

Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
WPA Form 9 – Enforcement Order
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number:

EO #3 _____

A. Violation Information

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



This Enforcement Order is issued by:

Amesbury
 Conservation Commission (Issuing Authority)

Issued 9.15.14; Amended 10.6.14;
Amended 3.2.15

To:

New England Sports Park, LLC
 Name of Violator
See Attachment to Enforcement Order
 Address

1. Location of Violation:

See Attachment to Enforcement Order - List of Owners
 Property Owner (if different)

Street Address

Amesbury
 City/Town

01913
 Zip Code

Assessors Map/Plat Number

Parcel/Lot Number

2. Extent and Type of Activity (if more space is required, please attach a separate sheet):

This Amended Enforcement Order is being issued as a follow up to the original Order ratified on 9/15/2014 for unauthorized activities within Bordering Vegetated Wetlands (BVW), Bank and the 100' Buffer Zone without permits from Amesbury Conservation Commission (ACC), which consisted of the creation of an approximate 4-mile hiking trail of various widths through wetland resource areas and Buffer Zone that significantly altered wetland vegetation, and exposed and destabilized soils; excavation of a 30' x 10' x 5' trench (approximate) and a smaller, partially excavated trench within BVW, and the placement of tree limbs across intermittent streams and BVW for the purpose of supporting foot traffic. These violations were made pursuant to the Massachusetts Wetlands Protection Act (MGL Chapter 131, s. 40) and its regulations (310 CMR 10.00), as well as the City of Amesbury Wetlands Ordinance and its regulations. The majority of violations took place on city-owned and private property without permission. Therefore, you are hereby ordered to cease and desist all activities within jurisdictional wetland resource areas and Buffer Zone. See additional directives in Attachment to Enforcement Order pertaining to



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restoration of activities and deadline dates.

This Amended enforcement order authorizes the implementation of the approved restoration plan (Appendix) entitled "Wetlands Impact Assessment, Amesbury Land Associates, Inc. and Event Partners, LLC," and dated December 5, 2014. See Attachment to Enforcement Order for additional information relative to a mandated timeline.

B. Findings

The Issuing Authority has determined that the activity described above is in a resource area and/or buffer zone and is in violation of the Wetlands Protection Act (M.G.L. c. 131, § 40) and its Regulations (310 CMR 10.00), because:

- the activity has been/is being conducted in an area subject to protection under c. 131, § 40 or the buffer zone without approval from the issuing authority (i.e., a valid Order of Conditions or Negative Determination).

B. Findings (cont.)

- the activity has been/is being conducted in an area subject to protection under c. 131, § 40 or the buffer zone in violation of an issuing authority approval (i.e., valid Order of Conditions or Negative Determination of Applicability) issued to:

Name _____ Dated _____

File Number _____ Condition number(s) _____

- The Order of Conditions expired on (date): _____ Date _____
- The activity violates provisions of the Certificate of Compliance.
- The activity is outside the areas subject to protection under MGL c.131 s.40 and the buffer zone, but has altered an area subject to MGL c.131 s.40.
- Other (specify): _____



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
WPA Form 9 – Enforcement Order
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number: _____

EO #3 _____

C. Order

The issuing authority hereby orders the following (check all that apply):

- The property owner, his agents, permittees, and all others shall immediately cease and desist from any activity affecting the Buffer Zone and/or resource areas.
- Resource area alterations resulting from said activity shall be corrected and the resource areas returned to their original condition.

A restoration plan shall be filed with the issuing authority on or before _____ Date

for the following:

The restoration shall be completed in accordance with the conditions and timetable established by the issuing authority.

C. Order (cont.)

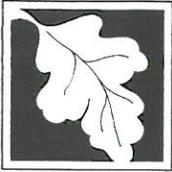
- Complete the attached Notice of Intent (NOI). The NOI shall be filed with the Issuing Authority on or before:

_____ Date

for the following:

No further work shall be performed until a public hearing has been held and an Order of Conditions has been issued to regulate said work.

- The property owner shall take the following action (e.g., erosion/sedimentation controls) to prevent further violations of the Act:



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 Bureau of Resource Protection - Wetlands
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Failure to comply with this Order may constitute grounds for additional legal action. Massachusetts General Laws Chapter 131, Section 40 provides: "Whoever violates any provision of this section (a) shall be punished by a fine of not more than twenty-five thousand dollars or by imprisonment for not more than two years, or both, such fine and imprisonment; or (b) shall be subject to a civil penalty not to exceed twenty-five thousand dollars for each violation". Each day or portion thereof of continuing violation shall constitute a separate offense.

D. Appeals/Signatures

An Enforcement Order issued by a Conservation Commission cannot be appealed to the Department of Environmental Protection, but may be filed in Superior Court.

Questions regarding this Enforcement Order should be directed to:

John Lopez
 Name
 (978) 388-8110 ext. 317
 Phone Number
 Monday - Thursday (10 AM-2PM)
 Hours/Days Available

Issued by:

Amesbury
 Conservation Commission

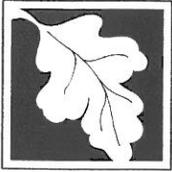
Conservation Commission signatures required on following page.

D. Appeals/Signatures (cont.)

In a situation regarding immediate action, an Enforcement Order may be signed by a single member or agent of the Commission and ratified by majority of the members at the next scheduled meeting of the Commission.

Signatures:

Steven J. Scyler
Mark [unclear]
Kathy Beahm



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Bureau of Resource Protection - Wetlands
WPA Form 9 – Enforcement Order
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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Signature of delivery person or certified mail number

**Attachment to Enforcement Order
Name and Address of Violator/Responsible Party**

New England Sports Park, LLC
(12 South Hunt Road)
c/o Sullivan & Worcester, LLP
One Post Office Square
Boston, MA 02109

Attn: Attorney Amy A. Zuccarello

③

Grantecs
Property and Mailing Address: 12-14 South Hunt Road, Amesbury Massachusetts

7-13

12/31/2014 12:02 DEED Pg 1/3
2014123100316 BK:33777 Pg:599

MASSACHUSETTS EXCISE TAX
SOUTHAMPTON DISTRICT REC'D
12/31/2014 12:02 PM
TR# 1046699 Doc# 20141231003160
Fee: \$5,702.28
Com: \$1,250,184.00

AFTER RECORDING RETURN TO:

Amy A. Zuccarello, Esq.
Sullivan & Worcester LLP
One Post Office Square
Boston, MA 02109

QUITCLAIM DEED

I, Warren E. Agin, Chapter 11 trustee of the estate of Amesbury Land Associates, Inc., under authority granted in an order entered December 22, 2014, in re Amesbury Land Associates, Inc., Chapter 11 bankruptcy case no. 14-10111-JNF, in the United States Bankruptcy Court for the District of Massachusetts, with an address of 197 Portland Street, Boston, Massachusetts 02114

for consideration paid, and in full consideration of One Million, Two Hundred Fifty Thousand, One Hundred Eighty Four Dollars (\$1,250,184.00)

grant to New England Sports Park, LLC, a Massachusetts limited liability company
WITH QUITCLAIM COVENANTS the land or premises, together with the buildings and improvements thereon known and numbered 12 and 14 South Hunt Road, Amesbury, Massachusetts, being more particularly bounded and described as follows:

Parcel 1

Lot 2 as shown on a plan of land recorded with the Essex South District Registry of Deeds in Plan Book 193, Plan No. 53 entitled: "Plan of Land in Amesbury, MA, County of Essex for James C. Charles" dated October 22, 1984 said lot containing a total of 6.40 acres ± according to said plan.

Parcel 2

Lot 3A as shown on a plan entitled "Plan of Land in Amesbury, MA prepared for James C. Charles dated October 11, 1989" by W. C. Cammett Engineering, Inc.

(B1805850, 3)

**Attachment to Enforcement Order
List of Properties**

Abel Realty, LLC: 47R Pleasant Valley Road (Map 97/ Lot 2)

Russell E. Hertrich
281A Broadway
Lawrence, MA 01841

Goodwin's Creek Homeowner's Trust: 8 Maudsley View Lane (Map 107/ Lot 37)

Goodwin's Creek Homeowner's Trust
c/o Kenneth Turner, Trustee
37 Pleasant Valley Road
Amesbury, MA 01913

Waste Management (Map 95/ Lot 5)

SCA Disposal Services of NE
Waste Management Services of Massachusetts, Inc.
c/o Mark Devine, District Manager
4 Liberty Land West
Hampton, NH 03842

City-Owned Parcels: off Martin Road (Map 98/Lot 11, 17 and 18)

City of Amesbury
62 Friend Street
Amesbury, MA 01913

City-Owned Parcels: Merrimack Landing (Map 105 and 106/Lots 4A and 4)

City of Amesbury
62 Friend Street
Amesbury, MA 01913

Bartlett's Reach Maps 104, 105, 109 and 110/Lot 1

Bartlett's Reach Condominium Trust
C/O Gemini Property Management, LLC
89 West Main Street
Merrimac, MA 01860

Attachment to Enforcement Order
March 3, 2015

1. New England Sports Park, LLC (NESP) shall submit a letter to the ACC stating that they will comply with the mandates outlined in the enforcement documents. This shall be submitted to the ACC by no later than March 16, 2015. In addition,
2. NESP shall submit the name of a wetlands scientist who shall supervisor the implementation of the approved restoration plan dated December 4, 2014 no later than March 16, 2015. The candidate shall have the necessary professional background to assume responsibility for said implementation. If the ACC finds that the candidate chosen by the applicant lacks the necessary professional background the applicant will be notified in writing within one business day or receipt.
3. The wetlands scientist shall implement the approved restoration plan in a manner consistent with said plan including post construction monitoring as stipulated in the approved restoration plan including an initial monitoring report due to the ACC by June 15, 2015.
4. The monitoring reports shall assess all wetland impacts and restoration efforts to date and include any requests for modification to the approved restoration plan as deemed appropriate.
5. A subsequent monitoring report shall be submitted to the ACC no later than October 13, 2015 for review and discussion at the November 2, 2015 ACC meeting. The NESP wetland scientist shall be present to brief the commission on restoration to date.
6. NESP shall note that a subsequent monitoring period per the approved plan with monitoring reports to be submitted June 15, 2016 and October 14, 2016 exists. The wetland scientist retained by NESP shall appear before the ACC at the November, 2016 meeting for a final update at which time the ACC may close out the enforcement order if the site is in compliance.

Appendix

Approved Restoration Plan
“Wetlands Impact Assessment,
Amesbury Land Associates, Inc. and Event Partners, LLC.”
December 5, 2014.



Wetland Impact Assessment
Amesbury Land Associates, Inc. and Event Partners, LLC
December 5, 2014

Introduction

Rimmer Environmental Consulting, LLC (REC) was retained by Amesbury Land Associates, Inc. and Event Partners, LLC to assist in responding to an Enforcement Order issued by the Amesbury Conservation Commission on August 29, 2014 and amended on September 15, 2014. The Enforcement Order requires an assessment of impacts to wetland resources and buffer zones due to the construction and use of an approximately 4.8 mile trail through portions of the Amesbury Sports Park, City of Amesbury land and other private properties. The trail route is indicated on Figure 1 as the Reebok Spartan Race Boston Spartan Sprint. The trail passes through property owned by Abel Realty, LLC, Goodwin's Creek Homeowner's Trust, Waste Management Disposal Services of Massachusetts, Bartlett's Reach Condominium Trust, City of Amesbury Margaret Rice Park, and Merrimack Landing Conservation Area as well as the Amesbury Sports Park itself.

Methods

After obtaining written permission to access private properties included in the study area, REC conducted on-site assessments on November 19, 20 and 25, 2014. The entire route was traversed and wetland resources within and immediately adjacent to the trail route were delineated with numbered sequences of flags. These flags as well as the limits of disturbance to wetland resources were then located by GPS. Photos were taken at each area of disturbance. GPS data was then imported to 2013 orthophotos of the project area and plans were developed depicting the location of the trail, wetland resources and limits of disturbance. These plans include one index sheet and seven (7) detail sheets and are included as an attachment to this document. Photos are cross-referenced on the plans to assist in viewing the location of impacts.

The extent of impacts at each location were then evaluated and quantified. Because of the late season at the time of inspection and the extent of leaf litter, some impacts may be hard to discern in the attached photos. We have assumed for this investigation that in general there were no new trails constructed and that the trails utilized for the race were existing trails. In some areas it not possible to determine whether impacts are associated with the Spartan Race conducted in August, or subsequent use, especially by continuing ATV access to the site. However, where direct wetland impacts were observed that appear likely to have been conducted by or contributed to by the Spartan Race, REC has proposed restoration measures to address these impacts.

Results

The subject parcels range from a large former sand and gravel mining area, a capped landfill, and woodland areas bordering residential neighborhoods. The types of impacts observed include soil erosion due to rutting caused by ATV or other vehicle use of the trails, vegetation loss due to trail widening, installation of temporary bridges to cross streams, gully erosion due to the redirection of flow or trail overuse, impacts to stream banks and wetlands due to foot traffic and installation of fill material within a stream channel. The following is a summary of wetland impact areas as well as recommendations for remediation of impacts:

1. *City of Amesbury- Margaret Rice Park (Detail Sheets 1 and 2)*

This property is located at the eastern portion of the trail, southeast of the Amesbury Sports Park. The property appears to be a former sand and gravel mining area with mostly early successional growth, especially non-native autumn olive, crabapple and shrub willows. Flags A1-A5 and A6-A10 delineate a section of trail that passes through wetland and buffer zone. Two intermittent stream channels converge near flag A1 and this combined channel flows south within the trail where it then begins to pond in a low area near flags A6-A10. There is some erosion within the trail, but little or no siltation of adjacent wetlands. It is difficult to determine if this is due to race activities or if this was a previously existing condition.



Photo 1 – Near flag A1, confluence of 2 intermittent streams



Photo 2: Stream flowing in trail toward wetland at flag A6

There is a second area where the trail (shown in Photo 3 below) crosses a stream channel in this property at flags B1-B2, and B3-B4. This is a small swale that likely also conveys intermittent flow. It is not more than 2-3-feet wide. There does not appear to have been significant impact in this area.



Photo 3: Swale/Intermittent stream crossing trail at flags B1-B4

Recommendations for Margaret Rice Park: No restoration is recommended for the Margaret Rice Park area. Any damage to vegetation appears to have been temporary and the area is likely to be fully restored on its own within one more growing season and the elimination of heavy use from past racing activities. The City should consider measures to eliminate access to the site by ATVs to provide further protection to the trail and adjacent wetlands.

2. *Goodwin's Creek Homeowners Trust – (Detail Sheet 1)*

This property is located west of Margaret Rice Park. An approximately 250 foot section of the easternmost portion of the trail contains some gully erosion where runoff is channeled east toward the A-series wetland described above.



Photo 4: Near property boundary between Margaret Rice Park and Goodwin's Creek Homeowner's Trust

Recommendations for Goodwin's Creek Homeowner's Trust: No restoration is recommended for the Goodwin's Creek Homeowners Trust parcel. Any damage to vegetation appears to have been temporary and the area is likely to be fully restored on its own within one more growing season and the elimination of heavy use from past racing activities. The homeowner's trust should consider measures to eliminate access to the site by ATVs to provide further protection to the trail and adjacent wetlands.

3. *Waste Management Disposal Services of Massachusetts, Inc. (Detail Sheet 7)*

This property is located west of the Amesbury Sports Park and includes the capped landfill at the westernmost portion of the site. Tough Mudders constructed three pits at this site, near what is indicated on the Spartan Race map as station 5 on Figure 1. While the pits appear to have been dug primarily in upland areas, there is a small area of wetland on the north side of the pits and a very narrow intermittent stream channel on the south side. It is possible that there was an intermittent stream channel that connected the wetland with the lower channel through the area where the pits were constructed.

In addition to the pits there is a stream crossing at the western end of the trail near the border with the Merrimac Landing Conservation Area, delineated by flags C1-C2 and C3-C5. This stream contained remnants of a wooden footbridge supported by tires, a wooden pallet and other debris. Approximately 25 feet of the trail at the steep decline approaching the west bank contains some gully erosion. Approximately 20 feet from the east bank the trail has been widened by ATV use and probably pedestrian use. REC estimated that there were 460 square feet of impact to Bordering Vegetated Wetland (BVW) at this location and 32 linear feet of intermittent stream bank.



Photo 5: Stream crossing near flag C1, view east



Photo 6: Trail erosion and trail widening beyond stream crossing, view east



Photo 7: Gully erosion on the trail leading to stream, view west

The area on the Waste Management site that was used for the tire pull by the Spartan Race is relatively flat, open cleared area mostly devoid of vegetation. Soil has been bermed up along much of the southern edge of this clearing. The clearing is more than 100 feet from wetland resources. However, stormwater runoff from the drainage area upgradient of the clearing which includes the grassy hillside to the east (Spartan stations 14-18) is directed along existing gravel roads to a single point in the northeast corner of the clearing. There is some erosion here that has created a small channel which flows out of the clearing and down the steep hillside to the south. By the time this flow reaches the Merrimack Landing Conservation Area the channel has excised a very steep gully (see Merrimack Landing photos in the following section 4(h)).



Photo 8: Cleared area showing discharge to the south

Eventually the flow discharges to a down gradient wetland where the slope flattens out. Considerable sediment has accumulated in this wetland.

Reference to historic aerial photos from MassGIS dating back to at least 2001 (provided as a separate attachment) indicate that this gully is not recent. The channel erosion of the eastern field and the cleared area can be clearly seen discharging to this location. However, it is likely that the lack of vegetation stabilizing the soil and the berming of the cleared area have contributed to the on-going erosion of the gully and subsequent sedimentation of the down gradient wetland.

Recommendations for Waste Management Site: Restoration of the area where the pits were constructed is proposed to be conducted by Tough Mudders under a separate Enforcement Order and is not addressed in this report.

Proposed restoration measures at the stream crossing at wetland C include the following:

- Installation of straw wattle erosion control barrier on both sides of the stream crossing as a temporary erosion control measure
- Minor re-grading of the wetland and buffer zone within 50 feet of the east side of the stream using a small track machine to minimize further rutting of the trail.
- Removal of the remains of the bridge, pallets, tires and any other debris within the stream bed by hand.
- Re-grading and installation of 1-inch gravel fill to repair gully erosion on the slope approaching the west bank. No fill is to be placed in wetlands.
- Install approximately 4 highbush blueberry (*Vaccinium corymbosum*) and 4 Northern arrow-wood (*Viburnum recognitum*) to re-establish minimum trail width of 5 feet in the wetland area on the east side of the stream.
- Overseeding with New England Wetmix any disturbed soil areas on the bank or wetland.

Restoration of the on-going erosion within the clearing area is recommended as follows:

- Install erosion controls consisting of straw wattles across the discharge location.
- Extend a portion of the existing berm on the southern side of the cleared area across the discharge location to direct flow away from the gully.
- Re-grade approximately 200 feet of the gravel road upgradient of the cleared area to minimize rutting and channelization of flow.
- Remove the remaining portions of the berm on the south side of the clearing and replace this material within the clearing, grading to prevent discharge to the gully.
- Overseed clearing with a conservation seed mix to improve vegetative cover and soil retention.

4. *Merrimack Landing Conservation Area (Detail Sheets 3-7)*

This property is bordered by the Waste Management site to the north and west and Abel Realty LLC to the east. The trail crosses wetlands and streams in seven locations.

- a) Flags D1-D3 and D4-D6 delineate an approximately 90 foot long mucky section of trail that appears to have been slightly widened at some point recently. There were a few cuts of shrubs and small saplings noted on the edges of the trail. There was some ponding in the eastern portion near D5-D6 approximately 6-inches deep. Some sand and silt was eroding along the trail near D1 where runoff from the steeper section of the trail to the west was beginning to settle out. Soil stockpiles nearby, shown on left of photo 9, suggest that this area had been excavated at one time.



Photo 9: Near flag D7

- b) Flags E1-E2 and E3-E5 delineate the banks of a narrow stream crossing. The stream makes a bend at this location and the banks have been disturbed to allow for passage by ATV use and pedestrian use. A small cut in the south bank has been made to make a more gradual slope. The material excavated appears to be stockpiled close to the bank.



Photo 10: Stream crossing at E4, view south



**Photo 11: Stream Crossing above cut to south bank (view north)
Stockpiled material on left of photo**

- c) **Flags 1-8 delineate an approximately 200 foot section of trail that passes through wetland and buffer zone. The portion of trail that passes through flags 1-5 is part of the wetland and is muddy and contained vehicle ruts. The section that passes by flag 5-8 is in the buffer zone. This section of trail contained some gully erosion.**



Photo 12: muddy section of trail through wetland with vehicle tracks near flag 3

- d) An intermittent stream channel that exits the Waste Management site near the pits that were created flows downhill toward a trail intersection just west of flags 1-8 on Detail Sheet 5. This stream channel was flagged by LEC as part of its review of the Tough Mudders impacts. The 1-foot wide intermittent stream channel appears to have originally crossed over the trail just east of the trail intersection. With the trail ruts created by ATV and possibly some trail widening in this area it appears that the channel is now directed to the west along the trail instead of into its original channel across the trail.



Photo13: Intermittent stream channel re-directed to side of trail

- e) Flags 9-11 and 12-15 on Detail Sheet 4 delineate an approximately 200 foot section of trail along the base of the hill that follows along the upslope side of a wooded swamp. A small section of approximately 70 feet intersects the wetland. Again, vehicle ruts were noted here but no other impacts were observed.



Photo 14: Near flag 9 Trail passes through buffer zone.



Photo 15: rutted trail near flag 12 where trail passes through wetland

- f) Again, the trail passes through a muddy section of mostly buffer zone at flags 16-19 (see Detail Sheet 4). This is an approximately 50 foot section of trail with a large puddle and several muddy sections, but with only 20 feet or so within wetland. The area is relatively flag and despite some rutting, no sedimentation of adjacent wetlands was observed.



Photo 16: Near flag 17

- g) Flags 20-24 and 25-27 on Detail Sheet 3 delineate the location of a swale/intermittent stream channel crossing the trail conveying flow to the east. There is wooded wetland on both sides of the trail at this location. Again only vehicle ruts were noted and no other direct wetland impacts were observed.



Photo17: Near flag 22

- h) Just west of wetland flags 9-11 is the location where the trail crosses the gully described above under the Waste Management section of this report. The gully starts in the clearing of the Waste Management site where the tire pull activity was held by the Spartan Race and continues through the Merrimack Landing Conservation Area. The gully is not a resource area under the Wetlands Protection Act, since it does not flow out of another wetland. However, the erosion of the gully is causing continuing deposition of sediment into the downgradient wetland.



Photo 18: Gully at trail crossing



Photo 19: Sedimentation of down gradient wetland

Recommendations for Merrimack Landing Conservation Area:

- 4a) Use existing soil stockpile adjacent to trail to restore trail to elevation of land on either side of trail to minimize ponding at this location.
- 4b) Repair/rebuild the north and south banks of area E using staked coir logs and backfill on the upland side to restored grades using existing soil stockpiled nearby in the buffer zone. Install 4 highbush blueberry (*Vaccinium corymbosum*) on south bank to re-establish maximum 5-foot trail width.
- 4c) Minor regarding of trail to eliminate rutting with small tracked vehicle.
- 4d) Reconstruct a 1-foot wide, 6 inch deep swale to convey the intermittent stream channel across trail. Channel should be backfilled with 2-inches of 2-inch rounded stone and tie into stream on the north and south sides of the trail.
- 4e) No change proposed here.
- 4f) Use existing soil stockpiled nearby and along edges of trails to cover roots and rebuild trail to minimize ponding. Trail should be restored to elevation of existing land on either side.
- 4g) No change proposed here.
- 4h) Since the erosion associated with the impacts to wetlands down gradient of this location appears to pre-date the activities addressed in the present Enforcement Order, REC is not recommending remediation of the sedimentation to wetlands that have occurred as a result of the extensive gully erosion. The Conservation Commission may wish to address the restoration of this wetland under a separate enforcement action. However, since the activities associated with the Spartan Race may have contributed to on-going erosion of the gully by maintaining the tire pull area in a non-vegetated condition that makes it more susceptible to erosion and they may be responsible for construction of the earthen berm along the south side of this cleared area, measures are recommended under Section 3 of this report under Waste Management Disposal Services of Massachusetts to minimize the conditions contributing to this on-going erosion.

Also, see Bartlett's Reach Condominium Trust below as a small portion of the Wetland F impacts described are located within the Merrimack Landing Conservation Area.

The City should also consider measures to eliminate access to the site by ATVs to provide further protection to the trail and adjacent wetlands.

5. Bartlett's Reach Condominium Trust (Detail Sheet 6)

Starting approximately 50 feet west of the northernmost portion of the Bartlett's Reach Condominium Trust property within the Merrimack Landing Conservation Area and extending approximately 300 feet into the Bartlett's Reach property is a large wooded swamp. This swamp contains a stream that crosses the trail from northwest to southeast. Because the soils are very mucky in this area, there was considerable soil disturbance from the heavy foot traffic during the races that occurred through here, as evidenced by the numerous shoes and socks still strewn through the area. The trail has been significantly widened and it appears some understory has been cleared. The stream banks have been altered by trampling and there is a small earth dam across the channel that has caused re-routing of a portion of the channel. An approximately 20 x 20 foot pit has been constructed in the portion of the trail that includes the wetland. REC estimates approximately 4,900 square feet of Bordering Vegetated Wetland was impacted and 54 linear feet of intermittent stream bank.



Photo 20: Approach to stream crossing. Constructed pit in background



Photo21: Earthen dam across stream channel



Photo 22: Disturbed stream channel

Recommendations for Bartlett's Reach Condominium Trust:

- This work is to be conducted as much as possible during winter months with frozen ground conditions or during summer low flow conditions.
- Install temporary erosion controls consisting of straw wattle along the east and west sides of the stream and across the downstream end of the stream channel.
- Temporarily divert flow away from the restoration area using a temporary coffer dam and pump to discharge downstream around the restoration area. The intake is to be

bedded in a gravel sack that is easily removed and the discharge will be fitted with a filter sock to prevent downstream turbidity

- Install and stake 12-inch coir fiber logs to restore damaged section of stream banks
- Backfill against the upgradient side of the fiber logs using existing soil material, including material taken from earthen dam within the stream bed.
- Replant disturbed area with the following plantings:

(20) winterberry/*Ilex verticillata* 2-3'

(20) highbush blueberry/*Vaccinium corymbosum* 2-3'

(10) silky dogwood/*Cornus amomum* 2-3'

- Overseed the disturbed wetland area with 1 pound of New England Wetmix.
- The excavated pit within the trail is proposed to remain in place as it has potential to provide vernal pool habitat. A minimum of six of the above plantings will be installed on the north side of this pit to provide cover. A log and some other structural features may also be added to provide potential amphibian egg attachment sites.
- Remove temporary erosion control measures

Abel Realty LLC (Detail Sheet 3)

Flags 28-31 and 32-35 delineate another ponded area of trail with wetland on the north side and an intermittent channel on the south side. The trail has been constructed wider than necessary at this location in order to avoid a large puddle.



Photo 23: Flag 30, trail widened to avoid puddle

Recommendations for Abel Realty LLC:

Install logs and brush to divert pedestrians around larger puddle and close off widened trail section to the east.

Additional Recommendations:

Work associated with the restoration of all wetlands and buffer zones described in this report shall be supervised by a wetland scientist to be approved by the Amesbury Conservation Commission prior to commencement of work. A minimum of 48 hours notification to the Conservation Commission will be provided prior to the commencement of all work on site. Daily email updates will also be provided to keep the Commission informed on progress of work.

The work is proposed to be conducted during either frozen ground conditions or during summer low flow conditions as much as possible. Plantings are to be installed only between May 15 and October 30. Completion of work is expected to require approximately one week.

Post Construction Monitoring

Upon completion of work, the wetland and buffer zone restoration areas will be monitored following construction to insure stable conditions and re-establishment of restoration plantings. Monitoring by a wetland scientist shall be conducted during the spring by June 15 and the fall by October 15 for two growing seasons following installation of plantings unless otherwise agreed to by the Amesbury Conservation Commission. Invasive species shall be controlled by hand pulling during the monitoring period. Plant mortality in excess of 10% shall be replaced during the monitoring period.

Monitoring reports, including photographs, a description of site conditions, plant health, percent wetland cover and any recommendation for additional mitigation shall be provided to the Amesbury Conservation Commission by November 1 of each year of monitoring. The wetland scientist shall report to the Conservation Commission at their regularly scheduled meeting on November 16, 2015 to present the monitoring report.



Wetland Impact Assessment
Amesbury Land Associates, Inc. and Event Partners, LLC
December 5, 2014

Introduction

Rimmer Environmental Consulting, LLC (REC) was retained by Amesbury Land Associates, Inc. and Event Partners, LLC to assist in responding to an Enforcement Order issued by the Amesbury Conservation Commission on August 29, 2014 and amended on September 15, 2014. The Enforcement Order requires an assessment of impacts to wetland resources and buffer zones due to the construction and use of an approximately 4.8 mile trail through portions of the Amesbury Sports Park, City of Amesbury land and other private properties. The trail route is indicated on Figure 1 as the Reebok Spartan Race Boston Spartan Sprint. The trail passes through property owned by Abel Realty, LLC, Goodwin's Creek Homeowner's Trust, Waste Management Disposal Services of Massachusetts, Bartlett's Reach Condominium Trust, City of Amesbury Margaret Rice Park, and Merrimack Landing Conservation Area as well as the Amesbury Sports Park itself.

Methods

After obtaining written permission to access private properties included in the study area, REC conducted on-site assessments on November 19, 20 and 25, 2014. The entire route was traversed and wetland resources within and immediately adjacent to the trail route were delineated with numbered sequences of flags. These flags as well as the limits of disturbance to wetland resources were then located by GPS. Photos were taken at each area of disturbance. GPS data was then imported to 2013 orthophotos of the project area and plans were developed depicting the location of the trail, wetland resources and limits of disturbance. These plans include one index sheet and seven (7) detail sheets and are included as an attachment to this document. Photos are cross-referenced on the plans to assist in viewing the location of impacts.

The extent of impacts at each location were then evaluated and quantified. Because of the late season at the time of inspection and the extent of leaf litter, some impacts may be hard to discern in the attached photos. We have assumed for this investigation that in general there were no new trails constructed and that the trails utilized for the race were existing trails. In some areas it not possible to determine whether impacts are associated with the Spartan Race conducted in August, or subsequent use, especially by continuing ATV access to the site. However, where direct wetland impacts were observed that appear likely to have been conducted by or contributed to by the Spartan Race, REC has proposed restoration measures to address these impacts.

Results

The subject parcels range from a large former sand and gravel mining area, a capped landfill, and woodland areas bordering residential neighborhoods. The types of impacts observed include soil erosion due to rutting caused by ATV or other vehicle use of the trails, vegetation loss due to trail widening, installation of temporary bridges to cross streams, gully erosion due to the redirection of flow or trail overuse, impacts to stream banks and wetlands due to foot traffic and installation of fill material within a stream channel. The following is a summary of wetland impact areas as well as recommendations for remediation of impacts:

1. City of Amesbury- Margaret Rice Park (Detail Sheets 1 and 2)

This property is located at the eastern portion of the trail, southeast of the Amesbury Sports Park. The property appears to be a former sand and gravel mining area with mostly early successional growth, especially non-native autumn olive, crabapple and shrub willows. Flags A1-A5 and A6-A10 delineate a section of trail that passes through wetland and buffer zone. Two intermittent stream channels converge near flag A1 and this combined channel flows south within the trail where it then begins to pond in a low area near flags A6-A10. There is some erosion within the trail, but little or no siltation of adjacent wetlands. It is difficult to determine if this is due to race activities or if this was a previously existing condition.



Photo 1 – Near flag A1, confluence of 2 intermittent streams



Photo 2: Stream flowing in trail toward wetland at flag A6

There is a second area where the trail (shown in Photo 3 below) crosses a stream channel in this property at flags B1-B2, and B3-B4. This is a small swale that likely also conveys intermittent flow. It is not more than 2-3-feet wide. There does not appear to have been significant impact in this area.



Photo 3: Swale/Intermittent stream crossing trail at flags B1-B4

Recommendations for Margaret Rice Park: No restoration is recommended for the Margaret Rice Park area. Any damage to vegetation appears to have been temporary and the area is likely to be fully restored on its own within one more growing season and the elimination of heavy use from past racing activities. The City should consider measures to eliminate access to the site by ATVs to provide further protection to the trail and adjacent wetlands.

2. *Goodwin's Creek Homeowners Trust – (Detail Sheet 1)*

This property is located west of Margaret Rice Park. An approximately 250 foot section of the easternmost portion of the trail contains some gully erosion where runoff is channeled east toward the A-series wetland described above.



Photo 4: Near property boundary between Margaret Rice Park and Goodwin's Creek Homeowner's Trust

Recommendations for Goodwin's Creek Homeowner's Trust: No restoration is recommended for the Goodwin's Creek Homeowners Trust parcel. Any damage to vegetation appears to have been temporary and the area is likely to be fully restored on its own within one more growing season and the elimination of heavy use from past racing activities. The homeowner's trust should consider measures to eliminate access to the site by ATVs to provide further protection to the trail and adjacent wetlands.

3. *Waste Management Disposal Services of Massachusetts, Inc. (Detail Sheet 7)*

This property is located west of the Amesbury Sports Park and includes the capped landfill at the westernmost portion of the site. Tough Mudders constructed three pits at this site, near what is indicated on the Spartan Race map as station 5 on Figure 1. While the pits appear to have been dug primarily in upland areas, there is a small area of wetland on the north side of the pits and a very narrow intermittent stream channel on the south side. It is possible that there was an intermittent stream channel that connected the wetland with the lower channel through the area where the pits were constructed.

In addition to the pits there is a stream crossing at the western end of the trail near the border with the Merrimac Landing Conservation Area, delineated by flags C1-C2 and C3-C5. This stream contained remnants of a wooden footbridge supported by tires, a wooden pallet and other debris. Approximately 25 feet of the trail at the steep decline approaching the west bank contains some gully erosion. Approximately 20 feet from the east bank the trail has been widened by ATV use and probably pedestrian use. REC estimated that there were 460 square feet of impact to Bordering Vegetated Wetland (BVW) at this location and 32 linear feet of intermittent stream bank.



Photo 5: Stream crossing near flag C1, view east



Photo 6: Trail erosion and trail widening beyond stream crossing, view east



Photo 7: Gully erosion on the trail leading to stream, view west

The area on the Waste Management site that was used for the tire pull by the Spartan Race is relatively flat, open cleared area mostly devoid of vegetation. Soil has been bermed up along much of the southern edge of this clearing. The clearing is more than 100 feet from wetland resources. However, stormwater runoff from the drainage area upgradient of the clearing which includes the grassy hillside to the east (Spartan stations 14-18) is directed along existing gravel roads to a single point in the northeast corner of the clearing. There is some erosion here that has created a small channel which flows out of the clearing and down the steep hillside to the south. By the time this flow reaches the Merrimack Landing Conservation Area the channel has excised a very steep gully (see Merrimack Landing photos in the following section 4(h)).



Photo 8: Cleared area showing discharge to the south

Eventually the flow discharges to a down gradient wetland where the slope flattens out. Considerable sediment has accumulated in this wetland.

Reference to historic aerial photos from MassGIS dating back to at least 2001 (provided as a separate attachment) indicate that this gully is not recent. The channel erosion of the eastern field and the cleared area can be clearly seen discharging to this location. However, it is likely that the lack of vegetation stabilizing the soil and the berming of the cleared area have contributed to the on-going erosion of the gully and subsequent sedimentation of the down gradient wetland.

Recommendations for Waste Management Site: Restoration of the area where the pits were constructed is proposed to be conducted by Tough Mudders under a separate Enforcement Order and is not addressed in this report.

Proposed restoration measures at the stream crossing at wetland C include the following:

- Installation of straw wattle erosion control barrier on both sides of the stream crossing as a temporary erosion control measure
- Minor re-grading of the wetland and buffer zone within 50 feet of the east side of the stream using a small track machine to minimize further rutting of the trail.
- Removal of the remains of the bridge, pallets, tires and any other debris within the stream bed by hand.
- Re-grading and installation of 1-inch gravel fill to repair gully erosion on the slope approaching the west bank. No fill is to be placed in wetlands.
- Install approximately 4 highbush blueberry (*Vaccinium corymbosum*) and 4 Northern arrow-wood (*Viburnum recognitum*) to re-establish minimum trail width of 5 feet in the wetland area on the east side of the stream.
- Overseeding with New England Wetmix any disturbed soil areas on the bank or wetland.

Restoration of the on-going erosion within the clearing area is recommended as follows:

- Install erosion controls consisting of straw wattles across the discharge location.
- Extend a portion of the existing berm on the southern side of the cleared area across the discharge location to direct flow away from the gully.
- Re-grade approximately 200 feet of the gravel road upgradient of the cleared area to minimize rutting and channelization of flow.
- Remove the remaining portions of the berm on the south side of the clearing and replace this material within the clearing, grading to prevent discharge to the gully.
- Overseed clearing with a conservation seed mix to improve vegetative cover and soil retention.

4. *Merrimack Landing Conservation Area (Detail Sheets 3-7)*

This property is bordered by the Waste Management site to the north and west and Abel Realty LLC to the east. The trail crosses wetlands and streams in seven locations.

- a) Flags D1-D3 and D4-D6 delineate an approximately 90 foot long mucky section of trail that appears to have been slightly widened at some point recently. There were a few cuts of shrubs and small saplings noted on the edges of the trail. There was some ponding in the eastern portion near D5-D6 approximately 6-inches deep. Some sand and silt was eroding along the trail near D1 where runoff from the steeper section of the trail to the west was beginning to settle out. Soil stockpiles nearby, shown on left of photo 9, suggest that this area had been excavated at one time.



Photo 9: Near flag D7

- b) Flags E1-E2 and E3-E5 delineate the banks of a narrow stream crossing. The stream makes a bend at this location and the banks have been disturbed to allow for passage by ATV use and pedestrian use. A small cut in the south bank has been made to make a more gradual slope. The material excavated appears to be stockpiled close to the bank.



Photo 10: Stream crossing at E4, view south



**Photo 11: Stream Crossing above cut to south bank (view north)
Stockpiled material on left of photo**

- c) Flags 1-8 delineate an approximately 200 foot section of trail that passes through wetland and buffer zone. The portion of trail that passes through flags 1-5 is part of the wetland and is muddy and contained vehicle ruts. The section that passes by flag 5-8 is in the buffer zone. This section of trail contained some gully erosion.



Photo 12: muddy section of trail through wetland with vehicle tracks near flag 3

- d) An intermittent stream channel that exits the Waste Management site near the pits that were created flows downhill toward a trail intersection just west of flags 1-8 on Detail Sheet 5. This stream channel was flagged by LEC as part of its review of the Tough Mudders impacts. The 1-foot wide intermittent stream channel appears to have originally crossed over the trail just east of the trail intersection. With the trail ruts created by ATV and possibly some trail widening in this area it appears that the channel is now directed to the west along the trail instead of into its original channel across the trail.



Photo13: Intermittent stream channel re-directed to side of trail

- e) Flags 9-11 and 12-15 on Detail Sheet 4 delineate an approximately 200 foot section of trail along the base of the hill that follows along the upslope side of a wooded swamp. A small section of approximately 70 feet intersects the wetland. Again, vehicle ruts were noted here but no other impacts were observed.



Photo 14: Near flag 9 Trail passes through buffer zone.



Photo 15: rutted trail near flag 12 where trail passes through wetland

- f) Again, the trail passes through a muddy section of mostly buffer zone at flags 16-19 (see Detail Sheet 4). This is an approximately 50 foot section of trail with a large puddle and several muddy sections, but with only 20 feet or so within wetland. The area is relatively flag and despite some rutting, no sedimentation of adjacent wetlands was observed.



Photo 16: Near flag 17

- g) Flags 20-24 and 25-27 on Detail Sheet 3 delineate the location of a swale/intermittent stream channel crossing the trail conveying flow to the east. There is wooded wetland on both sides of the trail at this location. Again only vehicle ruts were noted and no other direct wetland impacts were observed.



Photo17: Near flag 22

- h) Just west of wetland flags 9-11 is the location where the trail crosses the gully described above under the Waste Management section of this report. The gully starts in the clearing of the Waste Management site where the tire pull activity was held by the Spartan Race and continues through the Merrimack Landing Conservation Area. The gully is not a resource area under the Wetlands Protection Act, since it does not flow out of another wetland. However, the erosion of the gully is causing continuing deposition of sediment into the downgradient wetland.



Photo 18: Gully at trail crossing



Photo 19: Sedimentation of down gradient wetland

Recommendations for Merrimack Landing Conservation Area:

4a) Use existing soil stockpile adjacent to trail to restore trail to elevation of land on either side of trail to minimize ponding at this location.

4b) Repair/rebuild the north and south banks of area E using staked coir logs and backfill on the upland side to restored grades using existing soil stockpiled nearby in the buffer zone. Install 4 highbush blueberry (*Vaccinium corymbosum*) on south bank to re-establish maximum 5-foot trail width.

4c) Minor regrading of trail to eliminate rutting with small tracked vehicle.

4d) Reconstruct a 1-foot wide, 6 inch deep swale to convey the intermittent stream channel across trail. Channel should be backfilled with 2-inches of 2-inch rounded stone and tie into stream on the north and south sides of the trail.

4e) No change proposed here.

4f) Use existing soil stockpiled nearby and along edges of trails to cover roots and rebuild trail to minimize ponding. Trail should be restored to elevation of existing land on either side.

4g) No change proposed here.

4h) Since the erosion associated with the impacts to wetlands down gradient of this location appears to pre-date the activities addressed in the present Enforcement Order, REC is not recommending remediation of the sedimentation to wetlands that have occurred as a result of the extensive gully erosion. The Conservation Commission may wish to address the restoration of this wetland under a separate enforcement action. However, since the activities associated with the Spartan Race may have contributed to on-going erosion of the gully by maintaining the tire pull area in a non-vegetated condition that makes it more susceptible to erosion and they may be responsible for construction of the earthen berm along the south side of this cleared area, measures are recommended under Section 3 of this report under Waste Management Disposal Services of Massachusetts to minimize the conditions contributing to this on-going erosion.

Also, see Bartlett's Reach Condominium Trust below as a small portion of the Wetland F impacts described are located within the Merrimack Landing Conservation Area.

The City should also consider measures to eliminate access to the site by ATVs to provide further protection to the trail and adjacent wetlands.

5. *Bartlett's Reach Condominium Trust (Detail Sheet 6)*

Starting approximately 50 feet west of the northernmost portion of the Bartlett's Reach Condominium Trust property within the Merrimack Landing Conservation Area and extending approximately 300 feet into the Bartlett's Reach property is a large wooded swamp. This swamp contains a stream that crosses the trail from northwest to southeast. Because the soils are very mucky in this area, there was considerable soil disturbance from the heavy foot traffic during the races that occurred through here, as evidenced by the numerous shoes and socks still strewn through the area. The trail has been significantly widened and it appears some understory has been cleared. The stream banks have been altered by trampling and there is a small earth dam across the channel that has caused re-routing of a portion of the channel. An approximately 20 x 20 foot pit has been constructed in the portion of the trail that includes the wetland. REC estimates approximately 4,900 square feet of Bordering Vegetated Wetland was impacted and 54 linear feet of intermittent stream bank.



Photo 20: Approach to stream crossing. Constructed pit in background



Photo21: Earthen dam across stream channel



Photo 22: Disturbed stream channel

Recommendations for Bartlett's Reach Condominium Trust:

- This work is to be conducted as much as possible during winter months with frozen ground conditions or during summer low flow conditions.
- Install temporary erosion controls consisting of straw wattle along the east and west sides of the stream and across the downstream end of the stream channel.
- Temporarily divert flow away from the restoration area using a temporary coffer dam and pump to discharge downstream around the restoration area. The intake is to be

bedded in a gravel sack that is easily removed and the discharge will be fitted with a filter sock to prevent downstream turbidity

- Install and stake 12-inch coir fiber logs to restore damaged section of stream banks
- Backfill against the upgradient side of the fiber logs using existing soil material, including material taken from earthen dam within the stream bed.
- Replant disturbed area with the following plantings:

(20) winterberry/Ilex verticillata 2-3'

(20) highbush blueberry/Vaccinium corymbosum 2-3'

(10) silky dogwood/ Cornus amomum 2-3'

- Overseed the disturbed wetland area with 1 pound of New England Wetmix.
- The excavated pit within the trail is proposed to remain in place as it has potential to provide vernal pool habitat. A minimum of six of the above plantings will be installed on the north side of this pit to provide cover. A log and some other structural features may also be added to provide potential amphibian egg attachment sites.
- Remove temporary erosion control measures

Abel Realty LLC (Detail Sheet 3)

Flags 28-31 and 32-35 delineate another ponded area of trail with wetland on the north side and an intermittent channel on the south side. The trail has been constructed wider than necessary at this location in order to avoid a large puddle.



Photo 23: Flag 30, trail widened to avoid puddle

Recommendations for Abel Realty LLC:

Install logs and brush to divert pedestrians around larger puddle and close off widened trail section to the east.

Additional Recommendations:

Work associated with the restoration of all wetlands and buffer zones described in this report shall be supervised by a wetland scientist to be approved by the Amesbury Conservation Commission prior to commencement of work. A minimum of 48 hours notification to the Conservation Commission will be provided prior to the commencement of all work on site. Daily email updates will also be provided to keep the Commission informed on progress of work.

The work is proposed to be conducted during either frozen ground conditions or during summer low flow conditions as much as possible. Plantings are to be installed only between May 15 and October 30. Completion of work is expected to require approximately one week.

Post Construction Monitoring

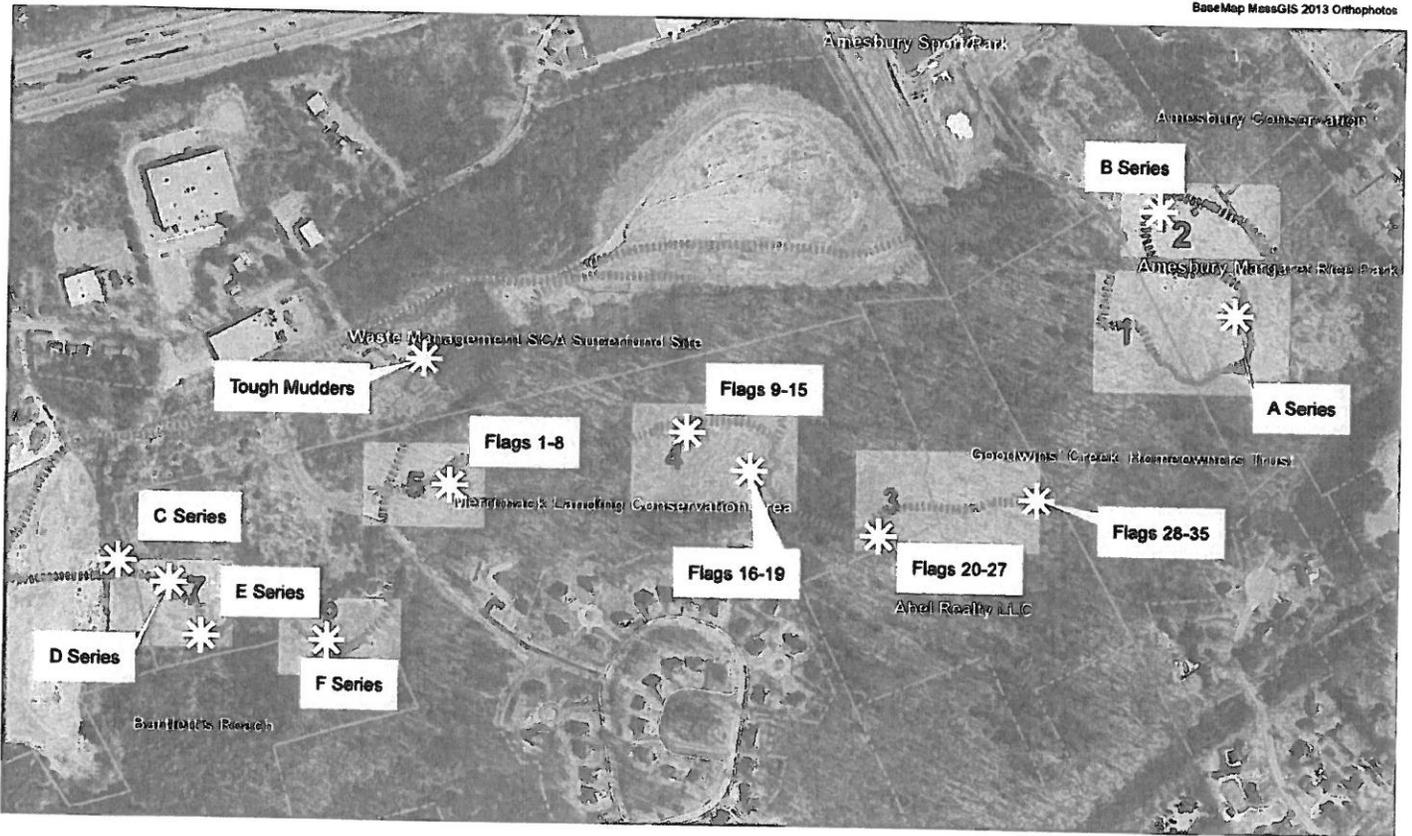
Upon completion of work, the wetland and buffer zone restoration areas will be monitored following construction to insure stable conditions and re-establishment of restoration plantings. Monitoring by a wetland scientist shall be conducted during the spring by June 15 and the fall by October 15 for two growing seasons following installation of plantings unless otherwise agreed to by the Amesbury Conservation Commission. Invasive species shall be controlled by hand pulling during the monitoring period. Plant mortality in excess of 10% shall be replaced during the monitoring period.

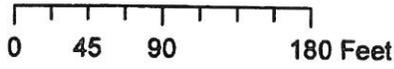
Monitoring reports, including photographs, a description of site conditions, plant health, percent wetland cover and any recommendation for additional mitigation shall be provided to the Amesbury Conservation Commission by November 1 of each year of monitoring. The wetland scientist shall report to the Conservation Commission at their regularly scheduled meeting on November 16, 2015 to present the monitoring report.

**Amesbury Sports Park
Spartan Race Course
Index of Impacts to Wetland Resources**

Rimmer Environmental LLC
October 25, 2014

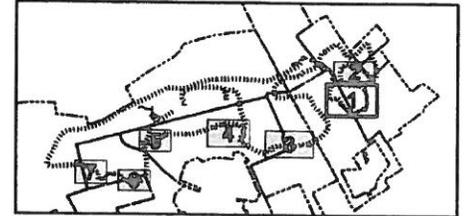
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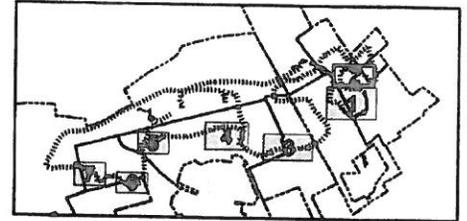
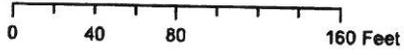




Legend

Wetland	--- Bank	Comment	— Trail in resource	Comment
Resource	--- Int Stream	--- Intermittent Stream	— Trail w Intermittent Stream	* isolated mudhole 4
BVW	RaceTrail	--- Trail in Buffer	← Photo	
Locations			● GPS Point	





Legend

← Photo

WetlandSportPark

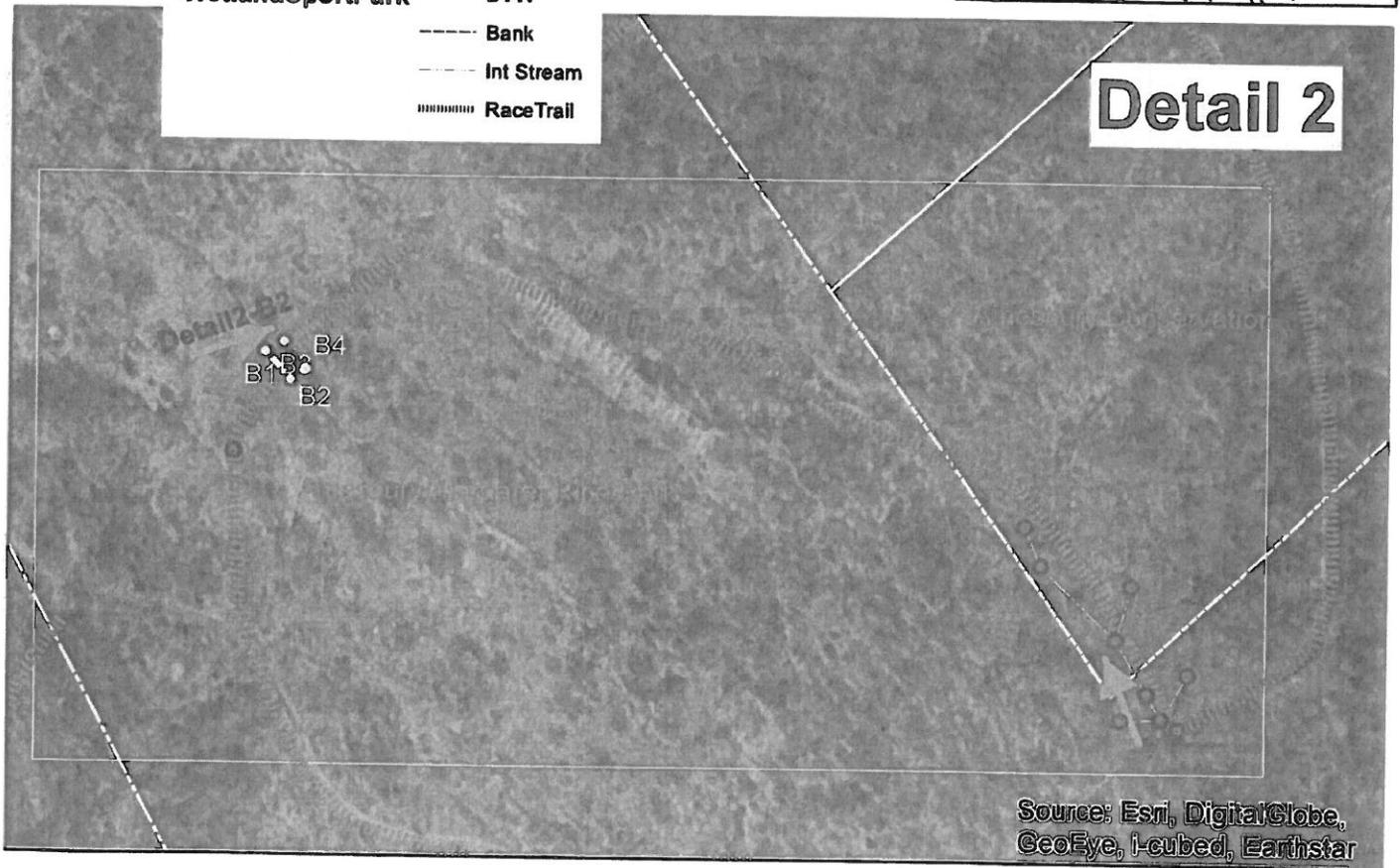
Resource

BVW

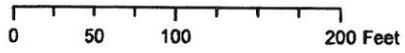
Bank

Int Stream

RaceTrail



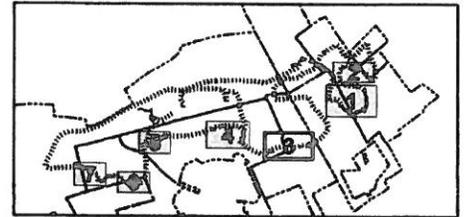
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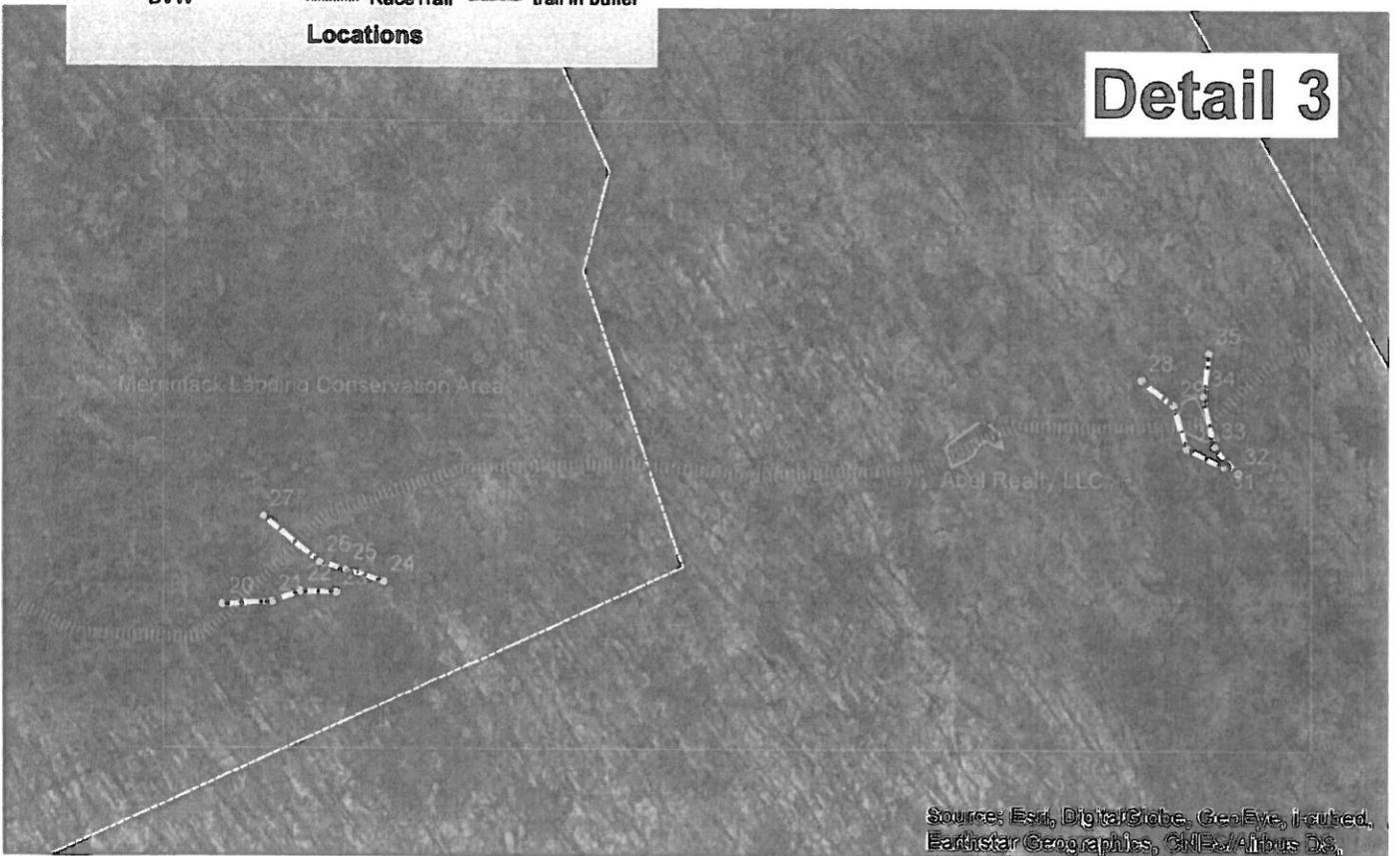
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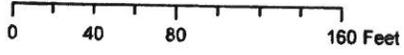
WetlandSportPark Resource	Symbol	Comment
Bank	---	
Int Stream	—	
Mud Trail	—	
RaceTrail		
trail in buffer		

Locations



Detail 3

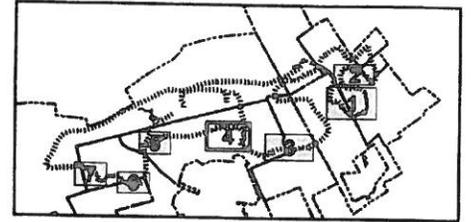




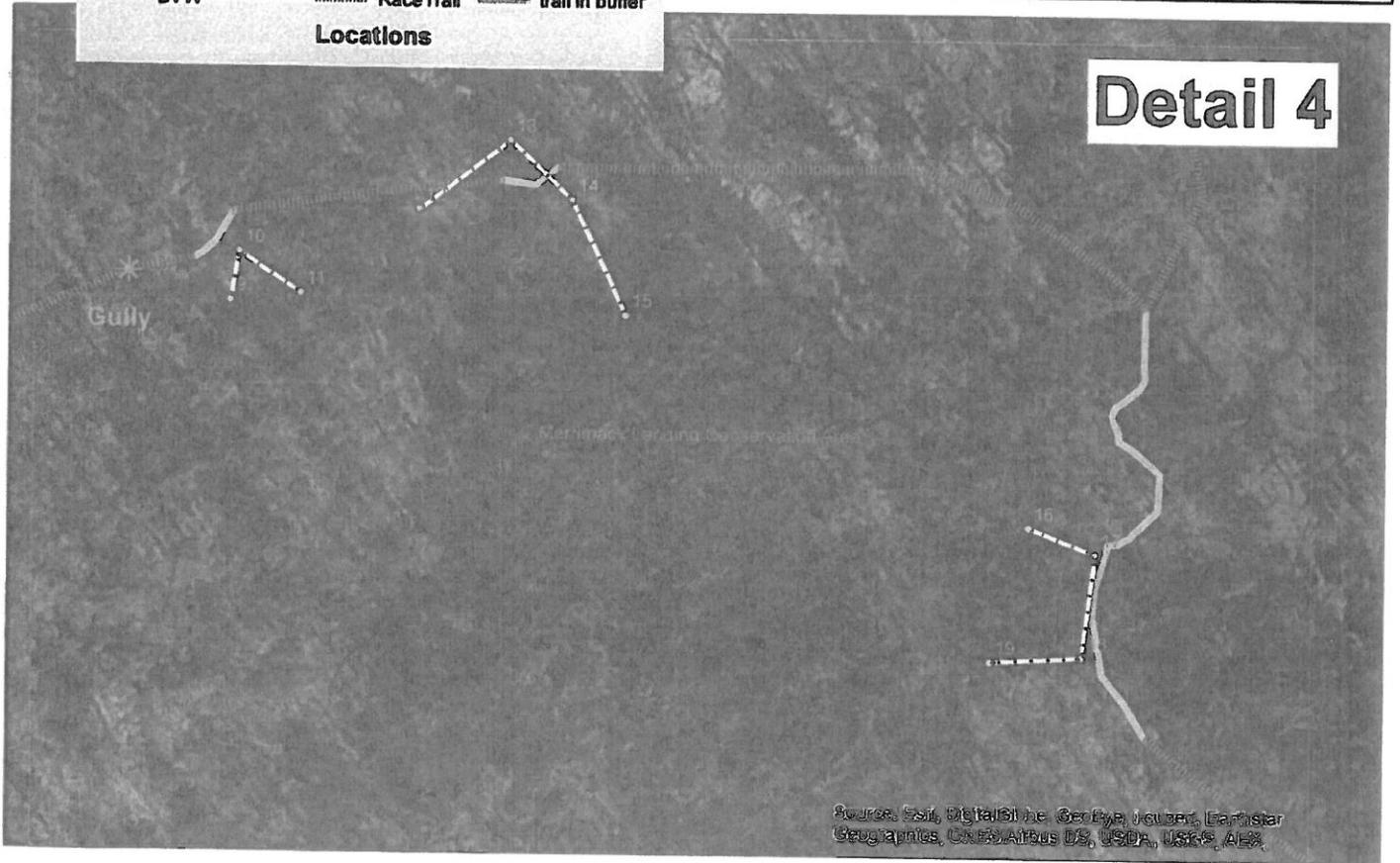
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WetlandSportPark Resource	Symbol	Comment
Bank	---	
Int Stream	- - -	
BVW		
Race Trail	=====	
Mud Trail	=====	
trail in buffer	=====	

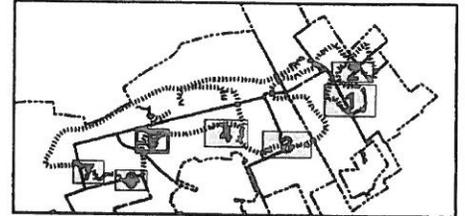
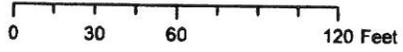
Locations



Detail 4

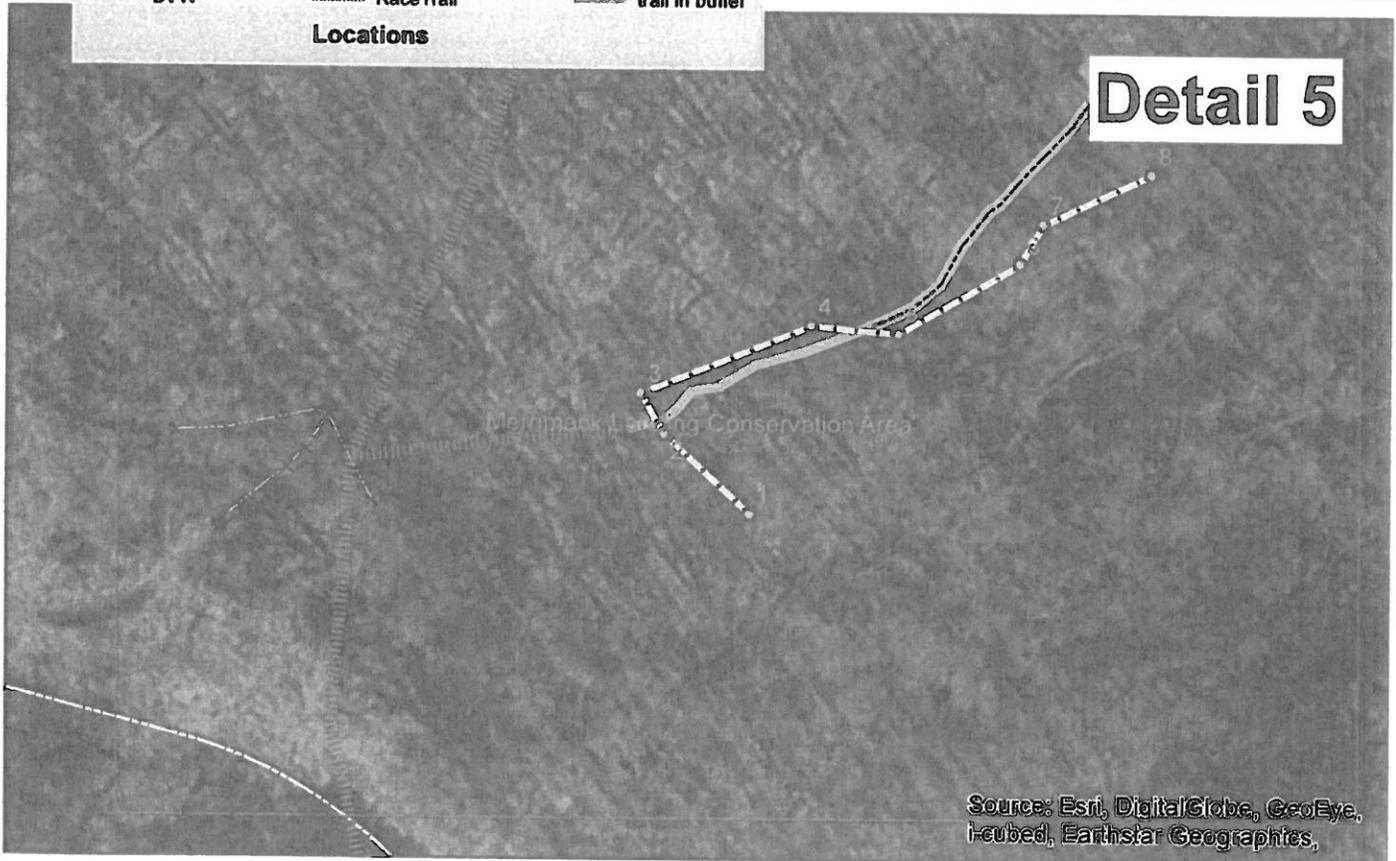


Source: FSI, Digital file: George Heuser, Earthstar Geographics, CA; Esri/Arcus DS, USDA, USFS, AEM



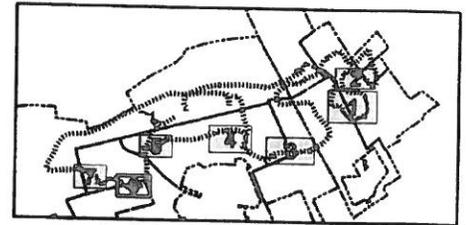
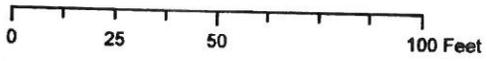
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WetlandSportPark	--- Bank	Comment
Resource	--- Int Stream; Int Stream	--- Mud Trail
BVW	RaceTrail	--- trail in buffer
Locations		



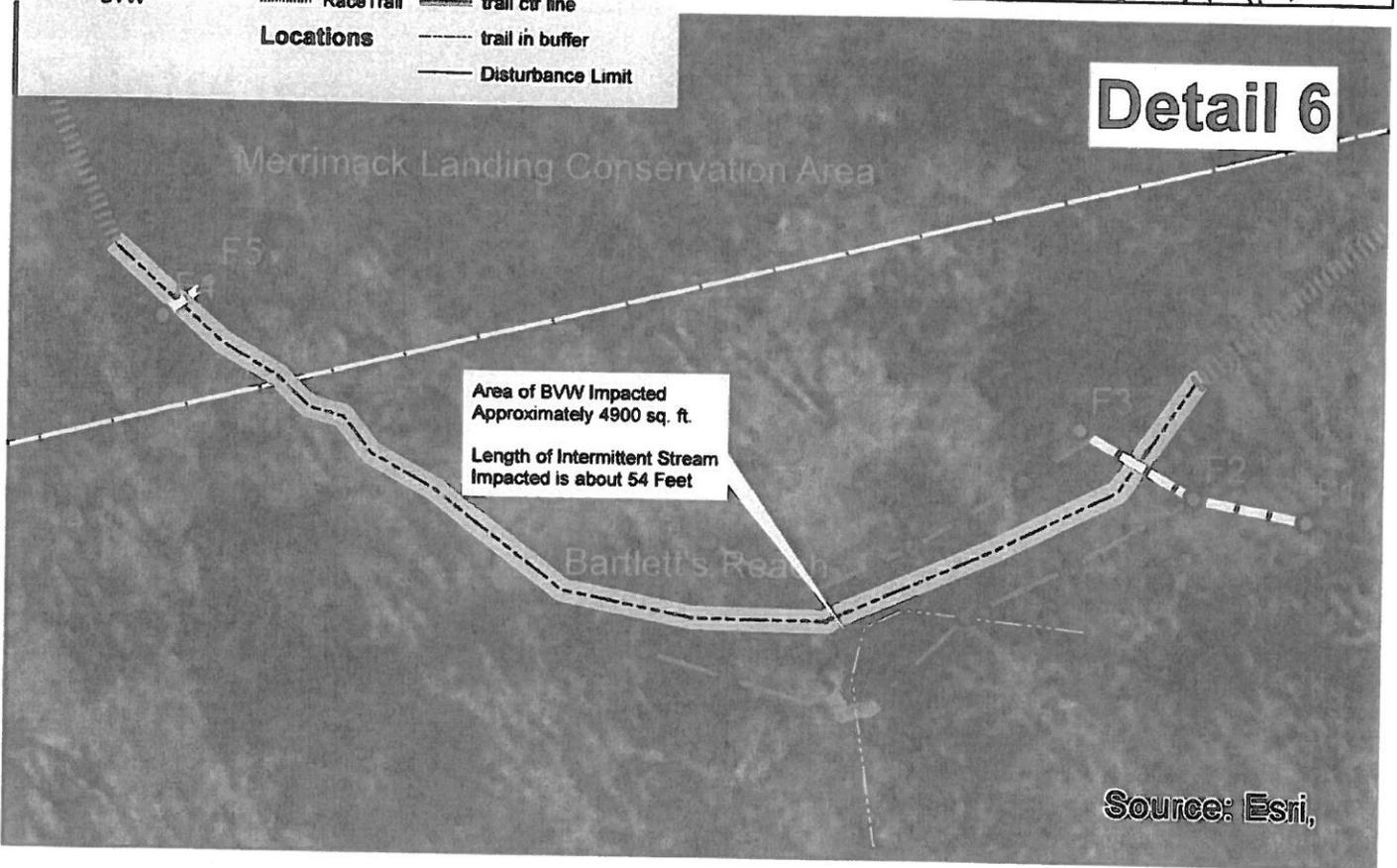
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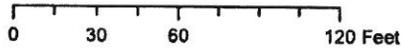
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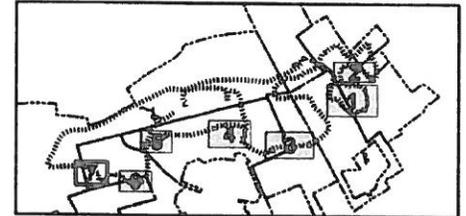
WetlandSportPark Resource	Symbol	Comment
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RaceTrail	RaceTrail	trail ctr line
Locations	--- Locations	trail in buffer
	— Disturbance Limit	



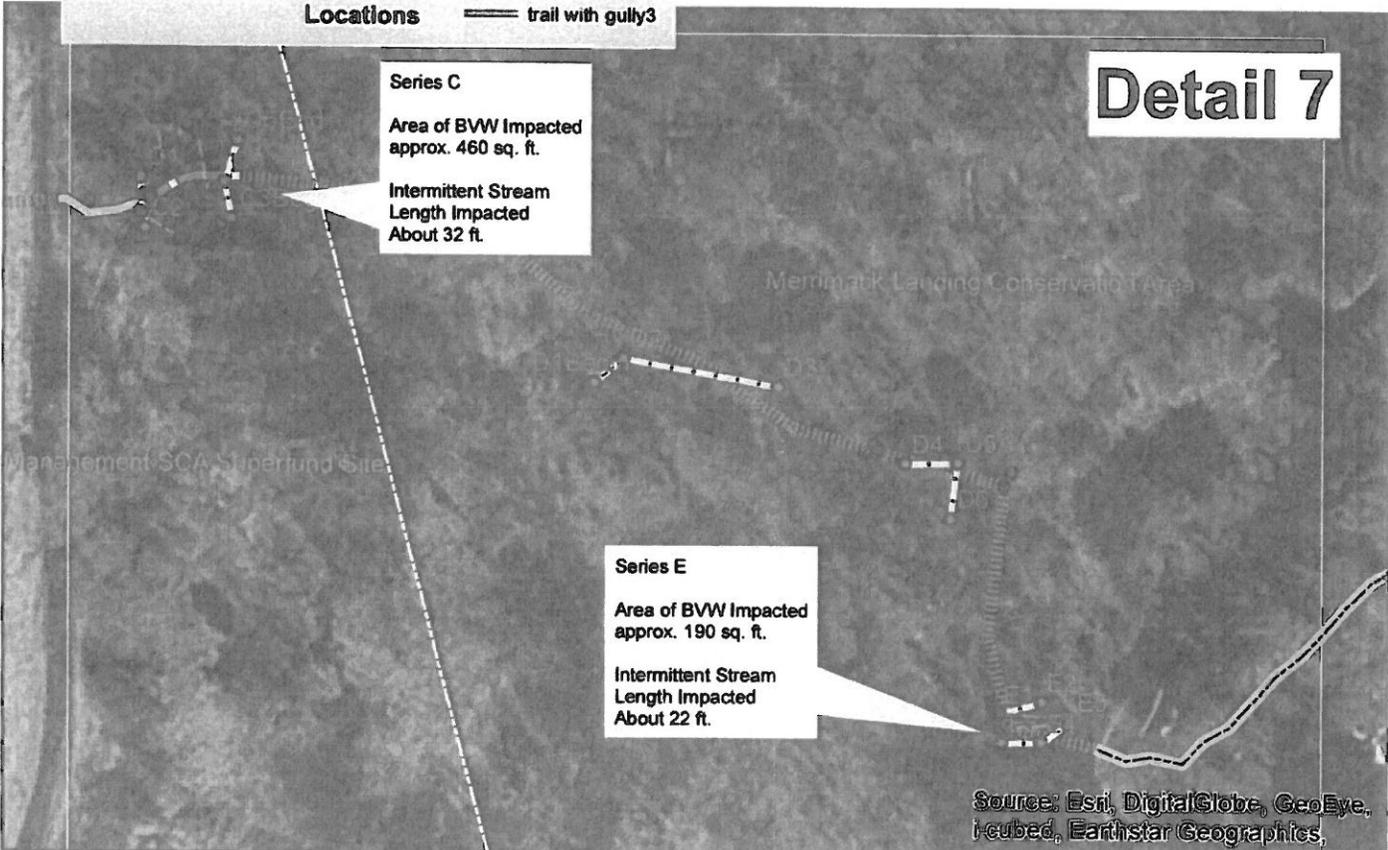


Legend

WetlandSportPark Resource	Symbol	Bank	Comment
BVW	---	---	
	---	---	atv ruts
		---	RaceTrail
	---	---	trail in buffer
	---	---	Locations
	---	---	trail with gully3



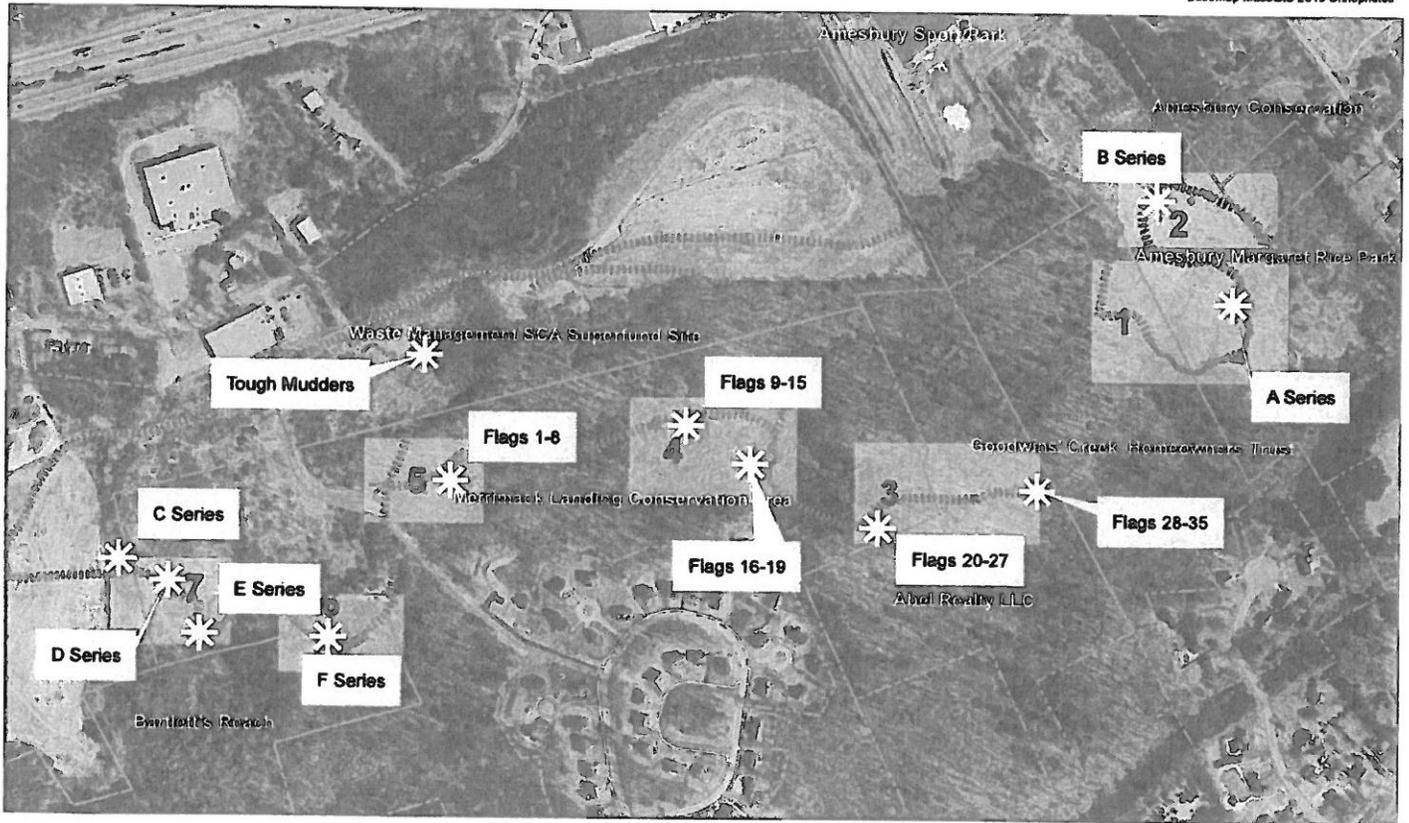
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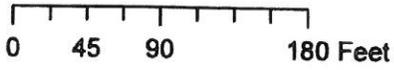


**Amesbury Sports Park
Spartan Race Course
Index of Impacts to Wetland Resources**

Rimmer Environmental LLC
October 25, 2014

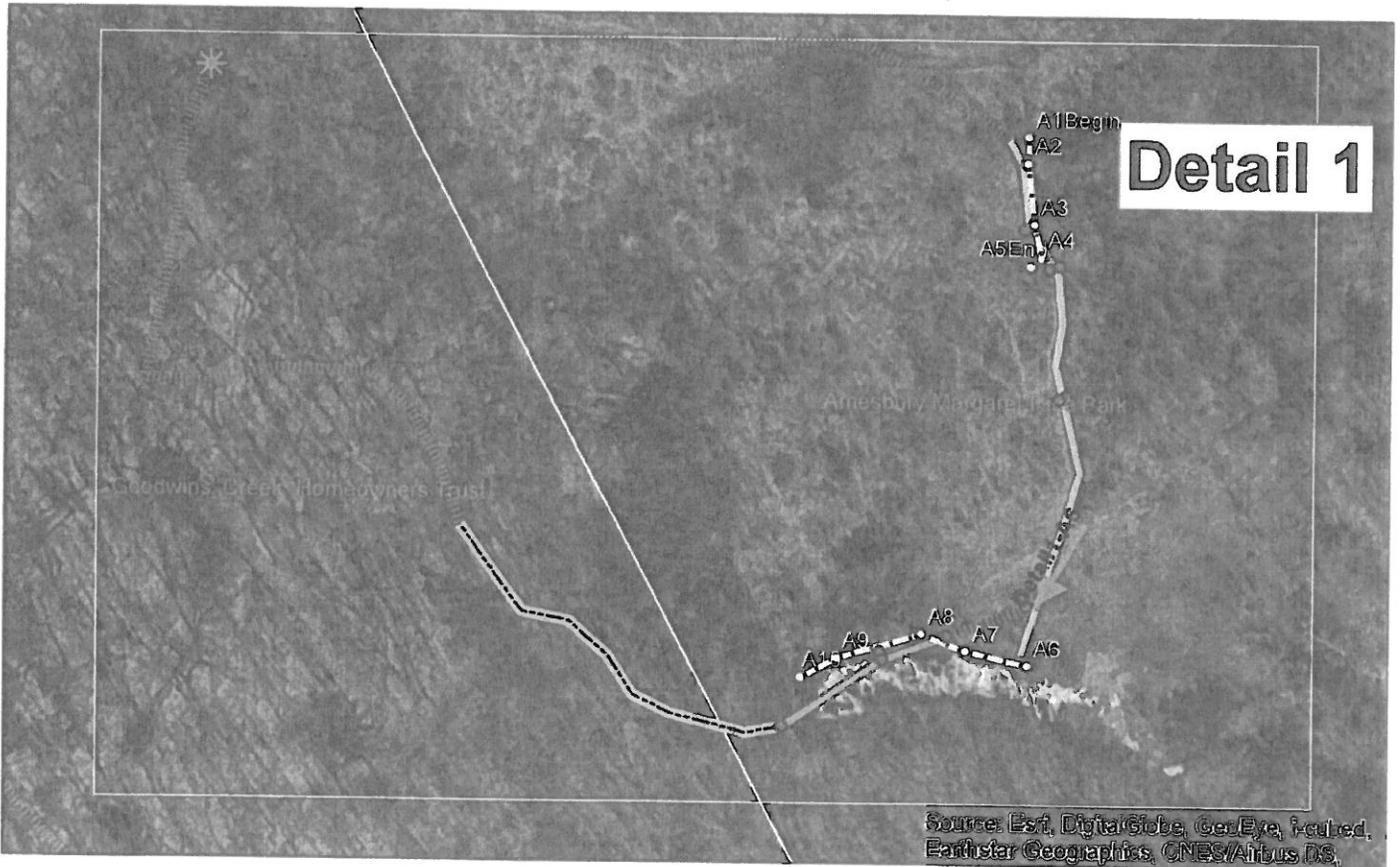
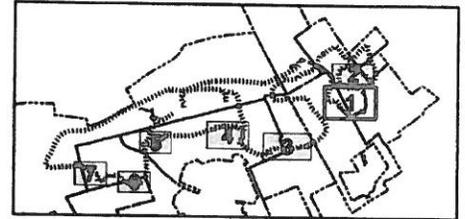
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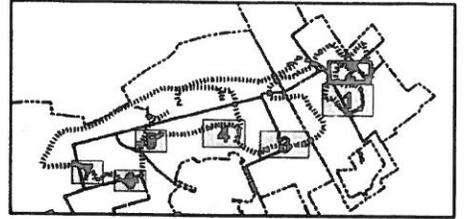
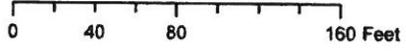




Legend

WetlandSportPark	--- Bank	Comment	— Trail in resource	Comment
Resource	- - - Int Stream	- - - Intermittent Stream	— Trail w Intermittent Stream	* isolated mudhole 4
BVW	RaceTrail	Trail in Buffer	← Photo	
Locations			GPS Point	





Legend

← Photo

WetlandSportPark

Resource

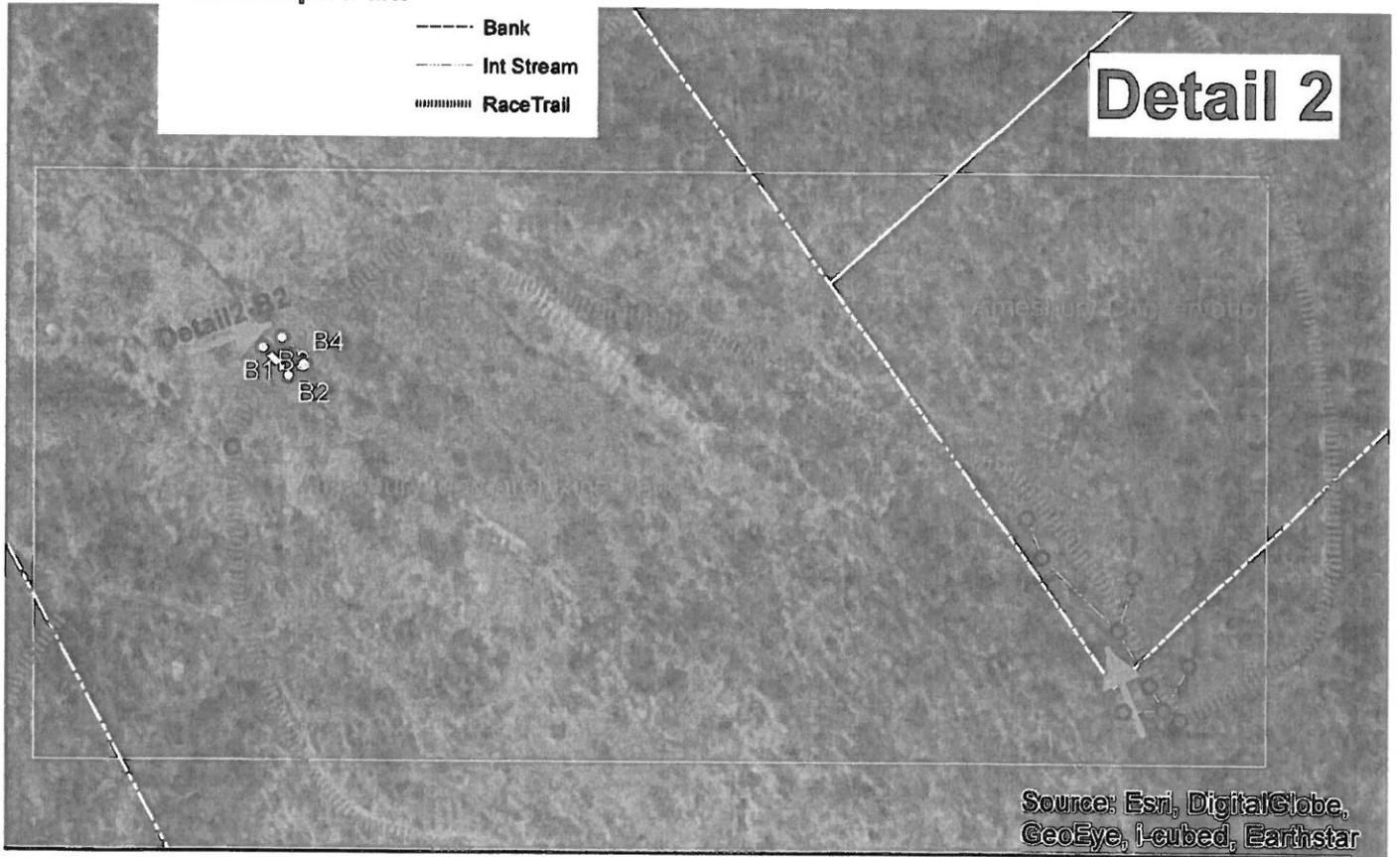
BVW

--- Bank

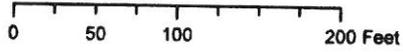
--- Int Stream

||||| RaceTrail

Detail 2



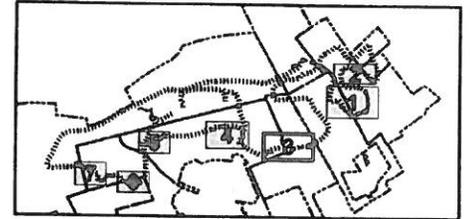
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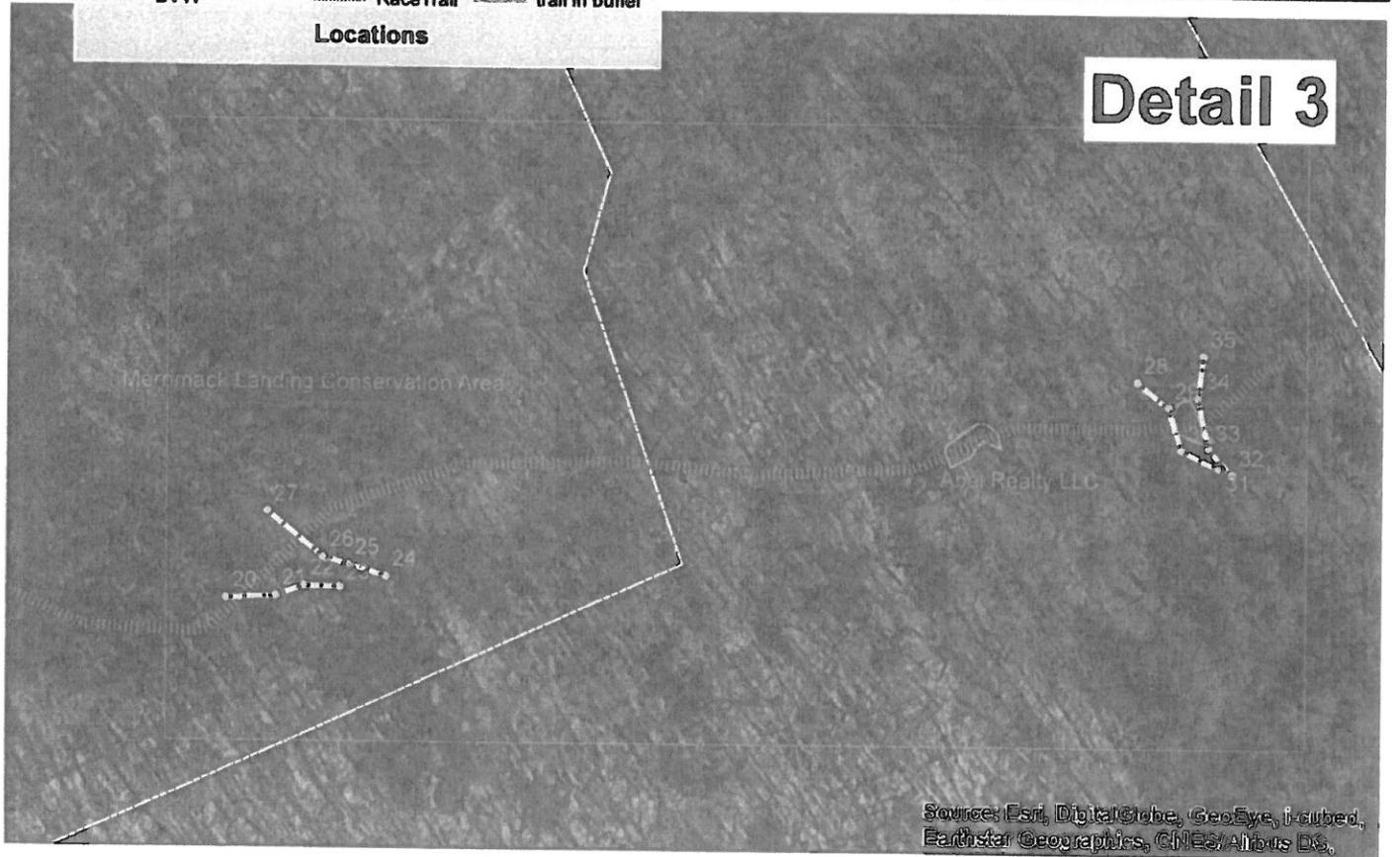
Legend

WetlandSportPark Resource	Symbol	Comment
Bank	---	
Int Stream	- - -	
RaceTrail		
BVW		trail in buffer
Mud Trail	====	

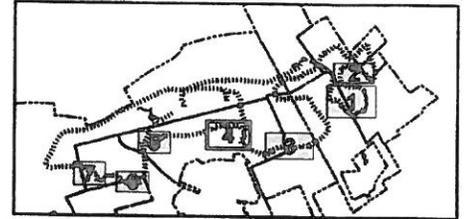
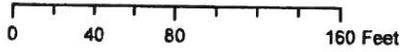
Locations



Detail 3



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS,

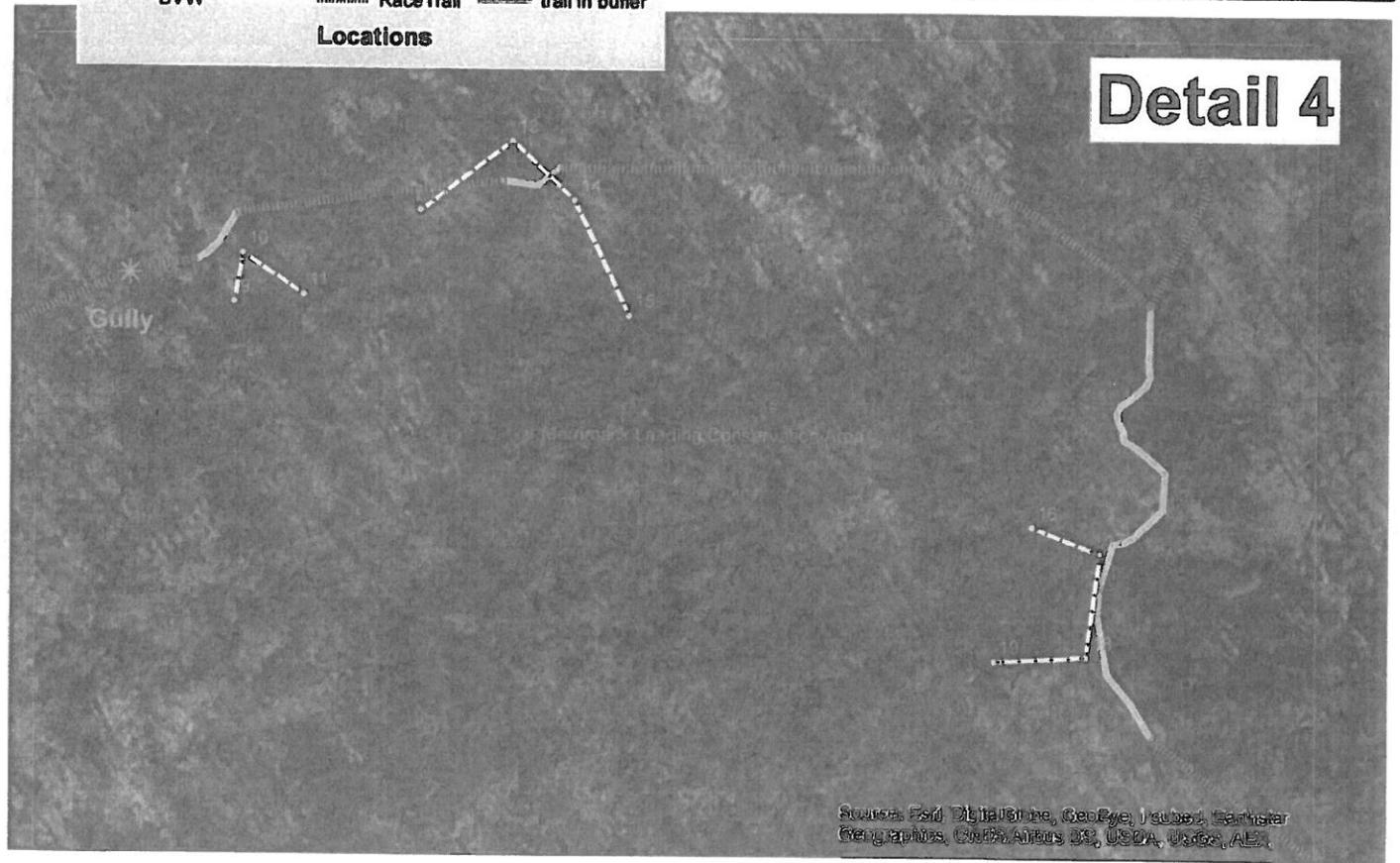


Legend

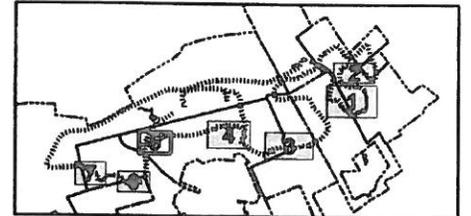
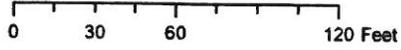
WetlandSportPark Resource	Symbol	Comment
BVW	--- Bank	
	- - - Int Stream	
	Race Trail	
	==== Mud Trail	
	--- trail in buffer	

Locations

Detail 4

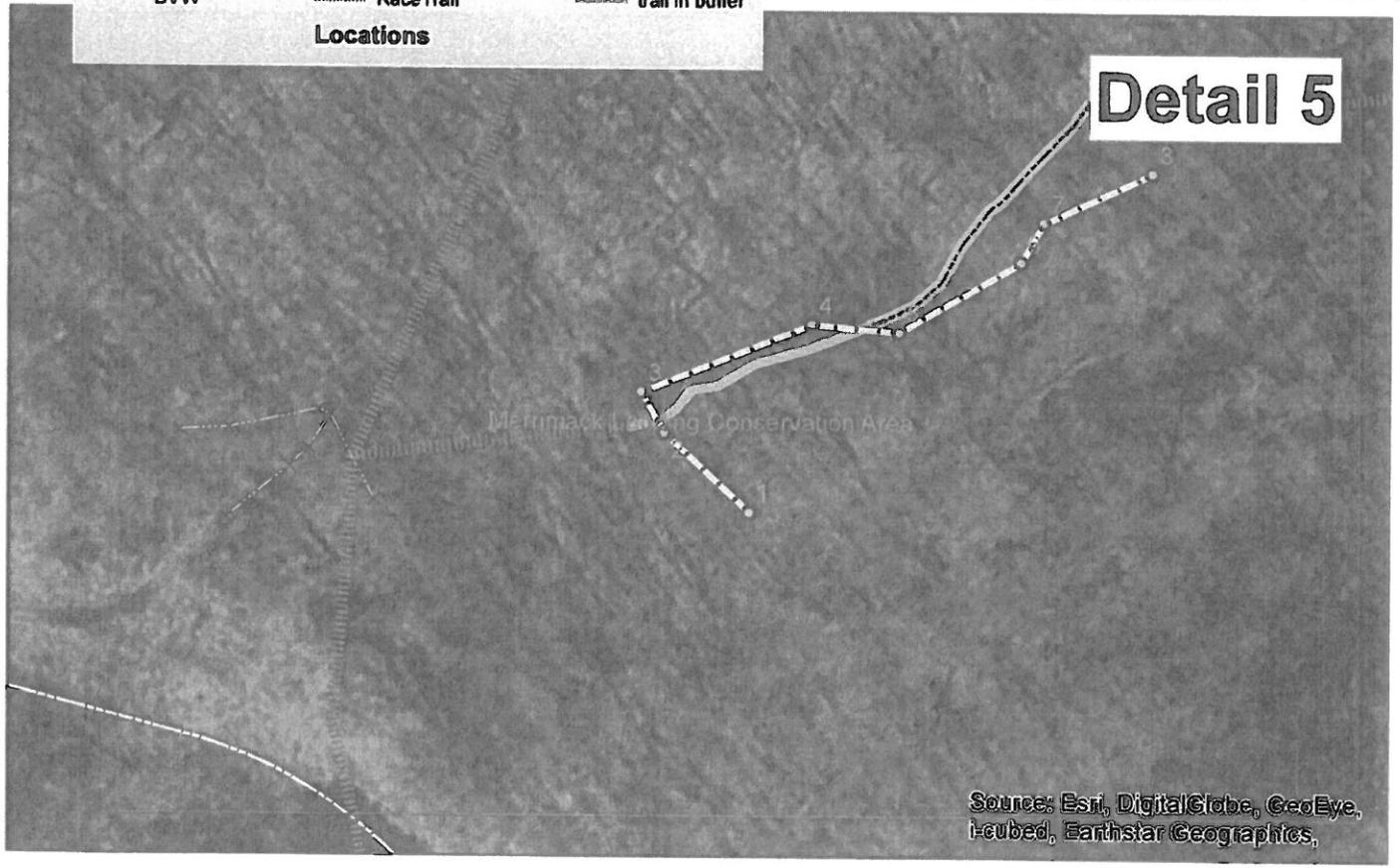


Source: Esri, DigitalGlobe, GeoEye, IGN, GeoEye, Earthstar Geographics, CNR/Airbus DS, USDA, Aero, AEL

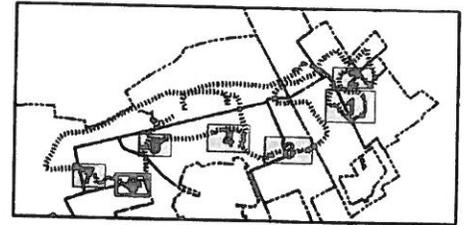
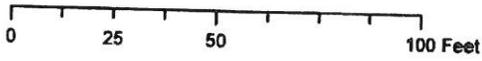


Legend		
Wetland	Bank	Comment
SportPark	Int Stream; Int Stream	Mud Trail
Resource	RaceTrail	trail in buffer
BVW		
Locations		

Detail 5

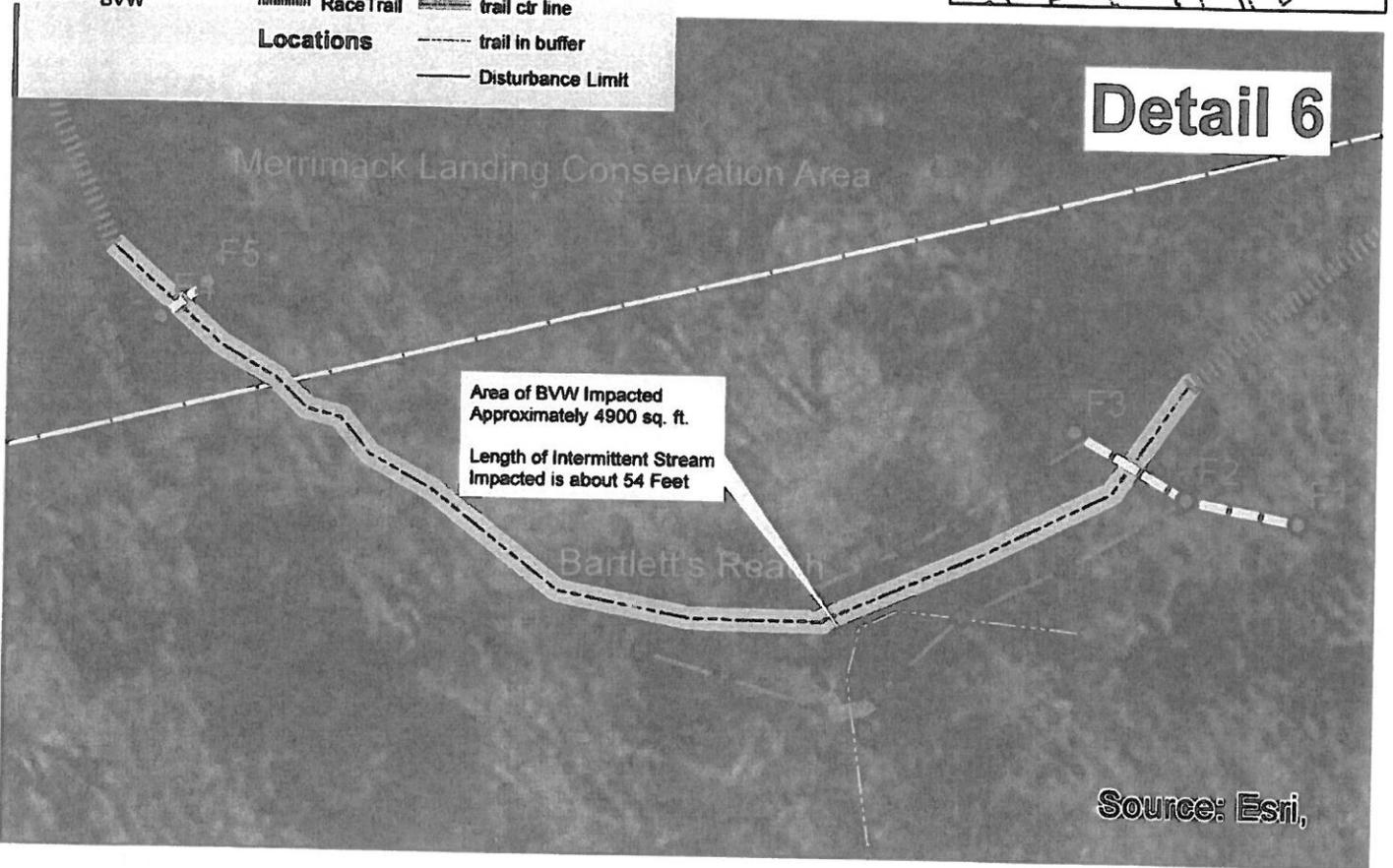


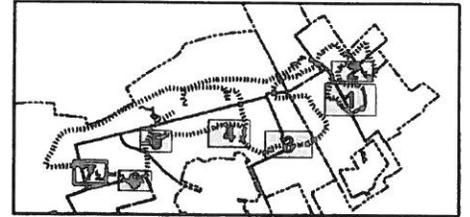
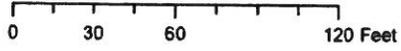
Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics,



Legend

WetlandSportPark Resource	Symbol	Comment
Bank	--- Bank	
Int Stream	- - - Int Stream	remove organic dam
RaceTrail	RaceTrail	trail ctr line
Locations	- - - Locations	trail in buffer
	— Disturbance Limit	





Legend

WetlandSportPark Resource	Symbol	Comment
BVW	-----	Bank
	- - - - -	Int Stream
		RaceTrail
		atv ruts
		trail in buffer
		trail with gully3

