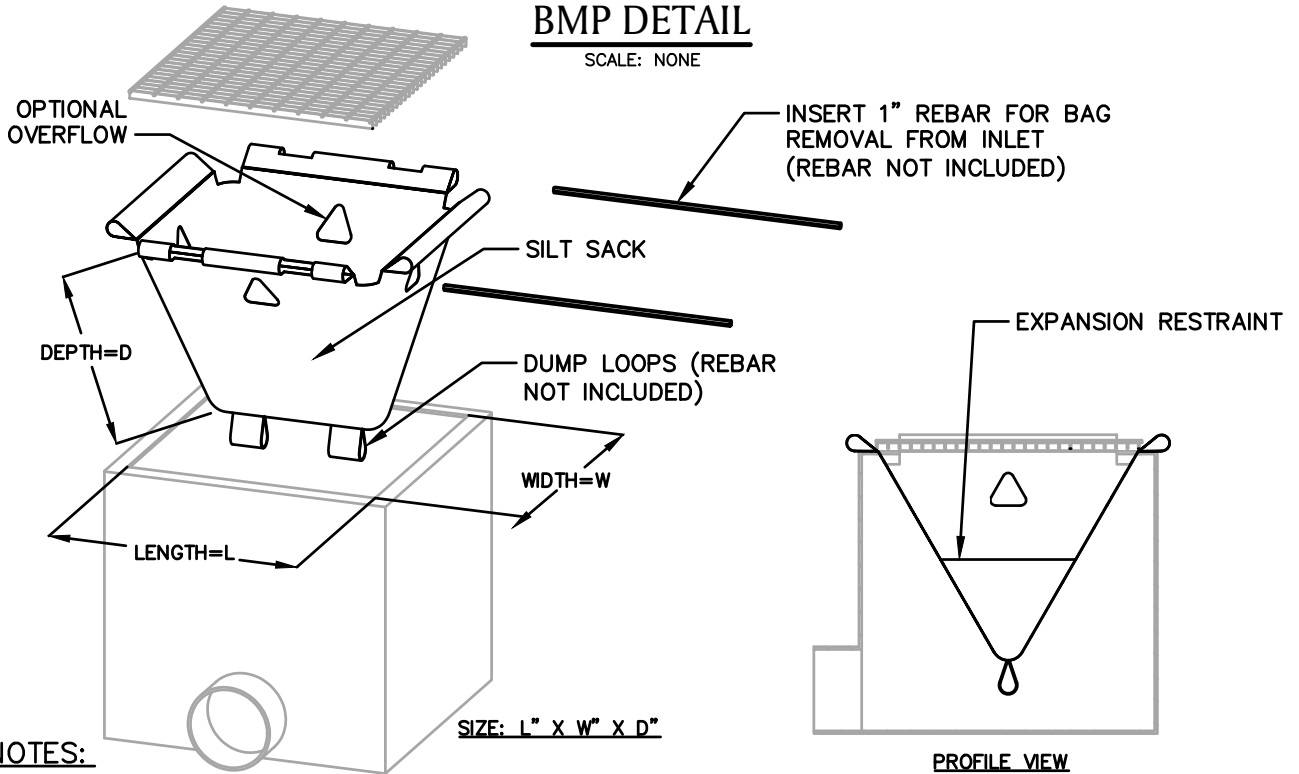
CM-1
PREFABRICATED MATS *

SUBJECT
Access, Maintenance and Construction
Best Management Practices

Reference
EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

SCALE: NONE



NOTES:

1. PRODUCT TO BE SILT SACK OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. THE USE OF A SILT SACK OPTIONAL OVERFLOW AND OVERALL DIMENSIONS ARE TO BE COORDINATED WITH A NATIONAL GRID ENVIRONMENTAL SCIENTIST.

BMP PICTURE



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AA-20
SILT SACK *



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