GODDARD CONSULTING LLC
Wetland Strategies

9/11/14

Acton Conservation Commission
472 Main Street
Acton, MA 01720

Re: Revision and Additional Information Summary
12 Summer Street Rear/ Central Street NOI (DEP #085-1148)

Dear Acton Conservation Commission:

Goddard Consulting, LLC is pleased to submit this letter summarizing the additional information being submitted. At the hearing held July 16th, revisions to the site plans as well as research into additional information were requested.
The site plan revisions are as follows:

- On sheet 4, the errors for cross section F-F were corrected, which included fixing the proposed grade next to the retaining wall and adjusting the limit of work.
- On sheet 5, a scale was added to the driveway profile.
- The cross-sections were not adjusted to a 1:1 scale, in order to keep all of the cross sections on the same sheet.
- The property line between the property and the cemetery driveway and a line showing the edge of BVW were added to the cross sections.

The approximate impacts on each buffer zone are as follows:

Buffer Zone	Approximate Impact Area
25' Buffer Zone	16,030 sq. ft.
50' Buffer Zone	13,918 sq. ft.
75' Buffer Zone	13,188 sq. ft.
100' Buffer Zone	12,216 sq. ft.
Total Buffer Zone Impact	55,352 sq. ft.

Within the wetland replication area, there are 3 maple trees that may be preserved and left standing for the replication area. In order to protect the roots of the trees, the grading will be adjusted as needed to meet the root protection distance. These techniques are explained within the revised wetland replication plan (pages 3 and 4). The wetland replication plan has also been revised to include invasive species control and monitoring (page 5) as well as hydric soil parameters (pages 4 and 5).

The Commission requested that Goddard contact DEP to get their take on created hardship and FEMA floodplain interpretation. Goddard contacted Lealdon Langley, and his response was sent to the Commission on September 5th. DEP prefers not to make calls on created hardship while the case is still before the local Conservation Commission, as it is an appellate agency. In his opinion, approximating a floodplain line onto a site plan when there is no specified elevation is fairly typical and is acceptable.

The Conservation Commission requested to hire a peer reviewer to review the project at the last hearing. Goddard has not been contacted for further information or to perform a site walk with the peer reviewer. Goddard was given a list of peer reviewer options in August and informed Tom Tidman if there were any conflicts of interest.

4 copies of the revised site plans for the cross sections and driveway profile (sheets 4 and 5) are included in the additional information packet, along with copies of the revised wetland replication plan and our correspondence with Lealdon Langley.

If there are any questions about this submission, please contact us.

Very truly yours,
GODDARD CONSULTING, LLC

by 

Scott Goddard, Principal & PWS

GODDARD CONSULTING LLC
Wetland Strategies

Revised September 9th, 2014
May 22, 2013

Wetland Replication Plan

12 Summer Street – Lot #2

Acton, Massachusetts

Submitted to:

Acton Conservation Commission
472 Main Street
Acton, MA 01720

Prepared for:

Mt. Laurel Realty
304 Goodrich Street
Lunenburg, MA 01462

Prepared by:

Goddard Consulting, LLC
291 Main Street, Suite 8
Northborough, MA 01532

Introduction

In order to mitigate the proposed impacts to wetland resource areas, the following Wetland Replication Plan is proposed. It is proposed to fully restore the wetland function and value incurred by the proposed filling of two small areas of Bordering Vegetated Wetland (BVW) resource area totaling 1,538 s.f. Refer to *"Notice of Intent Plan"* prepared by R. Wilson Associates, dated 7/11/14, for proposed alteration and replication locations.

Approximately 3,340 s.f. of BVW will be created as mitigation for the permanent alteration of 1,538 s.f. of BVW, along with approximately 1,762 s.f. of in-place restoration of the existing foot path within wetland and any temporary alteration from haybales. The BVW replication area is located adjacent to wetland flags #A48 to A56, at the 190-foot existing contour line. No net loss of BVW is proposed, rather a total of 1,802 s.f. of additional BVW will be created as a result of this project.

Existing Conditions

The overall wetland system in the vicinity of the replication area consists of forested wetland, with numerous medium-sized red maples forming a dense tree canopy. There are pockets of shallow standing water interspersed among the maples, and numerous hummocks covered with tussock sedge (Photo 1).

Photo 1- Forested wetland habitat in BVW near replication area.

At the wetland edge, the habitat transitions from standing pockets of water to dry land, with tussock sedge becoming more sparse, some skunk cabbage, small arrowwood and glossy buckthorn shrubs, and poison ivy ground cover (Photo 2). Further north, the vegetation at the wetland edge consists of Canada mayflower, cinnamon fern, and some silky dogwood shrubs.

Photo 2 - Wetland habitat at BVW border, near flag #A49.

The replication area itself consists of small white pine and oak trees near wetland flags #A48-A56 (Photo 3).

Photo 3 - Habitat in southern portion of replication area, facing BVW.

An existing trail runs through the eastern portions of the area (Photo 4).

Photo 4 - Existing foot trail within replication area, facing north.

Planting Plan (see attached plan)

The goal of the replication area is to mimic the existing vegetation, soils, and wetland functions of the adjacent BVW. Therefore, the plan calls for the planting of red maple saplings, silky dogwood and arrowwood shrubs, and clumps of tussock sedge and boneset ground cover. The area is designed to accommodate temporary flooding in early spring, but will remain dry most of the year. The existing trail will be re-routed outside of the area to the east.

General Installation and Monitoring Procedures

- **Supervision**: All work within the replication area shall be supervised by a qualified wetlands scientist/consultant.

- **Timing**: In order to optimize planting conditions, fall construction is preferred. The optimal time of year for plant installation is September to mid-October.

Step 1: Survey. Field stake limits of replication area.

Step 2: Erosion control. Install new erosion control barrier along western boundary of replication area to prevent any alteration to adjacent BVW.

Step 3: Vegetation Removal. Remove trees, shrubs and herbaceous vegetation (including stumps) from within replication area, with care being taken not to allow any debris beyond the erosion control barrier. Some existing red maple trees will remain in the wetland replication area as determined by the supervising wetland scientist. In order to protect these trees from root damage, care will be taken to preserve as much of the root zone as possible, through allowing the

red maple to sit on a hummock slightly above the rest of the replicated wetland. The protected distance can be calculated using DBH multiplied by 1.5 for mature trees and 1.0 for young trees. If grading needs to be performed within the protected distance, care will be taken to disturb the roots as little as possible, including techniques such as making clean root cuts, hand grading, and placing mulch over the exposed areas after work has been done to protect the roots from drying out.

Step 4: Excavation. An excavator shall remove all upland soil up to the edge of the erosion control barrier within the replication area to at least 12 inches below finish grade elevation (190' +/-) or where natural muck or wetland soils are observed and the wetland scientist determines that a suitable depth has been reached. The site contractor shall work from the wetland side and move upgradient.

Step 5: Final Grading. Upon removal of all soil, suitable hydric soils shall be graded up from the existing haybale and silt fence edge to the edge of the replication area. The final grade for the replication area shall be 189-190' +/-. A minimum of 6 inches of topsoil shall be placed and shall be stabilized by an organic mulch tackifier. The soils are to be inspected and approved by the wetland scientist prior to installation.

Step 6: Planting. The following planting schedule is proposed. Precise citing of plants may be modified by wetland scientist in the field prior to installation.

- 4 red maple trees (*Acer rubrum*) – 4-6' tall
- 6 silky dogwood (*Cornus amomum*) - >18" tall
- 6 arrowwood (*Viburnum dentatum* or *recognitum*) - >18" tall
- 50 tussock sedge (*Carex stricta*) - 2" plugs
- 50 Boneset (*Eupatorium perfoliatum*)- 2" plugs
- Native mulch shall be spread throughout the replication area upon completion of plantings.

Step 7: Monitoring and Reporting. Monitoring for two full growing seasons shall occur with annual reporting to the Acton Conservation Commission. Monitoring will include documentation of success or failure of the replication area. Success will be measured by the replication standards in the Wetlands Protection Act, specifically, suitable wetland soils, wetland hydrology, and 75% cover of wetland vegetation after two seasons. Where plant mortality or other indicator of failure is evident, the wetland scientist will recommend steps to correct. A soil, plant (with % coverage), and wildlife inventory will be submitted with each inspection report.

<u>Performance Standards for Soils</u>

1. If manmade topsoil is used in the replication area, the topsoil will consist of a mixture of equal volumes of organic and mineral materials. Decomposed clean leaf compost is the preferred soil amendment.
2. "Clean" soils refer to a negligible amount of physical contaminants (plastic) or chemical contaminants (hazardous to plants and/or animals).
3. Compost should be free of invasive plant species.

4. Stockpiling standards are as follows:
    a. Soil should not be stockpiled in wetlands or waters
    b. Seek approval for location of stockpiled materials
    c. Avoid stockpiling compost organics in piles over 4 feet in height
    d. Protect stockpiles from surface water flow by containing them with hay bales and/or silt fence
    e. Cover stockpiles with a material that prevents erosion (tarp, erosion control mat, straw, and/or temporary seed)
    f. Inspect and repair protection measures listed above regularly (weekly), as well as before (if possible) and after storm events
    g. Maintain moisture in the soils during droughty periods
5. Avoid soil compaction if possible or have measures prepared to rectify compaction.
6. Irrigate the plantings in the wetland replication area during the first growing season after planting to prevent drying out.

<u>Invasive Plant Species Management</u>

1. The existing replication area and BVW has few invasive plant species. To prevent the spread of invasive plant species into the site, the following measures are suggested:
    a. Check machinery and clean it before entering the site to prevent the spread of seeds.
    b. Ensure that the soils and compost brought on site are from companies that do not mix contaminated soils.
2. Should invasive plant species be found within the replication area, the following measures are suggested to remove and discourage the species:
    a. Mechanical measures:
        i. Hand-pulling
        ii. Hand-cutting
    b. Chemical measures: (to be used as a last resort or if mechanical measures will not impact the specific invasive species)
        i. Cut-stump treatment
3. The invasive plant species, like European buckthorn, within 20 feet of the wetland replication area will be hand-removed.
4. The wetland replication area will be monitored for a period of two years following the completion of the work for invasive species growth. Management will be performed as necessary.

Gmail by Google

Rachel Watsky <rachel@goddardconsultingllc.com>

Another policy question

Langley, Lealdon (DEP) <lealdon.langley@state.ma.us> Fri, Aug 29, 2014 at 5:10 PM
To: Rachel Watsky <rachel@goddardconsultingllc.com>

Hi Rachel

I'm back from vacation and catching up on my backlog. I hope your summer has gone well also.

DEP is generally reluctant to make calls on scenarios described to us that are before a conservation commission since we are the appellate agency. We are also concerned that we cannot properly review cases unless all of the facts are before us, and we can't be certain of that without hearing the Commission's side of the story. Sometimes the regional office can work with the applicant AND the Commission to discuss what a reasonable standard might be if the parties are attempting to work things out in an amicable fashion. So you might try the regional office, but they may also decline to respond unless there's an appeal before them.

We do think there is a clear regulatory standard for your second question. It can be found at 310 CMR 10.57(2)(a)3. As I understand this provision, one should first rely on flood profile data. Since profile data is not available for every site, it can sometime be interpolated by estimating an elevation between profiles. I think it is pretty typical to approximate the boundary by scaling from the flood map onto the plan as the Commission asked of you. If neither of those methods are helpful, then I think one turns to the engineering methodology described in the reg citation above.

Sorry I couldn't be of more help on the first question. Best regards to you and your family. L2

From: Rachel Watsky [mailto:rachel@goddardconsultingllc.com]
Sent: Thursday, August 14, 2014 11:19 AM
To: Langley, Lealdon (DEP)
Subject: Another policy question

Hi Lealdon,

Hope you're doing well and that you've had a lovely summer! I have some more questions about DEP policy, if you don't mind helping me, either by answering the questions yourself or by directing me to the appropriate person.

I am working on a project where the lot was split. The Commission is wondering if there is created hardship now, since the client wants to fill some wetland (less than 5,000 s.f.) to get a driveway to an upland area for 2 houses. However, in our interpretation, created hardship only applies if the splitting of the lot removes upland access to the upland area. If the lot had not been split and the owner wanted to do construction on the site, the entrance we are proposing would still be the only viable way across wetland to the upland area. The original house on the parcel is cut off from the rest of the upland area in the newly created parcel by the extensive wetland. In order to reach the currently vacant upland parcel, there would need to be far more substantial wetland fill done to get there from the existing house than along the area where the proposed driveway is, which has upland but is very steep and is close to the property line.

Also, the FEMA floodplain on the site does not have a specified elevation. Originally, the surveyor/engineer placed the FEMA line at the wetland line due to this issue. The Commission requested that we have the line from the FEMA Firm approximated onto the site plan instead, since doing a floodplain study is expensive both money- and time-wise. We approximated the FEMA line, and little to none of it is above the wetland line. The Commission is now curious as to DEP's position on how to interpret FEMA floodplain when there is no elevation specified. Does DEP have an official opinion on what to do when the FEMA line does not have a specific elevation for the parcel?

Thanks for your help!

Best,

Rachel

Rachel Watsky

Wetland Scientist

****

Goddard Consulting, LLC

291 Main Street, Suite 8

Northborough, MA 01532

****

rachel@goddardconsultingllc.com

office: (508) 393-3784

emergency contact (Scott Goddard): (508) 525-0726