



Oak Consulting Group

February 19, 2013

Project 12013

John Lopez, Conservation Agent  
63 Friend Street  
Town Hall  
Amesbury, MA 01913

RE: Response to Peer Review Comments  
Village at Bailey's Pond  
Amesbury, Massachusetts

Dear John,

This letter responds to the peer review comments of Gillian T. Davies of the BSC Group as set forth in her letter dated January 29, 2013. In addition to this letter, please find the enclosed:

- Enclosure A – Supplemental Alternatives Analysis
- Enclosure B - Redevelopment in Riverfront Worksheet
- Enclosure C – Plans (Sheets C-013C, C-013D, and C-014)
- Enclosure D – Updated WPA Form 3 pages 2 & 3
- Enclosure E – Resource Area Values Analysis

Below are Ms. Davies' comments (*in italic*) and our response. These responses were prepared with input from Tom Hughes of Hughes Environmental Consulting.

**BSC Comment:**

***RESOURCE AREA DELINEATION PEER REVIEW***

***Bordering Vegetated Wetland, Isolated Vegetated Wetland and Riverfront Area***

*BSC initially walked the flagged BVW and RA lines with Sean Malone of OCG, at which time, BSC noted that due to beaver activity, some significant changes to the RA line would be necessary, as well as some minor changes (unrelated to beavers) to the BVW line. An un-flagged IVW was noted. On 8/7/2012, BSC again walked the RA and wetland boundary lines with Tom Hughes of HEC, who had made some of the necessary changes to flag locations. While in the field, BSC and Tom Hughes agreed upon revised locations for additional flags. HEC then asked the applicant's surveyors to return later to survey them and add them to the site plan. The site plan revised on 12/7/2012 includes all of the requested changes, as well as requested changes to the 100' and 200' RA lines.*

**RESPONSE:** Comment noted. To clarify, the IVW had previously been flagged, but expanded after the original delineation. New flags were placed and surveyed in accordance with Ms. Davies' comments.

**BSC Comment:**

***Rare and Endangered Species, Vernal Pools. Isolated Vegetated Wetland***

*The NOI materials include a MA Natural Heritage and Endangered Species Program (NHESP) 2008 Priority Habitat and Estimated Habitat map (NHESP map) that shows no Priority or Estimated Habitat polygon occurring on the site of the proposed project. Other than the heavily impacted IVW, BSC did not note any area that had the potential to function as a vernal pool. Given the heavy ATV traffic that runs through the IVW, it is unlikely that this area functions as a vernal pool in its current state.*

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**RESPONSE:** Comment noted. As discussed in our original filing and in our recent submittal, this IVW is the result of a roadway puddle that has expanded as ATVs drive through and around it. The applicant proposes to restore/improve this IVW to a functional wetland, including a ponded area surrounded by fringe wetland and a native upland buffer. Planting a denser native buffer around the restored wetland will provide additional protection to the enhanced resource area and the value of this IVW for wildlife habitat will be enhanced.

**BSC Comment:**

***Land Under Water and Bank***

*Land Under Water occurs down-gradient from Bank under the Pond and the perennial stream. Bank occurs down-gradient of the BVW line along the Pond edge. Pond Bank is not flagged since it is down-gradient of BVW, and the buffer zone associated with Pond Bank is contained within the BVW 100' buffer zone. Bank of the river is either coincident with the RA Mean Annual High Water Line (MAHW), or down-gradient of RA MAHW, and thus was not flagged separately from the RA MAHW.*

**RESPONSE:** Comment noted.

**BSC Comment:**

***NOI, SITE PLAN AND SUPPLEMENTAL MATERIALS PEER REVIEW***

*BSC provides the following comments with regard to the project NOI, Site Plan and supplemental materials:*

*1. The applicant should submit an updated/revised NOI form (WPA Form 3) with updated impact numbers, given the substantial changes to the resource area boundaries. The 10/27/2011 cover letter from Sean Malone (McFarland Johnson) to the Amesbury Conservation Commission (ACC) provided tables with impact numbers broken down by resource area and type of impact. BSC recommends that updated/revised tables of this sort be provided for each of the Alternatives that are examined in the Alternatives Analysis (see below). Additionally, providing impact avoidance, minimization, and mitigation numbers in this type of format for each of the Alternatives is also recommended, as it will facilitate evaluation and comparison of the Alternatives with regard to their comparative impacts to RA and other resource areas.*

**RESPONSE:** An updated page 2 and 3 of the NOI form and an updated and expanded Alternatives Analysis are being provided with this letter.

**BSC Comment:**

*2. Riverfront Area Status: The Applicant has proposed that the RA on the project site qualifies as previously developed and degraded riverfront under 310 CMR 10.58(5), specifically referencing their opinion that the site meets the "absence of topsoil" and/or "abandoned dumping grounds" criteria. BSC is of the opposite opinion, and does not believe that the RA on the project site meets MA DEP's criteria (based on personal communication, MA DEP NERO, 1/23/2013) for "abandoned dumping grounds" as the debris in the RA generally consists of scattered items that can be removed fairly easily. MA DEP considers an RA to meet the qualification for abandoned dumping grounds if the site is substantially and significantly compromised/degraded, such as by having extensive and large blocks of material that require substantial heavy machinery removal efforts, and that cover significant areas of land surface, such as in a bona fide junkyard.*

*When conducting site visits to the project site, BSC did not consider the possibility that the RA on the site*

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would qualify for "absence of topsoil" status and did not examine the RA for "absence of topsoil", as the RA on the site generally functions at a higher level and is more heavily vegetated than RA's on other sites that BSC is aware of, that have failed to meet the "absence of topsoil" criteria when reviewed by MA DEP. BSC refers the Applicant to the 596 Lowell Street Superseding Order of Conditions (SOC) for MA DEP NERO File #219-642, issued on December 29, 1999 in this regard.

The RA on the project site is generally heavily vegetated, with extensive forested land. Although topsoil may have been stripped from all or part of the RA in the past, it is highly unlikely that a nascent topsoil has not started to develop where vegetation, even sparse vegetation, has established itself. Where new topsoil, even in the smallest amounts, has begun to form, it is BSC's experience that MA DEP tends not to grant "absence of topsoil" status. Where RA is vegetated and has some level of topsoil development, it is BSC's experience that MA DEP does not tend to consider the RA to be degraded. It is BSC's experience that MA DEP tends to reserve the term "degraded" for severely impacted RA's that have pavement or its close equivalent on the ground surface, and a substantive absence of vegetation. The reasoning behind this is that a vegetated RA with an emerging topsoil is providing RA function, and will, over time, continue to develop further capacity to provide RA function. It is BSC's experience that status as "degraded RA" tends to be reserved for RA's, or portions of RA's, that are paved or function at a level that is close to pavement function. In the past (such as identified in the SOC cited above), where a portion of the RA is paved, only the actual footprint of the paved area has been counted as "degraded" by MA DEP, and the remainder of the RA has been excluded from the "degraded" status. Thus, the standard provisions of 310 CMR 10.58 would apply on the project site to all areas of RA that are not paved or functioning at a level similar to pavement. Thus the Alternatives Analysis and "no significant adverse impact" sections of the RA regulations would apply to the RA on the project site, along with the other standard RA provisions. Should the Applicant wish to discuss this issue on the project site where soils can be examined, BSC is happy to do so.

**RESPONSE:** We note that Riverfront Area (RA) issues have only recently arisen in connection with this Project due to a dramatic shift of the MHW boundary resulting from beavers constructing 3 dams across the stream. With the new boundary, despite the applicant's shifting the location of the building 10 footprint away from the stream, the building remains within the recently delineated RA. We also note that the HEC delineation memo of April 9, 2010 referred to upland areas that were devoid of topsoil.

We disagree with Ms. Davies' view that the RA does not include areas that are currently degraded. As noted in her comments, BSC did not evaluate soils in the degraded areas during their site visits. Instead, BSC's conclusion is based on the presence of vegetation in the RA and the lack of impervious surfaces such as pavement. However, the regulations at 310 CMR 10.58(5) are clear that an area is considered "degraded" where there are either "impervious surfaces from existing structures or pavement, absence of topsoil, junkyards, or abandoned dumping grounds" (emphasis added). The "absence of topsoil" criteria is in addition to the "impervious surfaces" criteria. In addition, whether the site is vegetated or devoid of vegetation is not among the criteria included in 310 CMR 10.58(5) in determining whether a site is previously developed and degraded. Here, the RA areas identified by HEC as degraded are devoid of topsoil and are functioning less than a similar RA that was not previously developed. Being "degraded" does not require being "devoid" of any function. The vegetated portions of the RA where topsoil was stripped have less biodiversity, provide for less removal of pollutants from water, and are more prone to erosion from disturbances such as ATV use. The vegetation present in the areas previously mined of topsoil are generally pioneering plants and invasive plants, in contrast to the previously undisturbed RA areas that have less invasive plants and far

greater biodiversity. In other words, those areas that were stripped of topsoil prior to 1996 were degraded at that time and, despite the growth of some vegetation within them, remain degraded today.

The site was actively mined for sand and gravel, as evident from the 1966 aerial photo and 2004 test pits, and as apparent upon a site visit. We have reviewed the DEP decisions provided by BSC, and do not believe those decisions support BSC's view as applied to this site. Moreover, other DEP decisions, support HEC's view. See, for example, the Decision and Order on Motions to Strike and for Directed Decision In the Matter of Edward T. McLaughlin, Trustee, ETM Realty Trust, Docket No. DEP-05-1224, 2006 WL 1807362 (DivAdmLawApp, 2006). There, the Presiding Officer credited the applicant's view that certain previously-disturbed but currently vegetated areas of the site qualified as degraded due to the absence of topsoil.

The standards of 310 CMR 10.58(5) apply to projects within "degraded or previously developed areas." 310 CMR 10.58(a) states as follows:

A previously developed riverfront area contains areas degraded prior to August 7, 1996 by impervious surfaces from existing structures or pavement, absence of topsoil, junkyards, or abandoned dumping grounds. Work to redevelop previously developed riverfront areas shall conform to the following criteria: . . . ."

There is no dispute that the RA on this site was "degraded prior to August 7, 1996." As such, it qualifies as a previously developed riverfront area. Even if the regulations were interpreted as requiring currently degraded RA conditions, the site still qualifies. For a lot previously developed, the performance standards of 310 CMR 10.58(4) apply only where "no portion of the riverfront area is degraded . . . ." 310 CMR 10.58(5)(a). Here, even if the previously stripped but currently vegetated areas were not considered degraded, there are still over 15,000 square feet of undisputedly degraded RA – with no topsoil and no vegetation.

In the Department's 2004 decision involving a project in Ipswich (File No. 36-833), the Department refused to apply the redevelopment standards of 310CMR 10.58(5) to a certain lot within a larger subdivision, because the degraded portion of the RA did not extend to that particular lot (Lot 6 or 6A). With respect to the other lots, the Department concluded that the redevelopment standards applied to work within the RA even though only a small portion of the RA on each lot was degraded. The decision includes a summary of the regulations as follow:

"...The Department would like to take this opportunity to comment that, in general, projects proposed as Redevelopment projects under 10.58(5) must pass two tests: 1) they must meet the definition of Redevelopment as described in the first paragraph of 10.58(5), and 2) they must fulfill ALL of the criteria (a) – (h) of 10.58(5). Criteria (e) is of particular relevance to this project; it reads, "the area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the Riverfront Area, except in accordance with 310 CMR 10.58 (f) or (g)". Criteria (f) and (g) then describe restoration and mitigation within Riverfront Areas.

The Department notes that a large amount of mitigation/restoration has been offered by the applicant on the project property. In its denial, the Ipswich Conservation Commission comment that “the Applicant has made laudable and extensive offers to mitigate for its proposed new and replacement encroachments and for past and new disturbances...”. It would appear that, apart from the problem with Lot 6, the remainder of the project fulfills the criteria contained in 10.58(5) by dint of the large amount of restoration proposed...”

Similarly here, the RA includes degraded areas and the project proposes extensive mitigation beyond the minimum performance standards set forth in 10.58(5)(f) and (g), as detailed in our prior submittal. A full discussion of 10.58(5) follows.

The Riverfront Area on site contains three distinct zones with varying levels of function and we are proposing mitigation that will increase the function in all of them:

Area 1- This area, shown on plan sheet C-13C in green, is essentially original RA that was not stripped during mining operations. This area functions to a high degree, with some compromised functioning as a result of invasive species, such as buckthorn, bittersweet, honeysuckle, and multiflora rose and discarded household items. The intact topsoil layer has allowed native plants to thrive, and the area provides significant function with regards to food and shelter for wildlife, water quality through filtering of organic chemicals and heavy metals in the rich organic topsoil. In this area, we have proposed to remove the invasive plants and clean up the debris.

Area 2 – This area, shown on plan sheet C-13C in orange, was stripped of topsoil during mining operations but currently supports vegetation. While the area supports some vegetation, the area’s functions are limited (“degraded”) by the absence of topsoil, the limited biodiversity of the plants (due in part to the absence of topsoil), including large areas of invasive plants – Autumn Olive among other invasive species also present within Area 1. The native plants present are generally pioneering species capable of surviving in a soil that lacks the nutrient and organic-rich soil commonly referred to as topsoil. The allelopathic properties of Autumn Olive and some of the other invasive plants present poison the soil to prevent the growth of native plants. If one were to take the root zone in this area, strip the soil and try to sell it at a landscape supplier as topsoil, it would not pass the straight face test with customers. While there may be slightly more organic content near the surface, it lacks anything near the organic content of topsoil in the native soil that is still present in Area 1.

Topsoil is generally the nutrient and organically rich soil used by farmers to grow crops, by homeowners to grow lawns, and in nature to support a diverse and healthy native plant community. The rich organic content in topsoil serves to filter heavy metals and organic chemicals from runoff, retains soil moisture content, and fosters the growth of higher value and diverse native vegetation. The soils and the RA more broadly within these areas are functioning at diminished (or degraded) levels. The lack of significant organic content means little to no filtering of pollutants, and little or no nutrients to support a diverse population of native plants, and leaves the area more susceptible to erosion due to the thinner and weaker root zone.

In this area, the applicant is proposing to restore the topsoil to the equivalent of what is present in Area 1, to maintain mature native trees whose health has not been compromised by invasive species such as bittersweet, to plant native shrubs and trees and to apply appropriate native seed

mix. This mitigation will significantly enhance the value of this area to serve RA functions.

Area 3 - This area, shown on plan sheet C-13C in red, is an area stripped of topsoil and void of any vegetation since active mining of the site prior to 1996. That this area is degraded cannot be genuinely debated. This area covers more than 15,000 square feet of the riverfront area (a larger percentage of the RA than was present in the Ipswich matter referenced above). As discussed above, BSC's view appears to be that this area is not degraded because it is not functioning in a manner similar to pavement. That view is based on a misunderstanding of the regulations. As discussed above, "absence of topsoil" is sufficient to render an area degraded. In the Decision and Order on Motions to Strike and for Directed Decision, In the Matter of Edward T. McLaughlin, Trustee, ETM Realty Trust, the Magistrate addressed this issue...

...As I read 310 CMR 10.58(5), the words "impervious surfaces" are lined solely to "existing structures or pavement." This makes sense because "structures and pavement" tend to make surfaces impervious; in contrast, the "absence of topsoil" does not necessarily render a surface impervious and neither do the two listed characteristics ("junkyards, or abandoned dumping grounds"). A junkyard or an abandoned dumping ground can be found on a pervious site.

Also, with regards to the abandoned dumping grounds criteria for qualifying as degraded, BSC indicates that based on conversations with the Department, an abandoned dumping ground must be similar to a junkyard. However, the regulations list those two criteria separately. We note that we were unable to locate prior decisions on appeal that clarify how abandoned dumping grounds are defined. Discussions with Amesbury residents who grew up in the area indicate that the area in question has been used by people on an ongoing basis for decades to discard items. Tires, televisions, monitors, and other waste are scattered throughout portions of the riverfront area closest to Summit Ave. The regulations make a distinction between abandoned dumping grounds and junkyards, and we believe the designation of this area as degraded based on it being an abandoned dumping ground is justified. Despite that view, we have not included those areas within the "degraded" areas depicted in the enclosed plans.

The presence of Area 3 alone renders the redevelopment standards of 310 CMR 10.58(5) applicable to this project – even if Area 2 were treated as not being degraded – and this project complies with those redevelopment standards. Compliance with each criteria (set forth in bold) is as follows:

**310 CMR10.58(5) Redevelopment Within Previously Developed Riverfront Areas; Restoration and Mitigation.**

**Notwithstanding the provisions of 310 CMR 10.58(4)(c) and (d), the issuing authority may allow work to redevelop a previously developed riverfront area, provided the proposed work improves existing conditions. Redevelopment means replacement, rehabilitation or expansion of existing structures, improvement of existing roads, or reuse of degraded or previously developed areas. A previously developed riverfront area contains areas degraded prior to August 7, 1996 by impervious surfaces from existing structures or pavement, absence of topsoil, junkyards, or abandoned dumping grounds...**

As discussed above, the project here constitutes “redevelopment” because it involves “reuse of degraded or previously developed areas,” and the RA here qualifies as a “previously developed riverfront area” because it “contains areas degraded prior to the August 7, 1996 by . . . absence of topsoil” as a result of the previous sand and gravel mining operations.

**Work to redevelop previously developed riverfront areas shall conform to the following criteria:**

**(a) At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40. When a lot is previously developed but no portion of the riverfront area is degraded, the requirements of 310 CMR 10.58(4) shall be met.**

The proposed work will result in an improvement over existing conditions of the capacity of the RA to protect the interests identified in the Wetlands Act (and local Bylaw). The proposed work involves significant restoration and other RA enhancement measures including (1) stormwater controls that will abate ongoing erosion of sand and silt into Bailey’s Pond, and (2) restoration of all portions of the degraded riverfront (Areas 2 and 3) outside the footprint of the development. The end result will be a significant improvement over existing conditions. As noted above, the current lack of a rich organic topsoil layer and the presence of invasive plants limit the ability of the RA to perform important functions. The proposed mitigation will restore full function to the areas of RA outside the development footprint at a ratio of approximately 3:1. In addition, we are proposing the restoration/creation of an isolated wetland resource that is currently little more than a puddle in the road. This restoration will create wildlife habitat, and may serve as a vernal pool in future years.

The second sentence of subsection (a) is not applicable because some portions (significant portions) of the RA are degraded.

**(b) Stormwater management is provided according to standards established by the Department.**

The stormwater management system has been designed to meet the stormwater management regulations for stormwater generated by the development and additionally serves to mitigate off site runoff. The stormwater management plans have been reviewed and accepted by BSC. See the letter from BSC dated January 31, 2013.

**(c) Within 200 foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25 foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).**

All work, with the exception of the exempt trail and utility work, will be located further from the river than existing degraded conditions. In addition, the buildings and proposed impervious surfaces (driveways, parking, and roadways) will all be located more than 100 feet from the river. Despite their location, mitigation for those structures is proposed at levels exceeding the requirements of 310 CMR 10.58(5)(f) and (g).

**(d) Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).**

The building and associated impervious areas were previously shifted so as to be located toward the riverfront area boundary and away from the river to the maximum extent possible. In addition, the project involves significant mitigation measures in accordance with (and exceeding) the requirements of 310 CMR 10.58(5)(f) and (g).

**(e) The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).**

The area of proposed work does not exceed the amount of the degraded Areas 2 and 3 (as described above). If only Area 3 were treated as being degraded, the proposed work would exceed the square footage of that degraded area. However, even under that analysis, the project would comply with this subsection (e) criteria because, as allowed in this subsection, exceeding the amount of degraded area is permissible where mitigation is proposed in accordance with 310 CMR 10.58(5)(f) and (g) – as it is here.

**(f) When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Restoration shall include:**

- 1. removal of all debris, but retaining any trees or other mature vegetation;**
- 2. grading to a topography which reduces runoff and increases infiltration;**
- 3. coverage by topsoil at a depth consistent with natural conditions at the site; and**
- 4. seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site;**

See discussion under subsection (g), below.

**(g) When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Mitigation may include off-site restoration of riverfront areas, conservation restrictions under M.G.L. c. 184, §§ 31 to 33 to preserve undisturbed riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests identified in M.G.L. c. 131, § 40 for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no significant adverse impact. Preference shall be given to potential mitigation projects, if any, identified in a River Basin Plan approved by the Secretary of the Executive Office of Environmental Affairs.**

These subsections (f) and (g) do not apply to this project because the project fully complies with 310 CMR 10.58(5)(c), (d) and (e). However, even if the some aspect of the project were deemed to deviate from one or more of those requirements (for example, if only Area 3 were treated as degraded), any such deviation would be permissible because this project proposes mitigation of the types provided for in subsections (f) and (g) and at levels exceeding the requirements of those subsections. Even if all mitigation were viewed as being of the less valuable type provided for in subsection (g), the mitigation far exceeds the required 2:1 mitigation ratio. Much of the mitigation is of the more valuable sort covered by subsection (f) (required at only a 1:1 ratio), including, for example, the restoration of topsoil to areas within Area 2 (98,171 square feet), restoration of the isolated wetland area (2,445 square feet), and removal of invasive species from Area 1 (57,115 square feet).

See the enclosed Redevelopment in Riverfront Worksheet

**(h) The issuing authority shall include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5)(f) or (g) prohibiting further alteration within the restoration or mitigation area, except as may be required to maintain the area in its restored or mitigated condition. Prior to requesting the issuance of the Certificate of Compliance, the applicant shall demonstrate the restoration or mitigation has been successfully completed for at least two growing seasons.**

Although the applicant disputes that this project requires reliance on subsections (f) or (g), the applicant is proposing to maintain the restoration/mitigation areas as such and has no objection to a condition prohibiting further alteration within those areas. However, it would be appropriate to monitor the mitigation area for a few growing seasons to prevent repopulation from invasive species and to attempt to protect plantings from damage caused by beavers.

**BSC Comment:**

3. *Given that the project site does not qualify as previously developed and degraded RA, the applicant is required to submit an RA Alternatives Analysis per 10.58(4), and should closely follow the methodology outlined in the regulations:*

*...the applicant shall prove by a preponderance of the evidence that there are no practicable and substantially equivalent economic alternatives to the proposed project with less adverse effects on the interests identified in M.G.L. c. 131 s. 40 and that the work, including proposed mitigation, will have no significant adverse impact on the riverfront area to protect the interests identified in M.G.L. c. 131 s. 40.*

*(c) Practicable and Substantially Equivalent Economic Alternatives. There must be no practicable and substantially equivalent economic alternative to the proposed project with less adverse effects on the interest identified in M.G.L. c. 131 s. 40.*

*1. Definition of Practicable. An alternative is practicable and substantially equivalent economically if it is available and capable of being done after taking into consideration costs, existing technology, proposed use, and logistics, in light of overall project purposes. Available and capable of being done means the alternative is obtainable and feasible. Project purposes*

shall be defined generally (e.g. single family home, residential subdivision, expansion of a commercial development). **The alternatives analysis may reduce the scale of the activity or the number of lots available for development**, consistent with the project purpose and proposed use...Transactions shall not be arranged to circumvent the intent of alternatives analysis review. The four factors to be considered are:

- a. Costs, and whether such costs are reasonable or prohibitive to the owner...Cost includes expenditures for construction, landscaping, and transaction expenses. **Cost does not include anticipated profits** after the project purpose is achieved or expenditures to achieve the project purpose prior to receiving an order with the exception of land acquisition costs incurred prior to August 7, 1996. In taking costs into account, the issuing authority shall be guided by these principles:
  - i. The cost of an alternative must be reasonable for the project purpose, and cannot be prohibitive.
  - ii. **Higher or lower costs taken alone will not determine whether an alternative is practicable.** An alternative for proposed work in the riverfront area must be a practicable and substantially equivalent economic alternative (i.e. will achieve the proposed use and project purpose from an economic perspective).
- c. The proposed use. This term is related to the concept of project purpose...In the context of projects where the purpose implies a business component, such as residential subdivision, commercial, and industrial projects, the proposed use typically requires economic viability. **Practicable and substantially equivalent economic alternatives include alternatives which are economically viable for the proposed use from the perspective of site location, project configuration within a site, and the scope of the project.**

2. Scope of Alternatives. The applicant is referred to this section of the regulations to determine the scope of the alternatives analysis. The scope is in part dependent upon the date of purchase of the property, as well as the project purpose, and may include consideration of offsite alternatives, depending in part upon date of purchase of property.

3. Evaluation of Alternatives. The applicant shall demonstrate that there are no practicable and substantially equivalent economic alternatives...within the scope of alternatives...with less adverse effects on the interests identified in M.G.L. c.131 s.40. The applicant shall submit information to describe sites and the work both for the proposed location and alternative site locations and configurations sufficient for a determination by the issuing authority under 310 CMR 10.58(4) (d). The level of detail of information shall be commensurate with the scope of the project and the practicability of alternatives. **..The purpose of evaluating project alternatives is to locate activities so that impacts to the riverfront area are avoided to the extent practicable.** Projects within the scope of alternatives must be evaluated to determine whether they are practicable. **As much of a project as feasible shall be sited outside the riverfront area...**If there would be no less adverse effects on the interests identified in M.G.L. c. 131 s. 40, the proposed project rather than a practicable alternative shall be allowed, but the criteria...for determining no significant adverse effect must still be met. **If there is a practicable and substantially equivalent economic alternative with less adverse effects, the proposed work shall be denied...**  
(d) No Significant Adverse Impact. The work, including proposed mitigation measures, must have no significant adverse impact on the riverfront area to protect the interests identified in M.G.L. c. 131 s. 40. The applicant is referred to this section to identify the thresholds for

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*significant adverse impacts.*

*BSC specifically refers the Applicant to the sections of the regulations listed above that are in both bold and italics. The Applicant should prepare conceptual site plans for Alternatives that would propose project footprints that avoid impacting the RA to the greatest extent possible. This is likely to require shifting roadway alignments out of the RA, and removing some building footprints, grading and stormwater features from the RA. An Alternatives Analysis that fully complies with WPA regulations will include alternatives that shift building, grading, stormwater, and roadway footprints out of the RA on the site. Depending on the purchase date of the property, the Applicant may or may not need to consider offsite alternatives in their alternatives analysis.*

**RESPONSE:** We respectfully disagree with BSC's view that the performance standards of 310 CMR 10.58(4), including the alternatives analysis provided therein, apply to this project. As discussed above, this project is governed by the redevelopment standards set forth in 310 CMR 10.58(5) and complies with those requirements. Despite that position, the applicant is submitting with this letter a supplemental alternatives analysis.

**BSC Comment:**

*4. Ordinance-regulated Isolated Vegetated Wetland (IVW): The Applicant cites Ordinance section 460-3, exemption (5) for the IVW on the site. BSC defers to the ACC with regard to the decision as to whether the IVW on the site qualifies for this exemption, as this determination will depend, in part, on past precedent and ACC's interpretation of their own Ordinance. BSC notes that the proposed restoration activities for the IVW are likely to enhance the ecological function of the IVW, and could be included as part of a mitigation plan for the site. BSC notes that mitigation should be developed in the context of a plan to first avoid resource impacts, then minimize resource impacts, and at the last stage of the planning process, mitigate for resource impacts that are allowable under state and local regulations and have been avoided and minimized to the greatest extent possible. BSC understands, based on a phone discussion with Tom Hughes (1/28/2013), that more specific planting plans and species lists would be developed for the proposed wetland restoration, should the applicant receive approval to proceed in this regard. BSC supports the development of these more specific wetland restoration plans and lists, should ACC determine that IVW wetland restoration is an advisable part of the overall project resource mitigation plan. Due to this plan to develop greater detail at a later stage, BSC will not provide specific comments on the details of wetland restoration for the IVW at this time, as it would be premature.*

**RESPONSE:** As documented in previous submittals and the enclosed supplemental alternatives analysis, the applicant has worked with the Commission and other Town of Amesbury officials to design this project in a manner that avoids and minimizes wetlands impacts to the extent practicable and feasible and to otherwise mitigate impacts. The overall result of this project will be a significant improvement in the wetlands and riverfront area functions. With respect to the IVW restoration, additional detail is being provided with this submittal. The current area is nothing more than a more or less permanent puddle in a gravel pit roadway. We are proposing to strip the top 8 inches of soil from the area and replace it with a rich organic soil mix. The wetland will be shaped to have a standing water area in the center, with a vegetated outer zone to provide a more suitable vernal pool-like setting. The area around the restored wetland will be planted more densely than the remaining RA mitigation areas to provide better shelter and food for wildlife.

**BSC Comment:**

*5. Ordinance and Associated Regulations Requirements. In addition to the need to evaluate the*

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*proposed project for compliance with WPA RA regulations, as discussed above, the Applicant should provide additional information that evaluates the various project Alternatives relative to the Ordinance and associated regulations, and demonstrates compliance with the Ordinance and associated regulations. Specifically, the Ordinance requires the Applicant to address Section 460-5 B: Proof. This section of the Ordinance also **requires an Alternatives Analysis, and does so with regard to all regulated resource areas, not just the RA.** Under this provision, the Applicant should develop Alternatives that remove impacts from Buffer Zones (BZs) to the greatest extent possible, so that the project complies with item (5) under the Proof section of the Ordinance, Part 1, Section 12.0 Burden of Proof, and Part 2, Section 21.7 Structures of the regulations. These regulations require evaluation of Alternatives in order to maximize first: impact avoidance, second: impact minimization, and third: impact mitigation. BSC notes that the current Site Plans propose:*

- sewer crossing within RA and BVW
- sewer crossing and a small amount of grading within the 25' BZ
- driveway footprint, stormwater features, grading, a sewer crossing, and path within the 50' BZ.
- significant amount of structures, pavement, stormwater features, grading within the 100' BZ. The outer 50' of BZ are heavily developed.
- sewer crossing, path, stormwater features within the inner 100' of RA
- structures, pavement/roadway, stormwater features, grading, path within the outer 100' – 200' of RA

*As mentioned previously, BSC recommends that these impacts be quantified and presented in table format, so that comparison between Alternatives, and evaluation relative to state and local performance standards and regulations, is facilitated.*

*It should be noted that no special provisions are indicated in the Ordinance for the allowance of stormwater structures within RA. Therefore, it appears that stormwater structures are regulated the same way that any other structure is regulated under the Ordinance. Additionally, there are no exemptions for construction of new utilities, or for footpaths. The Applicant should address these within the context of the Ordinance and associated regulations.*

**RESPONSE:** As documented in previous submittals and the enclosed supplemental alternatives analysis, the applicant has worked with the Commission and other Town of Amesbury officials to design this project in a manner that avoids and minimizes wetlands impacts to the extent practicable and feasible and to otherwise mitigate impacts. The overall result of this project will be a significant improvement in the wetlands and riverfront area functions.

The Commission, through its regulations, has adopted 310 CMR 10.58 as the local performance standards for work in Riverfront Areas. See analysis above. Despite that, a supplemental alternatives analysis is submitted with this letter, which also discusses alternatives for the footpaths and utilities.

**BSC Comment:**

*The Applicant should address Part 1, Section 12.0 of the Ordinance regulations, regarding, "...significant or cumulative detrimental effect upon Resource Areas or their wetland values protected herein."*

**RESPONSE:** These standards were addressed in previous submittals, and are further addressed in the materials submitted with this letter. The applicant disputes that any formal alternative

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analysis is required for work within the riverfront area, under either the state law or local ordinance, and also disputes that any formal alternatives analysis is required for work within the buffer zone. As documented in previous submittals and the enclosed supplemental alternatives analysis, the applicant has worked with the Commission and other Town of Amesbury officials to design this project in a manner that avoids and minimizes wetlands impacts to the extent practicable and feasible and to otherwise mitigate impacts. The overall result of this project will be a significant improvement in the wetlands and riverfront area functions. Currently, the buffer zone has limited function with respect to the protected resource values. The proposed project will result in an improvement over existing conditions. In addition, it has been standard practice by the Commission to defer to the specific performance standards spelled out in its regulations, including setbacks for structures, driveways, and roadways, to demonstrate that the standards in the Ordinance are met.

**BSC Comment:**

*6. Proposed Project Impacts. Due to the need for an Alternatives Analysis (per Ordinance and associated regulations and WPA regulations), and our recommendation for provision of updated impact tables (quantifying the impacts listed above, by resource area, for each Alternative), BSC finds that it is premature to assess proposed project impacts beyond the general comments provided. These impacts should be reviewed and discussed in the context of an Alternatives Analysis that is in compliance with WPA regulations and the Ordinance and associated regulations, and that is based on updated impact and mitigation tables. This will allow the Alternatives to be assessed to determine the Alternative with the least significant adverse impact that is practicable, and substantially equivalent economically (as defined in the WPA regulations and Ordinance and associated regulations).*

**RESPONSE:** See the discussion above related to the applicability of any alternatives analysis requirement. Although the applicant disputes that a formal alternatives analysis is required, the applicant is submitting with this letter a supplemental alternatives analysis, which includes updated impact figures.

**BSC Comment:**

*7. Proposed Project Mitigation. It is BSC's opinion that a thorough Alternatives Analysis Analysis (per Ordinance and associated regulations and WPA regulations) would increase significantly the amount of resource impact avoidance and minimization that is possible for this project. Only after these measures have been maximized is it possible to evaluate proposed mitigation measures, as mitigation options may shift with a shifting project impact footprint. The Applicant should provide quantified mitigation numbers in table format, for each of the Alternatives, and for each impacted resource area, so that the Alternatives can be assessed to determine the Alternative with the least significant adverse impact that is practicable, and substantially equivalent economically (as defined in the WPA regulations and Ordinance and associated regulations). Proposed mitigation should be discussed and evaluated following selection of the project Alternative that provides the least adverse impact while remaining practicable and substantially economically equivalent, and thus cannot be evaluated fully at this time.*

*Following selection of a preferred Alternative, and following impact avoidance and minimization efforts within that Alternative, the Applicant may propose mitigation measures along the lines of those proposed in the current project documents. Should mitigation be necessary under the preferred Alternative (and there may be an Alternative that requires no or very little mitigation), BSC concurs with the Applicant that the following mitigation ideas generally represent opportunities to enhance ecological functioning on the site:*

*-Restoration of the IVW*

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- Restoration of ATV-impacted Bank
- Invasive species control
- Enhancement/Supplementation of impacted soils (specific locations to be determined in consultation with the ACC) and planting of high-value native species
- Restoration/stabilization of eroded areas
- Removal of debris, trash, paintball bridges and yard waste

The details (plans, cross-sections, text, tables, etc.) of how, where and to what extent any of these mitigation measures are proposed should be provided for each Alternative in the Alternatives Analysis. More specific peer review comments are appropriate following provision of the Alternatives Analysis and a more detailed level of information.

**RESPONSE:** The updated and supplemental plans and alternatives analysis submitted with this letter are responsive to this comment.

**BSC Comment:**

8. *Proposed Stream Crossing:* Any proposal for a stream crossing, such as the proposed sewer crossing, should include detailed plans & cross-sections (existing conditions, proposed conditions, and eventually, as-built conditions), and text (some of which has been provided) describing the construction sequence, erosion and sedimentation controls, bank stabilization measures, and resource (Land Under Water, Bank, BVW) restoration plans, as well as text (some of which has been provided) regarding compliance with resource area performance standards at both the state and local level. This work has been described in general terms only. The Applicant has proposed Bank restoration that exceeds replacement of the currently ATV-impacted Bank conditions. The details of this Bank restoration work should be provided, both in visual (plans & cross-sections) and in text form, for any Alternative (and some Alternatives may not require a stream crossing) that includes a stream crossing. BSC concurs with the Applicant that the portion of current BVW that is actually ATV-impacted previous Bank, should be restored to Bank, rather than to BVW.

**RESPONSE:** Stream crossing details have been provided on Sheet C-014, submitted with this letter.

**BSC Comment:**

9. *Pedestrian Path:* Text and Site Plans should specify whether the proposed pedestrian paths are unpaved or paved.

**RESPONSE:** The pedestrian paths will be unpaved.

**BSC Comment:**

10. *Erosion Control, Pollution Prevention Plan, Operation & Maintenance Plan:* Comments on these elements of the proposed project are better made when the Alternatives Analysis has been completed and a preferred Alternative has been chosen, as comments on this level of detail are premature until a more definitive Alternative has been identified. However, BSC does recommend that as the Applicant develops further plans for the site, that they incorporate a phased approach to construction sequencing. Given the sandy and erodible nature of some of the soils on the site, a phased construction sequence will be especially important in ensuring effective erosion and sedimentation control. The Applicant is referred to the U.S. Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP).

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**RESPONSE:** The roadway network and infrastructure will be completed in a single phase for the north side and south side of the project. Because the overall disturbance will be greater than 1 acre, a Stormwater Pollution Prevention Plan will be prepared in accordance with the NPDES Stormwater CGP. This plan will be prepared and an NOI will be filed with the EPA prior to any land disturbance activity.

We look forward to discussing the plan changes and these comments with the Conservation Commission on March 4, 2013. If you have any questions, please feel free to call us at your earliest convenience.

Sincerely,

OAK CONSUTLING GROUP, LLC

A handwritten signature in black ink, appearing to read "Sean P. Malone".

Sean P. Malone, P.E.  
Vice President

SPM/TH  
Enclosures

**ENCLOSURE A**

Supplemental Alternatives Analysis

Village at Bailey's Pond  
Amesbury, Massachusetts

**Supplemental Alternatives Analysis**  
**The Village at Bailey's Pond**  
February 2013

**Introduction and Background**

The project site area is an old gravel pit where at one time all the vegetation was removed except for around the edge of Bailey's Pond and a small strip along the stream ("Area 1" on Sheet C-013C). Since then, scrub brush, invasive plants and some small trees have grown back in some places, although there remains an absence of topsoil in those areas ("Area 2" on Sheet C-013C). Some areas of the Riverfront Area remain completely devoid of vegetation and top soil ("Area 3" on Sheet C-013C). The project, as proposed with significant mitigation, will result in a vast improvement to the overall function of the Riverfront Area. Among other improved functions, the Riverfront Area will have an increased ability to improve water quality and to support a diverse community of plants and wildlife.

This project at Bailey's Pond has evolved from a master planning process in approximately 2000 in which Town of Amesbury commissioned a study on the best alternative for developing this property and others in the surrounding area. The study, performed by TerraSphere and others (including BSC Group), evaluated a number of alternative development scenarios for the parcel. It identified as the recommended alternative a 200-unit condominium development, which would have involved significant development throughout the currently-designated Riverfront Area.

Based on that study, Amesbury issued a Request for Proposal ("RFP") for the disposition of this parcel, seeking a developer "to carry out the general development program described in the Terrasphere plan," as stated in the RFP. Fafard Real Estate and Development Corp. ("Fafard"), the current applicant, was the successful bidder on Amesbury's RFP. Fafard executed a Purchase and Sale ("P&S") Agreement with Amesbury in 2003.

In 2004, Fafard commenced permitting activities for the project before the Amesbury Planning Board and the Amesbury Conservation Commission. During those processes, a variety of project designs and revisions were evaluated. Permit proceedings were then stalled for several years due to challenges raised by residents to the P&S Agreement. That agreement was renegotiated and a new P&S Agreement was executed in 2010.

The project has been reconfigured and refined several times since Fafard's initial proposal in 2004. As initially proposed, the project involved 176 units in 44 buildings. The current proposal involves only 136 units in 34 buildings. In addition to reducing the number of buildings, Fafard also previously proposed roadway configurations that would have impacted smaller areas of the buffer zone and Riverfront Area. However, those designs were rejected by the Planning Board. Stormwater management solutions involving smaller bioretention cells throughout the project rather than larger more traditional basins shown on the plans today were also rejected during this iterative review. Over the lengthy permitting history for this project, the project has evolved into one that has fewer buildings and greater mitigation which will improve the functioning of the overall site, not just in the Riverfront Area.

It is also noteworthy that the proposed project design only involves the proposed Riverfront Area impacts due to the recent expansion of the Riverfront Area boundaries as a result of recent beaver activity.

## Alternatives Analysis Discussion

The Amesbury Wetlands Ordinance provides as follows:

*The Commission shall presume the riverfront area is important to all the resources area values unless demonstrated otherwise, and no permit issued there under shall permit any activities unless the applicant, in addition to meeting the otherwise applicable requirements of this Ordinance, has proved by a preponderance of the evidence that:*

*1) There is no technically demonstrated feasible alternative to the project with less adverse effects and that;*

*2) Such activities, including proposed mitigation measures, will have no significant adverse impact on the areas or values protected by this Ordinance. The closer an activity is proposed to a resource area, the more scrutiny will be given to the potential impacts of a proposed project.*

*The Commission shall regard as practicable an alternative which is reasonable available and capable of being done after taking into consideration the proposed property used, overall project purpose (e.g., residential, institutional, commercial or industrial), logistics, existing technology, costs of the alternatives and overall project costs.*

An alternatives analysis was submitted to and reviewed by the Commission during its review of the 2004 submission. A copy was also provided with the Notice of Intent filed in 2010 for this current proceeding. This supplemental analysis is provided in response to the peer review comments of BSC.

Alternative locations for this project are not available. The Amesbury RFP that led to this project, and to a large extent defined the project's parameters, is tied specifically to this property. One of the primary purposes of this project is to facilitate the Town's sale of this particular property. In addition, there is no land currently for sale in Amesbury that is large enough to accommodate this project and that is also appropriately zoned for this type of development – a “planned unit development” (“PUD”) within Amesbury's PUD Zoning District.

With respect to project layouts and configurations, the applicant has evaluated a litany of possible alternatives throughout the long permitting history for this project before the Conservation Commission and Planning Board. Some of those were technically sound, including different road layouts and stormwater treatment designs, but were rejected by Amesbury's Planning Board and/or the Conservation Commission for various reasons.

Numerous buildings have been dropped from the proposal and roadways have been redesigned per Planning Board requirements. The current proposal is the result of these extensive efforts and, along with the proposed mitigation, represents the alternative with the least adverse effects. The function and value of the Riverfront Area will be greatly enhanced and improved as a result of the proposed project, with mitigation, and the project has otherwise been designed so not to have a significant adverse impact on the other wetland resource areas or their values.

Following is further discussion of other project alternatives:

**Terrasphere Alternative**

The Terrasphere report dated 2001 discussed a number of different alternative development scenarios for this property and other nearby Amesbury-owned properties. The report was prepared for the Alliance for Amesbury and its stated purpose was to “solicit a redevelopment plan for parcels of land located adjacent to the Route 495 and 150 extension interchange,” in anticipation of Amesbury’s effort to sell the properties. Several alternatives were considered for this project area. The Preliminary Master Plan for the area showed 200 residential units in this project area (see Figure 1 hereto). Please note that the Terrasphere plans were not available with sufficient clarity and scale to estimate impacts.

The access road crossed the stream with a number of housing units and impervious surfaces within the Riverfront Area (see Figure 2). That alternative would involve substantially more impact to the Riverfront Area and other resource areas at this site.

**No-Build Alternative**

Another alternative would be a “No Build” scenario. The existing riverfront area and the land around Bailey's Pond would remain undeveloped. This alternative would allow the current condition to continue. The site is owned by the Town of Amesbury and very little maintenance and policing of the area is conducted. Motorcycles and ATVs are using the site on a regular basis. The vegetation is slow to develop because there are large areas that are devoid of topsoil. Debris and abandoned vehicle parts litter the site. In addition, a significant number of invasive vegetated species are growing at the site. These invasives will potentially limit the biodiversity of the Riverfront Area. The potential for detrimental effects to the Riverfront Area, the stream, Bailey's Pond and other resources areas will continue to exist. Furthermore, a no-build alternative would not meet the project purpose as provided in the RFP as described above.

The proposed project will result in a net benefit to the value of the Riverfront Area and other wetland resource areas at this site and, as such, is preferable to the no-build alternative.

**Prior Alternatives Proposed**

The applicant has presented a number of different design alternatives since the project permitting was initiated in 2004. Previous alternatives were deemed not feasible due to layout and safety concerns by the Planning Board, Fire Department and Building Inspector.

**2004 Alternative**

The initial project filing in 2004 consisted of a design layout for 176 units and is shown as Figure 3. This design included portions of several buildings within the 50’ buffer and large retaining walls to be constructed within 50’ of the BVW along almost the entire waterfront. A summary of the impact of this alternative is below:

Riverfront Area				Buffer to BVW		
Building Area	Pavement	Stormwater Structures	Temporary Alteration	Within 0-50’ of the BVW	Within 51-100’ of the BVW	Total Buffer Impacts
1,828	3,117	21,654	7,786	50,783	79,161	129,944

This design was deemed unacceptable to the Planning Board making it not practicable. Also, it would not result in less adverse impacts than the current proposal.

### **2010 Alternative**

The project was revised in 2010 with a design layout for 148 units and is shown on Figure 4. This design was modeled after a conceptual design prepared by a consultant to the City of Amesbury, Dodson Associates, in June of 2005. This design removed proposed buildings and the large retaining walls along the water front. A summary of the impact of this alternative is below:

Riverfront Area				Buffer to BVW		
Building Area	Pavement	Stormwater Structures	Temporary Alteration	Within 0-50' of the BVW	Within 51-100' of the BVW	Total Buffer Impacts
1,962	7,962	6,235	9,869	23,993	73,212	97,205

The Planning Board, Fire Department and Building Inspector voiced concerns about the site layout including: the use of “dead end” drives limit access; the lack of separation between buildings to allow for vehicle turnaround; the use of many small bio-retention basins in lieu of fewer larger basins at the low points; the overall width of the driveway through the site; and the lack of sidewalks through the site. The Conservation Commission echoed the concerns about the use of multiple small bioretention basins, claiming that there was a history in Amesbury of these not being maintained. As a result the project was deemed unacceptable to the Planning Board and the Conservation Commission making it not practicable.

### **2011 Alternative**

The project was revised in 2011 with a design layout for 136 units and is shown as Figure 5. This design included a looped roadway system, sidewalks, vehicle maneuvering spaces and a drainage system using several retention basins at the low points of the project area. A summary of the impact of this alternative is below:

Riverfront Area				Buffer to BVW		
Building Area	Pavement	Stormwater Structures	Temporary Alteration	Within 0-50' of the BVW	Within 51-100' of the BVW	Total Buffer Impacts
2,523	9,464	10,056	14,433	28,346	71,296	99,642

During the review of this alternative, it was found that beaver activity had altered the Riverfront Area which resulted in a portion of one building and pavement within the 100' Riverfront Area. Therefore, revisions to the configuration were made to minimize the area of alteration within the areas within 100' of the newly delineated river boundaries.

### **2012 Alternative**

The project was revised in 2011 with a design layout for 136 units and is shown as Figure 6. This design included a similar layout as shown in Figure 5, however the loop road and building were adjusted to remove any buildings and pavement from the 100' Riverfront Area. Additionally a retaining wall was added along the north entrance drive to minimize the grading needed within the Riverfront Area. A summary of the impact of this alternative is below:

Riverfront Area				Buffer to BVW		
Building Area	Pavement	Stormwater Structures	Temporary Alteration	Within 0-50' of the BVW	Within 51-100' of the BVW	Total Buffer Impacts
3,892	7,889	10,056	9,225	32,183	74,088	106,271

In addition to the plan changes which minimized Riverfront Area impacts from the previous alternative, a mitigation plan was developed to enhance the function of the Riverfront Area. This plan includes the removal of invasive species within the Riverfront Area and jurisdictional areas within the limit of work, restoration of topsoil and native plantings in the degraded Riverfront areas, and restoration of the isolated wetland within the Riverfront Area.

#### **Removing Building from Riverfront Area**

The applicant has evaluated removing the building and impervious area currently proposed to be located within the outer areas of the Riverfront Area. That alternative is not practicable or substantially equivalent, and would also not result in a better functioning Riverfront Area.

Reducing the number of buildings at this project is not consistent with the project purposes – which have already been significantly compromised by the applicant’s downsizing of the project. Recall that the Terrasphere plan and Amesbury’s RFP had identified and marketed this property as being able to accommodate a 200-unit development. The applicant has already significantly reduced the number of proposed units to 136.

Moreover, if the building were removed from the project the mitigation proposed to compensate for that building would also be removed. The Riverfront Area mitigation requirements of 310 CMR 10.58(f) and (g) (as also incorporated into Amesbury’s wetlands regulations) are only applicable due to the placement of that building within the Riverfront Area. The proposed redevelopment of the Riverfront Area, with the proposed mitigation, will result in an improvement to the functioning of that area. Removing the building and associated mitigation will leave the site in a degraded and functionally impaired state. It is precisely this kind of redevelopment – one resulting in a net improvement to the Riverfront Area – that the redevelopment provisions of the state and local regulations sought to encourage.

#### **Alternatives to Footpaths and Utilities**

The alternative to the footpaths in the Riverfront Area would be to delete them from the project. The footpaths proposed was something identified by the City as desirable. The applicant is proposing the footpaths at the City’s request to provide public access along the perimeter of the pond.

Alternative designs of the utility crossing of the stream were also analyzed. Because of the low water pressure on Summit Ave, the City Engineering and Fire Departments are requiring the proposed water mains for the project be connected or “looped” to be able to provide water from either side and increasing the pressure to the lower pressure line. To avoid the stream crossing, the water and sewer lines would need to be constructed in the steep slope over the culvert at the head of the stream. The water line must have at least 4’ of separation from the pipe and open air (cover), meaning it must be a minimum of 4’ below the ground surface as well as above the box culvert. This is required to protect the pipe and prevent it from freezing. Constructing the pipe over the culvert is not feasible due to the steep slope, height of the culvert and proximity to Summit Avenue.

The project site is far lower than the surrounding roads and public sewer, sewerage will be required to be pumped from the site up to the existing sewer lines. To avoid multiple pumping stations which would provide additional capital, operational and maintenance costs as well as energy consumption, the north and south sides of the site must be tied together with a single pumping point. As is required with the water line described above, a minimum of 4’ of cover is

required to protect the sewer pipe. As a result it is not feasible to construct the sewer over the culvert.

To minimize the amount of disturbance with the stream crossing, the normally required 10' of horizontal separation between the water and sewer lines will be reduced to 5' and the sewer line will be encased in concrete.

**Conclusion**

The 2012 Alternative, Figure 6, is considered the preferred alternative. This alternative is feasible by meeting the layout requirements of the Planning Board and safety concerns of the Fire Department and includes mitigation that will protect and enhance the functions of the Riverfront Area. There are no practicable, substantially equivalent or feasible alternatives available that would result in less adverse impact to the Riverfront Area or other wetland resource areas.

The proposed alternative has several advantages over the other scenarios listed above. The site will be stabilized with landscaping, buildings, retaining walls, and curbed roadways. The stormwater runoff will be controlled with infiltration systems, catch basins, treatment devices, settling basins and detention/infiltration basins. The area within the Riverfront Area will be stabilized with the stormwater basins with grassed slopes and rip-rap outlets to control erosion. The remaining Riverfront Area will be revegetated with trees and shrubs to improve its current condition. The extent of the plantings and the type could be a topic of discussion with the commission.

The final product could be a more productive Riverfront Area, protecting the stream and in turn protecting Bailey's Pond.

Alternative Riverfront Impacts Summary Table (all numbers in Square Feet)

Alternative	Buildings	Pavement or other Impervious	Temporary Alteration to be restored	Total Permanent Alteration (exclude temporary)	Mitigation Proposed	Comments
<b>2012 - Figure 6</b>						-No unmitigated impact -Mitigation ration +/-8:1 -No alteration within Inner Riparian Zone (IRZ)
<i>Inner Riparian</i>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	89,754	
<i>Outer Riparian</i>	3,892	7,889	9,225	11,781		
<i>Total</i>	3,892	7,889	9,225	11,781		
<b>2011 - Figure 5</b>						-Impacts unmitigated -Permanent alteration within IRZ -Largest overall impact
<i>Inner Riparian</i>	<b>335</b>	<b>1,440</b>	<b>1,875</b>	<b>1,775</b>	none	
<i>Outer Riparian</i>	2,188	8,024	12,558	10,212		
<i>Total</i>	2,523	9,464	14,433	11,987		

Alternative Riverfront Impacts Summary Table (all numbers in Square Feet) Continued						
<b>2010 – Figure 4</b>						-Infeasible layout as determined by the Planning Board, Fire and Building Depts. -Permanent alteration within IRZ
<i>Inner Riparian</i>	<b>382</b>	<b>1,600</b>	<b>1,370</b>	<b>1,982</b>	none	
<i>Outer Riparian</i>	1,580	6,362	8,499	7,942		
<i>Total</i>	1,962	7,962	9,869	9,924		
<b>2004 – Figure 3</b>						-Infeasible layout as determined by the Planning Board and Com-Com. -Largest permanent alteration in IRZ -Largest impact in Buffer.
<i>Inner Riparian</i>	<b>1,828</b>	<b>422</b>	<b>1,799</b>	<b>2,250</b>	none	
<i>Outer Riparian</i>	0	2,695	5,987	2,695		
<i>Total</i>	1,828	3,117	7,786	4,945		
Note – All areas provided are based on resource areas as reviewed by BSC. Impacts for prior proposals have been adjusted to approximate for the impact of the beaver dams on the resource boundaries.						

Alternative Buffer Zone Summary Table (all numbers in Square Feet)

Alternative	0-50'	51-100'	Temporary Impacts	Permanent Impacts	Comments
<b>2012 – Figure 6</b>	32,183	74,088	76,040	<b>30,231</b>	-Impacts mitigated with restoration of buffer and drainage improvements -Buildings at least 50' from BVW -Least permanent impacts
<b>2011 – Figure 5</b>	28,346	71,296	67,638	<b>32,004</b>	-Review of design incomplete; additional impacts may be needed for refinement of the drainage and utilities systems.
<b>2010 – Figure 4</b>	23,993	73,212	63,395	<b>33,810</b>	-Review of design incomplete; drainage system considered unacceptable by Planning Board and Con-Com -additional impacts may be needed for refinement of the drainage & utilities systems.
<b>2004 – Figure 3</b>	50,783	79,161	81,050	<b>48,894</b>	-Largest Impact -Buildings within 30' of BVW -Design considered unacceptable by the Planning Board and Con-Com

# ALLIANCE FOR AMESBUR

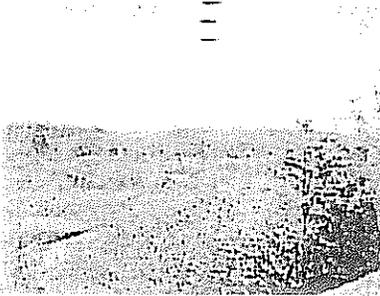
## Land Along ROUTE 495 and 150 EXTENSION



Open Space

### III. Key Issues/Goals

One of the goals that emerged from the community process was to organize proposed land uses around open space. A golf course is a logical candidate for that open space; it lends an upscale nature to any surrounding land-use, be it light industrial, residential, or office. Such a golf course could be private. Golf is used as a positioning element in the project to define the market.



Based on market conditions (refer to section V), industrial and residential uses will likely be candidates for early-phased development. There is a demonstrable market for those types of development at present, and the revenue generated could help to sustain later phased elements such as support retail, hotel and office development.

Another goal of the master plan was to link the Bailey Pond site to the open space at the Waste Management parcel through the use of town-owned land. Creating this link would serve to unify the distinct uses into one cohesive project.



Preliminary Master Plan

### IV. Plan Alternatives

Several plan alternatives were considered before arriving at the final combination of uses best suited to the market.

The Preliminary Master Plan shows residential development of 200 units on Bailey Pond, a 200 room hotel, 250,000 SF of office space, 125,000 SF of commercial space.

ROUTE 495  
and  
150  
EXTENSION

PREPARED FOR:  
The Alliance for  
Amesbury  
5 Market Square  
Amesbury, MA 01913

PREPARED BY:   
**TERRASPHERE**

 **BSC GROUP**

33 Waldo Street - Worcester, MA 01608  
425 Summer Street - Boston, MA 02210



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Scale: 1"=400'-0"

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Date: DECEMBER 2000

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Sheet Title:

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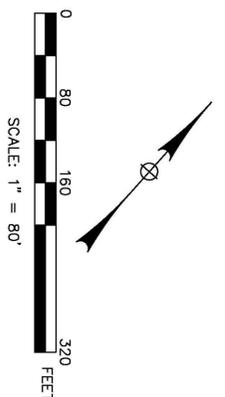
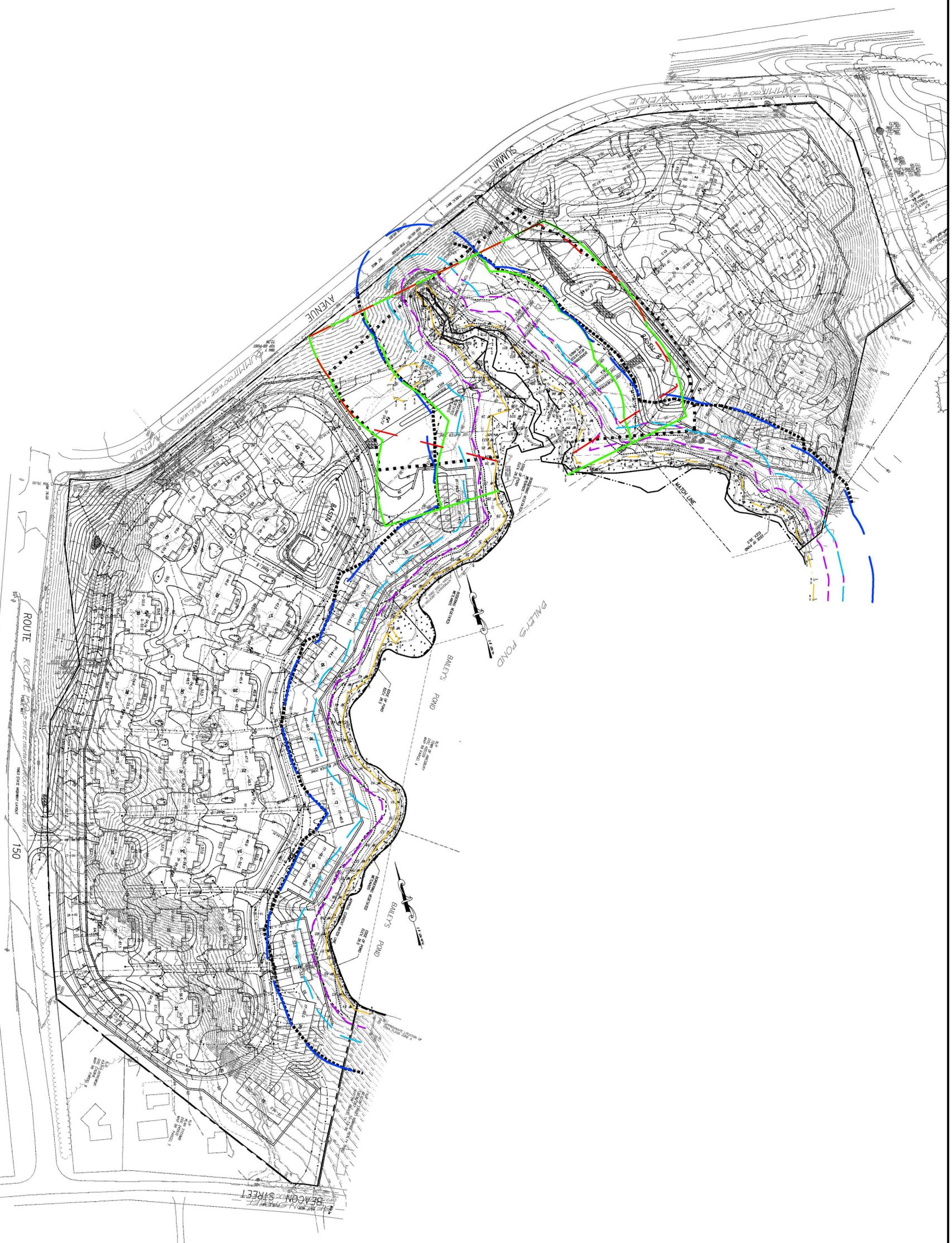
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AERIAL PHOTOGRAPH/  
CONCEPTUAL MASTER  
PLAN

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FIGURE - 2



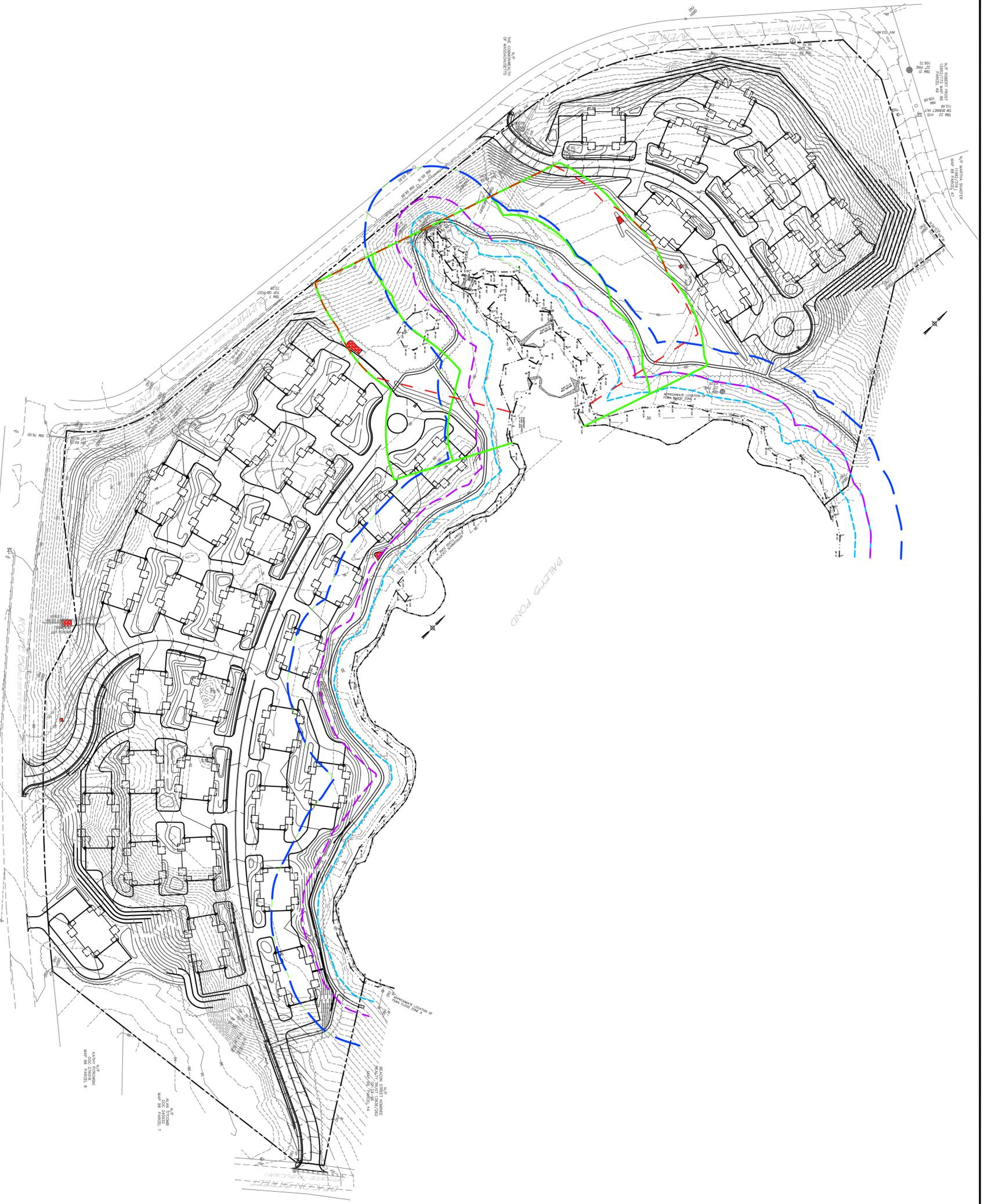
- PROPERTY LINE
- BORDERING VEGETATED WETLAND
- RIVER FRONT TOP OF BANK
- 25' BUFFER
- 50' BUFFER
- 100' BUFFER
- 200' RIVER FRONT AREA
- 200' RIVER FRONT AREA (2010)
- MEAN HIGH WATER
- INTERMEDIATE CONTOUR
- INDEX CONTOUR

REV	DATE	DESCRIPTION	BY	SCALE	AS NOTED	DESIGN	SHEET
2	2/11/13	REVISED PER CON-COM	SPM	AS NOTED	SPM	12013	Figure 3
1	12/07/12	GENERAL REVISIONS	SPM	SPM	DATE	9/30/11	

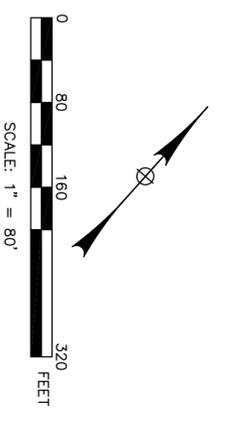
**THE VILLAGE AT BAILEY'S POND**  
 Route 150 and Summit Avenue  
 Amesbury, Massachusetts

**ALTERNATIVE SITE PLAN**

**OCG** Oak Consulting Group  
 P.O. Box 1123  
 Newburyport, MA 01950  
 Ph. 978.518.2058



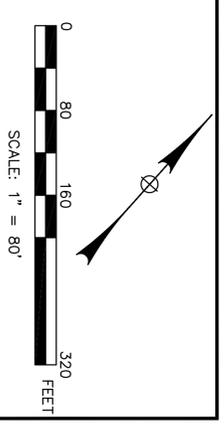
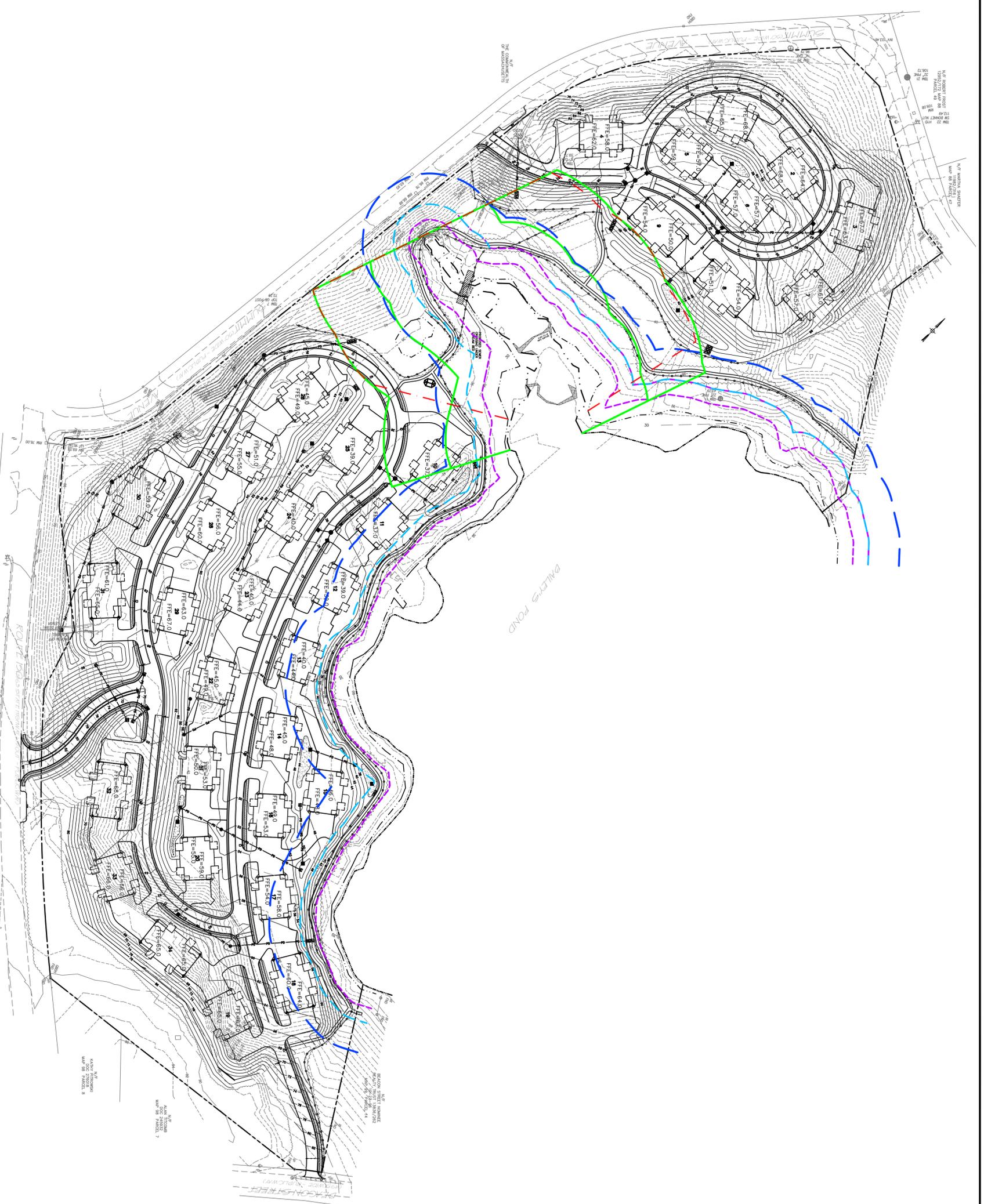
- PROPERTY LINE
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TOWN OF ANDOVER  
MAP 12/17/2011, 11

TOWN OF ANDOVER  
MAP 12/17/2011, 11

<b>THE VILLAGE AT BAILEY'S POND</b>		<b>ALTERNATIVE SITE PLAN</b>																									
Route 150 and Summit Avenue Andover, Massachusetts																											
REV	DATE	DESCRIPTION	BY																								
2	2/11/13	REVISED PER CON-COM	SPM																								
1	12/07/12	GENERAL REVISIONS	SPM																								
<table border="0"> <tr> <td><b>OCG</b></td> <td>Oak Consulting Group</td> <td>SCALE:</td> <td>AS NOTED</td> </tr> <tr> <td></td> <td>P.O. Box 1123</td> <td>DRAWN:</td> <td>SPM</td> </tr> <tr> <td></td> <td>Newburyport, MA 01950</td> <td>PROJECT:</td> <td>12013</td> </tr> <tr> <td></td> <td>Ph. 978.518.2058</td> <td>CHECKED:</td> <td>PPA</td> </tr> <tr> <td></td> <td></td> <td>DATE:</td> <td>9/30/11</td> </tr> <tr> <td></td> <td></td> <td>SHEET:</td> <td><b>FIGURE 4</b></td> </tr> </table>				<b>OCG</b>	Oak Consulting Group	SCALE:	AS NOTED		P.O. Box 1123	DRAWN:	SPM		Newburyport, MA 01950	PROJECT:	12013		Ph. 978.518.2058	CHECKED:	PPA			DATE:	9/30/11			SHEET:	<b>FIGURE 4</b>
<b>OCG</b>	Oak Consulting Group	SCALE:	AS NOTED																								
	P.O. Box 1123	DRAWN:	SPM																								
	Newburyport, MA 01950	PROJECT:	12013																								
	Ph. 978.518.2058	CHECKED:	PPA																								
		DATE:	9/30/11																								
		SHEET:	<b>FIGURE 4</b>																								



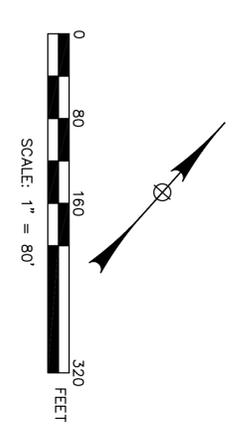
- PROPERTY LINE
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- 200' RIVER FRONT AREA (2010)
- MEAN HIGH WATER
- INTERMEDIATE CONTOUR
- INDEX CONTOUR

DATE: 2/11/13  
 DRAWN BY: SPM  
 CHECKED BY: PFA

<b>THE VILLAGE AT BAILEY'S POND</b> Route 150 and Summit Avenue ANDOVER, MASSACHUSETTS		<b>ALTERNATIVE SITE PLAN</b>	
<b>REV</b> 1 DATE: 2/11/13 DESCRIPTION: SUBMISSION TO CON-COM BY: SPM	<b>SCALE:</b> AS NOTED	<b>DESIGN:</b> SPM	<b>SHEET:</b> Figure 5
<b>OCG</b> Oak Consulting Group P.O. Box 1123 Newburyport, MA 01950 Ph. 978.516.2056	<b>DRAWN:</b> SPM	<b>PROJECT:</b> 12013	<b>DATE:</b> 9/30/11



- PROPERTY LINE
- BORDERING VEGETATED WETLAND
- - - RIVER FRONT TOP OF BANK
- 25' BUFFER
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- INDEX CONTOUR



<p><b>THE VILLAGE AT BAILEY'S POND</b>          Route 150 and Summit Avenue          Attleboro, Massachusetts</p>		<p><b>ALTERNATIVE SITE PLAN</b></p>	
<p>SCALE: AS NOTED</p>	<p>DESIGN: SPM</p>	<p>SHEET: 1</p>	<p>DATE: 9/30/11</p>
<p>DRAWN: SPM</p>	<p>PROJECT: 12013</p>	<p>DATE: 9/30/11</p>	<p><b>Figure 6</b></p>
<p>CHECKED: PFA</p>	<p>DATE: 9/30/11</p>	<p>DATE: 9/30/11</p>	<p>DATE: 9/30/11</p>
<p>REV 1</p>	<p>DATE 2/11/13</p>	<p>DESCRIPTION SUBMISSION TO CON-COM</p>	<p>BY SPM</p>
<p>OCG Oak Consulting Group          P.O. Box 1123          Newburyport, MA 01950          Ph. 978.518.2058</p>			

**ENCLOSURE B**

Redevelopment in Riverfront Worksheet

Village at Bailey's Pond  
Amesbury, Massachusetts

Calculations of square footage of conditions within the Riverfront Area

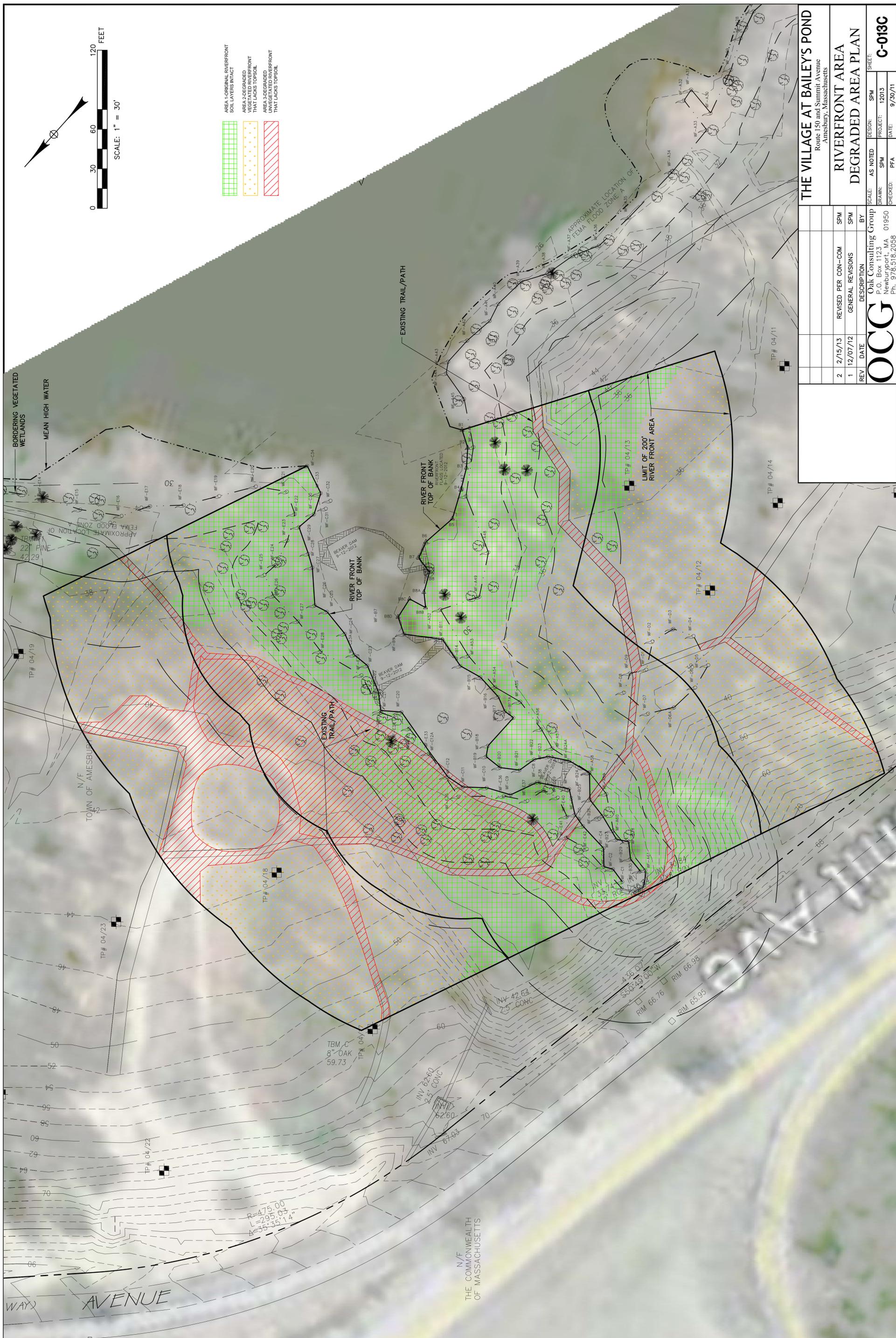
Village at Bailey's Pond Redevelopment in Riverfront Project

	Existing TOTAL	Existing 0-100'	Existing 100-200'	Proposed TOTAL	Proposed 0-100'	Proposed 100'-200'	Total change	Proposed Nature of change
<b>Total Riverfront Area on the site</b>	171,442	89,708	81,734					
<b>Degraded RFA TOTAL</b>	114,327	37,642	76,685	11,781	0	11,781	-102,546	
Building, Parking lot	0	0	0	11,781	0	11,781	11,781	Conversion to one building roof and pavement
Other Degraded (absence of topsoil and unvegetated - Area 3 on C-013C)	15,734	5,976	9,758	0	0	0	-15,734	IRZ and ORZ to be restored or redeveloped
Other Degraded (absence of topsoil and vegetated - Area 2 on C-013C)	98,593	31,666	66,927	0	0	0	-98,593	IRZ and ORZ: to be restored or redeveloped
<b>Disturbed RFA TOTAL</b>	0	0	0	30,694	7,601	23,093	30,694	
Lawn/landscaped islands	0	0	0	9,224	0	9,224	9,224	Required for grading and landscape around building and road
Stormwater management system/Utilities (detention basin, etc)	0	0	0	21,470	7,601	13,869	21,470	Exempt aterations for drainage basins and utility lines
Disturbed Riverfront Area (invasive species, altered to some capacity)	0	0	0	0	0	0	0	Invasive species noted throughout riverfront area
<b>Natural areas in RFA TOTAL</b>	57,115	52,066	5,049	139,882	88,106	51,776	82,767	
Wooded Riverfront Area (Area 1 on C-013C)	57,115	52,066	5,049	50,128	45,079	5,049	-6,987	Area in IRZ to be converted to infiltration basin
Restored (degraded -> natural)	0	0	0	89,754	43,027	46,727	89,754	Mitigation-Add topsoil and vegetation to all degraded areas not otherwise treated
Restored (disturbed -> natural)	0	0	0	0	0	0	0	
<b>TOTAL Riverfront Area on site</b>	171,442	89,708	81,734	182,357	95,707	86,650		

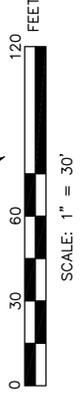
**ENCLOSURE C**

Plans

Village at Bailey's Pond  
Amesbury, Massachusetts



- AREA 1 ORIGINAL RIVERFRONT SOIL LAYERS INTACT
- AREA 2 DEGRADED VEGETATED RIVERFRONT THAT LACKS TOPSOIL
- AREA 3 DEGRADED UNVEGETATED RIVERFRONT THAT LACKS TOPSOIL



**THE VILLAGE AT BAILEY'S POND**  
 Route 150 and Summit Avenue  
 Amesbury, Massachusetts

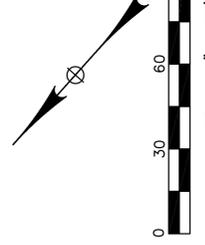
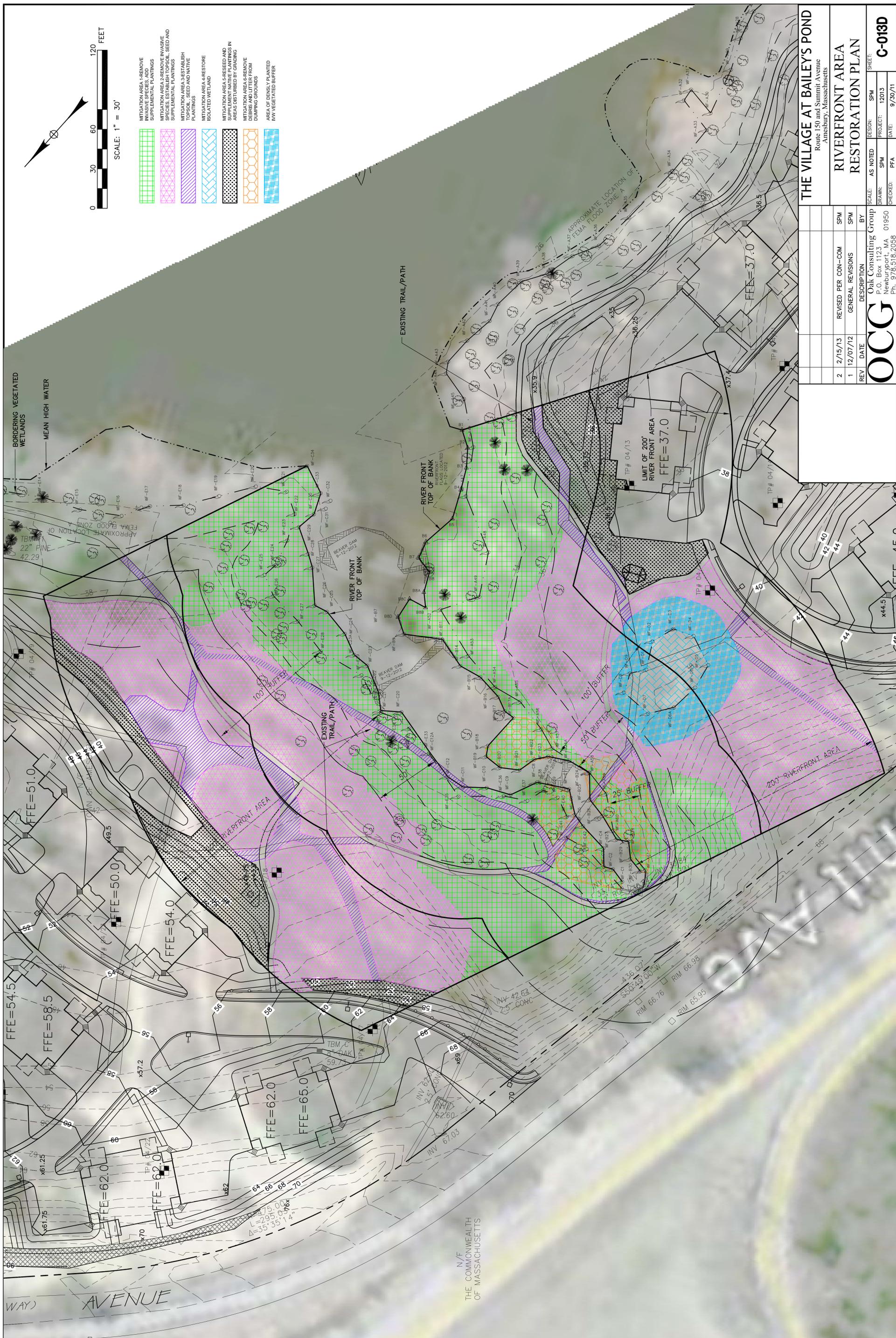
**RIVERFRONT AREA  
 DEGRADED AREA PLAN**

REV	DATE	DESCRIPTION	BY
2	2/15/13	REVISED PER CON-COM	SPM
1	12/07/12	GENERAL REVISIONS	SPM

**OCG**  
 Oak Consulting Group  
 P.O. Box 1123  
 Newburyport, MA 01950  
 Ph. 978.518.2058

SCALE	AS NOTED	DESIGN	SPM
	SPM	PROJECT	12013
	SPM	DATE	9/30/11

SHEET: **C-013C**



- MITIGATION AREA 1 REMOVE INVASIVE SPECIES, ADD SUPPLEMENTAL PLANTINGS
- MITIGATION AREA 2 REMOVE INVASIVE SPECIES, ESTABLISH TOPSOIL, SEED AND SUPPLEMENTAL PLANTINGS
- MITIGATION AREA 3 ESTABLISH TOPSOIL, SEED AND NATIVE PLANTINGS
- MITIGATION AREA 4 RESTORE ISOLATED WETLAND
- MITIGATION AREA 5 RESEED AND RESTORE DISTURBED AREAS IN AREAS DISTURBED BY GRADING
- MITIGATION AREA 6 REMOVE DEBRIS AND LITTER FROM DUMPING GROUNDS
- AREA OF DENSELY PLANTED HWY VEGETATED BUFFER

**THE VILLAGE AT BAILEY'S POND**  
 Route 150 and Summit Avenue  
 Amesbury, Massachusetts

**RIVERFRONT AREA RESTORATION PLAN**

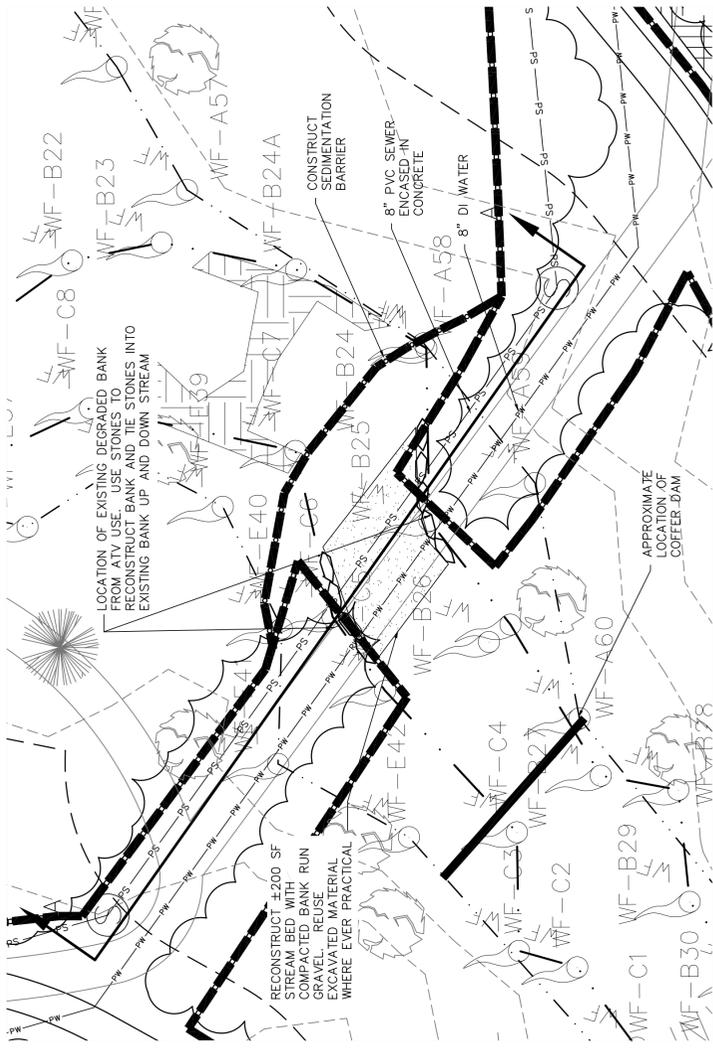
REV	DATE	DESCRIPTION	BY
2	2/15/13	REVISED PER CON-COM	SPM
1	12/07/12	GENERAL REVISIONS	SPM

**OCG**  
 Oak Consulting Group  
 P.O. Box 1123  
 Newburyport, MA 01950  
 Ph. 978.518.2058

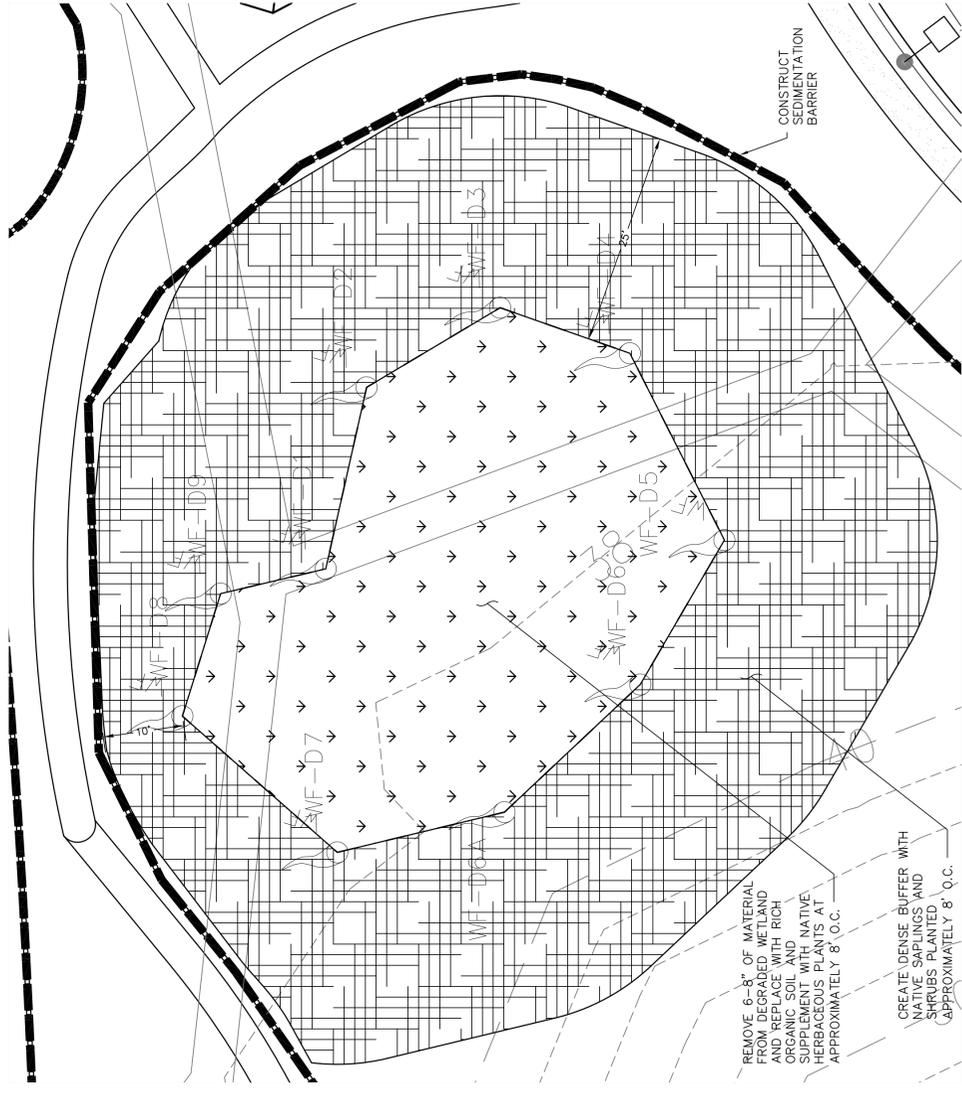
SCALE: AS NOTED  
 DESIGN: SPM  
 DRAWN: SPM  
 PROJECT: 12013  
 CHECKED: PFA  
 DATE: 9/30/11  
 SHEET: **C-013D**

WAY) AVENUE

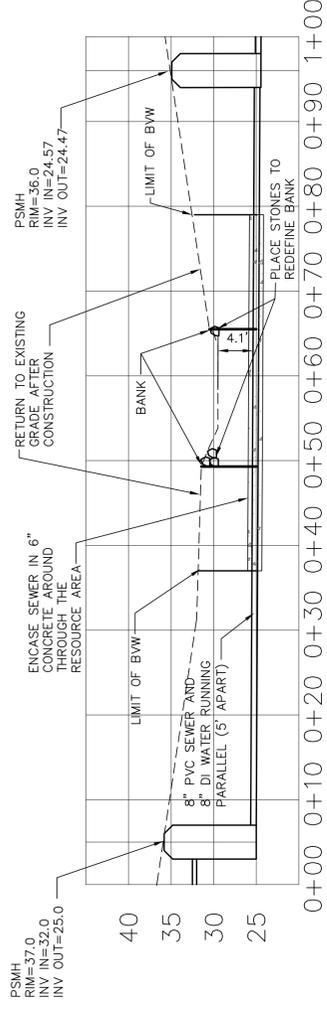
N/F  
 THE COMMONWEALTH  
 OF MASSACHUSETTS



UTILITY CROSSING PLAN VIEW  
1"=10'



ISOLATED WETLAND RESTORATION PLAN  
1"=10'



THE WORK FOR THE UTILITY CROSSING THE STREAM IS EXPECTED TO BE CONDUCTED IN THE FOLLOWING MANNER:

- THE STREAM UTILITY CROSSING WILL BE CONSTRUCTED DURING THE LATE SUMMER IN A TIME OF LOW FLOW.
- THE CROSSING WILL BE CONSTRUCTED BY CREATING A SMALL COFFER DAM AROUND THE CROSSING TO ALLOW EXCAVATION OF THE UTILITY TRENCH IN DRY CONDITIONS AND PREVENT SEDIMENTATION FROM THE EXCAVATION FROM ENTERING THE STREAM.
- FLOW FROM THE CULVERT WILL BE BYPASSED AROUND THE EXCAVATION AREA WITH THE USE OF PUMPS.
- AFTER CONSTRUCTION IS COMPLETE, THE STREAM BED WILL BE RESTORED TO ITS ORIGINAL DEPTH AND CHANNEL REMAINS.
- FOLLOWING REMOVAL OF THE COFFER DAMS, THE STREAM BANK WILL BE RESTORED BY PLACING 1 FOOT DIAMETER ROCKS IN LINE WITH THE UPSTREAM AND DOWNSTREAM BANK AREAS WITH A GEOTEXTILE FABRIC BEHIND THE ROCKS.
- THE EXCAVATION AREAS WILL BE BACKFILLED WITH CLEAN LOAM AND PLANTED WITH NATIVE SHRUBS AND A NATIVE SEED MIX.

CROSSING SECTION A-A  
1"=10'



**THE VILLAGE AT BAILEY'S POND**  
Route 150 and Summit Avenue  
Amesbury, Massachusetts

**SITE DETAILS**  
**PLAN**

REV.	DATE	DESCRIPTION	BY	GROUP
2	2/15/13	REVISED PER CON-COM	SPM	SPM
1	12/07/12	GENERAL REVISIONS	SPM	SPM

SCALE: AS NOTED  
DESIGN: SPM  
PROJECT: 12013  
DRAWN: SPM  
DATE: 9/30/11  
OAK CONSULTING GROUP  
P.O. Box 1123  
Newburyport, MA 01950  
CHECKED: PFA



**C-014**

SHEET: SPM

**ENCLOSURE D**

Updated WPA Form 3 pages 2 & 3

Village at Bailey's Pond  
Amesbury, Massachusetts



WPA Form 3 - Notice of Intent

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

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
City/Town

A. General Information (continued)

6. General Project Description:

Project consists of 136 condominium units in 34 buildings with associated roadways, walks, utilities, landscape and drainage improvements.

7a. Project Type Checklist:

- 1. Single Family Home
2. Residential Subdivision
3. Limited Project Driveway Crossing
4. Commercial/Industrial
5. Dock/Pier
6. Utilities
7. Coastal Engineering Structure
8. Agriculture (e.g., cranberries, forestry)
9. Transportation
10. Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. Yes No If yes, describe which limited project applies to this project:

2. Limited Project

8. Property recorded at the Registry of Deeds for:

Essex Tax Case 104048 & 104049
a. County b. Certificate # (if registered land)
13425, 13469 409, 23
c. Book d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- 1. Buffer Zone Only - Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
2. Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Table with 3 columns: Resource Area, Size of Proposed Alteration, Proposed Replacement (if any). Rows include Bank, Bordering Vegetated Wetland, Land Under Waterbodies and Waterways.



WPA Form 3 - Notice of Intent

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

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
City/Town

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Table with 3 columns: Resource Area, Size of Proposed Alteration, Proposed Replacement (if any). Rows include: d. Bordering Land Subject to Flooding, e. Isolated Land Subject to Flooding, f. Riverfront Area.

2. Width of Riverfront Area (check one):

- 25 ft. - Designated Densely Developed Areas only
100 ft. - New agricultural projects only
200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 171,442 (3.94 ac) square feet

4. Proposed alteration of the Riverfront Area:

21,006 a. total square feet 0 b. square feet within 100 ft. 21,006 c. square feet between 100 ft. and 200 ft.

5. Has an alternatives analysis been done and is it attached to this NOI? [X] Yes [ ] No

6. Was the lot where the activity is proposed created prior to August 1, 1996? [X] Yes [ ] No

3. [ ] Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Table with 3 columns: Resource Area, Size of Proposed Alteration, Proposed Replacement (if any). Rows include: a. Designated Port Areas, b. Land Under the Ocean, c. Barrier Beach, d. Coastal Beaches, e. Coastal Dunes.

**ENCLOSURE E**

Resource Area Values Analysis

Village at Bailey's Pond  
Amesbury, Massachusetts

## Resource Area Values Analysis

As noted above, the project has avoided and minimized impacts within the buffer zone and resource areas to the extent practicable. The original concept plans, as well as earlier plans proposed by the applicant consistent with the concept plans, had buildings as close as 30 feet to resource areas. All buildings are now located at least 50 feet from resource area boundaries, and at least 100 feet from the MHW of the stream. The mitigation offered is substantial in scope and will result in clear improvements to the site. The project, when taken as a whole will improve the functioning of the site, and will contribute to an improvement in the resource area values. A brief discussion of the resource area values protected by the Amesbury Ordinance is addressed below.

<b>Protected Resource Area Values</b>	<b>Discussion</b>
<b>Public or Private Water Supply</b>	<p>The project site is not within an area that would be expected to be used for public or private water supply. The lack of a rich organic topsoil throughout much of the site, including the vast majority of the buffer zone, limits the ability of the site to remove organic chemicals and heavy metals from runoff that enters the site from several off site sources. The proposal restores the buffer zone entirely within the Riverfront Area of the project, and in much of the remaining buffer zone. The addition of buildings is more than offset by the improved stormwater controls.</p> <p>The lack of a rich organic topsoil throughout much of the site, including the vast majority of the buffer zone, limits the ability of the site to remove organic chemicals and heavy metals from runoff that enters the site from several off site sources. The lack of vegetation also allows erosion rills to form quickly and runoff to pass through the site quickly, reducing the ability for on site infiltration.</p>
<b>Ground Water</b>	
<b>Water Quality</b>	
<b>Water Pollution Control</b>	
<b>Flood Control</b>	<p>Bailey’s Pond has had recent history overtopping during flood conditions, damaging downstream property. Part of the cause for this is unabated stormwater entering and passing through the site rapidly. The confluence of this runoff and the water entering the pond from the stream causes a rapid rise in the pond level that can be exacerbated by a blocked outfall from the pond to the Merrimac River. The proposed project, including the work in the buffer zone will result in an improvement to this saturation by retaining more water on site and both increasing the ability</p>
<b>Storm Damage Prevention including Coastal Storm Flowage</b>	

	of stormwater to infiltrate, and desynchronizing the stormwater flows.
<b>Erosion and Sedimentation Control</b>	<p>With much of the site lacking topsoil, there are large unvegetated areas, and areas that are vegetated, except for smaller areas where topsoil was left in place, have shallow root zones. The result has been large erosion rills forming, and massive quantities of sand and silt being washed in to Bailey's Pond. In one area a delta has formed from this sediment. The proposal will both abate the stormwater flows from both on and off site, and will restore topsoil and vegetation to much of the site.</p> <p>During work, the site will be protected from short term impacts through the use of Best Management Practices to ensure there is not temporary impact from erosion or sediment control during construction.</p>
<b>Fisheries</b>	In the 1980's DEP had difficulty obtaining enough fish to test for heavy metals from Bailey's Pond while they evaluated the Pond for potential mercury contamination. While there are some fish present, the project's positive impact on water quality and tempering of storm runoff will improve any fisheries habitat. There are no known shellfish present.
<b>Shellfish</b>	
<b>Wildlife Habitat</b>	The site is not mapped as priority or estimated habitat. The proposal will increase the biodiversity of plants within the Riverfront Area significantly, which will, in turn, increase the value for wildlife habitat.
<b>Rare Species Habitat including Rare Plant Species,</b>	
<b>Agriculture</b>	The lack of topsoil on site is not conducive to farming.
<b>Aquaculture</b>	The project is not altering any areas that would be appropriate for aquaculture. The improvements in water quality through stormwater management and restoration of topsoil layers would be of benefit to any downstream aquaculture.
<b>Recreational Values</b>	The applicant has worked with the city to ensure that a trail will be developed for recreational access. Much of the current recreational use of the site contributes to erosion and ongoing damage to the site from ATVs.