

Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

Acton

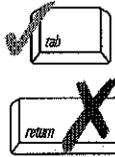
City/Town

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:

ACD Lee Investments, LLC
 Name donlee@gmail.com
 E-Mail Address
 416 Harrington Road
 Mailing Address
 Concord MA 01742
 City/Town State Zip Code
 Phone Number Fax Number (if applicable)

2. Representative (if any):

Acton Survey & Engineering, Inc.
 Firm
 Mark Donohoe mdonohoe@actonsurvey.com
 Contact Name E-Mail Address
 Post Office Box 666
 Mailing Address
 Acton MA 01720
 City/Town State Zip Code
 978-263-3666 978-635-0218
 Phone Number Fax Number (if applicable)

B. Determinations

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

- 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:

Acton
Name of Municipality

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



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C. Project Description

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

<u>77 Powder Mill Road</u>	<u>Acton</u>
Street Address	City/Town
<u>J3</u>	<u>50</u>
Assessors Map/Plat Number	Parcel/Lot Number

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

Building and site are located in the flood plain of the Assabet River directly downstream of the Route 62 bridge. Recent bank erosion has caused tree to fall into the river prompting concerns as to possible further erosion of river bank.

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

<u>Plan for Request for Detemination of Applicabilty - 77 Powder Mill Road</u>	<u>7-1-13</u>
Title	Date
<u> </u>	<u> </u>
Title	Date
<u> </u>	<u> </u>
Title	Date

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

A concrete and stone filled trench is to be installed between river bank and south west corner of the building to limit extent of possible erosion and protect foundation and building from impacts of flooding. Concrete will not extend above ground. There will be no loss in flood storage and bank will not be altered.



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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).

Proposed alterations will not result in alterations to resource areas and will not extend above existing ground surface. Under 10.58 (5) the Commission may allow work in a previous developed riverfront area if the work improves existing conditions. The proposed works protects the river from the possible collapse of a building into it and should be deemed an improvement over existing conditions and to provide protections to the Interests of the Act. Area to be altered and not restored to lawn is less than 100 square feet.

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.)

Lot and building are shown on Town Atlas dated January 1, 1995



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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.

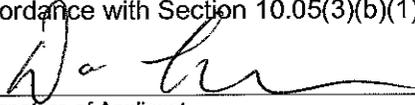
Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

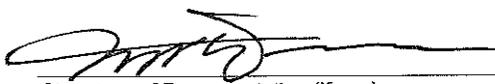
Name and address of the property owner:

ACD Lee Investments, LLC
 Name
 416 Harrington Road
 Mailing Address
 Concord
 City/Town
 MA
 State
 01742
 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
 6/28/13
 Date


 Signature of Representative (if any) MARK T. DENOFIS
 6/28/13
 Date

ALTERNATIVES ANALYSIS

77 Powder Mill Road – Acton

Need

Minor erosion of the riverbank has occurred over time, resulting in the loss of trees and soil. Many of the trees along the bank are reaching maturity and are leaning over the river. It can be expected that with time the mature trees near the southwest corner of the building will fall into the river, possibly causing eddy currents that could place the foundation and building in jeopardy. At a minimum, access around the corner of the building for fire suppression purposes might be compromised.

Proposed Alternative

The proposed alternative allows for protections to the foundation and the building to be afforded without alterations to the bank, which is a resource area. Supplemental plantings of vegetation and pruning of trees are recommended, but not necessary.

As structural alterations to the bank and navigable waters are not proposed, filings with Federal and State Agencies for those purposes will not be necessary.

The entire installation will be below the existing ground surface and, as no flood storage is lost, the filing for a Special Permit with the Zoning Board of Appeals will not be required.

Construction of the subsurface wall will not result in the bank being temporarily exposed to erosive forces and small equipment will be required to construct the proposed alternative.

All construction will occur above the water table and dewatering will not be required.

The wall has been designed so that structural steel elements may be installed during periods when overbank flooding is predicted to provide protections against debris and ice hitting the building.

Armored Banking

Banks vulnerable to erosion are often covered or armored with materials that are erosion-resistant. The materials range from large rocks, or riprap, concrete mats or blankets, steel sheet piles, concrete walls, and plantings of vegetation.

For riprap, concrete mats, and walls to be effective they must extend below the water level to prevent scouring under their toes, and excavations into the river are required. In the case of walls, dewatering must be performed to allow forms to be placed and footings to be poured.

Excavations into the river bottom and dewatering operations run the risk of river sediments being disturbed. The site is located below the outfall of the Maynard Sewage Treatment Plant.

Each of these alternatives will require the removal of the existing vegetation and its replacement with an artificial surface. Riprap will allow access up and down the bank, while the installation of a concrete wall or sheet piling will present a barrier.

Stabilization with Vegetation

Bank stabilization by vegetation requires constant vigilance for effectiveness and it should not be expected that, given the small area to be stabilized on private property, the required vigilance will be provided.

Purple osier willow and other types of vegetation that are resilient to environmental stresses, including damage by beavers and gypsy moths, are available. Almost all plant species are subject to fatal diseases, such as willow blight.

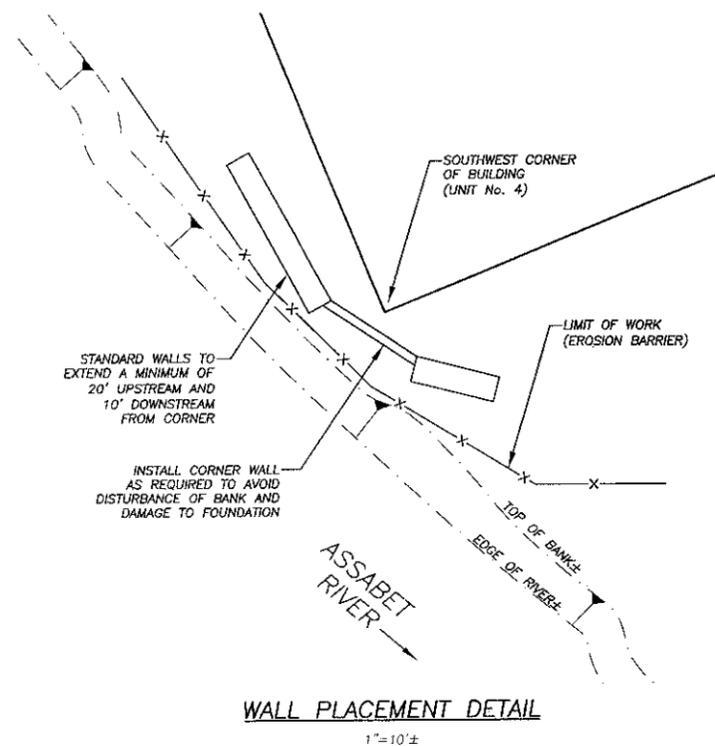
Mechanical abrasion by ice flows and debris can result in exposed surfaces that, if not restored, can expand and result in loss of riverbank protections.

Bank stabilization with vegetation usually requires removal of existing vegetation and the temporary stabilization of the area by the use of jute mats or geotextile meshes, which will expose the bank to erosive forces during flood events for some period of time.

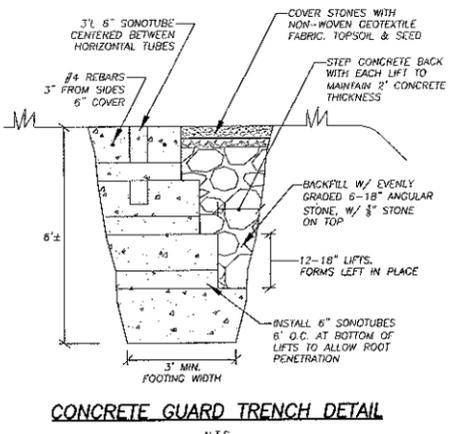
Summary

The proposed alternative provides substantial protections for the existing foundation at the southwest corner of the building at 77 Powder Mill Road without requiring alterations to the bank of the Assabet River.

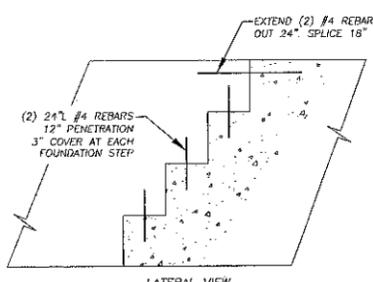
The proposed alternative allows for a well controlled and rapid construction process that is economic to construct and will not change the appearance of the property when viewed from the river or the Assabet Canoe landing, located across the river.



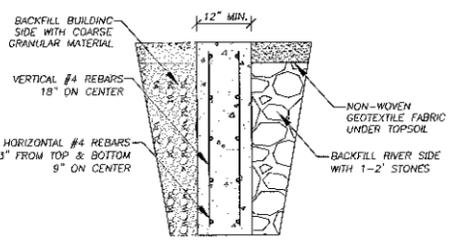
WALL PLACEMENT DETAIL
1"=10'±



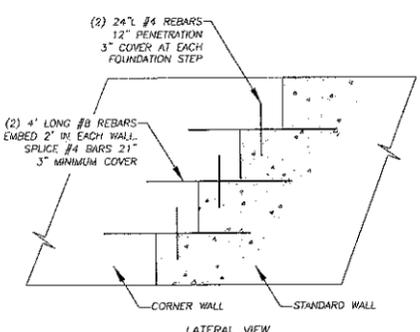
CONCRETE GUARD TRENCH DETAIL
N.T.S.



VERTICAL JOINT DETAIL
N.T.S.



CORNER WALL CROSS SECTION
N.T.S.



CORNER WALL/STANDARD WALL JOINT DETAIL
N.T.S.

PURPOSE OF PLAN

THE PROPOSED WALLS ARE TO PROVIDE PROTECTION AGAINST FLOOD DAMAGE TO THE BUILDING FOUNDATION IN CASE OF EROSION OF THE RIVERBANK.

ANY EXTENSIVE ARMORING OF THE BANK WOULD REQUIRE REMOVAL OF EXISTING VEGETATION AND COULD RESULT IN EXTENDING DAMAGE DOWNSTREAM AND HAVE POSSIBLE IMPACTS ON THE FRESHWATER MUSSELS LOCATED IN PORTIONS OF THE RIVER.

PRESERVATION OF VEGETATION ALONG THE RIVER, ESPECIALLY THE LARGE TREES, IS A PRIMARY GOAL OF THE PLAN. THE SONOTUBES THAT EXTEND THROUGH THE WALL ARE TO ALLOW PENETRATION BY TREE ROOTS.

THE PURPOSE OF THE BOULDER BACKFILL ON THE RIVER SIDE OF THE CORNER WALL IS TO PROVIDE PROTECTION AGAINST EROSION OF THE WALL TOE BY THEIR COLLAPSE WHEN THE EARTH BETWEEN THE WALL AND THE RIVER IS ERODED.

THE VERTICAL SONOTUBES ARE TO ALLOW STRUCTURAL STEEL POSTS TO BE INSERTED WHEN OVERBANK FLOODS ARE EXPECTED, IN ORDER TO PROVIDE PROTECTION AGAINST DEBRIS AND ICE BEING CARRIED BY THE RIVER.

THE MAINTENANCE OF ACCESS AROUND THE BUILDING IS REQUIRED AND THE FINISH GROUND SURFACE SHALL ALLOW THE PRESENT ACCESS TO CONTINUE.

EXTENT OF WALLS

THE STANDARD WALL IS TO BE INSTALLED TO THE MAXIMUM EXTENT POSSIBLE, AND THE CORNER WALL IS TO BE INSTALLED ONLY WHERE AREA CONSTRAINTS DO NOT ALLOW THE INSTALLATION OF STANDARD WALL.

THE WALLS MAY BE EXTENDED 20 FEET IF REQUESTED BY THE OWNER.

RIVERBANK TREES

NO FORMAL ASSESSMENT OF THE TREES ALONG THE RIVER HAS BEEN MADE FOR PURPOSES OF THIS PLAN, BUT IT IS APPARENT THAT CERTAIN TREES ARE REACHING MATURITY AND THEIR FUTURE REMOVAL SHOULD BE PLANNED FOR. OTHERS HAVE EXTENSIVE BRANCHES OVERHANGING THE RIVER AND SELECTED PRUNING SHALL BE PERFORMED WITH THE AIM OF DECREASING THE POSSIBILITY OF TREES FALLING INTO THE RIVER. ANY PRUNING SHALL BE PERFORMED UNDER LOW-FLOW CONDITIONS AND WITHOUT PERSONS AND EQUIPMENT ENTERING THE RIVER.

BANK STABILIZATION WITH VEGETATION

AREAS OF THE BANK NOT COVERED WITH VEGETATION SHOULD BE PLANTED WITH ONE-YEAR ROOTED CUTTINGS OF PURPLESISLER WILLOW, OR OTHER PLANTINGS RECOMMENDED FOR RIVERBANK PROTECTION, THAT WILL NOT EXTEND ABOVE A HEIGHT OF SIX FEET.

THE PLANTINGS SHOULD BE INSPECTED YEARLY FOR DAMAGE BY INSECTS, BEAVERS, AND ICE FLOWS AND SUPPLEMENTED AS REQUIRED.

CONSTRUCTION

THE CONSTRUCTION OF THE WALLS SHALL BE AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN, WITH EMPHASIS ON PROTECTING THE RIVER AND AREAS TRIBUTARY TO IT.

STABILIZATION

UPON THE COMPLETION OF THE WALL INSTALLATION, THE SITE SHALL BE STABILIZED SO THAT IT APPEARS AS PRESENT WITH THE EXCEPTION OF THE EXPOSED TOP OF THE WALL.

WALL CONSTRUCTION NOTES

CONCRETE SHALL BE 3000 PSI MINIMUM AND HAVE A SLUMP SUITABLE TO ALLOW IT TO SPREAD TO THE FORMS WITHOUT THE NEED FOR VIBRATORS.

TRENCH AND FORMS SHALL ONLY BE ESTABLISHED TO THE EXTENT NECESSARY TO ALLOW ONE DAY OF POURING TO OCCUR.

ALL POURS SHALL BE SECURED BY LEAVING 3\"/>

FORMS MAY BE LEFT IN PLACE. FINISHED TEXTURE OF WALL IS UNIMPORTANT. GUARD TRENCH CONCRETE STRUCTURE SHALL CANT AWAY FROM THE RIVER. RIVER SIDE FORMS MAY HILT BACK.

CORNER WALL TRENCH SHALL BE AS SHORT AS POSSIBLE AND MAY BE ELIMINATED IF CONSTRUCTION ALLOWS

EROSION & SEDIMENTATION CONTROL

GENERAL

A RAPID, WELL ORDERED CONSTRUCTION PROJECT SHALL BE THE PRIMARY EROSION CONTROL METHOD UTILIZED AT THIS SITE. WORK SHALL BE SCHEDULED FOR COMPLETION DURING A WORK WEEK AND WHEN TROPICAL STORMS ARE NOT EXPECTED.

CARE SHALL BE TAKEN TO LIMIT AREAS OF DISTURBANCES AND TO PROTECT THE EXISTING TREES ALONG THE RIVER, INCLUDING AVOIDING UNNECESSARY COMPACTION OF TREE ROOTS.

PRODUCTS OF EROSION OR OTHER EARTHEN MATERIALS SHALL NOT BE ALLOWED TO ENTER THE CATCH BASIN IN THE PARKING LOT OR BE DEPOSITED ON POWDER MILL ROAD.

THE SITE SHALL BE KEPT LITTER-FREE AND IN AN ORDERLY STATE THAT DOES NOT INTERFERE WITH THE USE OF THE SITE BY THE TENANTS.

PROTECTION OF TREES

THE TREES AND OTHER VEGETATION ALONG THE RIVER SHALL NOT BE DISTURBED AND EQUIPMENT SHALL NOT PASS BETWEEN THE TRENCH AND THE TREES IN ORDER TO PREVENT THE SOIL AROUND ROOTS FROM BEING COMPACTED.

ANY ROOTS ENCOUNTERED DURING EXCAVATION SHALL BE CUT, NOT FILLED AND TORN.

EROSION BARRIER

A CONSTRUCTION OR SILT FENCE SHALL BE PLACED BETWEEN THE WORK AREA AND THE TOP OF THE RIVERBANK IN ORDER TO SERVE AS A LIMIT OF WORK. THE CONSTRUCTION FENCE SHALL EXTEND ALONG THE ACCESS ROUTE BETWEEN THE STAGING AREA IN THE PARKING LOT AND THE WORK AREA AS NECESSARY TO LIMIT DISTURBANCES.

THE TOE OF THE FENCE SHALL BE SEALED WITH A STAKED SILT SOCK WHERE THE FENCE IS WITHIN 50 FEET OF THE TOP OF THE RIVERBANK AND IN AREAS IN WHICH RUNOFF COULD COLLECT AND FLOW TO THE RIVER.

THE PARKING LOT CATCH BASIN SHALL BE CLEANED PRIOR TO THE START OF WORK AND SUITABLE BARRIERS AGAINST THE ENTRANCE OF EARTHEN MATERIALS, SUCH AS A BERM OF CRUSHED STONE, SHALL BE PROVIDED.

CONTROL OF EXCAVATED MATERIALS

THE LENGTH OF TRENCH SHALL BE LIMITED TO THAT WHICH WILL ALLOW MATERIALS TO BE TRANSPORTED TO AND FROM THE STAGING AREA WITHOUT HAVING TO TRAVEL ALONG THE TRENCH BEING EXCAVATED.

MATERIALS MAY BE STOCKPILED IN THE PARKING LOT IF APPROPRIATE EROSION CONTROL MEASURES SUCH AS SANDBAG DIKES ARE IN PLACE.

PLACEMENT OF CONCRETE

PLACEMENT OF CONCRETE CAN BE BY TRADITIONAL CHUTE METHOD OR BY PUMPING.

TRUCKS AND EQUIPMENT SHALL ONLY BE WASHED OUT IF ALL MATERIALS ARE CAPTURED IN A BASIN LINED WITH AN IMPERMEABLE MEMBRANE, ALLOWING THE MATERIALS TO BE TRANSPORTED OFFSITE FOR DISPOSAL.

CARE SHALL BE TAKEN TO CONTROL CONCRETE SO THAT NONE IS LOST DURING PLACEMENT.

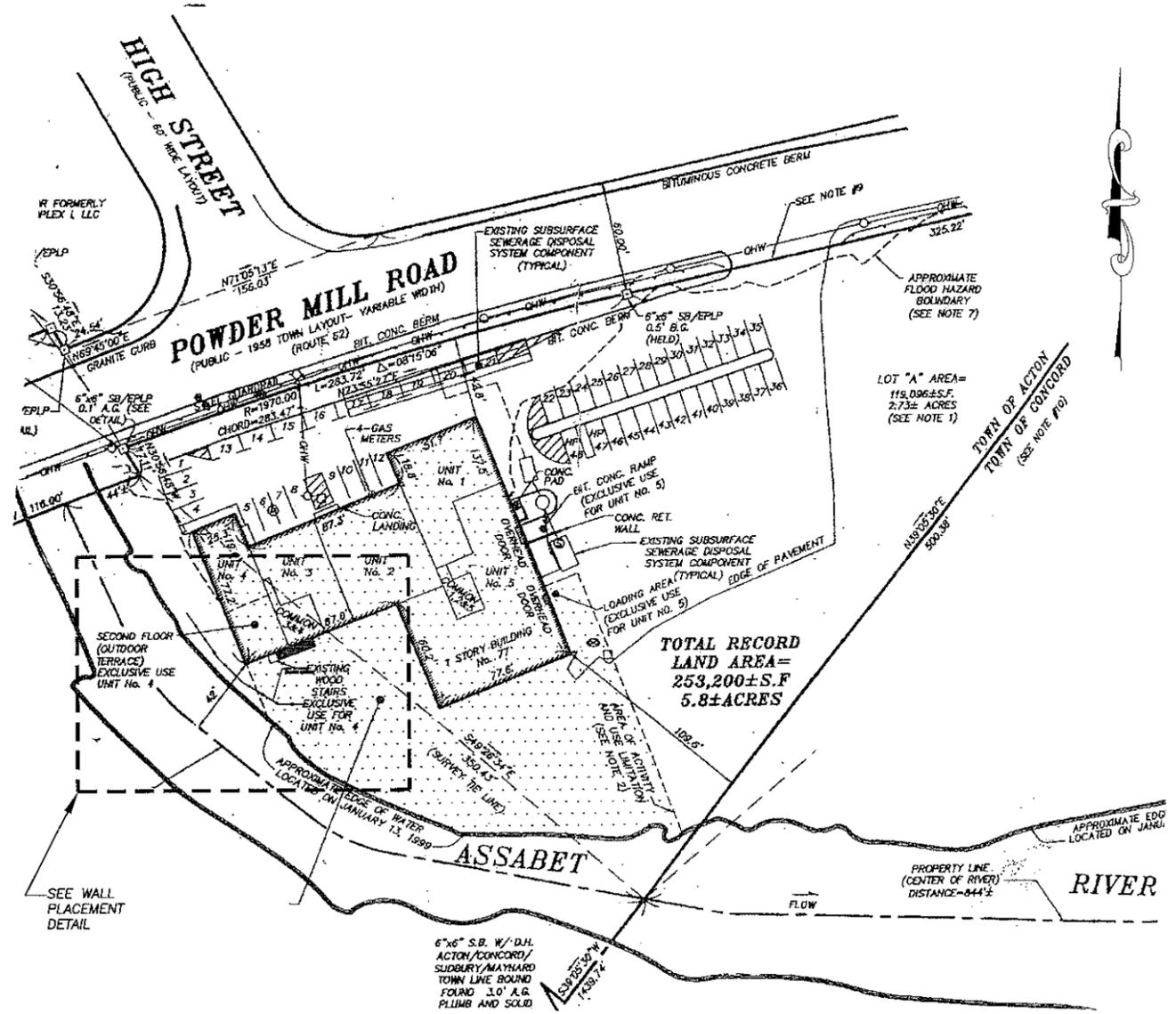
PLACEMENT OF RIPRAP IN TRENCH

RIPRAP SHALL BE PLACED ON TRENCH BY AN EXCAVATOR WITH A SUITABLE THUMB TO DECREASE CAVING OF THE TRENCH WALL.

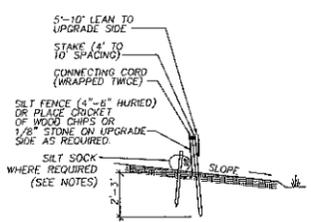
DUMPING OF RIPRAP SHALL NOT OCCUR.

STABILIZATION OF AREA

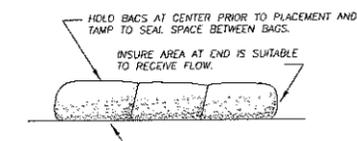
ALL AREAS DISTURBED BY THE CONSTRUCTION ACTIVITIES SHALL BE PROMPTLY STABILIZED BY SEEDING WITH AN APPROPRIATE SEED MIX CONTAINING BOTH ANNUAL VEGETATION THAT WILL PROVIDE TEMPORARY STABILIZATION AND PERENNIAL VEGETATION THAT WILL PROVIDE LONG-TERM STABILIZATION.



SITE PLAN
1"=40'±



EROSION CONTROL BARRIER [SILT FENCE] DETAIL
N.T.S.



SANDBAG DIKE DETAIL
N.T.S.

NOTES:

1. FENCES SHALL BE LOCATED AT LIMIT OF WORK, OR AS SHOWN ON PLANS.
2. PENETRATE OR "SNUG" GROUND WITH BOTTOM FOR ENTIRE LENGTH.
3. DO NOT INSTALL IN A MANNER WHICH WILL CONCENTRATE RUNOFF.
4. BACK FENCE WITH STAKED HAYBALES IN HIGH RISK AREAS.
5. MAINTAIN AND REMOVE FENCE AS REQUIRED.
6. REMOVE PRODUCTS OF EROSION FREQUENTLY.
7. CONTRACTOR SHALL INSURE THAT ALL DEWATERING ACTIVITY SHALL DISCHARGE WATER THAT IS CLEAN AND FREE OF SILT AND FINE SEDIMENTS PRIOR TO DISCHARGE TOWARDS WETLANDS.

NOTE:
SITE PLAN IS A PORTION OF "CONDOMINIUM SITE PLAN OF LAND LOCATED IN ACTON & CONCORD MASSACHUSETTS" PREPARED BY MERIDIAN ASSOCIATES, INC. FOR CONCORD LAND COMPANY, LLC, DATED MARCH 25, 2008.

PLAN FOR REQUEST FOR DETERMINATION OF APPLICABILITY
77 POWDER MILL ROAD
ACTON, MASSACHUSETTS
PREPARED FOR:
ACD LEE INVESTMENTS, LLC
416 HARRINGTON ROAD
CONCORD, MA 01742
SCALE: AS NOTED DATE: JULY 1, 2013

Acton Survey & Engineering, Inc.
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