AKRF

Environmental and Planning Consultants

34 South Broadway
Suite 401
White Plains, NY 10601
tel: 914 949-7336
fax: 914 949-7559
www.akrf.com

March 8, 2013

Christopher S. Mallory, Ph.D.
Regulatory, Western Section
NY District U.S. Army Corps of Engineers
26 Federal Plaza, Room 1937
New York, NY 10278

Re: EPT Concord Resort – Joint Permit Application

Dear Mr. Mallory:

Enclosed are two (2) copies of the Joint Permit Application for the Concord Resort Project. Volume I contains the summary of proposed wetland impacts, including 8x11 sheets of proposed wetland impact areas, and a discussion of avoidance and minimization measures employed to meet CWA §404(b)(1) guidelines. Volume II of the application contains the Wetland Mitigation Report which describes in detail the selection, assessment, and monitoring of chosen wetland creation sites and follows the format of the District's Compensatory Mitigation Guidelines and Mitigation Checklist. Large-scale plans accompany this application illustrating the wetland mitigation design and the planting enhancement plan developed for wetlands 45a/b.

Sincerely,

James Nash
Technical Director

Nanette Bourne
Senior Vice President

cc: T. Lies (EPT), N. Emmons (HH)

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March 8, 2013

Attn: Joseph Murray
NYSDEC Region 3
Regional Permit Administrator
21 South Putt Corners Road
New Paltz, NY 12561-1620

Re: EPT Concord Resort – Joint Permit Application

Dear Mr. Murray:

Enclosed are five (5) copies of the Joint Permit Application for the Concord Resort Project. Volume I contains the summary of proposed wetland impacts, including 8x11 sheets of proposed wetland impact areas, and a discussion of avoidance and minimization measures employed to meet CWA §404(b)(1) guidelines. Volume II of the application contains the Wetland Mitigation Report which describes in detail the selection, assessment, and monitoring of chosen wetland creation sites. Large-scale plans accompany this application illustrating the wetland mitigation design and the planting enhancement plan developed for wetlands 45a/b.

We have sent two (2) copies of this application under separate cover to the USACE New York District.

Sincerely,

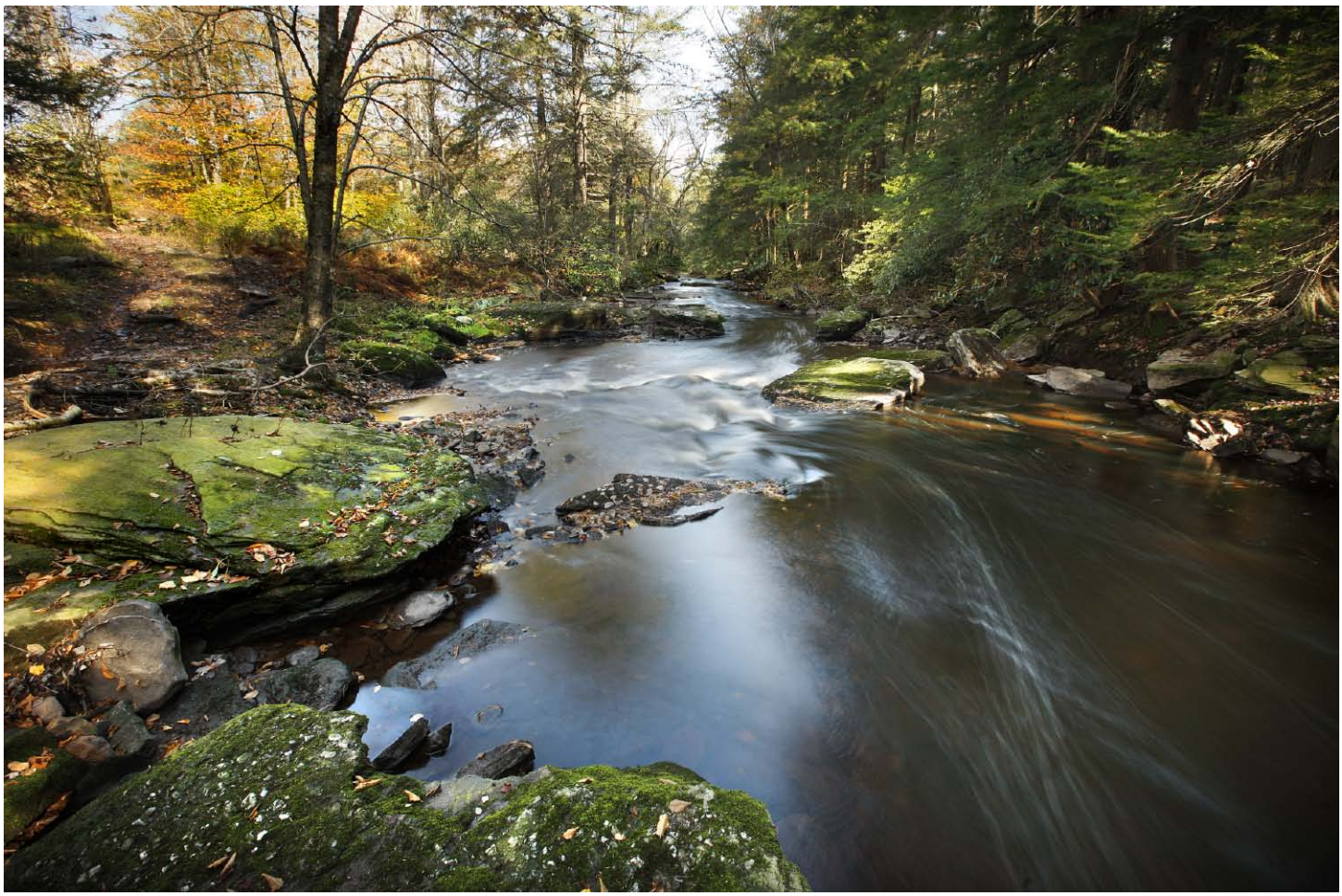
James Nash
Technical Director

Nanette Bourne
Senior Vice President

cc: T. Lies (EPT), N. Emmons (HH)

EPT CONCORD RESORT

Town of Thompson, Sullivan County, New York



NYSDEC/USACE Joint Permit Application

Volume I: JP Forms and Application Narrative

Applicant:
EPT Concord II, LLC
909 Walnut, Suite 200
Kansas CIty, Missouri 64106

Prepared by:
AKRF, Inc.
34 South Broadway
White Plains, New York 10601

March 8, 2013

EPT Concord Resort

Monticello, NY

Joint Permit Application

AKRF Project Number: 40376

Prepared for:

USACE
NYSDEC

Prepared by:

AKRF, Inc.
34 South Broadway, Suite 401
White Plains NY 10601

MARCH 8, 2013

EPT Concord Resort - NYSDEC/USACE Joint Permit Application

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Volume II:
Wetland Mitigation Report
Wetland Mitigation Plan Sheets (Large Scale)

A

Joint Application Form

JOINT APPLICATION FORM

For Permits/Determinations to undertake activities affecting streams, waterways, waterbodies, wetlands, coastal areas and sources of water supply.

New York State

You must separately apply for and obtain separate Permits/Determinations from each involved agency prior to proceeding with work. Please read all instructions.

US Army Corps of Engineers (USACE)

APPLICATIONS TO

1. NYS Department of Environmental Conservation

Check all permits that apply:

- ☑ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☑ 401 Water Quality Certification
- ☑ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Coastal Erosion Management
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Water Supply
- ☐ Long Island Well
- ☐ Aquatic Vegetation Control
- ☐ Aquatic Insect Control
- ☐ Fish Control
- ☐ Incidental Take of Endangered/ Threatened Species

☑ I am sending this application to this agency.

2. US Army Corps of Engineers

Check all permits that apply:

- ☑ Section 404 Clean Water Act
- ☐ Section 10 Rivers and Harbors Act
- ☐ Nationwide Permit(s) – Identify Number(s): _____ _____

Preconstruction Notification – ☐ Y / ☐ N

☑ I am sending this application to this agency.

3. NYS Office of General Services

Check all permits that apply:

- ☐ State Owned Lands Under Water
  - ☐ Utility Easement (pipelines, conduits, cables, etc.)
  - ☐ Docks, Moorings or Platforms

☐ I am sending this application to this agency.

4. NYS Department of State

Check if this applies:

- ☐ Coastal Consistency Concurrence

☐ I am sending this application to this agency.

5. Name of Applicant (use full name)
EPT Concord II, LLC

Mailing Address
909 Walnut, Suite 200

Post Office City
Kansas City

State **MO** Zip Code **64106**

Telephone (daytime) **816-472-1700**

Email **timl@eprkc.com**

Applicant must be:
☑ Owner
☐ Operator
☐ Lessee
(check all that apply)

Taxpayer ID (IF applicant is NOT an individual):

6. Name of Facility of Property Owner (if different than Applicant)

Mailing Address

Post Office City

State Zip Code

Telephone (daytime) Email

7. Contact/Agent Name
Tim Lies

Company Name
Entertainment Properties Trust

Mailing Address
909 Walnut, Suite 200

Post Office City
Kansas City

State **MO** Zip Code **64106**

Telephone (daytime)
816-4720-1700

Email
timl@eprkc.com

8. Project / Facility Name
EPT Concord Resort

Property Tax Map Section / Block / Lot Number
13-3-24, 21-1-52, 23-1-54.2, 31-1-19.2

Project Location – Provide directions and distances to roads, bridge and bodies of water:

Street Address, if applicable

Post Office City **Thompson** State **NY** Zip Code **10013**

Town / Village / City **Thompson**

County **Sullivan**

Name of USGS Quadrangle Map **Monticello Quadrangle**

Stream/Water Body Name **Unnamed stream and Tannery Brook**

Location Coordinates: Enter NYTMs in kilometers, **OR** Latitude/Longitude

NYTM-E	NYTM-N	Latitude	Longitude
		41.661467	-74.646846

For Agency Use Only DEC Application Number: USACE Number:

Submit this completed page as part of your Application.

9. **Project Description and Purpose:** Provide a complete narrative description of the proposed work and its purpose. Attach additional page(s) if necessary. Include: description of current site conditions and how the site will be modified by the proposed project; structures and fill materials to be installed; type and quantity of materials to be used (i.e., square ft of coverage and cubic yds of fill material and/or structures below ordinary/mean high water) area of excavation or dredging, volumes of material to be removed and location of dredged material disposal or use; work methods and type of equipment to be used; pollution control methods and mitigation activities proposed to compensate for resource impacts; and where applicable, the phasing of activities. **ATTACH PLANS ON SEPARATE PAGES.**

The Project is a new PRD Comprehensive Development Plan ("CDP") for an approximately 1,583 acre site (the "Project Site") owned by EPT Concord II, LLC (the "Applicant"). When complete, the Project will include an 18-hole golf course, a racino and harness racing track, hotels, residential units, and RV parks.

Implementation of the project requires disturbance to 7.87 acres of USACE-regulated wetlands, of which 3.13 acres consist of permanent impacts to vegetated wetlands and 0.28 acres of unvegetated wetlands. Of these impacts, 1.35 acres of permanent wetland disturbance are also regulated by the NYSDEC. The remaining wetland disturbance is temporary or consists of removal of overstory vegetation only. 11.05 acres of compensatory mitigation, in the form of onsite wetland creation, is proposed to offset wetland impacts.

See attached Permit Application Report, Wetland Impact Drawings, and Wetland Mitigation Report/Plans for a complete discussion of Project purpose, need, projected wetland impacts and mitigation.

Proposed Use:	☑ Owner	☐ Public	☐ Commercial	Proposed Start Date: **12/2013**	Estimated Completion Date: **12/2014**
Has Work Begun on Project?	☐ Yes	☑ No	If Yes, explain:		
Will Project Occupy Federal, State or Municipal Land?	☐ Yes	☑ No	If Yes, please specify:		

10. List Previous Permit / Application Numbers (if any) and Dates:

11. Will this project require additional Federal, State, or Local Permits including zoning changes? ☑ Yes ☐ No If yes, please list:

The Town Thompson adopted amendments (1/20/13) to the PRD Zoning District and the Town approved a Comprehensive Development Plan for the EPT Concord Resort. The Project will require Town site plan approval; NYSDOT permit for roadway improvements; NYSDOH water supply and sewer extension permits; Delaware River Basin Commission permits; and Sullivan County GML Section 239 Project Review. (See EPT Concord DGEIS accepted 7/24/12 and SEQRA Findings certified 1/15/13).

12. **Signatures.** If applicant is not the owner, both must sign the application.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willing falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant	Timothy C. Lies	Project Executive	8 Mar 2013
Signature of Owner	Greg Silvers	Chief Operating Officer	8 Mar 2013
Signature of Agent	Printed Name	Title	Date

For Agency Use Only	**Determination of No Permit Required**
1234567890123456789012345678901234568790 (Agency Name)	Agency Project Number has determined that No Permit is required from this Agency for the project described in this application.
Agency Representative:	Name (printed) _____ Title _____
	Signature _____ Date _____

New York State

Department of Environmental Conservation

PERMISSION TO INSPECT PROPERTY

By signing this permission form for submission with an application for a permit(s) to the Department of Environmental Conservation ("DEC"), the signer consents to inspection by DEC staff of the project site or facility for which a permit is sought and, to the extent necessary, areas adjacent to the project site or facility. This consent allows DEC staff to enter upon and pass through such property in order to inspect the project site or facility, without prior notice, between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday. If DEC staff should wish to conduct an inspection at any other times, DEC staff will so notify the applicant and will obtain a separate consent for such an inspection.

Inspections may take place as part of the application review prior to a decision to grant or deny the permit(s) sought. By signing this consent form, the signer agrees that this consent remains in effect as long as the application is pending, and is effective regardless of whether the signer, applicant or an agent is present at the time of the inspection. In the event that the project site or facility is posted with any form of "posted" or "keep out" notices, or fenced in with an unlocked gate, this permission authorizes DEC staff to disregard such notices or unlocked gates at the time of inspection.

The signer further agrees that during an inspection, DEC staff may, among other things, take measurements, may analyze physical characteristics of the site including, but not limited to, soils and vegetation (taking samples for analysis), and may make drawings and take photographs.

Failure to grant consent for an inspection is grounds for, and may result in, denial of the permit(s) sought by the application.

Permission is granted for inspection of property located at the following address(es):

_____

_____

*By signing this form, I affirm under penalty of perjury that I am authorized to give consent to entry by DEC staff as described above. I understand that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.**

Greg Sivers, COO		8 March 2013
Print Name and Title	Signature	Date

*The signer of this form must be an individual or authorized representative of a legal entity that:

- owns fee title and is in possession of the property identified above;
- maintains possessory interest in the property through a lease, rental agreement or other legally binding agreement; or
- is provided permission to act on behalf of an individual or legal entity possessing fee title or other possessory interest in the property for the purpose of consenting to inspection of such property.

B

Environmental Questionnaire

ENVIRONMENTAL QUESTIONNAIRE

This is intended to supplement ENG Form 4345, Application for Department of the Army Permit, or the Joint Application for Permit used in the State of New York. Please provide complete answers to all questions below which are relevant to your project. Any answers may be continued on separate sheet(s) of paper to be attached to this form.

PRIVACY ACT STATEMENT

The purpose of this form is to provide the Corps of Engineers with basic information regarding your project. This information will be used to facilitate evaluation of your permit application and for public dissemination as required by regulation. Failure to provide complete information may result in your application being declared incomplete for processing, thereby delaying processing of your application.

GENERAL--APPLICABLE TO ALL PROJECTS

1. Explain the need for, and purpose of, the proposed work.

The Project is a new PRD Comprehensive Development Plan ("CDP") for an approximately 1,583 acres site (the "Project Site") owned by EPT Concord II, LLC (the "Applicant"). When complete, the Project will include an 18-hole golf course, a casino, a harness racing track, hotels, a water park, residential units, and RV parks.

See attached Permit Application Report, Wetland Impact Drawings, and Wetland Mitigation Report/Plans for a complete discussion of Project purpose, need, projected wetland impacts, and mitigation.

2. Provide the names and addresses of property owners adjacent to your work site (if not shown on the application form or project drawings).

See Volume I Section G of the Concord Resort - Joint Application, which lists all property owners adjacent to the overall 1583 acre Comprehensive Development Plan site.

(Please note that depending upon the nature and extent of your project, you may be requested to provide the names and addresses of additional property owners proximate to your project site to ensure proper coordination.)

3. Photographs of the project site should be submitted. For projects in tidal areas, photographs of the waterway vicinity should be taken at low tide. Using a separate copy of your plan view, indicate the location and direction of each photograph as well as the date and time at which the photograph was taken. Provide a sufficient number of photographs so as to provide a clear understanding of conditions on and proximate to your project site.

Photographs are provided in Volume I Section F of the Joint Permit Application Report.

4. Provide a copy of any environmental impact statement, or any other environmental report which was prepared for your project.

The NYSDEC and USACE have been provided copies of the DGEIS (2012) and FGEIS (2013) for the project.

5. Provide a thorough discussion of alternatives to your proposal. This discussion should include, but not necessarily be limited to, the "no action" alternative and alternative(s) resulting in less disturbance to waters of the United States. For filling projects in waters of the United States, including wetlands, your alternatives discussion should demonstrate that there are no practicable alternatives to your proposed filling and that your project meets with current mitigation policy (i.e. avoidance, minimization and compensation).

A thorough discussion of alternatives is provided in Volume I of the Concord Resort - Joint Permit Application, including a discussion of avoidance, minimization and mitigation for unavoidable wetland impacts.

DREDGING PROJECTS

Answer the following if your project involves dredging.

1. Indicate the estimated volume of material to be dredged and the depth (below mean low water) to which dredging would occur. Would there be overdepth dredging?

N/A, Dredging is not proposed.

2. You can apply for a ten-year permit for maintenance dredging. If you wish to apply for a ten-year permit, please provide the number of additional dredging events during the ten-year life of the permit and the amount of material to be removed during future events.

N/A

3. Indicate of your drawings the dewatering area (if applicable) and disposal site for the dredged material (except landfill sites). Submit a sufficient number of photographs of the dewatering and disposal sites as applicable so as to provide a clear indication of existing conditions. For ten-year maintenance dredging permits, indicate the dewatering/disposal sites for future dredging events, if known.

N/A

4. Describe the method of dredging (i.e. clamshell, dragline, etc.) and the expected duration of dredging.

N/A

5. Indicate the physical nature of the material to be dredged (i.e. sand, silt, clay, etc.) and provide estimated percentages of the various constituents if available. For beach nourishment projects, grain size analysis data is required.

N/A

6. Describe the method of dredged material containment (i.e. hay bales, embankment, bulkhead, etc.) and whether return flow from the dewatering/disposal site would reenter any waterway. Also indicate if there would be any barge overflow.

N/A

MOORING FACILITIES

Answer the following if your project includes the construction or rehabilitation of recreational mooring facilities.

1. It is generally recommended that any fixed piers and walk ramps be limited to four feet in width, and that floats be limited to eight feet in width and rest at least two feet above the waterway bottom at mean low water. Terminal floats at private, non-commercial facilities should be limited to 20 feet in length. If you do not believe your proposal can meet with these recommendations, please provide the reason(s).

N/A, Mooring is not proposed.

2. Using your plan view, show to scale the location(s), position(s) and size(s) (including length, beam and draft) of vessel(s) to be moored at the proposed facility, including those of transient vessel(s) if known.

N/A

3. For commercial mooring sites such as marinas, indicate the capacity of the facility and indicate on the plan view the location(s) of any proposed fueling and/or sewage pumpout facilities. If pumpout facilities are not planned, please discuss the rationale below and indicate the distance to the nearest available pumpout station.

N/A

4. Indicate on your plan view the distance to adjacent marine structures, if any are proximate and show the locations and dimensions of such structures.

N/A

5. Discuss the need for wave protection at the proposed facility. Please be advised that if a permit is issued, you would be required to recognize that the mooring facility may be subject to wave action from wakes of passing vessels, whose operations would not be required to be modified. Issuance of a permit would not relieve you of ensuring the integrity of the authorized structure(s) and the United States would not be held responsible for damages to the structure(s) and vessel(s) moored thereto from wakes from passing vessels.

N/A

BULKHEADING/BANK STABILIZATION/FILLING ACTIVITIES

Answer the following if your project includes construction of bulkheading (also retaining walls and seawalls) with backfill, filling of waters/wetlands, or any other bank stabilization fills such as riprap, revetments, gabions, etc.

1. Indicate the total volume of fill (including backfill behind a structure such as a bulkhead) as well as the volume of fill to be placed into waters of the United States. The amount of fill in waters of the United States can be determined by calculating the amount of fill to be placed below the plane of spring high tide in tidal areas and below ordinary high water in non-tidal areas.

N/A - bulkheading is not proposed. As indicated in the accompanying Permit Application Report, wetland impacts have been calculated in SF/ACRES as they do not consist of in-water structures, but rather disturbance to freshwater wetlands, mostly vegetated, that are non-navigable.

2. Indicate the source(s) and type(s) of fill material.

Onsite soil and structural fill as necessary to support building foundations and roadways.

3. Indicate the method of fill placement (i.e. by hand, bulldozer, crane, etc.). Would any temporary fills be required in waterways or wetlands to provide access for construction equipment? If so, please indicate the area of such waters and/or wetlands to be filled, and show on the plan and sectional views.

Mechanized construction equipment will be used to move soil and build structures/foundations. No temporay fills are required. See accompanying Permit Application Report showing all wetlands/waters to be disturbed. See also the DGEIS (7/24/2012) and FGEIS (1/2/2013) for discussion of construction methods and impacts.

The foregoing requests basic information on the most common types of projects requiring Department of the Army permits. It is intended to obviate or reduce the need for requesting additional information; however, additional information may be requested above and beyond what is requested in this form.

Please feel free to add any additional information regarding your project which you believe may facilitate our review.

See accompanying Joint Permit Application Report, Mitigation Report, and large scale drawings.

C

Application Narrative – Wetland Impacts, Avoidance, and Mitigation

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1.0 EXECUTIVE SUMMARY

The project purpose is to redevelop and revitalize the site of the former Concord Resort in the Town of Thompson, Sullivan County, as envisioned and authorized by State, regional, and local economic development plans, into a thriving destination resort that serves to revitalize the economy and culture of the region.

The project sponsor, EPT Concord II, LLC (referred to as "EPT" or the "Applicant") proposes to develop a master planned destination resort community (referred to as "EPT Concord Resort" or the "Proposed Project") on approximately 1,583[1] acres of land located on the site of the former Concord Resort in the Town of Thompson, Sullivan County, New York (the "Site"). See Figure 1: Vicinity Map provided in Section D of this report.

When complete, the EPT Concord Resort will include an 18-hole golf course, Casino Resort, harness horse racetrack, grandstand/showroom, simulcast facility, hotels, water park, an RV park, and an entertainment village with cinemas and supporting retail (the "Casino Resort"). In addition, there will be a residential village with a mix of unit types including condos, apartments, townhouses and detached single family homes, a civic center, and an active adult residential community. This mix of uses will be connected via a multi-use trail system with abundant open space. In total, the Resort is planned to have 897 housing units, 1,800 hotel rooms, a 405,000 sq ft Casino, 903,000 sq ft of commercial space, and a 35,000 sq ft Civic Center.

The Proposed Project components will be phased over an approximately 10-year horizon[2] beginning with certain components of the Resort Core (the "Resort Core"), from which all additional components will flow.

EPT is submitting this Joint Application to the New York State Department of Environmental Conservation ("DEC") for authorization under the New York Freshwater Wetlands Act and the United States Army Corps of Engineers ("USACE") for authorization under Section 404 of the Clean Water Act.

An applicant is required to submit a location map and project plans identifying the precise location of the project, alternative sites and project designs that avoid and reduce impacts, as well as demonstrate an overriding economic and social need for the project that outweighs the environmental costs of impacts on the wetlands.

The United States Environmental Protection Agency's ("USEPA") Clean Water Act § 404(b)(1) guidelines require that an applicant illustrate that there is no practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem. The alternative analysis submitted within this application is submitted to the USACE to fulfill EPT's obligation of demonstrating that there are no practicable alternatives to its proposal that would have less impacts on wetlands.

The project purpose is to redevelop and revitalize the site of the former Concord Resort complex -- formerly the largest resort in the region – a resort that spanned 2,000 acres and included three golf courses, a ski chalet, ski trails, indoor and outdoor ice skating, a variety of entertainment lounges, a 1,500 room hotel, and other like amenities. In order to revitalize the former Concord Resort complex to meet local, regional and State planning objectives and economic development goals and to qualify for the

[1] Additional parcels were purchased by EPT Concord in 2012 to facilitate the Resort Entry Road totaling 105 acres. Therefore, the latest overall project site acreage is 1,583 + 105 = 1688 acres.

[2] Timing for full project build out is assumed to be 10 years for analysis purposes, but actual build-out will be determined by market and economic conditions and timing for permits and approvals.

economic incentives, the Project sponsors must develop and build at the location of the former Concord Resort complex. This precludes development of the Project at other locations in the Town of Thompson and Sullivan County at large.

Our alternatives analysis, therefore, focuses on evaluation of on-Site options meeting design criteria as set forth in greater detail below.

The on-Site evaluation of alternatives is conducted by first identifying the required Site layout for essential components of this Project, particularly the Resort Core, using the functional design criteria. The functional placement of the Resort Core, in conjunction with other development components necessary to effectuate the project purpose, were analyzed to determine which layout causes the least amount of wetlands impacts consistent with the project purpose.

Our analysis also includes the results of a supplemental field investigation of the mosaic wetlands feature located within the Resort Core. This investigation confirmed that over 65% of the 2.84 acre wetland area (45B) consists of hummocks and upland transition areas. It identified conditions sufficient to sustain wetland hydrology and certain wetland vegetation, functions and values within the wetland feature that will be integrated into the racetrack, the keystone to the Resort Core and impetus to the revitalization of the former Concord Resort complex.

To mitigate the unavoidable disturbance to approximately 7.87 acres of wetlands, the Applicant proposes to provide for wetland creation and enhancement of existing wetland areas, functions and values across the project Site.

Table 1
Wetland Disturbance Summary

Jurisdiction	Permanent Fill in Vegetated Wetland (Acre)	Permanent Fill in Unvegetated Wetland (Acre)	Temporary Disturbance (construction) (Acre)	Overstory Removal (no fill) (Acre)	Open Water Expansion (Acre)	Total (Acre)
NYSDEC & USACOE	1.35	--	0.44	0.08	--	1.87
USACOE Only	1.78	0.28	0.16	3.5	0.28	6
Total Jurisdictional Disturbance	**3.13**	**0.28**	**0.6**	**3.58**	**0.28**	**7.87**

2.0 PROJECT PURPOSE AND NEED

Background and Need for the Project/Project Purpose

From its inception in 1935, the Concord Resort complex was a major vacation destination in the Catskills. The Concord Resort complex, encompassing 2,000 acres, was the jewel in a chain of Borscht Belt resorts during the 1950's, 60's and 70's with 1,500 guest rooms, a dining room that sat 3,000, three golf courses, a ski chalet, ski trails, indoor and outdoor ice skating, a variety of entertainment lounges, and other complimentary amenities. It was far and away the largest resort in the region. The Concord Resort became a world-famous destination for visitors to the Catskills. Dominating the Concord Resort

was the "Monster" Golf Course and its storied past. The Monster Golf Course has been rated by Golf Digest as one of "America's 100 Greatest Golf Courses." But a changing world, market and economy found the Concord Resort filing for bankruptcy in 1997, and in 1998, it was closed.

In response to the devastating effect of the failure of the Concord Resort on the region, several local and regional planning initiatives focused on revitalization of the resort. For example, the Town of Thompson/Village of Monticello Comprehensive Plan (1999) (the "Town/Village Plan") specifically identified the Concord Resort as a catalyst for redevelopment and renewal. The Town/Village Plan states:

"…providing for land uses such as the Concord Resort Hotel is necessary to preserve major employment centers and preserve a source of attraction to the Town and region. The number of major resorts has dwindled and those which remain should be protected from incompatible adjacent land uses and permitted to expand and develop, provided those development plans maximize the protection and enjoyment of the Town's natural resources on which the bulk of the tourism industry depends."

The Sullivan County comprehensive plan, "Sullivan 2020: Defining an Image and Managing Change: A Strategic Plan for Sullivan County, May 2005 ("Sullivan 2020") identifies tourism as a vital component of Sullivan County's economic development and indicates that tourism should be "one of the elements of a diversified economy in Sullivan County." The plan recommends tourism that comprises a balanced mix of year round activities that include eco-tourism and recreational venues; agri-tourism; casinos, hotels, and resorts; and the cultural arts.

Sullivan 2020 recommends the development of high quality resorts, accommodations, service facilities, and infrastructure. The plan also offers strategies for communities to plan for, and manage, the impacts of gaming to ensure the equitable distribution of community and monetary benefits, as well as describing appropriate actions to counter the adverse effects of this type of use.

The Mid-Hudson Regional Economic Development Council seeks to target investment in the region that would encourage job creation and economic vitality. One of the primary goals of the Council's Five-Year Strategic Plan is to leverage the region's tourism industry and unique natural resources. They aim to:

> "Encourage the creation of destination hotels to capitalize on and enhance existing attractions and support more overnight stays that would lead to greater and longer tourist visitation from outside of the region and greater local expenditure. Where appropriate, the viability of casino gambling should also be considered."

In September 2012, EPT Concord Resort was named as one of the Region's Priority Projects; a project that the Council believes supports the core goals of its Strategic Plan and can have a transformational impact on the region.

In 2008 the State Legislature acknowledged the importance of the redevelopment of the Concord Resort and adopted legislation to allow such redevelopment to be economically feasible. To that end, the Legislature passed an amendment to Section 1612 of the New York State Tax Law intended to support redevelopment of a hotel, convention center and golf course at the former site of the Concord Resort and help revitalize the Catskill region.

Specifically, the tax law requires that a vendor track be "located in the Town of Thompson in Sullivan county *at the site of the former Concord Resort*." (New York State Tax Law Section 1612(b)(1)(ii)(G)). Further this law requires a minimum of $600 million dollars investment that results in the construction, development or improvement of at least one eighteen hole golf course, and the construction and issuance of certificates of occupancy for hotels, lodging, spas, dining, retail and

entertainment venues, parking garages and other capital improvements at or adjacent to the licensed video gaming facility or licensed vendor track which promote or encourage increased attendance at such facilities. As provided in the legislation, the Project must be located as proposed, on the former site of the Concord Resort.

The project purpose is to redevelop and revitalize the site of the former Concord Resort in the Town of Thompson, Sullivan County, as envisioned and authorized by State, regional, and local economic development plans, into a thriving destination resort that serves to revitalize the economy and culture of the region. EPT's project is feasible, because of the synergy among program elements, existing and proposed infrastructure and the natural setting of this former and future destination resort. The specific design criteria of the EPT Concord Resort are set forth below.

3.0 DESIGN CRITERIA AND GOALS

The EPT Concord Resort was designed to take advantage of the site's unique physical and commercial opportunities. To make this project feasible, a high-quality range of products and amenities were innovatively arranged on the site to create a sustainable development through complementary uses. These design concepts and criteria respond to the historic decline in conventional commodity real estate products and amenities common to the region.

Guiding the layout of much of the proposed project is the "Resort Core". The Resort Core will include a casino, hotel, harness horse racetrack, grandstand/showroom, simulcast facility, banquet event center, restaurants, and related facilities. It is anticipated that all of the subsequent development and project uses will stem from and support the uses at the Resort Core. The Resort Core requires a single, contiguous site to allow for a pedestrian oriented layout. The location and pedestrian oriented layout is necessary to create an economically viable year-round Resort.

Due to the necessary footprint of this central project component, some wetland impacts are unavoidable. It should be noted, however, that the project elements of the Resort Core were specifically configured to minimize wetland impacts. For example, the Resort Core is placed and oriented so that majority of the wetlands are located along the periphery of the Resort Core. Furthermore, the remainder of the Project, including golf, residential, hotel, and sporting club components to be developed in future project phases have been designed and configured in a clustered, pedestrian-friendly layout that complement and promote increased attendance at the facilities within the Resort Core while avoiding wetland impacts and minimizing habitat fragmentation.

The success of this Resort Core is dependent on this fully integrated, natural design, taking advantage of the surrounding Catskill environment, including the natural biology and water resources. A linear, fractured site would not permit such integration, and would lead to severe traffic congestion requiring the destruction of natural environments, animal habitats, and increased noise and congestion on local roads.

The Applicant intends to begin construction of the Resort Core, golf course, and water park project components in 2014. Figure 2 presents the Project Master Plan showing the layout of program elements across the site.

3.1 Design Criteria for "Resort Core"

3.1.1 Facilitate Pedestrian Movements and Internal Circulation:

The individual components of the Resort Core have been designed in close proximity to one another in order to encourage pedestrian friendly cross patronage between uses. The two components of the Resort Core are the "Casino Resort", containing the gaming and racetrack components, and the "Entertainment Village", containing the retail, dining, and movie theatre. The project presents a cohesive core with a tight knit grouping of high-energy activities all linked together by a pedestrian street. This pedestrian street provides an interconnected series of gathering spaces, connecting to and enhancing the site-wide open space framework. Casino Resort visitors will utilize walking paths to access stores and restaurants within the Entertainment Village and likewise guests arriving to shop or eat at the Entertainment Village may walk to the Casino Resort for entertainment. The proximity of these two uses is critical to the economic success of the entire resort development. These project elements will generate the revenue necessary to ensure future development phases may be built.

As a result of clustering the program elements in the Resort Core, visitors are within a five-minute walk of the Casino, food and entertainment, and hotel accommodations. When visitors to EPT Concord Resort are able to move easily between the various elements, it will reduce the overall number of vehicles traveling within the site, helping to produce a unique experience that fosters the development of the resort as a destination and an exciting center of activity. The Resort Core's more central location within the project site also allows for more direct access to the other amenities such as the Golf Clubhouse, Lake Club, Spa, Resort Hotel, water park and multi-purpose snow tubing and sledding hill.

In addition to facilitating internal pedestrian circulation, the chosen location for the Resort Core Site is preferred for internal and external roadway traffic circulation. The current location of the Resort Core (south west corner of Joyland and Thompsonville intersection) has a majority of the traffic using Interchange 106 given the proximity of the Resort Core to Route 17 at this interchange. This results in the majority of impacts being limited to the Interchange 106 area. If the Resort Core was moved further north, the impacts associated with the Resort Core would expand beyond what is currently identified for two reasons:

1. Vehicles will have to travel further to reach the Resort Core, thus traversing and impacting more intersections. For example, under the proposed location vehicles from Route 17 would not travel through the Joyland/Thompsonville intersection. If the Resort Core was moved further north they would travel through the Joyland/Thompsonville intersection requiring extensive widening and lane improvements.
2. Some vehicles may shift to alternative routes, thus expanding the area where impacts are identified. As the Resort Core moves further north some visitors may shift to use Interchange 105 to Route 42 to access the site. Certain locations along Route 42 currently operate at unacceptable conditions, and adding significant amounts of traffic to this corridor would exacerbate conditions. Thus improvements along this corridor from Route 17 to Kiamesha Lake Road may be warranted.

3.1.2 Topography:

The preferred location for the Resort Core program is the largest contiguous area of comparatively level land on the property. This area can accommodate the Casino Resort, its associated structures and surface parking lots, the harness horse racetrack, and all retail and dining components of the Entertainment Village. The land works in harmony with the program, allowing the harness horse racetrack to be placed downslope in the flatlands, where the finish line can be clearly viewed from the grandstand/showroom in the Casino building and can be easily accessed by employees and support staff from below. Where the land slopes downwards to the west towards Kiamesha Creek and the Monster Golf Course, this allows placement of the parking garage into the hillside, reducing the amount of wetland disturbance and need for grading and retaining walls.

In an effort to minimize disturbance to existing forest, streams, and wetlands, the major development impacts associated with the Resort Core were located adjacent to existing developed areas.

3.1.3 Racetrack and Grandstand:

A large portion of the Resort Core is devoted to the Harness Horse Racetrack and necessary supporting structures, such as the grandstand. The track requires approximately 105,600 square feet of topographically level land. The lower slope of the chosen Resort Core site is currently occupied by portions of the Monster Golf Course and provides the optimal location for the track without the need for excessive land grading to further reduce the potential for sedimentation/erosion.

The design criteria of the track are essential for operation of a professional harness horserace track, and for the safety of the riders and horses. The pitch, turning radius, and length of the track are carefully and precisely designed and constructed to maximize safety while minimizing impacts.

The relationship between the grandstand building and racetrack must be in accordance with the specifications of the New York State Racing and Wagering Board. The grandstand has been placed within the specified distance from the track and located in relation to the finish line to enable proper site viewing angles of the racetrack for both patrons and racing officials/judges. The proximity of the viewing areas is essential to proper functioning of the harness horse racetrack and critical to accurate recording of horse placement on the track. Horse racing activities are strictly regulated by the New York State Racing and Wagering Board, therefore proper sight lines and accurate and safe distances between the viewing areas to the track are essential.

The Grandstand combines not only the racing program, but also a Showroom function to support the Casino Resort. This space can be utilized for live shows and entertainment for Casino Resort guests without increasing the building footprint.

3.1.4 Resort Entry Road:

The primary Project Site access is proposed to be a new four-lane Resort entry road (two ingress and two egress) boulevard at Exit #106. The alignment of the Resort entry road is designed as a parkway-like road that creates an enjoyable driving experience and evokes such well-known roads as the Palisades, the Merritt Parkway, and the Hutchinson River Parkway. The approach will slow drivers down, introduce them to both the site and the unique beauty of the Catskills and create anticipation for the resort amenities that lie ahead. The Resort entry road is designed to account for site conditions by routing around

and preserving such features as topography, wetlands, rock outcroppings, views, and stands of healthy trees. This design approach allowed for a median that responds to natural features expanding to allow generous trees and plantings to be utilized and maintained to minimize any potential impacts to wetlands or waterbodies. Wherever possible, healthy trees will be preserved to maintain the forest network and removed trees will be replaced with native deciduous trees and white pines.

Improvements to the existing Joyland Road were considered as an alternative Resort entry road. The existing Joyland Road alignment, however, will not allow for flexibility and there are numerous constraints that accompany this option. As an introduction to the Project Site, the surrounding uses along Joyland Road are not harmonious with the aesthetics or the scale of the Casino Resort which would be of a different development use, character and activity type than is currently in place.

At present, Joyland Road is rural and narrow with existing cottage and bungalow development up to the edge of the road. Increasing the road width from its current 20' to the 120' required to accommodate the escalated flow of vehicles and existing heavy pedestrian traffic associated with the cottages and bungalows would dramatically change the feel of this road. This widening would also require substantial acquisition and demolition of the existing residences that line Joyland, a dramatic intrusion to their current way of life. Routing the Resort Entry Road around these residences will help to preserve the community character of the area. Moreover noise impacts would be greater along Joyland Road both during construction and operation. Any services and utilities currently present under or near Joyland Road would be interrupted while the improvements are being constructed.

Due to adjacent property ownership, the access from Joyland Road is limited to a constrained linear route that does not allow for a variety of experiences for the guest traveling along the road. An expanded Joyland Road would necessarily be designed with a consistent median and with more formal and evenly-spaced plantings and street trees. Unlike the proposed Resort entry road, this alternative will not have the flexibility to meander and route around natural site features. Joyland Road currently cuts through no fewer than three bands of east-west trending wetlands. Widening of Joyland Road will encroach further to the west and will cause unavoidable wetland impacts

3.1.5 Parking:

To minimize surface area impacts and to make best use of the elevation changes within the Casino Resort parcel, 3 levels of subsurface parking have been located below the Casino podium to accommodate 1,300 of the required parking spaces. At the preferred Resort Core location, installation of this subsurface parking works off of the existing topography which slopes towards Kiamesha Creek and thereby minimizes cutting into the hillside. Surface parking has been located on relatively flat portions of the parcel to minimize cut / fill requirements. An additional 2,000 surface parking spaces are provided for a total of 3,300 spaces for the Resort Core.

3.1.6 Golf Course

The EPT Concord Resort golf course has been redesigned with several goals in mind:

- to be more user friendly,
- to be more playable,

- to be more operationally efficient with returning nines (holes 1, 9, 10, and 18 are in close proximity to the golf clubhouse),
- to minimize problems with flooding,
- to upgrade the inefficient drainage and irrigation systems, and
- to reduce conflicts with adjacent uses such as residences and roads by creating a "core course".

The EPT Concord Resort proposes reconfiguring the two existing golf courses into a single course. The planned course would utilize existing open space corridors, to the extent feasible, in order to minimize disturbance. By concentrating the high impact developments, such as the Resort Core, in proximity to one another and relegating the lower impact/smaller footprint uses (Future Development) to the more heavily wooded and non-cleared sites, the intention is that the overall forested framework of the 1,735 acre Project Site can be maintained, avoiding excessive wetland disturbance and habitat fragmentation.

The golf course restoration will highlight the natural landscape, Kiamesha Creek, and the river corridor while making improvements to the course irrigation and drainage system, reducing the number of weather-related course closings. The existing course is interspersed with wetlands that are isolated islands of habitat, stressed by over 50 years of golf use. Since this is not a new use for this location, the re-designed course will seek to preserve the balance of vegetated land within the Kiamesha Creek valley and any minor encroachments to these wetlands will not have a significant impact.

The re-routing and associated grading of the Monster Golf Course was carefully considered so as to avoid as many wetland impacts as possible. By utilizing some of the land from the International Course, several existing holes can be re-routed out of the floodzones. The golf holes incorporated into the proposed design were chosen due to their playability, flood likelihood, and integration into a contiguous playing experience. Those that were not integrated into the new course are awkward, difficult holes to play and in some cases, poorly drained, causing frequent flooding and requiring significant manpower to make them playable after storm events. These holes are also separated from the golf clubhouse and the remainder of the course by roads, resulting in potential conflict between golfers and vehicles. Owing to their low topographic position and frequent flooding, they have been purposefully left out of the newly designed golf course so that they can be used more beneficially for wetland mitigation/creation.

The new course will aim to improve the ecology of both the creek corridor and wetland habitats through reducing grass and maintained turf areas. USACE waterbody #113 will be expanded to create additional surface water, therefore revitalizing existing water features that currently have issues with siltation and drainage. In addition, several play-over areas will require removal of overstory wetland vegetation to facilitate golf play but will remain as wetlands with no soil disturbance and shrub/herbaceous vegetation to remain. A large number of the specimen/notable trees on site are located within the existing course and the proposed course routing preserves these trees.

3.1.7 Future Development

The future development program elements of the project consist of the Residential Village, Sporting Club, Family Resort Hotel, and additional commercial/residential development areas. These future components of the overall Comprehensive Development Plan are described in detail in the DGEIS/FGEIS completed for the project and submitted to the USACE/NYSDEC under separate cover. Because these future components of the project can be designed with more flexibility, either clustered or reduced in density, wetland and wetland adjacent area impacts are largely avoided. Wetland avoidance was the principal factor determining the arrangement of all areas of future development.

As shown in Section 4.0, future development areas account for only 2% of the overall wetland impacts necessary to facilitate the project. These are limited to improvements to Chalet Road and for narrow wetland crossings to provide access to upland areas proposed for development. Roadway access has been designed to minimize the number of wetland crossings and where necessary to cross wetlands at their narrowest point. In this way, wetland impact from future development phases has been minimized to the maximum extent practicable.

4.0 PROPOSED WETLAND IMPACTS

4.1 Overall Project Wetland Impacts

As discussed below in detail under "Wetland Avoidance and Minimization", the Project has undergone a comprehensive process of design review and modification to avoid wetland impacts by relocating proposed project components and by incorporating design changes to minimize impacts where avoidance is not feasible. This included examination of alternative sites for the "Resort Core" project component and careful placement of all future development to avoid wetlands, NYSDEC-regulated wetland adjacent areas, and other regulated streams and waterbodies.

After consideration of numerous alternate locations for the Resort Core project component, and after a minimization of wetland impacts through modifications to the building and infrastructure plans, certain project elements will necessitate wetland and surface water disturbance. All areas of wetland impact for the overall Project are depicted in Figure 3 and shown in Table 2 below. Areas of wetland impact for the "2014 Plan" are provided on individual detail 8x11 sheets provided in Section E of this report.

The majority of wetland impacts are necessary for construction of the Resort Core project component. In addition, design of the new Monster Golf Course requires some wetland fill and areas of hand-clearing of vegetation in regulated wetland areas to facilitate fairway play-over. Areas of wetland disturbance for the remainder of the Project are relatively small and are required solely to gain access to viable upland portions of the property.

4.1.1 USACE

In total, 7.87 acres of Federally-regulated wetlands and waters are expected to be permanently or temporarily disturbed by the Proposed Project. This includes 3.13 acres of direct disturbance (fill) of vegetated wetlands, and 0.28 acres of direct disturbance (fill) to unvegetated wetlands (existing golf course pond). Approximately 3.58 acres of wetlands are expected to be disturbed via selective removal of overstory vegetation within the proposed Monster Golf Course to facilitate golf course play-over areas and

within the interior of the racetrack to facilitate spectator viewing. This action will change these areas from forested wetlands to scrub/shrub wetlands. Lastly, 0.28 acres of open water pond within the existing golf course will be expanded to enlarge this water feature.

In addition to permanent wetland impacts presented above, 0.6 acres of temporary impacts to onsite wetlands will be required principally for installation of the force main to connect the Proposed Project with the existing Town Sewage Treatment Plant, and also for temporary clearing of vegetation to facilitate road and building construction. All areas of temporary wetland impact will be replanted by wetland adapted plants post-construction.

In addition to the impacts to vegetated and non-vegetated wetlands discussed above, the 2014 Plan will disturb a total of 1,034 linear feet of USACE-regulated "vernal watercourses". These watercourses to be disturbed consist of ditches maintained by the Monster Golf Course grounds staff. Of the total disturbed, 629 feet of vernal water course will be permanent and is necessary for the footprint of the Resort Core. Surface runoff from the drainage area contributing to this vernal watercourse will be captured in onsite stormwater management structures and redirected to wetlands 33a/33b to retain hydrology. Impacts to the remaining 405 feet of vernal watercourse will be temporary, required for widening of Thompsonville Road. The quantity of vernal watercourse will be recreated in situ along Thompsonville Road similar to the current condition.

4.1.2 NYSDEC

A portion of the total acreage of wetland disturbance (7.87 acres) occurs in NYSDEC-regulated wetlands. NYSDEC wetland disturbance includes 1.35 acres of fill to vegetated wetland, 0.44 acres of temporary disturbance (vegetation clearing for vehicle access) during construction, and 0.08 acres of overstory vegetation removal for a pedestrian boardwalk crossing along Thompsonville Road. This is a total of 1.87 acres of disturbance to NYSDEC-regulated wetland.

In addition, the proposed Resort Access Road must cross a NYSDEC-regulated Class "B" stream. The crossing has been designed to conform to NYSDEC guidance for stream crossings and causes no disturbance to the stream bed or banks.

As discussed below in Section 5.0, a comprehensive wetland mitigation plan has been prepared to compensate for all unavoidable wetland impacts.

Table 2 presents the comprehensive list of all wetlands onsite to be disturbed, permanently or temporarily, to facilitate construction of the proposed project.

Table 2
Wetland Disturbance

Wetland ID	Permanent Fill in Vegetated Wetland		Permanent Fill in Unvegetated Wetland		Temporary Disturbance (construction)		Overstory Removal (no fill)		Open Water Expansion		Total		Phase
	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	
3	--	126	--	--	--	149	--	--	--	--	--	275	2014 Plan
9	0.39	16,668	--	--	0.04	1,867	0.02	1,082	--	--	0.45	19,617	2014 Plan
22	0.01	497	--	--	0.02	720	--	--	--	--	0.03	1,217	2014 Plan
32	0.64	27,918	--	--	--	--	--	--	--	--	0.64	27,918	2014 Plan
34	0.23	9,800	--	--	0.04	1,916	0.06	2,467	--	--	0.33	14,183	2014 Plan
36	--	--	--	--	--	--	0.31	13,370	--	--	0.31	13,370	2014 Plan
57	0.05	2,330	--	--	0.3	13,034	0.08	882	--	--	0.43	16,246	2014 Plan
71	1.26	55,065	--	--	0.12	5,290	--	--	--	--	1.38	60,355	2014 Plan
72	0.37	16,084	--	--	0.06	2,778	--	--	--	--	0.43	18,862	2014 Plan
108	--	--	0.28	11,986	--	--	--	--	--	--	0.28	11,986	2014 Plan
113	--	--	--	--	--	--	--	--	0.28	12,069	0.28	12,069	2014 Plan
33b	0.05	2,339	--	--	0.02	1,063	--	--	--	--	0.07	3,402	2014 Plan
45a	--	--	--	--	--	74	0.27	11,798	--	--	0.27	11,872	2014 Plan
45b	--	--	--	--	--	83	2.84	123,844	--	--	2.84	123,927	2014 Plan
52b	--	29	--	--	--	--	--	--	--	--	--	29	2014 Plan
20	0.04	1,857	--	--	--	--	--	--	--	--	0.04	1,857	2014 Plan-Non-JD
25	--	33	--	--	--	--	--	--	--	--	--	33	Future Development
27	0.09	4,380	--	--	--	--	--	--	--	--	0.09	4,380	Future Development
37	0.01	278	--	--	--	--	--	--	--	--	0.01	278	Future Development
40	0.03	1,226	--	--	--	--	--	--	--	--	0.03	1,226	Future Development
31c	--	151	--	--	--	--	--	--	--	--	--	151	Future Development
TOTAL (jurisdictional only)	**3.13**	**136,924**	**0.28**	**11,986**	**0.6**	**26,974**	**3.58**	**153,443**	**0.28**	**12,069**	**7.87**	**341,396**	

Table 2a
Vernal Watercourse Disturbance

Vernal Watercourse	Disturbance (Linear Ft)
222	629
221	405
TOTAL	**1,034**

4.2 2014 Plan

The "2014 Plan" refers to those project components intended to begin operation in 2014, including the Resort Core, Golf Course, Water Park, and necessary infrastructure. Most of the individual wetland impacts required to facilitate the 2014 Plan are small and have been minimized by careful revision to the site plan during site-specific grading and engineering. Of the

more sizable wetland impacts necessary to accommodate the 2014 Plan, three are unavoidable due to the need to provide access to the project and to accommodate the structures that comprise the Resort Core. These include:

- A 0.64-acre sloped forested red maple wetland (Wetland #32) will be filled for placement of the Casino Resort parking area.
- A 1.26 acre portion of a forested red maple and forested hemlock wetland (Wetland #71) will be filled for the proposed primary access roadway serving the project.
- A 0.37 acre portion of a forested red maple wetland (Wetland #72) must be disturbed to facilitate construction of the off-ramp and loop road at exit #106 off Route 17.
- A total of 0.39 acres of impact to a forested red maple wetland (Wetland #9) is necessary to gain access to the Water Park site.

Wetland impacts for the 2014 Plan constitute the majority (98%) of unavoidable wetland impacts for the overall project. Due to the character of the future residential and commercial development components, greater flexibility is allowed to cluster and segment design elements. In this way, future development represents only 2% of the total wetland impacts.

4.3 Overstory Vegetation Removal – Racetrack and Golf Course

Two depressional forested hemlock wetlands (Wetlands 45a and 45b) are located within the interior of the proposed harness horse racetrack. To facilitate viewing of the racetrack, the overstory vegetation within these wetland areas must be removed. It is proposed to remove this vegetation in a sensitive manner so that minimal disturbance to wetlands soils and shrub/herbaceous vegetation occurs. In addition, the remaining shrub/scrub vegetation will be supplemented with a wetland planting enhancement plan. Details of this plan, including specifications for overstory tree removal within the sensitive wetland areas, are provided in the Wetland Mitigation Report and Drawings which accompany this application.

A supplemental field investigation of these depressional wetlands was conducted in August 2012. (See MN Gilbert Environmental Report 8/30/12, previously submitted to the USACE). This investigation confirmed that over 65% of the 2.84-acre wetland area consists of hummocks and upland transition areas. It also identified perched water table conditions sufficient to sustain wetland hydrology, vegetation, functions and values. Therefore, while wetland areas 45a/45b will be converted from a forested wetland to a scrub-shrub wetland, wetland functions will not diminish and floral diversity will be increased. The decision to not fill these wetlands significantly reduces the impact of this development on the aquatic environment.

Similarly, the Monster Golf Course will be redesigned within land areas that are currently occupied by the two existing golf courses, interspersed with remnant pieces of wetland habitat in the lowlands in the valley of Kiamesha Creek. The redesign of the proposed Monster Golf Course has avoided wetland impact to the greatest extent feasible. However, rearrangement of the fairways to realize the new plan necessitates some wetland disturbance. This disturbance is primarily hand-cutting of existing plant material in two locations to facilitate golf play-over of the existing wetland. Vegetation within a small portion these wetlands will be cut to a height of 18-40” above existing grade, depending on the elevation of the tees at each location. Not fill or soil disturbance would occur. Although these wetland areas will not be lost, impacts to the vegetation will be compensated for as part of the overall wetland mitigation (wetland creation) plan for the Proposed Project. See “Mitigation” discussion below.

4.4 NYSDEC Wetland Adjacent Area Disturbance

As shown in Figure 4, approximately 11.5 acres (504,250 sq ft) of disturbance (land clearing/grading) to NYSDEC 100-foot adjacent area is necessary to facilitate development of the proposed project. However, a majority of this disturbance consists of regrading within portions of the existing golf course that are already lawn. In addition, much of the adjacent area to be disturbed consists of previously-disturbed areas in the right-of-way of existing roads that must be widened for the proposed project. Buffer impacts to undisturbed forested lands have been kept to a minimum.

4.5 Wetland Functions

The Wetland Mitigation Report that accompanies this application presents a comprehensive assessment of wetland functions and values for the entire Concord project site. Using hydrogeomorphic (HGM) classification and species composition, existing wetland functions are described in detail. Wetland functions and classification are also provided for the proposed wetland mitigation/creation areas. The result is an increase in both wetland acreage and wetland functions with the proposed wetland mitigation plan. Please see the Wetland Mitigation Report that accompanies this application for details on the Functional Analysis.

The impacted areas include sloped forested red maple wetlands and depressional forested hemlock wetlands, as well as impacts to existing, unvegetated golf course ponds. The proposed mitigation areas are currently manicured golf course features (e.g., fairways, greens, bunkers, roughs, etc.) that provide little or no wetland services, functions, or values. Following restoration, these areas will provide wetland hydrology to support the in-kind replacement of impacted forested wetland vegetation (red maple and hemlock), with the restoration of the attendant wetland services and functions. In addition, the restoration of the proposed wetland mitigation areas will serve to increase the acreage of contiguous forested wetlands that are currently bisected by golf course features.

5.0 WETLAND AVOIDANCE AND MINIMIZATION

5.1 Project Site Location

Inherent in the project purpose is the requirement that the Project be located at the former Concord Resort complex in the Town of Thompson, Sullivan County, New York. Accordingly, no off-site locations are practicable. The 1,583-acre site for the Project is served by multiple access points, namely Exit 106 and Exit 107 off of NY Route 17, making it an ideal location for a destination resort drawing visitors from the northeast region. The Exit 106 ramp will lead motorists north and into both the EPT Concord Resort property itself and the main entrance to the Resort Core. Exit 107, while a more circuitous route, provides an alternative access point along the recently re-paved Heiden-Thompsonville Road.

5.2 Alternative Onsite Areas Considered For Resort Core

Due to the large size of the Resort Core project component, and the need for a grouping of structures and amenities to realize the Resort Core design goals, there is no practicable alternative location for the Resort Core elsewhere on the Project Site that would result in a reduction in wetland impacts while maintaining the development program goals needed for the success of the project.

Many factors were considered when selecting sites for the Project's residential, commercial, and recreational elements. By examining the Project Site's topography, wetlands, drainageways, existing roadways and infrastructure routings, prime development parcels were identified. Development areas identified on the Project Site vary from steeply sloped forested lands, hilltop sites with prime views of the Catskill Mountains, gently sloping hillsides of the Kiamesha Creek stream valley, and formerly developed lands adjacent to the existing roadway network.

After a thorough investigation of the opportunities and challenges presented by each location, the most appropriate site for the Resort Core was chosen within a relatively flat parcel of the southeastern portion of the Project Site, located between Thompsonville Road and Joyland Road. This location and the project design minimize wetland impacts while preserving other ecological values found in other phase locations, while simultaneously making maximum use of previously developed lands to minimize additional site disturbance.

Five alternative sites were examined for the siting of the Resort Core. These sites were: Sporting Club Site, Residential Village Site, Family Resort Hotel Site, Existing Monster Golf Course, and Joyland-Thompsonville Road Intersection. The evaluation of each of these alternative sites is discussed below. The reasons each of these alternate sites were found to be inappropriate are discussed below.

Table 3
Alternative Locations for Resort Core – Wetland and Steep Slope Disturbance

Resort Core Alternative Site	Wetland Disturbance (acres)	Steep Slope (>20%) Disturbance (acres)
Preferred Alternative	0.64 (+3.1 overstory removal)	1.05
Residential Village Site	24.41	12.92
Sporting Club Site	5.2	18.50
Family Resort Hotel Site	0.77	17.87
Monster Golf Course Site	15.64	4.53
Joyland/Thompsonville Int.	15.0	4.68

5.2.1 Sporting Club Site

The northeastern hilltop adjacent to Kiamesha Creek was identified as a possible development site for the Casino Resort. However, upon further investigation, this land is more appropriate for a program with a lighter footprint on the land. The flat area atop this hill would yield approximately 25 acres of developable land (0-10% slope) of which 16% is non-jurisdictional wetland. An additional 70 acres on the hillside (10-20% slope) has development potential but would be difficult due to the existing slope and would orient the casino resort away from the site by sloping east. With the large amount of flat land required for the racetrack, a significant grading and clearing effort would have to occur, eliminating the vibrant natural landscape that makes this piece of the property unique.

The off-site visual impact of locating the casino building on one of the site's five highpoints/hilltops would be more obtrusive than siting on the flatter lowland.

The character of the existing hardwood/evergreen forest (maple, beech, and hemlock) at this location is an asset for the site, representing the largest area of contiguous forest habitat within the property boundary. The Sporting Club that is currently proposed on

this site would be thoughtfully merged with the surrounding forested environment and would provide connections to hiking and walking trails throughout the Club and across the entire EPT Concord Resort property. With its proximity to Kiamesha Creek and the former Concord Ski Area, planned as a tubing and biking hill, this particular site naturally lends itself to promoting a wide variety of outdoor pursuits, rather than a Casino Resort.

Wetland impacts necessary to accommodate the Resort Core footprint at the Sporting Club Site would be 5.2 acres, exceeding the preferred location.

5.2.2 Residential Village Site

The stream valley to the west of Kiamesha Creek was considered as an alternate location for the Casino Resort. Apart from the difficulty of accommodating the casino and track program into the site's steeper topography, this location is better suited for a more 'local' use relating back to the Town of Thompson. Since this land is situated near other local uses, the Residential Village, currently proposed in the Comprehensive Development Plan, would provide a stronger relationship to the commercial retail along Route 42 than the Casino Resort. Kiamesha Lake Road, with only one travel lane in either direction, can more readily handle local traffic rather than the high volumes that locating the Casino Resort and accompanying Entertainment Village here would bring. This area is best used to serve the residents of Concord and does not make for an ideal resort destination.

Another deciding factor eliminating the Residential Village site for the Resort Core pertains to the renovation of the existing golf course. If the Resort Core were to be located to the north of the property in place of the Residential Village, a contiguous golf course would have to utilize existing golf holes south of Thompsonville Road (Holes 3 to 8) to avoid additional clearing for golf uses. Currently, Hole 3 separates a large wetland area (USACE #44) from Kiamesha Creek which causes flooding during rain events as this Hole is located in the creek's 100 year floodplain. Because these southern holes weave around wetlands, re-routing the course with the elimination of Hole 3 would be difficult. Also, the course would continue to be divided by Thompsonville road, which could lead to crossing safety issues for carts with the increased traffic on this road post-development. Another option that would re-appropriate the abandoned International Golf holes on the east side of Kiamesha Creek and Chalet Road would cause these holes to be disconnected from the rest of the course. Golfers would have to cross both Kiamesha Creek and Chalet road to circulate the course.

Wetland impacts necessary to accommodate the Resort Core footprint at the Residential Village Site would be 24.41 acres, far exceeding the preferred location.

5.2.3 Family Resort Hotel Site

Another site considered for the Resort Core component was the hilltop directly across Thompsonville Road from the preferred location. Due to the lack of a flat expanse of land, this location would require a higher impact on the site and necessitate significant grading to accommodate all of the Casino uses. Approximately 20 acres of flatter developable land would be feasible at this location with an additional 50 acres of more steeply sloped land (5-15% slope). However, this is insufficient as the Resort Core requires 125 acres. Alternatively, if the casino parcel stretched across both the Sporting Club Site and the Family Resort Hotel Site to accommodate the race track and the casino facility, the sites would be disconnected and very inefficient due to the steeper grades in

this part of the property. Additional area would be disturbed as the site would require greater than 125 acres for layout.

An additional disadvantage to this site is that both Thompsonville Road and the outparcel located at the northeast corner of the intersection of Thompsonville and Joyland Roads sever the Entertainment Village from the Casino Resort. There is simply not enough land north of Thompsonville Road to include both programs. The synergy created by having these two uses side by side in a unified Resort Core would be lost. When visitors are able to move freely from the Casino to the Entertainment Village, it not only creates internal trips, therefore reducing the overall number of vehicles traveling within the site.

Wetland impacts necessary to accommodate the Resort Core footprint at the Family Resort Hotel Site would be 0.77 acres. Although this alternative may have low direct wetland impacts, the excessive amount of clearing and grading activities would present threats of indirect impacts from stormwater runoff during the construction phase and radically alter the topography of the area, fragmenting habitat and destroying the unique natural settings and characteristics of the Resort lands.

5.2.4 Existing Monster Golf Course

The Monster Golf Course has historical significance for the EPT Concord Resort of old and will become an important draw for the future resort. Preserving the integrity and design intent of the course is a vital part of the redevelopment/revitalization of the EPT Concord Resort. Locating the proposed Resort Core within the existing golf course would greatly infringe upon this effort and force golf into less desirable areas, i.e. currently forested and/or wetland areas, and areas that are not currently zoned for golf use.

For many environmental reasons, locating a large building complex within the Kiamesha Creek Valley is not preferred. Foremost among these, this alternative would require substantial development of the stream's floodplain and loss of stream buffer.

This location would also require siting of the casino and entertainment village on the opposite sides of Kiamesha Creek as both elements will not fit on one side. This would eliminate the internal pedestrian benefits afforded by the preferred site.

Lastly, this alternative location would take away potential wetland mitigation areas within the existing and former golf course fairways which are ideal locations for improvement.

Wetland impacts necessary to accommodate the Resort Core footprint at the Existing Monster Golf Course Site would be 15.64 acres, far exceeding the preferred location.

5.2.5 Alternative Arrangement of Structures for the Resort Core at Joyland-Thompsonville Intersection

As described in detail in Chapter 19, "Alternatives," of the DGEIS submitted for this project, two arrangements of buildings were considered in detail for the Casino Resort and Entertainment Village at the intersection of Thompsonville Road and Joyland Road. Compared with the Proposed Project, if portions of the Resort Core development plan were to be located predominantly east of Joyland Road, as shown in Figures 5 and 6,

there would be equal or greater wetland disturbance than the preferred alternative. This is due to the greater prevalence of wetlands east of these roads. Therefore, from a wetland impact perspective, these alternatives are not preferred. In addition, the building arrangements presented in these alternatives are not preferred for other reasons. These include the lack of a contiguous development area to encourage a pedestrian friendly environment, increased impacts to soils and topography from grading, and traffic/circulation constraints.

The varied topography and lack of a flat expanse at the northeast corner of the intersection of Thompsonville and Joyland Roads would require significant regrading to accommodate the hotel, harness horse racetrack, and Casino Resort uses on the northeast side of Thompsonville Road proposed in Option 3A (Figure 5). The regrading effort in the northeast portion of the Resort Core parcel would be particularly extensive to accommodate the proposed parking structure. In the northeast corner of this area, there is not sufficient flat area to locate proposed roadways or structures outside of the waterbodies and wetlands, resulting in significant disturbances to these resources.

Similarly, the proposed layout for Option 3B (Figure 6) would require significant regrading for the realigned loop road and the surface parking proposed in the northeast corner of the parcel. Because of the limited availability of flat/level land in this area, both the road bed and various structures would be located either within or immediately adjacent to wetlands and waterbodies.

Impacts to geology, soils, and topography are expected to be greater under these alternatives than with the development of the Proposed Project.

5.3 Concord Associates Proposed Project

In 1999 the Concord Resort was included in a 1,735± acre development project sponsored by Concord Associates, LP and its affiliates ("CALP"). As part of the CALP plan, a Planned Resort District (PRD) zoning law was created in the Town of Thompson, with the requirement that a Comprehensive Development Plan (CDP) be approved by the Town Board. CALP's CDP for the site was approved by the Town Board in 2006. The CALP CDP proposed a casino resort that included the redevelopment of the original Concord Hotel, a convention center, harness horse racetrack, lodge and spa, 3,000 residences, theaters, the Monster Golf Course with a new clubhouse and spa, and various retail uses.

The CALP plan, as described and assessed in the August 2006 DGEIS, and the FGEIS filed in November 2006, together with Town Board and Planning Board assessments of CALP plan amendments, identified several distinct project components spread across the entire 1,735 acre site. The CALP plan aligned the Village Center, the harness horse racetrack, the Casino and Hotel northward along Concord Road to its intersection with Kiamesha Lake Road. In the CALP concept, the Resort Core is a linear design located over 1.5 miles from the Route 17 exit. Moreover, because Concord Road frontage is owned by multiple property owners and not controlled on both sides by a single entity, it was not possible to create the controlled 'resort drive' entry experience for visitors the vast majority of whom will reach the destination resort traveling by Route17.

The linear form of the CALP Resort Plan created a fractured environment where the harness horse racetrack acts as a dividing element between the Casino, Hotel, Convention Center and the Village Center. With nearly a ten-minute walk between the Village and the Casino and Hotel uses, this plan was inconvenient to pedestrians and would result in a loss of synergy between the various Resort program elements.

Due in part to this linear design form, and placement of other program elements, the CALP Resort Plan would have required the loss by fill of 10.204 acres of ACOE and NYSDEC wetlands, eliminated hundreds of acres of forested lands and resulted in fundamentally altered terrain and ecology on the Project Site. By spreading the project out in the manner in which the CALP Resort Plan proposed, impacts to wetlands and other ecological values were significantly larger than the potential impacts currently proposed with the EPT Concord Resort.

The CALP Resort Plan proposed to site the harness horse racetrack adjacent to a re-aligned Concord Road. This location would have required a significant amount of grading and flattening of the highest hilltop on the property located at elevation 1,550 feet above sea level. Rather than integrating this element into the landscape, the track and its associated grandstand and lighting would be visible from almost every point on the entire Project Site, disrupting the sweeping mountain views that help to make the Concord Resort unique.

By making it necessary for guests to cross several streets to visit multiple program elements, they may have chosen to stay within one discrete area rather than experience the Resort Core as a cohesive whole. If visitors did choose to move between program elements within this linear plan, they were more likely to get in their car and drive from the Casino or Hotel to the Village Center and vice versa, thereby increasing vehicle trips. In losing the internal capture of vehicle trips that would result from a more pedestrian-friendly environment, there was a large increase in traffic that required the creation of 13 new and distinct traffic lanes on 6 different roadways to accommodate the increased traffic demand. The new lanes traveled through several intersections and commercial developments leading up from Route 17 before arriving at the site of the proposed development, thus detracting from the experience of arriving at a Destination Resort. The traffic route and roads reduced the synergy between the different elements of the CALP Resort Plan.

The CALP Resort Plan required several significant impacts to aquatic resources and would have resulted in the loss of 10.42 acres of wetlands as compared to the EPT Concord Resort wetland impact of 7.87 acres (3.41 acres of permanent, 0.6 acres of temporary, 3.58 acres of overstory clearing, and 0.28 acres of pond expansion).

Under CALP's Resort Plan, the redevelopment of the Golf Courses would have filled 3.312 acres of USACE wetlands. The EPT Concord Resort Plan has minimized these disturbances as part of its overall design by limiting fill to 0.46 acres of USACE wetlands and overstory clearing of 0.34 acres of vegetated wetlands to facilitate golf overplay.

The CALP Resort Plan's Casino Resort element would fill a total of 2.64 acres of wetlands mainly due to convention/support and back of house operations. By contrast, the EPT Concord Resort Phase 1 Casino, Hotel, Harness Track, grandstand showroom, and simulcast facility will fill approximately 0.64 acres of USACE regulated wetlands. 3.11 acres of forested wetlands will be disturbed by the removal of trees interior to the harness race track. However, understory vegetation and hydric soils will not be disturbed and will be retained as a wetland feature in the interior of the harness race track, thus preserving certain wetland functions and values.

CALP was unable to successfully bring any phase of its proposed project to completion, no permit for the resort's wetland disturbance was submitted to the USACE/NYSDEC, and in 2008 construction of the first phase of the CALP plan was halted. No construction has occurred since that time and the much needed revitalization of the region has yet to occur.

In 2010, CALP transferred the majority of the Concord Resort to EPT pursuant to a deed in lieu of foreclosure. EPT now owns and controls over 1,583 acres of land comprising the Concord Resort, and has developed a new feasible and pedestrian-friendly development plan that integrates program elements with the existing topography and natural setting of the Concord Resort lands.

6.0 MITIGATION

6.1 Wetland Creation Areas

To mitigate for the wetland disturbance required to implement the Proposed Project, a comprehensive wetland mitigation plan has been prepared and is contained in a separate volume with this application. As described in more detail in the Wetland Mitigation Report, three areas of the Project Site currently occupied by golf course fairway were identified as potential mitigation areas due to their topographic position, proximity to existing wetlands, and available hydrology. These potential mitigation areas were studied in detail to determine their viability as locations for wetland creation. Sub-surface geology and groundwater conditions have been studied via test pits and piezometers. In total, the proposed mitigation acreage is 11.2 acres, exceeding the amount of mitigation required based on the ratios proposed.

Mitigation required for impacts resulting from the development of the Proposed Project is presented in Table 4. Permanent impacts to vegetated wetlands are proposed to be mitigated at a ratio of 2:1. Mitigation for permanent impacts to unvegetated wetlands (existing golf course ponds) is proposed at a ratio of 1:1. Mitigation for impacts associated with removal of overstory vegetation (within the wetlands interior to the racetrack and golf play-over areas) is proposed at a ratio of 1:1 despite the fact that the majority of these areas would be enhanced with a diverse assemblage of facultative woody/herbaceous plant species, thereby increasing species diversity and retaining wetland functions.

Table 4
Wetland Mitigation

	Permanent Fill of Vegetated Wetland		Permanent Fill in Unvegetated Wetland		Temporary Disturbance (construction)		Hand Clearing (no fill)		Open Water Expansion		Total	
Jurisdiction	**Acre**	**Sq Ft**	**Acre**	**Sq Ft**	**Acre**	**Sq Ft**	**Acre**	**Sq Ft**	**Acre**	**Sq Ft**	**Acre**	**Sq Ft**
NYSDEC & USACOE	1.35	59,151	--	--	0.44	19,044	0.08	882	--	--	1.87	79,077
USACOE Only	1.78	77,773	0.28	11,986	0.16	7,930	3.5	152,561	0.28	12,069	6	262,319
Total (jurisdictional only)	3.13	136,924	0.28	11,986	0.6	26,974	3.58	153,443	0.28	12,069	7.87	341,396
Mitigation Ratio	**2:1**	2:1	**1:1**	1:1	**0**	0	**1:1**	1:1	**0**	0	**--**	**--**
Mitigation Area	**6.26**	273,848	**0.28**	11,986	**0**	0	**3.58**	153,443	**0**	0	**10.12**	439,277

By creating wetland in portions of the existing Monster Golf Course that suffer from saturated soil and periodic flooding, the mitigation plan will reclaim and recreate floodplain forest. These wetland creation areas are all located immediately adjacent to formerly connected wetland patches now isolated and of lower value. By expanding and spanning the non-wetland spaces between remnant areas of existing wetland habitat now isolated within the Monster Golf Course's lower elevations, the wetland mitigation plan will not only exceed the wetland acreage disturbed, it will also create contiguous wetland habitat that currently does not exist. The net benefit to

wetland functions and values, including wetland flora and fauna functions, will be substantially increased.

The three wetland creation areas will be excavated to intercept the shallow groundwater table which will ensure that wetland hydrology is maintained during the growing season. To supplement wetland hydrology from groundwater, each wetland creation area will also be provided with surface water inputs from adjacent surface water bodies. In the case of the largest wetland creation area, Area 3, surface water from the existing pond within Monster Golf Course Hole #4 will be directed to descending hydraulic cells connected by flow control structures. For Area 2, floodwaters from an existing golf course surface pond will backflow during periods of inundation to the mitigation area. Planting plans for the mitigation areas emphasize forested wetland acreage to fully compensate for the forested wetlands disturbed by the Proposed Project. Although costly, the use of large plant size and high density will maximize the potential for the success of the mitigation plan. Elsewhere, as at Area 1 and 2, use of berms to detain flood water will increase floodplain storage capacity while also providing sustained wetland hydrology from the adjacent Tannery Brook and Kiamesha Creek. The proposed mitigation areas are physically separate from other project components, and can therefore be constructed independently of the development construction schedule.

Implementation and adjustment to the wetland mitigation plan during its construction and grow-in period will employ an Adaptive Management approach. This is a science-based approach for managing ecological systems and communities that are continuously evolving. A multi-disciplinary Adaptive Management Team will track the mitigation project against expected progress to ensure that the project stays on the appropriate trajectory to success. As necessary and appropriate, the Adaptive Management Team will address any identified problems on an ongoing basis and will implement appropriate monitoring programs and/or alternatives to guide the mitigation.

Detailed construction and planting plans, water budgets, recorded groundwater levels, wetland establishment period monitoring and maintenance plans will be included in the final Wetland Mitigation Plan Report.

6.2 Wetland 45a/b Enhancement Plan

A second and important component of the Project's mitigation plan will be the enhancement of wetlands 45a and 45b. As discussed above, these wetlands be encircled by the proposed harness racing track. Direct changes to Wetland 45a/b are limited to overstory vegetation removal as required to maintain lines of sight for the race track.

Steps will be taken to ensure that overstory vegetation removal is conducted in the least disturbing manner possible and minimizes ancillary impacts to wetlands including soil compaction and earth disturbance. These include conducting tree removal during periods of frozen ground to minimize earth disturbance; establishment of pre-approved access routes to reduce contact with wetland depressions; use of hand operated chain saw rather than ripping/bulldozing; use of marsh mats to minimize soil disturbance; and stumps will be left intact without grubbing/grinding.

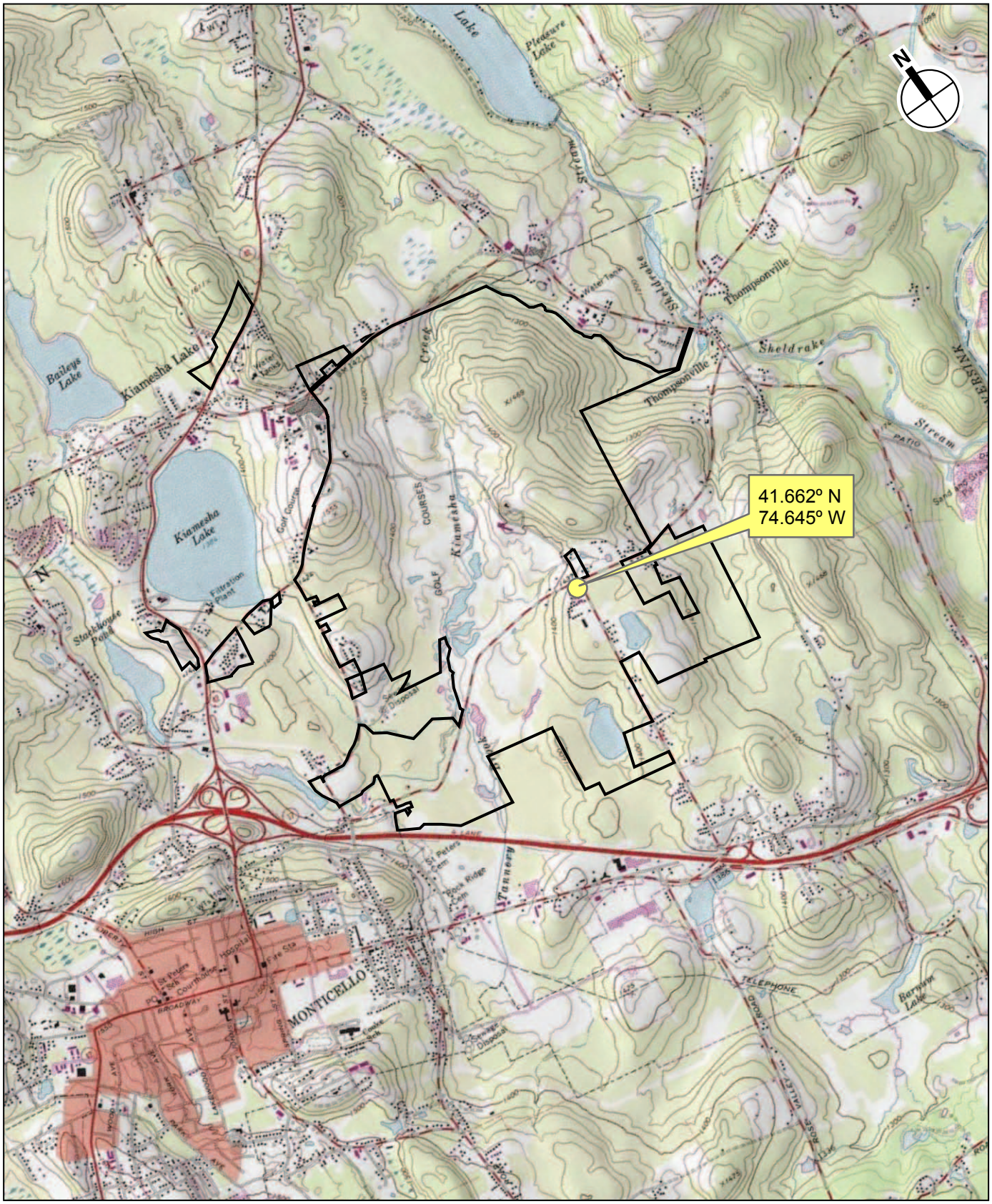
Following the removal of woody vegetation, wetland 45a/b will be planted and seeded with native shrub and herbaceous vegetation to enhance diversity and improve wetland function. Detailed planting plans and specifications are provided in this application.

Table 5
All Wetland Impact Data

Wetland ID	Permanent Impact		Temporary Impact		Overstory Vegetation Removal		Open Water Expansion		Fill of Unvegetated Wetland		Vernal Watercourse Disturbance (LF)	Jurisdiction	Type	Phase
	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft				
3	--	126	--	149	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	2014 Plan
9	0.07	2,888	--	--	0.02	1,082	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	2014 Plan
9	0.32	13,780	0.04	1,867	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	2014 Plan
22	0.01	497	0.02	720	--	--	--	--	--	--	--	NYSDEC and USACOE	Riverine Forested Red Maple	2014 Plan
32	0.64	27,918	--	--	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	2014 Plan
33b	0.05	2,339	0.02	1,063	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	2014 Plan
34	0.05	1,975	0.03	1,450	0.03	1,244	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	2014 Plan
34	0.18	7,825	0.01	466	0.03	1,223	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	2014 Plan
36	--	--	--	--	0.31	13,370	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	2014 Plan
45a	--	--	--	74	0.27	11,798	--	--	--	--	--	USACOE Only	Depressional Forested Hemlock	2014 Plan
45b	--	--	--	83	2.84	123,844	--	--	--	--	--	USACOE Only	Depressional Forested Hemlock	2014 Plan
52b	--	29	--	--	--	--	--	--	--	--	--	USACOE Only	Depressional Forested Red Maple	2014 Plan
57	0.05	2,330	0.30	13,034	0.08	882	--	--	--	--	--	NYSDEC and USACOE	Riverine Forested Red Maple	2014 Plan
71	1.20	52,244	0.11	4,680	--	--	--	--	--	--	--	NYSDEC and USACOE	Sloped Forested Hemlock	2014 Plan
71	0.06	2,821	0.01	610	--	--	--	--	--	--	--	NYSDEC and USACOE	Sloped Forested Hemlock	2014 Plan
72	0.37	16,084	0.06	2,778	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	2014 Plan
108	--	--	--	--	--	--	--	--	0.28	11,986	--	USACOE Only	Pond/Lake	2014 Plan
113	--	--	--	--	--	--	0.28	12,069	--	--	--	USACOE Only	Pond/Lake	2014 Plan
20	0.04	1,857	--	--	--	--	--	--	--	--	--	Non-Jurisdictional	Depressional Forested Red Maple-Non-JD	2014 Plan-Non-JD
25	--	31	--	--	--	--	--	--	--	--	--	NYSDEC and USACOE	Sloped Forested Red Maple	Future Development
25	--	2	--	--	--	--	--	--	--	--	--	NYSDEC and USACOE	Sloped Forested Red Maple	Future Development
27	--	126	--	--	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	Future Development
27	0.01	613	--	--	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	Future Development
27	0.04	1,814	--	--	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	Future Development
27	0.04	1,827	--	--	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	Future Development
37	0.01	278	--	--	--	--	--	--	--	--	--	USACOE Only	Riverine Forested Hemlock	Future Development
40	0.015	613	--	--	--	--	--	--	--	--	--	NYSDEC and USACOE	Depressional Forested Hemlock	Future Development
40	0.015	613	--	--	--	--	--	--	--	--	--	NYSDEC and USACOE	Sloped Forested Hemlock	Future Development
31c	--	151	--	--	--	--	--	--	--	--	--	USACOE Only	Sloped Forested Red Maple	Future Development
221	--	--	--	--	--	--	--	--	--	--	405	USACOE Only	vernal watercourse	2014 Plan
222	--	--	--	--	--	--	--	--	--	--	629	USACOE Only	vernal watercourse	2014 Plan

D

Figures



SOURCE: USGS Monticello and Woodridge Quadrangles

0 2000 5000 FEET
SCALE

Project Site

Vicinity Map
Figure 1

EPT CONCORD RESORT

3.8.13

Illustrative Master Plan
Figure 2

3.8.13

Project Site

All Project Limit of Disturbance

Wetland Jurisdiction

USACE Only

NYSDEC and USACE

Non-Jurisdictional

Ponds-Streams

NYSDEC Regulated Streams

Wetland Disturbance

Disturbance

Overstory Removal

0 1000 2000 FEET

SCALE

EPT CONCORD RESORT

Wetland Impacts

Figure 3

3.8.13

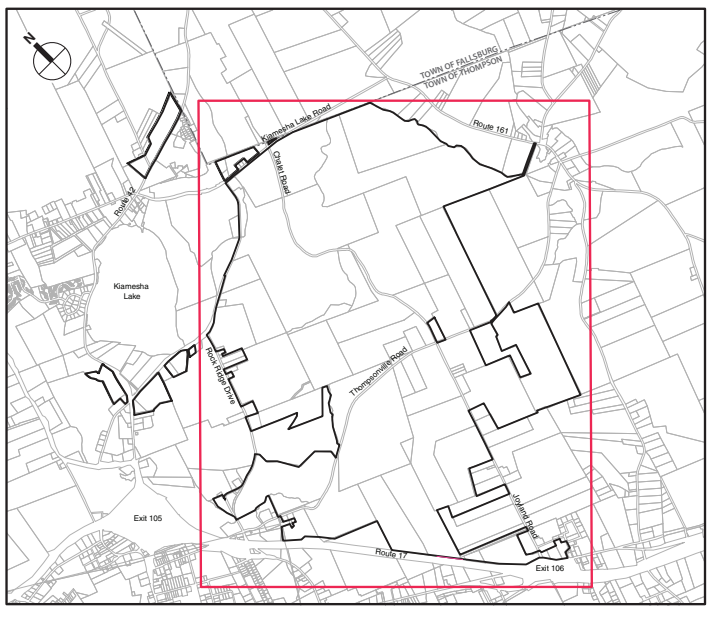
Kiamesha Lake Road
Route 161
Chalet Road
Rock Ridge Drive
Thompsonville Road
Joyland Road
Route 17

0 1000 2000 FEET
SCALE

Project Site Boundary
All Project Limit of Disturbance

Wetland Jurisdiction
USACE Only
NYSDEC and USACE
Non-Jurisdictional
Ponds-Streams
NYSDEC Regulated Streams
100 Ft. Wetlands Buffer

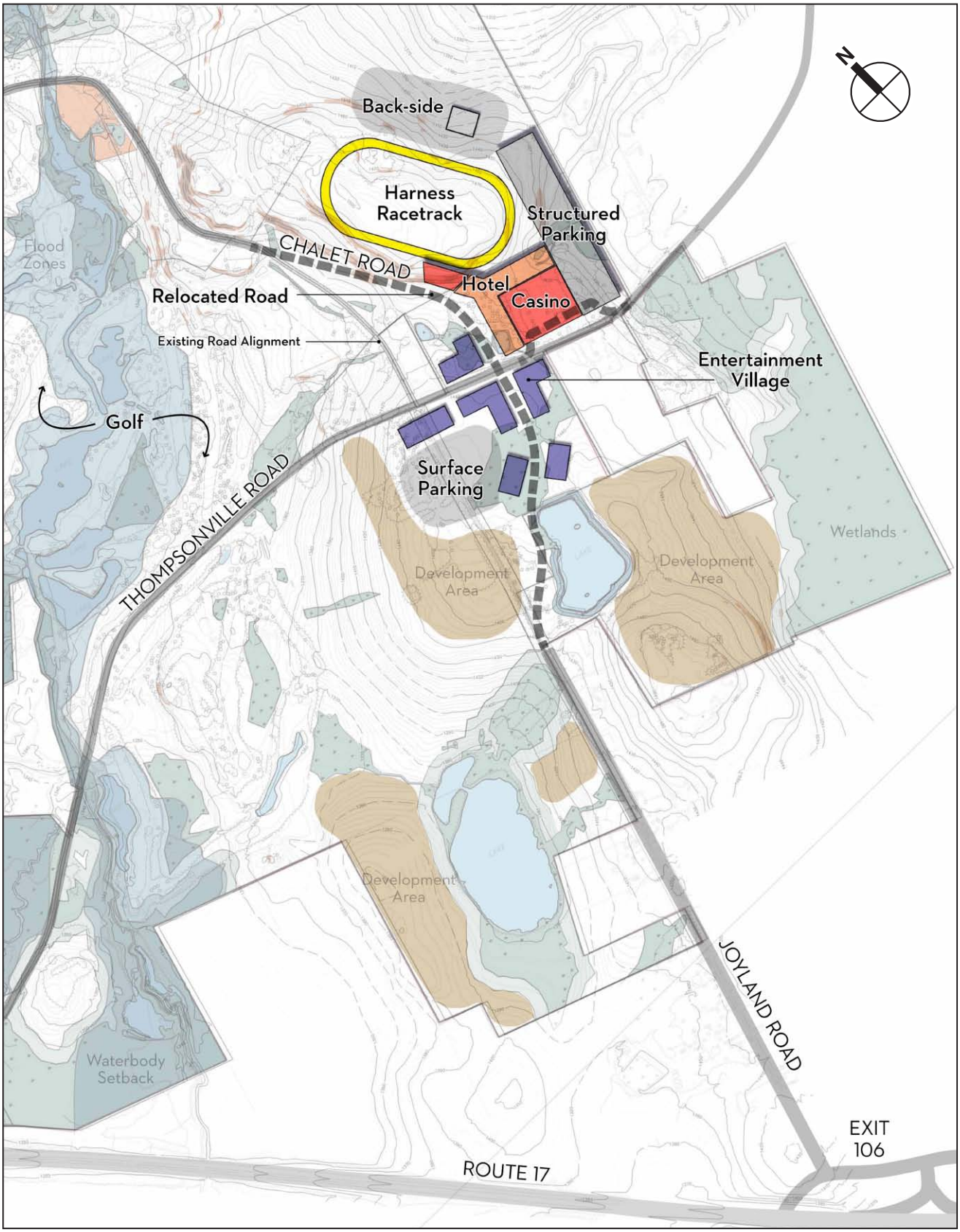
Wetland Disturbance
100' Buffer Disturbance



EPT CONCORD RESORT

Wetland Buffer Impacts
Figure 4

2.25.13



SOURCE: Hart Howerton

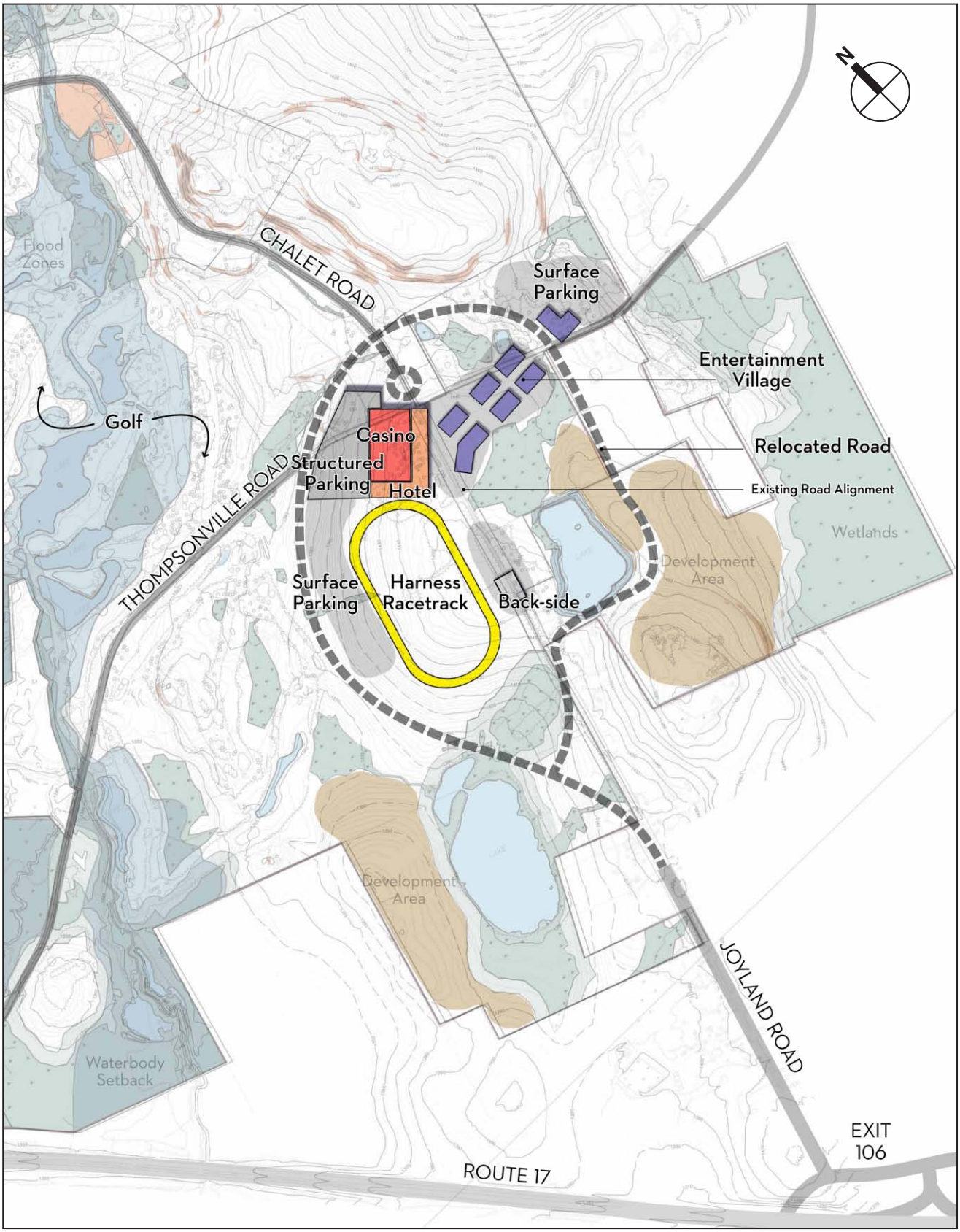
0 400 1000 FEET
SCALE

Alternative Hotel/Casino Location
Option 3A

EPT CONCORD RESORT

Figure 5

2.25.13



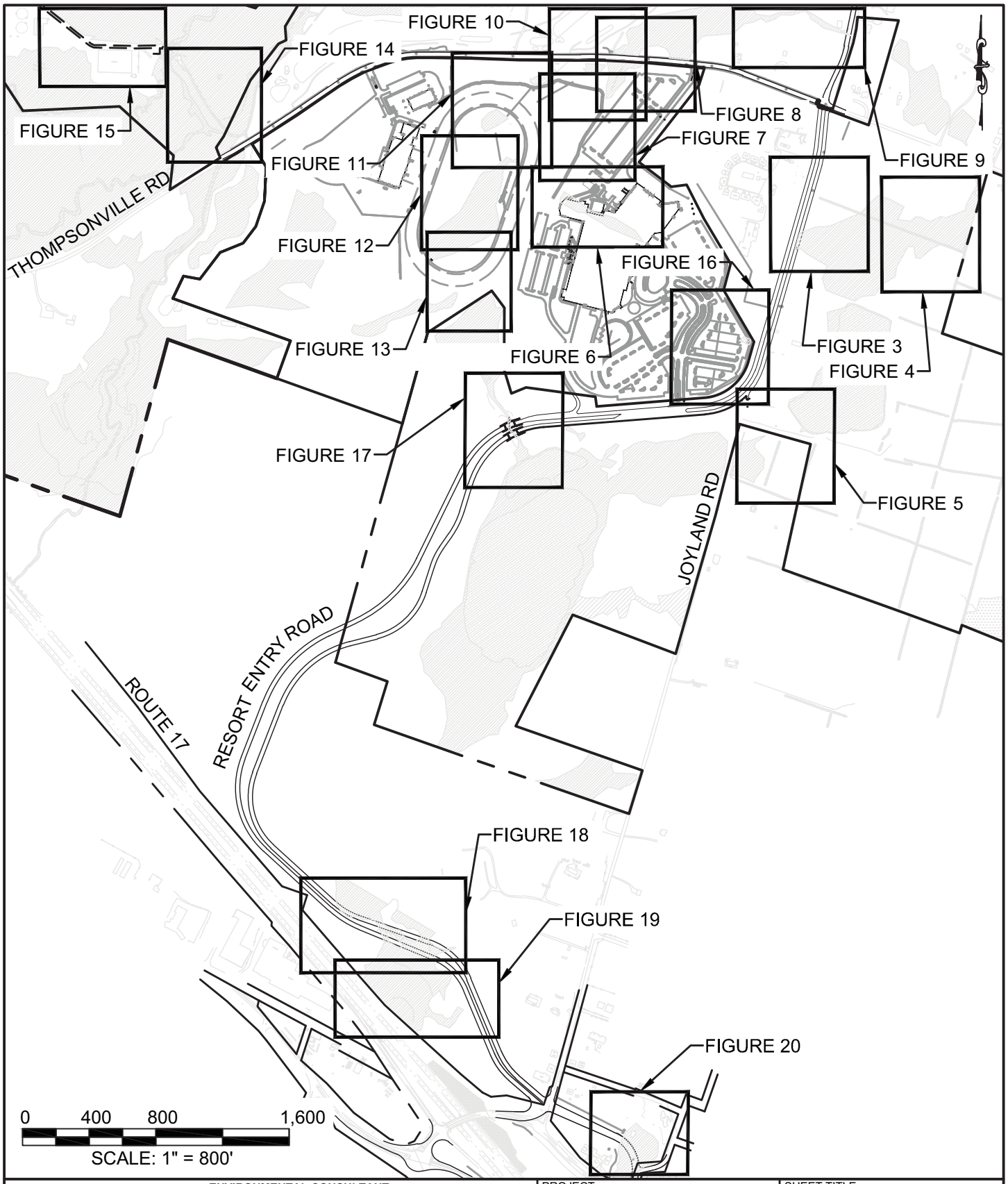
SOURCE: Hart Horton

0 400 1000 FEET
SCALE

Alternative Hotel/Casino Location
Option 3B
Figure 6

E

Wetland Impact Drawings



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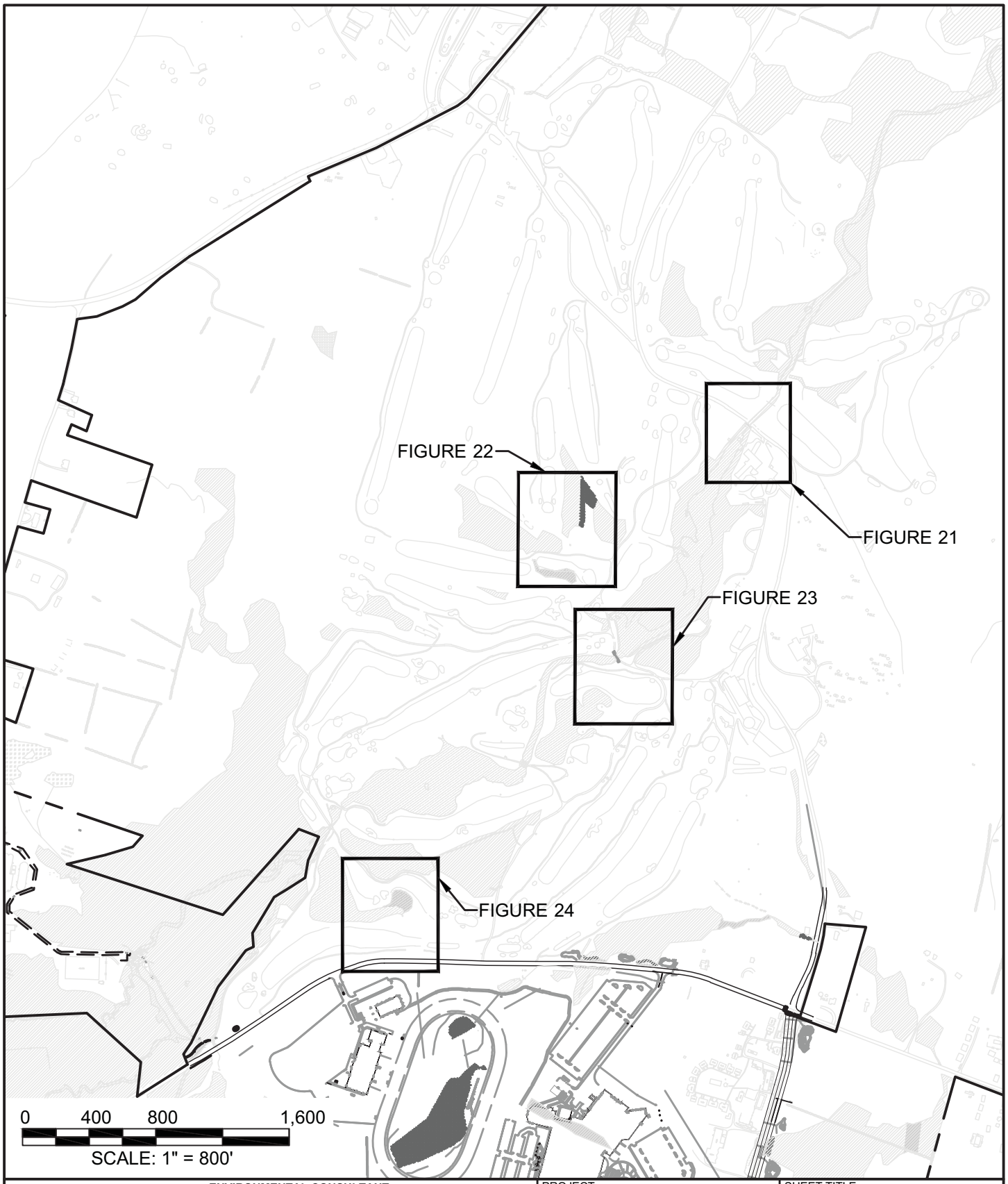
(914) 949-7559 (FAX)

PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE WETLAND DISTURBANCE KEY PLAN
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 1
SCALE 1" = 800'	DATE 03/08/13	SHEET 1 OF 24



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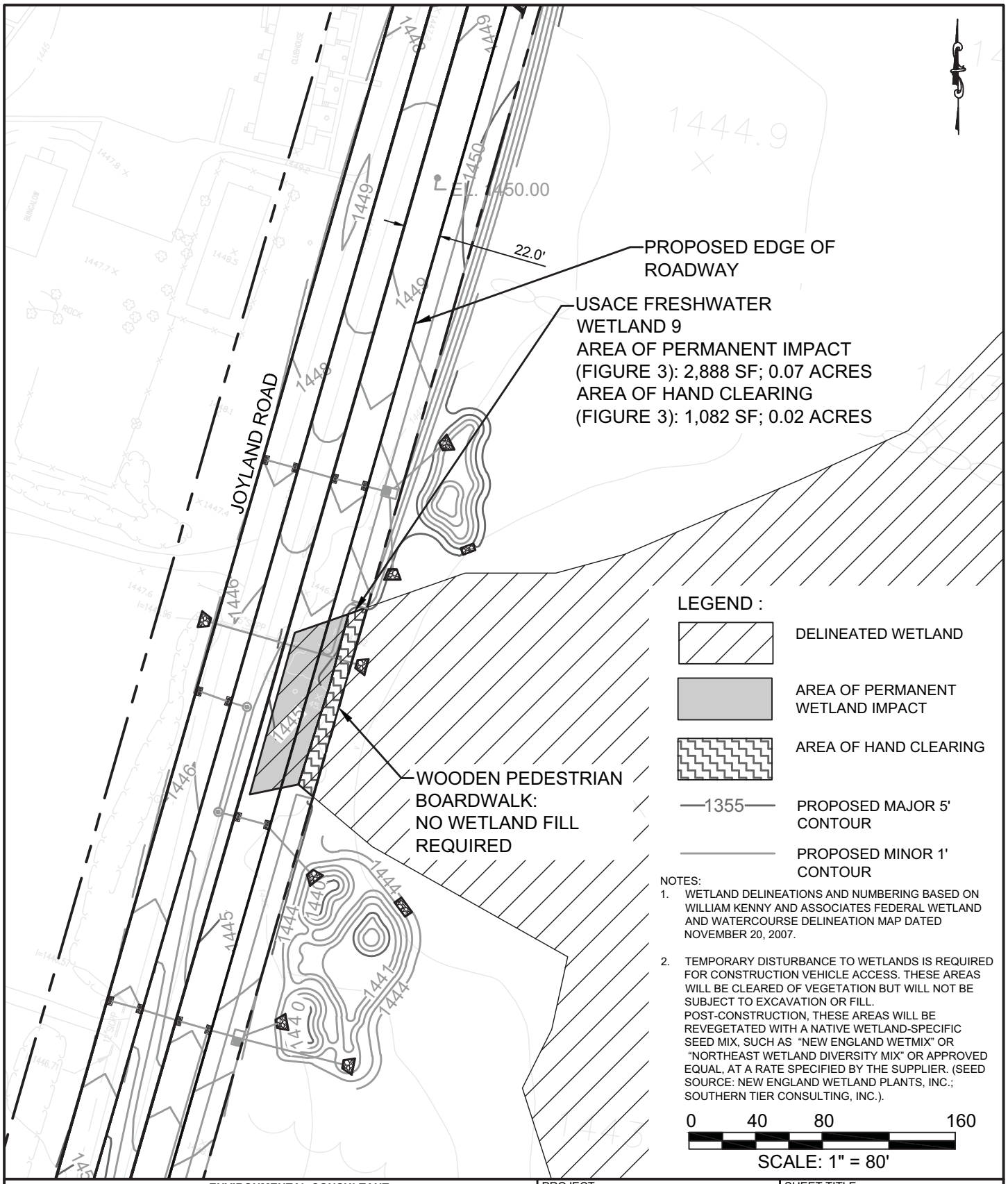
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE WETLAND DISTURBANCE KEY PLAN 2
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 2
SCALE 1" = 800'	DATE 03/08/13	SHEET 2 OF 24



NOTES:

1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.
2. TEMPORARY DISTURBANCE TO WETLANDS IS REQUIRED FOR CONSTRUCTION VEHICLE ACCESS. THESE AREAS WILL BE CLEARED OF VEGETATION BUT WILL NOT BE SUBJECT TO EXCAVATION OR FILL. POST-CONSTRUCTION, THESE AREAS WILL BE REVEGETATED WITH A NATIVE WETLAND-SPECIFIC SEED MIX, SUCH AS "NEW ENGLAND WETMIX" OR "NORTHEAST WETLAND DIVERSITY MIX" OR APPROVED EQUAL, AT A RATE SPECIFIED BY THE SUPPLIER. (SEED SOURCE: NEW ENGLAND WETLAND PLANTS, INC.; SOUTHERN TIER CONSULTING, INC.).

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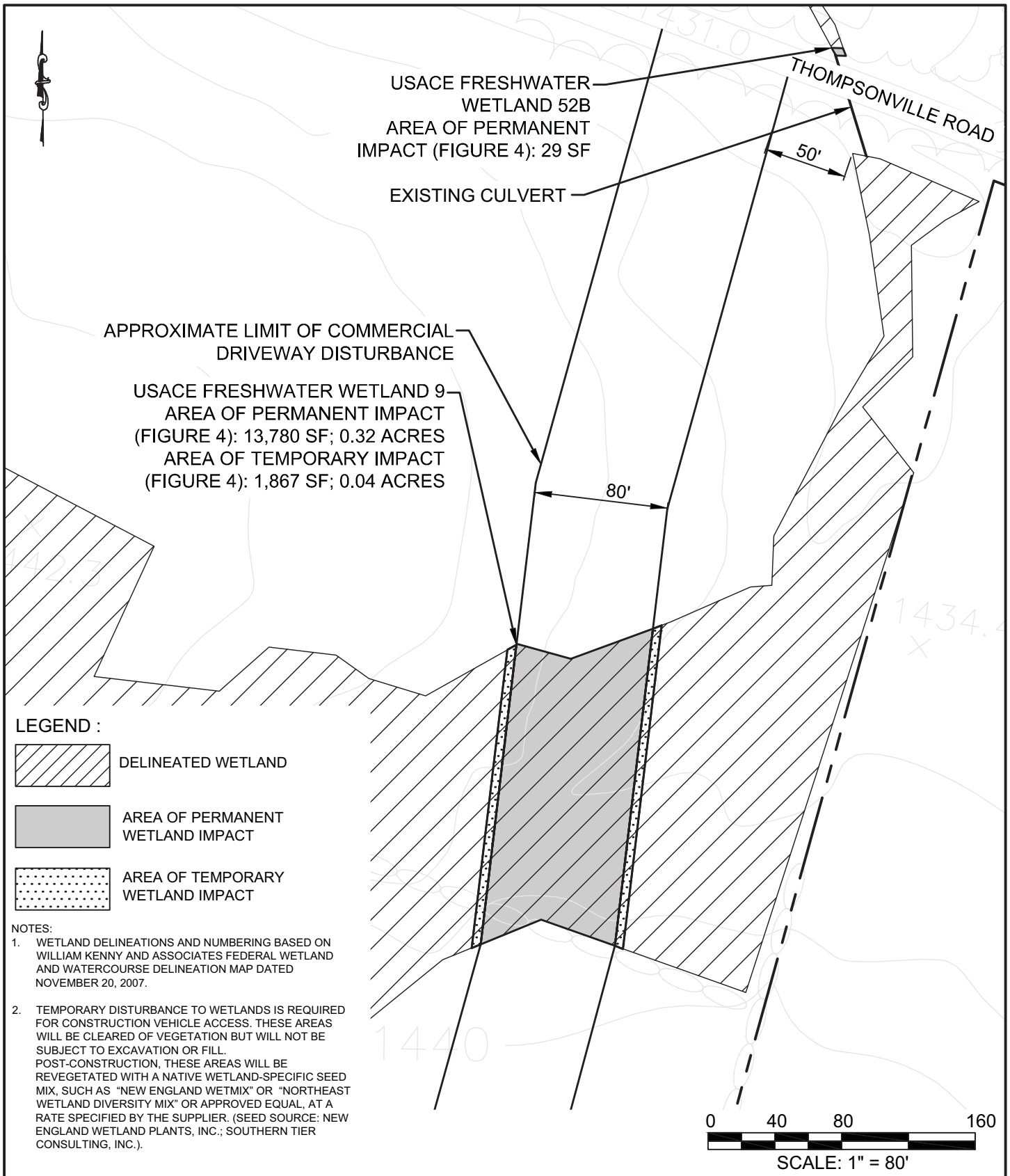
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WETLAND 9
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 3
SCALE 1" = 80'	DATE 03/08/13	SHEET 3 OF 24



NOTES:

1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

2. TEMPORARY DISTURBANCE TO WETLANDS IS REQUIRED FOR CONSTRUCTION VEHICLE ACCESS. THESE AREAS WILL BE CLEARED OF VEGETATION BUT WILL NOT BE SUBJECT TO EXCAVATION OR FILL. POST-CONSTRUCTION, THESE AREAS WILL BE REVEGETATED WITH A NATIVE WETLAND-SPECIFIC SEED MIX, SUCH AS "NEW ENGLAND WETMIX" OR "NORTHEAST WETLAND DIVERSITY MIX" OR APPROVED EQUAL, AT A RATE SPECIFIED BY THE SUPPLIER. (SEED SOURCE: NEW ENGLAND WETLAND PLANTS, INC.; SOUTHERN TIER CONSULTING, INC.).

APPLICANT
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ENVIRONMENTAL CONSULTANT
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AKRF INC.
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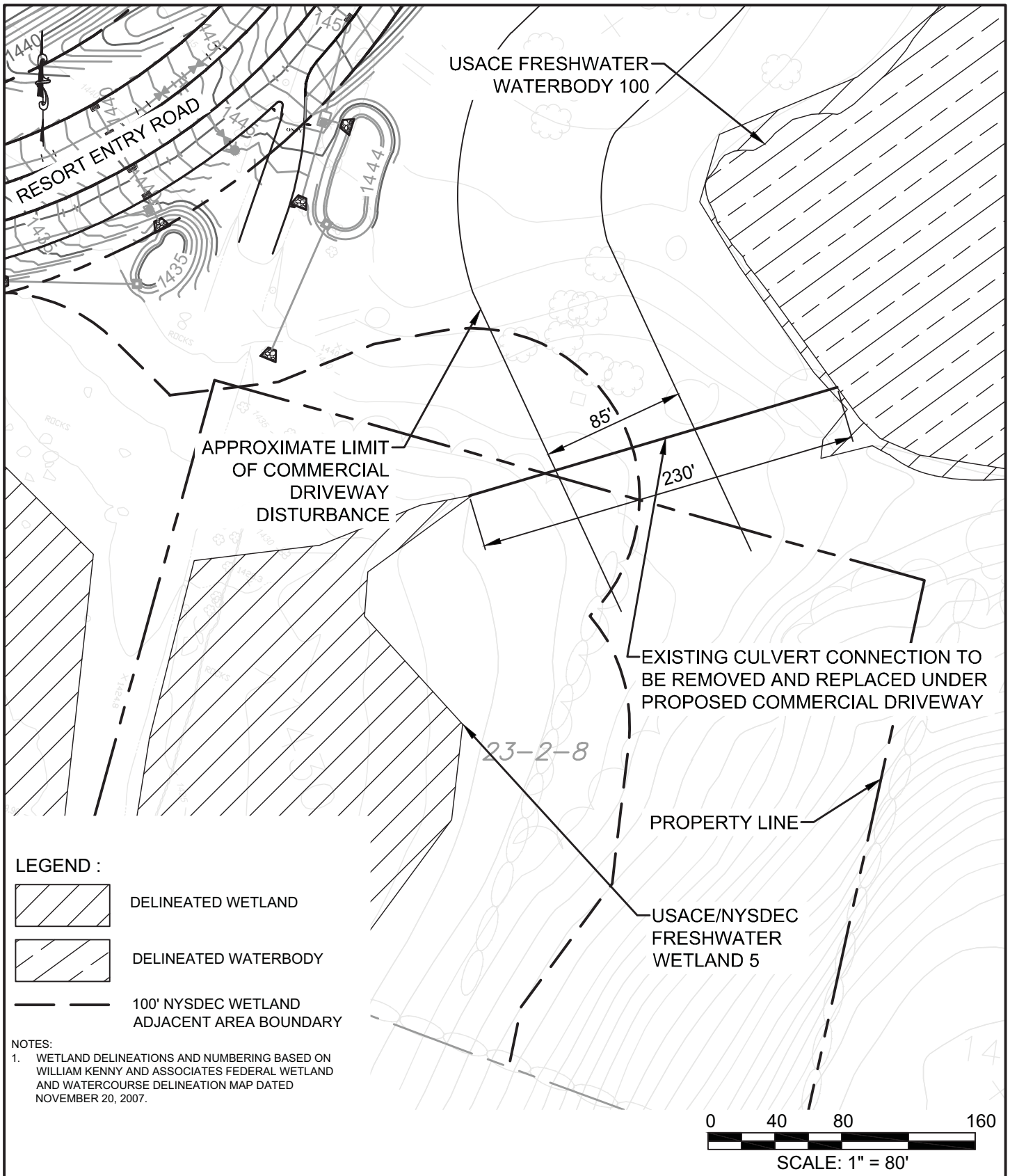
WHITE PLAINS, NY 10601
(914) 949-7336 (PHONE)
(914) 949-7559 (FAX)

PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WETLAND 9 (CONT.)
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 4
SCALE 1" = 80'	DATE 03/08/13	SHEET 4 OF 24



NOTES:
1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

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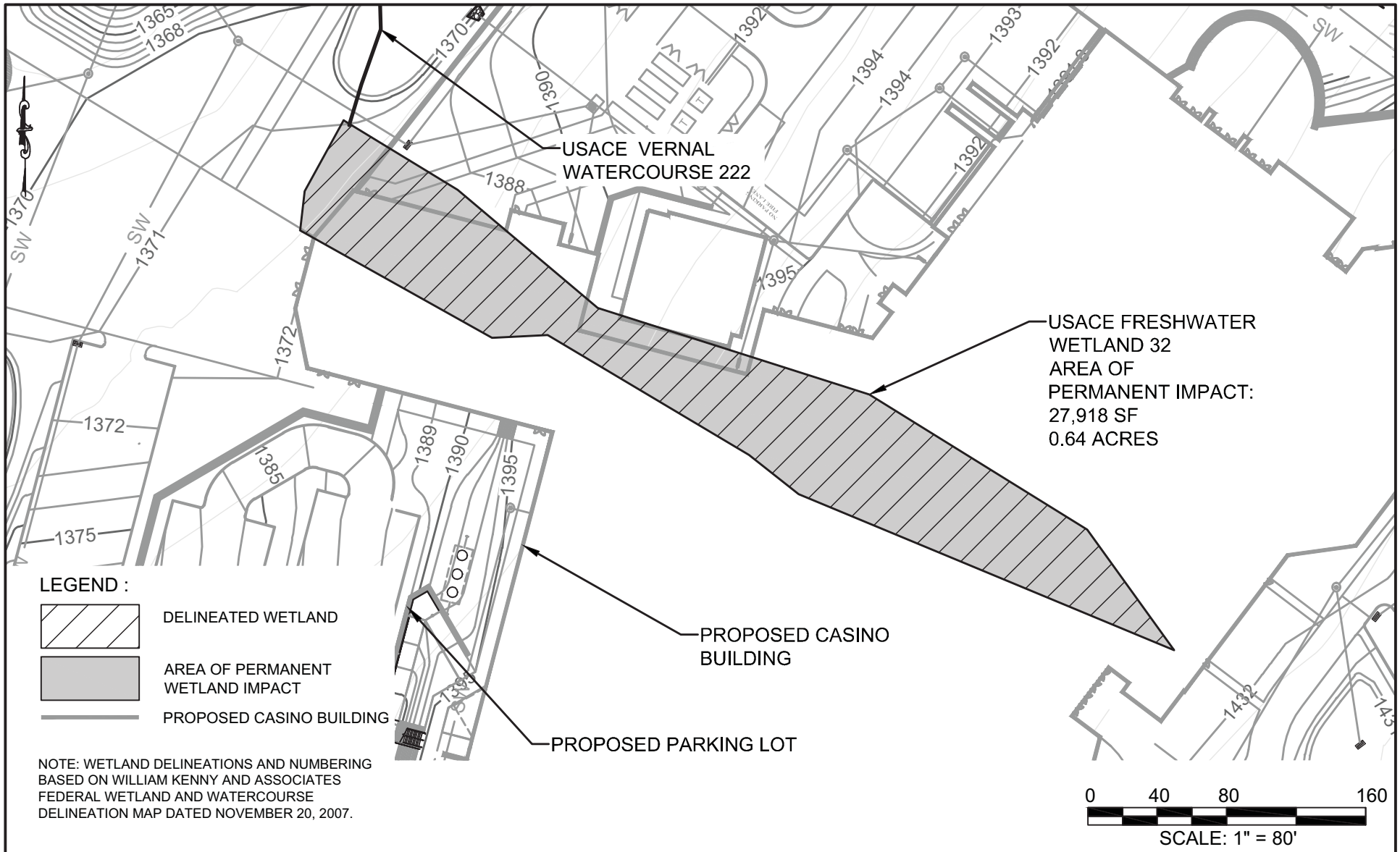
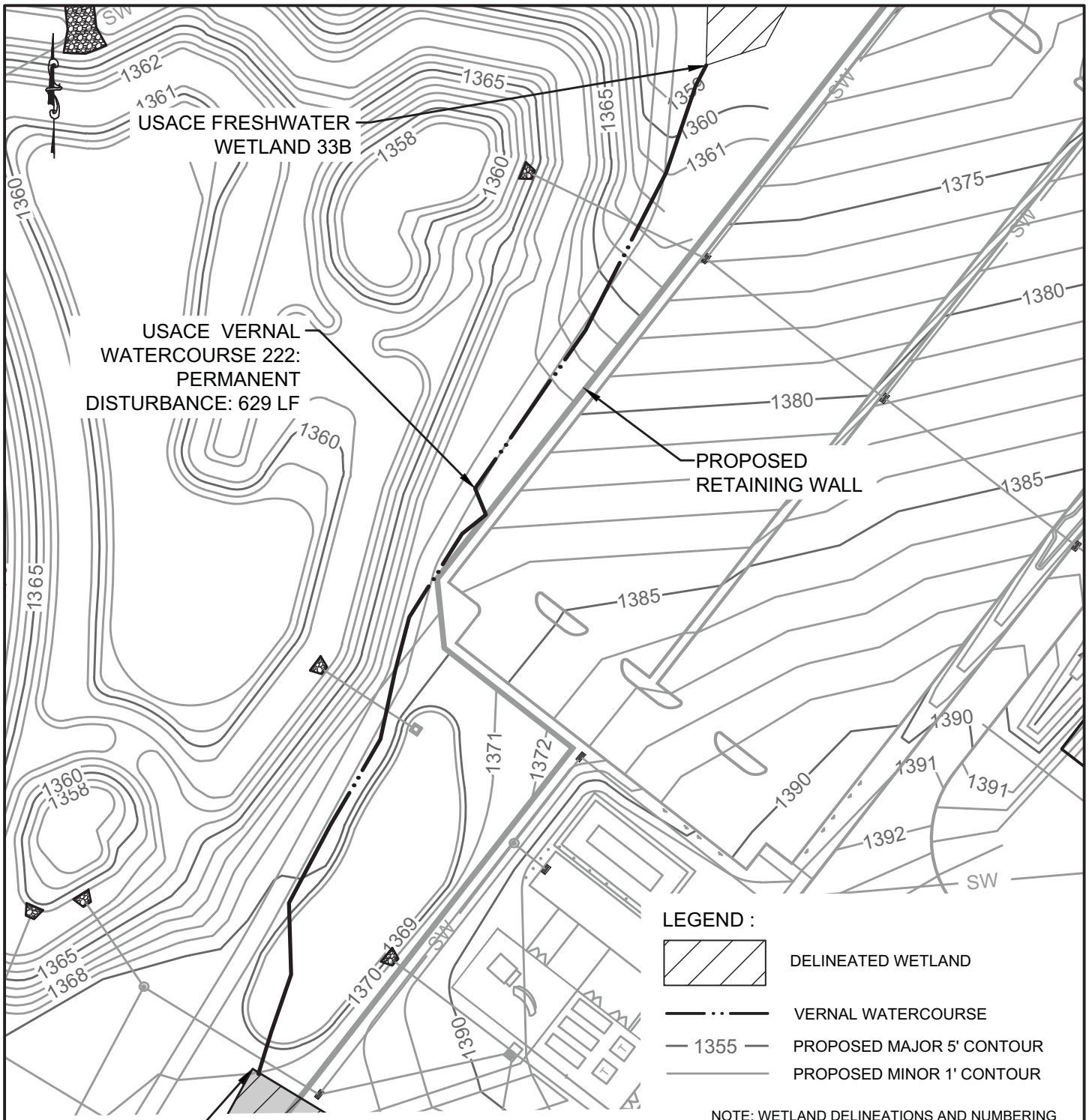
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		WATERBODY 100 & WETLAND 5 CULVERT CONNECTION
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 5
SCALE 1" = 80'	DATE 03/08/13	SHEET 5 OF 24



NOTE: WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

APPLICANT	ENVIRONMENTAL CONSULTANT	PROJECT		SHEET TITLE
EPT CONCORD II, LLC 909 WALNUT, SUITE 700 KANSAS CITY, MO 64106	AKRF AKRF INC. 34 SOUTH BROADWAY, SUITE 401 WHITE PLAINS, NY 10601 (914) 949-7336 (PHONE) (914) 949-7559 (FAX)	EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WETLAND 32
		DRAWN BY JH	CHECKED BY KF / CR	FIGURE 6
		SCALE 1" = 80'	DATE 03/08/13	SHEET 6 OF 24



LEGEND :

DELINEATED WETLAND

VERNAL WATERCOURSE

1355 PROPOSED MAJOR 5' CONTOUR

PROPOSED MINOR 1' CONTOUR

NOTE: WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

0 40 80 160

SCALE: 1" = 80'

APPLICANT
EPT CONCORD II, LLC
909 WALNUT, SUITE 700
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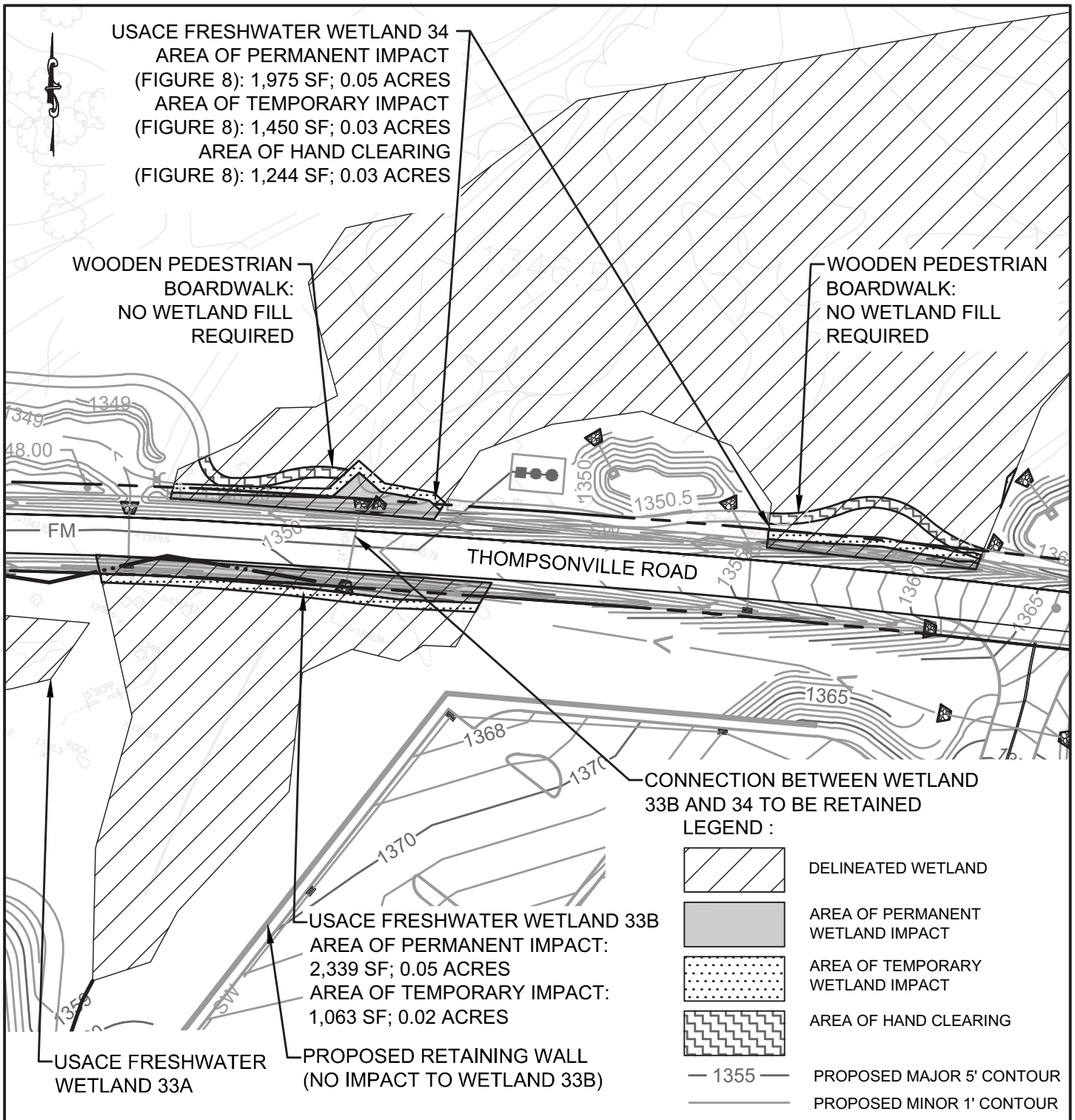
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER VERNAL WATERCOURSE 222
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 7
SCALE 1" = 80'	DATE 03/08/13	SHEET 7 OF 24



NOTES:

1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.
2. TEMPORARY DISTURBANCE TO WETLANDS IS REQUIRED FOR CONSTRUCTION VEHICLE ACCESS. THESE AREAS WILL BE CLEARED OF VEGETATION BUT WILL NOT BE SUBJECT TO EXCAVATION OR FILL. POST-CONSTRUCTION, THESE AREAS WILL BE REVEGETATED WITH A NATIVE WETLAND-SPECIFIC SEED MIX, SUCH AS "NEW ENGLAND WETMIX" OR "NORTHEAST WETLAND DIVERSITY MIX" OR APPROVED EQUAL, AT A RATE SPECIFIED BY THE SUPPLIER. (SEED SOURCE: NEW ENGLAND WETLAND PLANTS, INC.; SOUTHERN TIER CONSULTING, INC.).

0 40 80 160

SCALE: 1" = 80'

APPLICANT
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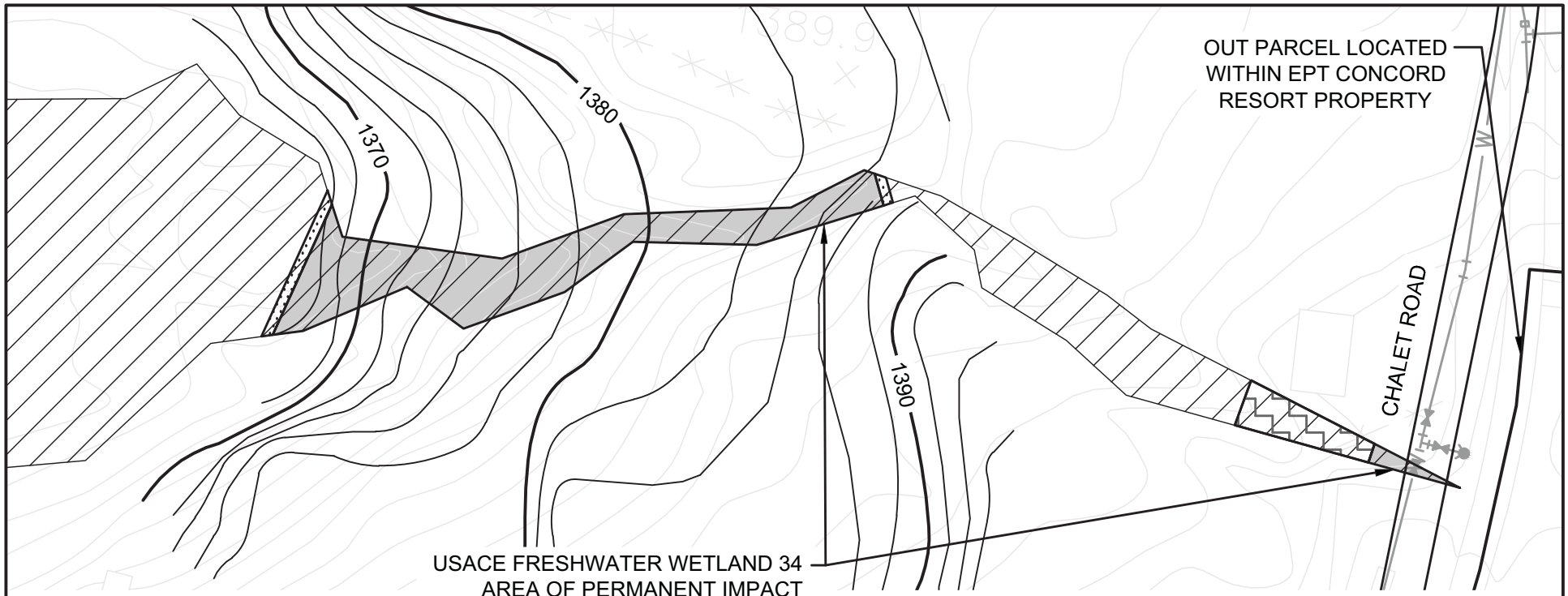
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WETLAND 33B/34
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 8
SCALE 1" = 80'	DATE 03/08/13	SHEET 8 OF 24



USACE FRESHWATER WETLAND 34
AREA OF PERMANENT IMPACT
(FIGURE 9): 7,825 SF, 0.18 ACRES
AREA OF TEMPORARY IMPACT
(FIGURE 9): 466 SF; 0.01 ACRES
AREA OF HAND CLEARING
(FIGURE 9): 1,223 SF, 0.03 ACRES

LEGEND :

- DELINEATED WETLAND
- AREA OF PERMANENT WETLAND IMPACT
- AREA OF HAND CLEARING
- AREA OF TEMPORARY WETLAND IMPACT
- 1370 — PROPOSED MAJOR 10' CONTOUR
- PROPOSED MINOR 2' CONTOUR

NOTES:

1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.
2. TEMPORARY DISTURBANCE TO WETLANDS IS REQUIRED FOR CONSTRUCTION VEHICLE ACCESS. THESE AREAS WILL BE CLEARED OF VEGETATION BUT WILL NOT BE SUBJECT TO EXCAVATION OR FILL. POST-CONSTRUCTION, THESE AREAS WILL BE REVEGETATED WITH A NATIVE WETLAND-SPECIFIC SEED MIX, SUCH AS "NEW ENGLAND WETMIX" OR "NORTHEAST WETLAND DIVERSITY MIX" OR APPROVED EQUAL, AT A RATE SPECIFIED BY THE SUPPLIER. (SEED SOURCE: NEW ENGLAND WETLAND PLANTS, INC.; SOUTHERN TIER CONSULTING, INC.).

0 40 80 160
SCALE: 1" = 80'

APPLICANT

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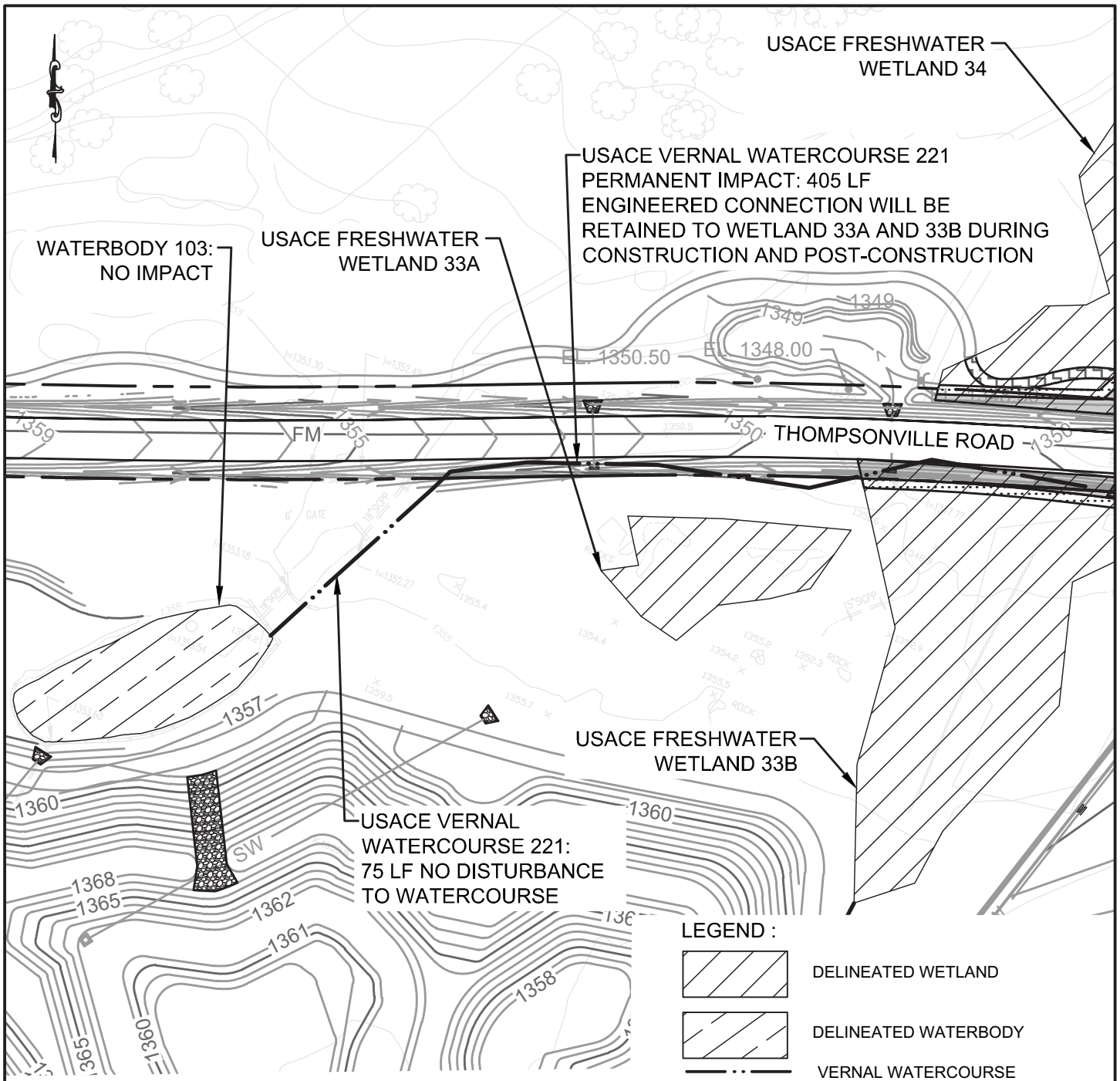
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WETLAND 34 (CONT.)
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 9
SCALE 1" = 80'	DATE 03/08/13	SHEET 9 OF 24



LEGEND :

- DELINEATED WETLAND
- DELINEATED WATERBODY
- VERNAL WATERCOURSE
- 1355 — PROPOSED MAJOR 5' CONTOUR
- PROPOSED MINOR 1' CONTOUR

NOTE: WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

0 40 80 160

SCALE: 1" = 80'

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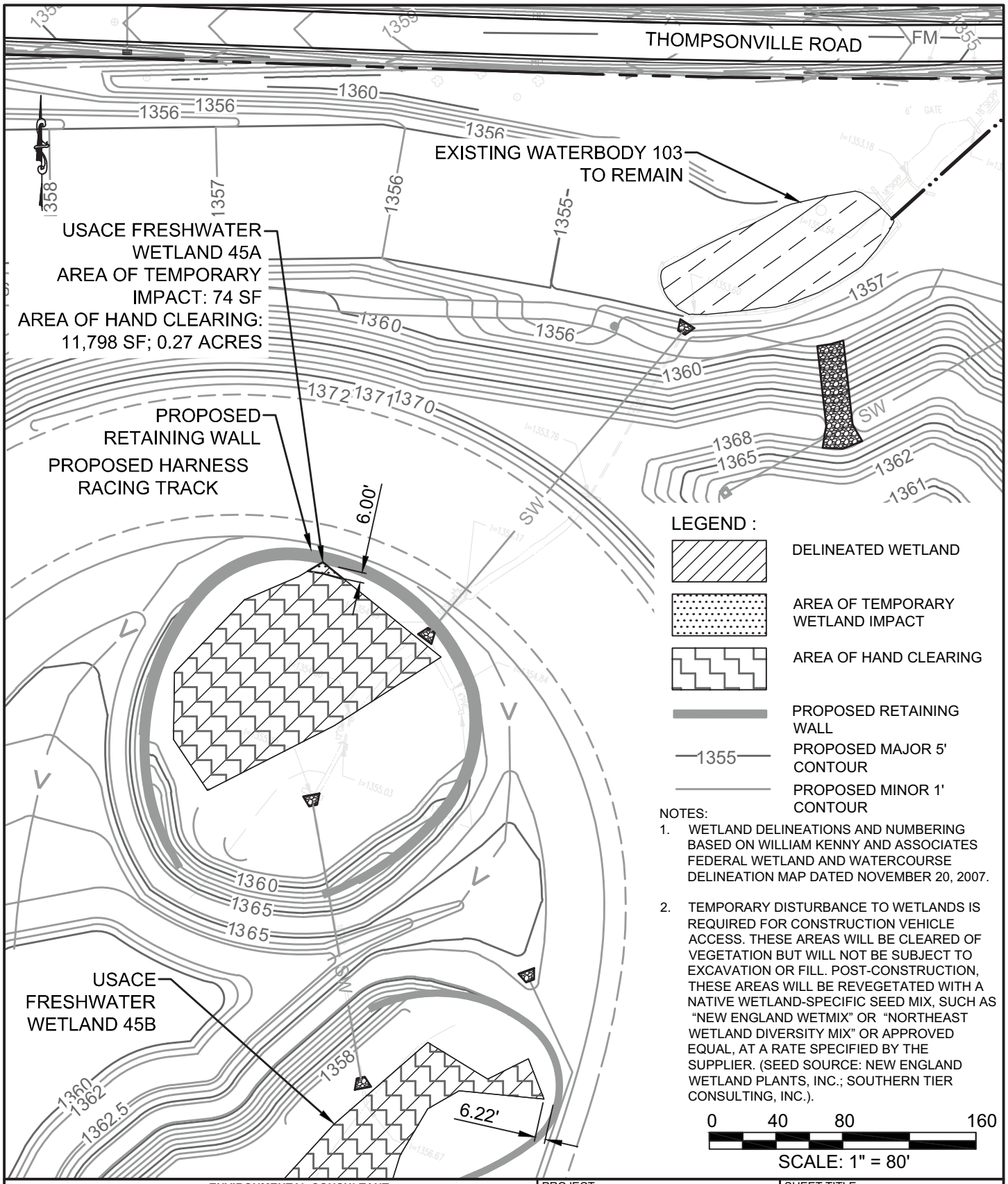
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER VERNAL WATERCOURSE 221
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 10
SCALE 1" = 80'	DATE 03/08/13	SHEET 10 OF 24



NOTES:

1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

2. TEMPORARY DISTURBANCE TO WETLANDS IS REQUIRED FOR CONSTRUCTION VEHICLE ACCESS. THESE AREAS WILL BE CLEARED OF VEGETATION BUT WILL NOT BE SUBJECT TO EXCAVATION OR FILL. POST-CONSTRUCTION, THESE AREAS WILL BE REVEGETATED WITH A NATIVE WETLAND-SPECIFIC SEED MIX, SUCH AS "NEW ENGLAND WETMIX" OR "NORTHEAST WETLAND DIVERSITY MIX" OR APPROVED EQUAL, AT A RATE SPECIFIED BY THE SUPPLIER. (SEED SOURCE: NEW ENGLAND WETLAND PLANTS, INC.; SOUTHERN TIER CONSULTING, INC.).

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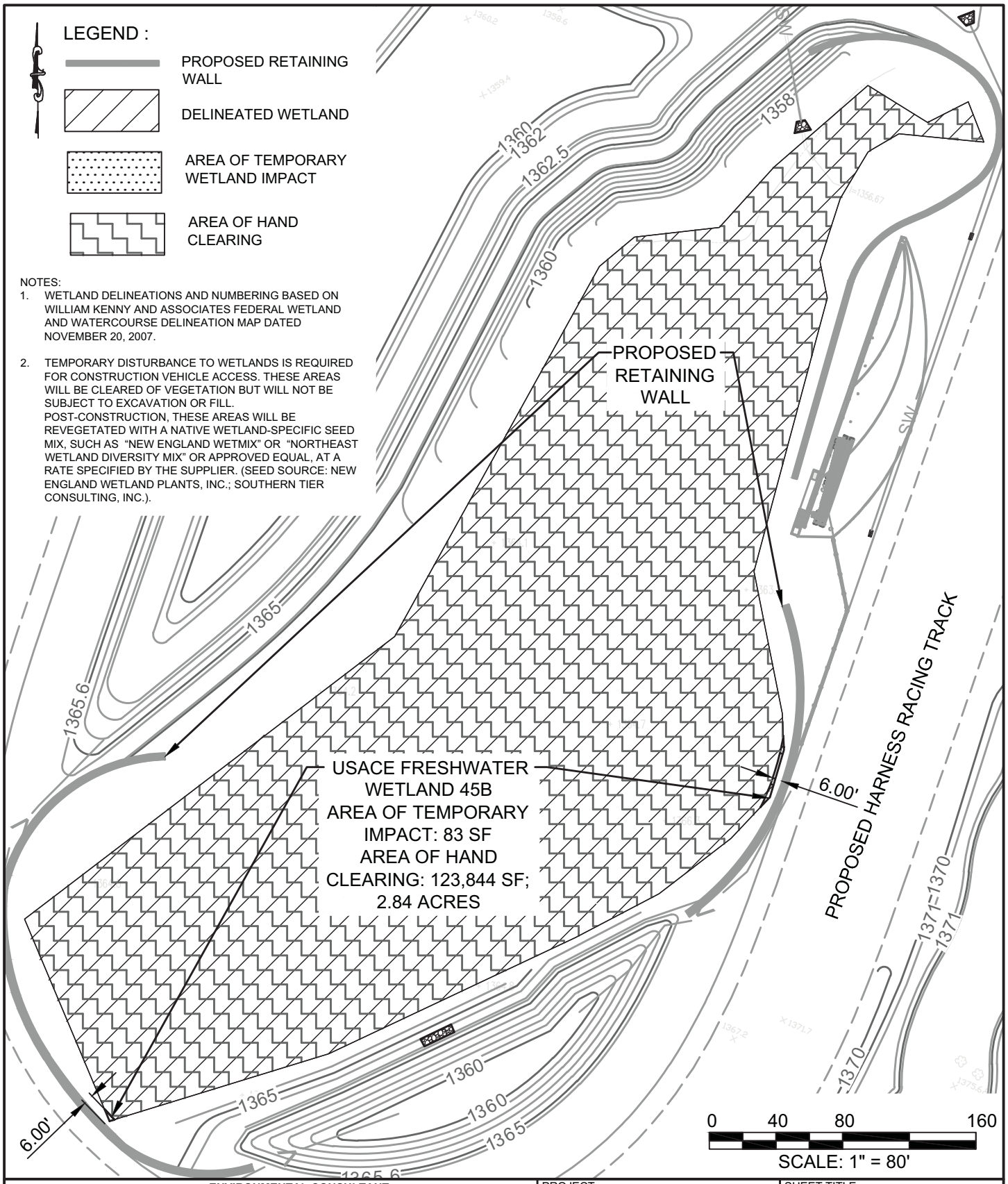
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WETLAND 45A
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 11
SCALE 1" = 80'	DATE 03/08/13	SHEET 11 OF 24



APPLICANT
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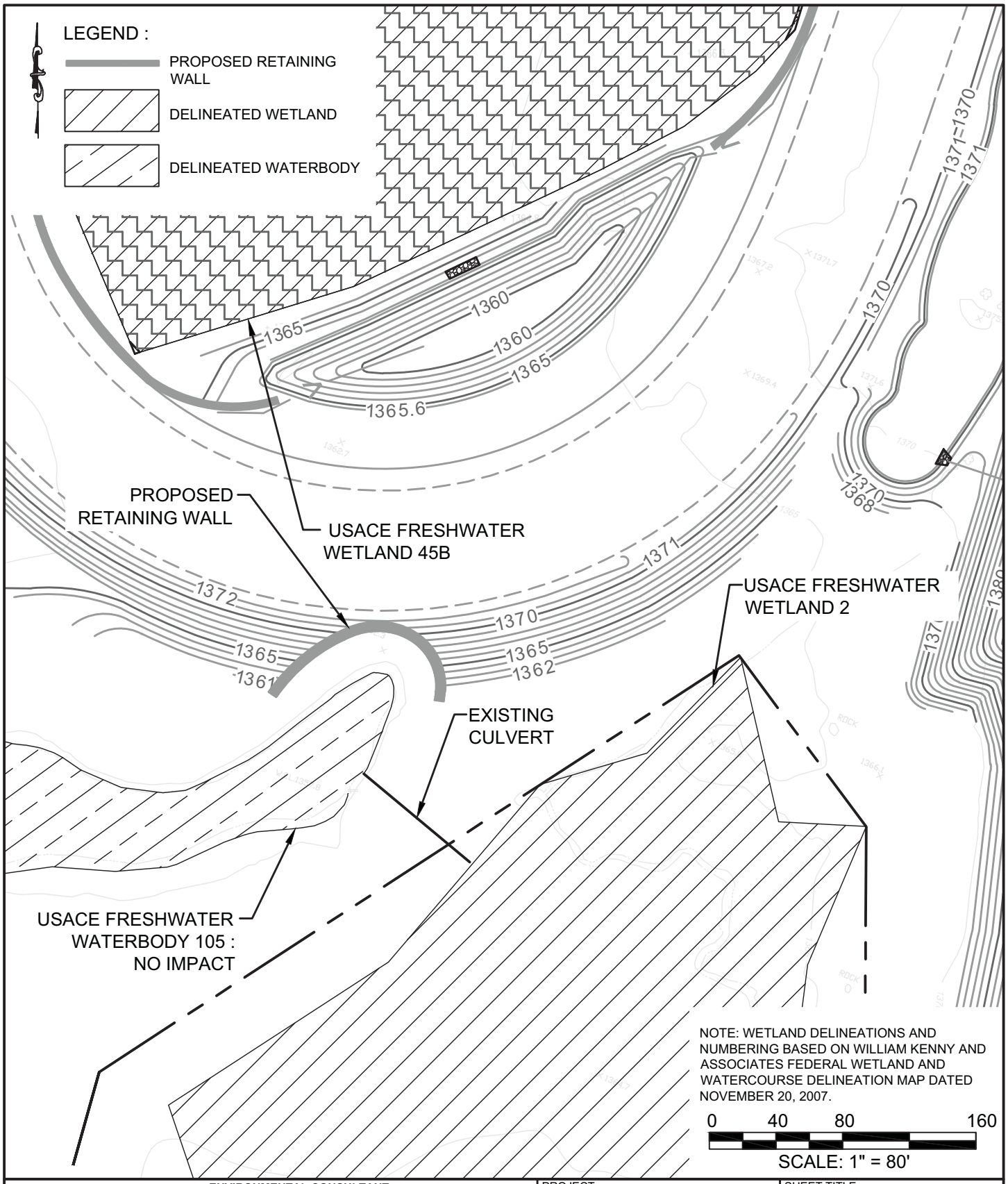
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WETLAND 45B
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 12
SCALE 1" = 80'	DATE 03/08/13	SHEET 12 OF 24



APPLICANT
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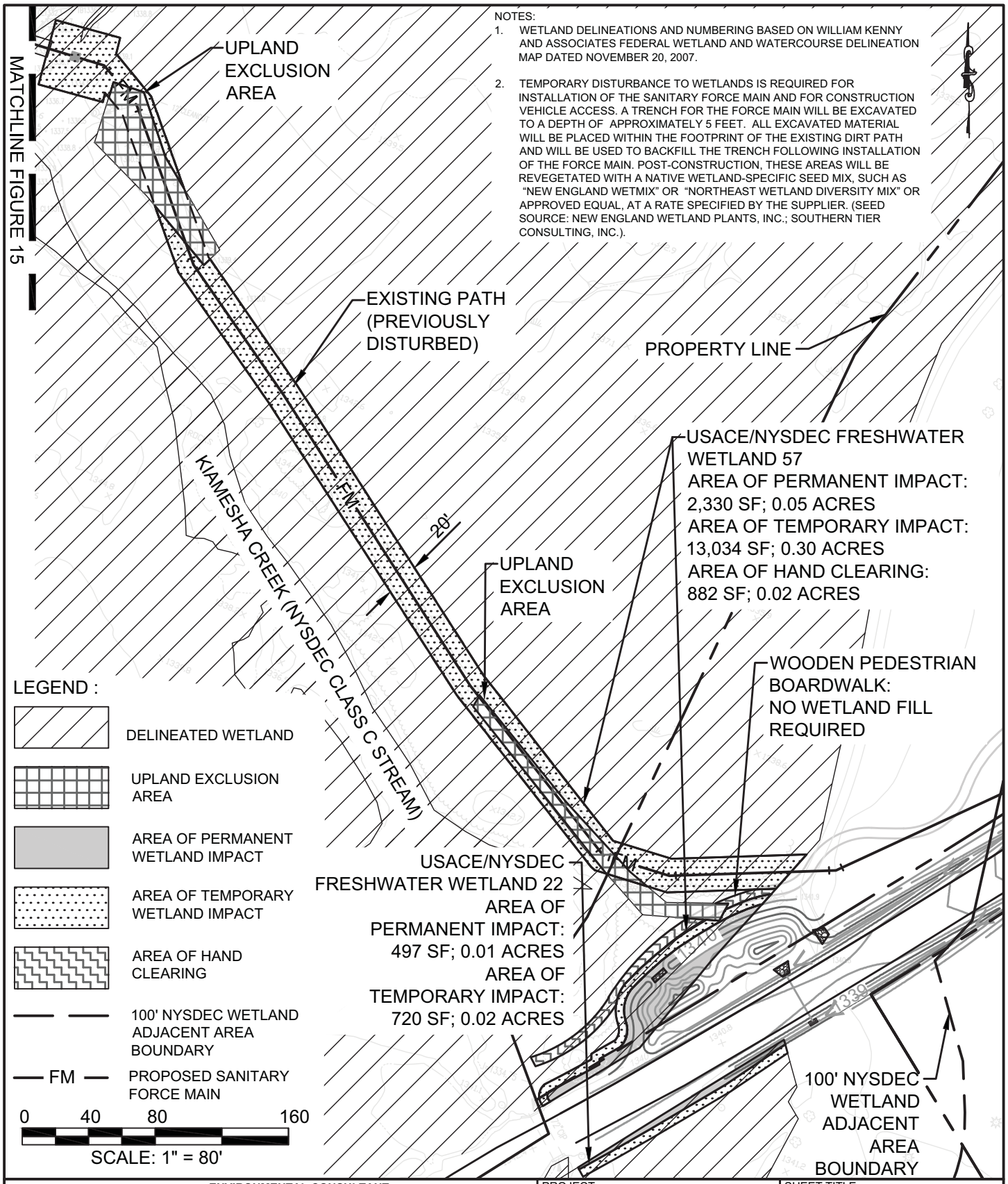
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WATERBODY 105
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 13
SCALE 1" = 80'	DATE 03/08/13	SHEET 13 OF 24



NOTES:

1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

2. TEMPORARY DISTURBANCE TO WETLANDS IS REQUIRED FOR INSTALLATION OF THE SANITARY FORCE MAIN AND FOR CONSTRUCTION VEHICLE ACCESS. A TRENCH FOR THE FORCE MAIN WILL BE EXCAVATED TO A DEPTH OF APPROXIMATELY 5 FEET. ALL EXCAVATED MATERIAL WILL BE PLACED WITHIN THE FOOTPRINT OF THE EXISTING DIRT PATH AND WILL BE USED TO BACKFILL THE TRENCH FOLLOWING INSTALLATION OF THE FORCE MAIN. POST-CONSTRUCTION, THESE AREAS WILL BE REVEGETATED WITH A NATIVE WETLAND-SPECIFIC SEED MIX, SUCH AS "NEW ENGLAND WETMIX" OR "NORTHEAST WETLAND DIVERSITY MIX" OR APPROVED EQUAL, AT A RATE SPECIFIED BY THE SUPPLIER. (SEED SOURCE: NEW ENGLAND WETLAND PLANTS, INC.; SOUTHERN TIER CONSULTING, INC.).

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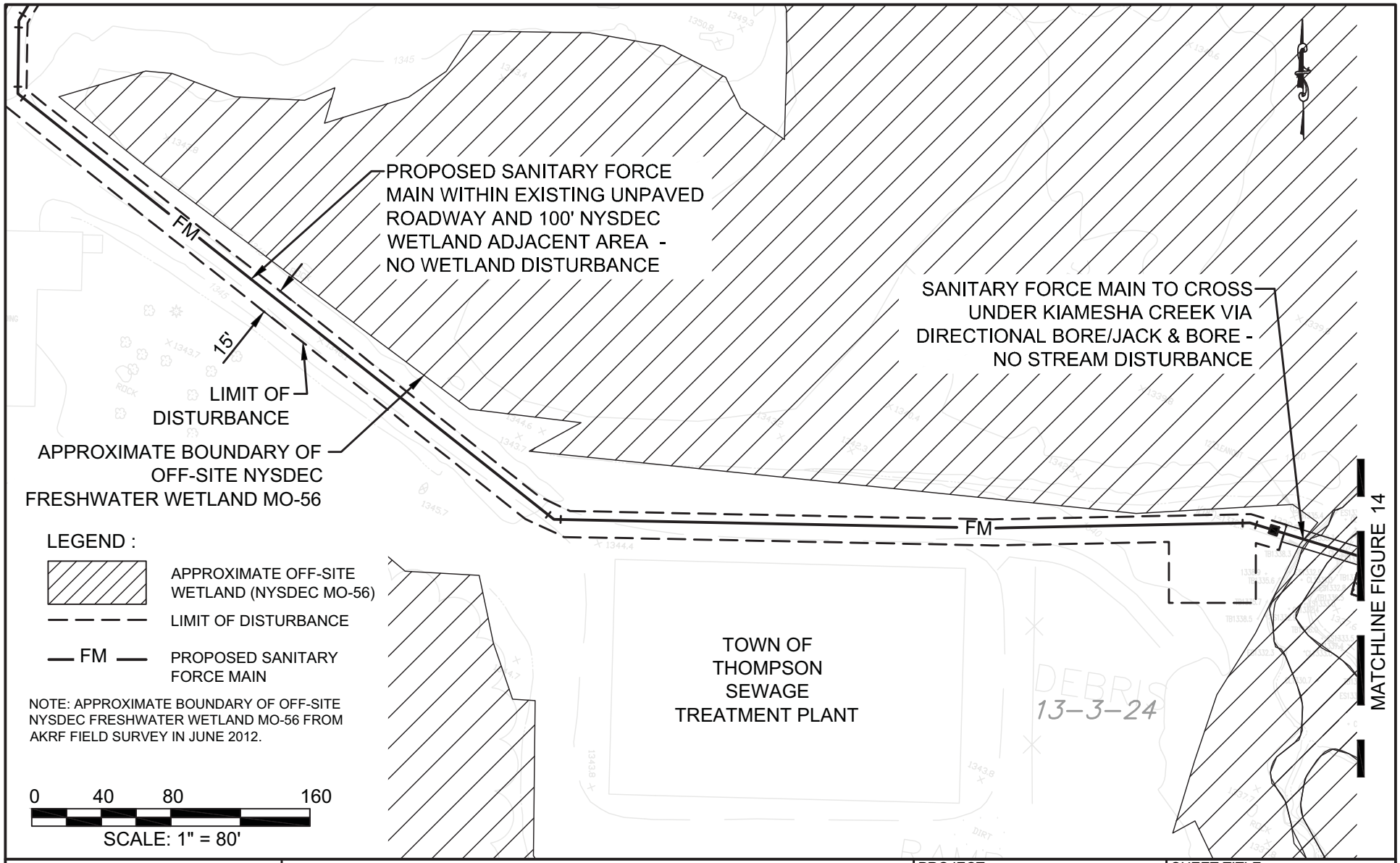
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE/NYSDEC FRESHWATER WETLAND 22/57
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 14
SCALE 1" = 80'	DATE 03/08/13	SHEET 14 OF 24



APPLICANT

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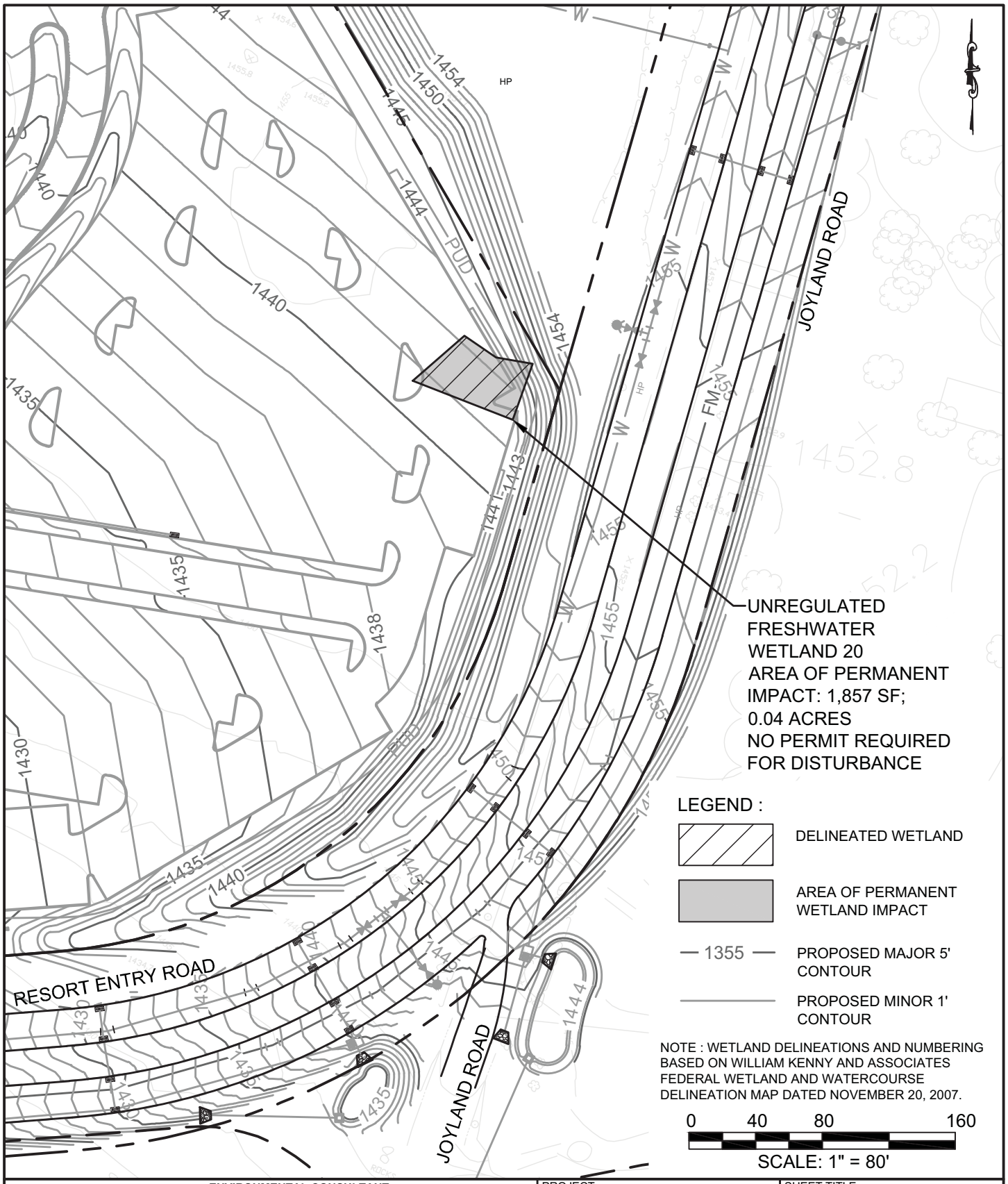
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		OFF-SITE NYSDEC FRESHWATER WETLAND MO-56
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 15
SCALE 1" = 80'	DATE 03/08/13	SHEET 15 OF 24



APPLICANT
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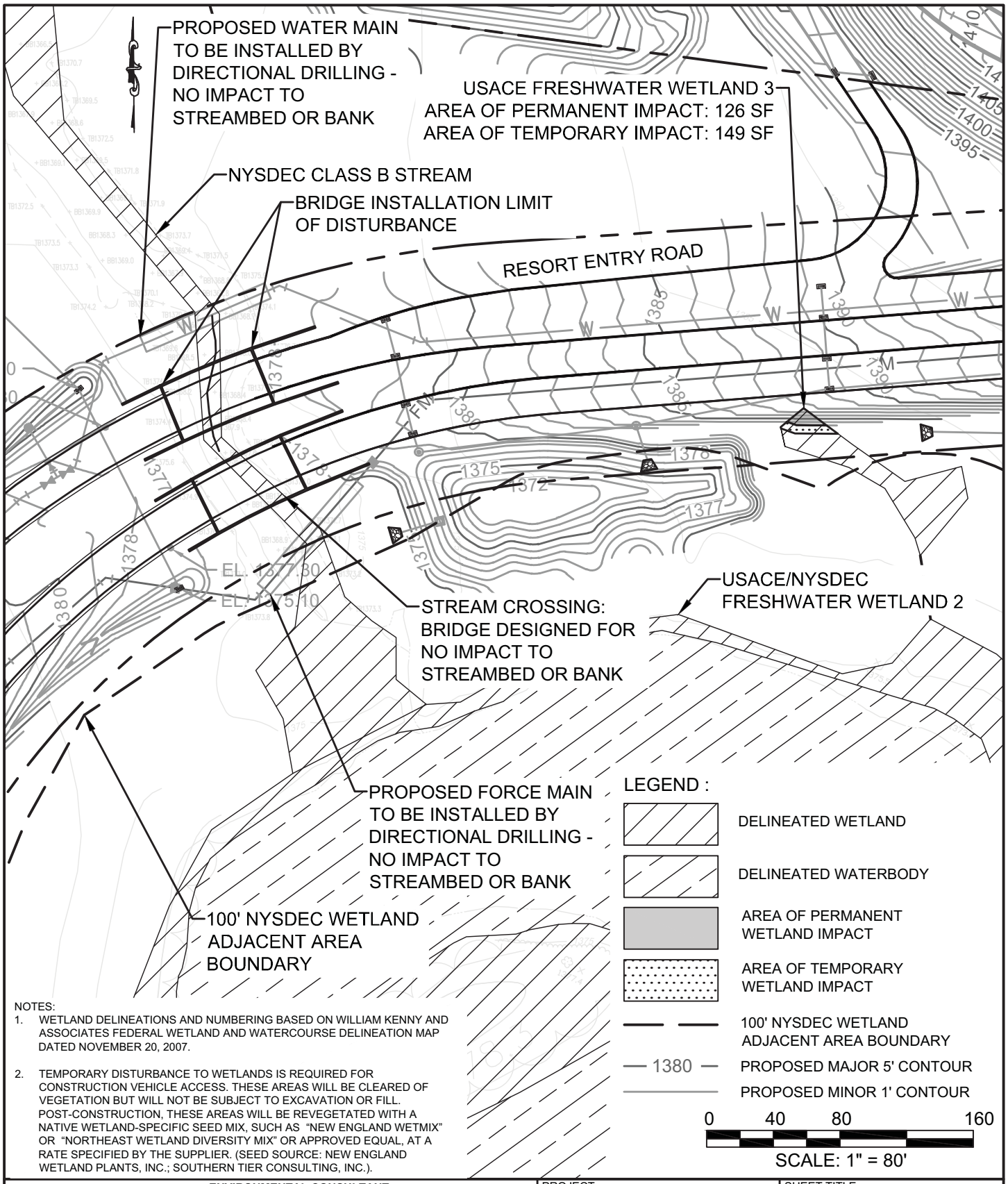
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		UNREGULATED WETLAND 20
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 16
SCALE 1" = 80'	DATE 03/08/13	SHEET 16 OF 24



NOTES:

1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

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APPLICANT
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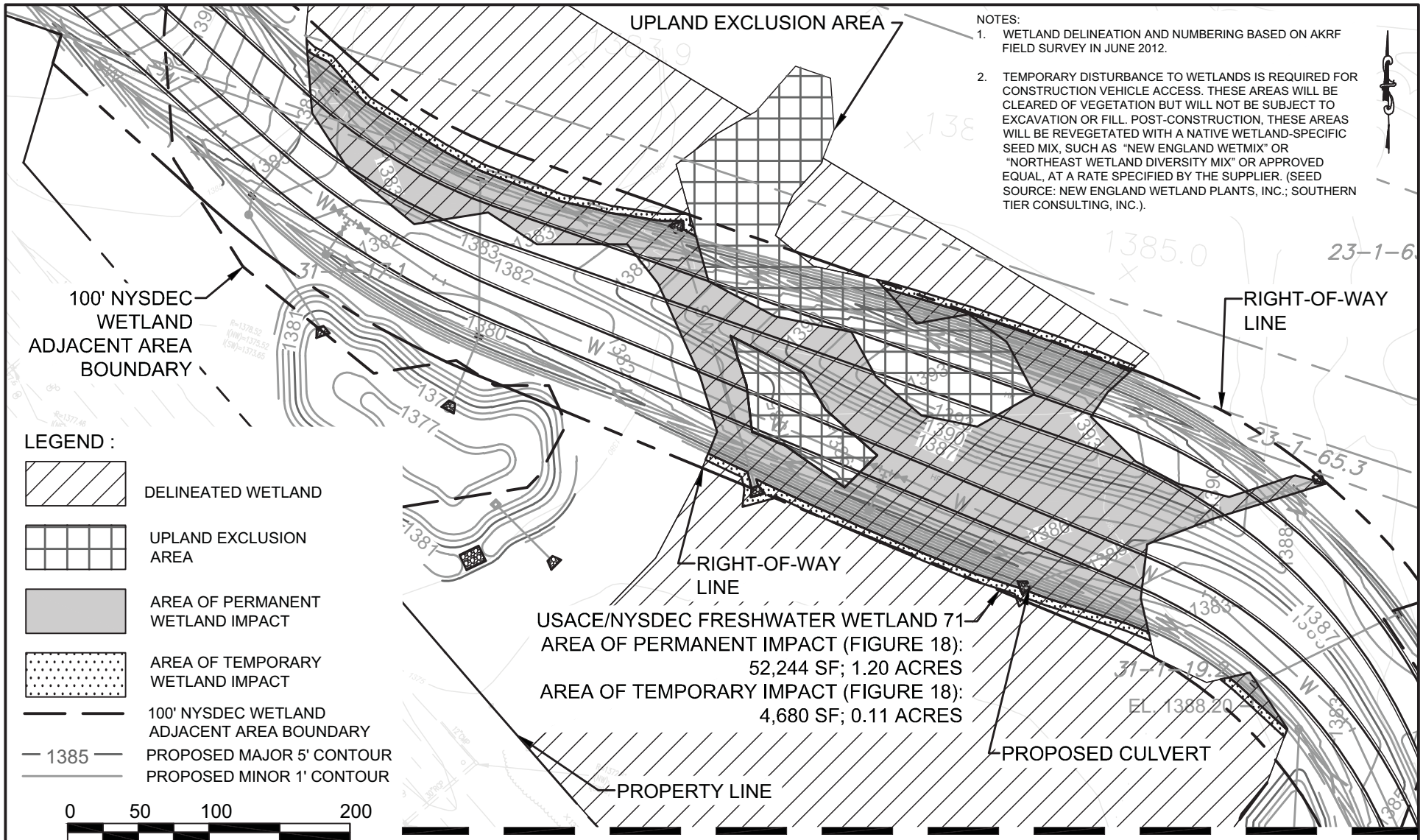
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE WETLAND 2/ NYSDEC CLASS B STREAM CROSSING
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 17
SCALE 1" = 80'	DATE 03/08/13	SHEET 17 OF 24



APPLICANT

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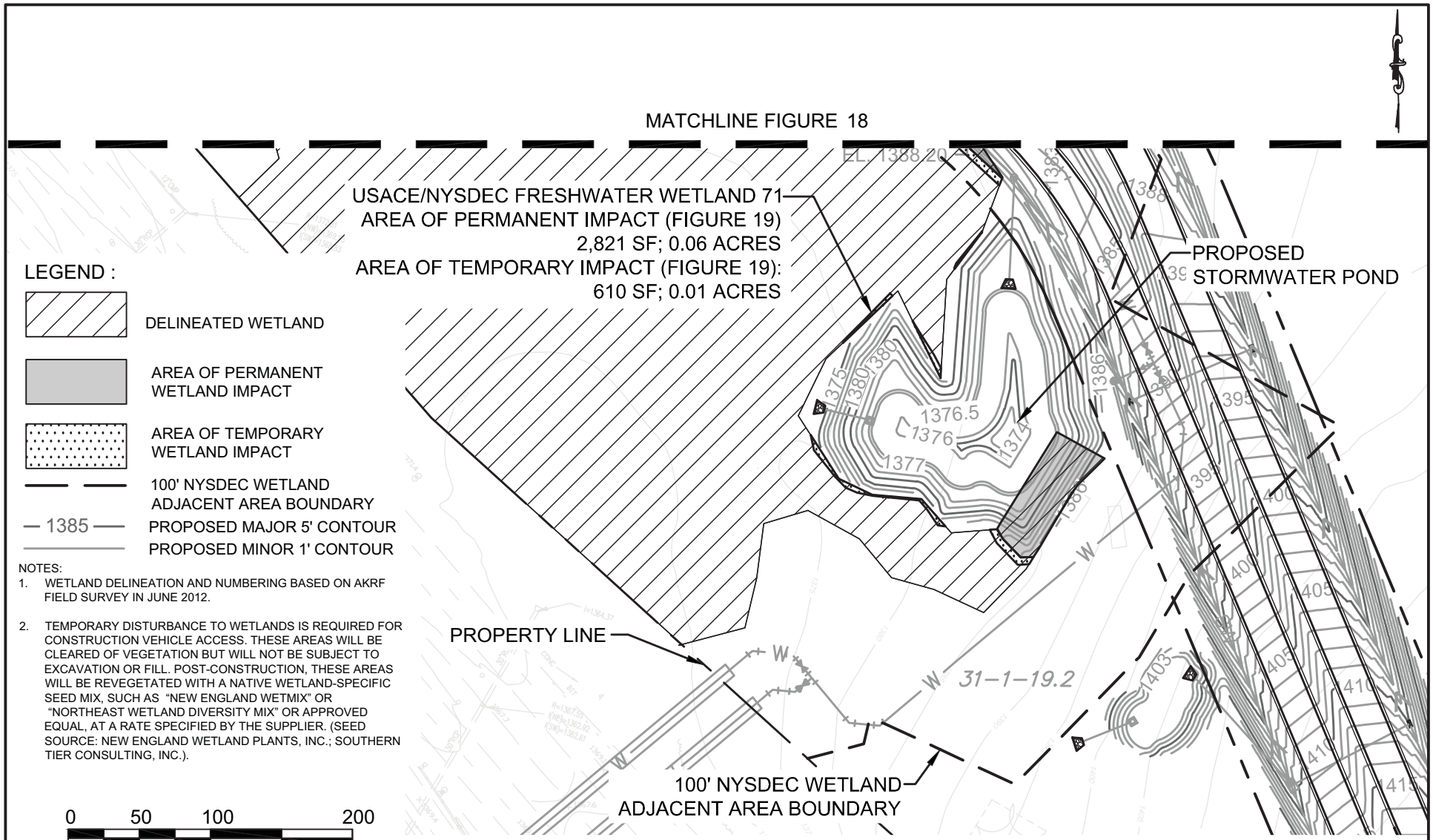
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE/NYSDEC FRESHWATER WETLAND 71
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 18
SCALE 1" = 100'	DATE 03/08/13	SHEET 18 OF 24



NOTES:

1. WETLAND DELINEATION AND NUMBERING BASED ON AKRF FIELD SURVEY IN JUNE 2012.
2. TEMPORARY DISTURBANCE TO WETLANDS IS REQUIRED FOR CONSTRUCTION VEHICLE ACCESS. THESE AREAS WILL BE CLEARED OF VEGETATION BUT WILL NOT BE SUBJECT TO EXCAVATION OR FILL. POST-CONSTRUCTION, THESE AREAS WILL BE REVEGETATED WITH A NATIVE WETLAND-SPECIFIC SEED MIX, SUCH AS "NEW ENGLAND WETMIX" OR "NORTHEAST WETLAND DIVERSITY MIX" OR APPROVED EQUAL, AT A RATE SPECIFIED BY THE SUPPLIER. (SEED SOURCE: NEW ENGLAND WETLAND PLANTS, INC.; SOUTHERN TIER CONSULTING, INC.).

APPLICANT

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PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE/NYSDEC FRESHWATER WETLAND 71 (CONT.)
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 19
SCALE 1" = 100'	DATE 03/08/13	SHEET 19 OF 24

NOTES:

1. WETLAND DELINEATION AND NUMBERING BASED ON AKRF FIELD SURVEY NOVEMBER 2012.
2. TEMPORARY DISTURBANCE TO WETLANDS IS REQUIRED FOR CONSTRUCTION VEHICLE ACCESS. THESE AREAS WILL BE CLEARED OF VEGETATION BUT WILL NOT BE SUBJECT TO EXCAVATION OR FILL. POST-CONSTRUCTION, THESE AREAS WILL BE REVEGETATED WITH A NATIVE WETLAND-SPECIFIC SEED MIX, SUCH AS "NEW ENGLAND WETMIX" OR "NORTHEAST WETLAND DIVERSITY MIX" OR APPROVED EQUAL, AT A RATE SPECIFIED BY THE SUPPLIER. (SEED SOURCE: NEW ENGLAND WETLAND PLANTS, INC.; SOUTHERN TIER CONSULTING, INC.).

USACE FRESHWATER WETLAND 72
AREA OF PERMANENT IMPACT:
16,084 SF; 0.37 ACRES
AREA OF TEMPORARY IMPACT:
2,778 SF; 0.06 ACRES

23-2-33
23-2-44
23-2-47
23-2-50.6
23-2-46

LEGEND :

- DELINEATED WETLAND
- UPLAND EXCLUSION AREA
- AREA OF PERMANENT WETLAND IMPACT
- AREA OF TEMPORARY WETLAND IMPACT
- 1380 — PROPOSED MAJOR 5' CONTOUR
- PROPOSED MINOR 1' CONTOUR

0 40 80 160

SCALE: 1" = 80'

APPLICANT
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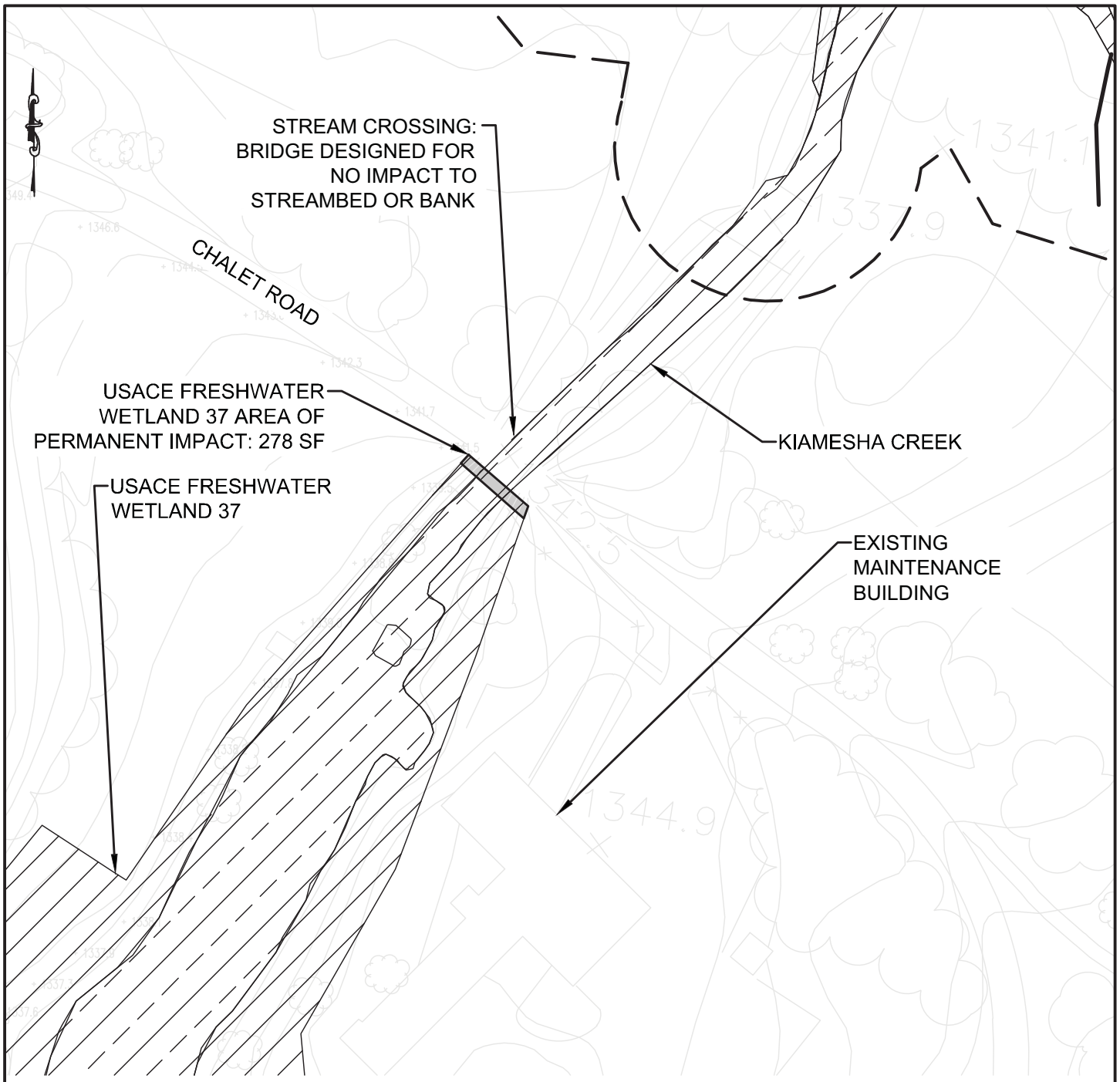
PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WETLAND 72
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 20
SCALE 1" = 80'	DATE 03/08/13	SHEET 20 OF 24



NOTES:
1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

LEGEND :

DELINEATED WETLAND

AREA OF PERMANENT WETLAND IMPACT

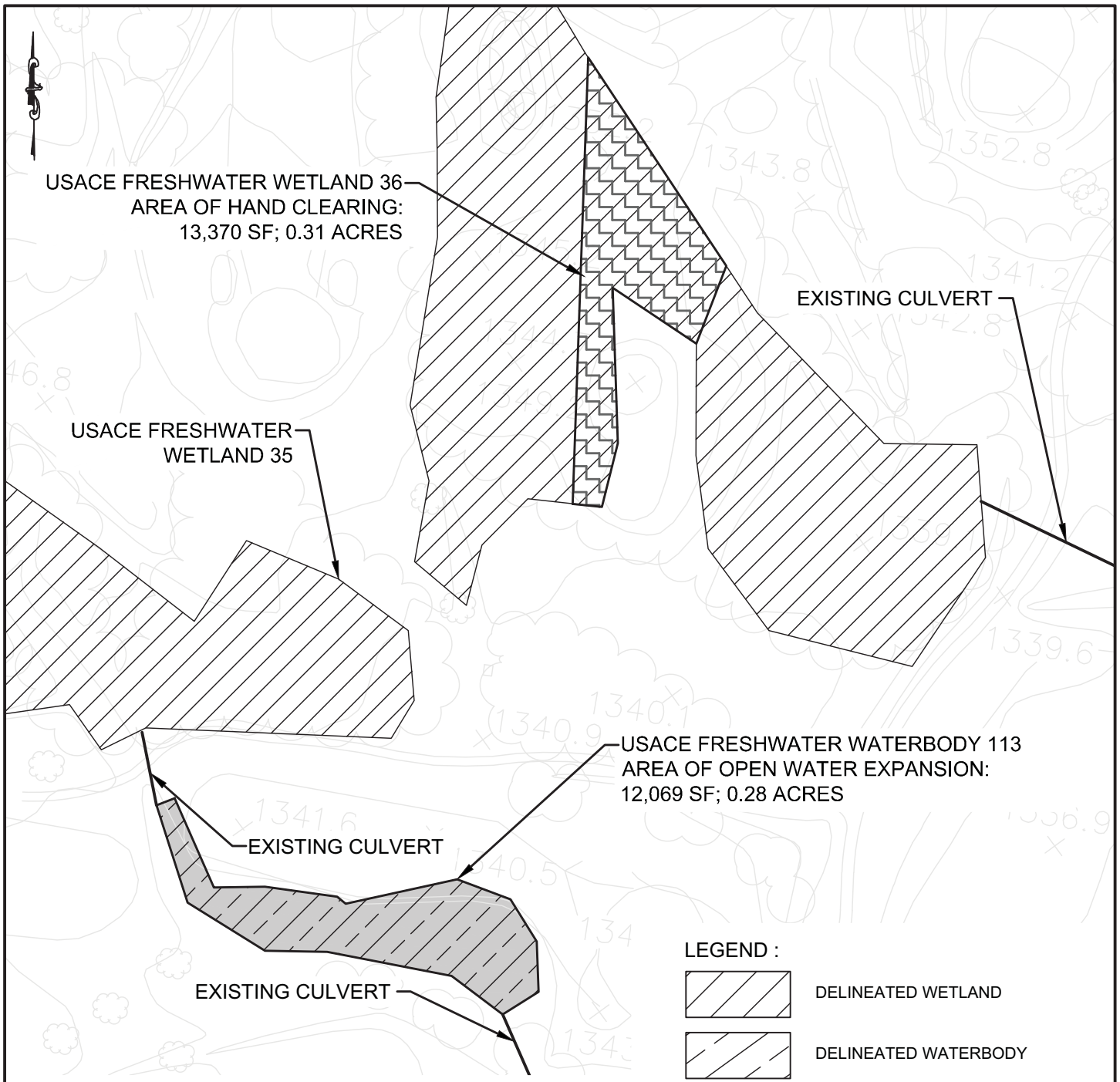
0 40 80 160

SCALE: 1" = 80'

APPLICANT
EPT CONCORD II, LLC
909 WALNUT, SUITE 700
KANSAS CITY, MO 64106

ENVIRONMENTAL CONSULTANT
AKRF
AKRF INC.
34 SOUTH BROADWAY, SUITE 401
WHITE PLAINS, NY 10601
(914) 949-7336 (PHONE)
(914) 949-7559 (FAX)

PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WETLAND 37
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 21
SCALE 1" = 80'	DATE 03/08/13	SHEET 21 OF 24

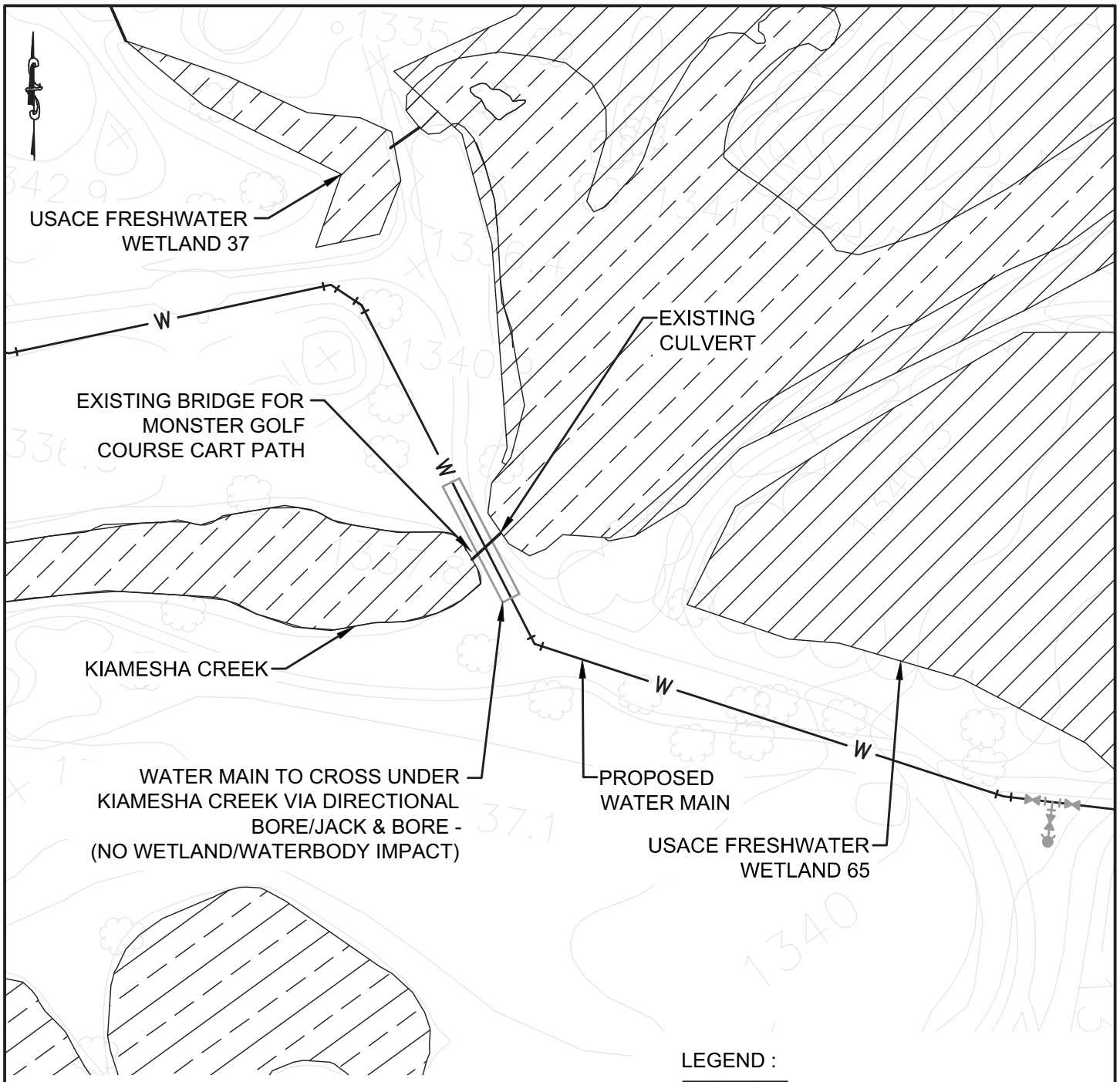


NOTES:
1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

APPLICANT
EPT CONCORD II, LLC
909 WALNUT, SUITE 700
KANSAS CITY, MO 64106

ENVIRONMENTAL CONSULTANT
AKRF
AKRF INC.
34 SOUTH BROADWAY, SUITE 401
WHITE PLAINS, NY 10601
(914) 949-7336 (PHONE)
(914) 949-7559 (FAX)

PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WATERBODY 113 & WETLAND 36
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 22
SCALE 1" = 100'	DATE 03/08/13	SHEET 22 OF 24



NOTES:
1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

LEGEND :

DELINEATED WETLAND

DELINEATED WATERBODY

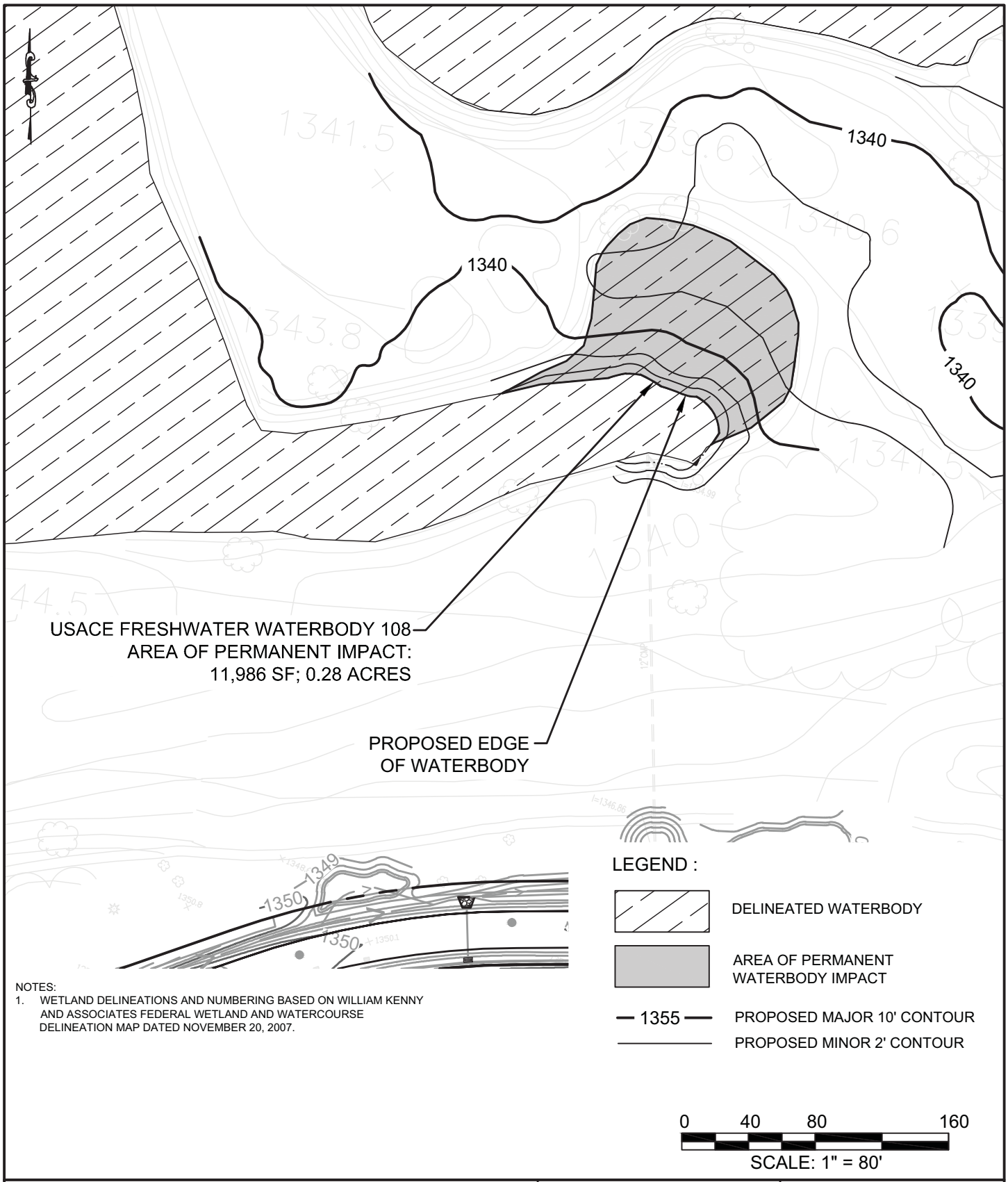
0 40 80 160

SCALE: 1" = 80'

APPLICANT
EPT CONCORD II, LLC
909 WALNUT, SUITE 700
KANSAS CITY, MO 64106

ENVIRONMENTAL CONSULTANT
AKRF
AKRF INC.
34 SOUTH BROADWAY, SUITE 401
WHITE PLAINS, NY 10601
(914) 949-7336 (PHONE)
(914) 949-7559 (FAX)

PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		WATER MAIN KIAMESHA CREEK CROSSING
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 23
SCALE 1" = 80'	DATE 03/08/13	SHEET 23 OF 24



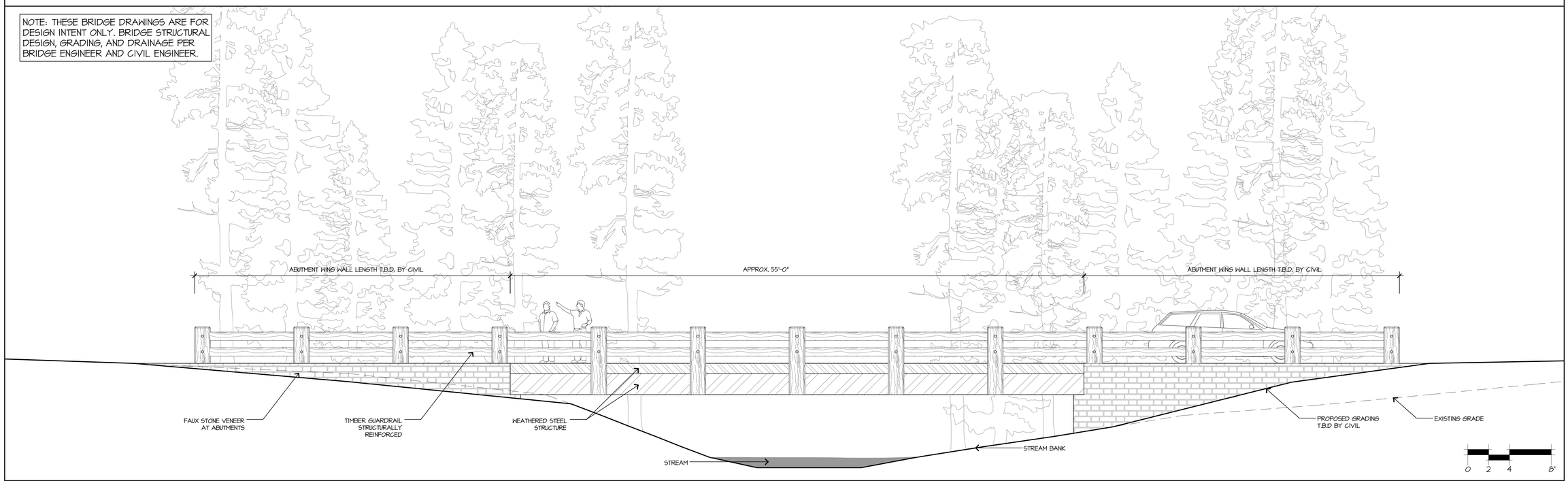
NOTES:
1. WETLAND DELINEATIONS AND NUMBERING BASED ON WILLIAM KENNY AND ASSOCIATES FEDERAL WETLAND AND WATERCOURSE DELINEATION MAP DATED NOVEMBER 20, 2007.

APPLICANT
EPT CONCORD II, LLC
909 WALNUT, SUITE 700
KANSAS CITY, MO 64106

ENVIRONMENTAL CONSULTANT
AKRF
AKRF INC.
34 SOUTH BROADWAY, SUITE 401
WHITE PLAINS, NY 10601
(914) 949-7336 (PHONE)
(914) 949-7559 (FAX)

PROJECT		SHEET TITLE
EPT CONCORD RESORT THOMPSON, NEW YORK		USACE FRESHWATER WATERBODY 108
DRAWN BY JH	CHECKED BY KF / CR	FIGURE 24
SCALE 1" = 80'	DATE 03/08/13	SHEET 24 OF 24

NOTE: THESE BRIDGE DRAWINGS ARE FOR DESIGN INTENT ONLY. BRIDGE STRUCTURAL DESIGN, GRADING, AND DRAINAGE PER BRIDGE ENGINEER AND CIVIL ENGINEER.



1 BRIDGE - ELEVATION

1/4"=1'-0"

HART | HOWERTON
10 East 40th Street New York, NY 10016
Tel: 212.685.9800 Fax: 212.481.2508
E-mail: NY@harthowerton.com

AKRF
34 South Broadway
Suite 401
White Plains, NY 10601
Tel: 914 949 7336

atelier lumiere
13 West 17th St #901
New York, NY 10011
Tel: 212 533 9757

CONCORD RESORT
PHASE 1 INFRASTRUCTURE

Town Of Thompson, New York
Sullivan County

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SCALE: N/A
NOTE: THIS DRAWING IS 30"x42". DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS ONLY, OR SEEK CLARIFICATION FROM ARCHITECT IF DIMENSIONS OR MEASUREMENTS EXIST ARE NOT INDICATED.

DATE	ISSUE
2/11/13	SITE PLAN SUBMISSION

REVISIONS

NO	DATE	ISSUE

DRAWING TITLE: BRIDGE CONCEPT

PROJECT #: 11-532
DRAWN BY: GH
CHECKED BY: AH

SHEET #: L9.00

Stan Brenner, HH,\\HH\11-532 Concord\4.0 CAD\Sheetfiles\Phase or Building\Phase 1 Infrastructure Set\L9.00 Bridge_ACOE_20130306.dwg , Page Setup: test, HH.ctb, Plot Scale: 1:1, \\HH-PRINT\Canon iR2200-3300 PCL5c

F

Photos

2.26.13

Project Site Boundary
Phase 1
Intermotent or Vernal Watercourse
Federal Wetlands
Non-Jurisdictional Isolated Wetlands
Ponds/Streams and ordinary High Water Mark
Photograph View Direction and Reference Number

SEE INSET

ORDINARY HIGH WATER MARK(TYP.)

JOYLAND ROAD

INSET

N

0 500 1000 FEET
SCALE

EPT CONCORD RESORT

Photo Key

Wetland #2 Crossing - 8.17.12 **1**

Wetland # 2 Crossing - 8.17.12 **2**

Wetland #7 Culvert - 3.19.12 **3**

Wetland #7 Culvert - 1.31.13 **4**

Wetland #9 - 8.17.12 **5**

Wetland #9 - 8.17.12 **6**

Wetland #32 - 12.29.11 **7**

Wetland #32 - 12.29.11 **8**

Wetland #32 - 12.29.11 **9**

Vernal Watercourse #222 - 8.17.12 **10**

Vernal Watercourse #222 - 8.17.12 **11**

Wetland #33a - 8.17.12 **12**

Wetland #33b - 8.17.12 **13**

Wetland #33b - 8.17.12 **14**

Wetland #33b - 8.17.12 **15**

Vernal Watercourse #221 - 8.17.12 **16**

Vernal Watercourse #221 - 8.17.12 **17**

Wetland #34 - 8.17.12 **18**

Wetland #45a - 8.17.12 **19**

Wetland #45a - 8.17.12 **20**

Wetland #45b - 8.17.12 **21**

Wetland #45b - 8.17.12 **22**

Wetland #45b - 8.17.12 **23**

Wetland #45b - 8.17.12 **24**

Wetland #45b - 12.19.11 **25**

Wetland #22 - 8.17.12 **26**

Wetland #22 - 8.17.12 **27**

Wetland #22 - 8.17.12 **28**

Wetland #57 - 5.3.12 **29**

Wetland #29 - 5.3.12 **30**

Wetland #29 - 5.3.12 **31**

Wetland #71 - 5.30.12 **32**

Wetland #71 - 3.28.12 **33**

Wetland #71 - 3.28.12 **34**

Wetland #71 - 3.28.12 **35**

Wetland #71 - 5.30.12 **36**

Wetland #72 - 11.7.12 **37**

Wetland #72 - 11.7.12 **38**

Wetland #72 - 11.7.12 **39**

Wetland #72 - 11.7.12 **40**

G

List of Adjacent Property Owners

EPT Concord Resort - NYSDEC/USACE Joint Permit Application

TOWN	PrintKey	Section	Block	Lot	Owner	Attention	Address	City_State_Zip
FALLSBURG	60.-1-68.2	60.	1	68.2	YD Realty, LLC		1412 Ave M PM B 2496	Brooklyn, NY 11230
FALLSBURG	60.-1-75	60.	1	75	Concord Resort, LLC	c/o Cappelli Enterprises, Inc.	115 Stevens Ave	Valhalla, NY 10595
FALLSBURG	60.-1-78.3	60.	1	78.3	Parkview Homes Ltd	Attn: Morris Waldman	5308 13th Ave #157	Brooklyn, NY 11219
FALLSBURG	60.-1-79.1	60.	1	79.1	Greenwood Park Resort	Attn: Andrew Freund	4920 15th Ave	Brooklyn, NY 11219
FALLSBURG	60.-1-79.2	60.	1	79.2	Parkview Homes Ltd	c/o Moris Waldman	5308 13th Ave #157	Brooklyn, NY 11219
FALLSBURG	60.-1-80	60.	1	80	MBE 42 Estates LLC		1 Gigi Ct	Monsey, NY 10952
FALLSBURG	60.-1-81.1	60.	1	81.1	MBE La Vista Corp		1 Gigi Ct	Monsey, NY 10952
FALLSBURG	60.-1-83	60.	1	83	Hood, Nucia		P.O. Box 286	Kiamesha Lake, NY 12751
FALLSBURG	60.-1-84	60.	1	84	Schwartz, Abraham	Attn: N Lichtenstein	324 Ave I	Brooklyn, NY 11230
MONTICELLO	108.-4-3	108.	4	3	Herschel Joseph A		3832 State Route 209	Wurtsboro, NY 12790
MONTICELLO	108.-4-4	108.	4	4	Abdul, Mesbah A		1114 78th St	Brooklyn, NY 11228
MONTICELLO	130.-1-4	130.	1	4	Monty Alpha, LLC		82 Arleigh Rd	Great Neck, NY 11021
MONTICELLO	130.-1-12	130.	1	12	Amaa Realty LLC		P.O. Box 800	Rock Hill, NY 12775
MONTICELLO	130.-1-15	130.	1	15	Maisel, Gail		20281 E Country Club Dr Apt M4	North Miami Beach, FL 33180
THOMPSON	9.-1-11	9.	1	11	Star Ave Inc		32 Towner Road Ext	Monticello, NY 12701
THOMPSON	9.-1-12.1	9.	1	12.1	Reeves, Johnnie T		37 Gibber Rd	Kiamesha Lake, NY 12751
THOMPSON	9.-1-12.2	9.	1	12.2	Gold, Avrom M		8 Slevin Ct	Monsey, NY 10952
THOMPSON	9.-1-12.4	9.	1	12.4	Gold, Avrom M		8 Slevin Ct	Monsey, NY 10952
THOMPSON	9.-1-14	9.	1	14	Gibber Road Estates Inc	Barry Singer	95 Delancy St	New York, NY 10002
THOMPSON	9.-1-17	9.	1	17	Shaw Properties III, LLC		58 Concord Dr	Monsey, NY 10952
THOMPSON	9.-1-18.3	9.	1	18.3	Bloom, Joshua		18 Gibber Rd	Kiamesha Lake, NY 12751
THOMPSON	9.-1-21	9.	1	21	Hebrew Day School Of Sull		P.O. Box 239	Kiamesha Lake, NY 12751
THOMPSON	9.-1-34.1	9.	1	34.1	Concord Associates LP		P.O. Box 137	Kiamesha Lake, NY 12751
THOMPSON	9.-1-34.2	9.	1	34.2	Concord Associates LP		P.O. Box 137	Kiamesha Lake, NY 12751
THOMPSON	9.-1-34.4	9.	1	34.4	Concord Associates LP		P.O. Box 137	Kiamesha Lake, NY 12751
THOMPSON	9.-1-34.5	9.	1	34.5	Concord Associates LP		P.O. Box 137	Kiamesha Lake, NY 12751
THOMPSON	9.-1-34.6	9.	1	34.6	Concord Associates LP		P.O. Box 137	Kiamesha Lake, NY 12751
THOMPSON	9.-1-34.7	9.	1	34.7	Concord Associates LP		P.O. Box 137	Kiamesha Lake, NY 12751
THOMPSON	9.-1-36	9.	1	36	Concord Fairways, LLC		P.O. Box 137	Kiamesha Lake, NY 12751
THOMPSON	9.-1-38	9.	1	38	Concord Associates LP	Attn: Mark Schulman	P.O. Box 945	Monticello, NY 12701
THOMPSON	9.-1-39.1	9.	1	39.1	Gaiman, Robert		P.O. Box 945	Monticello, NY 12701
THOMPSON	9.-1-75	9.	1	75	Village Of Monticello		2 Pleasant St	Monticello, NY 12701
THOMPSON	9.-1-76	9.	1	76	Concord Associates LP	Attn: Mark Schulman	P.O. Box 945	Monticello, NY 12701
THOMPSON	9.-1-77	9.	1	77	Schulman Mark L		P.O. Box 945	Monticello, NY 12701
THOMPSON	9.-1-80	9.	1	80	Waterways Condominium Asso		P.O. Box 244	Kiamesha Lake, NY 12751
THOMPSON	9.-1-81	9.	1	81	Village Of Monticello		2 Pleasant St	Monticello, NY 12701
THOMPSON	9.-1-83	9.	1	83	Schulman , Mark L		P.O. Box 945	Monticello, NY 12701
THOMPSON	9.-1-84	9.	1	84	Schulman, Mark L		P.O. Box 945	Monticello, NY 12701
THOMPSON	13.-1-27	13.	1	27	American Theological Inst		P.O. Box 180262	Brooklyn, NY 11218
THOMPSON	13.-1-29	13.	1	29	N Y S E G	USS-Local Tax	70 Farm View Dr	New Gloucester, ME 04260
THOMPSON	13.-1-30.2	13.	1	30.2	Berlovan, George		32 Overlook Rd	Rock Hill, NY 12775
THOMPSON	13.-2-1.2	13.	2	1.2	KFC of Monticello R E LLC		P.O. Box 10150	Newburgh, NY 12552-0150
THOMPSON	13.-2-1.3	13.	2	1.3	Martin J. Salovin Payback		P.O. Box 532	Rock Hill, NY 12775
THOMPSON	13.-3-1.1	13.	3	1.1	SW Klake LLC	c/o Pearl Wallach	215 W 95 St Apt 15F	New York, NY 10025-6357
THOMPSON	13.-3-4	13.	3	4	Epstein, Roni		P.O. Box 566	New City, NY 10956

TOWN	PrintKey	Section	Block	Lot	Owner	Attention	Address	City_State_Zip
THOMPSON	13.-3-8	13.	3	8	Davis, Alan		62 Taylor Rd	Mt. Kisco, NY 10549
THOMPSON	13.-3-10.1	13.	3	10.1	Conroc LLC		1737 Veterans Hwy	Islandia, NY 11749
THOMPSON	13.-3-10.2	13.	3	10.2	Dollard, Vincent		21 Sylvan Shore Rd	Rock Hill, NY 12775
THOMPSON	13.-3-11	13.	3	11	DeJesus, Enrique P		212 Rock Ridge Dr	Monticello, NY 12701
THOMPSON	13.-3-13	13.	3	13	Tepper, Eleanor		35 Seacoast Ter #12A	Brooklyn, NY 11235
THOMPSON	13.-3-14	13.	3	14	M I A Realty Corp	Irving Goldenberg	2 Sadore Ln Apt 4y	Yonkers, NY 10710
THOMPSON	13.-3-15	13.	3	15	Donato, Carmelo		3613 24th Ave	Long Island City, NY 11103-4407
THOMPSON	13.-3-16	13.	3	16	Donato, Carmelo		3613 24th Ave	Long Island City, NY 11103-4407
THOMPSON	13.-3-21	13.	3	21	Blyakher, Dina & Eric		1490 Hornell Loop Apt 1B	Brooklyn, NY 11239
THOMPSON	13.-3-24	13.	3	24	Town Of Thompson		4052 Route 42	Monticello, NY 12701
THOMPSON	13.-3-27.2	13.	3	27.2	Robinson, Frederick G		27 Thompson Rd	Monticello, NY 12701
THOMPSON	13.-3-32	13.	3	32	Caycho, Alberto		167 Rock Ridge Rd	Monticello, NY 12701
THOMPSON	13.-3-33	13.	3	33	Blyakher, David		1530 Pennsylvania Ave #13-H	Brooklyn, NY 11239
THOMPSON	13.-3-36.1	13.	3	36.1	Katz, Harry I		76-19 171st St	Flushing, NY 11365
THOMPSON	13.-3-37.1	13.	3	37.1	Bisland, Sheri J		101 Rock Ridge Dr	Monticello, NY 12701
THOMPSON	13.-3-37.2	13.	3	37.2	Nesin, Ellen H		85 Rock Ridge Dr	Monticello, NY 12701
THOMPSON	13.-3-37.3	13.	3	37.3	La Dirot Associates	c/o H. Mendelsohn	1141 E 29th St	Brooklyn, NY 11210
THOMPSON	13.-3-37.4	13.	3	37.4	La Dirot Associates	c/o H. Mendelsohn	1141 E 29th St	Brooklyn, NY 11210
THOMPSON	13.-3-37.5	13.	3	37.5	Rayhar LLC	Ray Gold	P.O. Box 670	So Fallsburg, NY 12779
THOMPSON	13.-3-37.6	13.	3	37.6	Bisland, Roger E Jr		89 Rock Ridge Dr	Monticello, NY 12701
THOMPSON	13.-3-40.1	13.	3	40.1	Thompson Station, Inc.	Phillips Edison & Co	11501 N Lake Dr	Cincinnati, OH 45249
THOMPSON	13.-3-48	13.	3	48	Town of Thompson		4052 Route 42	Monticello, NY 12701
THOMPSON	13.-3-49	13.	3	49	Town of Thompson		4052 Route 42	Monticello, NY 12701
THOMPSON	15.-1-6	15.	1	6	Keiser, Helen	c/o Sharon McCain	7502 SW 58th Ave	Miami, FL 33143
THOMPSON	15.-1-7	15.	1	7	Barrish, Alan		P.O. Box 242	Kiamesha Lake, NY 12751
THOMPSON	15.-1-8	15.	1	8	Schumer, Lynne		P.O. Box 77	Kiamesha Lake, NY 12751
THOMPSON	15.-1-9	15.	1	9	N Y S E G	Attn: Utility Shared Services	70 Farm View Dr	New Gloucester, ME 04260
THOMPSON	15.-1-10	15.	1	10	Torres Angel L		P.O. Box 648	Napanoch, NY 12458
THOMPSON	15.-1-20	15.	1	20	Sunshine, Patrice G		315 Thompson Rd	Monticello, NY 12701
THOMPSON	15.-1-27	15.	1	27	Landon, Laurie H		9 Ann Blvd	Chestnut Ridge, NY 10977
THOMPSON	15.-1-29	15.	1	29	Congregation and Yeshiva		P.O. Box 363	Monsey, NY 10952
THOMPSON	15.-1-31	15.	1	31	Tune, Leonid		P.O. Box 127	Thompsonville, NY 12784
THOMPSON	15.-1-33	15.	1	33	Bobover Yeshiva Bnei Zion		4206 15th Ave	Brooklyn, NY 11219
THOMPSON	15.-1-35.1	15.	1	35.1	State Of New York	Sullivan County Treasurer - County Government Center	100 North St	Monticello, NY 12701
THOMPSON	15.-1-35.8	15.	1	35.8	Bobover Yeshiva Bnei Zion		4206 15th Ave	Brooklyn, NY 11219
THOMPSON	15.-1-38	15.	1	38	Massive, Marvin		P.O. Box 51	Thompsonville, NY 12784
THOMPSON	15.-1-41	15.	1	41	Booth, Robert Sr.		P.O. Box 129	Thompsonville, NY 12784
THOMPSON	15.-1-44	15.	1	44	Poneros, Mark J		35 Cambridge Pl	Englewood Cliffs, NJ 07632
THOMPSON	15.-1-45	15.	1	45	Domingo, Anthony Jr		P.O. Box 186	Thompsonville, NY 12784
THOMPSON	15.-1-46	15.	1	46	Pentecostal Faith Church	Bishop Betty Middleton	55 Kress Ave	New Rochelle, NY 10801
THOMPSON	15.-1-48	15.	1	48	Kaufman, Paula		P.O. Box 262	Rock Hill, NY 12775
THOMPSON	16.-1-30.2	16.	1	30.2	Politidis, Ioannis		P.O. Box 233	Thopsonville, NY 12784
THOMPSON	23.-1-1	23.	1	1	St. Peter's Cemetery		10 Liberty Street	Monticello, NY 12701
THOMPSON	23.-1-11.1	23.	1	11.1	M&K Development, LLC		38 Haddock Rd	Monticello, NY 12701

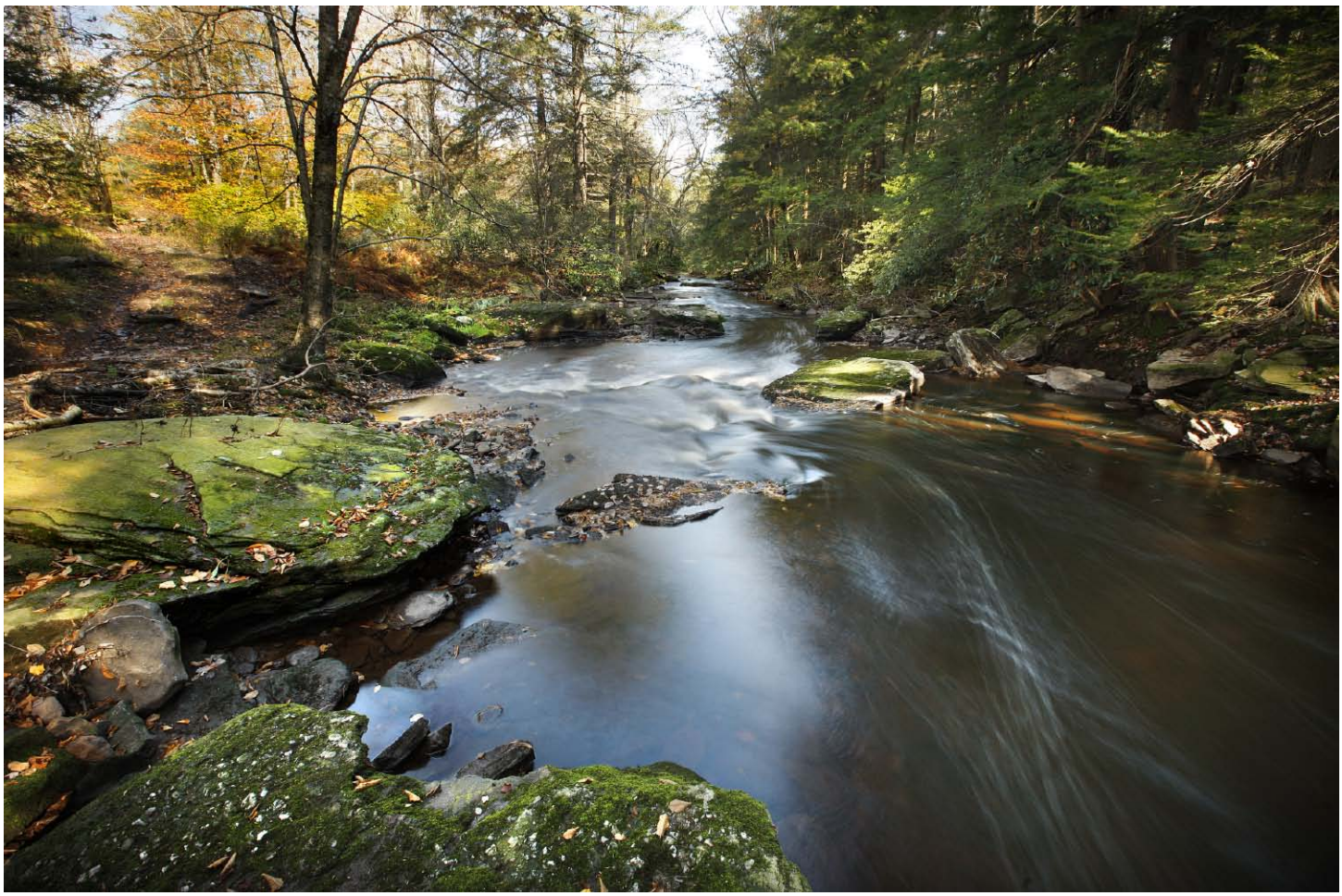
TOWN	PrintKey	Section	Block	Lot	Owner	Attention	Address	City_State_Zip
THOMPSON	21.-1-11.12	23.	1	11.12	Congregation Ahavas Zion	Attn: Chernow	10 Green St	Monticello, NY 12701
THOMPSON	23.-1-11.2	23.	1	11.2	Mulhern, Patrick		171 Rock Ridge Ave	Monticello, NY 12701
THOMPSON	23.-1-11.6	23.	1	11.6	Congregation Chesed	Attn: D Resnick	5 Green St	Monticello, NY 12701
THOMPSON	23.-1-11.7	23.	1	11.7	Workmens Circle Cemetery	Attn: Davidoff	P.O. Box 454	Monticello, NY 12701
THOMPSON	23.-1-11.8	23.	1	11.8	Chevro Ahavath Zion Anshe	Attn: Chernow	10 Green St	Monticello, NY 12701
THOMPSON	23.-1-11.9	23.	1	11.9	Monticello Brotherhood	Attn: Sarah Carpenter	57 High St	Monticello, NY 12701
THOMPSON	23.-1-41.1	23.	1	41.1	Sullivanarc	Community Resource Center	162 East Broadway	Monticello, NY 12701
THOMPSON	23.-1-47	23.	1	47	Manowitz, Jacob		15 Shingle House Rd	Millwood, NY 10546
THOMPSON	23.-1-56	23.	1	56	Juggle Up Inc.		P.O. Box 72	Rock Hill, NY 12775
THOMPSON	23.-1-58	23.	1	58	Juggle Up Inc.		P.O. Box 72	Rock Hill, NY 12775
THOMPSON	23.-1-60	23.	1	60	Voletsky, Harold J		10856 DeerPark Ln	Boynton Beach, FL 33437
THOMPSON	23.-1-61.1	23.	1	61.1	Elmcor Youth & Adult		33-16 108th St	Corona, NY 11368
THOMPSON	23.-1-63	23.	1	63	Shevas Achim Bungalow Colony,	J Sabovitz	4 Sanz Ct #104	Monroe, NY 10950
THOMPSON	23.-1-65.2	23.	1	65.2	Shevas Achim Bungalow Colon,		4 Sanz Ct #104	Monroe, NY 10950
THOMPSON	23.-1-65.3	23.	1	65.3	Shevas Achim Bungalow Colony,		4 Sanz Ct 104	Monroe, NY 10950
THOMPSON	23.-2-7	23.	2	7	Nachimovsky, Abraham		1684 E 21St St	Brooklyn, NY 11210
THOMPSON	23.-2-9	23.	2	9	Brauner, Margaret		5-04 17th St	Fair Lawn, NJ 07410
THOMPSON	23.-2-11.1	23.	2	11.1	Kyriakousis, Deborah		P.O. Box 157	Parksville, NY 12768
THOMPSON	23.-2-13	23.	2	13	Notaro, Eugenio S		725 Adams St	Hoboken, NJ 07030
THOMPSON	23.-2-14	23.	2	14	Emmi Joseph		156 Joyland Rd	Monticello, NY 12701
THOMPSON	23.-2-15.1	23.	2	15.1	Joyland Park, Inc.		1252 53rd St	Brooklyn, NY 11219
THOMPSON	23.-2-16	23.	2	16	Daemke, Valery		80-75 E Bloomfield Rd	Hereford, AZ 85615
THOMPSON	23.-2-20	23.	2	20	Sommer , Charles L		360 E 72nd St Apt B1201	New York, NY 10021
THOMPSON	23.-2-27.1	23.	2	27.1	Yee, George	Attn: Willis & Ng	P.O. Box 874	Monticello, NY 12701
THOMPSON	23.-2-27.2	23.	2	27.2	Nachlai Emunah Bungalows Inc	Attn: Jankl Sabovitz	4 Sanz Ct #104	Monroe, NY 10950
THOMPSON	23.-2-28	23.	2	28	Szabovitz, Jankl		38 Joyland Rd	Monticello, NY 12701
THOMPSON	23.-2-29	23.	2	29	Price, Lorraine		38 Towner Rd	Monticello, NY 12701
THOMPSON	23.-2-30	23.	2	30	Peck, George P		18 Joyland Rd	Monticello, NY 12701
THOMPSON	23.-2-34	23.	2	34	Ehrle, Roberta L		324 NW 41 Ave	Deerfield Beach, FL 33442
THOMPSON	23.-2-42.1	23.	2	42.1	Consacro, Amelia		26 Towner Rd	Monticello, NY 12701
THOMPSON	23.-2-43	23.	2	43	Couch, Gary J		22 Towner Rd	Monticello, NY 12701
THOMPSON	23.-2-44	23.	2	44	Heins, Richard W		16 Towner Rd	Monticello, NY 12701
THOMPSON	23.-2-46	23.	2	46	Blakmor Enterprises, Inc.		57 Cimarron Rd	Monticello, NY 12701
THOMPSON	23.-2-47	23.	2	47	Sharma, Tejas		825 East Broadway	Monticello, NY 12701
THOMPSON	23.-2-48	23.	2	48	Kelly, David		63 Cimarron Rd	Monticello, NY 12701
THOMPSON	23.-2-50.4	23.	2	50.4	Ehrle, Helen	Attn: Roberta Ehrle	324 NW 41 Ave	Deerfield Beach, FL 33442
THOMPSON	23.-2-50.6	23.	2	50.6	Blakmor Enterprises, Inc.		57 Cimarron Rd	Monticello, NY 12701
THOMPSON	23.-2-62	23.	2	62	Blakmor Enterprises, Inc.		57 Cimarron Rd	Monticello, NY 12701
THOMPSON	31.-1-9.1	31.	1	9.1	Flores, Jorge		28 Murran Rd	Monticello, NY 12701
THOMPSON	31.-1-10.12	31.	1	10.12	Monticello Lower Broadway , Realty LLC		67 E Broadway	Monticello, NY 12701
THOMPSON	31.-1-10.13	31.	1	10.13	Village Of Monticello		2 Pleasant St	Monticello, NY 12701
THOMPSON	31.-1-11.1	31.	1	11.1	Toomey, Mary Ann		P.O. Box 69	Forestburgh, NY 12777
THOMPSON	31.-1-12	31.	1	12	Gold Key Self Storage LLC		34 Norm Ave	Bedford Hills, NY 10507
THOMPSON	31.-1-13	31.	1	13	Las Papayas, Inc.		P.O. Box 555	Ferndale, NY 12734
THOMPSON	31.-1-14.2	31.	1	14.2	Abou, Itzhak		21 Smith St	Monticello, NY 12701

EPT Concord Resort - NYSDEC/USACE Joint Permit Application

TOWN	PrintKey	Section	Block	Lot	Owner	Attention	Address	City_State_Zip
THOMPSON	31.-1-15	31.	1	15	Abou , Itzhak		21 Smith St	Monticello, NY 12701
THOMPSON	31.-1-16	31.	1	16	Lerner, Marc		4121 State Route 55	Swan Lake, NY 12783
THOMPSON	31.-1-18	31.	1	18	Nachlai Emunah Bungalows Inc	Attn: Jankl Sabovitz	4 Sanz Ct #104	Monroe, NY 10950
THOMPSON	31.-1-19.1	31.	1	19.1	Lerner, Marc		4121 State Route 55	Swan Lake, NY 12783
THOMPSON	31.-1-20	31.	1	20	Lerner, Marc	Dba Lerner Pavlick Realty Co	P.O. Box 472	Monticello, NY 12701
THOMPSON	31.-1-21	31.	1	21	Lerner Pavlick Realty Co		P.O. Box 472	Monticello, NY 12701
THOMPSON	31.-1-22	31.	1	22	Shivani Corporation	Saumik C. Patel	16 Manor Dr	Monticello, NY 12701
THOMPSON	31.-1-23.2	31.	1	23.2	Monty Alpha, LLC		82 Arleigh Rd	Great Neck, NY 11021
THOMPSON	31.-1-62.3	31.	1	62.3	Mccague, Francis		34 Cimmaron Rd	Monticello, NY 12701
THOMPSON	31.-1-62.4	31.	1	62.4	Makovic Project Dev., Inc.		P.O. Box 11	Hurleyville, NY 12747
THOMPSON	31.-1-67	31.	1	67	Makovic Homes, LLC		411 Route 17B	Monticello, NY 12701
THOMPSON	31.-1-91	31.	1	91	Mccague, Francis		34 Cimmaron Rd	Monticello, NY 12701
THOMPSON	9.D-1-1.1	9.D	1	1.1	Kiamesha Lake Ests Inc		P.O. Box 318	Kiamesha Lake, NY 12751
THOMPSON	9.D-1-1.3	9.D	1	1.3	Siegel, Samuel		3425 Jami St	Merrick, NY 11566
THOMPSON	9.D-1-14	9.D	1	14	Berman, Arthur		2815 Coyle St 310	Brooklyn, NY 11235
THOMPSON	9.D-1-16	9.D	1	16	Town Of Thompson		4052 Route 42	Monticello, NY 12701

EPT CONCORD RESORT

Town of Thompson, Sullivan County, New York



NYSDEC/USACE Joint Permit Application

Volume II: Compensatory Mitigation Report

Applicant:
EPT Concord II, LLC
909 Walnut, Suite 200
Kansas CIty, Missouri 64106

Prepared by:
AKRF, Inc.
34 South Broadway
White Plains, New York 10601

March 8, 2013

EPT Concord Resort

Monticello, NY

Wetland Mitigation Plan

AKRF Project Number: 40376

Prepared for:

USACE
NYSDEC

Prepared by:

AKRF, Inc.
34 South Broadway, Suite 401
White Plains NY 10601

MARCH 8, 2013

Volume II

Wetland Mitigation Report

U.S. ARMY CORPS OF ENGINEERS

NEW YORK DISTRICT

COMPENSATORY MITIGATION PLAN CHECKLIST

Applicant: EPT Concord Resort

Agent: AKRF, Inc.

Project Name: EPT Concord Resort

Site Address: Joyland/Thompsonville Roads

Town/County/State: Thompson, Sullivan County, NY

Application Number: XXX

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INTRODUCTION AND PURPOSE

EPT Concord II, LLC (referred to as "EPT" or the "Applicant") proposes to develop a master planned destination resort community (referred to as "EPT Concord Resort") on approximately 1,538 acres of land located in the Town of Thompson (the "Project Site"), Sullivan County, New York (Figure 1). When complete, the EPT Concord Resort will include an 18-hole golf course, Casino Resort, harness horse racetrack, grandstand/showroom, simulcast facility, hotels, an RV park, and an entertainment village with cinemas and supporting retail. In addition, there will be a residential village with a mix of unit types including condos, apartments, townhouses and detached single family homes, a civic center, an innovative health care facility, and an active adult residential community. This mix of uses will be connected via a multi-use trail system with abundant open space.

To develop the EPT Concord Resort, the Applicant has initiated several actions. First, the Applicant has petitioned and obtained from the Town Board of the Town of Thompson an amendment to the Town of Thompson Planned Resort Development ("PRD") section of the zoning law (Town Code § 270-27.2) to enable the development of the EPT Concord Resort at the site of the former Concord Resort ("Proposed Action"). The amended zoning law will apply to the entire PRD district, which is comprised of approximately 1,735 acres.

Second, the Applicant has obtained approval from the Town Board for a new PRD Comprehensive Development Plan ("CDP") for the approximately 1,538-acre Project Site ("Proposed Project"). The approval of the CDP is contingent on the adoption of the proposed zoning amendment.

Third, the Applicant seeks Site Plan Approval from the Town of Thompson Planning Board for the first phase development of the Proposed Project ("2014 Plan") that will include the Casino Resort complex at the Resort Core. This phase is anticipated to include a casino, hotel, harness horse racetrack, grandstand/showroom, simulcast facility, banquet event center, restaurants, golf course, and related facilities ("Casino Resort"). The Applicant intends to begin construction of the 2014 Plan by the end of 2013, pending the receipt of the necessary permits, approvals, and financing.

After the receipt of site plan approval for the 2014 Plan, the Applicant will finalize design review details for the golf course program and select components of the entertainment village at the Resort Core. These additional development program components will promote increased attendance at the Casino Resort complex and are anticipated to be completed in 2014, concurrent with the completion of the 2014 Plan.

The Applicant is currently seeking approvals from both the USACE and the NYSDEC for impacts to regulated wetlands associated with the 2014 Plan for the Project. Wetlands, streams, and other surface water resources are regulated at the Federal level by the USACE if they meet the criteria of "waters of the United States," pursuant to Section 404 of the Clean Water Act and its implementing regulations. Wetlands are defined at the Federal level as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include "swamps, marshes, bogs, and similar areas" (Federal Register, 1982).

Attendant to these applications, the Applicant has developed this plan for on-site compensatory mitigation for impacted wetlands. This plan conforms to the USACE New York District's

checklist for compensatory mitigation, and is structured to address individual checklist items as follows:

A. MITIGATION JUSTIFICATION:

1. Demonstrate that impacts are avoided and minimized to maximum extent practicable (404 (b)(l) guidelines met).

The Comprehensive Development Plan ("CDP") for the EPT Concord Resort project has been designed to avoid wetland and stream areas to the maximum extent practicable. Most components of the CDP have been arranged on the landscape to avoid wetlands and 100-foot NYSDEC wetland adjacent areas. With the exception of the implementation of the 2014 Plan, which includes the Resort Core elements to be constructed first which are of central importance to viability of the Project, wetland impacts for the remaining development elements are limited to interior road crossings to access to upland areas.

Nevertheless, to realize certain components of the Proposed Project, wetland and surface water loss will occur. Wetland loss will result from the placement of fill material within the wetland boundary. Specific areas of wetland impacts are depicted in Figure 2. The acreage of wetland impacts by wetland ID, impact type, jurisdiction, and project Phase is listed below in Table 1.

The majority of wetland impacts are necessary for construction of the Resort Core project component during the 2014 Plan, which is described in greater detail below. In addition, design of the new Monster Golf Course requires some wetland fill and areas of hand-clearing of vegetation in regulated wetland areas to facilitate fairway play-over. Areas of wetland disturbance for the remainder of the Proposed Project are relatively small and are required to gain access to viable upland portions of the property.

In total, 7.87 acres of regulated wetlands and waters is expected to be disturbed by the Proposed Project. This includes 3.13 acres of direct disturbance (fill) of vegetated wetlands, 0.28 acres of direct disturbance (fill) to unvegetated wetlands (golf course ponds), and 3.58 acres of hand clearing of vegetated wetlands within the proposed Golf Course to reduce the height of vegetation and facilitate golf course play-over areas.

Project Site Location

Inherent in the project purpose is the requirement that the Project be located at the former Concord Resort complex in the Town of Thompson, Sullivan County, New York. Accordingly, no off-site locations are practicable. The 1,583-acre site for the Project is served by multiple access points, namely Exit 106 and Exit 107 off of NY Route 17, making it an ideal location for a destination resort drawing visitors from the northeast region. The Exit 106 ramp will lead motorists north and into both the EPT Concord Resort property itself and the main entrance to the Resort Core. Exit 107, while a more circuitous route, provides an alternative access point along the recently re-paved Heiden-Thompsonville Road.

Alternative Onsite Areas Considered For Resort Core

Due to the large size of the Resort Core project component, and the need for a grouping of structures and amenities to realize the Resort Core design goals, there is no practicable alternative location for the Resort Core elsewhere on the Project Site that would result in a

reduction in wetland impacts while maintaining the development program goals needed for the success of the project.

Many factors were considered when selecting sites for the Project's residential, commercial, and recreational elements. By examining the Project Site's topography, wetlands, drainageways, existing roadways and infrastructure routings, prime development parcels were identified. Development areas identified on the Project Site vary from steeply sloped forested lands, hilltop sites with prime views of the Catskill Mountains, gently sloping hillsides of the Kiamesha Creek stream valley, and formerly developed lands adjacent to the existing roadway network.

After a thorough investigation of the opportunities and challenges presented by each location, the most appropriate site for the Resort Core was chosen within a relatively flat parcel of the southeastern portion of the Project Site, located between Thompsonville Road and Joyland Road. This location and the project design minimize wetland impacts while preserving other ecological values found in other phase locations, while simultaneously making maximum use of previously developed lands to minimize additional site disturbance.

Five alternative sites were examined for the siting of the Resort Core. These sites were: Sporting Club Site, Residential Village Site, Family Resort Hotel Site, Existing Monster Golf Course, and

Joyland-Thompsonville Road Intersection. The evaluation of each of these alternative sites is discussed below. The reasons each of these alternate sites were found to be inappropriate are discussed below.

Table 3_
Alternative Locations for Resort Core – Wetland and Steep Slope Disturbance

Resort Core Alternative Site	Wetland Disturbance (acres)	Steep Slope (>20%) Disturbance (acres)
Preferred Alternative	0.64 (+3.1 overstory removal)	1.05
Residential Village Site	24.41	12.92
Sporting Club Site	5.2	18.50
Family Resort Hotel Site	0.77	17.87
Monster Golf Course Site	15.64	4.53
Joyland/Thompsonville Int.	15.0	4.68

Sporting Club Site

The northeastern hilltop adjacent to Kiamesha Creek was identified as a possible development site for the Casino Resort. However, upon further investigation, this land is more appropriate for a program with a lighter footprint on the land. The flat area atop this hill would yield approximately 25 acres of developable land (0-10% slope) of which 16% is non-jurisdictional wetland. An additional 70 acres on the hillside (10-20% slope) has development potential but would be difficult due to the existing slope and would orient the casino resort away from the site by sloping east. With the large amount of flat land required for the racetrack, a significant grading and clearing effort would have to occur, eliminating the vibrant natural landscape that makes this piece of the property unique.

The off-site visual impact of locating the casino building on one of the site's five highpoints/hilltops would be more obtrusive than siting on the flatter lowland.

The character of the existing hardwood/evergreen forest (maple, beech, and hemlock) at this location is an asset for the site, representing the largest area of contiguous forest habitat within the property boundary. The Sporting Club that is currently proposed on this site would be thoughtfully merged with the surrounding forested environment and would provide connections to hiking and walking trails throughout the Club and across the entire EPT Concord Resort property. With its proximity to Kiamesha Creek and the former Concord Ski Area, planned as a tubing and biking hill, this particular site naturally lends itself to promoting a wide variety of outdoor pursuits, rather than a Casino Resort.

Wetland impacts necessary to accommodate the Resort Core footprint at the Sporting Club Site would be 5.2 acres, exceeding the preferred location.

Residential Village Site

The stream valley to the west of Kiamesha Creek was considered as an alternate location for the Casino Resort. Apart from the difficulty of accommodating the casino and track program into the site's steeper topography, this location is better suited for a more 'local' use relating back to the Town of Thompson. Since this land is situated near other local uses, the Residential Village, currently proposed in the Comprehensive Development Plan, would provide a stronger relationship to the commercial retail along Route 42 than the Casino Resort. Kiamesha Lake Road, with only one travel lane in either direction, can more readily handle local traffic rather than the high volumes that locating the Casino Resort and accompanying Entertainment Village here would bring. This area is best used to serve the residents of Concord and does not make for an ideal resort destination.

Another deciding factor eliminating the Residential Village site for the Resort Core pertains to the renovation of the existing golf course. If the Resort Core were to be located to the north of the property in place of the Residential Village, a contiguous golf course would have to utilize existing golf holes south of Thompsonville Road (Holes 3 to 8) to avoid additional clearing for golf uses. Currently, Hole 3 separates a large wetland area (USACE #44) from Kiamesha Creek which causes flooding during rain events as this Hole is located in the creek's 100 year floodplain. Because these southern holes weave around wetlands, re-routing the course with the elimination of Hole 3 would be difficult. Also, the course would continue to be divided by Thompsonville road, which could lead to crossing safety issues for carts with the increased traffic on this road post-development. Another option that would re-appropriate the abandoned International Golf holes on the east side of Kiamesha Creek and Chalet Road would cause these holes to be disconnected from the rest of the course. Golfers would have to cross both Kiamesha Creek and Chalet road to circulate the course.

Wetland impacts necessary to accommodate the Resort Core footprint at the Residential Village Site would be 24.41 acres, far exceeding the preferred location.

Family Resort Hotel Site

Another site considered for the Resort Core component was the hilltop directly across Thompsonville Road from the preferred location. Due to the lack of a flat expanse of land, this location would require a higher impact on the site and necessitate significant grading to accommodate all of the Casino uses. Approximately 20 acres of flatter developable land would be feasible at this location with an additional 50 acres of more steeply sloped land (5-15% slope). However, this is insufficient as the Resort Core requires 125 acres. Alternatively, if the casino parcel stretched across both the Sporting Club Site and the Family Resort Hotel Site to

accommodate the race track and the casino facility, the sites would be disconnected and very inefficient due to the steeper grades in this part of the property. Additional area would be disturbed as the site would require greater than 125 acres for layout.

An additional disadvantage to this site is that both Thompsonville Road and the outparcel located at the northeast corner of the intersection of Thompsonville and Joyland Roads sever the Entertainment Village from the Casino Resort. There is simply not enough land north of Thompsonville Road to include both programs. The synergy created by having these two uses side by side in a unified Resort Core would be lost. When visitors are able to move freely from the Casino to the Entertainment Village, it not only creates internal trips, therefore reducing the overall number of vehicles traveling within the site.

Wetland impacts necessary to accommodate the Resort Core footprint at the Family Resort Hotel Site would be 0.77 acres. Although this alternative may have low direct wetland impacts, the excessive amount of clearing and grading activities would present threats of indirect impacts from stormwater runoff during the construction phase and radically alter the topography of the area, fragmenting habitat and destroying the unique natural settings and characteristics of the Resort lands.

Existing Monster Golf Course

The Monster Golf Course has historical significance for the EPT Concord Resort of old and will become an important draw for the future resort. Preserving the integrity and design intent of the course is a vital part of the redevelopment/revitalization of the EPT Concord Resort. Locating the proposed Resort Core within the existing golf course would greatly infringe upon this effort and force golf into less desirable areas, i.e. currently forested and/or wetland areas, and areas that are not currently zoned for golf use.

For many environmental reasons, locating a large building complex within the Kiamesha Creek Valley is not preferred. Foremost among these, this alternative would require substantial development of the stream's floodplain and loss of stream buffer.

This location would also require siting of the casino and entertainment village on the opposite sides of Kiamesha Creek as both elements will not fit on one side. This would eliminate the internal pedestrian benefits afforded by the preferred site.

Lastly, this alternative location would take away potential wetland mitigation areas within the existing and former golf course fairways which are ideal locations for improvement.

Wetland impacts necessary to accommodate the Resort Core footprint at the Existing Monster Golf Course Site would be 15.64 acres, far exceeding the preferred location.

Alternative Arrangement of Structures for the Resort Core at Joyland-Thompsonville Intersection

As described in detail in Chapter 19, "Alternatives," of the DGEIS submitted for this project, two arrangements of buildings were considered in detail for the Casino Resort and Entertainment Village at the intersection of Thompsonville Road and Joyland Road. Compared with the Proposed Project, if portions of the Resort Core development plan were to be located predominantly east of Joyland Road, there would be equal or greater wetland disturbance than the preferred alternative. This is due to the greater prevalence of wetlands east of these roads. Therefore, from a wetland impact perspective, these alternatives are not preferred. In addition, the building arrangements presented in these alternatives are not preferred for other reasons.

These include the lack of a contiguous development area to encourage a pedestrian friendly environment, increased impacts to soils and topography from grading, and traffic/circulation constraints.

The varied topography and lack of a flat expanse at the northeast corner of the intersection of Thompsonville and Joyland Roads would require significant regrading to accommodate the hotel, harness horse racetrack, and Casino Resort uses on the northeast side of Thompsonville Road proposed in Option 3A. The regrading effort in the northeast portion of the Resort Core parcel would be particularly extensive to accommodate the proposed parking structure. In the northeast corner of this area, there is not sufficient flat area to locate proposed roadways or structures outside of the waterbodies and wetlands, resulting in significant disturbances to these resources.

Similarly, the proposed layout for Option 3B would require significant regrading for the realigned loop road and the surface parking proposed in the northeast corner of the parcel. Because of the limited availability of flat/level land in this area, both the road bed and various structures would be located either within or immediately adjacent to wetlands and waterbodies.

Impacts to geology, soils, and topography are expected to be greater under these alternatives than with the development of the Proposed Project.

Potential short-term indirect impacts to regulated wetlands are primarily soil erosion and sedimentation. To minimize the potential for these impacts to the greatest extent practicable, the installation and maintenance of an erosion and sediment control plan, in accordance with State and Federal requirements, will provide for the control and reduction of sediment discharge from site construction activities. As such, it is expected that these potential short-term indirect impacts will not have significant adverse impacts on jurisdictional wetlands.

Potential long-term indirect impacts to wetlands are primarily stormwater related. Potential increases in stormwater flows and stormwater pollutant loads could adversely impact jurisdictional wetlands and surface waters on and off the Project Site. To minimize the potential for these impacts, the stormwater management plan will use both water quality measures, such as naturally vegetated swales, as well as standard stormwater features, infiltration, retention and detention facilities for example, as appropriate, in accordance with local, State, and Federal requirements. Indirect temporary impacts also may include those related to noise and activities visible from the wetland that could affect the use of the wetlands and adjacent areas by wildlife.

Other indirect impacts may result from loss of wildlife species utilization of the wetlands that result from upland disturbances. The loss or minimization of use by some wildlife species may affect nutrient balances and organic matter decomposition of the wetland areas. Previous investigations conducted as part of the environmental review conducted for the Project did not identify any special concern, rare, threatened, or endangered wildlife species or habitats in the area of the Proposed Project.

2. Discuss mitigation sequencing

The proposed mitigation areas discussed in this plan are separate from proposed resort development efforts, and can therefore be constructed with little regard to the development construction schedule. In the interest of initiating wetland restoration prior to the occurrence of wetland impacts, the construction of the mitigation areas can begin before and/or during

development construction elements having impacts to regulated wetlands. Nevertheless, because the mitigation effort is striving to achieve forested wetlands, a relatively long grow-in period will be required before final success criteria are reached.

B. MITIGATION GOALS AND OBJECTIVES

1. Impact Site

a. Describe and quantify the aquatic resource size, type, functions and values that will be impacted at the proposed impact site.

In total, 7.87 acres of regulated wetlands and waters is expected to be disturbed by the Proposed Project. The Project Site contains vegetated wetlands and several surface drainage channels ("vernal watercourses") that connect these wetlands to Kiamesha Creek. It also contains a second perennial stream linking two ponds (flanking Joyland Road) to Kiamesha Creek.

Wetlands located within the 2014 Plan Site include several sloped forested red maple wetlands, a depressional forested hemlock wetland, a depressional forested red maple wetland, and several open water ponds/water features within the existing golf course. Most of these wetland areas are patches of wetland habitat located in the flat lower elevations of the Site adjacent to Kiamesha Creek. These wetland areas are surrounded by the existing golf course and consist of small forested areas that divide the fairways. The wetlands are interconnected by surface drainage features (ditches) and by culverts that drain the golf course and which eventually discharge downslope to the west towards Kiamesha Creek.

The majority of the Project Site is upland habitat, either Hemlock forest, Beech-maple forest, or Mowed lawn habitat in the existing golf course fairways. The Project Site is underlain by a Primary Aquifer. As described above, groundwater conditions within the Project Site area have been investigated by a geotechnical exploration and found to be variable across the Site, with frequent occurrence of saturated conditions suggestive of seasonally perched groundwater conditions. The groundwater elevations were found to be shallower (closer to the surface) within the lower, westernmost portions of the 2014 Plan portion of the Project Site, closest to Kiamesha Creek and the existing golf course.

As shown in Figure 2 and Table 1, several wetland areas would be disturbed for construction of buildings, parking, roadway improvements, and the racetrack in Project.

Infrastructure to implement the 2014 Plan project components includes construction of the Resort Entry Road, widening of portions of Joyland and Thompsonville Roads, and construction of utility infrastructure including connection to the offsite Sewage Treatment Plant.

b. Describe aquatic resource concerns in the watershed (e.g. flooding, water quality, habitat) and how the impact site contributes to overall watershed/regional functions.

Nearby Kiamesha Lake is a public water supply. Local health department regulations pertaining to activities within the Lake and adjacent areas exist. Although located off of the Project Site, Kiamesha Lake is subject to the local regulations under "Rules and Regulations for Protection from Contamination of the Public Drinking Water Supply of the Village of Monticello." These regulations restrict the use of pesticide and herbicide within the lake's watershed, the use of road

salt within 500 feet of the lake, and land clearing within 75 feet of the lake. These regulations apply to those portions of the Project Site located in proximity to Kiamesha Lake.

There has been anecdotal documentation from the golf course superintendent that upstream commercial development on NYS Route 42 has exacerbated the sedimentation of Kiamesha Creek within the Concord property, now evident as sediment piles form islands of sand/silt within the Creek.

In a regional context, the impacted wetlands provide the services, functions, and values described below (Functional Assessment) on a local level; however, many of these wetlands exist within or adjacent to an active golf course. Given the limited area of impacted wetlands relative to non-impacted wetlands, as well as the history of disturbance and development on the site, the impacted wetlands are not likely to contribute significantly to overall watershed and/or regional functions beyond those discussed in the Functional Assessment below.

c. Identify watershed or other regional plans that describe aquatic resource objectives.

There are no known watershed-specific plans describing the aquatic resource objectives for Kiamesha Creek or its tributaries; however, because the watershed drains to the Delaware River Basin, the watershed falls under the aegis of the Delaware River Basin Commission (DRBC). The DRBC was created on October 27, 1961, when concurrent compact legislation ratified by Delaware, New Jersey, New York, Pennsylvania, and the U.S. Congress became law. The Delaware River Basin Compact describes the powers and duties of the commission, and over the past half a century the DRBC has put into place various programs to carry out its responsibilities. These relate to water supply (Article 4), pollution control (Article 5), flood protection (Article 6), watershed management (Article 7), recreation (Article 8), regulation of withdrawals and diversions (Article 10), and intergovernmental relations (Article 11).

Article 3 requires the DRBC to formulate and adopt a Comprehensive Plan for the immediate and long-range development and uses of the water resources of the basin and a multi-year water resources program consistent with the Comprehensive Plan. The compact further provides that no project having a substantial effect on the water resources of the basin shall be undertaken unless it shall have been first submitted to and approved by the commission. In accordance with Section 3.8 of the compact, the DRBC is required to approve a project whenever it finds and determines that the project would not substantially impair or conflict with the Comprehensive Plan. The commission provides by regulation for the procedure of submission, review, and consideration of projects and for its determinations pursuant to Section 3.8.

2. Mitigation Sites

a. Describe and quantify the aquatic resource size, type, functions and values for which the mitigation project is intended to provide.

The mitigation project is intended to provide 11.05 acres of compensatory wetland mitigation for 7.87 acres of impacts to wetlands resulting from the development of the Concord EPT resort. The mitigation is being designed to provide in-kind mitigation at the ratios identified in Table 2. The impacted areas include sloped forested red maple wetlands and depressional forested hemlock wetlands, as well as impacts to existing, unvegetated golf course ponds. The proposed mitigation areas are currently manicured golf course features (e.g., fairways, greens, bunkers, roughs, etc.) that provide little or no wetland services, functions, or values. Following restoration, these areas will provide wetland hydrology to support the in-kind replacement of

impacted forested wetland vegetation (red maple and hemlock), with the restoration of the attendant wetland services and functions. In addition, the restoration of the proposed wetland mitigation areas will serve to increase the acreage of contiguous forested wetlands that are currently bisected by golf course features.

b. Describe the contribution to overall watershed/regional functions that the mitigation site(s) is intended to provide.

The mitigation sites are intended to provide, on an in-kind basis, the watershed functions of the impacted wetlands. These include, but are not limited to:

- Water quality improvements
- Flood storage
- Sediment/toxicant retention
- Primary production export
- Invertebrate community habitat
- Wildlife habitat (including vernal amphibian breeding)
- Plant community diversity
- Endangered species habitat
- Social significance

c. Description of mitigation type(s) and explain why type(s) selected is the environmentally preferred alternative

The proposed mitigation involves the conversion of existing golf course features to forested wetlands (red maple and Eastern hemlock) for in-kind mitigation of impacted wetlands at the ratios presented in Table 2. The location and type of mitigation is environmentally preferred because it effectively restores wetland hydrology and wetland vegetation to a large, contiguous area within the subject property that is currently managed as a golf course. Available evidence suggests that this portion of the golf course was forested wetland prior to golf course construction in the early 1960s, and the restoration of these areas will reconnect large, contiguous tracts of forest and forested wetland currently bisected by the golf course features.

d. Broad statement of what is intended to be accomplished through the mitigation project

The goal of the mitigation project will be to replace the functions and values of project-impacted wetlands through the restoration of on-site wetlands at the ratios presented in Table 2.

C. PERFORMANCE STANDARDS

1. Identify clear, precise, quantifiable parameters that can be used to evaluate the status of desired functions

In the on-site wetland mitigation areas, wetland hydrology will be monitored following construction/planting via observations of installed piezometers equipped with automated water-level loggers. Plant/tree survival and herbaceous plant coverage will be monitored to achieve 85 percent survival/ cover through Year 7 with lower percent herbaceous and scrub/shrub cover targets in Year 2 increasing from 65 percent to 85 percent in Years 3 through 7. Invasive species

will be kept below 10 percent at all times for the sites. The HGM functional value methods described in detail below will be used in each year to compare wetland functions of mitigation areas to that of impacted wetlands.

All monitoring and maintenance conducted for the wetland mitigation sites will be performed in accordance with the applicable Federal and State permit conditions. The goal of the monitoring and maintenance program will be to accurately determine the mitigation's success relative to performance standards and goals developed and to identify any problems requiring corrective action.

The mitigation sites will be designed and implemented to meet performance standards that will serve as interim and final success criteria. Monitoring will measure the performance of the mitigation sites and results will be compared to performance standards. If the mitigation sites meet performance standards, success will be achieved. If the mitigation sites do not meet performance standards, corrective actions will be implemented to achieve success.

Performance Standards by designed habitat zone are described below:

a. Area 1 – Eastern Hemlock/Red Maple Forested Wetland

- Establish Hydrologic Regime

Demonstrate the grading has been implemented as per the approved design plans and the forested wetland exhibits wetland hydrology during the growing season.

- Completion of Planting

Demonstrate the planting has been completed as per the approved design plans.

- Hydrologic Performance Standard

Years 1 through 7; demonstrate surficial groundwater hydrology comparable to nearby Eastern hemlock/red maple reference wetlands.

- Vegetative Performance Standard

Years 1 through 7; demonstrate 85 percent survival of target tree planting density. Years 1 through 7; demonstrate invasive species cover is less than 10 percent. Hemlocks in restored wetlands will also be inspected during annual monitoring for the presence of the invasive insect, the hemlock woolly adelgid (*Adelges tsugae*).

Basis:

Vegetative survival of plantings will be based on the target planting density of Eastern hemlocks and red maples. Invasive cover will not exceed 10 percent; management efforts will be implemented if necessary for any occurrence of invasives species. Invasive species include species such as but not limited to *Phalaris arundinacea* (Reed canary grass), *Phragmites australis* (Common reed grass), *Lythrum salicaria* (Purple loosestrife), *Ailanthus altissima* (Tree-of-heaven), *Berberis thunbergii* (Japanese barberry), *Berberis vulgaris* (Common barberry), *Elaeagnus angustifolia* (Russian olive), *Elaeagnus umbellata* (Autumn olive), *Ligustrum obtusifolium* (Japanese privet), *Ligustrum vulgare* (Common privet) and *Rosa multiflora* (Multiflora rose).

b. Area 2 – Floodplain Herbaceous, Scrub/Shrub, and Red Maple

- Establish Hydrologic Regime

Demonstrate the grading has been implemented as per the approved design plans and that hydrology is comparable to adjacent floodplain wetlands.

- Hydrologic Performance Standard

Years 1 through 7; demonstrate that hydrology is comparable to adjacent floodplain wetlands.

- Vegetative Performance Standard

Years 1 through 7; demonstrate 85 percent survival of target tree planting density and demonstrate invasive cover is less than 10 percent.

Basis:

The floodplain wetland created in Area 2 will be planted with red maples, scrub/shrub species, and seeded with herbaceous wetland species. Invasive cover will not exceed 10 percent; management efforts will be implemented if necessary for any occurrence of invasive species. Invasive species include species such as but not limited to reed canary grass, common reed grass, purple loosestrife, tree-of-heaven, Japanese barberry, common barberry, Russian olive, autumn olive, Japanese privet, common privet and multiflora rose.

c. Area 3 – Eastern Hemlock/Red maple, scrub/shrub, and herbaceous wetlands

Eastern Hemlock/Red Maple Forested Wetland

- Establish Hydrologic Regime

Demonstrate the grading has been implemented as per the approved design plans and the forested wetland exhibits appropriate hydrology.

- Completion of Planting

Demonstrate the planting has been completed as per the approved design plans.

- Hydrologic Performance Standard

Years 1 through 7; demonstrate surficial groundwater hydrology comparable to nearby Eastern hemlock/red maple reference wetlands.

- Vegetative Performance Standard

Years 1 through 7; demonstrate 85 percent survival of target tree planting density. Years 1 through 7; demonstrate invasive species cover is less than 10 percent. Hemlocks in restored wetlands will also be inspected during annual monitoring for the presence of the invasive insect, the hemlock woolly adelgid (*Adelges tsugae*).

Floodplain Herbaceous, Scrub/Shrub, and Red Maple wetlands

- Establish Hydrologic Regime

Demonstrate the grading has been implemented as per the approved design plans and that hydrology is comparable to adjacent floodplain wetlands.

- Hydrologic Performance Standard

Years 1 through 7; demonstrate that hydrology is comparable to adjacent floodplain wetlands.

- Vegetative Performance Standard

Years 1 through 7; demonstrate 85 percent survival of target tree planting density and demonstrate invasive cover is less than 10 percent.

Basis:

The floodplain wetland created in Area 3 will be planted with red maples, scrub/shrub species, and seeded with herbaceous wetland species. Invasive cover will not exceed 10 percent; management efforts will be implemented if necessary for any occurrence of invasive species. Invasive species include species such as but not limited to reed canary grass, common reed grass, purple loosestrife, tree-of-heaven, Japanese barberry, common barberry, Russian olive, autumn olive, Japanese privet, common privet and multiflora rose.

2. Describe how performance standards will be used to verify that objectives identified in the Mitigation Goals and Objectives Section will be attained.

To ensure success, the design of the EPT Concord wetland mitigation sites will include a provision for "adaptive management". Adaptive management is the process by which restoration progress is monitored (field reviews on at least an annual basis) against pre-established ecological criteria by a team of independent technical experts and stakeholders to ensure that a success trajectory is maintained (Thom 1997). In the context of the on-site wetland mitigation, adaptive management means that the restoration design will incorporate the flexibility to potentially alter what is being done as part of implementation in response to what is observed during restoration.

Examples of adaptive management criteria could include not only vegetative cover, but hydroperiod, offsite flooding, and faunal response, among others. The adaptive management program would establish interim and final restoration goals for these criteria and monitor the site's progress against these goals. The establishment of adaptive management "triggers" within this framework provides defined, quantifiable set points for success criteria that, if reached, precipitate follow-up action to correct the course of restoration. This steering process will ensure that the project remains on a successful trajectory, and is a process that has been crucial to the success of large-scale restoration projects such as PSEG's landmark Estuary Enhancement Program in southern New Jersey (PSEG 1999 and PSEG 2006).

The EPT Concord Resort on-site wetland mitigation areas would be monitored for a seven year performance period. If performance issues are encountered, maintenance actions will be implemented. Maintenance would include the planting of species to replace those lost as a result of mortality greater than 15 percent.

The primary focus of the maintenance plan will be to initiate management and remedial actions necessary to achieve specified performance standards. Maintenance efforts will be designed to ensure establishment of the target vegetation types, the prevention of invasive plant species encroachment within the restored wetlands, and curtailment of herbivory until the time that dense vegetative cover and/or adequate tree growth has become achieved. Maintenance tasks detailed below will be undertaken as directed by the results of the seven year monitoring program and with technical input from the Adaptive Management Team. Any maintenance tasks undertaken during a monitoring year (e.g., adjustments to water control structures, replanting, repairs to herbivory control measures, herbicide application, etc.) will be recorded in an operations and maintenance log and reported annually along with monitoring results.

The mitigation areas will be monitored annually during the growing season for the seven-year monitoring period; however in the first two years monitoring will occur at a frequency of twice per year – once in the spring and again in the fall – to ensure that early tree growth is successful. During this initial monitoring period, field adjustments and decisions based on interim observations will be made to ensure successful grow-in. Adaptive management initiatives may include mid-season re-planting, adjustment of water control structures to modify hydrology in specific areas or cells, stability of water control structures, such as high flow erosion and dike/berm leakage, treatment of invasive species, or seeding of an unstable slope. Monitoring will address wetland and upland plant communities by zone as well as hydrology of the wetland community. Herbaceous cover will be monitored to determine coverage and survival. Woody species of the forested wetlands will be monitored for survival and coverage. Hydrology of the sites will be monitored via daily observations obtained from piezometer loggers and compared to reference wetlands. Invasive species will be monitored based on percent cover.

Monitoring will be conducted until such time that the USACE and NYDEC and the Adaptive Management Team are satisfied that success is being achieved (i.e., performance standards and permit conditions are attained). The period for monitoring is up to seven years; however, it may be necessary to extend this period if the mitigation sites do not achieve performance standards within that time period.

As-built drawings of the wetland construction activities and a post-construction report will be submitted to the Corps and NYDEC within 60 days from the date of the completion of construction and planting. The as-built drawings shall include all aspects of the final grading elevations and planting arrangements of the wetland mitigation sites. Annual reports will be submitted to the Corps and NYDEC no earlier then 30 days after the completion of the monitoring period and no later than December 31 of each year, for seven years following the first calendar year after completion of construction of the wetland mitigation.

In accordance with anticipated permit requirements, annual reports will include:

- A mitigation plan showing the grading, hydrologic and planting changes, if any, made during the year that is the subject of the report.
- A detailed narrative summarizing the condition of the mitigation sites and all regular or as-needed maintenance activities;
- Identification of plant species, along with their estimated relative percent cover and/or percent survival, along transects with at least one representative transect located in each habitat ecotone within the restored areas.
- Photographs showing all representative areas of the sites taken at least once each year during the period between June 1 and November 1.

D. MITIGATION SITE SELECTION

1. Description of site selection practicability in terms of cost, existing technology, and logistics

Three areas within the EPT Concord property have been identified as mitigation sites for the Project's overall wetland impacts. The proposed mitigation areas were selected based on the following criteria:

1. Relatively large, contiguous areas located on the subject property

2. Adjacent to existing wetlands

3. Not in conflict with elements of proposed development Phases

The sites represent approximately 11.05 acres of restorable habitat in close proximity to impacted wetlands. These areas represent sufficient acreage to offset wetland impacts at the ratios provided in Table 2.

The mitigation areas' proximity to adjacent wetlands supports the feasibility of the mitigation design (detailed below) by providing a template for mimicking topography, hydrology, and vegetative community structure of the adjacent forested wetlands in the mitigation areas. Ultimately, the mitigation areas will result in the expansion of contiguous areas of forested wetland habitat.

With respect to cost and logistics, the mobilization of construction equipment and contractors for wetland mitigation grading and planting could occur prior to the construction of the 2014 Plan elements having wetland impacts, resulting in a labor and cost synergy between the Project and the mitigation efforts.

As documented below, the areas selected for mitigation are suitable for the restoration of forested and scrub/shrub wetlands, and are expected to mitigate for the lost services, functions, and values of wetlands impacted by the Project.

2. Existing mitigation site deed restrictions, easements and rights-of-way, and a description of how the existence of any such restriction will be addressed, particularly in the context of incompatible uses

There are currently no deed-restrictions or conservation easements on the on-site mitigation areas. These areas are currently active, or recently abandoned, golf-course features. Following mitigation construction and planting, these sites will be placed under deeds of conservation restriction to prevent future degradation of the mitigation areas.

3. Explanation of how the design is sustainable and self-maintaining.

The wetland mitigation design relies on the available evidence that these proposed mitigation areas were once forested wetlands prior to initial golf course construction. This evidence includes the presence of regulated hillside forested and/or floodplain wetlands adjacent to existing golf course features (e.g., fairways, greens, etc.) at comparable elevations and hydric soils beneath golf course fill. The topography of the adjacent wetlands is generally sloped, with water flows predominantly unidirectional in line with, or parallel to, the slope vector. The water source of these wetland systems is generally seasonally high groundwater, although precipitation may contribute to seasonally wetted areas. Groundwater seeps also occur within or adjacent to the proposed mitigation areas. In some areas, characteristic "pit and mound" wetland topography is present, with vegetation taking foot on the mounds and open areas comprising the pits. The mitigation design mimics this topography in order to tie into the available groundwater in order to restore wetland conditions.

As a temporary management feature during the grow-in period, surface water hydrology will be manipulated through the use of outlet structures situated at key locations within the mitigation areas. These outlet structures will tie into existing golf course water features (e.g., ponds, ditches, and under-fairway pipes, etc.) and will be equipped with adjustable stoplogs in order to adjust hydrology during grow-in. During the monitoring and adaptive management periods of the restoration, wetland scientists will have the ability to adjust and redistribute surface water in order to supplement groundwater hydrology and to fine-tune the surface water distribution in response to observed conditions. Once stable hydrologic equilibrium is established in the wetland mitigation areas, further management of surface water through stoplog manipulation will be unnecessary, and these structures will be fixed in place (either through the installation of a permanent crest in the outfall structures or by replacement with stone revetments at the appropriate elevations). In this way, wetland scientists will have operational flexibility during grow-in and monitoring, but will ultimately result in a wetland complex that is sustainable without external intervention.

4. Design constraints.

Design constraints for the mitigation areas include the existence of existing floodplain wetlands associated with Kiamesha Creek and its feeder streams, existing, un-impacted forested wetlands, slope topography and shallow depth to bedrock within much of the site, and proposed development associated with the Concord resort (e.g., racetrack, casino, etc.). These constraints limited the availability of on-site wetland mitigation areas to a few relatively large, contiguous areas in which suitable hydrology and vegetation can be restored. The areas presented in this mitigation plan represent the best available locations for wetland mitigation, and meet the mitigation site selection criteria outlined above.

5. USFWS and/or NOAA Fisheries listed species clearance letter or Biological Opinion (if there is a concern about federally listed endangered species).

According to the NYSDEC's Natural Heritage Program (letter from J. Pietrusiak – NYSDEC to C. Robbins – AKRF dated March 3, 2012) and the USFWS (letter from N. Rayman – USFWS to P. Feroe, dated May 8, 2012), no known state or federal listed species of concern are present on the Concord Resort property.

6. SHPO cultural resource clearance letter (if there are known historic or cultural resources in the area).

EPT is currently consulting with SHPO with respect to potential impacts on cultural resources in the portion of the project site formerly known as Phase 1 (SHPO Project Review Number 12PR02447) and will continue to consult with SHPO as development of the project site proceeds.

E. BASELINE INFORMATION (REQUIRED FOR BOTH THE IMPACT SITE AND MITIGATION SITES)

This mitigation plan accompanies the EPT Concord Resort project's application for a Department of the Army Individual Permit for impacts to regulated wetlands resulting from the Project. Details regarding the impact site are included in that application, and are not reproduced here. The following information is specific to the on-site mitigation areas.

1. Location, Maps, Photos

a. Coordinates (latitude and longitude or UTM)

The approximate center of the site is located at the following coordinates:

41° 39’ 50.11” N

74° 39’ 00.56” W

The approximate centers of the proposed wetland mitigation areas are as follows:

Area 1

41° 40’ 17.16” N

74° 38’ 54.31” W

Area 2

41° 39’ 42.36” N

74° 39’ 21.96” W

Area 3

41° 39’ 26.12” N

74° 39’ 27.78” W

b. Written location description (physical site address, property location)

The Project Site is located in central Sullivan County, New York, within the Town of Thompson. Towns and Villages surrounding Thompson include: Liberty, Fallsburg, Mamakating, Forestburgh, Lumberland and Bethel. The Project Site lies to the south and east of Kiamesha Lake in the northeast portion of the Town of Thompson. The Site is bordered on the south by New York State Route 17 (NYS Route 17), on the west by New York State Route 42 (NYS Route 42), on the north by County Route 109 (CR 109 - Kiamesha Lake Road), and on the east by County Route 161 (CR- 161 Heiden Road).

c. Section, block, lot, township/city/village, county

Tax Parcels in the Project Site

Section	Blk.	Lot
9	1	18.1
9	1	35.0
15	1	4
15	1	5
15	1	11.1
15	1	11.2
15	1	12.1
15	1	12.3
15	1	13
15	1	14.1
15	1	14.2
15	1	14.3

Tax Parcels in the Project Site

Section	Blk.	Lot
15	1	15
15	1	16
15	1	17
15	1	18
15	1	19
15	1	22
15	1	24
15	1	25
15	1	35.7
15	1	49
15	1	50
15	1	51

Tax Parcels in the Project Site

Section	Blk.	Lot
23	1	11.3
23	2	1
23	2	2
23	2	3
23	2	4
23	2	6
23	2	8
23	2	10
23	1	48
23	1	52
23	1	53
23	1	54.1

Tax Parcels in the Project Site

Section	Blk.	Lot
23	1	54.2
23	1	54.3
23	1	54.4
23	1	55
23	1	61.2
13	1	28
13	1	53
13	3	2.1
13	3	2.2
13	3	5
13	3	7
13	3	12
13	3	17
13	3	18
13	3	19.1
13	3	19.3
13	3	20.1
13	3	20.2
13	3	20.3
13	3	22
13	3	25.1
13	3	25.2
13	3	25.3
13	3	26.1
13	3	26.2
13	3	45
23	1	50
23	1	51
31	1	65.1
31	1	17.1
31	1	19.2
23	2	31
23	2	32
23	2	33

Source: Entertainment Properties Trust

d. Hydrologic Unit Code (11 digit HUC)

The Proposed Project is located in the following 11-digit HUC: 02040104030

e. Detailed vicinity map

A vicinity map is provided as Figure 1.

f. Map identifying project location and resources within the watershed

A copy of the USGS 7.5 Minute Series Quadrangle Map is provided as Figure 4. The on-site mitigation areas are identified and labeled on this map.

g. Other maps including National Wetlands Inventory map (NWI), Natural Resources Conservation Service soils map (NRCS), New York City Department of Environmental Protection watershed, Adirondack Park Agency, etc

The NWI map for the property is provided as Figure 5.

The NRCS soils map is provided as Figure 6.

h. Aerial/Satellite photos

A recent aerial photograph of the property is provided as Figure 7.

i. Site photos and photo location map

Site photographs of the on-site mitigation and adjacent reference areas are provided as Figures 8 through 15.

2. Site Information:

a. Describe type and purpose of work at each impact site

Impacts to regulated wetlands and open waters are detailed in full in the Department of the Army Individual Permit Application for the project. A summary of these impacts is provided below.

b. Describe and quantify the aquatic resource size, type, functions and values that will be impacted at the proposed impact site.

Wetlands to be impacted are summarized in Table 1, and are presented by Wetland ID (corresponding to the IDs assigned in the Wetland Delineation Report),impact type, area, and jurisdiction.

c. Describe the proposed temporary and permanent impacts to the aquatic environment

The Proposed Project will increase the amount of impervious surface on the Project Site with buildings and roadways and will reduce the amount of forest cover overall. To manage the increase in stormwater runoff that will result from this development, stormwater management practices have been sited and conceptually designed such that all areas of development will receive stormwater treatment in full conformity with the NYSDEC guidelines.

A conceptual drainage plan for the Proposed Project has been developed, principally for planning purposes, so that land area is set aside for the necessary stormwater basins and infrastructure that will be required in the future to satisfy NYSDEC's stormwater management

requirements. Each development phase of the Proposed Project will be analyzed separately and a Stormwater Pollution Prevention Plan (SWPPP) developed in conformance with the New York State Stormwater Management Design Manual (NYSSMDM).

d. Surrounding land use

For purposes of this analysis, the properties within ¼ mile around the Project Site were evaluated (the "Study Area"). The study area includes a mix of residential, resort, commercial, and agricultural uses. Northwest of the Project Site is the former Concord Hotel property and adjacent nine-hole Challenger Golf Course. The Concord Hotel was demolished in 2008, and the Challenger Golf Course is no longer in use.

The study area has been a vacation destination since 1935, and peaked as a recreational community in the 1950s. During this period of time, bungalow colonies and summer camps were popular and a number of them still remain in various states of disrepair.

The study area west of the Project Site is dominated by Kiamesha Lake and the highway commercial area along Route 42 between its intersection with Concord Road and NYS Route 17. This area has been the focus of retail and commercial activity in the Town. NYS Route 42, near Exit 105 off NYS Route 17, to the southwest of the Project Site, is dominated by strip mall developments and "big box" retail outlets including Walmart, Home Depot, Staples, and ShopRite. This regional shopping area includes national fast food and auto service retailers, as well as banks, restaurants, and some independent businesses.

The land use character of the northwest portion of the study area is more rural, with houses, undeveloped land, bungalow colonies, and older commercial buildings adjacent to wooded areas in the vicinity of Kiamesha Lake. There is an electrical transmission line that follows NYS Route 42 in a north-south direction. Only commercial development is proposed on that portion of the Project Site adjacent to Route 42. The study area north of the Project Site is predominantly rural, with fallow fields, vacant farm properties, and wooded areas. The 90-acre Raleigh Resort is located at the intersection of Kiamesha Lake Road and Heiden Road. The resort provides guests with a swimming pool, tennis courts, and recreational grounds. South and east of the Project Site, and along Joyland Road, the study area is dominated by single-family homes, bungalow colonies, and wooded areas. The bungalow colonies along Joyland Road include Joyland Acres, 10 cottages at 253 Joyland Road, and Breezy Corners, a vacant colony at 130 Joyland Road. East of the Project Site is the hamlet of Thompsonville. The hamlet has a few residential and commercial uses but does not have a distinct center or community center. Southwest of the Project Site is the Village of Monticello. The major roadway in this portion of the Village is Broadway, which was the historic access to Monticello prior to the construction of NYS Route 17. On either side of Broadway are a variety of commercial uses and vacant storefronts.

e. Impairment status and impairment type of aquatic resources

The NYSDEC assigns a class and standard designation based on existing or expected best usage of each water or waterway segment occurring within the State. The following classifications are assigned:

- The classification AA or A is assigned to waters used as a source of drinking water.
- Classification B indicates a best usage for swimming and other contact recreation, but not for drinking water.

- Classification C is for waters supporting fisheries and suitable for non-contact activities.
- The lowest classification and standard is D.

Waters with classifications A, B, and C may also have a standard of (T), indicating that it may support a trout population, or (TS), indicating that it may support trout spawning (TS). Special requirements apply to sustain these waters that support these valuable and sensitive fisheries resources.

Small ponds and lakes with a surface area of 10 acres or less, located within the course of a stream, are considered to be part of a stream and are subject to regulation under the stream protection category of Protection of Waters.

Certain waters of the state are protected on the basis of their classification. Streams and small water bodies located in the course of a stream that are designated as C(T) or higher (i.e., C(TS), B, or A) are collectively referred to as "protected streams," and are subject to the stream protection provisions of the Protection of Waters regulations.

Within the EPT Concord site, Kiamesha Creek and associated golf course ponds are Class C. This creek is classified as Class A upstream (between the Concord property and Kiamesha Lake) and as Class B along the northeastern property boundary. An unnamed creek internal to the property is assigned Class B, and Tannery Creek is assigned Class C (Figure 16).

f. Percent agriculture, forested, wetland, developed, etc.

The EPT Concord property is currently about 40% manicured golf course features (including ponds and streams) and 60% forest and forested wetland.

g. Size/Width of natural buffers (describe, show on map)

As described above, existing wetlands within the site are generally forested wetlands situated between playable golf course holes (and associated tee boxes, fairways, and greens), and as such, have little value as natural buffers. For the restoration areas, the restoration of forested wetland to areas of golf course will increase the size of contiguous forest/forested wetland areas on the property, and will also serve as buffer between the Tannery Brook / Kiamesha Creek floodplain and proposed development elements.

h. Current owner (s)

The current owner of the Concord site is:

Entertainment Properties Trust

909 Walnut St., Suite 200

Kansas City, MO 64106

i. Adjacent property owners

A list of adjacent property owners to the Concord site are provided in Section G of Volume I of this application.

j. Existing wildlife usage (including but not limited to State and federally listed species)

Reptiles and amphibians

The Project Site contains streams and ponds that are likely to support numerous amphibians and aquatic or semiaquatic reptiles. Of these, species that breed in aquatic habitats and then migrate to upland areas are also likely to occur in the Project Site's terrestrial habitats outside of the breeding season. The Project Site's woodlands and wetlands are potentially inhabited by several species of reptiles and amphibians associated with these habitat types. The NYSDEC Herp Atlas Project documented 13 species of reptiles and amphibians in the census block in which the Project Site is located (Monticello USGS Quadrangle). Each of these species is considered to have the potential to occur within the Project Site. Northern red-backed salamander (*Plethodon cinereus*) and northern dusky salamander (*Desmognathus fuscus*) were recorded within the Project Site during previous wildlife surveys by William Kenny Associates and the LA Group. The caretaker of the Monster Golf Course has reported observing copperheads (*Agikstrodon contorix*) within the Project Site.

Birds

Over 200 species of birds occur in Sullivan County (Freer et al. 2008), owing to the Catskill region's large forest tracts and habitat diversity. Some are present year-round, whereas others only nest in, overwinter in, or migrate through the area. The 2000-2005 Breeding Bird Atlas documented 77 species as possible, probable, or confirmed breeders in Block 5261C, the three square mile census block in which the Project Site is located. Considering their habitat requirements, nearly all of these have the potential to breed within the Project Site specifically. The birds documented by the Breeding Bird Atlas that are also expected to nest within the Project Site include those associated with moderate sized blocks of upland, deciduous and mixed coniferous-deciduous forest, old field and early successional shrubland, freshwater streams, ponds, and their associated riparian habitats, manicured areas such as golf courses, and degraded habitats around buildings and along roadsides.

Bird species that are expected to occur within the Project Site during winter include waterfowl such as mallard (*Anas platyrhynchos*) and Canada goose (*Branta canadensis*), landbirds such as black-capped chickadee (*Poecile atricapillus*), tufted titmouse (*Baeolophus bicolor*), whitebreasted nuthatch (*Sitta carolinensis*), dark-eyed junco (*Junco hyemalis*), white-throated sparrow (*Zonotrichia albicollis*), tree sparrow (*Spizella arborea*), downy woodpecker (*Picoides pubescens*), red-bellied woodpecker (*Melanerpes carolinus*), northern flicker (*Colaptes auratus*), and wild turkey (*Meleagris gallopavo*), and raptors such as red-tailed hawk (*Buteo jamaicensis*), sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), barred owl (*Strix varia*), great-horned owl (*Bubo virginianus*), and saw-whet owl (*Aegolius acadicus*).

Some bird species that are not expected to nest or overwinter within the Project Site may occur briefly during spring and autumn migration. Examples include Swainson's thrush (*Catharus ustulatus*), palm warbler (*Setophaga palmarum*), cerulean warbler (*Setophaga cerulea*), blackpoll warbler (*Setophaga striata*), golden-crowned kinglet (*Regulus satrapa*), and rubycrowned kinglet (*Regulus calendula*).

Birds observed within the Project Site during October 2004 and reported by William Kenny Associates LLC and the LA Group are reported separately. As was done for the 2014 Plan Site, additional wildlife surveys of the development areas proposed under future phases will be conducted as part of the environmental review of future phase of the Proposed Project.

Mammals

The golf course and developed areas within the Project Site likely support several species of synanthropic, generalist species of mammals that are tolerant of disturbance, such as gray squirrel (*Sciurus carolinensis*), Norway rat (*Rattus norvegicus*), house mouse (*Mus musculus*), eastern mole (*Scalopus aquaticus*), star-nosed mole (*Condylura cristata*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), woodchuck (*Marmota monax*), eastern cottontail (*Sylvilagus floridanus*), and white-tailed deer (*Odocoileus virginianus*). On the basis of their habitat associations and geographic range (Whitaker 1996, Kays and Wilson 2002), the mammals expected to occur in the Project Site's woodlands, shrublands, wetlands, and/or other native habitats include the species above, as well as: smoky shrew (*Sorex fumens*), least shrew (*Cryptotis parva*), short-tailed shrew (*Blarina brevicauda*), North American porcupine (*Erethizun dorsatum*), muskrat (*Ondatra zibethicus*), American beaver (*Castor canadensis*), northern flying squirrel (*Glaucomys sabrinus*), red squirrel (*Tamiasciurus hudsonicus*), eastern chipmunk (*Tamias striatus*), North American deermouse (*Peromyscus maniculates*), southern red-backed vole (*Clethrionomys gapperi*), rock vole (*Microtus chrotorrhinnus*), eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), northern myotis (*Myotis septentrionalis*), big brown bat (*Eptesicus fuscus*), bobcat (*Lynx rufus*), eastern coyote (*Canis latrans*), red fox (*Vulpes vulpes*), black bear (*Ursus americanus*), fisher (*Martes pennati*), and long-tail weasel (*Mustella frenata*).

The following mammals (or their tracks or other signs) were observed within the Project Site during autumn of 2004 and reported by William Kenny Associates and the LA Group: white-tail deer, gray squirrel, red squirrel, eastern chipmunk, eastern cottontail, river otter (*Lontra canadensis*), woodchuck, beaver, and eastern coyote. The caretaker of the Monster Golf Course has reported observing eastern coyote, black bears, and fisher within the Project Site.

T&E Species / Species of Special Concern

The USFWS list of Federally threatened, endangered, candidate, or proposed species for Sullivan County includes dwarf wedgemussel (*Alasmidonta heterodon*), northern wild monkshood (*Aconitum noveboracense*), and bog turtle (*Clemmys muhlenbergii*). NYSDEC's NHP does not have records of any federally or State-listed species within 0.5 miles of the Project Site (Pietrusiak 2012). Non-breeding bald eagles (*Haliaeetus leucocephalus*) have been recorded along an area of the Neversink River, approximately 1.3 miles east of the Project Site's eastern boundary (Sheeran 2012).

The osprey, which is a species of special concern in New York, was the only listed bird species documented by the 2000-2005 Breeding Bird Atlas in the census block in which the Project Site is located. No reptiles or amphibians documented by the Herp Atlas Project in the Monticello quadrangle are Federally or State-listed. No Federally or State-listed wildlife or plant species were observed at the Project Site during previous surveys by William Kenny Associates and the LA Group. The State-listed red-shouldered hawk (*Buteo lineatus*; special concern) was the only listed species observed during site visits by AKRF in the spring of 2012.

On the basis of their habitat associations and range within New York, the following additional State-listed wildlife species are considered to have the potential to occur within the Project Site:

Sharp-shinned hawk (special concern), Cooper's hawk (special concern), Jefferson salamander (special concern), and blue-spotted salamander (special concern). No federally or State-listed mammals are expected to occur within the Project Site.

k. Known or potential cultural resources

The proposed 1,538-acre site was included in a number of cultural resources surveys that were conducted as part of the approximately 1,735-acre CALP proposed development of the Concord Resort. The CALP project completed Phase 1A and Phase 1B literature review and archaeological sensitivity assessments (Hartgen Archeological Associates, Inc.). The Phase 1A archaeological assessment was prepared for the full approximately 1,730-acre CALP proposed development that includes the Project Site and concluded that level areas in the vicinity of wetlands were sensitive for the presence of pre-contact resources and identified through cartographic analysis the location of several historic homesteads. Phase 1B archaeological testing was undertaken for specific parcels or sections of the Project Site located north and east of the proposed 2014 Plan Site.

Based on the Historic Resources Inventory Forms, SHPO considered several properties as NR eligible (See SHPO correspondence dated February 15, 2008, in Appendix L of the DGEIS).

To continue the cultural resource investigations and to determine the presence or absence of archaeological resources within the Casino Resort portions of the Project Site, Strata Cultural Resource Management, Inc. conducted an archaeological survey Casino Resort development area (formerly referred to as Phase 1 in the DGEIS in 2012) that is defined by the proposed EPT Concord Resort development. The survey entailed the excavation of shovel test pits across those portions of the Project Site previously determined to possess potentially sensitive archaeological resources and to analyze any artifacts recovered. In addition, an historic resources survey was also undertaken for the Casino Resort portion of the Project Site including the ¼ mile study area to identify properties that could meet the above listed NR criteria but have not been reviewed by SHPO for eligibility.

Historic Resources Inventory Forms were prepared for these properties and submitted to SHPO for review on April 26 and May 7, 2012. In a letter dated June 14, 2012, SHPO provided determinations of eligibility on these properties.

As part of the generic review there are no S/NR listed or previously identified archaeological resources located on the 1,538-acre Project Site. The archaeological sensitivity of the Project Site was evaluated through the completion of the following cultural resource surveys between 2000 and 2008 on behalf of CALP (the predecessor in interest and affiliated companies) for the Site:

- Stage 1A Literature Review and Sensitivity Assessment of the Concord Resort and Convention Center (CityScape 2000).
- Phase 1A Literature Review and Archaeological Sensitivity Assessment. This assessment reviewed the approximately 1,730 acres of the prior CALP project and identified level areas near fresh water sources as sensitive for prehistoric resources and areas around historic structures or map documented structures as sensitive for historic resources (Hartgen 2006).
- Phase 1B Archaeological Field Investigation). Hartgen excavated 1,450 shovel test pits across a 425-acre portion of the CALP Project Site on the north east side (Parcel I). No archaeological resources were identified (Hartgen 2007).

- Phase 1B Archaeological Field Investigation. Hartgen excavated 305 shovel test pits across a 40-acre portion of the property on the west side of CALP Project Site, close to Kiamesha Lake (CALP Parcel H2). No archaeological resources were identified (Hartgen 2008).

The surveys conducted on behalf of the prior CALP project involved the completion of a site file search for previously identified resources, background research, a site walkover, and in some cases subsurface testing. In correspondence dated February 15, 2008, SHPO concurred with the findings of the above archaeological investigations. It was noted in the Hartgen 2006 report that undisturbed, level areas that were not the subject of subsurface testing would still require future analysis.

EPT is currently consulting with SHPO with respect to potential impacts on cultural resources in the portion of the project site formerly known as Phase 1 (SHPO Project Review Number 12PR02447) and will continue to consult with SHPO as development of the project site proceeds.

l. Historic Resources

There is one known historic resource on the EPT Concord Resort Project Site: a portion of the Breezy Corners Bungalow Colony at 253 Joyland Road. Two additional properties, the H. Rumsey House and Echo Mountain Bungalow Colony on Thompsonville Road, are located adjacent to the Project Site.

As part of their review of the previous CALP project, SHPO determined a property referred to as the J. Gray House and Barn, as NR eligible. The barn is located approximately 450 feet north of Thompsonville Road, approximately 75 feet from the west side of Chalet Road. It is across Chalet Road from a former house at 18 Chalet Road. The barn was originally associated with a mid-19th century house at 18 Chalet Road. The house and barn were determined S/NR eligible by SHPO on February 15, 2008. 2 The barn is two stories, with a rectangular plan and a gable roof. It is in poor condition and has been altered including changes to the south bay for use as a garage and alterations to the east (Chalet Road) façade including additional windows which are either open to the elements or sealed with plywood. The house associated with this barn was demolished prior to the acquisition of the Project Site by the current Applicant. On April 26, 2012, as part of the Proposed Project, the Applicant requested SHPO's re-evaluation of the eligibility of the barn in light of the demolition of the associated house. In a letter dated June 14, 2012, SHPO determined that the J. Gray Barn is not individually NR eligible.

As part of their review of the previous CALP project, SHPO determined two other properties S/NR eligible. These two properties, the H. Rumsey House and Echo Mountain Bungalow Colony, are located at 374 Thompsonville Road and are adjacent to the Project Site. Both properties were determined S/NR eligible by SHPO on February 15, 2008.3 The H. Rumsey House is a two-story frame farmhouse sheathed in clapboard. The house has an L-shaped plan and is set on a high stone basement. The principal (Thompsonville Road) façade faces north. The building has a number of alterations that date to the late 19th or early 20th centuries, including the creation of multiple entries on the south elevation, likely associated with the conversion of the property to vacation bungalows. The interior retains most of its original Greek Revival décor, including two-paneled doors and turned newel and balusters on the main staircase.

In the early 20th century the farm on which the farmhouse was situated was converted to a bungalow colony known as Echo Mountain Bungalow Colony. About a dozen one-story bungalows and a small community building were built along an old farm road to the east of the

former H. Rumsey House and set around a small green. The bungalows are typically wood-framed structures clad in clapboards, set on concrete blocks. Most have enclosed porches. The community building is a larger rectangular wood-framed structure that is composed of one room with paneled wood walls. It is likely that the farmhouse also offered accommodations and served as an office for the bungalow colony. As part of the DGEIS for the approximately 1,538-acre EPT Resort project and within the APE for the DEIS, the Breezy Corners Bungalow Colony at 253 Joyland Road is located southwest of the intersection of Thompsonville and Joyland Roads. The Breezy Corners Bungalow Colony consists of vacation cottages, ranch style houses, a swimming pool, basketball courts, and a casino/recreation hall. Historic maps indicate the bungalow colony was developed sometime between 1943 (1943 Military/USACE map) and 1982 (1966/1982 USGS). Online property records indicate the presence of a ranch-style house constructed in 1952-58 and other structures built on the site between 1952 and 1971.1 The majority of the bungalows date to around 1952. A few of the bungalows are mobile homes, which online property records indicate date to 1971.

The bungalows are primarily set back from Joyland Road and grouped in a U-shape around the swimming pool. The bungalows are typically single and paired structures of one story, clad in clapboard and with gable roofs. The bungalows typically have associated porches or uncovered wood decks. Photographs dating from about 2005 indicate that the interiors of the bungalows are of a simple and rustic design, with wall paneling, some decorative millwork at the windows and doorways, and carpeted or faux wood flooring. A longer bungalow building is located along Joyland Road that is single story with a central second-story addition. Besides containing a number of vacation units, it is likely that this building also contained offices of the Bungalow Colony, as a “Welcome to Breezy Corners” sign was located in front of this building. South of this building and set back farther from Joyland Road is a larger structure that served as the bungalow colony’s casino/recreation hall. The building is a long, one-story shed-like structure with a gable roof and with a cover porch at its northern end. A rectangular in-ground swimming pool is west of the central bungalow/office building and former basketball courts south of it.

Historic information, including a Historic Resources Inventory Form, was submitted to SHPO in May 2012. In a letter dated June 14, 2012, SHPO determined that a portion of the Breezy Corners Bungalow Colony is eligible for listing on the NR, and provided findings as to which buildings on the property contribute to its significance. These include the grouping of bungalows surrounding the swimming pool and the bungalow/office building located along Joyland Road.

The approximately 1,538-acre Project Site also contains other structures, including another vacant bungalow colony, cottages, farmhouses, and barns over 50 years old, which have yet to be evaluated for S/NR eligibility. As the EPT Concord Resort CDP is developed, additional study, documentation, and consultation with SHPO will be sought to determine if there are additional properties eligible for S/NR listing and appropriate APEs for the identification of historic resources will be determined. This review would be undertaken pursuant to SEQRA and any other applicable governing regulations, including Section 14.09 of SHPA and Section 106 of the NHPA if State or Federal undertakings would be involved.

None of these resources are located in or within sight of the proposed mitigation area.

m. Historic and current land use

Existing land uses on the 1,538-acre Project Site include residential, resort, recreation (existing and abandoned), commercial, and former agricultural uses. Several cottages, barns, houses, and bungalow colonies lie within the Project Site. Most are situated along the roadways that traverse

the property. Some have been abandoned or recently demolished. Dominating the character of the Project Site is the presence of the 7,650-yard Monster Golf Course, an 18-hole championship course considered one of America's 100 greatest golf courses. Approximately 5,000 visitors a year come to play the par-72 Monster Golf Course to be challenged by the long fairways and extensive bunkering. Although once neighbored by the International Golf Course (abandoned in 2008), a small ski area, and the extensive resort facilities that comprised the historic Concord Resort, the Monster Golf Course is now isolated and minimally supported by a small clubhouse and restaurant, and several outbuildings including a pump house and maintenance building. Three roadways traverse the property: Joyland Road, Thompsonville Road, and Chalet Road. Each of these roadways is local and maintained by the Town of Thompson. Thompsonville Road is a two-way, east-west roadway extending between Heiden Road (County Route 161) and Rock Ridge Drive.

n. Known listed hazardous materials sites

Between 1998 and 2004, Phase I and Phase II ESAs were performed for a 1,735± acre area that included the approximately 1,538 acres of the EPT Concord Resort Project Site that was the subject of the DGEIS/DEIS, the northwest-adjacent CALP property (the former Concord Hotel complex), and additional land area that expanded beyond the EPT Concord Resort Project Site boundaries to the north, east, south, and west. The 1,700-acre property that was studied at the time was reported as being vacant land with scattered residences since the early 1900s.

Development in the area began in the early 1940s, with the construction of the Concord Hotel complex. The main hotel was developed over time through the early 1960s,, and adjacent construction included several golf courses, including the Monster Course, International Course, and the nine-hole Challenger golf course adjacent to the hotel. By 1977, most of the existing improvements were present, including the Concord Service Gasoline Station, the ski lift, the Chalet Clubhouse, and various maintenance buildings.

The assessments were performed to identify Areas of Environmental Concern (AOCs), and the results documented that 24 AOCs required remedial investigation and/or remedial action. AOCs 1 through 3 were associated with the CALP and/or its affiliate property and included underground storage tanks (USTs) and pole mounted transformers associated with the hotel.

AOCs 4 through 9 included five locations on the Project Site (the chalet dump site, the casino dump site, Breezy Corners Bungalows dump area, and the cemetery dump site) and two locations beyond the Project Site boundary (the horse farm dump site, and the Mountain View residence). Reports and references to NYSDEC correspondence indicated that environmental issues associated with AOCs 4 through 9 were addressed through investigations and remedial efforts. Based on the documentation reviewed, it is not believed that further action is required. However, additional documentation may be needed to confirm this status. AOCs 10 through 24 (located on the Project Site) are included in a Brownfield Cleanup Agreement (BCA) that CALP and/or its affiliates have entered into with the NYSDEC.

Brownfield Cleanup Program

A BCA, dated May 19, 2005, exists between NYSDEC and CALP to investigate and remediate 14.5 acres of the original 1,700 acres currently owned by CALP (±160 acres) and EPT (±1,538 acres). The 14.5 acres were divided into five Operable Units (OU-1A, OU-1B, OU-1C, OU-2, and OU-3). Figure 17 shows the location of the OUs, the EPT Concord Resort Project Site boundary, and the location of the EPT Concord Resort development area. An amendment to the

BCA in August 2009 added 20 acres to OU-1A (CALP property), bringing the total BCA area to approximately 35 acres. A remedial investigation (RI) was completed in each OU to identify and delineate sources of contamination. RIs were conducted in accordance with NYSDEC-approved work plans and were completed in October 2008. With the exception of localized "hot spots" related to contaminated fill, the soil and groundwater contamination was primarily related to storage tanks and unregulated landfills. A summary of AOCs and the related contamination is included below.

- OU-1A – Adjacent CALP Property - AOC 1 through AOC 3 included underground storage tanks (USTs) along Route 109 and pole/concrete mounted transformers. Soil and groundwater contamination related to the USTs was present.
- OU-1B – Gas Station and Adjacent Disposal Area – AOC 12 through AOC 15 included leaking service station USTs, leaking hydraulic lifts and oil/water separators, and petroleum contaminated groundwater.
- OU-1C – International Golf Clubhouse and Maintenance Building Disposal Area – AOCs 10 and 11 included a dump area and an aboveground tank (AST). Pesticide contamination was found in soil from the dump area, and groundwater had elevated levels of metals attributed to naturally occurring conditions.
- OU-2 – Golf Maintenance Building and Adjacent Disposal Area – AOC 16 through AOC 23 included USTs (waste oil, fuel oil, diesel, and gasoline), pesticide storage, a transformer, ASTs, and a disposal area. Pesticide contamination was documented in soil around the maintenance building, and pesticides, volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and metals contamination were present in the disposal area. Groundwater contained elevated levels of metals, and benzene was detected in soil vapor above EPA soil gas screening levels.
- OU-3 – International Golf Course Disposal Area – AOC 24 included the disposal area where pesticides, PCBs, and metals were detected in the soil.

A Qualitative Human Health Exposure Assessment was completed in November 2008 and concluded that the likelihood of adverse health effects as a result of exposure to the site contamination is remote. A Fish and Wildlife Impact Analysis indicated fish and wildlife habitat did not exist in OU-1A, and there were no potential ecological risks to fish and wildlife resources in OU-1B and OU-1C. An ecological exposure pathway was reported to exist for OU-2 and OU-3, but no impacts to nearby receptors were documented. Proper remediation of the OUs would eliminate the risks.

A Remedial Action Work Plan (RAWP) for OU-1A was submitted to NYSDEC on October 3, 2008. An Interim Remedial Measures (IRM) Work Plan for OU-1B was submitted on October 31, 2008, and approved by the NYSDEC on December 3, 2008. The IRM Work Plan for OU-1B was incorporated into a RAWP for OU-1B, OU-1C, OU-2, and OU-3, which was submitted on December 5, 2008. The remediation plan for OU-1B and OU-1C included a Track 11 Unrestricted Use clean-up with removal of USTs (where applicable) and contaminated soil removal. The remediation plan for OU-2 and OU-3 included a Track 21 cleanup with UST removal (where applicable) and contaminated soil "hot spot" removal. In May 2011, a NYSDEC Fact Sheet was released indicating that remediation in OU-1C was planned to begin in June 2011, followed by remediation of OU-1B. The remediation schedule for OU-2 and OU-3 was not provided.

o. Contaminants in water and sediments (e.g. heavy metals, PCB's)

Known contaminants associated with OUs on the site are identified above. No site-specific testing of sediments and/or waters has been conducted for the mitigation areas because the historic use of these areas has been as golf course features.

3. Watershed

a. Description of landscape connectivity

Beginning to the northwest of the Project Site, Kiamesha Lake is the headwater of Kiamesha Creek which discharges to the south and enters the western boundary of the Site via a culvert at Rock Ridge Drive. At the southwestern portion of the site, Kiamesha Creek converges with two other watercourses (Tannery Brook and an unnamed watercourse). From there, the Creek flows north through the central portion of the site and the existing golf course areas. At the northeastern portion of the site, Kiamesha Creek turns east and south where it flows along the eastern boundary of the Project Site adjacent to Heiden Road (Route 161). Once leaving the site, Kiamesha Creek joins with Sheldrake Stream, which flows into the Neversink River, approximately one mile from the Project Site's easternmost boundary.

Eight lacustrine systems (ponds/lakes) are located on the existing golf courses and in the forested portions of the Site. Most of these are located on the golf course and consist of constructed water features located within the playing boundaries of the golf course, typically within the floodplain of Kiamesha Creek. These ponds range in size from 0.8 to 5.0 acres with a maximum depth of approximately 5 feet and an average depth of 4 feet. The majority of these ponds are connected to Kiamesha Creek by surface ditches or culverts. All of the ponds within the golf course were created through the widening of Kiamesha Creek channel into a pond shape, enlarging smaller water features, or excavating an upland or wetland to create persistent standing water. Shoreline vegetation of the ponds is limited to manicured lawn or herbaceous vegetation that is routinely mowed.

Two waterbodies comprise the vegetated lacustrine (ponds/lakes) habitats on-site. These ponds differ from the golf course ponds in being located in a forested or unmaintained setting. Both were man-made likely through the excavation of wetland areas to encourage fisheries recreation Similar to the golf course ponds, dredge spoils are found in mounds or berms around and adjacent to the shorelines of these systems. However, because they are less managed, a more diverse assemblage of vegetation is found around the perimeters of these systems, mostly a red maple-dominated wetland habitat with lacustrine fringe vegetation in the form of non-persistent emergent and submergent vegetation, such as spatterdock, pond lily, and wild celery. The maximum depths of these waterbodies range from 6 to 10 feet, with an average depth of between 3.5 and 6 feet. The two vegetated ponds have both permanent outlets and inlets.

The Project Site is not mapped as a Primary Aquifer by New York State. However, it is mapped as a "Principal Aquifer," defined as "aquifers known to be highly productive or whose geology suggests abundant potential water supply, but which are not intensively used as sources of water supply by major municipal systems at the present time." Areas mapped as "Unconfined Aquifer 10 to 100 gallons per minute" or "Unconfined Aquifer more than 100 gallons per minute" are considered to be Principal Aquifers unless contradictory site specific information is made available to the NYSDEC. An area mapped as "Unconfined Aquifer, 10 to 100 gallons per minute – Sand and gravel with saturated zone generally less than 10 feet thick, or thicker but with less permeable silty sand and gravel" underlies the majority of the Project Site. (TOGS 2.1.3; Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York – Lower Hudson Sheet, Bugliosi, Edward F.; Trudell, Ruth A., 1988).

On-site wetlands and waters were delineated in accordance with NYSDEC and USACE methodology. The regulatory boundaries of all on-site wetlands were verified by the NYSDEC in 2007 and by the USACE in 2008. Additional wetlands located beyond the original Project Site boundary have been examined in May/June 2012 by the NYSDEC and USACE. A more recent assessment (August 2012) of one impacted wetland (Wetland 45b) in 2012 observed that this wetland (2.84 acres) exhibited variable microtopography and many upland plant species. Based on this preliminary observation, data from the four randomly spaced east-to-west transects in this wetland resulted in a calculation product of 34.3% of Wetland 45B (0.974-acre) being designated as likely Jurisdictional Wetland. The remaining 65.7% of the area (1.866-acres) was designated as non-wetland hummocks and upland transition areas occurring within the previously delineated wetland boundary. It was recommended that Wetland 45 B be re-delineated using the protocols outlined in U.S. Army Corps of Engineers 2011 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: North Central and Northeast Region (Version 2.0, January 2012) for assessment of "Difficult Wetland Situations" with regard to "Wetland/non-wetland mosaics".[1]

The delineated wetlands and their regulatory designation are shown in Figure 2. Several wetland areas were found to be outside of the jurisdiction of the NYSDEC and USACE (non-jurisdictional) due to the fact that they have no surface connection to other wetlands or waters.

The on-site wetland areas have been grouped by vegetative structure and type (hydrogeomorphic, or HGM) class, as described above.

b. Describe aquatic resource concerns in the watershed

According to the NYS Department of Environmental Conservation in its 2001 Delaware River Basin Waterbody Inventory and Priority Waterbodies List, potential sources of nutrients and other inputs to the stream include the Monticello and Kiamesha Lake wastewater treatment plants and runoff from the Concord Golf Course, through which the stream runs. In addition, construction activity at the Sullivan County Landfill had been previously cited as causing intermittent turbidity problems is a tributary (Tannery Brook); however the landfill has been capped and improved erosion and sediment control practices have taken effect (NYS Department of Environmental Conservation 2002).

c. Proximity and connectivity of existing aquatic resources and natural upland areas (show on map)

The existing aquatic resources within the property include natural ponds in forested areas, manmade or maintained ponds within the existing golf course, and artificial, managed, or natural channels. These features generally flow downhill toward the Tannery Brook/Kiamesha Creek complex, and are generally discharged to the creek complex through artificial structures, culverts, or other conveyances. The onsite aquatic resources exhibit a high degree downslope connectivity to Kiamesha Creek, although some maintained features (e.g., golf course ponds, ditches, etc.) may serve as sediment and nutrient sinks. Upstream connectivity for aquatic biota (e.g., fish and amphibians) is somewhat limited by the presence of water management features such as outfalls and culverts. Surface waters and wetlands are highlighted in Figure 16.

[1] Wetland 45B is located within the infield of the proposed harness track. Removal of overstory vegetation in this wetland is planned to provide lines-of-sight from the proposed grandstand; however no or minimal fill will be placed in this wetland.

d. Amount of aquatic resource area that the impact site represents for the watershed and/or region (i.e., by individual type and overall resources)

The project site (property) includes approximately 290 acres of wetlands of various types, including forested hillside, forested and herbaceous floodplain, and natural and artificial watercourses. Project impacts to wetlands comprise 7.87 acres – a small fraction of the wetlands on the property. In terms of the larger Kiamesha Creek watershed, and considering proposed in-kind mitigation, the wetland impacts associated with the proposed project are minor when considered on a landscape scale, and no net adverse impacts to the watershed's aquatic resources are expected.

e. Documentation of local coordination

To develop the EPT Concord Resort, the Applicant has petitioned and received an amendment to the Town of Thompson Planned Resort Development ("PRD") section of the zoning law (Town Code §270-27.2). When the PRD Zoning Law was originally adopted in 2006, the entire 1,735± acre property within the PRD zoning district was owned or controlled by CALP. In November 2006 the Town Board approved a CDP, a requirement of the PRD, for the 1,735± owned or controlled by CALP. In 2008 the Town Board amended the CDP to include a casino and harness horse racetrack facility. However, in June 2010, CALP, without completing any phases of construction, surrendered ownership and/or control over the majority of the land within the PRD zoning district and CDP. Subsequently, the Applicant determined that a new master plan was needed to meet current market demands for their 1,538+ acres.

The proposed zoning text amendments allow the development of a CDP by any property owner that meets the minimum PRD site requirements or has received prior approvals and associated development rights before this Proposed Action. The proposed PRD zoning amendments do not affect the previous approvals or development rights received by CALP for the 160± acres it owns or has certain lease rights to, nor would they be affected by the Applicant's development plans. The full text of the proposed zoning amendment can be found in Appendix A-1 of the Project's DGEIS.

4. Wetland Classification and Functional Assessment

a. Classification of the wetlands

Classifications are recognized definitions that are based on consistent standards. As such, their use allows for the presentation of information in a clear and brief formal. Following extensive field evaluations, the onsite wetlands and watercourse systems were organized into over 60 discrete wetland areas, and then grouped by hydrogeomorphic (HGM) class and vegetative structure by W. Kenny Associates (W. Kenny Associates, 2006). The HGM classification is an evaluation methodology that uses the geomorphic setting, the water source, and the transport and hydrodynamics of the evaluated wetland to infer information regarding the functional capacity of the each system (Magee 1998). In wetlands where the vegetative structure was equivalent, i.e. forested wetlands, distinctions were drawn based on vegetative composition. Eleven wetland groups resulted from this organization technique, and descriptions of each of the systems are presented. These wetland areas occupy more that 324 acres of land, or 19 percent, of the approximately 1,735 acre PRD-zoned property. The classification of the onsite wetlands into the 10 primary groups allows for a clear evaluation of the functional capacity of each of these systems to perform basic wetland functions.

The descriptors that precede each of the vegetative communities relates to the HGM class of the wetland. Of the six HGM classes presented by Magee, the onsite wetlands represent four of these classes: slope, riverine, depression, and lacustrine fringe. The HGM classification method has designated the six classes based on geomorphic setting, i.e. how was the wetland created, water source, i.e. how is the wetland supported, and transport and hydrodynamics, i.e. how does the wetland function. Slope wetlands are wetlands on a hillside of any gradient, and are typically supported by groundwater. Depressional wetlands are found within an area of lower elevation than the surrounding land, and may be hydrologically supported by surface flow, groundwater. and direct precipitation. Riverine wetlands occur adjacent to a river or stream system, and are supported exclusively by overbank flooding from the adjacent riverine system. Lacustrine fringe wetlands are directly attached to or border a lacustrine system, and are supported by surface water flow.

Forested Red Maple Slope Wetland Systems

Red maple dominated forested wetlands are present throughout the project site, and are the most represented wetland type onsite, with 25 of the 60 plus evaluated wetlands systems comprised of a red maple slope system. This wetland ecosystem may be found occupying broad areas with shallow slopes, at the heads of sub-watersheds or bordering small feeder streams to Kiamesha Creek, bordering larger stream systems, and in isolated, depressional areas, although the dominant HGM class of this wetland on-site is the slope. The red maple wetlands, in general, display a mature canopy, and may contain scattered individuals of yellow birch, white pine or Eastern hemlock in the canopy layer (W. Kenny Associates, 2006).

In some wetland systems, white pine may be a co-dominant canopy tree with red maple, while in others Eastern hemlock may occupy a co-dominant position. The transitions between a red maple dominated wetland system and an Eastern hemlock dominated wetland system are the areas where the red maple shares a co-dominant position with the hemlock. In contrast, as white pine is not a true wetland species, it is typically found in a co-dominant or sub-dominant position within the vegetative assemblage of the wetland (it may, however, dominate the shrub layer). In some areas of the property, particularly in the northeastern portion of the site, American beech is a strong subdominant species, and in one area co-dominant, position with the red maple canopy. The shrub layer within the red maple wetlands is variable: it can be absent, moderately dense, or thick depending upon location on the property. Shrub species generally include highbush blueberry, while pine, arrow wood, iron wood, winterberry, American beech, yellow birch, and gray birch. Groundcover displays a similar variability, depending upon location, and it is comprised of species such as cinnamon fern, sensitive fern, and sphagnum moss (W. Kenny Associates, 2006).

The topography within this class of red maple wetlands is sloped, with water flows predominantly unidirectional in line with, or parallel to, the slope vector. The water source of these wetland systems is generally seasonally high groundwater, although precipitation may contribute to seasonally wetted areas. In some areas, characteristic "pit and mound" wetland topography is present, with vegetation taking foot on the mounds and open areas comprising the pits; however, this topography may be considered a subset within the larger sloped wetland system (W. Kenny Associates, 2006).

Forested Red Maple Low-Gradient Slope Wetland Systems

A distinction is made between the slope wetland systems and wetland systems with a lesser slope gradient. This distinction is necessary as the gradient of the slope may affect the capacity

of the wetland to perform the characteristic wetland functions. The vegetative assemblage within the low-gradient slope wetland is similar to that of the slope wetland system. The hydrodynamics of the low-gradient slope wetland appears to differ slightly from the slope wetland, as the hydrology of the low-gradient slope wetland system is driven exclusively by groundwater. In contrast, the hydrology of the slope wetland system, though dominated by groundwater, is also periodically influenced by both surface water and precipitation (W. Kenny Associates, 2006).

Forested Red Maple Riverine Wetland Systems

The characteristic red maple ecosystem is found in four locations bordering portions of the watercourses present on the subject parcel. The watercourses are both the small first order feeder streams, in addition to the larger watercourse systems, such as Kiamesha Creek or Tannery Brook, which meander through the property. As with the other red maple dominated wetlands, the composition of vegetation is similar, but the hydrology and landscape position is distinct. The riverine red maple wetland does display individuals and clumps of Rosebay rhododendron in the shrub layer, which is dissimilar to the sloped red maple systems. The hydrology of these systems is driven by overbank flooding from the watercourse proper, as opposed to a groundwater source (W. Kenny Associates, 2006).

Forested Red Maple Depressional Systems

Seven depressional red maple ecosystems are observed on the subject parcel. These systems are characterized by their topography, where they occupy a closed contour surrounded by upland areas. The upland boundary that surrounds the perimeter of a depression is a distinguishing feature of this HGM class, as the upper boundaries of the other HOM classes described typically abut one another (e.g. riverine wetland abutting a slope wetland). The majority of the depressions observed on the subject parcel contains a permanent or ephemeral inlet and/or an outlet, and as a result are not necessarily isolated systems adjacent to the golf course. The hydrology of depressional systems is dominated by groundwater, with, in general, the presence of a perennial inlet and no outlet indicating a groundwater recharge area, and the presence of a perennial outlet with no inlet demonstrative of a groundwater discharge area (W. Kenny Associates, 2006).

Forested Eastern Hemlock Slope Wetland Systems

Similar to the red maple forested wetlands, Eastern hemlock dominated forested slope wetlands are present throughout the site. In general, these wetlands are found flanking a watercourse within the base of a stream valley, though overflow from the adjacent watercourse is not driving the hydrology in these systems: groundwater is the primary determinant of hydrology. The dense and persistent canopy cover within the hemlock wetlands limits the extent and diversity of vegetation in the remainder of the forest strata with little to no groundcover or shrub layer being the most common condition. The characteristic understory shrub within the hemlock forest is a native rhododendron: Rosebay rhododendron. The Rosebay is present in areas with canopy gaps, and comprise such dense thickets that passage is impossible except on hand and foot. As described above, in those areas in which the canopy is transitioning from red maple to Eastern hemlock dominated, the hemlock may share a co-dominant position with the red maple. There are a few locations on site where a canopy comprised of red maple, white pine and Eastern hemlock is observed. One of the most visible qualities within a forested hemlock wetland is the homogeneity of the system. Generally, there is a limited diversity of vegetation, and these systems may occupy a large amount of land area. For example, while the Eastern hemlock

dominated slope wetlands onsite are noted in 10 wetland groups, compared to 25 slope red maple wetlands, the land area occupied by the hemlock slope wetlands occupies 108 acres of land, compared with 78 acres of the red maple. These systems are found most often in sloped wetland regimes, where groundwater controls the hydrology and water flow is parallel to the slope vector (W. Kenny Associates, 2006).

As such, the ground surface within these sloped wetlands is pitched towards the adjacent watercourse or riverine system. The characteristic topography within the larger sloped systems is the "pit and mound" topography previously described. However, the pit and mound topography observed within the hemlock system is more deeply defined, with an approximate three-foot difference between the elevations in the pits versus the elevation in the mounds in some areas. These areas are also identified for the shallow depth to bedrock, with a scant amount organic material (fibric and hemic) comprising the interface between the forest floor and the underlying bedrock. Additionally, compared to the red maple dominated wetland systems, the slopes within the slope wetland class with hemlock dominance are generally shallower than that of the red maple dominated slope systems (W. Kenny Associates, 2006).

Forested Eastern Hemlock Low-Gradient Slope Wetland Systems

As with the red maple ecosystems, the differences between the slope and low-gradient slope hemlock systems are as the description implies: the extent of the slope. The purpose of identifying these differences pertains to the impact of slope gradient on wetland function. There two large wetlands that is subject to this description located in the southwestern portion of the site. In this wetland, an overall low-gradient exists with the characteristic pit and mound comprising the dominant microtopography. The understory is moderately dense to absent, and where present is comprised almost exclusively of the Rosebay rhododendron. Groundcover is generally absent (W. Kenny Associates, 2006).

Forested Eastern Hemlock Riverine Systems

As described above, hemlock dominated wetland systems are found bordering larger watercourse system and small feeder streams throughout the property. The hydrology in these systems is controlled by overflow from the watercourse, with the upper limits of these wetlands generally transitioning to another wetland system, as opposed to an upland environment. Though there are large areas of hemlock located adjacent to riverine systems on the propel1y, there are only a few riverine controlled hemlock wetlands. The reason for this is the hydrology of majority of the hemlock wetlands is controlled by groundwater flow from an upgradient slope, as opposed to riverbank overflow (W. Kenny Associates, 2006).

Forested Eastern Hemlock Depressional Systems

Wetland depressions dominated by Eastern hemlock are located throughout the subject parcel. These areas are typically limited in size, and often contain a higher diversity of vegetation than the larger, slope systems. Typically within the depressional wetlands, red maple and/or white pine are a strong subdominant canopy tree to the Eastern hemlock (W. Kenny Associates, 2006).

A moderately dense shrub layer is comprised of saplings from the canopy, and fruit bearing shrubs, such as high bush blueberry. Groundcover comprises species such as cinnamon fern, and in wetter areas, sphagnum moss (W. Kenny Associates, 2006).

Slope Wet Meadow Systems

Four sloped wet meadow ecosystems are located on the subject parcel, and cover a limited land area. These meadows arc dominated by herbaceous vegetation such as soft rush, wool grass, various goldenrods, narrow-leaved cattail, sensitive fern, and purple loosestrife. The slope meadow wetlands transition to forested slope wetlands or to riverine ecosystems (W. Kenny Associates, 2006).

Depressional Scrub/Shrub

Two depressional successional scrub/shrub wetland are located on the subject parcel. This area appears to have been used at one time as a borrow pit, and had since been abandoned. This area is occupied in wetter areas by narrow-leaved cattail, sphagnum moss, common reed, wool grass and sensitive fern , while in the drier portions of the wetland shrub species such as highbush blueberry and sapling gray birch dominate. Forested upland surrounds this depressional system (W. Kenny Associates, 2006).

Wetland Impacts

Table 1 provides areas of impacts, by wetland ID and impact type, for the proposed Concord Resort.

b. Assessment of the functions and values of the wetland

Following the establishment of the eleven primary wetland groups on the subject parcel, the functional capacity of each of these systems was analyzed using the HGM methodology by W. Kenny Associates (W. Kenny Associates, 2006). As described below, the procedure based on the HGM classification assigns wetlands to one of six hydrogeomorphic classes based on the geomorphic setting, the water source, and the transport and hydrodynamics of the evaluated wetland. Once the hydrogeomorphic class is determined, the capacity of the subject wetland to perform eight functions is qualitatively assessed. A discussion of each of the wetland groups and their capacity to perform the eight wetland functions recognized in the HOM methodology is presented below. The HGM methodology was then used to estimate uplift in the Mitigation Areas for the eight functions addressed here.

HGM Functional Capacity Assessment Method

The biophysical elements (e.g. landscape position, geology, hydrology, substrate, and vegetation) of wetlands determine their functions and to what capacity they are performed. The functions they provide and the capacity of those functions vary from wetland to wetland. To better understand these differences as they relate to the onsite wetlands, a functional evaluation was completed for the wetlands identified. Each onsite wetland was assessed to determine its capacity to provide eight wetland functions:

1. Modification of groundwater discharge
2. Modification of groundwater recharge
3. Storm and floodwater storage
4. Modification of stream flow
5. Modification of water quality
6. Export of detritus
7. Contribution to abundance and diversity of wetland vegetation

8. Contribution to abundance and diversity of wetland fauna

This method assesses the relative importance of the wetlands for performing functions and provides a logical framework for observations, a structure for standardizing results, and a basis for achieving repeatable results among users. The completed wetland functional assessment was based on the author's professional judgment and the numeric theories, rules, and functional indicators included in the procedure (W. Kenny Associates, 2006). The capacity for the onsite wetlands to perform the wetland functions varies from wetland to wetland and from function to function. The differences are due to natural (hydrogeomorphic) and human (e.g. past and current land use activities) conditions. However, as described below, with the exception of the diversity of vegetation and associated wildlife habitat functions, the capacity of the wetlands to perform the characteristic functions are fairly consistent within each HGM class. This observation indicates that, again with the exception of the vegetation and wildlife components, the physical construct of wetland drives the performance of the majority of the HGM functions (W. Kenny Associates, 2006).

The following is a general description of each function and its potential societal value. In addition to the descriptions and summary provided below, hydrogeomorphic datasheets were completed in the field at each of the over 60 of the wetland areas (Appendix B of the Wetland Delineation Report prepared by W. Kenny Associates, 2006).

Modification of Groundwater Discharge

Modification of groundwater discharge is the capacity of a wetland to influence the amount of water moving from the ground to the surface. Typically, a perennial inlet and outlet indicates that a wetland is directly linked with the regional water table and has a high capacity to perform this function. This can affect groundwater and surface water supplies and recreational activities (W. Kenny Associates, 2006).

Modification of Groundwater Recharge

Modification of groundwater recharge is the capacity of a wetland to influence the amount of surface water moving to groundwater aquifers and thereby affecting public and private groundwater supplies. The subsoil and location of a site play roles in the ability of wetlands to modify groundwater recharge. With the exception of slope wetlands, all wetlands have some capacity to contribute to this function. Poorly developed or no micro-topography is an indication that the water table is below the substrate of a wetland for most of the growing season and that groundwater recharge is occurring. Wetlands with perennial outlets are discharge areas and cannot be recharge areas, even seasonally (W. Kenny Associates, 2006).

Storm and Floodwaters Storage

Storm and floodwater storage is the capacity of a wetland to detain or retain stormwater on its surface. This benefits society by preventing storm damage and the loss of life and property. All wetlands, except slope wetlands, have some capacity to contribute to this function. Depressional wetlands have the highest potential for providing this function (W. Kenny Associates, 2006).

Modification of Stream Flow

Modification of stream flow is the capacity of a wetland to produce or affect the hydrology of a downgrade stream. This function may affect societal values related to recreation, public water supply, flood control, and prevention of storm damage. Wetlands that have a high capacity to store storm and floodwater and to modify groundwater discharge have a high capacity to modify

stream flow. All wetlands except those with no outlet contribute to the modification of stream flow (W. Kenny Associates, 2006).

Modification of Water Quality

Modification of water quality is the removal of suspended and dissolved solids from surface water and dissolved solids from groundwater and conversion into other forms, plant or animal biomass or gases. This function may contribute to societal values related to public water supply, recreation, and aesthetics. The primary mechanisms for the removal of suspended solids are sedimentation and filtration. Dissolved constituents can be removed or made unavailable for downstream plant use via adsorption and absorption by soil particles, uptake by vegetation, loss to the atmosphere by microbiological processes, or combination of the three. Flow characteristics and residence time are the primary wetland characteristics affecting the ability of a wetland to perform this function (W. Kenny Associates, 2006).

Generally, depressional, lacustrine fringe and flat wetlands have the highest potential for performing this function because typically the residence time of water is maximized. Conversely, slope wetlands have the least potential. However, the capacity to perform this function is directly related to the slope of the wetland system. For instance, the low gradient slope wetlands would allow a higher residence time of water than a typical slope wetland, and therefore would have a higher potential to perform this function (W. Kenny Associates, 2006).

Export of Detritus

Export of detritus refers to the ability of the wetland to produce and export dissolved and particulate organic particles to downstream aquatic ecosystems to serve as an energy source and support their food chain. Society may value this function as it relates to food web support, recreation (e.g. hunting and fishing), and the type and density of fauna supported by the wetland. The structure and composition of the wetland's vegetation affects the production of detritus and the degree of the wetland's surface water connection with a stream, river, or lake affects the transport of detritus. An increase in the productivity and diversity of an ecological community generally equates to a greater capacity to perform this function. Based on hydrogeomorphic conditions, riverine wetlands have the greatest potential for export of detritus due to an unrestricted outlet. Depressional and flat wetlands have the least potential because of their greater potential to retain suspended sediments (W. Kenny Associates, 2006).

Contribution to Abundance and Diversity of Wetland Vegetation

Contribution to abundance and diversity of wetland vegetation is related to the number and type of hydrophytic plants that a wetland can produce and support. Society may value this function as it relates to environmental research and education, recreation, the type and density of fauna supported by the wetland, and production of harvestable goods. Because wetlands support plant species that occur in wetter and dryer (upland) habitats and species that grow only in wetland habitats (poorly drained and very poorly drained soils), most wetlands have a high capacity to contribute to the abundance and diversity of a landscape's vegetation. The primary variables affecting a wetland's capacity to perform this function are its plant species diversity, its vegetation density and dominance, its water regime diversity, and its juxtaposition to other wetlands (W. Kenny Associates, 2006).

Contribution to Abundance and Diversity of Wetland Fauna

Contribution to abundance and diversity of wetland vegetation is the capacity of a wetland to support large and/or diverse populations of animal species that spend part or all of their life cycle in wetlands: either an individual wetland or a system or network of wetlands. Society may value this function as it relates to environmental research and education, recreation, aesthetics, and providing a source of food. A wetland's water regime is the primary factor affecting this function, as it largely controls the dominant vegetation type present and influences the animal movement to and within the wetland to food, cover and breeding areas. Other factors affecting the capacity of a wetland to contribute to the abundance and diversity of wetland fauna are the structure and composition of the vegetation continuity and the juxtaposition of the wetland to other habitat types (e.g., another wetland, upland forest, farm field, surface waterbody, etc.) (W. Kenny Associates, 2006).

HGM Functional Capacity Results

The majority of the on-site wetland groups demonstrate a medium-high capacity to perform the majority of the eight characteristic wetland functions of the HGM system (Table 4). For the most part, the functional capacity of each of the on-site wetlands is consistent amongst hydrogeomorphic types regardless of vegetative cover type. The exception to this observation relates to the functions of "contribution to the abundance and diversity of wetland vegetation" and "contribution to the diversity of wetland fauna". Both of these functions are directly related to the type of vegetation found within the wetland, and as a result, the difference between the potential of red maple wetlands and hemlock wetlands to contribute to these functions is distinct. Due to the relatively homogenous nature of the hemlock wetlands, and the lack of structural heterogeneity of the vegetation in the wetlands, the ability of these types of ecosystems to contribute to both the abundance and diversity of wetland vegetation and wetland fauna was considered to be low. In contrast, as the red maple wetland systems are structurally and vegetatively diverse, the ability of these wetlands to provide these functions was assessed at a high capacity. The depressional forested hemlock systems, however, exhibited a slightly higher diversity of vegetation than either the slope or riverine hemlock wetlands, and as a result, were evaluated at a moderate capacity for both vegetation and wildlife functions (W. Kenny Associates, 2006).

The remaining trends on the functional capacity table may be explained by the functional capacity of each of the different HGM classes. Slope wetlands, due to the comparatively low-residence time of water within these systems, provide low degrees of modification of groundwater recharge, storm and floodwater storage, and modification of water quality (W. Kenny Associates, 2006).

The lower gradient slope wetlands allow for a slightly higher residence time of water and, concurrently, less export and more storage, and as a result, contribute moderately towards storm and floodwater storage, modification of stream flow, modification of water quality, and export of detritus. Riverine wetlands in this part of the country do not function as groundwater recharge areas, but contribute to each of the other functions at a high capacity. In general, depressional wetlands are not associated with consistent surface flows, and resultantly, these wetland types do not contribute significantly towards the modification of stream flow or the export of detritus functions. The vegetation assemblage within the wet meadow and scrub shrub wetlands arc diverse, and the functions of these two wetland groups mimic that of their larger geomorphic classes (W. Kenny Associates, 2006).

Proposed Mitigation Sites

The proposed on-site wetland mitigation areas are currently active or recently abandoned golf course features, including tee boxes, fairways, roughs/out-of-bounds, greens, and cart paths. The proposed mitigation areas were selected based on the following criteria:

1. Relatively large, contiguous areas located within the subject property
2. Adjacent to one or more of the HGM class wetlands detailed above
3. Not in conflict with elements of proposed development Phases
4. Provide opportunities to expand the area of large, contiguous tracts of forest wetland habitat

Because the proposed mitigation areas are (or recently were) manicured golf course features, these areas currently provide little, if any, wetland services, functions, and values, and would not be classified as wetlands based on vegetation. Therefore, the current conditions of the proposed mitigation locations have a low capacity to perform the majority of the eight characteristic wetland functions of the HGM system. Following restoration (detailed below), the uplift of the wetland functions and values would be commensurate with the adjacent wetland classes detailed above, and would result in a net increase in these services in light of the mitigation ratios proposed (Tables 1 and 2). Specifically, the post-restoration wetland classes would include depressional forested red maple and hemlock wetlands, low-gradient red maple and hemlock wetlands, and depressional scrub-shrub wetlands, depending upon location. The specific wetland categories to be restored in the proposed mitigation areas are discussed in detail under the Mitigation Work Plan below.

5. Existing Hydrology

a. Delineation of all waters on site, with contours

All waters on-site, including streams, in-line ponds, lakes, golf-course ponds, and wetlands are delineated in Figure 16.

b. Water budget and hydroperiod

The Project Site is located within a subwatershed of the Neversink River, which is tributary to the Delaware River. The major drainage feature on the Project Site is Kiamesha Creek, which roughly bisects the Site between higher ground to the east and west occupied by two rounded hillsides. The Site also contains numerous ponds and lakes associated with Kiamesha Creek. Because the site is so large, exhibits numerous waters and wetlands regulated by the USACE and NYSDEC, and impacts to these regulated habitats vary by location and Project element, the hydrology of the site's surface waters and wetlands are discussed here in a general sense. Details of the proposed hydrology for the mitigation sites are provided below.

c. In tidal waters, spring high tide, mean high water, and mean low water elevations

This section is not applicable.

d. Watershed area

The watershed areas for the proposed mitigation sites are relatively small sub-watersheds to the Tannery Brook and Kiamesha Creek complex. The watershed for Area 1 is extremely small – less than 7 acres, and comprises recently abandoned golf course features (e.g., green, bunkers, etc.) and a portion of Thompsonville Road. The watershed for Area 2 is also relatively small, comprising approximately 9.6 acres of existing golf course, landscaped out-of-play areas, and a

portion Thompsonville Road. The watershed for Area 3 is approximately 220 acres, and comprises a mix of active golf course features, landscaped out-of-play areas, and forested hillsides (wetland and upland). A small portion of this watershed is expected to be occupied by proposed resort features, and surface waters from a fraction of this proposed development are expected to be diverted to a nearby sub-watershed through stormwater management installations. Following the development of the Concord Resort racetrack and casino, the watershed for Area 3 will be 220 acres. The watersheds for Areas 1 and 2 are not expected to change as a result of proposed project elements.

e. Plan showing monitoring wells or other gauges used to determine the water level fluctuation of the wetland for an extended length of time

The locations of the piezometers installed for the proposed mitigation areas and adjacent reference wetlands are provided as Figures 18 - 20. Future groundwater level monitoring will also involve loggers at these locations.

f. Monitoring well or gauge data

Shallow (<5') monitoring piezometers were installed in proposed mitigation areas and in adjacent reference wetlands were installed on June 16, 2012. Each piezometer was constructed of 1.5", schedule 40 PVC pipe, with the bottom 18" slotted and sleeved with porous geotextile fabric. Wells were installed with a hand auger (to refusal), and soil characteristics were evaluated by depth during installation. Wells were stabilized with clean sand and grouted at the ground surface with bentonite. Each well was equipped with a vented cap, and was equipped with a Schlumberger Water Services DIVER™ submersible water level logger located at the bottom of each well. Loggers were programmed to record water depths above the logger at one-hour intervals. A barometric logger was installed near the existing golf course maintenance facility to provide barometric compensation for piezometer data. Another logger was installed in Kiamesha Creek near the existing golf course maintenance facility to provide data on stream levels.

Area	**Well**	**Depth of Well (inches, relative ground)**	**Approx. Gnd. Elev.**
Area 3	1	30.25	1346 feet (NAVD88)
Area 3	2	26.25	1340 feet (NAVD88)
Area 3	3	53.0	1351 feet (NAVD88)
Area 3 (ref)	4	48.0	1352 feet (NAVD88)
Area 2	5	42.5	1339 feet (NAVD88)
Area 2 (ref)	6	36.5	1340 feet (NAVD88)
Area 1 (ref)	7	47.0	1345 feet (NAVD88)
Area 1	8	48.5	1344 feet (NAVD88)
Kiamesha Creek	9	N/A	

Well data for Mitigation Areas and adjacent reference areas are discussed below.

g. Cross-section of existing seasonal water levels

Cross sections of groundwater levels for the monitoring period are provided as Figures 21 - 23. In general, the groundwater in the proposed mitigation areas was comparable to that of adjacent/nearby reference wetlands (see discussion below).

h. Results of models used

A weight-of-evidence approach has been used to assess the hydrology of the proposed mitigation areas. This approach involves comparing groundwater elevations within the restoration areas to adjacent forested wetlands that are to serve as the design template for the mitigation, in addition to modeling water budgets for the mitigation areas. The lines of evidence that support the mitigation areas range from anecdotal to empirical, and include site-specific data and computer-based water budget modeling. These lines of evidence include:

- Anecdotal information from long-term Monster Golf Course personnel and site visits
- Proximity of existing forested and/or floodplain wetlands (in terms of location and elevation) to mitigation areas
- Short-term groundwater monitoring data from mitigation areas compared to adjacent reference wetlands
- WATBUG water budget modeling for mitigation areas
- SWMM modeling of the watershed in Mitigation Area 3

As additional data and results become available, the Applicant will provide updated results to USACE and NYSDEC to supplement the materials included in this mitigation plan, as well as to refine the mitigation design as the Project advances.

Anecdotal Information

As a first line of evidence to support the argument that wetlands hydrology can be restored in the proposed mitigation areas, the Monster Golf Course superintendent was interviewed in the field in summer of 2012, with a view to identify which golf-course features represent persistent maintenance challenges in terms of frequent flooding, saturated fairways/greens, and other issues indicative of high seasonal water tables. The course superintendent has over 30 years of experience working at the site, and was able to identify problem areas (from a golf course maintenance perspective). In particular, problem areas identified included all of proposed mitigation Area 2 and the portions of Area 3 below the approximate elevation of 1345 feet (NAVD 88). Specific problems in these areas include:

- Frequent turf saturation
- Frequent surface ponding
- Occasional soft substrate (e.g., golf carts produce rutting, etc.)
- Need for irrigation constrained to driest years/seasons

Problems related to seasonal high groundwater in these areas coincide with precipitation events, and flooding problems appear to derive from both elevated groundwater hydrology and overbank flooding (during larger rain events).

Seasonal saturation in these areas is also supported by the results of hand-auger tests in fairway, rough, and greens areas – soils generally exhibited hydric indicators (e.g., mottling, chroma, etc.) as well as high moisture content during a dry period (early summer of 2012). In addition, hydrophytic vegetation is present on the margins of maintained/mowed features in both Area 2 and Area 3, suggesting that this vegetation would colonize the maintained golf-course features if mowing were to cease.

Area 1 was maintained and manicured as an out-of-play golf course feature until approximately 2008. Following the cessation of mowing, a groundwater seep has developed down-slope of the

existing tree line. While predominantly vegetated with successional herbaceous species, the area surrounding this seep also exhibits hydrophytic and emergent wetland plant species, including cattails (*Typha* spp.) and *Juncus* species. According to the golf-course superintendent, this area did not exhibit wet conditions prior to the abandonment of the International Golf Course, suggesting a natural tendency towards wetland-like conditions in the absence of manipulation. Based on these observations, it appears that groundwater hydrology can be exploited in Area 1 to support a wetland mitigation design.

Proximity to Existing Wetlands

The latter points above regarding hydrophytic vegetation occurring on the margins of Areas 2 and 3 imply that adjacent areas are jurisdictional wetlands. Indeed, these areas have been mapped as wetlands by the Project, and include areas of mixed red maple/Eastern hemlock forested slope wetlands, forested floodplain wetlands, offline ponds, and herbaceous/scrub/shrub wetlands. In addition to adjacency, the maintained golf course features targeted for restoration occur at comparable elevations as wetland and open water areas, suggesting that the seasonal high water tables in adjacent wetlands will support wetland mitigation design if other wetland terrain features (e.g., channels, micro-topography, etc.) and vegetation (e.g., canopy cover, etc.) are mimicked in the mitigation areas.

Groundwater Monitoring

As described above, shallow piezometers were installed in all potential mitigation areas as well as within adjacent reference wetlands (at comparable elevations). these data provide crucial insights into groundwater-driven hydrology when comparisons are made between golf-course features to be restored and the adjacent jurisdictional wetlands. Groundwater levels will continue to be monitored as the mitigation design advances in order to inform the design and to ensure wetland hydrology will exist during the growing season following mitigation construction and planting.

Area 1

Within Area 1 (Well 8), the groundwater was between 30 and 47 inches (dry well) from the surface for the period leading up to the July 15 (and subsequent) rain events, while the groundwater in the nearby reference wetland (Well 7) was between 15 and 37 inches of the ground surface for the same period. Following the rain event of July 15, and during the subsequent rain events, the groundwater in Area 1 ranged from 47 and 7 inches from the ground surface, while the groundwater in the reference wetland ranged from 37 inches to 3 inches from the ground surface (Figure 21).

Both locations indicated similar groundwater responses to rain events; however, the groundwater within Area 1 exhibited greater range of elevations (higher highs and lower lows) than the groundwater of the reference wetland. This effect is presumably the result of the relatively small drainage area of Area 1 (less than 7 acres). Nevertheless, and as discussed above, Area 1 also exhibits groundwater surface expressions that support cattails and other hydrophytic species, suggesting isolated confining layers or clay lenses that may be extremely localized within the area. As discussed below, the mitigation design for Area 1 will include engineered features to both retain and manage the existing hydrology of the area.

Area 2

Within Area 2, groundwater levels within the mitigation area (Well 5) were generally as close to the existing ground surface as were groundwater levels in the adjacent, jurisdictional floodplain

wetlands (Reference Well 6) for the period monitored. From June 27 to July 15, 2012, groundwater within the mitigation area ranged from approximately 15 inches below ground surface to around 32 inched below ground surface. Following a substantial rain event on July 15, and during subsequent rain events, groundwater levels fluctuated between 0 and 25 inches below ground surface through August 1. For the same period, the groundwater elevations in the adjacent wetland remained between 15 and 25 inches below ground surface. These data are presented in Figure 22.

These data suggest that the groundwater levels in the reference wetland are largely drivenby Tannery Brook water elevations, although groundwater levels within the restoration area are substantially more variable without the influence floodplain hydrology. Nevertheless, groundwater levels within the mitigation area exhibit frequent periods of relatively high levels and occasional ponding under existing conditions (manicured golf course). It is also important to note that the period of monitoring represents a relatively dry year (http://droughtmonitor.unl.edu/DM_tables.htm?Northeast) for the region, suggesting that during wetter seasons/years, the existing groundwater hydrology within the proposed mitigation Area 2 would be suitable to support wetland vegetation during the growing season. Proposed grading and hydraulic controls will be used to augment existing sources of wetland hydrology.

Area 3

Within Area 3, groundwater levels within the mitigation area (Wells 1, 2, and 3) were generally as close or closer to the existing ground surface as were groundwater levels in the adjacent, jurisdictional forested wetlands (Reference Well 4) for the period monitored. From June 27 to July 15, 2012, groundwater within the mitigation area ranged from approximately 10 to 32 inches (Wells 1 and 2) and 35 to 50 inches below ground surface. Following a substantial rain event on July 15 and subsequent rain events, groundwater levels at all three locations ranged from 0 inches to about 37 inches below ground surface, and groundwater levels remained less than 30 inches from the surface for most of this period. The groundwater within the reference forested wetland remained below 34 inches below ground surface (well depth) for most of the monitoring period, exhibiting 2 -3 inches of increase immediately following rain events. Following a July 25 rain event, groundwater levels ranged from 19 to 34 inches below the ground surface. These data are presented in Figure 23.

From these data, it is apparent that the groundwater levels in the proposed mitigation area tend to remain closer to the ground surface than the groundwater in the adjacent, forested reference wetland. Groundwater levels within the mitigation area exhibit frequent periods of relatively high levels and occasional surface ponding under existing conditions (manicured golf course). As stated above, these groundwater levels were recorded during a relatively dry summer period, suggesting that during wetter seasons/years, the existing groundwater hydrology within the proposed mitigation Area 3 would support the growth of forested wetland plant species (is allowed to do so), even in the absence of proposed grading or water control. Coupled with the mitigation design's proposed grading and hydraulic controls, it is expected that Area 3 will also exhibit appropriate wetland hydrology.

WATBUG Water Budget Model

The WATBUG model was designed in the late 1970's for use in a variety of wetland and water-budgeting applications. WATBUG calculates monthly or daily climatic water budgets, according to the Thornthwaite and Mather method, from air temperature and precipitation data. It was

written in ANSI Standard Fortran IV, and the algorithm is described by Willmott (1977). A modified version of the algorithm also is discussed by Willmott, Rowe and Mintz (1985).

The program uses the Thornthwaite (1948) method for calculating potential evapotranspiration; although the subroutines where the estimates are made may be replaced by another method. The advantages of WATBUG over many published water budget programs include: (1) budgets can be computed on a monthly or daily basis; (2) records of monthly budgets up to 40 years and daily budgets up to one year can be repeated to ' balance the budget'; (3) all relationships are explicitly specified so that ' look-up ' tables are not required; (4) the program is easily modified; and (5) multiple budgets may be calculated in a single run. The program requires that periods of time evaluated as a single budget be consecutive.

The WATBUG water budget model may be used to examine the relative soil moisture hydrology over a record period of years as an aid in wetland mitigation design. WATBUG was run using daily temperature and precipitation data obtained for the Liberty 1 NE weather station (2000 - July 2012) located about ten miles to the northwest of the project area. The closer Rock Hill 3 SW station record does not include temperature and could not be used for use in WATBUG. The 30 year precipitation record of Rock Hill (1982 - 2012) was reviewed (Figure 24). It was decided to use only the most recent 12 years of record for use in WATBUG, since this period seemed more representative of current/future conditions, rather than the 30 year record.

Figures 25 and 26 present the plots of monthly precipitation and soil moisture storage from the WATBUG output for 2000 to 2012 July. Liberty 1 NE data is only currently available through July 2012. WATBUG conditions were set to use a soil moisture storage value of 150mm or 5.9 inches. Available soil moisture storage values may be both lower in the shallow root depth of project area slopes and perhaps greater in the lower floodplain flats.

The modeled soil moisture storage data clearly shows the relative severity of recent dryer years of 2001, 2002, 2005, and 2006. Although data is only available through July of 2012, model values and field observations indicate that 2012 may be a comparable dry year (Figures 27 and 28 - average and 2012 alone). Piezometer data collected in the summer of 2012 document these dry conditions. Reference wetland piezometer records show the free water elevation surface dropping to 25 to 35 inches below the ground surface through mid July, when precipitation began to recharge soil moisture. Proposed mitigation area piezometer records dropped to 25 to 48 inches below the surface by mid July. These various piezometer records in July compare with a modeled soil moisture storage of about 95 mm or 3.7 inches. Therefore, these past summer piezometer record water elevations are comparable to the dry summer periods of 2001, 2002, 2005, and 2006. Generally, a third of the past growing seasons have been this dry or dryer in the most recent 12 years. The relationship of project piezometer records to average site conditions may be enhanced through much longer piezometer record periods. Sufficient length piezometer records may be used to predict the subsurface elevation of soil saturation in wetland mitigation design.

SWMM Model

In order to assist in the design of Wetland Mitigation Area 3, a subcatchment runoff model was created using the Environmental Protection Agency (EPA) Storm Water Management Model

(SWMM) version 5.0, a physically-based model that provides support for long-term continuous rainfall-runoff simulations.

AKRF developed a proposed conditions SWMM model with watershed delineation and land cover information derived from GIS aerial topography and preliminary site layout drawings of the Concord Resort development project. Using the SWMM model, AKRF performed a hydrologic evaluation of the catchment area that is expected to influence Wetland Mitigation Site 3. A rainfall-runoff simulation was performed for a continuous 10-year period of rainfall record from January 2002 to January 2012. This hydrologic study was used to develop a long-term hydrologic water budget used to design the mitigation.

Model Inputs

Subcatchment Input Parameters

SWMM model subcatchments are hydrologically discrete units of land whose topography and drainage system elements direct surface runoff to a single outlet point. Wetland Mitigation Area 3 was chosen as the outlet point. Subcatchments are divided into pervious and impervious subareas. Surface runoff can infiltrate into the upper soil zone of the pervious subarea, but not through the impervious subarea. Impervious areas are further subdivided into two subareas – one that contains depression storage and another that does not. Runoff flow from one subarea can be routed to the other subarea, or both subareas can drain to the subcatchment outlet. The AKRF model assumes that runoff from impervious areas flows to pervious areas before reaching the outlet.

Drainage area land use, impervious cover, pervious cover, drainage area slopes, and Manning's "n" values for overland flow on the pervious and impervious subareas were determined using AutoCAD-based methods using GIS aerial topography and preliminary site layout drawings and renderings of the Concord Resort development project. The subarea width parameter was computed by dividing the sub-catchment area by the average maximum overland flow path length, as recommended in the SWMM 5.0 User Manual. The total subcatchment area draining to Wetland Mitigation Area 3 is approximately 221 acres.

Infiltration

Infiltration losses were modeled using the Green-Ampt method, which assumes that a sharp wetting front exists in the soil column, separating saturated surface soil receiving precipitation from subsurface soils with some initial moisture content below. AKRF determined representative infiltration parameters for the subcatchment (e.g., saturated hydraulic conductivity, initial moisture deficit, and average capillary suction) by applying parameter values for individual USDA soil texture classifications to soil series present in the drainage area as determined using NRCS SSURGO GIS-mapped soils data. All subcatchment and infiltration input parameters are summarized on Table 4.

Evapotranspiration

SWMM allows the user to model evaporation losses using a constant daily value, a set of monthly averages, or user-defined daily values. AKRF did not directly model evaporation losses from the subcatchment because published pan evaporation rates can be highly inaccurate and were not available for the project study area. SWMM does not provide for modeling transpiration losses. AKRF developed high end and low end estimates for evapotranspiration as

a percentage of total losses, and applied these estimates to the modeled output results. This process is described in detail under "Results" below.

Snowfall and Snowmelt

The accumulation and melting of precipitation that falls as snow on the subcatchment was not modeled because the historical precipitation data used in the continuous rainfall-runoff simulation was obtained as liquid precipitation.

Continuous Rainfall Simulation

Continuous hourly rain gauge records were downloaded from the National Oceanic and Atmospheric Administration (NOAA) National Climatic Data Center (NCDC) website (http://www.ncdc.noaa.gov/cdo-web/). Rain gauge data was obtained from the Orange County Airport in Montgomery, New York, for the continuous period spanning January 2002 to January 2012. Raw data was pre-processed to eliminate suspect or erroneous observations.

Computational Methods

The subcatchment surface is treated as a nonlinear reservoir. System inflows include precipitation, and system outflows include surface runoff, infiltration, and evaporation. The capacity of this "reservoir" is the maximum depression storage, which is the maximum surface storage provided by ponding, surface wetting, and interception. Surface runoff per unit area, Q, occurs only when the depth of water in the "reservoir", d, exceeds the maximum depression storage, dp, in which case the outflow is given by Manning's equation. Depth of water over the subcatchment, d, is continuously updated with time by numerically solving a water balance equation over the subcatchment.

Results

A continuous rainfall-runoff simulation was created for the 10-year period of historical precipitation data, and SWMM generated outflow hydrographs at the outlet point (Wetland Mitigation Site 3). A basic water budget was derived from the SWMM model simulation results. Precipitation was the sole hydrologic in-flow to the system, with infiltration and surface runoff as the only outflows; or:

$$Precipitation = Infiltration + Runoff$$

$$P = I + Q$$

The results of the SWMM model simulation indicate that:

$$P = 424.6 \text{ in.}$$

$$Q = 139.4 \text{ in.}$$

$$I = 285.2 \text{ in.}$$

The design of Site 3 was predicated on the assumption that precipitation that enters the subcatchment groundwater table via infiltration travels to and hydrologically influences Mitigation Site 3. This assumes that the runoff subcatchment and the groundwater subcatchment are identical. In order to estimate evaporation and transpiration losses in the water budget, and in order to underestimate total infiltration losses as a conservative measure of design, AKRF assumed that evapotranspiration consisted of 20% to 50% of the modeled infiltration losses over the 10-year continuous simulation. Therefore, the water budget equation is given by:

$$P = I + Q + ET$$

Assuming a low end estimate of ET as 20% of total losses gives:

P = 424.6 in.

Q = 139.4 in.

I = 228.2 in.

ET = 57.0 in.

Assuming a high end estimate of ET as 50% of total losses gives:

P = 424.6 in.

Q = 139.4 in.

I = 142.6 in.

ET = 142.6 in.

Output hydrographs are provided as Figures 29 – 31.

i. Nutrient inputs and outputs, including N, P, pH, ISS, DO, etc.

According to the NYS Department of Environmental Conservation in its 2001 Delaware River Basin Waterbody Inventory and Priority Waterbodies List, potential sources of nutrients and other inputs to the Kiamesha Creek system in the vicinity of the project include the Concord Golf Course itself, through which the stream runs, and two nearby wastewater treatment plants. Although no specific study of nutrient inputs and outputs to the proposed wetland restoration area has been conducted, it is nevertheless possible to treat nutrients qualitatively. Because the current use of the wetland restoration areas as active (or recently abandoned) golf course turf features, the frequent need for fertilization is necessary to maintain monotypic turf. The abandonment of these areas as manicured ground will eliminate the need for fertilization. In addition, nutrient uptake will be enhanced in these areas due to the establishment of trees and other vegetation that will sequester surplus nutrients.

6. Existing Dominant Vegetation

a. Map showing size and location of different wetland plant communities

A map showing the size and location of different wetland plant communities is provided as Figure 32.

b. Community structure (e.g. vegetative layers, canopy stratification)

Vegetative community structure and general descriptions of canopy stratification for on-site wetlands can be found above under “Classification of Wetlands”. With respect to the existing community structure of the proposed wetland mitigation areas, these areas are predominantly active or recently abandoned manicured golf course features, with vegetative community comprising monotypic turf grasses and isolated ornamental shade trees, in addition to un-vegetated bunkers and cart paths.

c. Wetland indicator status (National List of Plant Species That Occur in Wetlands: Northeast (Region 1), published by the U.S. Fish and Wildlife Service. USFWS Biological Report 88(26.1) May 1988.

Despite exhibiting groundwater hydrology typical of the adjacent forested wetlands, the vegetative community within the mitigation areas comprises maintained turf grasses with upland wetland indicator status. On the periphery of the manicured golf course features, wetland indicator species appear in Areas 2 and 3. These species are listed and characterized in the attached existing wetland report (Wetland Delineation Report prepared by W. Kenny Associates, 2006).

d. General age and health

As discussed above, the existing vegetation within the proposed mitigation areas comprises maintained golf course turf grasses. Maintenance activities in these areas (e.g., mowing, fertilizing, re-seeding, etc.) occur at regularly scheduled intervals or on an as-needed basis. In general, this vegetation is healthy for the intended purpose (course play); however, the turf grass species do not provide the wetlands services, functions, and values of a healthy native emergent, scrub/shrub, or forested wetland community.

e. Native/non-native/invasive status

Although the precise planting mix used on the existing golf course features in the proposed mitigation areas is unknown, the turf most likely comprises a mix of rye grasses (*Lolium* spp.) and/or Bermuda grass (*Cynodon* spp). These grass genera are non-native to North America, and likely originated in Europe or Northern Africa, although their use for lawns and other landscaping features has become so widespread that they are essentially "naturalized" in most jurisdictions.

7. Existing Soils

a. Soil profile and survey classification and description, including all series onsite

The NRCS identifies major classifications of soils that have similar characteristics (such as texture and drainage) into a series. Within each series, soils differ in slope and other characteristics that affect their use. On the basis of these differences, soil series are further divided into phases (soil map units). Different soil phases exhibit variable water storage, erosion potential, and other characteristics that are important from a development perspective. The NRCS also protects and regulates soils designated as prime farmland per the Farmland Protection Policy Act (7 USC 4201; 7 CFR 658). Soil mapping units that are found on the Project Site and that are designated as prime farmland by the NRCS are listed below.

The Project Site contains 27 different soil mapping units, but four units together account for more than 60 percent of the Site's acreage, while the remaining units each account for less than 5 percent of the total acreage. The spatial arrangement of these soil types, as mapped by the NRCS Soils Survey of Sullivan County, is shown in Figure 6.

The four dominant soils, in decreasing order of coverage (percent of total area) within the Project Site, include Wellsboro and Wurtsboro soils, strongly sloping, extremely stony (19 percent); Wellsboro gravely loam (19 percent); Arnot-Oquaga complex (14 percent); and Wurtsboro loam (11 percent). These are described below.

WIC: Wellsboro and Wurtsboro soils, strongly sloping, extremely stony - This soil is very deep, moderately well-drained, and formed in areas of glacial till. It contains Wellsboro soils, Wurtsboro soils, and mixtures of both. The surface is stony, with stones more than 10 inches in diameter and 2.5-5 feet apart covering 3-15 percent of the surface; the remainder of the surface is composed of gravelly silt loam or gravelly loam. The surface is about 7 inches deep, and the subsurface can extend 60 inches or more in depth to bedrock.

This soil mapping unit is randomly distributed throughout the Project Site, with most areas spanning less than 10 acres. The largest continuous area of this soil is at the northern extent of the Project Site and covers approximately 142 acres.

We: Wellsboro gravely loam - Three phases of the Wellsboro gravely loam series are represented within the Project Site: 0-3 percent slopes (WeA), 3-8 percent slopes (WeB), and 8-15 percent slopes (WeC). These are deep, moderately well-drained soils that occur on till plains (0-3 percent slopes), hillsides and hilltops (3-8 percent and 8-15 percent slopes). Depth to bedrock is more than 60 inches. On shallow slopes, Wellsboro gravely loam is well-suited to crop cultivation. Wellsboro gravely loam mainly occurs in the Project Site in patches that are 1-20 acres in size. The largest continuous areas of this soil are near the western and southern boundaries of the Project Site and cover approximately 59 and 80 acres.

Ao: Arnot-Oquaga complex - The Arnot-Oquaga complex is present in the Project Site in two phases: 0-15 percent slopes (AoC) and 15-35 percent slopes (AoE). The complex generally consists of 45 percent Arnot soil, 40 percent Oquaga soil, and 15 percent other soils. The Arnot soil is shallow (16 inches to bedrock), whereas the Oquaga soil is moderately deep (34 inches to bedrock). Both soils are well-drained. Outcrops of sandstone or shale bedrock are characteristic of areas with these soils, generally making up 2 to 10 percent of the ground cover. The 0-15 percent phase of the Arnot-Oquaga complex occurs within the Project Site in multiple areas, mostly ranging from less than 1 acre to 12 acres. The largest area is 152 acres and occupies the majority of the forested area in the northeastern section of the Project Site. The 15- 35 percent phase within the Project Site is limited to three small areas that total only 20 acres.

Wu: Wurtsboro loam, stony - Wurtsboro loam phases of 0-3 percent, 3-8 percent, and 8-15 percent slopes are each represented within the Project Site, although the 3-8 percent slopes (WuB) phase accounts for the vast majority of these areas. Wurtsboro loam, stony, 3-8 percent slopes is a very deep, gently sloping, and moderately well-drained soil that occurs on hillsides and hilltops. Depth to bedrock is generally 60 inches or more. The soil can be extremely acidic. It is well suited to farming varieties that can tolerate wet conditions. Wurtsboro loam occurs in patches of less than 1 acre to 29 acres throughout the Project Site. It occurs in lowland areas where the golf course is located as well as upland forested areas to the east and west.

Prime Farmland - Prime farmland soils that are present within the Project Site include Pompton gravelly fine sandy loam, 3-8 percent slopes (PmB), Raynham silt loam (Ra), Red Hook sandy loam (Re), Riverhead sandy loam, 3-8 percent slopes (RhB), Scio silt loam, 2-6 percent slopes (SaB), and Wallington silt loam (Wa). These soils account for a small proportion of the soils within the Project Site, each covering less than 13 total acres of the approximately 1,538-acre Project Site. Riverhead sandy loam, 3-8 percent slopes, covers less than 1 acre. These soils are not present within the proposed mitigation areas.

Specific to the proposed mitigation areas, the NRCS soils report indicates that the soils within Area 1 include the following soil complexes:

- Fu:Fluvaquents-Udifluvents complex, frequently flooded - These soil phases are associated with the floodplain of Tannery Brook and Kiamesha Creek.

The NRCS soils report indicates that the soils within Area 2 include the following soil complexes:

- Wu: Wurtsbury Loam, stony – See description above
- Fu:Fluvaquents-Udifluvents complex, frequently flooded – See description above.

The NRCS soils report indicates that the soils within Area 3 include the following soil complexes:

- Wd: Wayland silt loam - This phase is associated with toe slope depressional areas and comprises silty and clayey alluvium wased from uplands. It contains some calcareous drift.
- ScB: Scriba loam – This phase occurs in till plains associated with footslopes, and comprises loamy till dominated by sandstone, with lesser amounts of limestone and shale.
- OeB: Oquaga very channery silt loam - This phase occurs on hills, ridges, and benches and consists of channery loam till with lithology dominated by reddish sandtone, siltstone, or shale. It is also dominant in the adjacent hemlock/red maple reference wetland.
- Ne: Neversink loam - This phase is associated with toe slope depressional areas and comprises acid loamy till derived from sandstone, siltstone, and shale.

In August of 2012, site-specific subsurface investigations were conducted at the three proposed wetland mitigation areas. These investigations included 3 test pits and 3 borings within Area 2, 3 test pits within Area 2, and 4 test pits and 4 borings within Area 3. The borings were advanced using hollow stem auger drilling equipment mounted on an all-terrain vehicle, and extended to depths ranging from approximately 9 to 22 feet below the existing surface grades. The test pits were advanced utilizing a rubber-tire backhoe and extended to depths ranging from approximately 7 to 10 feet below the existing surface grades. The subsurface investigation results are provided in full as Attachment 2. The following narrative describes the generalized strata that were encountered during the explorations and are listed in order of increasing depth:

1) Topsoil: A surficial layer of topsoil was encountered in six of the seven borings and 14 of the 15 test pit explorations. The topsoil was generally found to range from approximately four to eight inches in thickness; however, in Test Pits 5, 8, 12 and 13, the topsoil was observed to be approximately 11 to 24 inches thick.

2) Fill: Fill consisting of silty sands and sandy silts mixed with varying amounts of gravel, roots and topsoil was encountered below the topsoil in four of the borings and ten of the test pits, and is likely the result of grading operations to construct the existing golf course. The fill was generally found to be approximately 18 inches to 4-12 feet thick. In Test Pit No.5, the fill was observed to extend to the completion depth of that test pit, ten feet below the existing ground surface.

3) Organic Silts/Peat: In six of the explorations, a distinct layer of organic silt and/or peat with varying amount of sandy silt was observed. The organic layer was encountered at 1.5 to 4.5 feet below grade and extended to depths of approximately 2 feet to 6.5 feet below the existing surface grades and ranged from approximately six inches to three feet in thickness.

4) Silty Sand: Below the surficial topsoil, fill and organic materials, the natural soils in most of the test pits typically consisted of sands and silty sands containing varying amounts of gravel,

cobbles and boulders. The sandy soils are believed to be glacial in nature and extended to the completion depths in the majority of the explorations performed.

5) Silt: The glacial sandy soils contain varying amounts of silt; however, in several of the samples subjected to laboratory grain-size testing, the silt percentages were high enough to classify the materials as silt, as indicated on the appropriate exploration logs.

6) Shale Bedrock: In Borings 3 and 4, the sandy soils were underlain by shale bedrock encountered at depths of approximately two to ten feet below the existing surface grades. In general, the shale bedrock was found to grade sounder with depth, and refusal to further penetration with the auger was encountered at a depth of 8'9" atop relatively sound shale bedrock in Boring No.3.

Groundwater was observed in six of the borings at depths of approximately two to ten and one-half feet below grade, and in 14 of the 15 test pit explorations at depths of approximately two to six feet below the existing surface grades at the time of our study. Mottling was observed in 13 of the 22 explorations at shallower levels indicating seasonally high groundwater or seasonally saturated conditions (Melick-Tully and Associates, P.C., 2012). These results support the groundwater observations and modeling results described above and provide further evidence that a restoration to hydric soil conditions is feasible in the Mitigation Areas.

b. Identification of any contaminants

Known contaminants associated with OUs on the project site are identified above. No site-specific testing of sediments and/or waters has been conducted for the mitigation areas because the historic use of these areas has been golf course features.

F. MITIGATION WORK PLAN

1. Construction

The design and construction of the EPT Concord wetland mitigation areas is proposed for three areas. These areas are discussed separately below.

Area 1

Area 1 is the smallest of the proposed mitigation areas on the site. The existing condition of this area is that of a recently abandoned, golf course features and includes a narrow, wooded strip of trees roughly paralleling Kiamesha Creek. It is bounded by Thompsonville Road to the north and east, Kiamesha Creek to the south, and by vegetated floodplain wetlands to the west.

This mitigation area will be excavated to an elevation appropriate to intercept the existing, if variable, groundwater hydrology, as evidenced to the sub-surface investigations above. A berm will be constructed along the top-of-bank of Kiamesha Creek to create a small hydraulic cell in which groundwater can be managed. Prior to berm construction, a slowly-permeable vertical hydraulic barrier (or vertical in-ground lateral-seepage barrier) will be installed from existing surface elevation down to the confining layer (depth varies) to ensure that available groundwater does not seep into the floodplain through the berm and remains within the cell to support wetland hydrology. The installation of the berm and the grading of the wetland mitigation area will result in a net increase in floodplain capacity.

Area 2

Area 2 is the second largest proposed mitigation area on the project site. The existing condition of this area is predominantly manicured golf course features, and includes the fairway and green of Monster Hole 2. It is bounded by Thompsonville Road and a mixed stand of trees to the southeast, floodplain mixed vegetation wetlands associated with Tannery Brook to the northwest, and an existing golf course pond to the north.

The mitigation area will be excavated to an elevation of approximately 1338 feet (NAVD 88) with internal microtopography varying by +/- 1 foot. The area will be separated from the adjacent floodplain wetlands associated with Tannery Brook by a constructed berm. The elevation of the berm will be at approximately 1342 feet at the southern extremity and will grade down to elevation 1340 feet near the existing pond's outfall to Tannery Brook. This berm will ensure that wetland plantings are protected from high flows in the event that Tannery Brook overtops its banks and ensures that surface waters from Tannery Brook will only backfill the hydraulic cell from the north. Prior to berm construction, a slowly-permeable vertical hydraulic barrier (or vertical in-ground lateral-seepage barrier) will be installed from existing surface elevation down to the confining layer (depth varies) to ensure that available groundwater does not seep into the floodplain through or under the berm and remains within the cell to support wetland hydrology. The installation of the berm and the grading of the wetland mitigation area will result in a net increase in floodplain capacity.

Hydrology to the interior of Area 2 will derives from both groundwater and surface water from the existing pond. A shallow ditch will be excavated from the pond to the interior of the site, with ditch invert elevation located approximately 0.5 feet above the elevation of the pond's normal pool. This will ensure that surface waters back fill into the mitigation area during large rain events.

Area 2 will be planted with a combination of red maple, Eastern hemlock, and white pine – a mix consistent with that of adjacent forested wetlands. Planting stock will comprise a mixture of nursery stock (3' – 7') and seedlings. Larger nursery stock will be used to ensure survival and provide shading to smaller tree stock.

Area 3

Area 3 is the largest proposed mitigation area on the site. The existing condition of this area is predominantly manicured golf course features, and includes the fairway and green of Monster Hole 3 and the tee boxes of Monster Hole 4. It is bounded by forest and forested red maple/hemlock wetlands to the south and northeast and by floodplain wetlands associated with Tannery Brook to the west.

The design concept involves the re-establishment of forested wetland hydrology to manicured areas by mimicking the topography, microtopography, vegetative cover, and groundwater hydrology of the adjacent wetlands. Based on the results of recently conducted subsurface investigations, shallow bedrock located on the slope between the long and short tee boxes of Monster Hole 4, this area will be separated into two separate hydraulic cells – a small upper wetland above the bedrock and a larger, lower wetland cell below the outcrop.

Beginning in the uppermost region of Area 3, a stoplog outlet structure will be installed on the western end of the existing fairway pong (Monster Hole 4) to manage surface water entering the upper wetland cell. Under the existing conditions, the discharge from this pond is conveyed to a downhill stream via a rip-rap lined ditch. At the lower end of the upper cell, a berm will be constructed with a maximum elevation of 1351 feet (NAVD 88). The berm will be equipped

with two stop log outlet structures in concrete wing walls – the lowest invert elevation of these structures will be 1348.5 (NAVD 88). The two structures will be used to divide surface water discharge between the wetland restoration area below and the existing stream to which the existing ditch connects. Within the upper cell, material will be excavated to an approximate elevation of 1348 feet (NAVD 88), with internal microtopography varying by +/- 1 foot. Excavated material that is suitable for wetland restoration will be stockpiled for reuse, while inappropriate materials (e.g., sand) will be disposed or reused elsewhere on-site. A shallow channel will be excavated through the interior of the cell to ensure appropriate distribution of surface water.

The upper cell of Area 3 will be planted with a combination of red maple, Eastern hemlock, and white pine – a mix consistent with that of adjacent forested wetlands. Planting stock will comprise a mixture of nursery stock (3' – 7') and seedlings. Larger nursery stock will be used to ensure survival and provide shading to smaller tree stock.

Below the upper cell, the shallow sandstone bedrock will be exposed during construction down the slope to approximately elevation 1340 feet (NAVD 88). Surface water leaving the upper cell via the existing creek will provide surface water hydrology to the adjacent forested wetland before rejoining Area 3 near the pond on Monster Hole 3. The remaining surface water will discharge from the outlet structure down the exposed sandstone face to provide surface water to the lower cell. The hydrology of the lower cell of Area 3 will rely primarily on groundwater for wetland hydrology; however, this surface water will supplement the hydrology and will allow a degree of management control during grow-in.

The lower hydraulic cell of Area 3 will be excavated to an elevation of approximately 1339 feet (NAVD 88) with internal microtopography varying by +/- 1 foot. Excavated material that is suitable for wetland restoration will be stockpiled for reuse, while inappropriate materials (e.g., sand) will be disposed or reused elsewhere on-site. The lower cell will be separated from the adjacent floodplain wetlands associated with Tannery Brook by a constructed berm. The berm will be equipped with an adjustable outlet structure at the location of the existing outfall (in the pond of Monster Hole 3). The elevation of the berm will be at approximately 1345 feet at the southern extremity and will grade down to elevation 1340 feet near the outfall structure to Tannery Brook. The installation of the berm and the grading of the wetland mitigation area is expected to result in a net increase in floodplain capacity; however, floodplain effects could be modeled to demonstrate no adverse impacts to flood capacity. This berm will ensure that wetland plantings are protected from high flows in the event that Tannery Brook overtops its banks and ensures that surface waters from Tannery Brook will only backfill the hydraulic cell. Prior to berm construction, a slowly-permeable vertical hydraulic barrier (or vertical in-ground lateral-seepage barrier) will be installed from existing surface elevation down to the confining layer (depth varies) to ensure that available groundwater does not seep into the floodplain through the berm and remains within the cell to support wetland hydrology. The installation of the berm and the grading of the wetland mitigation area will result in a net increase in floodplain capacity.

The lower hydraulic cell of Area 3 will also be planted with a combination of red maple, Eastern hemlock, and white pine that will include a mixture of nursery stock (3' – 7') and seedlings. The area immediately surrounding the existing pond will be planted with a mix of scrub/shrub and herbaceous wetland species.

Wetland 45B

Wetland 45A/B consists of a 2.84 acre delineated forested palustrine wetland complex located south of Thompsonville Road within the EPA Concord Resort project site. Wetland 4B is the larger of the two areas and is located approximately 50 feet due south and topographically upslope of Wetland 45A. As part of the 2014 Plan development, the wetland complex will be encircled by a ½ mile circumference horse racing track. Stormwater runoff from the track will be collected via a series of swales and managed within a stormwater management basin, which will be constructed inside the race track adjacent to Wetland 45A/B. Treated runoff from the stormwater management facility will be discharged downslope of the Wetland 45A/B. The non-wetland area separating Wetland 45B from 45A will be raised using earthen fill in order to convey stormwater from the eastern side of the track to the stormwater management basin in the interior of the track. Surface flow from Wetland 45B to Wetland 45A will be maintained via a 24 inch diameter pipe extending through the proposed earthen fill. Subsurface flow between Wetland 45B and 45A is not expected to be changed by the proposed earthen fill between the two wetlands.

Direct changes to Wetland 45A/B are limited to woody vegetation removal and attendant soil disturbance and compaction, as required to maintain lines of site for the race track. Cut and fill impacts within Wetland 45 A/B have been largely avoided through the use of retaining walls, where necessary, and by selecting a finished grade elevation for the race track that minimized cut/fill slopes. There are no cut and fill impacts to Wetland 45A/B.

As noted in a letter of findings from Dr. Mallory Gilbert, PWS, to AKRF dated August 30, 2012 (M.N. Gilbert Environmental, 2012), the Wetland 45B consists of a fine scale wetland/non-wetland mosaic of wetland (depressional) and upland (hummock) patches with approximately 34.3% (0.974-acre) of the 2.84-acre complex exhibiting wetland conditions. The fine-scale nature of the upland/wetland mosaic posed significant methodological and practical difficulties for delineating individual wetland inclusions within Wetland 45B. As an alternative, the use of a mosaic determination to determine wetland area within Wetland 45B was performed following methods presented in USACE (2011). Employing these methods, overall percent wetland and wetland acreage within Wetland 45B was determined on the basis of upland and wetland segment delineation performed along four (4) transects within the wetland complex. This work was summarized in M.N. Gilbert Environmental (2012) and submitted to USACE for review in late 2012. Although it does not appear that the USACE views this methodology as an acceptable basis for determine the wetland acreage, the study is never-the-less instructive in understanding the structure of the wetland complex and suggests that the functional value of the Wetland 45A/B complex may be somewhat lower than if the entire area exhibited wetland conditions.

The proposed racing track use requires the removal of woody vegetation from Wetland 45A/B to maintain lines of sight from the viewing grandstand to the track. Several steps will be taken to ensure that woody vegetation removal is conducted in the least disturbing manner possible and minimizes ancillary impacts to wetlands including soil compaction and earth disturbance. The following best management practices will minimize impacts to existing wetlands during woody vegetation removal:

- Work will be conducted during sustained periods of freezing weather to minimize the likelihood of earth disturbance due to rutting.

- The use of mechanical equipment will be limited to pre-approved access routes that will be designated to reduce contact with wetland depressions.

- Removal of woody vegetation will be limited to cutting using a chain saw or manual saw. Methods such as ripping or bulldozing that disturb root systems and cause earth disturbance will not be permitted.
- Crossing of wetland depressions along pre-approved access routes will be accomplished using marsh mats to reduce earth disturbance and compaction.
- Any areas of soil compaction or earth disturbance will be remediated by the contractor. Compacted soils will be manually aerated and subsequently reseeded and planted. Areas of earth disturbance will be reseeded and planted.
- Residual stumps will be left intact without grinding or removal of stumps.

Following clearing, stumps will be treated with aquatic-safe herbicide to prevent re-sprouting. To minimize the potential for drift, herbicide applications within the wetland will be painted or snip & dripped directly onto the stump or cut end of the species requiring removal.

Following the removal of woody vegetation, Wetland 45A/B will be planted and seeded with native shrub and herbaceous vegetation to enhance diversity and improve wetland function (see Wetland 45A and 45B Landscape Plans dated February 15, 2013 prepared by AKRF, "Landscape Plans"). Seeding and planting will be conducted during spring or fall planting times as specified on the Landscape Plans. Seeded areas and new plantings will be watered to saturation upon installation and subsequently during drought conditions as required.

For planting and seeding purposes, Wetland 45A/B was divided into two herbaceous planting and seeding zones based on macro-scale patterns in hydrology as observed during transect mapping performed in support of the aforementioned non-wetland/wetland mosaic determination (see M.N. Gilbert Environmental, 2012). These zones are referred to as Pr. Landscape Zones 1 and 2 on the Landscape Plans (Sheet WL-101). Pr. Landscape Zone 1 covers a drier portion of the wetland mosaic that was observed to contain less frequent wetland depressions, while Pr. Landscape Zone 2 is a somewhat wetter zone containing more frequent wetland depressions and some areas of standing water.

For both Pr. Landscape Zones 1 and 2, planting schedules and seed mixes for each of several herbaceous planting and seeding subzones have been provided on the Landscape Plans to account for the pronounced fine-scale hummock/depression microtopography occurring within each zone.

Planting and seeding zones within Pr. Landscape Zone 1 consist of the following:

- Depression – Areas within wetland depressions that do not contain open water
- Slope – transitional areas between depressions and hummocks
- Hummock – upland areas occurring on mounded land between adjacent wetland depressions

Planting and seeding zones within Pr. Landscape Zone 2 are identical to those listed above for Pr. Landscape Zone 1 with the exception of an Open Water zone, which has been added to address depressions that contain standing water conditions.

Plantings within Pr. Landscape Zones 1 and 2 include upland and wetland forbs and graminoids typical of native landscapes in the Mid-Atlantic region. Planting schedules are provided on

Sheet WL-102 of the Landscape Plans. Herbaceous plantings will consist of plugs, which will be hand planted at an approximate spacing of 1 ft. O.C.

Seeding will be hand broadcast at a rate of 20 pounds/acre pure live seed (P.L.S.) Except where inadvertent earth disturbance during woody vegetation removal has occurred, or where soil compaction along access routes has necessitated decompaction, seed will be broadcast into existing vegetated areas without formal seedbed preparation (e.g., harrowing, disking, etc.) using an interseeding approach commonly used to enhance the diversity of meadow and prairie plantings. To the extent practicable (i.e., to the extent not precluded by existing vegetation) areas to receive seed will be gently raked prior to seeding and again following seeding to encourage good soil contact. In areas where earth disturbance has occurred, the seedbed will be prepared by scarifying the soil surface using a disc or harrow. Following seeding, these areas will be gently compacted using a hand tamped, and covered with weed-free straw mulch.

Herbaceous planting and seeding will be augmented by shrub plantings within the eight individual shrub planting zones as depicted on Sheet WL-101 of the Landscape Plans. Sheet WL-102 of the Landscape Plans provides shrub lists for each planting zone and overall quantities. Shrub zones will be planted with #3 container plants at a density of nine (9) plants per 1,000 square feet.

a. Maps marking boundaries of proposed mitigation types; include DGPS coordinates.

Maps showing the boundaries of the proposed mitigation areas are provided in the mitigation design drawings in Attachment 3.

b. Timing of mitigation: before, concurrent or after authorized impacts; if mitigation is not in advance or concurrent with impacts, explain why it is not practicable and describe other measures to compensate for the consequences of temporal losses.

As discussed above, the proposed mitigation areas are physically separate from proposed resort development efforts, and can therefore be constructed with independently of the development construction schedule. In the interest of initiating wetland restoration prior to the occurrence of wetland impacts, the construction of the mitigation areas can begin before and/or during development construction elements having impacts to regulated wetlands. Nevertheless, because the mitigation effort is striving to achieve forested wetlands, a relatively long grow-in period will be required before final success criteria are reached.

c. Indicate existing and proposed elevations and slopes.

Existing and proposed elevations of the mitigation areas are indicated in the drawings included as Attachment 3

d. Describe plans for establishing appropriate micro-topography

Area 1

Although mapped as a jurisdictional wetland, the topography interior of Area 1's nearby reference wetland comprises a mix of microhabitats governed primarily by elevation and subsurface permeability. As such, the area is highly mosaicked with wetland and upland areas on a spatial scale as small as a few feet. In general, wetland indicators (hydrology, soils, and

vegetation) occur in depressional areas, ephemeral stream channels, and upturned trees (windthrows), while upland indicators occur in slightly higher areas associated with near-surface bedrock and/or glacial erratic boulders. In terms of elevation, these features vary around the mean slope elevation by approximately +/- 1 foot.

For the mitigation area, this microtopography will be mimicked during the grading process to replicate that of the reference wetland. The spatial scale will be varied in elevation by approximately +/- 1 foot to allow the development of suitable microhabitats (e.g., vernal pools, hummocks, etc.). Large glacial erratics, if encountered, will be left in situ and will be incorporated into the landscape. Course woody debris will also be field-placed during construction to vary available habitat.

Area 2

The adjacent reference wetland for Area 2 is predominantly vegetated with red maple and various scrub/shrub and herbaceous wetland species. The distribution of these species within the narrow floodplain wetland band that occurs between the golf course features (mitigation area) and Tannery Brook varies on a small spatial scale, and depends on both elevation and proximity to the creek. The design for Area 2 includes a berm between the mitigation area and the floodway to protect young plantings from flood events. Within the mitigation area, the topography will be varied in elevation by approximately +/- 1 foot to allow the development of suitable microhabitats (e.g., vernal pools, hummocks, etc.). In addition, the mitigation will back-flood during stream flood events, and this variable microtopograhy will both store floodwaters and provide variable hydrology to support wetland species diversity. Large glacial erratics, if encountered, will be left in situ and will be incorporated into the landscape. Course woody debris will also be field-placed during construction to vary available habitat.

Area 3

The adjacent reference wetland for Area 3 includes a mix of Eastern hemlock and red maple, and is being used as the exemplar for the design of the Area 3 mitigation. Although mapped as a jurisdictional wetland, the topography interior of this reference wetland comprises a mix of microhabitats governed primarily by elevation and subsurface permeability. As such, the area is highly mosaicked with wetland and upland areas on a spatial scale as small as a few feet. In general, wetland indicators (hydrology, soils, and vegetation) occur in depressional areas and upturned trees (windthrows), while upland indicators occur in slightly higher areas associated with near-surface bedrock and/or glacial erratic boulders. In terms of elevation, these features vary around the mean slope elevation by approximately +/- 1 foot.

For the mitigation area, this microtopography will be mimicked during the grading process to replicate that of the reference wetland. The spatial scale will be varied in elevation by approximately +/- 1 foot to allow the development of suitable microhabitats (e.g., vernal pools, hummocks, etc.). Large glacial erratics, if encountered, will be left in situ and will be incorporated into the landscape. Course woody debris will also be field-placed during construction to vary available habitat.

e. Plan showing proposed contours at 1 foot intervals in wetlands, scale between 1" = 20' to 1" = 50', 8.5 by 11 sheets with overview plan and match lines, and 1 Set of full size plans

The proposed wetlands grading plans are provided in the engineering drawings included as Attachment 3.

f. Representative cross section(s)

The proposed wetlands cross sections are provided in the engineering drawings included as Attachment 3.

g. Description of construction methods (e.g., equipment to be used)

For all proposed mitigation areas, grading will be conducted using standard earthmoving equipment (e.g. excavators, bulldozers, etc.). Because the mitigation areas are currently developed as golf course and are accessible without traversing wetland or other regulated resources, no specialized earthmoving equipment (e.g., low ground pressure vehicles) will be required. In addition, there will be no bedrock or hard rock excavation equipment necessary to restore wetlands to the proposed mitigation areas. Specific equipment to be used will be determined by the construction contractor during the bidding process.

Appropriate soils will be stockpiled for reuse in accordance with New York standards for soil erosion and sediment control, while remaining overburden will either be stockpiled on-site for use as fill (in accordance with applicable standards), or else will be disposed.

h. Construction schedule

Construction of the Mitigation Areas will begin in the winter of 2014. Site grading is expected to last 2 to 3 months. Planting will occur in the spring following grading completion.

i. Water handling plan

Within Area 3, the installation of the proposed stoplog outlet boxes within the existing ditches/streams will require rerouting surface water flows around the area of construction. For this water handling, appropriately sized pumps will be used to temporarily divert stream flow around the area of disturbance. The pumps will discharge downstream/downslope of the area of disturbance though a filter mesh bag to minimize suspended sediments. To the extent practicable, stop log water control structures not located in the existing stream will be constructed prior to tie-in to minimize the need for water handling.

j. Erosion and sedimentation plan

Because extensive earth-moving is planned for the restoration of wetland areas, the restoration of the mitigation areas will require soil disturbance. As such, standard erosion control measures such as silt fencing will be installed at the limit of disturbance to prevent loose soils from contacting water or wetland areas. In addition, gravel step-off pads will be installed between the area of construction and hard roads to prevent the loss of soils via construction vehicles. Stockpiled soils will be covered or stabilized with a temporary seed mixture to prevent erosion, and soil stockpiles will be kept out of the floodplain of Tannery Brook/Kiamesha Creek. An erosion and sediment control plan will be prepared as part of the construction specification and submitted for approval by appropriate local, state, and federal agencies prior to the implementation of restoration activities.

k. Planting/seeding schedule

Planting will be initiated within 15 days of final grading for all Mitigation Areas.

1. Environmental monitor/manager

AKRF, Inc.

307 Fellowship Road

Suite 214

Mt. Laurel, NJ 08054

2. Planned Hydrology

a. Proposed water budget and hydroperiod

The water budgets developed using the WATBUG and SWMM models (discussed above and Figures 21 – 31) indicate that the Mitigation Areas will have water budgets and hydroperiods that will support the growth of appropriate wetland vegetation during the growing season. The adjacent reference wetlands to all three Mitigation Areas exhibit comparable soils, hydrology, and elevation as the golf-course areas to be restored as wetlands, and wetland hydrology is further encouraged by the proposed grading plan, and managed partially through the use of surface water control structures.

b. Any changes to watershed area

The restoration of the on-site mitigation areas is not expected to result in any changes to the site's watershed area.

c. Plan showing locations of monitoring wells or other gauges that will be used to determine the water level fluctuation during the monitoring period

Monitoring wells will be installed at representative locations within the restored mitigation areas. In addition, monitoring wells will remain in adjacent reference wetlands in order to draw comparisons. These wells will be equipped with submersible water level loggers, and data will be retrieved at regular intervals during monitoring of grow-in. Data will be compensated barometrically using an on-site barometric pressure logger, and the results of groundwater data will be published in annual monitoring reports. Precise well locations will be established following grading and construction and will be identified on as-built drawings.

d. Cross-section of predicted seasonal water levels

A cross section of predicted seasonal water levels (inches of storage) for the three mitigation areas and their respective reference wetlands is provided as Figure 33. This graph shows the maximum and minimum storage value for the Concord property as derived from the WATBUG modeling described above (period 2000 – 2012).

e. Changes proposed that will affect model results

For proposed mitigation Areas 1 and 2, no changes are currently proposed that will alter the outcome of the modeling results. In general, the restoration of these areas relies on intercepting the existing groundwater and/or floodplain hydrology over a relatively small area. For Area 3, the proposed development of the racetrack and casino (with associated appurtenances such as stormwater basins, etc.) upslope from the proposed mitigation area will alter the hydrology as it currently exists by diverting runoff to a separate sub-watershed. In anticipation of the effects of these development features and the re-routing of surface waters through stormwater management installations, the SWMM model described above accounted for these proposed changes by eliminating the affected region from the model. Thus, the SWMM-derived water budget considers the proposed condition upslope of Area 3. The inclusion of stop log water control structures in the design of Area 3 will allow for the management of hydrology during the grow-

in period, and has been included in part to buffer any uncertainties in the model and its assumptions.

f. Proposed changes to existing nutrient inputs and outputs, including N, P, pH, TSS, DO, etc.

Although no specific study of nutrient inputs and outputs to the proposed wetland restoration area has been conducted, it is nevertheless possible to treat nutrients qualitatively. Because the current use of the wetland restoration areas as active (or recently abandoned) golf course turf features, the frequent need for fertilization is necessary to maintain monotypic turf. The abandonment of these areas as manicured ground will eliminate the need for fertilization. In addition, nutrient uptake will be enhanced in these areas due to the establishment of trees and other vegetation that will sequester surplus nutrients. Both conditions will result in less nutrient run-off to Tannery Brook and Kiamesha Creek.

g. Explanation of factors and decisions determining proposed mitigation site grading and planting plan

As previously discussed, the wetland mitigation areas were located adjacent to existing forested wetlands that will not be impacted by the development of the EPT Concord Resort. These wetlands are substantially similar to those wetland areas that will be impacted by the development in terms of wetland functions, services, and values. These adjacent wetlands provide exemplars for the restoration of existing golf course features in terms of hydrology, topography and micro-topography, and vegetative community structure. The proposed mitigation areas will be graded to intercept groundwater elevations and ensure that surface hydrology will contribute to wetland hydrology during the growing season.

h. Explanation of likelihood of mitigation success, based on proposed hydrology

Based on the proposed hydrology, the use of relatively larger nursery stock (i.e., container plants rather than seedlings) for much of the planting, and the proximity to forested wetlands for use as design exemplars, the success of the mitigation areas is expected to be high. In addition, the ability to adjust hydrology by manipulating surface water levels during monitoring and grow-in allows additional flexibility to fine tune wetland hydrology through the adaptive management process (see below).

3. Planned Vegetation

a. List of native hydrophytes (i.e., wetland plants) using scientific names and regional indicator status (include seed mix composition)

Tree Species

- Red Maple – *Acer rubrum* – FAC
- Silver Maple – *Acer saccharinum* – FACW
- Eastern Hemlock – *Tsuga anadensis* – FACU
- White Pine – *Pinus strobus* – FAC
- Pin Oak – *Quercus palustris* – FACW
- Yellow birch – *Betula alleghaniensis* - FAC
- Gray birch – *Betula populifolia* – FAC
- Black ash – *Fraxinus nigra* - FACW

- Black-gum – *Nyssa sylvatica* – FAC

Shrubs and Vines

- Silky Dogwood – *Cornus amomum* – FACW
- Rosebay Rhododendron – *Rhododendron maximum* – FAC
- Winterberry – *Ilex verticillata* – FACW
- Swamp azalea – Rhododendron viscosum – FACW
- Southern Arrow Wood – *Viburnum dentatum* – FAC
- Highbush blueberry – *Vaccinium corymbosum* – FACW
- White Meadowsweet – *Spiraea alba* – FACW
- Bristly Dewberry – *Rubus hispidus* – FACW

Herbaceous and Low Woody Species

- Wool Grass – *Scirpus cyperinus* – FACW
- Fox Sedge – *Carex vulpinoidea* – OBL
- Canada Mannagrass – *Glyceria anadensis* – OBL
- Blue Vervain – *Verbena hastate* – FACW
- Reed Meadowgrass – *Glyceria grandis* – OBL
- Fowl Mannagrass – *Glyceria striata* – OBL
- Deertongue – *Dichanthelium clandestinum* – FACW
- White Vervain – *Verbena urticifolia* – FAC
- Melic Mannagrass – *Glyceria melicaria* – OBL
- False Nettle – *Boehmeria cylindrical* – FACW
- Stinging Nettle – *Urtica dioica* – FACU
- Giant Goldenrod – *Solidago gigantean* – FACW
- Wrinkled Goldenrod – *Solidago rugosa* – FAC
- Wood Reed – *Cinna arundinacea* – FACW
- Whitegrass – *Leersia virginica* – FACW
- Buttonbush – *Cephalanthus occidentalis* – OBL
- Wild Rye – *Elymus anadensis* – FACU
- Water Parsnip – *Sium suave* – OBL
- Virginia Wild Rye – *Elymus virginicus* – FACW
- Large-Leaf Avens – *Geum macrophyllum* – FACW
- Riverbank Wild Rye – *Elymus riparius* – FACW
- Water Dock – *Rumex verticillatus* – OBL
- Swamp Milkweed – *Asclepias incarnate* – OBL
- Shallow Sedge – *Carex lurida* – OBL
- Turk's Cap Lily – *Lilium superbum* – FACW
- Blackberry – *Rubus allegheniensis* – FACU

- Hop Sedge – *Carex lupulina* – OBL

b. Source of native plant species, stock type, plant age(s)/size(s).

In general, planted trees will be of the largest nursery stock available (e.g., 4 – 6 foot tall container plants), although smaller shrubs, and seedlings may be interspersed within the created microtopography as appropriate. Herbaceous and small woody species will be broadcast hydro-seeded as a mix, and a tacking agent will be included to ensure seed set. To the extent practicable, all plant stock will be obtained from a New York state nursery; however, regional nurseries (e.g., New England, Pennsylvania) may be used depending on nursery stock availability.

c. Plant zonation/location map

A planting/seeding zonation map overlaid on proposed grading contours is provided as in the engineering drawings included as Attachment 3.

d. Plant spatial structure, e.g., quantities, densities

For the proposed seed mix, an application rate of 3 pounds per acre at a minimum targeted density of 90+ seeds per square foot is proposed. The diverse nature of the seed mix will ensure that vegetative germination and groundcover growth will occur in all created microhabitats (mosaic). Seeding and planting schedules are provided in the engineering drawings included as Attachment 3, showing planting zones, species, and quantities.

e. Community structure (e.g., vegetative layers, canopy stratification)

Although the ultimate goal for the mitigation areas will be the reestablishment of climax community forested red maple, Eastern hemlock, and fixed wetlands, the grow-in period for these species is relatively long, even for comparatively large nursery stock. To this end, the species mix outlined above is designed to allow for succession from post-construction open, mosaicked wetlands to the climax forested condition. The herbaceous and low woody seed mixture described above will preserve wetlands services, functions, and values during the grow-in process, while the shrub/vine and tree species grow. As one example, in adjacent hemlock wetlands, little or no understory vegetation is present in the heavily shaded stands of hemlocks – the rosebay rhododendron is shade tolerant and is frequently the only understory species associated with dense hemlock stands. As discussed below, natural recruitment of other shade tolerant species such as ferns from adjacent forested wetland areas is expected as conditions become appropriate for their growth.

f. Expected natural regeneration from existing seed bank, plantings, and natural recruitment.

As the restoration's grow-in progresses, it is to be expected that certain herbaceous species will die off in response to increased shading (especially proximal to hemlocks) and other successional processes. In the interim, natural recruitment from adjacent forests and forested wetlands is expected to compliment the initial vegetation mix – species such as ferns (e.g., cinnamon ferns – *Osmunda cinnamomea* – FACW, hay-scented ferns – *Dennstaedtia punctilobula* – FACU, etc.) will colonize locally where hydrologic and/or photic conditions permit.

g. Use of mulch (not always necessary).

The widespread use of mulch is not proposed for this restoration effort because the herbaceous and low-woody seed mix with tacking agent will provide suitable groundcover to prevent moisture loss, erosion, and interspecific competition. Nevertheless, much will be applied locally for planted container trees and shrubs. Details are presented in the engineering drawings included as Attachment 3.

h. Wildlife plan.

With respect to wildlife, the proposed wetland mitigation areas are expected to result in the creation or restoration of springtime aquatic habitat (vernal pools) that will extend and connect such habitat features across the existing golf course features between adjacent forested wetlands. Apart from habitat improvements associated with the restoration of vegetated wetlands to areeas presently managed as golf course features, no specific wildlife plan is proposed for the wetland mitigation areas beyond provisions for herbivory control discussed below. Future wildlife improvements could include the installation of appropriate nesting boxes or platforms for various birds and/or mammals.

i. Herbivory control plan.

Following post-construction planting and seeding, herbivory by wildlife (esp. white-tailed deer) is anticipated. Herbivory control will comprise the installation of deer fencing around appropriate portions of the the mitigation areas to limit herbivore access, and individual exclusion will be provided in areas were fencing is not practical due to flooding or other conflicts. In addition, Canada geese (already present and possibly resident on the golf course) would be excluded by the fencing. Fencing will be inspected during routine monitoring activities and repaired as necessary. Areas within the mitigation areas that have been the subject of extensive herbivory will also be reseeded/replanted as appropriate. As the long-term grow-in of the forested wetland areas advances, the need for herbivore exclusion can be reevaluated in the context of the plant species present and their relative heights at various stages of succession.

j. Consideration of other abiotic factors.

The restored wetlands may be incorporated into future natural outreach and/or interpretive improvements planned for the resort. This includes nature trails, observation platforms, and interpretive signage where appropriate. The restoration design will consider the possible effects of human visitation to the restored wetlands, and will incorporate measures (e.g., signs, etc.) to ensure than human use does not adversely affect the restored areas.

6. Planned soils

The soils to be used for the Concord wetland mitigation will be from on-site sources. Based on the soils mapped by the NRCS and observed in site-specific subsurface investigations, soils within the restoration areas are appropriate to support the planned wetland hydrology and vegetation. Appropriate soils (e.g., ScB, Wd, Ne, etc.) that are classified as slightly to very poorly drained will be stockpiled onsite for reuse as the planting/topsoil layer, while artificial fill, sand, and channery deposits will be removed during grading and stockpiled for reuse on-site (or disposed). Any organic peat exposed during excavation will be incorporated into the soils stockpiled for wetland restoration to provide organic content.

a. Source of the soils

Because the proposed mitigation involves a net cut of material within the mitigation areas, and because much of the material within the mitigation areas will support wetland restoration, all soils will originate on-site.

b. Percent organic content

Organic peat exposed during excavation will be incorporated into the soils stockpiled for wetland restoration to provide organic content. The percent organic content for soils reused for wetland restoration will be between 4% and 10% at the completion on construction.

c. Include a soil specification

A soil specification is not applicable to the restoration of the Concord mitigation areas because appropriate on-site soils will be reused for wetland restoration.

d. Erosion and soil compaction control measures

Standard erosion control measures such as silt fencing will be installed at the limit of disturbance to prevent loose soils from contacting water or wetland areas. Stockpiled soils will be covered or stabilized with a temporary seed mixture to prevent erosion, and soil stockpiles will be kept out of the floodplain of Tannery Brook/Kiamesha Creek. Soil compaction by construction equipment will be controlled through the reuse of appropriate stockpiled soils after initial site grading – these soils will be placed by appropriate construction equipment after course grading and will not be compacted in restored wetland areas. An erosion and sediment control plan will be prepared as part of the construction specification and submitted for approval by appropriate local, state, and federal agencies prior to the implementation of restoration activities.

7. Planned habitat features – include a description of planned coarse woody debris, rock mounds, microtopography, wildlife/fisheries structures, etc.

The planned micro-topographic features are expected to provide habitat diversity on a variable spatial scale, and are expected to provide bird and mammal foraging habitat and vernal amphibian breeding habitat, among others. Where encountered, large glacial erratics or bedrock outcrops encountered during grading will be left exposed in place to mimic similar features present in the adjacent forested reference wetlands. Course woody debris will be obtained from trees cleared during the proposed Concord resort development and strategically placed within the restoration areas to provide additional habitat diversity. The placement of course woody debris will occur on an *ad hoc* basis following grading and during seeding and planting, and will be directed by the onsite wetland mitigation construction superintendent.

8. Planned buffer (identify on map).

No specific wetland buffer is planned for the three wetland mitigation areas. In general, these areas are adjacent to (or surrounded by) relatively undisturbed forest, forested wetland, and floodplain wetlands. In this sense, significant buffers are present in the existing condition, and will be retained following restoration. The native plant composition of adjacent forests and forested wetlands are detailed in the March 2006 report entitled "Vegetation of The Concord Resort", included as Attachment 4 (William Kenny Associates, 2006).

a. Evaluation of the buffer's expected contribution to aquatic resource functions

The existing wetland buffers surrounding the proposed mitigation areas currently serve as relatively undisturbed natural areas surrounding maintained golf course features. Because the proposed mitigation design replaces the golf course features with wetlands intended to mimic the

adjacent forested and floodplain wetlands, the existing buffers will continue to provide wetland services functions, and values. In addition, these areas will provide a natural source of additional plant species that will colonize the mitigation areas during the successional grow-in period.

b. Location, dimensions

The native plant composition of adjacent forests and forested wetlands are detailed in the March 2006 report entitled "Vegetation of The Concord Resort", included as Attachment 4 (William Kenny Associates, 2006).

c. Native plant composition, spatial and vertical structure

The native plant composition of adjacent forests and forested wetlands are detailed in the March 2006 report entitled "Vegetation of The Concord Resort", included as Attachment 4 (William Kenny Associates, 2006).

9. Other planned features- interpretive signs, trails, fence(s), etc.

Apart from herbivory control measures, no additional planned features are included as part of this proposed design. Following the grow-in and monitoring period, the restored wetlands may be included in future natural outreach and/or interpretive efforts associated with the resort, and may include hiking trails, observation platforms, or interpretive materials.

H. SITE PROTECTION AND FINANCIAL ASSURANCES

I. Instrument of legal protection

a. Conservation easement

b. Deed restriction

c. Transfer of title

Following approval of the proposed mitigation plan and recommended credit ratios, the Applicant will provide for conservation easements and/or deeds of conservation restriction on the completed mitigation areas. Any future transfer of these parcels will ensure that conservation is maintained in perpetuity.

2. Responsible parties and their role

a. Site owner (Grantor)

b. Easement owner (Holder/Grantee)

c. Maintenance implementation

Following approval of the proposed mitigation plan and recommended credit ratios, the Applicant will provide the required information regarding site owner, easement owner and maintenance implementation.

3. Financial Assurances (if applicable)

For each of the following, identify party(ies) responsible to establish and manage the financial assurance, the specific type of financial instrument, the method used to estimate assurance amount, the date of establishment, and the release and forfeiture conditions:

a. Construction phase

b. Maintenance

c. Monitoring

d. Remedial measures

e. Project success

Following approval of the proposed mitigation plan and recommended credit ratios, the Applicant will provide for financial assurances for each phase of mitigation implementation to ensure that the wetland mitigation provides the requisite number of mitigation credits. The Applicant understands that these financial assurances could take one or more of the forms listed in Item 4 below:

4. Types and schedules of financial assurances (if applicable)

a. Performance bonds

b. Irrevocable trusts

c. Escrow accounts

d. Casualty insurance

e. Letters of credit

Following approval of the proposed mitigation plan and recommended credit ratios, the Applicant will provide the financial assurance, as required.

I. MONITORING PLAN

1. Responsible parties and their role

a. Site owner

Entertainment Properties Trust

909 Walnut St., Suite 200

Kansas City, MO 64106

b. Easement owner

Entertainment Properties Trust

909 Walnut St., Suite 200

Kansas City, MO 64106

c. Monitor

AKRF, Inc.

307 Fellowship Road

Suite 214

Mt. Laurel, NJ 08054

2. Monitoring plan info

a. Identification of monitoring measures that will ensure the achievement of the performance standards

The EPT Concord Resort on-site wetland mitigation areas would be monitored for a seven year performance period. If performance issues are encountered, maintenance actions will be implemented. Maintenance would include the planting of species to replace those lost as a result of mortality greater than 15 percent.

The primary focus of the maintenance plan will be to initiate management and remedial actions necessary to achieve specified performance standards. Maintenance efforts will be designed to ensure establishment of the target vegetation types, the prevention of invasive plant species encroachment within the restored wetlands, and curtailment of herbivory until the time that dense vegetative cover and/or adequate tree growth has become achieved. Maintenance tasks detailed below will be undertaken as directed by the results of the seven year monitoring program and with technical input from the Adaptive Management Team. Any maintenance tasks undertaken during a monitoring year (e.g., adjustments to water control structures, replanting, repairs to herbivory control measures, herbicide application, etc.) will be recorded in an operations and maintenance log and reported annually along with monitoring results.

The mitigation areas will be monitored annually during the growing season for the seven-year monitoring period; however in the first two years monitoring will occur at a frequency of twice per year – once in the spring and again in the fall – to ensure that early tree growth is successful. During this initial monitoring period, field adjustments and decisions based on interim observations will be made to ensure successful grow-in. Some adaptive management initiatives may include mid-season re-planting, adjustment of water control structures to modify hydrology, treatment of invasive species, or seeding of an unstable slope.

Wetland hydrology will be monitored via observations of installed piezometers equipped with automated water-level loggers. Plant/tree survival and herbaceous plant coverage will be monitored to achieve 85 percent survival/ cover through Year 7 with lower percent herbaceous and scrub/shrub cover targets in Year 2 increasing from 65 percent to 85 percent in Years 3 through 7. Invasive plant species will be kept below 10 percent at all times for the sites.

All monitoring and maintenance conducted for the wetland mitigation sites will be performed in accordance with the applicable Federal and State permit conditions. The goal of the monitoring and maintenance program will be to accurately determine the mitigation's success relative to performance standards and goals developed and to identify any problems requiring corrective action.

The mitigation sites will be designed and implemented to meet performance standards that will serve as interim and final success criteria. Monitoring will measure the performance of the mitigation sites and results will be compared to performance standards. If the mitigation sites meet performance standards, success will be achieved. If the mitigation sites do not meet performance standards detailed above, corrective actions will be implemented to achieve success.

b. Quantitative data to be collected and reported (i.e. as built drawings)

The following monitoring and maintenance plan establishes guidelines to measure success of the mitigation sites relative to performance standards. The plan also includes monitoring and maintenance requirements to uncover and correct deficiencies.

Monitoring will address wetland and upland plant communities by zone as well as hydrology of the wetland community. Herbaceous cover will be monitored to determine coverage and survival. Woody species of the forested wetlands will be monitored for survival and coverage. Hydrology of the sites will be monitored via daily observations obtained from piezometer loggers and compared to reference wetlands. Invasive species will be monitored based on percent cover. The details of this monitoring are described below.

Monitoring will be conducted until such time that the USACE and NYDEC and the Adaptive Management Team are satisfied that success is being achieved (i.e., performance standards and permit conditions are attained). The period for monitoring is up to seven years; however, it may be necessary to extend this period if the mitigation sites do not achieve performance standards within that time period.

As-built drawings of the wetland construction activities and a post-construction report will be submitted to the Corps and NYDEC within 60 days from the date of the completion of construction and planting. The as-built drawings shall include all aspects of the final grading elevations and planting arrangements of the wetland mitigation sites. Annual reports will be submitted to the Corps and NYDEC no earlier then 30 days after the completion of the monitoring period and no later than December 31 of each year, for seven years following the first calendar year after completion of construction of the wetland mitigation.

In accordance with anticipated permit requirements, annual reports will include:

• A mitigation plan showing the grading, hydrologic and planting changes, if any, made during the year that is the subject of the report.

• A detailed narrative summarizing the condition of the mitigation sites and all regular or as-needed maintenance activities;

• Identification of plant species, along with their estimated relative percent cover and/or percent survival, along transects with at least one representative transect located in each habitat ecotone within the restored areas.

• Photographs showing all representative areas of the sites taken at least once each year during the period between June 1 and November 1.

Monitoring Plan Details

c. Monitoring schedule, frequency, duration, monitoring stations (including transect locations on map)

The mitigation areas will be monitored annually during the growing season for the seven-year monitoring period; however in the first two years monitoring will occur at a frequency of twice per year – once in the spring and again in the fall – to ensure that early tree growth is successful.

Vegetation Monitoring

Herbaceous Wetlands

Standard statistical methods will be employed to monitor the development of vegetative cover and dominance patterns within the herbaceous portions of the site(s). The vegetation sampling program will be conducted once yearly in late summer/early fall throughout the monitoring period. Permanent transects will be established within the herbaceous wetland areas and the end-points of each transect marked stakes and further located using a handheld GPS unit. One-

meter square quadrats will be established at evenly spaced intervals along each transect. The number of quadrats along each transect will vary depending on transect length.

For each quadrat, a visual estimate of the total percent ground cover of live vegetation will be made, as well as a visual estimate of the ground cover by individual species. Using these data, the following statistics will be generated: the total percent ground cover of live vegetation and percent cover by individual species for each transect, the total percent ground cover of herbaceous vegetation by transect, and the mean total percent ground cover of emergent vegetation for all transects. All data sheets will be included in the annual monitoring reports as an appendix.

Scrub/Shrub Wetlands

A point-quarter stratified random sampling or belt transect sampling program will be conducted to determine woody plant density and dominance within the scrub/shrub portions of the site(s). Several point quarter sampling or belt transects will be established across the scrub/shrub zone, with approximately ten points along each transect. This methodology generates estimates of density (number of woody stems or individuals per acre), relative density (the density proportioned between the various species), and frequency (the percentage of occurrence of a species within the sampling plots).

Within each of the point quarter sampling transects or belts, one-meter square quadrats will also be placed to measure herbaceous ground cover. For each quadrat, a visual estimate of the total percent ground cover of live herbaceous vegetation will be made and a visual estimate of the ground cover by individual herbaceous species will be made. The arithmetic mean for the total percent ground cover of the herbaceous layer by transect or belt transect will be reported.

Observations that scrub/shrub plants are thriving will include positive indications of leaf growth and crown development, and stem growth (in terms of height). Only live plants will be measured; any dead plant material encountered from the previous growing season will be noted and counted. Along each transect, 50 percent of the sampled woody plant species will be measured for height and crown development. Data will be tabulated and plotted and compared to the previous year's data to document a trend of plant vigor and growth.

All data sheets will be included in the annual monitoring reports as an appendix.

Forested Wetlands

A point-quarter stratified random sampling program or belt transect will be conducted to determine woody plant density and dominance within the forested wetland portions of the site(s). Several point quarter sampling or belt transects will be established across the forested wetlands, with approximately ten points along each transect. This methodology generates estimates of density (number of woody stems or individuals per acre), relative density (the density proportioned between the various species), and frequency (the percentage of occurrence of a species within the sampling plots).

Within each of the point quarter sampling transects or belt transects, one-meter square quadrats will be placed to measure herbaceous ground cover. For each quadrat, a visual estimate of the total percent ground cover of live herbaceous vegetation will be made and a visual estimate of the ground cover by individual herbaceous species will be made. The arithmetic mean for the total percent ground cover of the herbaceous layer by transect will be reported.

Observations that woody plants are thriving will include positive indications of leaf growth and crown development, and stem growth in terms of height. Only live plants will be measured; any dead plant material encountered from the previous growing season will be noted and counted. Along each transect, 50 percent of the sampled woody plant species will be measured for height and crown development. Hemlocks will also be inspected annually for the presence of the invasive insect, the hemlock woolly adelgid (*Adelges tsugae*). Data will be tabulated and plotted and compared to the previous year's data to document a trend of plant vigor and growth.

All data sheets will be included in the annual monitoring reports as an appendix.

3. Functional assessment

Each annual report will include an assessment of the wetlands services, functions, and values following the HGM methods described above. It is expected that some functional values will change through time as the desired ecological succession occurs within the restoration areas (i.e., wet meadow to forested wetlands).

4. Monitoring report submission plans (dates, etc)

Vegetation Mapping

Within the first annual report, an "as-built" drawing will be included that depicts final grading elevations and planting arrangements of the wetland mitigation areas. Vegetation cover maps at a scale of 1 inch equals 100 feet or larger will be prepared for subsequent monitoring years.

Site Photographs

A series of representative photographs showing all vegetation zones will be included in each monitoring report. These photographs will show vegetation development on a broad-scale and close-ups of plant growth patterns. Photo locations will be located using a handheld GPS unit and will be collected from the same location and in the same direction in each monitoring year to facilitate interannual comparisons.

Monitoring Of Hydrology Establishment

Within each wetland restoration area, piezometers will be installed and equipped with submersible water-level loggers to record surficial groundwater elevations at a minimum frequency of twice per day. These results will be compared to the surficial groundwater elevations within mapped wetlands in adjacent reference sites (e.g., floodplain to floodplain, hemlock to hemlock, etc.). For restored wetland areas in which water control structures have been manipulated during the course of the year, the operations and maintenance logs documenting these management efforts will also be compared to the affected groundwater data and reported.

Conclusions and Recommendations

Each annual monitoring report will include a conclusions and recommendations section consisting of observations made by both the monitoring team and the Adaptive Management Team. General observations of wildlife utilization of the mitigation sites will be made, as well as observations of herbivory pressures and any encroachment of invasive species. Statistical data developed from monitoring activities will be evaluated and discussed relative to anticipated performance standards. Recommendations and timeframes for implementation for maintenance and corrective measures relative to anticipated performance standards will be included in this section of each annual monitoring report

J. MAINTENANCE AND ADAPTIVE MANAGEMENT PLAN

1. Maintenance Plan and Schedule

In general, no routine maintenance is needed for the Mitigation Areas. Deficiencies in invasive species control herbivory control, vegetative success, and structures during routine monitoring will be corrected on an *ad hoc* basis as necessary.

a. Environmental monitor/manager

The environmental monitor/manager will be AKRF, Inc.

b. Invasive species control plan (plant and animal)

As discussed above, the Mitigation Areas will be monitored for the presence of invasive plant species. If present in amounts or densities in excess of the interim success criteria, invasive plant species will be spot treated with an herbicide approved for use in wetlands/aquatic areas, or will be mechanically removed, as appropriate. Follow-up monitoring will be used to prevent re-invasion of treated areas.

c. Measures to control predation/grazing of mitigation plantings

Herbivory fencing around the site will be inspected during field monitoring efforts to ensure that fence integrity is maintained. Field repairs will be made as necessary to restore damaged fencing.

d. Replacement planting plan

As discussed above and in the Adaptive Management Plan below, areas not meeting vegetative success criteria will be reseeded as necessary in the year of observation, and replanted with appropriate trees in the subsequent year.

e. Structure maintenance/repair

Water control structures will be inspected during routine monitoring to identify missing riser boards (stop logs), structural damage or vandalism, clogging with debris, erosion, or other deficiencies that affect the restoration. To the extent practicable, repairs will be made in the field; however, larger repairs may require local contractor involvement, if and as necessary.

f. Chemical controls or amendments

Following planting, no additional chemical controls (beyond herbicide application as needed) or soil amendments are anticipated for the Mitigation Areas.

2. Adaptive Management Plan

Adaptive Management is a science-based approach to managing ecological systems and communities that are continuously evolving. Adaptive Management involves the exploration of alternative means to meet ecological management objectives, anticipating outcomes of certain management actions, monitoring the effects of management strategies, and using the results for future management efforts.

A multi-disciplinary Adaptive Management Team, made up of representatives of AKRF, Inc., and M.N. Gilbert Environmental, will track the mitigation project against expected progress to ensure that the project stays on the appropriate trajectory to success. The Team will periodically visit the site, and will review the data collected during the annual monitoring events to confirm

that the creation and enhancement efforts are progressing appropriately for the overall project to meet established success criteria. As necessary and appropriate, the Adaptive Management Team will address any identified problems on an ongoing basis and will implement appropriate monitoring programs and/or alternatives to guide the mitigation.

a. Identification/solutions to potential challenges that pose a risk to project success

The Adaptive Management Team will identify maintenance concerns, observe wildlife and waterfowl use of the sites, evaluate the effectiveness of design and engineering, and determine whether additional data gathering or adaptive management responses are needed. Identified problems, such as insufficient hydrology, sediment erosion, poor drainage, or other conditions that might ultimately interfere with mitigation success will be addressed using a suite of corrective action approaches and tools. These approaches and tools include (but are not limited to) providing additional water to the site, providing alternative vegetation types, identifying off-site related impacts to the mitigation area, planting upland edges of the mitigation area, reducing wetland surface elevation, and soil amendments. The Adaptive Management Process is outlined in Figure 34. The Success Criteria that will serve as a basis for the overall Adaptive Management Process are presented above.

b. Discussion of potential remedial measures in the event mitigation does not meet performance standards in specified time frame.

As part of the overall Process, the Adaptive Management Team will be tasked with reviewing site data and Monitoring Reports to ensure that desirable wetlands species listed above are growing in accordance with the Success Criteria outlined. If it is determined that trees and shrubs are not observed at or above the average plants per acre identified, and plants observed in the Mitigation Areas are not growing at the acceptable rates presented for each Monitoring Year, then supplemental planting will be performed as prescribed.

In addition to tracking success of the seeded plant species in the Mitigation Areas, the Adaptive Management Team will review vegetative species documented at the site to ensure that no invasive, exotic, or noxious species are colonizing the mitigation site, in accordance with the interim and final success criteria listed above.

Contingency Inspections will be performed to document any damage or destruction that may occur to the site as a result of severe weather conditions or events. These inspections will be performed at a minimum annually, in the spring of each Monitoring Year, or after any potentially damaging weather events. During these inspections, a general assessment of the site will be performed in order to document any damage that may have occurred. If it is determined that significant damage has occurred to the site, the Adaptive Management Team will identify solutions to resolve any concerns that may exist as to the functionality or sustainability of the site.

TABLES

Table 1 – Wetland impacts by Wetland ID, impact category, and Project Phase.

	Permanent Fill of Vegetated Wetland		Permanent Fill in Unvegetated		Temporary Disturbance		Hand Clearing (no fill)		Open Water Expansion		Total		
Wetland ID	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Phase
3	0	126	0	0	0	149	0	0	0	0	0	275	2014 Plan
9	0.39	16,668	0	0	0.04	1,867	0.02	1,082	0	0	0.45	19,617	2014 Plan
20	0.04	1,857	0	0	0	0	0	0	0	0	0.04	1,857	2014 Plan-Non-JD
22	0.01	497	0	0	0.02	720	0	0	0	0	0.03	1,217	2014 Plan
25	0	33	0	0	0	0	0	0	0	0	0	33	Future Development
27	0.09	4,380	0	0	0	0	0	0	0	0	0.09	4,380	Future Development
31c	0	151	0	0	0	0	0	0	0	0	0	151	Future Development
32	0.64	27,918	0	0	0	0	0	0	0	0	0.64	27,918	2014 Plan
33b	0.05	2,339	0	0	0.02	1,063	0	0	0	0	0.07	3,402	2014 Plan
34	0.23	9,800	0	0	0.04	1,916	0.06	2,467	0	0	0.33	14,183	2014 Plan
36	0	0	0	0	0	0	0.31	13,370	0	0	0.31	13,370	2014 Plan
37	0.01	278	0	0	0	0	0	0	0	0	0.01	278	Future Development
40	0.03	1,226	0	0	0	0	0	0	0	0	0.03	1,226	Future Development
45a	0	0	0	0	0	74	0.27	11,798	0	0	0.27	11,872	2014 Plan
45b	0	0	0	0	0	83	2.84	123,844	0	0	2.84	123,927	2014 Plan
52b	0	29	0	0	0	0	0	0	0	0	0	29	2014 Plan
57	0.05	2,330	0	0	0.3	13,034	0.08	882	0	0	0.43	16,246	2014 Plan
71	1.26	55,065	0	0	0.12	5,290	0	0	0	0	1.38	60,355	2014 Plan
72	0.37	16,084	0	0	0.06	2,778	0	0	0	0	0.43	18,862	2014 Plan
108	0	0	0.28	11,986	0	0	0	0	0	0	0.28	11,986	2014 Plan
113	0	0	0	0	0	0	0	0	0.28	12,069	0.28	12,069	2014 Plan
TOTAL (jurisdictional only)	**3.13**	**136,924**	**0.28**	**11,986**	**0.6**	**26,974**	**3.58**	**153,443**	**0.28**	**12,069**	**7.87**	**341,396**	

Table 2 - Area of wetland impact by jurisdiction and wetland type for the EPT Concord Resort project, with proposed mitigation ratios. This mitigation plan provides for 11.05 acres of on-site mitigation.

	Permanent Fill of Vegetated Wetland		Permanent Fill in Unvegetated Wetland		Temporary Disturbance		Hand Clearing (no fill)		Open Water Expansion		Total	
Wetland ID	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft	Acre	Sq Ft
NYSDEC and USACOE	1.35	59,151	0	0	0.44	19,044	0.08	882	0	0	1.87	79,077
USACOE Only	1.78	77,773	0.28	11,986	0.16	7,930	3.5	152,561	0.28	12,069	6	262,319
TOTAL (jurisdictional only)	**3.13**	**136,924**	**0.28**	**11,986**	**0.6**	**26,974**	**3.58**	**153,443**	**0.28**	**12,069**	**7.87**	**341,396**
Proposed Mitigation Ratio	2	2	1	1	0	0	1	1	0	0		
Mitigation Area	**6.26**	**273,848**	**0.28**	**11,986**	**0**	**0**	**3.58**	**153,443**	**0**	**0**	**10.12**	**439,277**
Non-Jurisdictional	0.04	1,857	0	0	0	0	0	0	0	0	0.04	1,857

Table 3 – HGM evaluation of wetlands functions and values for impacted wetlands and proposed mitigation areas, by wetland type.

Wetland Type	Impact Acres	Mitigation Acres	Modification of groundwater discharge	Modification of groundwater recharge	Storm and floodwater storage	Modification of stream flow	Modification of water quality	Export of detritus	Contribution to abundance and diversity of wetland vegetation	Contribution to abundance and diversity of wetland fauna
Sloped Forested Red Maple	2.32	2.5	Medium	Medium	Medium	Medium	Medium	High	High	High
Low Gradient Slope Forested Red Maple	0		High	High	High	High	High	Medium	High	High
Riverine Forested Red Maple	0.46	3.1	Medium	Medium	Medium	Medium	High	High	High	High
Depressional Forested Red Maple	0		High	High	High	High	High	Low	High	High
Depressional Scrub/Shrub	0		High	High	High	High	Medium	Low	Medium	Medium
Pond/Lake	0.56		Low	Low	High	Low	Low	Low	Low	Medium
Sloped Forested Hemlock	1.395	0.7	Medium	Medium	Medium	Medium	High	Medium	Low	Low
Low Gradient Sloped Forested Hemlock	0		High	High	High	High	High	High	Low	Low
Riverine Forested Hemlock	0.01	3.6	Medium	Medium	Medium	Medium	High	High	Low	Low
Depressional Forested Hemlock	3.125		High	High	High	High	High	Low	Low	Low
Sloped Wet Meadow	0	1.1	Medium	Medium	Medium	Medium	Medium	Medium	High	High
Lacustrine Fringe Scrub/Shrub	0	2.5	Low	Low	Low	Low	Low	Medium	Medium	Medium
	7.87	11.05								

Table 4 – SWMM Model Subcatchment Input Parameter Summary

Parameter	Description	Value	Units
Area	Area of subcatchment	220.78	acres
Width	Characteristic width of overland flow path	2385	feet
% Slope	Average surface slope	2.25	%
% Imperv	Percent of subcatchment area which is impervious	33	%
N-Imperv	Manning's "n" for impervious area	0.013	
N-Perv	Manning's "n" for pervious area	0.4	
Dstore-Imperv	Depth of depression storage on impervious area	0.1	inches
Dstore-Perv	Depth of depression storage on pervious area	0.3	inches
%Zero-Imperv	Percent of impervious area with no depression storage	25	%
Subarea Routing	Choice of internal runoff routing between pervious and impervious subareas	Pervious*	
Percent Routed	Percent of runoff routed from impervious to pervious subareas	33	%
Infiltration Model			
- Method	Infiltration loss modeling method	Green-Ampt	
- Suction Head	Average value of soil capillary suction head along the wetting front	8.5	inches
- Conductivity	Soil saturated hydraulic conductivity	0.05	in/hr
- Initial Deficit	Fraction of soil volume that is initially dry (i.e., difference between soil porosity and initial moisture content)	0.15	

* The "Pervious" subarea routing method assumes that a percentage runoff, set by the Percent Routed parameter, is routed from impervious areas to pervious areas.

FIGURES

Figure 1 – Concord Resort project location.

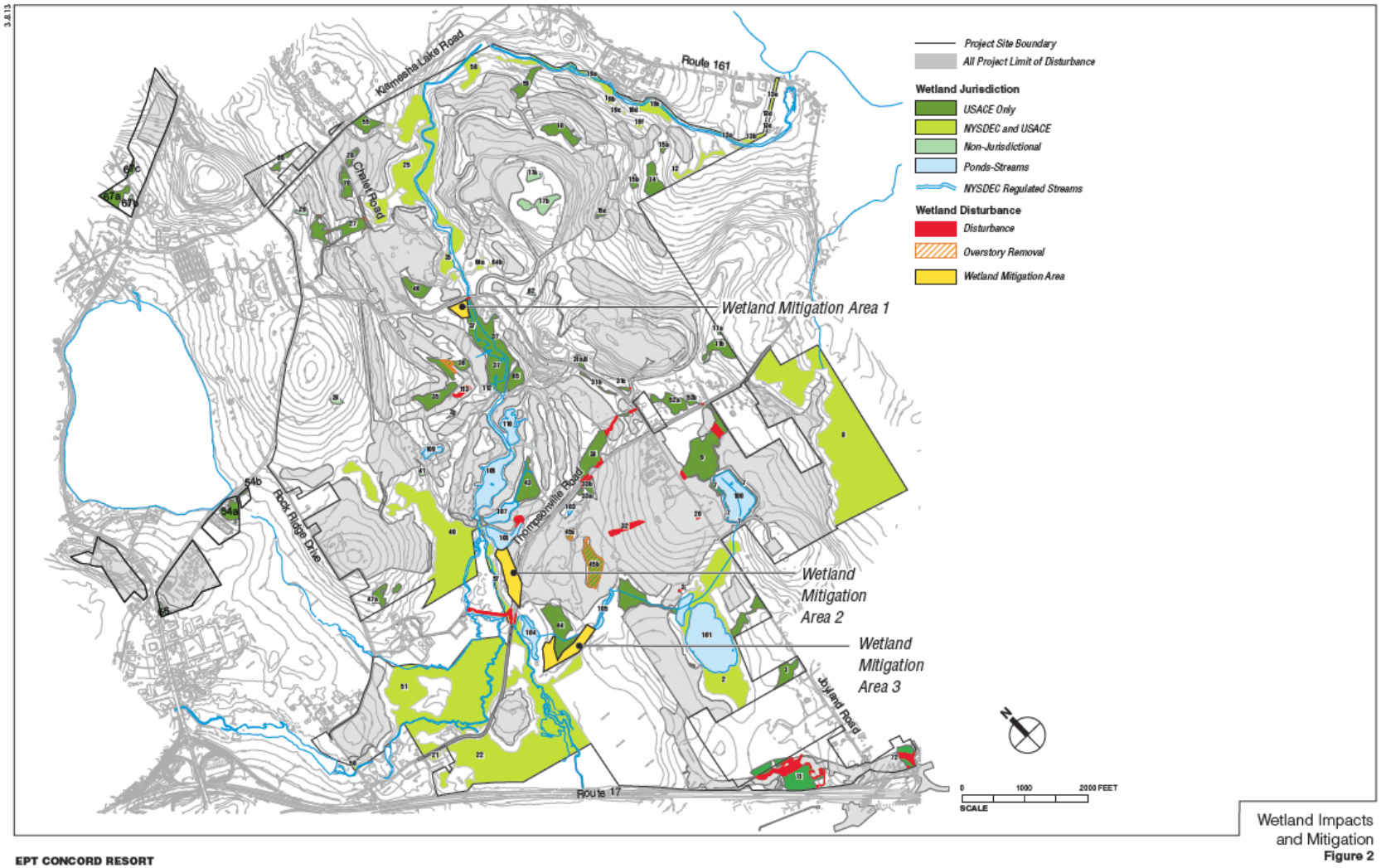


Figure 2 – Impacts on wetlands and waterbodies. The three mitigation areas are also identified.

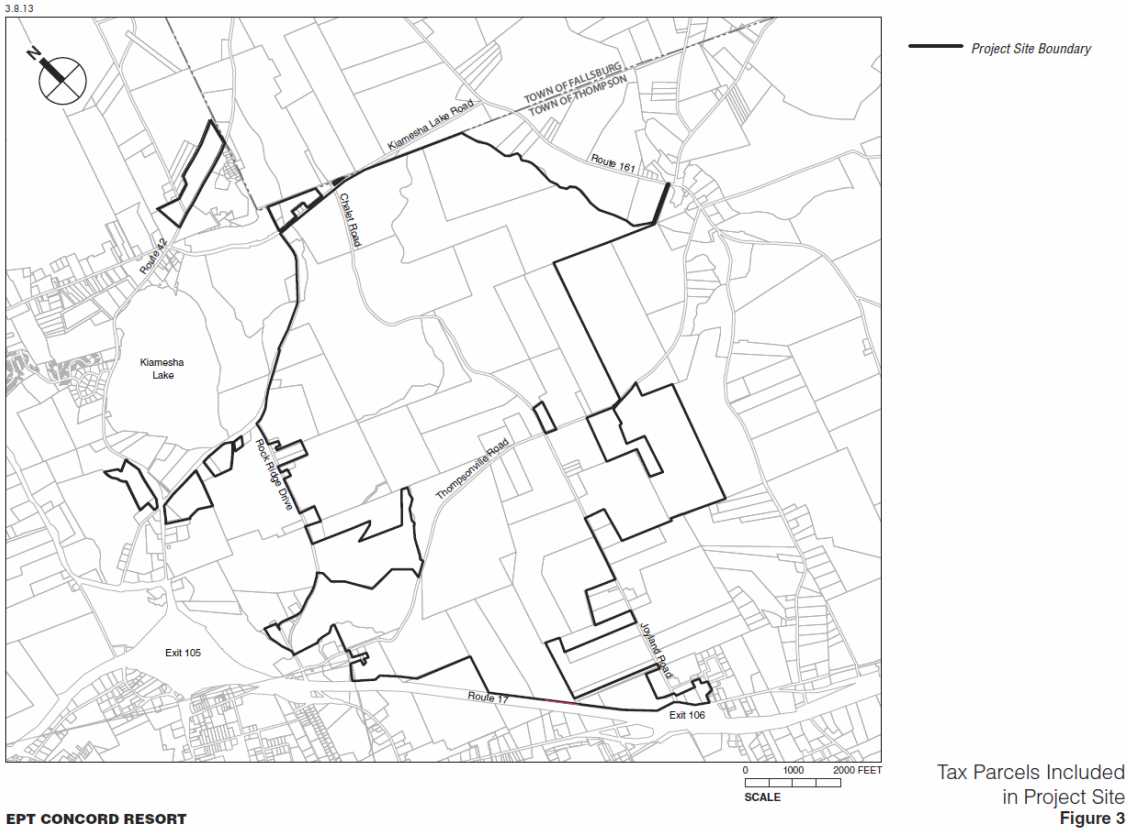


Figure 3 – Tax parcels within the Project Site.

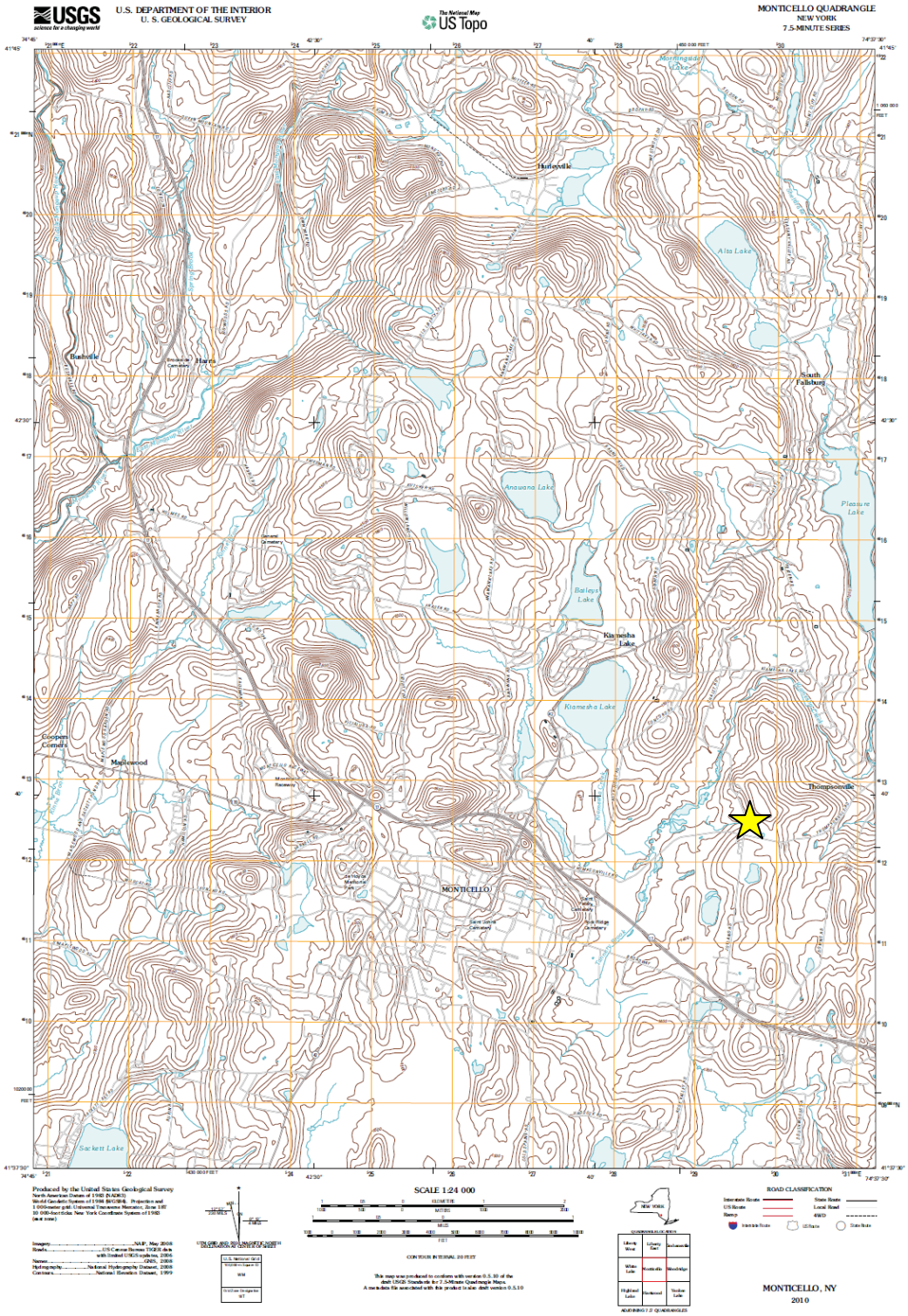


Figure 4 – USGS 7.5 Minute Series Quadrangle Map. The EPT Concord site is indicated by the star.

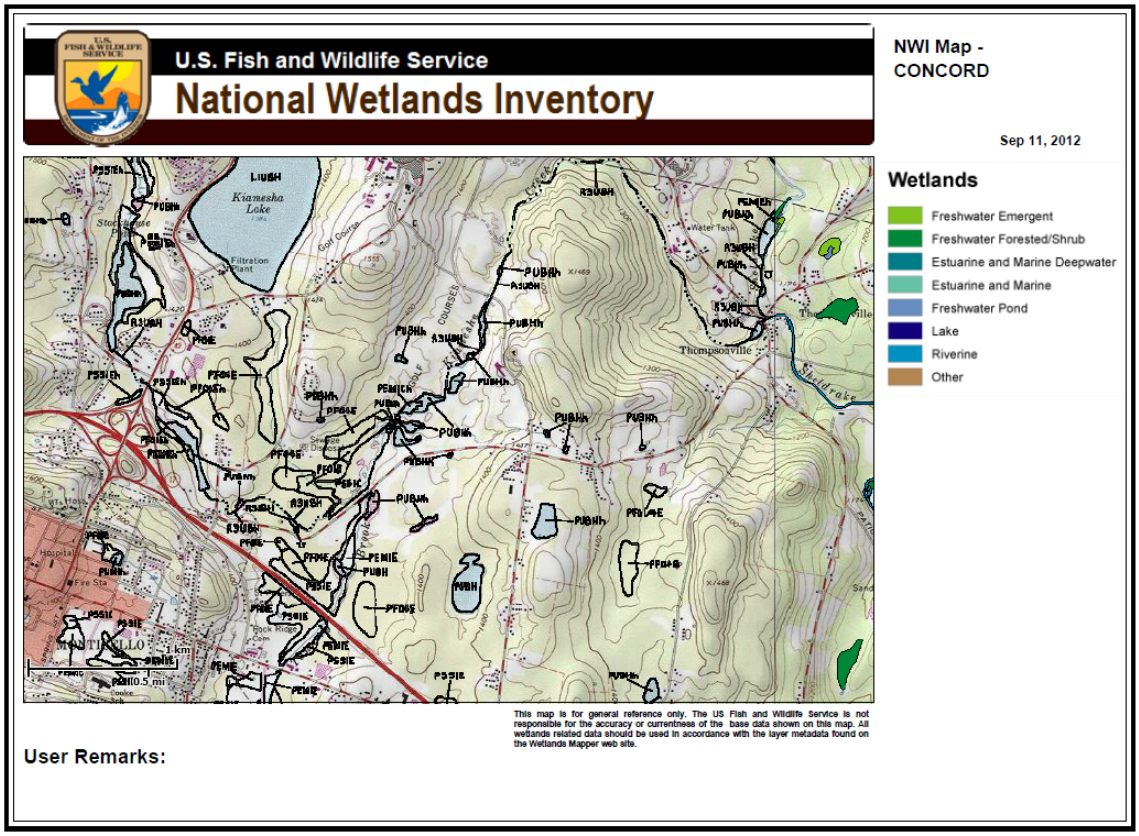


Figure 5 – National Wetland Inventory Map of the Project Site.

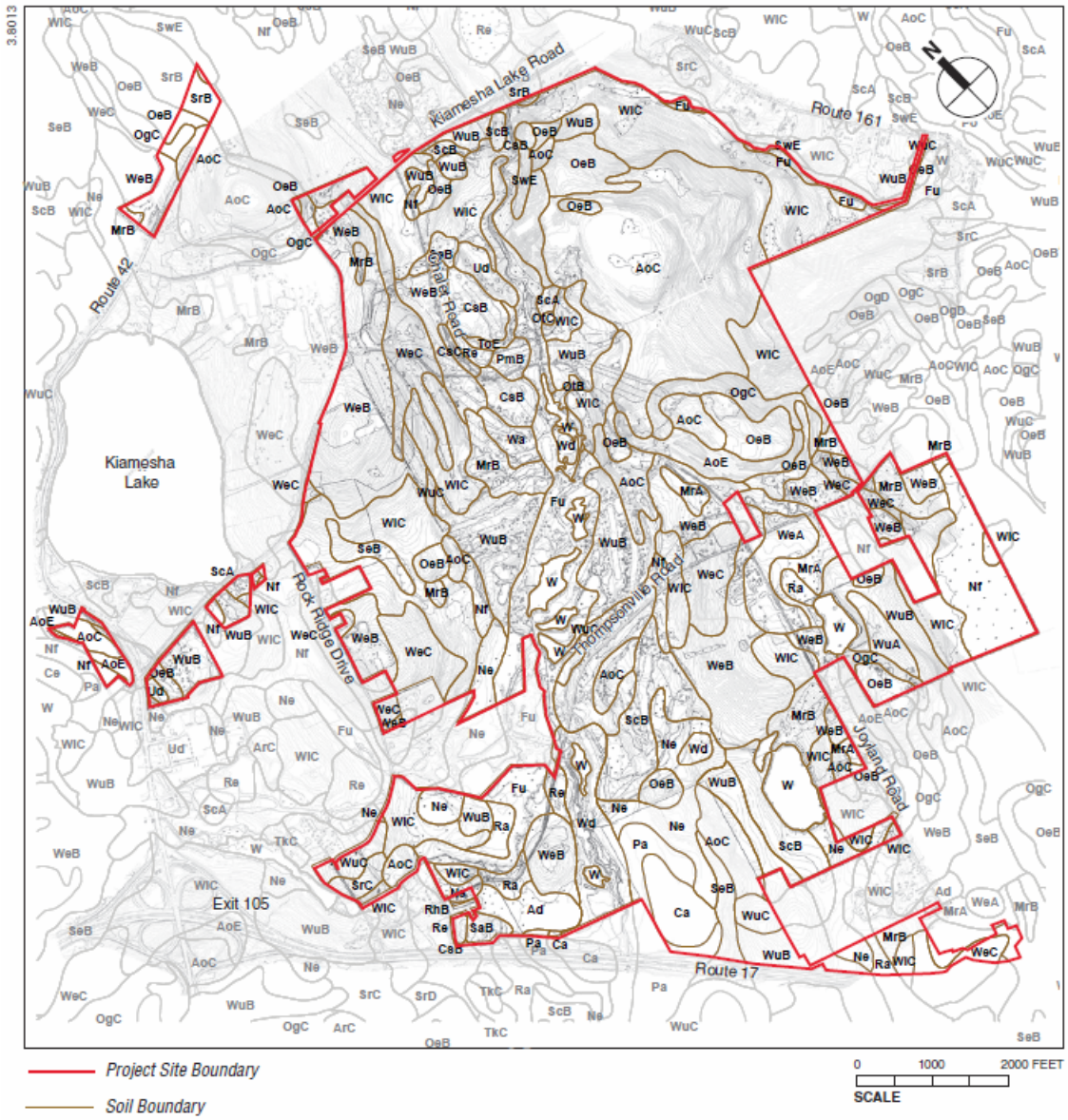


Figure 6 – NRCS soils map data for the property.

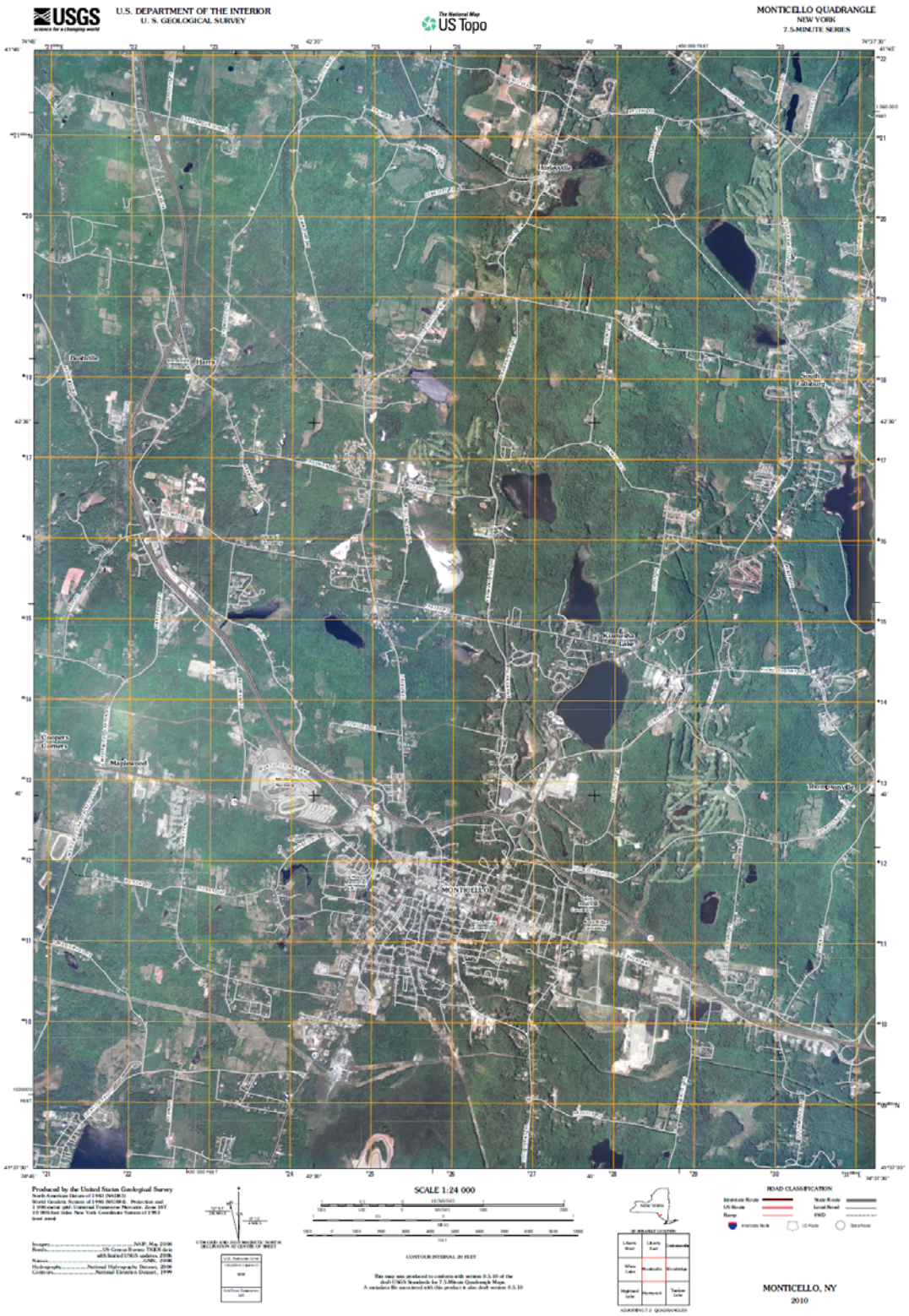


Figure 7 – USGS Aerial Imagery on 7.5 Minute Series Quadrangle Map.

Figure 8 – Reference wetland for Mitigation Area 1.

Figure 9 – Mitigation Area 1 looking north.

Figure 10 – Reference floodplain wetland for Mitigation Area 2.

Figure 11 – Fairway and green in Mitigation Area 2, looking south.

Figure 12 – Mitigation Area 2 looking north.

Figure 13 – Reference wetland for Mitigation Area 3.

Figure 14 – Center of Mitigation Area 3 looking east.

Figure 15 – Mitigation Area 3 looking north towards existing pond. A monitoring well is visible in the foreground.

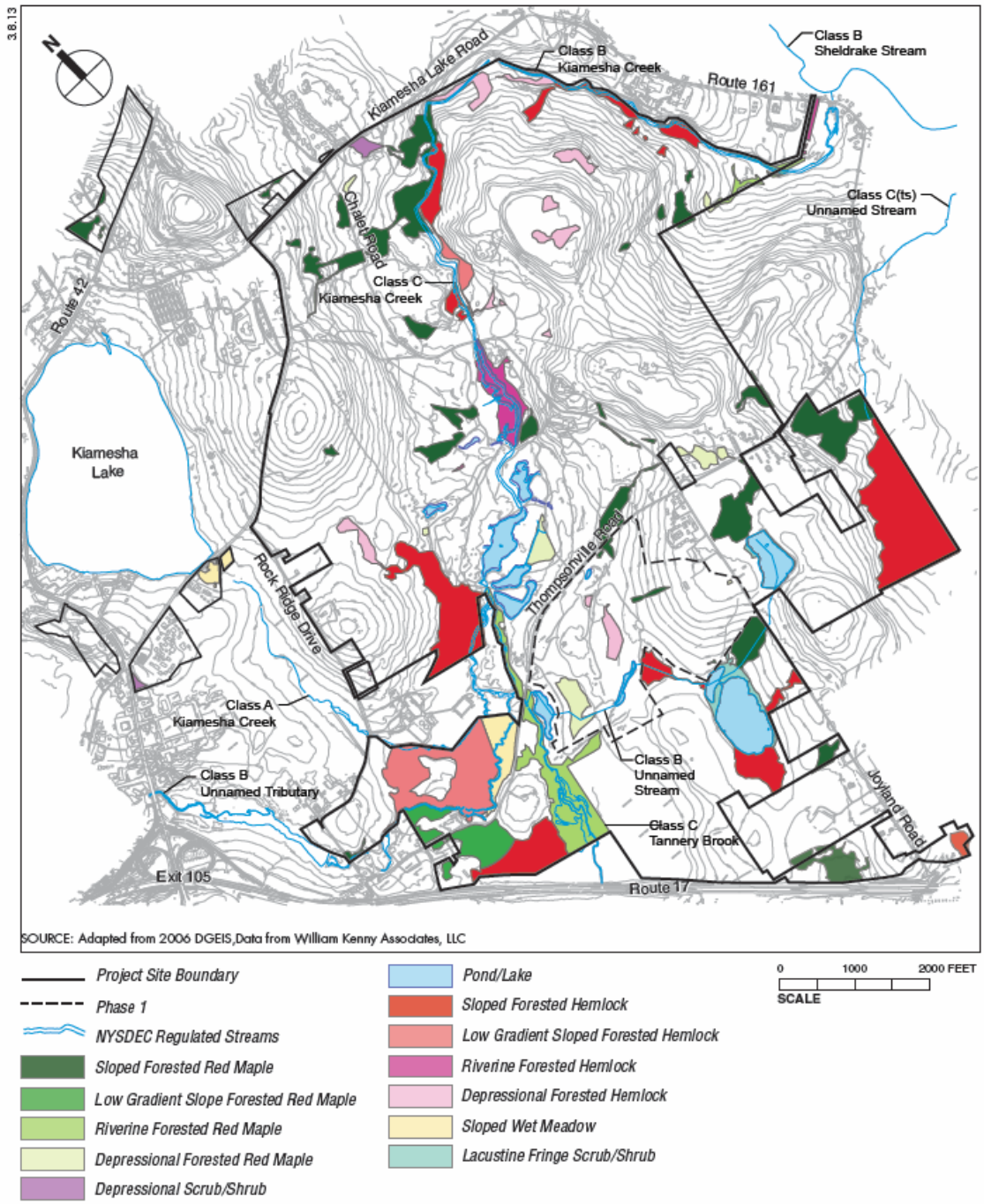


Figure 16 – Wetlands and streams within the Concord Resort property.

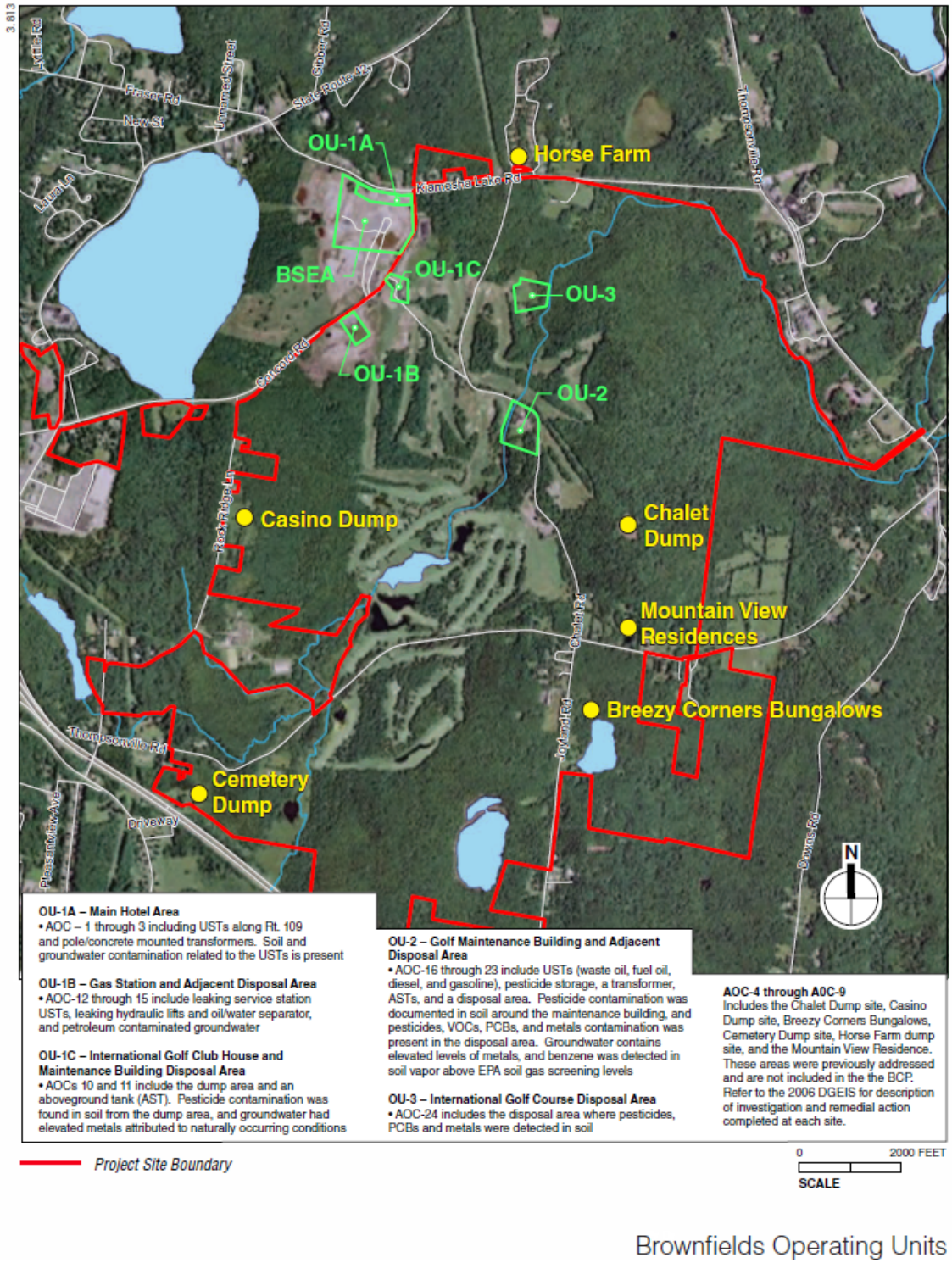


Figure 17 – Brownfields operating units near the Concord Resort property.

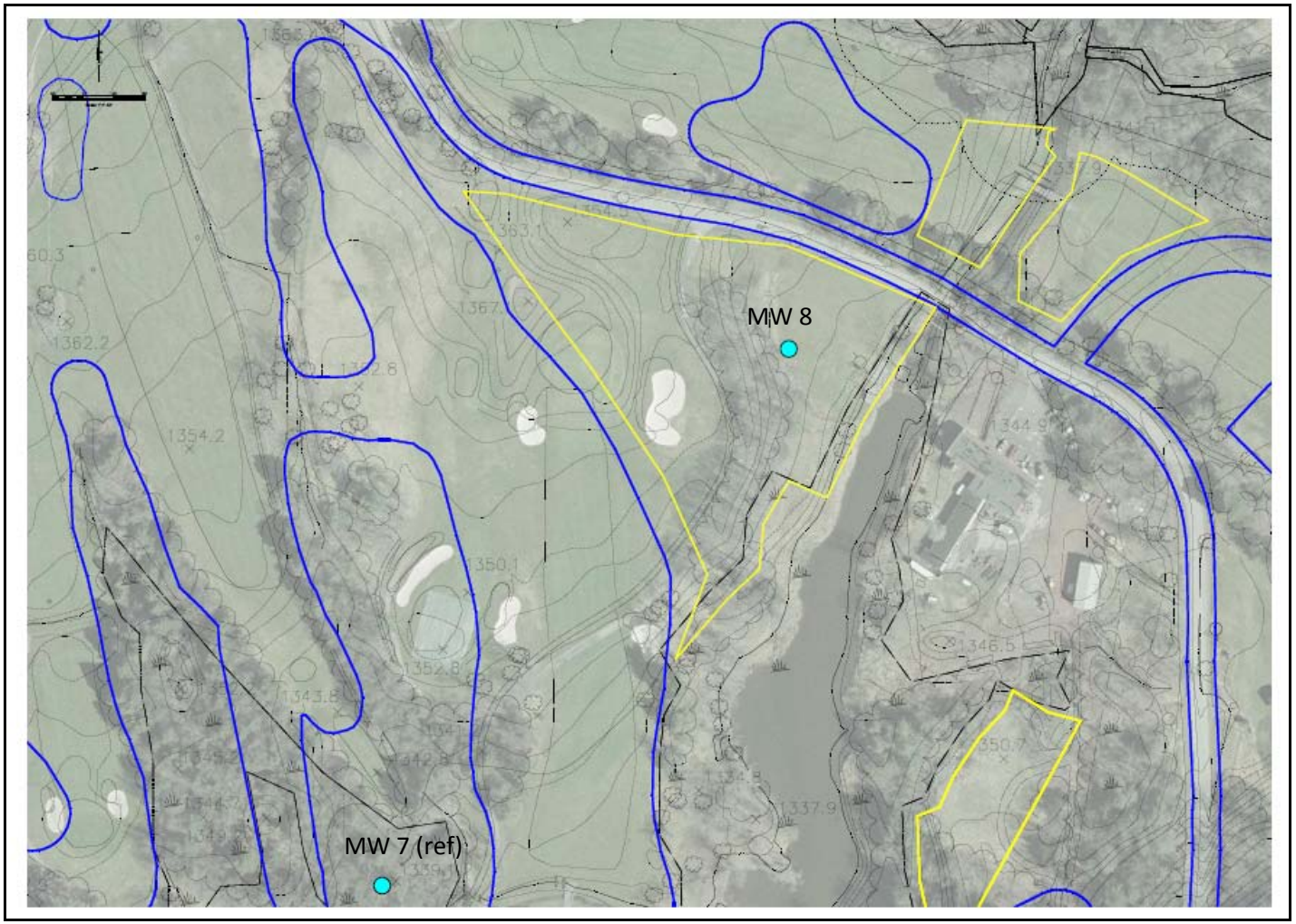


Figure 18 – Location of monitoring wells in Mitigation Area 1.

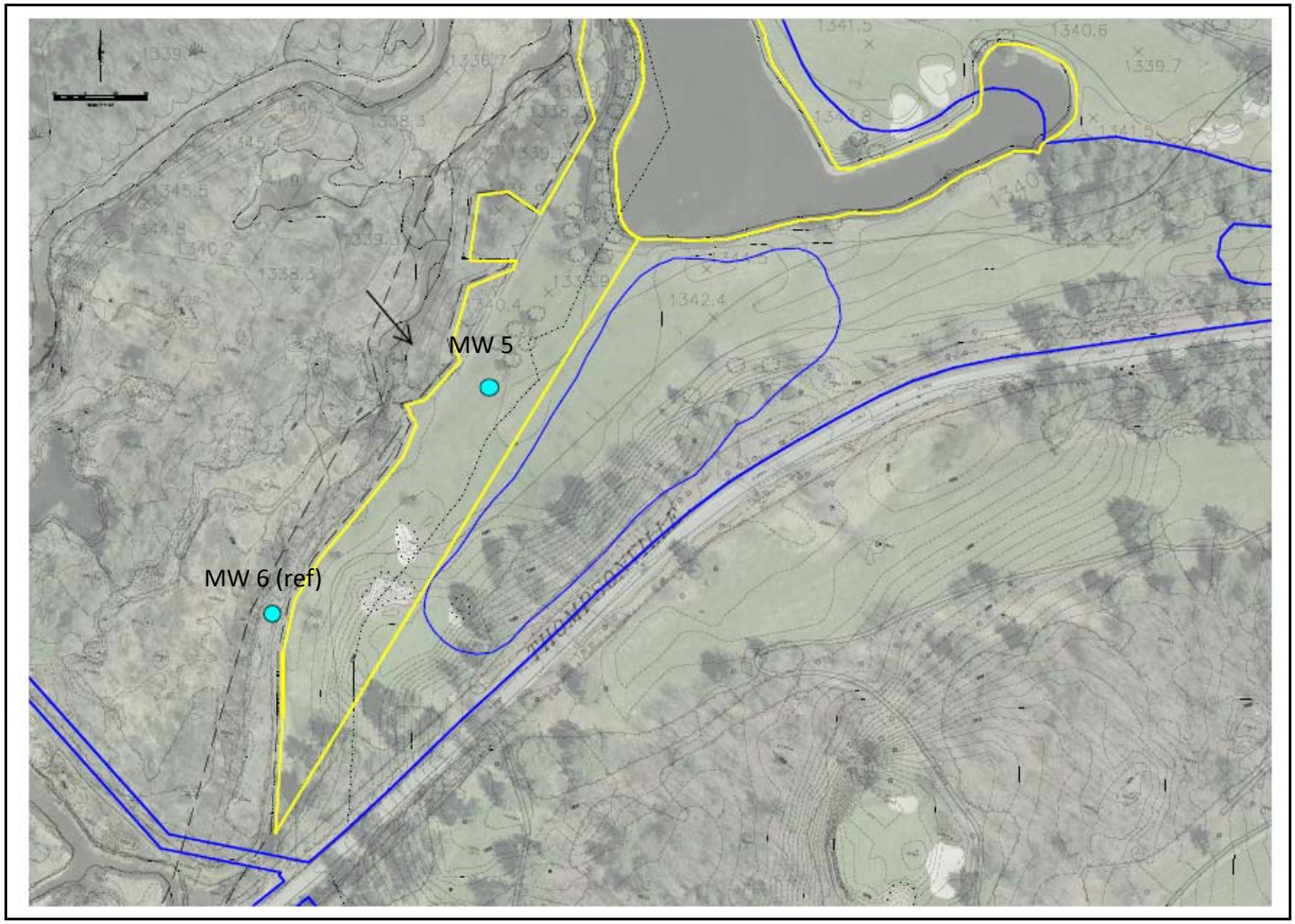


Figure 19 – Location of monitoring wells in Mitigation Area 2.

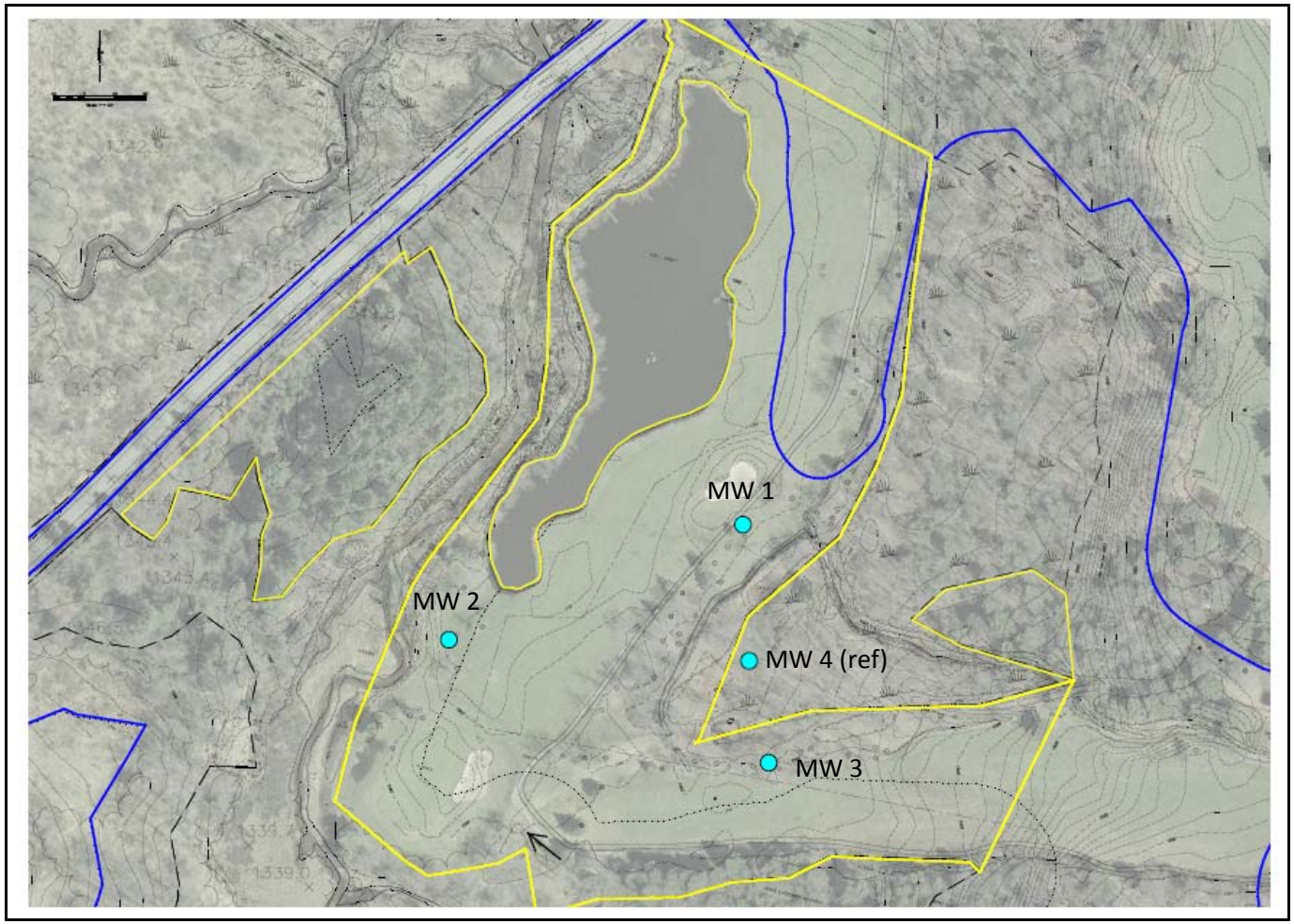


Figure 20 – Locations of monitoring wells in Mitigation Area 3.

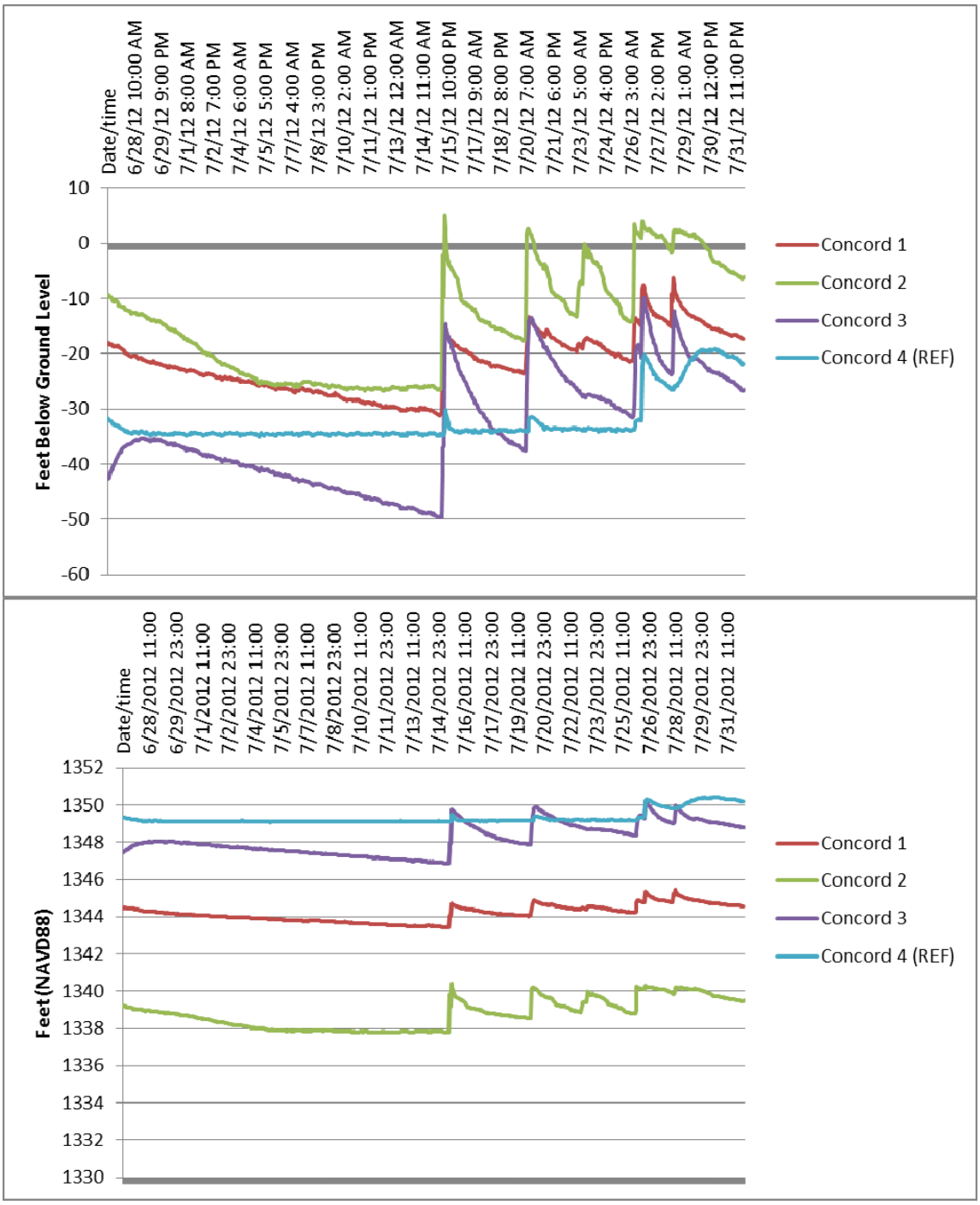


Figure 21- Groundwater depth and elevations from Area 3 for the period 6/18/12 through 7/31/12

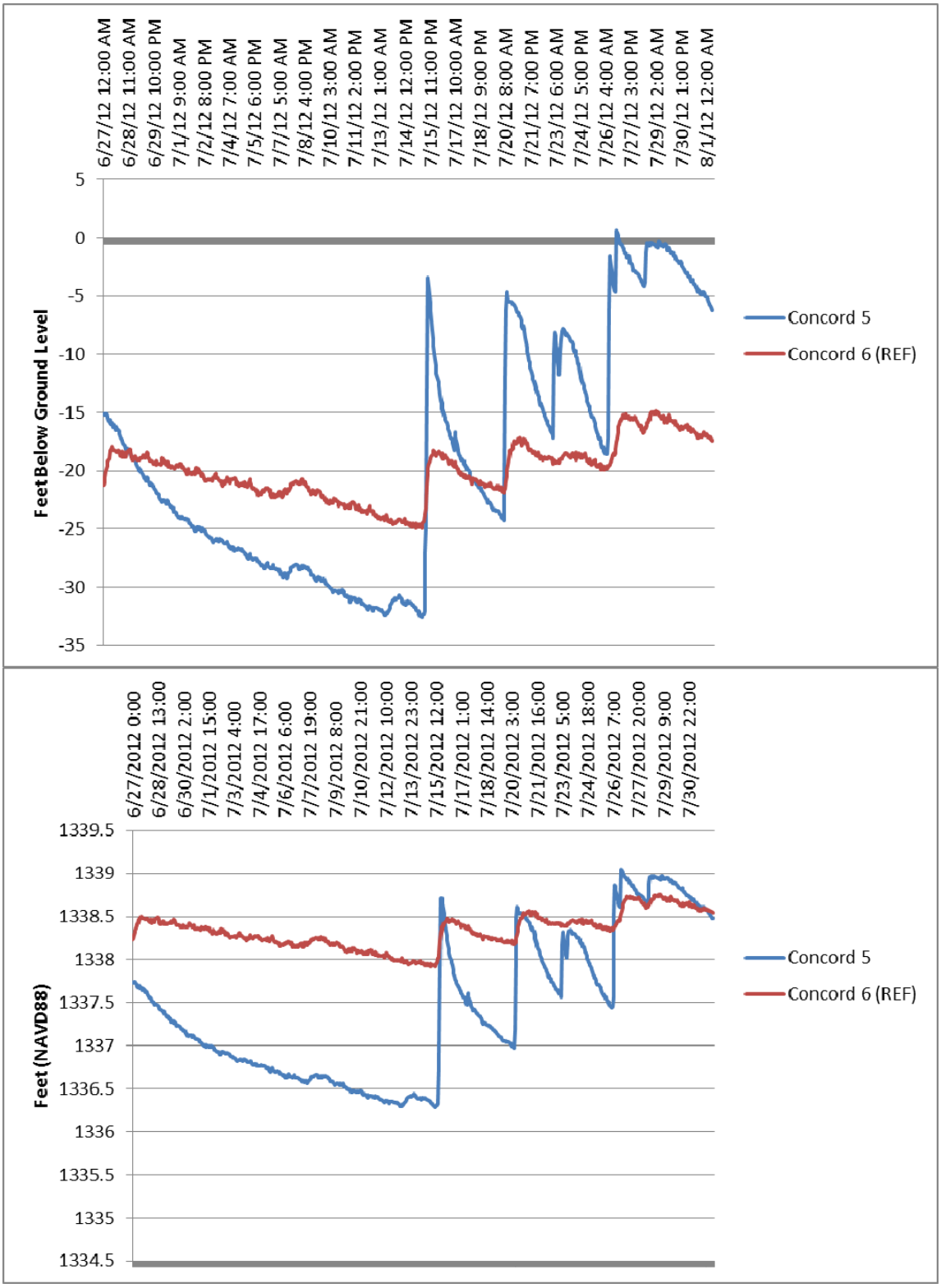


Figure 22 - Groundwater depth and elevations from Area 2 for the period 6/18/12 through 7/31/12

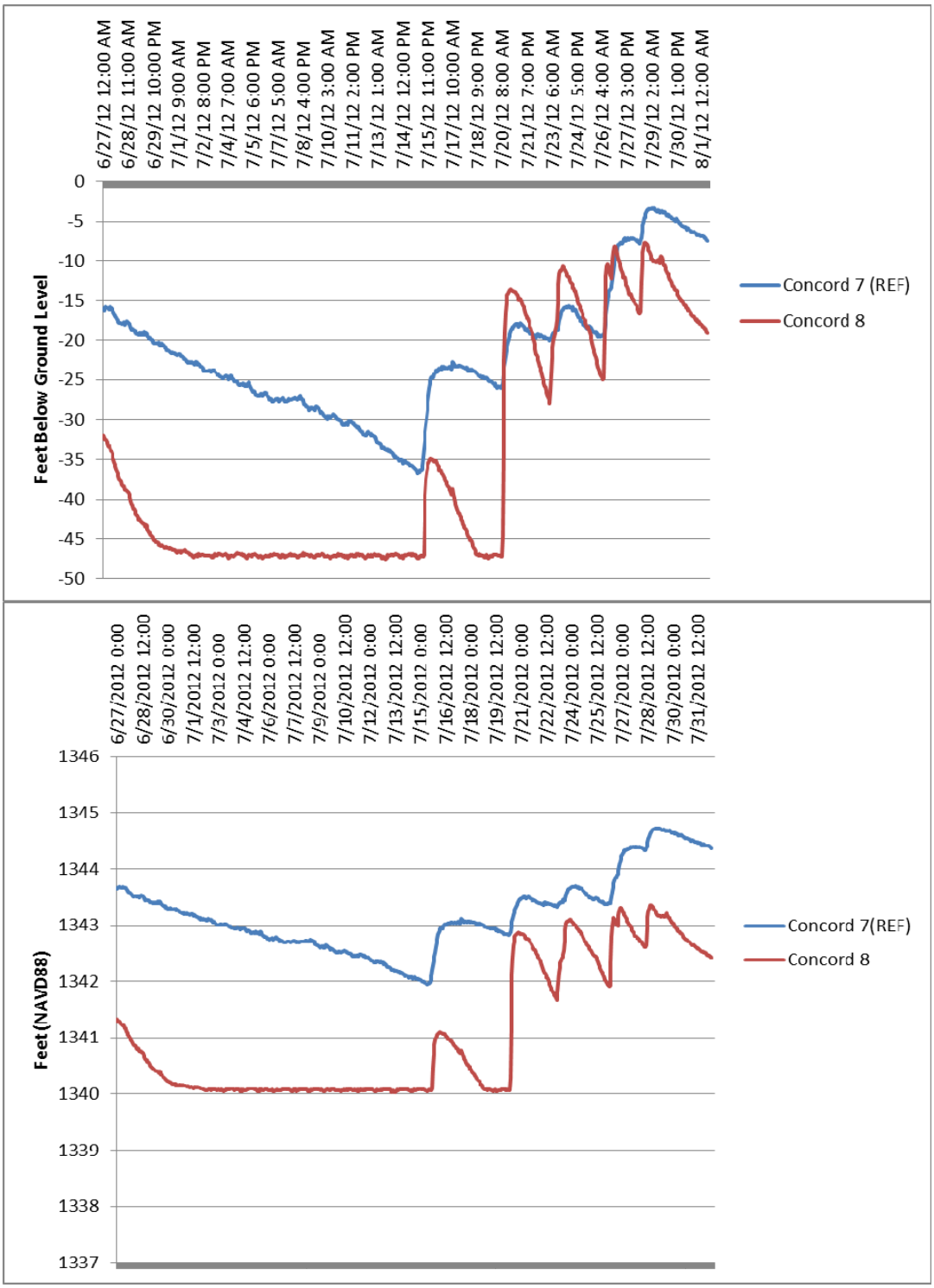


Figure 23 - Groundwater depth and elevations from Area 2 for the period 6/18/12 through 7/31/12

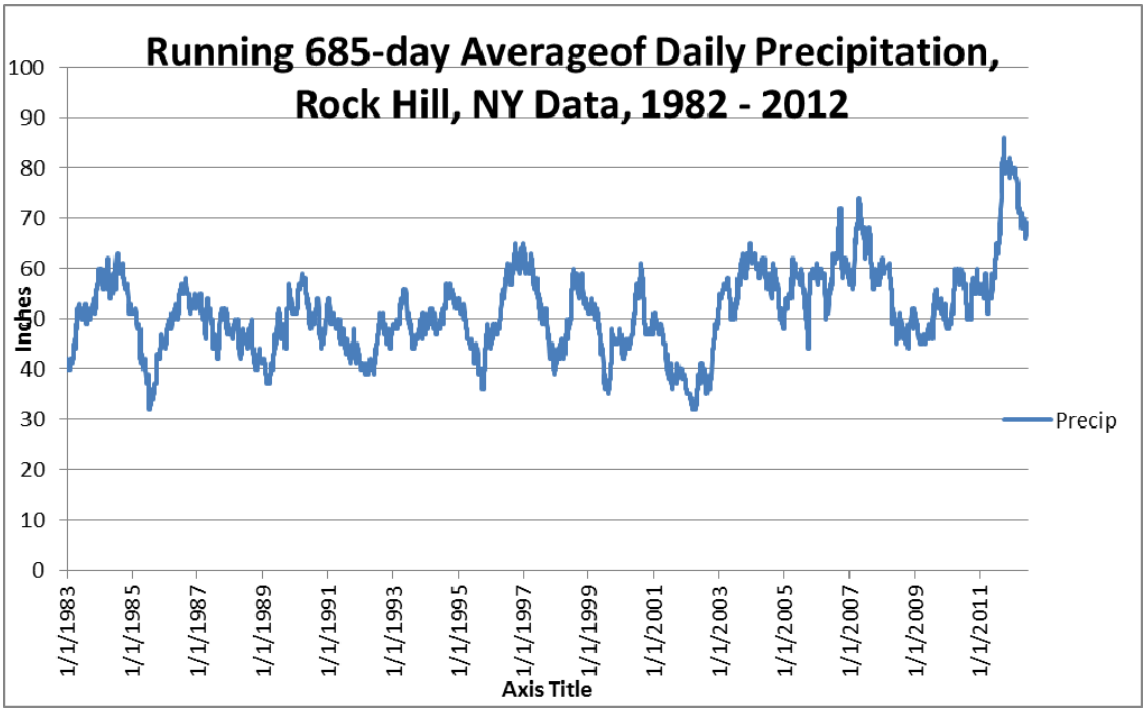


Figure 24 – Running 685-day moving average of daily precipitation for Rock Hill, NY, 1982 - 2012

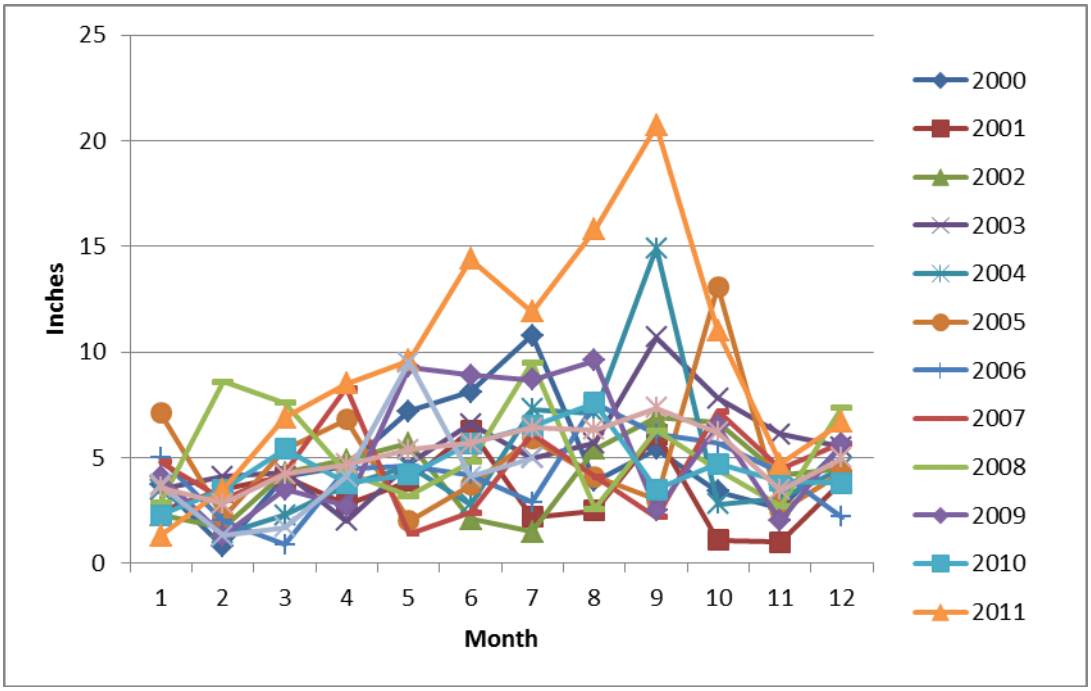


Figure 25 – Monthly rainfall (in inches) by year for the period 2000 – 2011.

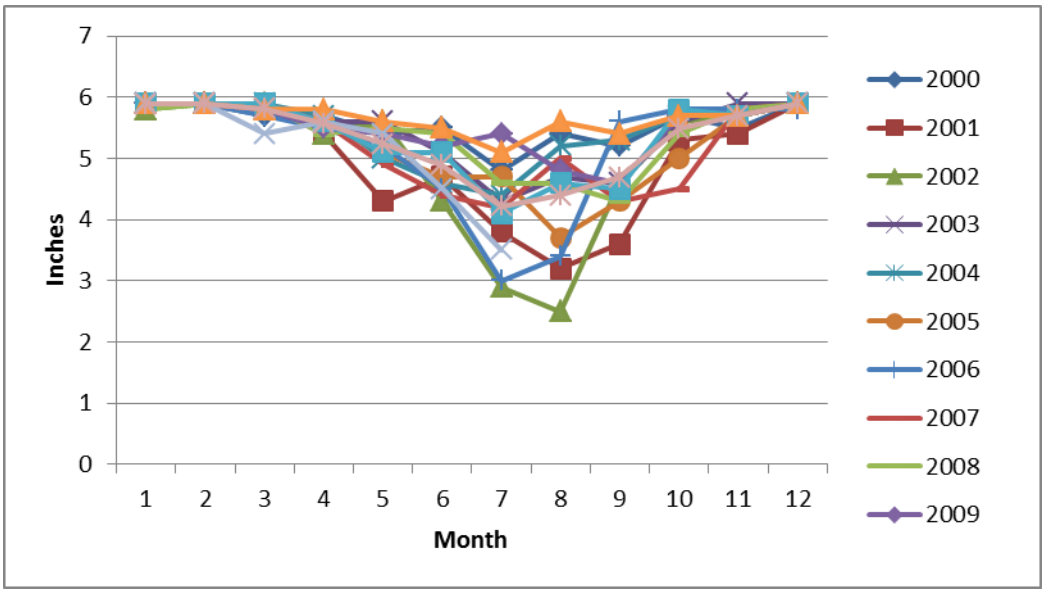


Figure 26 – Storage capacity (inches) based on monthly precipitation values for 2000 through 2011.

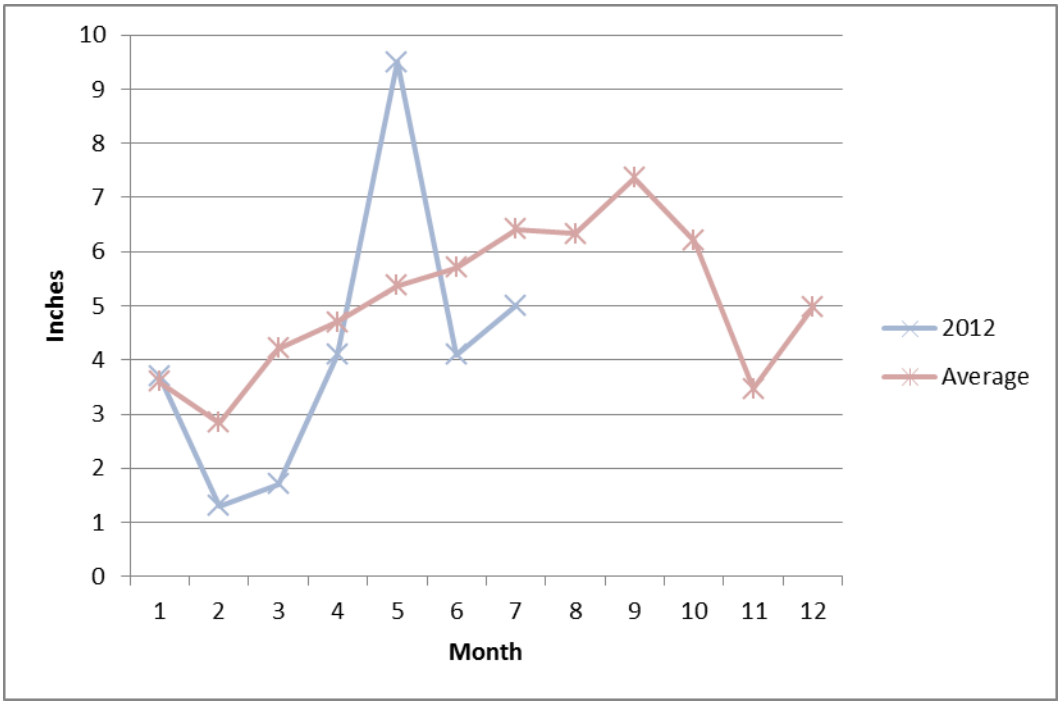


Figure 27- Comparison of 2012 precipitation (in inches) with average for the period 2000 – 2011.

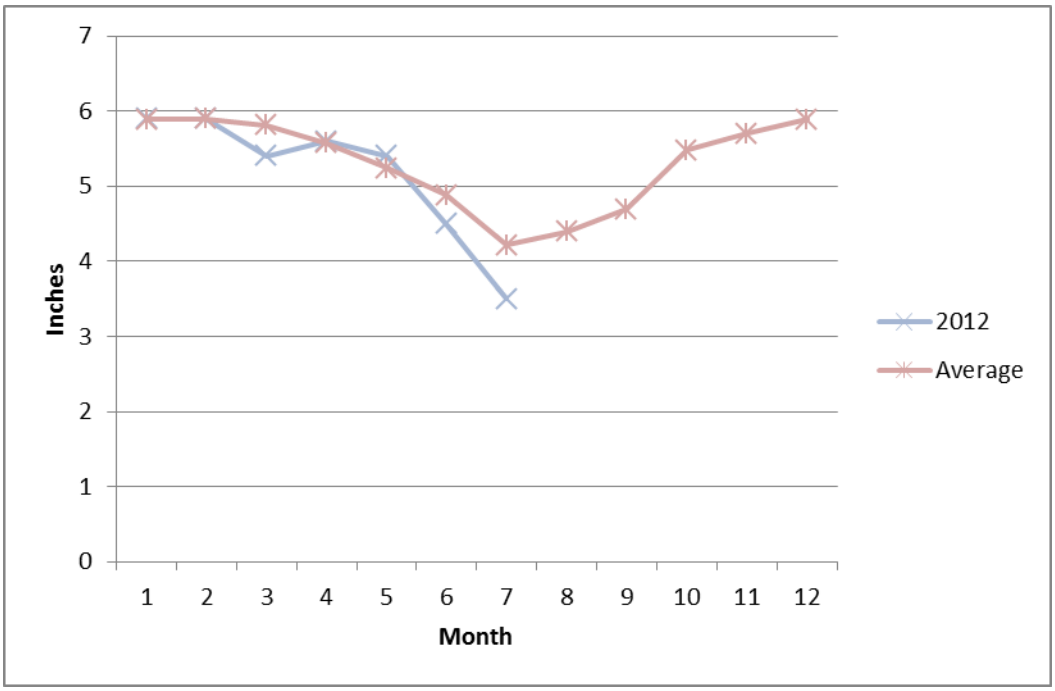


Figure 28 - Comparison of 2012 storage (in inches) with average for the period 2000 – 2011.

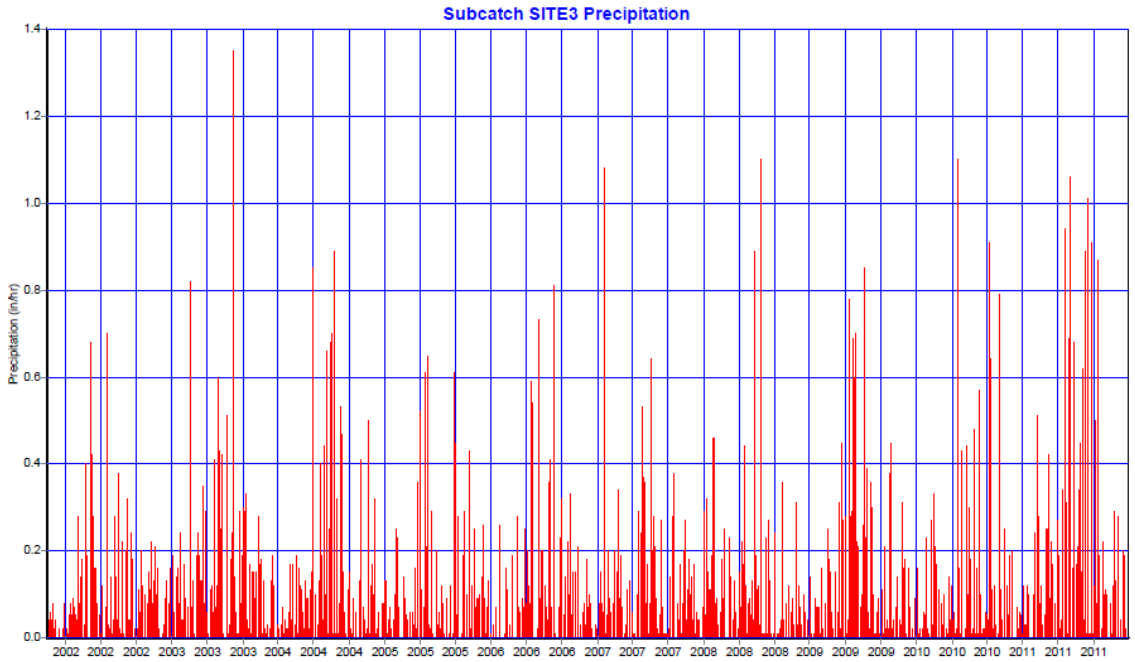


Figure 29 – Hourly precipitation data in inches per hour for the period 2001 through 2012.

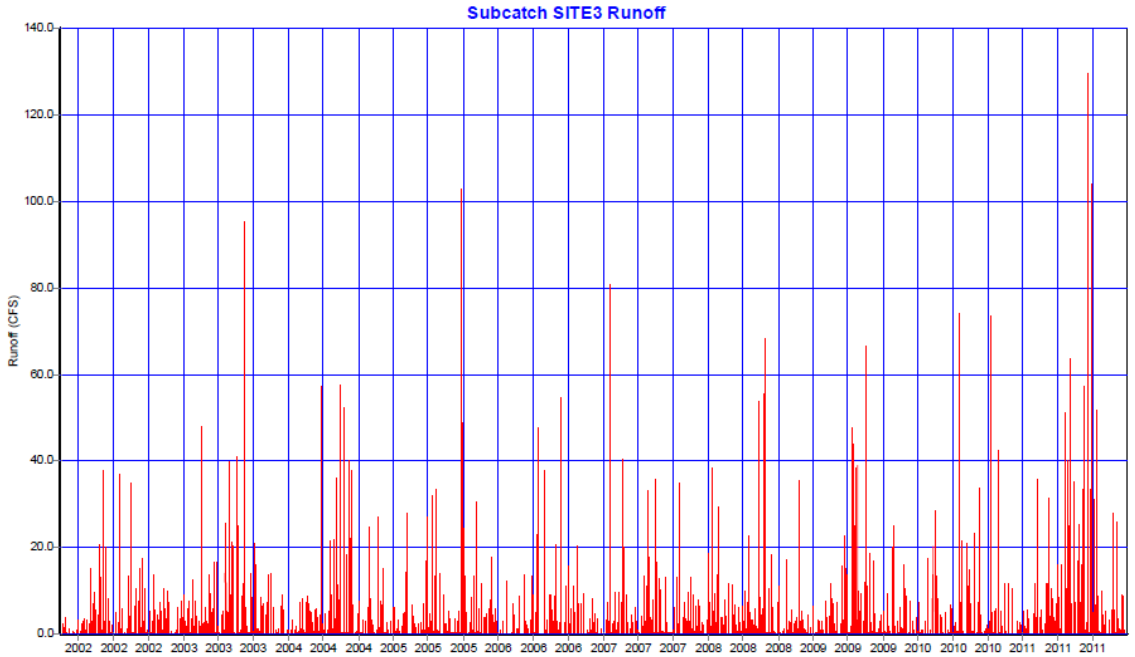


Figure 30 – Hourly calculated runoff in cubic feet per second for the period 2001 through 2012.

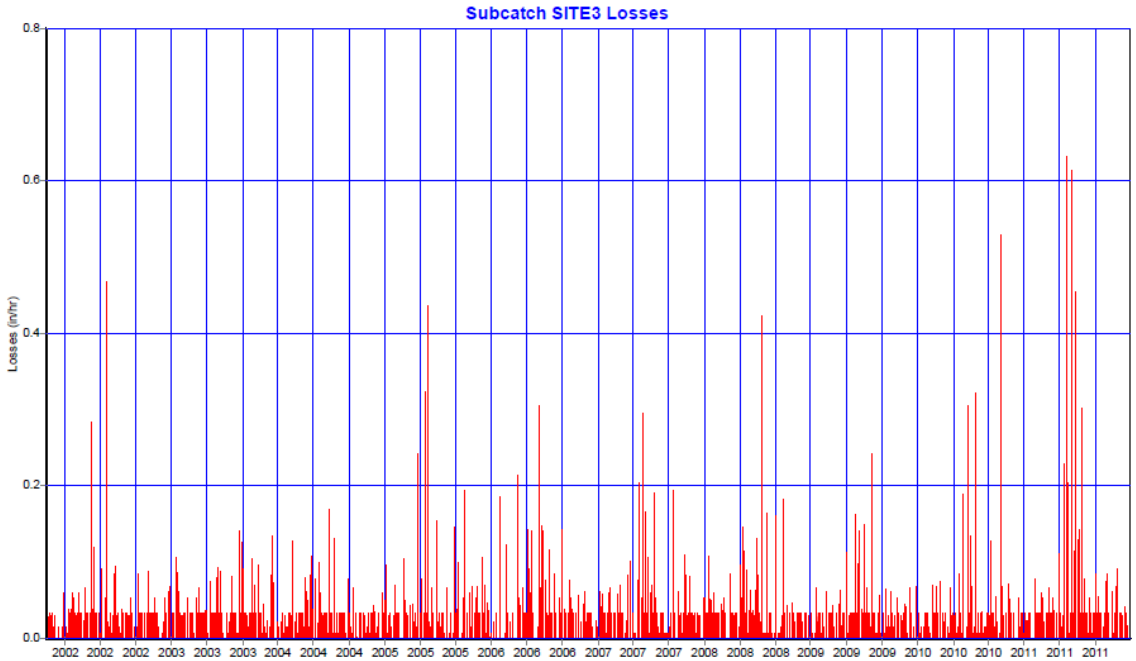
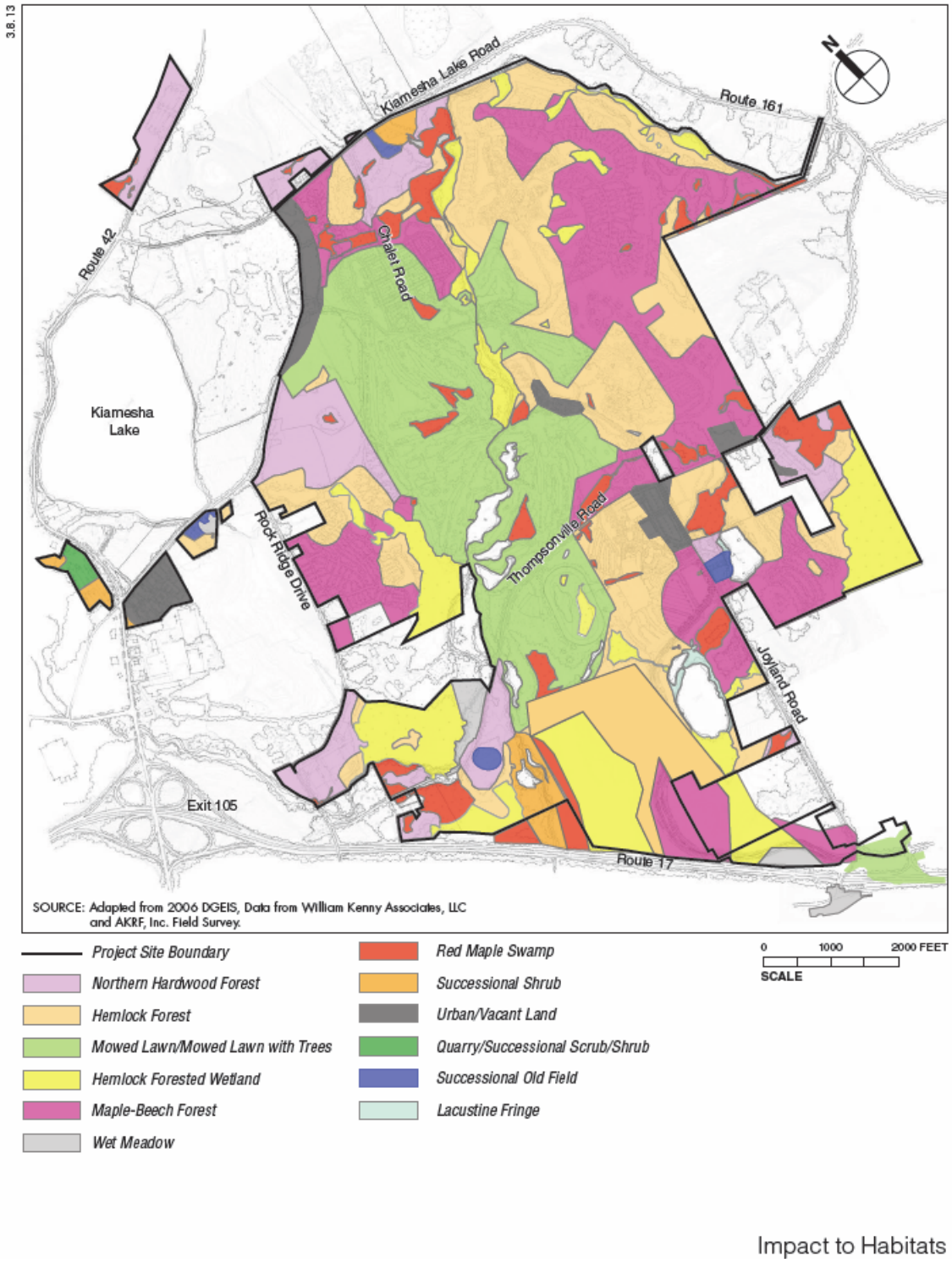


Figure 31– Hourly calculated infiltration in inches per hour for the period 2001 through 2012.



Impact to Habitats

Figure 32 – Mapped vegetative communites at the Concord Resort property.

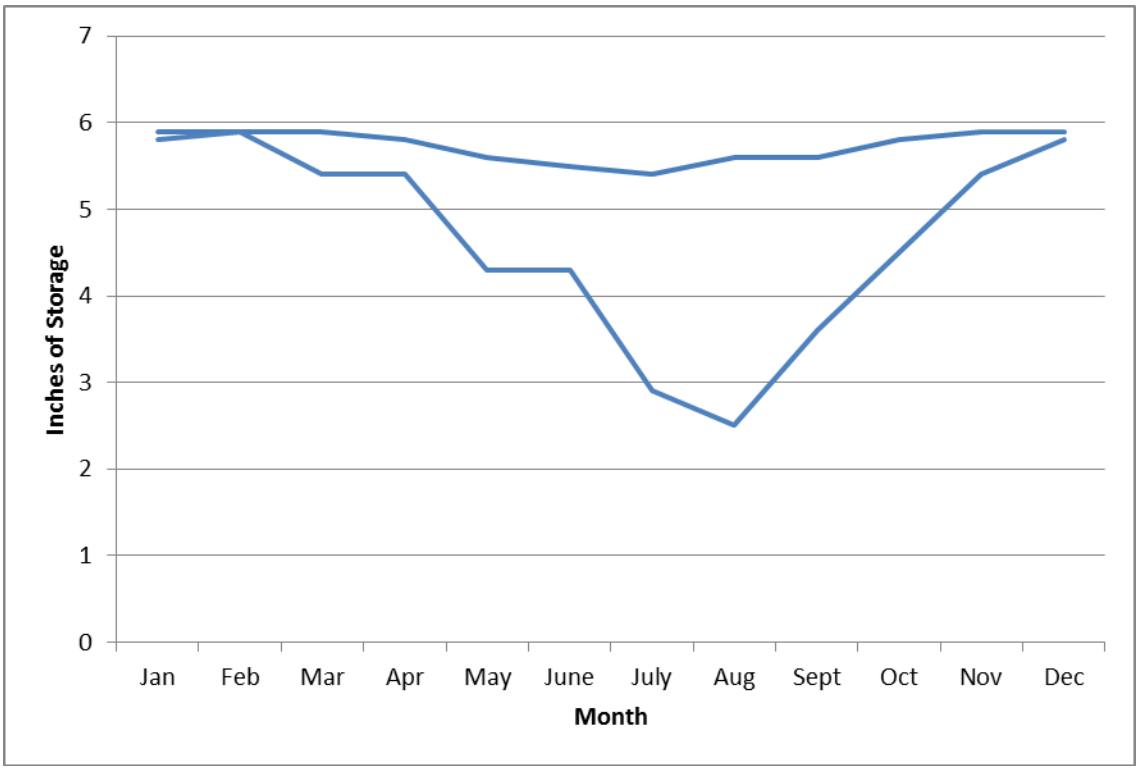


Figure 33 – Water budget envelope showing the maximum range of inches of storage for the period 2000 through 2012 at the Concord Wetland Mitigation sites.

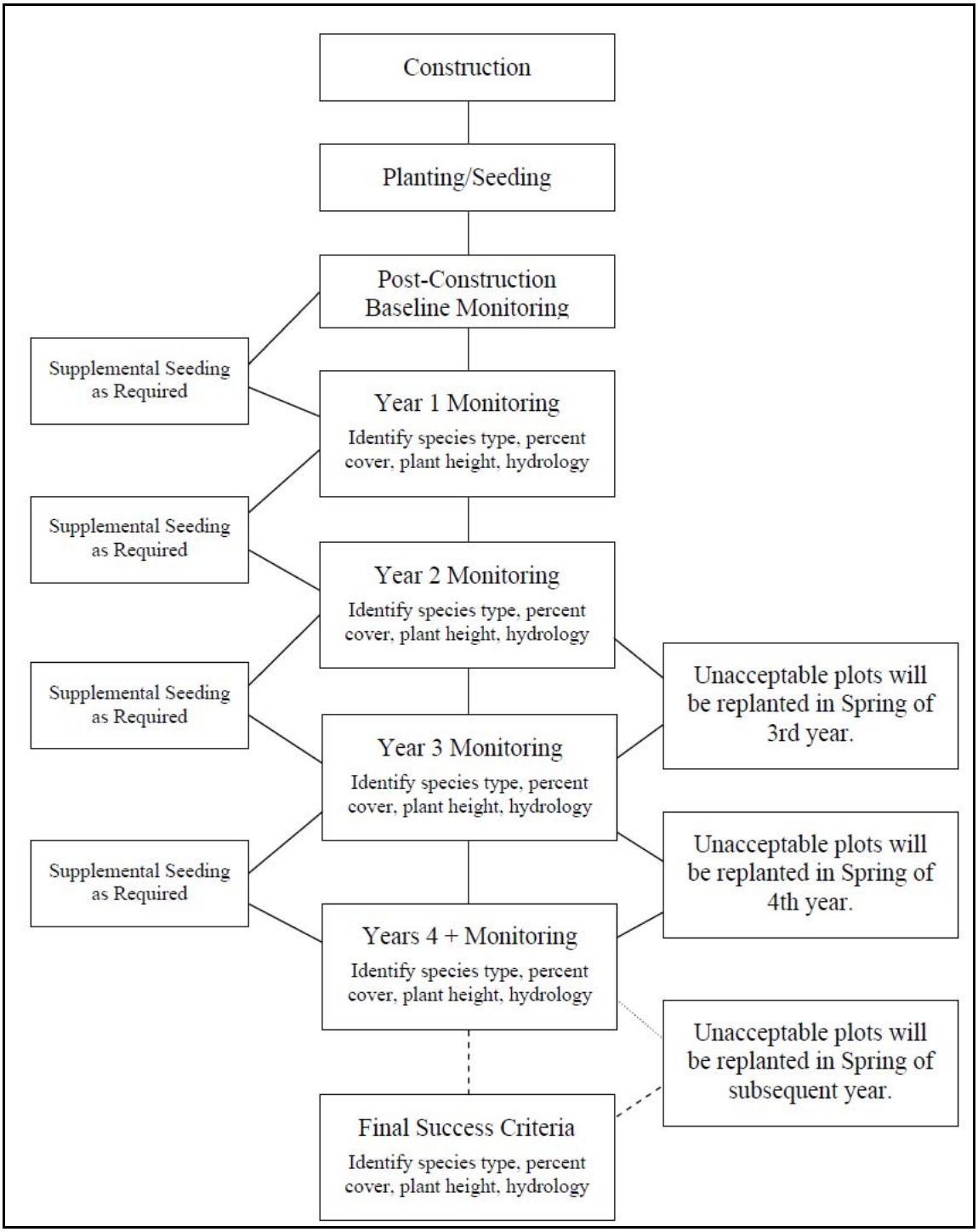


Figure 34 – The Adaptive Management process.

Volume II

Subsurface Report

REPORT
SUBSURFACE INVESTIGATION

PROPOSED WETLAND MITIGATION SITES
THOMPSON, SULLIVAN COUNTY, NEW YORK
CONCORD RESORT DEVELOPMENT

SEPTEMBER 28, 2012

Prepared By:
Melick-Tully and Associates, P.C.
117 Canal Road
South Bound Brook, NJ 08880
Tel: 732-356-3400 Fax: 732-356-9054

MTA Project No.: 8979-002*1D

MELICK-TULLY AND ASSOCIATES, P.C.
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September 28, 2012

AKRF, Inc.
1307 Fellowship Road, Suite 214
Mount Laurel, New Jersey 08054

Attention: Mr. Shandor Szalay
Vice President, Water Resources

Report
Subsurface Investigation
Proposed Wetland Mitigation Sites
Thompson, New York
Concord Resort Development

Introduction

This report presents the results of a subsurface investigation performed by Melick-Tully and Associates, P.C. (MTA) for three potential wetland mitigation areas at the Concord Resort Development site located in the Town of Thompson, Sullivan County, New York. The areas of the proposed new wetlands mitigation are located north and south of Thompsonville Road, to the west of its intersection with Chalet/Joyland Road, as shown on the Site Location Map, Plate 1. This report was prepared in general accordance with our revised proposal dated July 25, 2012.

Background Data

MTA previously performed a subsurface investigation for the resort development, the results of which were presented in our report dated May 1, 2012. We understand, as the planning of the proposed development evolves, it is planned to create new wetland areas to replace those which may be developed. This report addresses additional subsurface explorations and

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laboratory testing performed to evaluate the subsurface conditions in three separate areas which may be converted to wetlands as part of the overall project.

Purpose and Scope of Work

The purpose of our services was to perform a series of 7 test borings and 15 test pit explorations at locations identified to us by AKRF. The borings were advanced using hollow stem auger drilling equipment mounted on an all-terrain vehicle, and extended to depths ranging from approximately 9 to 22 feet below the existing surface grades. The test pits were advanced utilizing a rubber-tire backhoe and extended to depths ranging from approximately 7 to 10 feet below the existing surface grades. The approximate locations of the explorations performed for this study are shown on the Plot Plans, Plates 2A through 2C.

All work was performed under the direct technical observation of engineers and geologists from MTA. Our representatives located the explorations in the field utilizing topographic information and the existing site features in conjunction with representatives of the existing "Concord Monster" golf course and representatives of AKRF to minimize disturbance to existing site features and to adjust exploration locations to benefit the study. Our representatives maintained continuous logs of the explorations as the work proceeded, supervised the soil sampling procedures during the drilling operations, and obtained bulk samples of the encountered materials from the test pits. Numerous closely spaced soil samples were obtained from the borings using the general procedures of the Standard Penetration Test. As part of the test pit exploration program, our representative performed bulk density determinations of the encountered materials using a nuclear density gauge (ASTM D-6938-08a) and performed three modified double-ring infiltrometer permeability tests. ASTM D-3385 requires the use of 12 and

24 inch diameter steel rings. Our modified procedure used PVC rings 8 and 12 inches in diameter. For reference, this procedure is accepted by the Pennsylvania Department of Environmental Protection.

All soil samples obtained from the explorations were brought to our office where they were further examined in our soil mechanics laboratory. Detailed descriptions of the materials encountered in the borings are shown on the individual boring logs, Plates 3A through 3G. The results of the test pit explorations are shown on Plates 4A through 4O, Logs of Test Pits. The soils were visually classified in general accordance with the Unified Soil Classification System, presented on Plate 5.

Numerous soil samples were subjected to laboratory testing consisting of grain-size analyses (ASTM D-422), organic content testing (ASTM D-2974), and moisture content determinations (ASTM D-2216) to aid in their engineering classification and evaluation. The results of the grain-size tests are presented on Plates 6A through 6J, Gradation Curves. The results of the organic content testing, moisture content determinations, and bulk density tests are presented on the appropriate exploration logs and on Plate 7, Data Summary Sheet. The results of the modified double-ring infiltrometer testing performed in the field are shown on the appropriate test pit logs.

The results of our subsurface exploration program, our visual examination of the soil samples and the laboratory testing are presented in subsequent sections of this report. The following presentation of our field observations and test results are subject to the limitations attached as an Appendix to this report.

Site Condition

Surface Features: The majority of the site is presently occupied by an active golf course which is primarily grass covered with sand and water hazards, and paved cart paths. The portion of the course where Borings 5 through 7 and Test Pits 5 through 7 were located, adjacent to and south of Chalet Road, west of Kiamesha Creek, is an unused overgrown portion of the golf course.

Topographic information shown on plans provided to us indicates that surface elevations across the area investigated for this study vary from approximately Elevation +1337 feet to Elevation +1358 feet.

Subsurface Conditions: The following generalized strata were encountered in the explorations and are listed in order of increasing depth:

1) Topsoil: A surficial layer of topsoil was encountered in six of the seven borings and 14 of the 15 test pit explorations. The topsoil was generally found to range from approximately four to eight inches in thickness; however, in Test Pits 5, 8, 12 and 13, the topsoil was observed to be approximately 11 to 24 inches thick.

2) Fill: Fill consisting of silty sands and sandy silts mixed with varying amounts of gravel, roots and topsoil was encountered below the topsoil in four of the borings and ten of the test pits, and is likely the result of grading operations to construct the existing golf course. The fill was generally found to be approximately 18 inches to 4-1/2 feet thick. In Test Pit No. 5, the fill was observed to extend to the completion depth of that test pit, ten feet below the existing ground surface.

3) Organic Silts/Peat: In six of the explorations, a distinct layer of organic silt and/or peat with varying amount of sandy silt was observed. The organic layer was encountered at 1.5 to 4.5 feet below grade and extended to depths of approximately 2 feet to 6.5 feet below the existing surface grades and ranged from approximately six inches to three feet in thickness.

4) Silty Sand: Below the surficial topsoil, fill and organic materials, the natural soils in most of the test pits typically consisted of sands and silty

sands containing varying amounts of gravel, cobbles and boulders. The sandy soils are believed to be glacial in nature and extended to the completion depths in the majority of the explorations performed.

5) Silt: The glacial sandy soils contain varying amounts of silt; however, in several of the samples subjected to laboratory grain-size testing, the silt percentages were high enough to classify the materials as silt, as indicated on the appropriate exploration logs.

6) Shale Bedrock: In Borings 3 and 4, the sandy soils were underlain by shale bedrock encountered at depths of approximately two to ten feet below the existing surface grades. In general, the shale bedrock was found to grade sounder with depth, and refusal to further penetration with the auger was encountered at a depth of 8'9" atop relatively sound shale bedrock in Boring No. 3.

Groundwater was observed in six of the borings at depths of approximately two to ten and one-half feet below grade, and in 14 of the 15 test pit explorations at depths of approximately two to six feet below the existing surface grades at the time of our study. Mottling was observed in 13 of the 22 explorations at shallower levels indicating seasonally high groundwater or seasonally saturated conditions.

Findings/Summary

General: It appears that the majority of the areas in question have been developed by the construction of the existing "Monster" golf course. The results of the moisture content testing, bulk density testing, and organic content testing were somewhat variable in the fill soils as a result of the diverse nature of materials used during construction, placed to construct the course landscape, not as structural fill. In general, the relatively deeper natural materials were consistent with our previous explorations throughout the area, indicating relatively dense glacial materials with varying amounts of cobbles and boulders. It should be noted that the index testing to determine soil parameters excludes cobble and boulder size materials which should be taken into

account if the existing materials are used as a "blend" to create hydric soils in the creation of wetlands areas.

Feel free to contact us if you have any questions regarding this information.

The following Plates are attached and complete this report:

Plate 1 – Site Location Map
Plates 2A through 2C – Plot Plan
Plates 3A through 3G – Logs of Borings
Plates 4A through 4O – Logs of Test Pits
Plate 5 – Unified Soil Classification System
Plates 6A through 6J – Gradation Curves
Plate 7 – Data Summary Sheet
Appendix – Limitations

Very truly yours,

MELICK-TULLY and ASSOCIATES, P.C.

James H. Beattie, P.E.
Senior Associate

Todd E. Horowitz, P.E.
Vice President

JHB/TEH/elm
8979-002*1D
(3 copies submitted)

FROM: "Digital Raster Quadrangles" at 1:24,000 scale provided by New York State GIS Clearinghouse website (http://www.nysgis.state.ny.us/gisdata/quads/).

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers
& Environmental Consultants
117 Canal Road
South Bound Brook, New Jersey 08880
(732) 356-3400

SITE LOCATION MAP

SUBSURFACE INVESTIGATION
THOMPSON, NEW YORK
CONCORD RESORTS

JOB NO.	FILE NO.	DR. BY	CHK. BY	DATE	SCALE	PLATE
8979-002*1D	25541	VJD	JHB	8-24-12	1"=2,000'	1

KEY:

B-1 NUMBER AND APPROXIMATE LOCATION OF BORINGS PERFORMED FOR THIS STUDY

TP-1 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-002*1D and should be read together with the report for complete evaluation.
2. General layout was obtained from an unlabeled drawing provided by the client.

PLOT PLAN

SUBSURFACE INVESTIGATION
THOMPSON, NEW YORK
CONCORD RESORTS

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers
& Environmental Consultants
117 Canal Road
South Bound Brook, New Jersey 08880
(732) 356-3400

JOB NO.	8979-002*1D	FILE NO.	25541	
DR. BY VJD	CHK. BY JHB	DATE 8-23-12	SCALE 1"=100'	PLATE 2A

KEY:

B-1 NUMBER AND APPROXIMATE LOCATION OF BORINGS PERFORMED FOR THIS STUDY

TP-1 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-002*1D and should be read together with the report for complete evaluation.

2. General layout was obtained from an unlabeled drawing provided by the client.

PLOT PLAN

SUBSURFACE INVESTIGATION
THOMPSON, NEW YORK
CONCORD RESORTS

MELICK-TULLY AND ASSOCIATES, P.C.
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117 Canal Road
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(732) 356-3400

JOB NO.	8979-002*1D	FILE NO.	25541	
DR. BY VJD	CHK. BY JHB	DATE 8-23-12	SCALE 1"=100'	PLATE 2B

KEY:

B-1 NUMBER AND APPROXIMATE LOCATION OF BORINGS PERFORMED FOR THIS STUDY

TP-1 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-002*1D and should be read together with the report for complete evaluation.

2. General layout was obtained from an unlabeled drawing provided by the client.

PLOT PLAN

SUBSURFACE INVESTIGATION
THOMPSON, NEW YORK
CONCORD RESORTS

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers
& Environmental Consultants
117 Canal Road
South Bound Brook, New Jersey 08880
(732) 356-3400

JOB NO.	8979-002*1D	FILE NO.	25541	
DR. BY VJD	CHK. BY JHB	DATE 8-23-12	SCALE 1"=100'	PLATE 2C

LOG OF BORING

BORING NO. 1

COMPLETION DATE: 8/6/12 | SURFACE ELEVATION: +1,341.5 ft (±) | WATER LEVEL: 5'

JOB NUMBER: 8979-002*1D | READING DATE: 8/6/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					6" Topsoil	
	S1	9	21.8		FILL - Gray-brown silt, and fine to medium sand, trace fine gravel	
	S2	7	10.3		FILL - Brown fine to coarse sand, some silt, little fine gravel	
5	S3	18	108.4		Dark brown organic peat - organic matter = 16.7% @ 5'	5
10	S4	12		ML	Red-brown clayey silt, some to little fine to coarse sand, trace fine gravel (moist)(very stiff to stiff)	10
15	S5	19		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (wet)(medium dense)	15
20	S6	80/6"				20
					Boring completed @ 21' Mottling observed @ 1'-6" Groundwater encountered @ 5'	
25						25

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3A

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. 2

COMPLETION DATE: 8/7/12 | SURFACE ELEVATION: +1,344 ft (±) | WATER LEVEL: 2'

JOB NUMBER: 8979-002*1D | READING DATE: 8/7/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					6" Topsoil	
	S1	13			FILL - Brown fine to medium sand, some silt, some roots and wood	
	S2	5	23.0		FILL - Brown fine sand, and silt	
5	S3	16	29.9	OL	Dark brown organic clayey silt, trace roots (moist)(stiff) - organic matter = 6.5% @ 5'	5
	S4	33		SM	Red-brown fine to medium sand, some clayey silt, some fine to coarse gravel (wet)(dense)	
10	S5	36		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (wet)(dense)	10
15	S6	19		SM	Red-brown fine to coarse sand, little to some silt, some fine to coarse gravel (wet)(medium dense to very dense)	15
	S7	100/4"				
20					Boring completed @ 18'-4" Groundwater encountered @ 2'	20
25						25

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3B

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. 3

COMPLETION DATE: 8/7/12 | SURFACE ELEVATION: +1,355.5 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-002*1D | READING DATE: 8/7/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					6" Topsoil	
	S1	22	16.0	SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense)	
	S2	86			Highly fractured weathered shale	
5	S3	75/3"				5
	S4	100/3"			- auger refusal @ 8'-9" atop shale bedrock	
10						10
15						15
					Boring completed @ 8'-9"	
					Faint mottling observed @ 4'	
					*Groundwater not encountered	
20						20
25						25

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3C

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. 4

COMPLETION DATE: 8/7/12 | SURFACE ELEVATION: +1,358 ft (±) | WATER LEVEL: 10.5'

JOB NUMBER: 8979-002*1D | READING DATE: 8/7/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					6" Topsoil	
	S1	11	10.1		FILL - Red-brown fine to coarse sand, and silt, little fine gravel	
	S2	17	17.0		Red-brown fine to coarse sand, little silt, and shale fragments (moist)(medium dense to very dense)	
5	S3	99		SM		5
10	S4	100/6"			Highly fractured weathered shale	10
15	S5	80/6"				15
20					Boring completed @ 17' Mottling observed @ 4' Groundwater encountered @ 10'-6"	20
25						25

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3D

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. 5

COMPLETION DATE: 8/6/12 | SURFACE ELEVATION: +1,350.5 ft (±) | WATER LEVEL: 4'

JOB NUMBER: 8979-002*1D | READING DATE: 8/6/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
	S1	8	62.9		FILL - Topsoil with layers of fine to coarse sand - organic matter = 13.0% @ 12"	
	S2	27				
5	S3	16		SM	Brown fine to medium sand, little silt (wet)(medium dense)	5
				ML	Red-brown clayey silt, and fine sand (wet)(stiff to very stiff)	
10	S4	8				10
15	S5	10				15
20	S6	17				20
					Boring completed @ 22' Groundwater encountered @ 4'	
25						25

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3E

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. 6

COMPLETION DATE: 8/6/12 | SURFACE ELEVATION: +1,350 ft (±) | WATER LEVEL: 6'-6"

JOB NUMBER: 8979-002*1D | READING DATE: 8/6/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					4" Topsoil	
	S1	14	9.2		FILL - Red-brown fine to coarse sand, little silt, some fine to coarse gravel	
	S2	22		SM	Gray fine to medium sand, little silt, trace fine to coarse gravel, with occasional silty clay layers (moist to wet)(medium dense)	
5	S3	18				5
10	S4	10				10
15	S5	9				15
20	S6	12				20
					Boring completed @ 22'	
					Motting observed @ 6'-6"	
					Groundwater encountered @ 4'	
25						25

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3F

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF BORING

BORING NO. 7

COMPLETION DATE: 8/6/12 | SURFACE ELEVATION: +1,344 ft (±) | WATER LEVEL: 4'

JOB NUMBER: 8979-002*1D | READING DATE: 8/6/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					5" Topsoil	
	S1	14	37.1	SM	Red-brown fine sand, and clayey silt, with occasional silt layers (moist to wet)(medium dense) - organic matter = 12.5% @ 0.3'	
	S2	14	24.8			
5	S3	11				5
	S4	15				
	S5	9				
10	S6	21				10
				SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (wet)(medium dense)	
15	S7	21				15
20	S8	65				20
					Boring completed @ 22' Motting observed @ 2' Groundwater encountered @ 4'	
25						25

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 3G

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 1

COMPLETION DATE: 7/31/12 | SURFACE ELEVATION: +1,338 ft (±) | WATER LEVEL: 6'

JOB NUMBER: 8979-002*1D | READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	154.1		6" Topsoil - Organic root mat, with fine to medium sand, trace silt - organic matter = 34.1%, bulk density = 116.4 pcf 0"-8"	
	S2 S3	23.6 79.2		FILL - Brown fine to medium sand, and silt - organic matter = 5.6%, bulk density = 101.4 pcf 8"-16"	
	S4	249.6	PT	FILL - Gray-brown topsoil and wood, intermixed with fine to coarse sand, some silt, trace fine gravel - organic matter = 7.6%, bulk density = 63.5 pcf 16"-24"	
				Black peat, with fine to medium sand layers, little organic silt - organic matter = 37.5%	
5				Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense)	5
	S5		SM		
	S6				
10				Test pit completed @ 8'-6" Mottling observed @ 4' Slight groundwater seepage encountered @ 6'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

Sheet: 1 of 1 PLATE: 4A

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 2

COMPLETION DATE: 7/31/12 | SURFACE ELEVATION: +1,341 ft (±) | WATER LEVEL: 5'

JOB NUMBER: 8979-002*1D | READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	46.1		6" Topsoil - fine to coarse sand, some silt, trace fine gravel - organic matter = 12.1%, bulk density = 99.4 pcf 0"-8"	
	S2	27.3		FILL - Gray fine to medium sand, and silt, trace fine gravel little roots - organic matter = 3.1%, bulk density = 102.6 pcf 8"-16"	
	S3	23.7	SM	Light brown fine to medium sand, and silt (wet)(medium dense) - organic matter = 1.7%, bulk density = 114.3 pcf 16"-24"	
5	S4		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	5
	S5				
10				Test pit completed @ 8'-0" Rapid groundwater seepage encountered @ 5'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 3

COMPLETION DATE: 7/31/12 | SURFACE ELEVATION: +1,341 ft (±) | WATER LEVEL: 4'-6"

JOB NUMBER: 8979-002*1D | READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	21.4		6" Topsoil - fine to medium sand, some silt - organic matter = 5.0%, bulk density = 107.5 pcf 0"-8"	
	S2	18.9			
	S3	14.0		FILL - Gray fine to medium sand, and silt, trace roots - organic matter = 2.8%, bulk density = 113.2 pcf 8"-16"	
			ML	FILL - Gray clayey silt, intermixed with topsoil - organic matter = 6.9%, bulk density = 135.4 pcf 16"-24"	
				Gray clayey silt, some fine to medium sand (moist)(very stiff)	
	S4		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(very dense)	
5				Red-brown fine to coarse sand, some silt, little fine to coarse gravel (wet)(very dense)	5
	S5		SM		
10				Test pit completed @ 8' Mottling observed @ 18" Moderate groundwater seepage encountered @ 4'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 4

COMPLETION DATE: 7/31/12 | SURFACE ELEVATION: +1,340 ft (±) | WATER LEVEL: 6'-0"

JOB NUMBER: 8979-002*1D | READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	11.3		4" Topsoil - fine to medium sand, some silt, trace fine gravel - organic matter = 11.1%, bulk density = 128.1 pcf 0"-8"	
	S2 S3 S4	13.0		FILL - Red-brown fine to coarse sand, and silt, little fine gravel - organic matter = 1.5%, bulk density = 119.8 pcf 8"-16"	
	S5		SM	Light brown fine to medium sand, and silt (wet)(medium dense)	
5	S6	228.8	PT	Black organic fibrous peat, with fine to coarse sand, little silt (moist)(soft) - organic matter = 57.1%	5
	S7		ML	Gray clayey silt, some fine to medium sand (moist)(very stiff)	
	S8		ML	Red-brown silt, some fine to medium sand, trace fine to coarse gravel (wet)(very stiff)	
10				Test pit completed @ 8'-6" Slight groundwater seepage encountered @ 6'-0"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 5

COMPLETION DATE: 8/2/12 | SURFACE ELEVATION: +1,340 ft (±) | WATER LEVEL: 3'-0"

JOB NUMBER: 8979-002*1D | READING DATE: 8/2/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	22.9		12" Topsoil - fine to medium sand, some silt, trace fine gravel - organic matter = 4.4%, bulk density = 100.7 pcf 0"-8"	
	S2 S3	34.6 88.1		FILL - Black fine to coarse sand, and silt, little fine gravel, intermixed with topsoil pockets - organic matter = 20.7%, bulk density = 93.3 pcf 8"-16", bulk density = 88.0 pcf 16"-24"	
5	S4			FILL - Black fine to medium sand, topsoil, roots and stumps	5
10				Test pit completed @ 10'-0" Rapid groundwater seepage encountered @ 3'-0"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 6

COMPLETION DATE: 8/2/12 | SURFACE ELEVATION: +1,340 ft (±) | WATER LEVEL: 4'-0"

JOB NUMBER: 8979-002*1D | READING DATE: 8/2/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	29.6		8" Topsoil - fine to medium sand, and silt, trace fine gravel - organic matter = 11.9%, bulk density = 115.2 pcf 0"-8"	
	S2	15.2		FILL - Red-brown silt, and fine to medium sand, trace fine gravel - organic matter = 1.0%, bulk density = 108.8 pcf 8"-16"	
	S3	18.3		FILL - Gray-brown fine to medium sand, and silt, little fine gravel, trace roots - organic matter = 2.1%, bulk density = 125.5 pcf 16"-24"	
	S4	21.0	SM	Red-brown fine to medium sand, and silt, trace fine gravel (wet)(medium dense to dense), bulk density = 142.3 pcf 48"-58"	
5					5
	S5				
10					10
				Test pit completed @ 10'-0" Mottling observed @ 3'-6" Slight groundwater seepage encountered @ 4'-0" Modified double ring infiltrometer test performed at a depth of 1'-0". Measured infiltration rate = 0.25 in/hr	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

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LOG OF TEST PIT

TEST PIT NO: 7

COMPLETION DATE: 8/2/12 | SURFACE ELEVATION: +1,340 ft (±) | WATER LEVEL: 3'-6"

JOB NUMBER: 8979-002*1D | READING DATE: 8/2/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	46.5		7" Topsoil - fine to medium sand, some silt, trace fine gravel - organic matter = 13.7%, bulk density = 96.8 pcf 0"-8"	
	S2	16.0		FILL - Brown fine to coarse sand, some silt, little fine gravel, trace roots - organic matter = 5.3%, bulk density = 136.1 pcf 8"-16"	
	S3	20.9	ML	Red-brown silt, some fine sand, trace fine gravel (wet)(stiff) - organic matter = 0.5%, bulk density = 127.4 pcf 16"-24"	
	S4		SM	Red-brown fine to medium sand, and silt, trace fine gravel (moist to wet)(medium dense to dense)	
5					5
	S5				
	S6				
10					10
				Test pit completed @ 10'-0" Mottling observed @ 1'-6" Moderate groundwater seepage encountered @3'-6" Modified double ring infiltrometer test performed @ a depth of 16" Measured infiltration rate = 0.5 in/hr	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

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LOG OF TEST PIT

TEST PIT NO: 8

COMPLETION DATE: 8/1/12 | SURFACE ELEVATION: +1,339 ft (±) | WATER LEVEL: 3'-6"

JOB NUMBER: 8979-002*1D | READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	28.8		18" Topsoil - fine to medium sand, some silt - organic matter = 7.1%, bulk density = 105.3 pcf 0"-8"	
	S2	109.1	PT	Black organic peat, with fine to medium sand, and silt - organic matter = 20.1%, bulk density = 103.8 pcf 16"-24"	
	S3		SM	Gray-brown fine to coarse sand, some silt, trace fine gravel (wet)(medium dense)	
5	S4				5
	S5		SM	Red-brown fine sand, and silt (wet)(medium dense)	
10				Test pit completed @ 7'-6" Rapid groundwater seepage encountered @ 3'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

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LOG OF TEST PIT

TEST PIT NO: 9

COMPLETION DATE: 8/1/12 | SURFACE ELEVATION: +1,339 ft (±) | WATER LEVEL: 4'

JOB NUMBER: 8979-002*1D | READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	41.4		5" Topsoil - fine to medium sand, and silt	
	S2	38.7		- organic matter = 10.8%, bulk density = 110.5 pcf 0"-8"	
	S3	26.1	ML	Gray silt, and fine to medium sand, trace roots (moist)(stiff) - organic matter = 2.9%, bulk density = 119.5 pcf 8"-16", bulk density = 108.7 pcf 16"-24"	
	S4				
	S5		SM	Gray-brown fine to medium sand, some silt, little fine gravel (wet)(medium dense)	
5	S6				5
	S7				
10				Test pit completed @ 10' Rapid groundwater seepage encountered @ 4'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

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LOG OF TEST PIT

TEST PIT NO: 10

COMPLETION DATE: 8/1/12 | SURFACE ELEVATION: +1,337 ft (±) | WATER LEVEL: 5'

JOB NUMBER: 8979-002*1D | READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	10.8		4" Topsoil - fine to coarse sand, little silt, little fine gravel - organic matter = 1.8%, bulk density = 128.4 pcf 0"-8"	
	S2	27.4		FILL - Red-brown fine to coarse sand, little silt, some fine gravel - organic matter = 1.5%, bulk density = 115.6 pcf 8"-16"	
	S3	27.2			
	S4		SM	Gray fine to coarse sand, and silt, trace fine gravel (moist)(medium dense), bulk density = 108.2 pcf 16"-24"	
	S5				
5	S6	10.0	OL	Black silt, and fine to medium sand, trace peat fragments (wet)(medium) - organic matter = 4.9%	5
	S7		SP/SM	Gray-brown fine to coarse sand, little silt, trace fine gravel (wet)(medium dense)	
	S8		SM	Red-brown fine sand, and silt (wet)(dense)	
10				Test pit completed @ 10' Mottling observed @ 1'-6" Rapid groundwater seepage encountered @ 5'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

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LOG OF TEST PIT

TEST PIT NO: 11

COMPLETION DATE: 8/1/12 | SURFACE ELEVATION: +1,338 ft (±) | WATER LEVEL: 5'

JOB NUMBER: 8979-002*1D | READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	23.8		FILL - Brown fine to medium sand, and silt, trace fine gravel, intermixed with topsoil	
	S2	138.5		- organic matter = 6.4%, bulk density = 109.0 pcf 0"-8"	
	S3	55.0	SM	FILL - Brown fine to coarse sand, and silt, intermixed with topsoil - organic matter = 35.3%, bulk density = 72.3 pcf 8"-16"	
	S4		ML	Gray fine to medium sand, some silt (moist)(medium dense) - organic matter = 3.5%, bulk density = 99.0 pcf 16"-24"	
				Gray clayey silt, some fine to medium sand (moist)(stiff)	
5	S5	457.1	PT	Organic peat, with gray fine to medium sand, and silt seams (wet)(loose) - organic matter = 75.4%	5
	S6		ML	Red-brown clayey silt (wet)(medium dense)	
10				Test pit completed @ 8'-6" Groundwater seepage encountered @ 5'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

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LOG OF TEST PIT

TEST PIT NO: 12

COMPLETION DATE: 8/1/12 | SURFACE ELEVATION: +1,338 ft (±) | WATER LEVEL: 2'

JOB NUMBER: 8979-002*1D | READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1			11" Topsoil	
	S2	17.6	ML	Gray clayey silt, little fine sand (moist)(very stiff) - bulk density = 125.4 pcf 8"-12" - bulk density = 125.0 pcf 12" to 24"	
	S3	18.2	SM	Gray fine to coarse sand, little silt, little fine to coarse gravel (moist to wet)(medium dense)	
5	S4		SM	Red-brown fine to medium sand, and silt (wet)(dense)	5
10				Test pit completed @ 10' Mottling observed @ 1' Moderate groundwater seepage encountered @ 2'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

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LOG OF TEST PIT

TEST PIT NO: 13

COMPLETION DATE: 8/1/12
JOB NUMBER: 8979-002*1D

SURFACE ELEVATION: +1,338 ft (±)

WATER LEVEL: 2'
READING DATE: 8/1/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	55.0		24" Topsoil - fine to medium sand, and silt - organic matter = 11.4% @ 6", bulk density = 89.3 pcf 0"-8" - organic matter = 7.5% @ 12", bulk density = 82.2 pcf 8"-16" - organic matter = 0.6% bulk density = 83.7 pcf 16"-24"	
	S2	52.2			
	S3	25.0		FILL - Brown fine to medium sand, trace silt	
	S4		SM	Gray-brown fine to coarse sand, little silt (wet)(medium dense)	
5			SM	Red-brown fine to medium sand, and silt (wet)(medium dense)	5
	S5				
10				Test pit completed @ 9'-6" Rapid groundwater seepage encountered @ 2'-0"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

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LOG OF TEST PIT

TEST PIT NO: 14

COMPLETION DATE: 7/31/12 | SURFACE ELEVATION: +1,349 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-002*1D | READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1	16.8		5" Topsoil - fine to medium sand, some silt, trace fine gravel	
	S2	9.1		- organic matter = 5.1%, bulk density = 83.3 pcf 0"-8"	
			SM	Gray fine to medium sand, some silt, trace fine gravel (moist)(loose)	
	S3	14.1		- organic matter = 6.1% 8"-16"	
	S4			- organic matter = 4.1%, bulk density = 117.2 pcf 16"-24"	
			SM	Yellow-brown fine to coarse sand, some silt (moist)(medium dense)	
				Brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense to dense)	
5			SM		5
	S5			- backhoe refusal encountered atop boulders @ 7'	
10				Test pit completed @ 7'-0" Mottling observed @ 4'-6" *Groundwater not encountered Modified double ring infiltrometer test peformed @ 2'-0" Measured infiltration rate = 12 in/hr	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

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LOG OF TEST PIT

TEST PIT NO: 15

COMPLETION DATE: 7/31/12 | SURFACE ELEVATION: +1,339 ft (±) | WATER LEVEL: 5'

JOB NUMBER: 8979-002*1D | READING DATE: 7/31/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1 S2	13.3 10.2		7" Topsoil - fine to coarse sand, some silt, little fine gravel - organic matter = 4.3%, bulk density = 140.2 pcf 0"-8"	
	S3	8.1	SM	Brown fine to medium sand, and silt (moist)(medium dense) - organic matter = 1.4%, bulk density = 154.4 pcf 8"-16"	
	S4		SM	Brown fine to coarse sand, little silt, little fine to coarse gravel (moist)(very dense)	
5					5
	S5		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (wet)(very dense) - backhoe refusal atop boulders encountered @ 7'	
10					10
				Test pit completed @ 7'-0" Mottling observed @ 1' Groundwater seepage encountered @ 5'	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 8/12

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MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS More than 50% of material is LARGER than No. 200 Sieve	GRAVEL & GRAVELLY SOILS More than 50% of coarse fraction RETAINED on No. 4 Sieve	CLEAN GRAVELS (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS More than 50% of coarse fraction PASSING a No. 4 Sieve	CLEAN SAND (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines.
			SP	Poorly-graded sands, gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS More than 50% of material is SMALLER than No. 200 Sieve.	SILTS AND CLAYS	Liquid limit LESS than 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS	Liquid limit GREATER than 50	MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat, humus, swamp soils with high organic contents

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

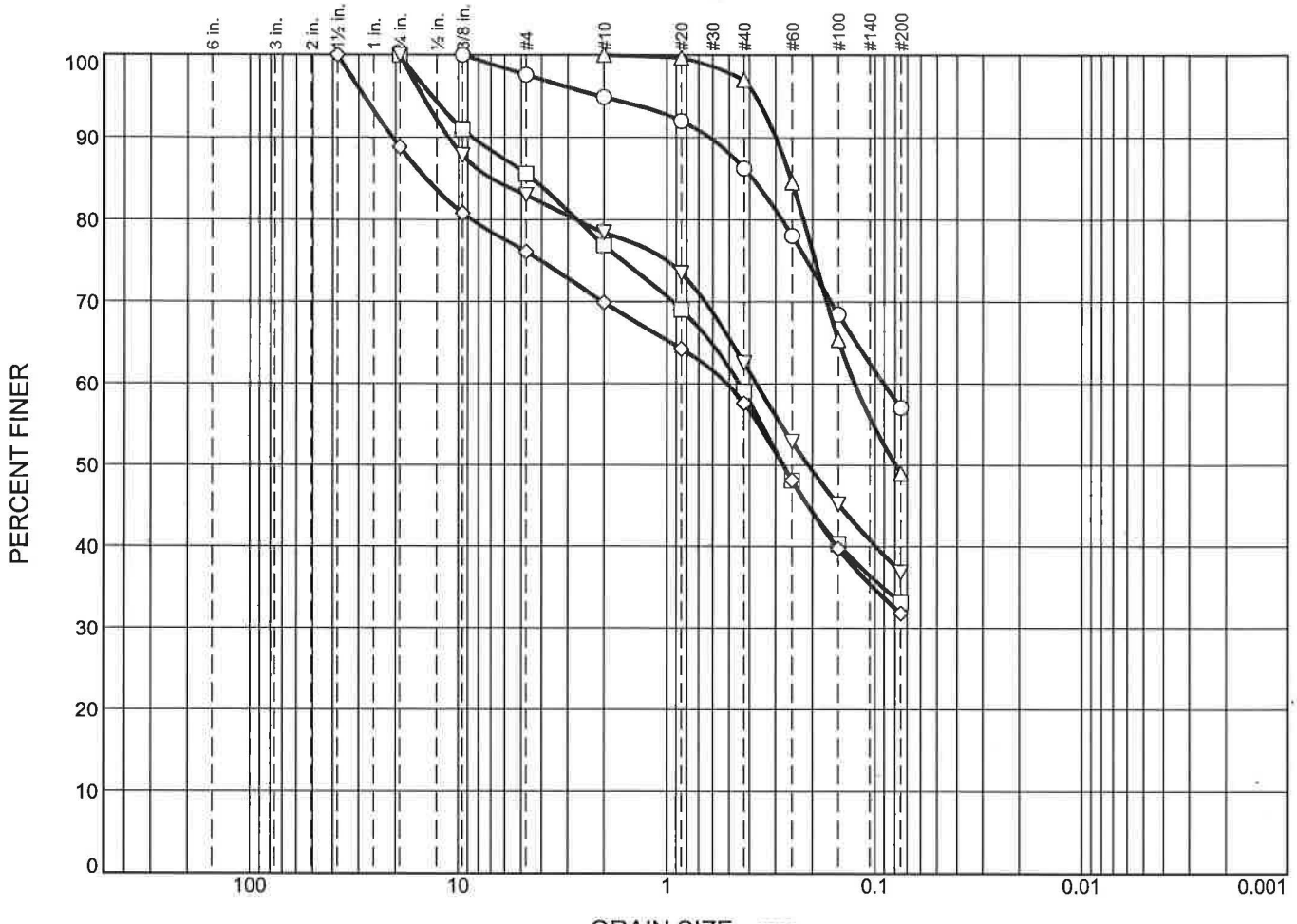
GRADATION*		COMPACTNESS* sand and/or gravel		CONSISTENCY* clay and/or silt	
% Finer by Weight		Relative Density		Range of Shearing Strength in Pounds per Square Foot	
Trace	0% to 10%	Loose	0% to 40%	Very Soft	less than 250
Little	10% to 20%	Medium Dense	40% to 70%	Soft	250 to 500
Some	20% to 35%	Dense	70% to 90%	Medium	500 to 1000
And	35% to 50%	Very Dense	90% to 100%	Stiff	1000 to 2000
				Very Stiff	2000 to 4000
				Hard	Greater than 4000

**Values are from laboratory or field test data, where applicable. When no testing was performed, values are estimated.*

UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	2.4	2.7	8.6	29.2	57.1
□	0.0	0.0	14.4	8.7	17.9	25.9	33.1
△	0.0	0.0	0.0	0.0	3.0	48.0	49.0
◇	0.0	11.2	12.7	6.2	12.3	25.8	31.8
▽	0.0	0.0	17.0	4.6	15.9	25.7	36.8

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-1	S-1	0-2	Silt, and fine to medium Sand, trace fine Gravel. (MC=21.8%)	ML
□	B-1	S-2	2-4	Fine to coarse Sand, some Silt, little fine Gravel. (MC=10.3%)	Fill
△	B-2	S-2	2-4	Fine Sand, and Silt. (MC=23.0%)	Fill
◇	B-3	S-1	0-2	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=16.0%)	SM
▽	B-4	S-1	0-2	Fine to coarse Sand, and Silt, little fine Gravel. (MC=10.1%)	Fill

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South Bound Brook, NJ

Client: Concord Resort Development

Project: Concord Resort Development, Thompson, NY

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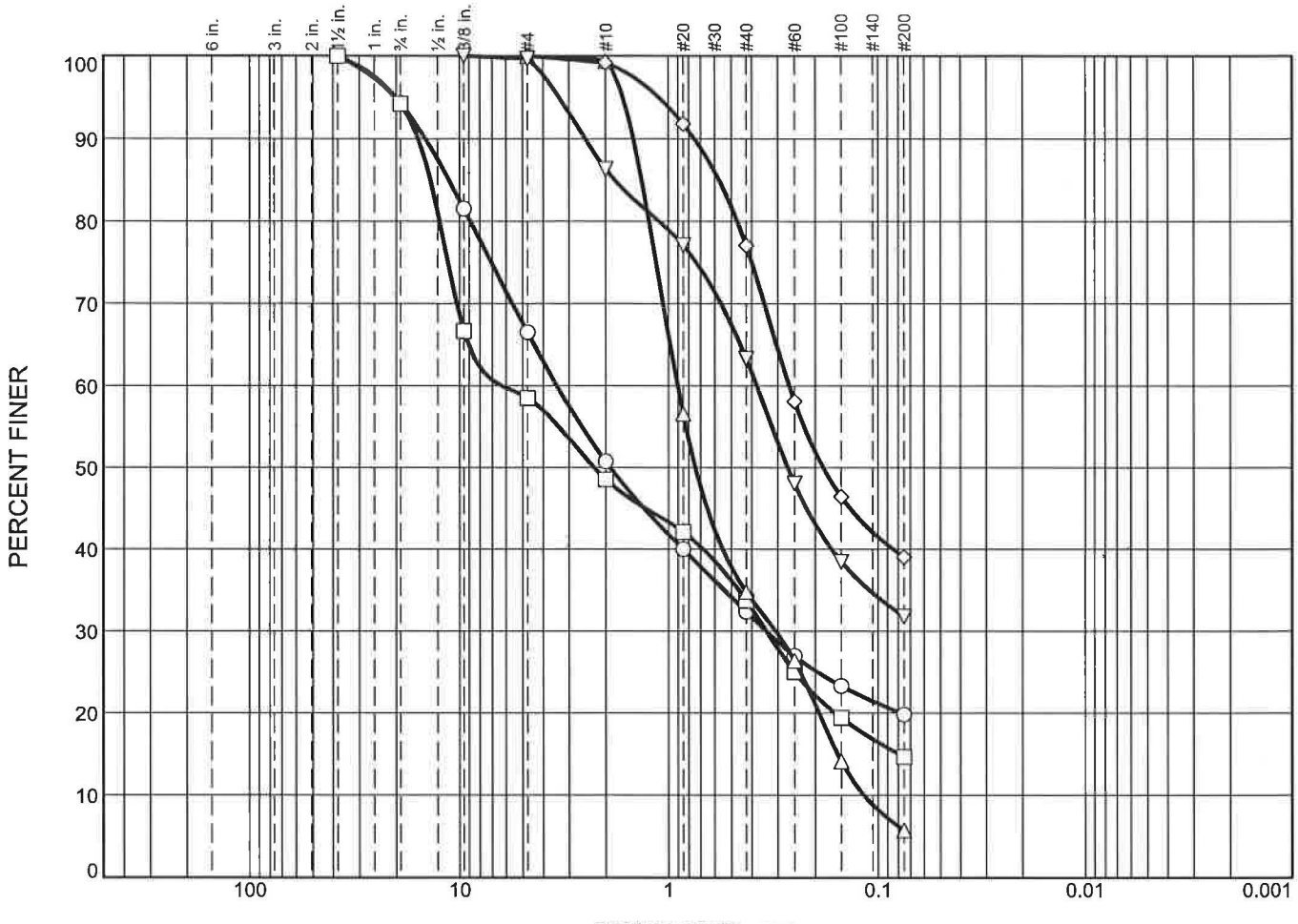
Plate 6A

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	5.7	27.8	15.8	18.4	12.5	19.8
□	0.0	5.8	35.7	10.0	14.8	19.1	14.6
△	0.0	0.0	0.0	0.6	64.6	29.1	5.7
◇	0.0	0.0	0.0	0.8	22.1	38.1	39.0
▽	0.0	0.0	0.3	13.4	23.0	31.5	31.8

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	B-4	S-2	2-4	Fine to coarse Sand, some f-c Gravel, little Silt. (MC=17.0%)	SM
□	B-6	S-1	0-2	Fine to coarse Sand, and f-c Gravel, little Silt. (MC=9.2%)	Fill
△	TP-1	S-1	0.3	Topsoil/Fine to medium Sand, trace Silt. (MC=154.1%)	SP-SM
◇	TP-1	S-2	1.1	Fine to medium Sand, and Silt. (MC=23.6%)	Fill
▽	TP-1	S-3	1.7	Fine to coarse Sand, some Silt, trace fine Gravel. (MC=38.3%)	Fill

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South Bound Brook, NJ

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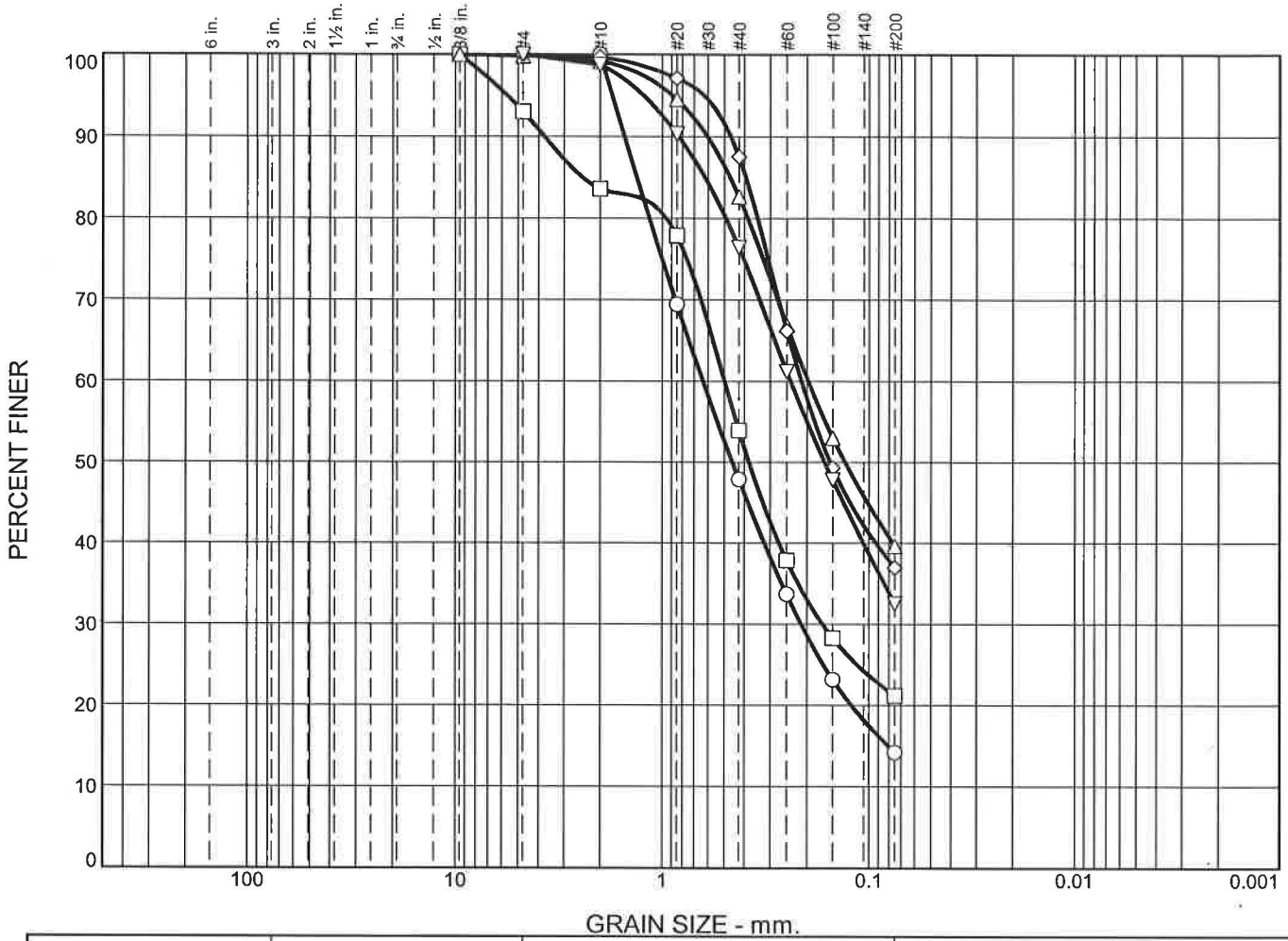
Project: Concord Resort Development, Thompson, NY

Project No.: 8979-002

Plate 6B

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	0.0	0.0	52.1	33.7	14.2
□	0.0	0.0	7.0	9.4	29.7	32.7	21.2
△	0.0	0.0	0.2	0.6	16.5	43.0	39.7
◇	0.0	0.0	0.0	0.3	12.2	50.6	36.9
▽	0.0	0.0	0.0	1.3	22.2	44.0	32.5

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-1	S-4	3	Peat with fine to medium Sand, little Silt. (MC=249.6%)	PT/SM
□	TP-2	S-1	0.3	Fine to coarse Sand, some Silt, trace fine Gravel. (MC=46.1%)	Fill
△	TP-2	S-2	0.7	Fine to medium Sand, and Silt, trace fine Gravel. (MC=18.5%)	Fill
◇	TP-2	S-3	1.6	Fine to medium Sand, and Silt. (MC=23.7%)	SM
▽	TP-3	S-1	0.25	Fine to medium Sand, some Silt. (MC=21.4%)	Fill

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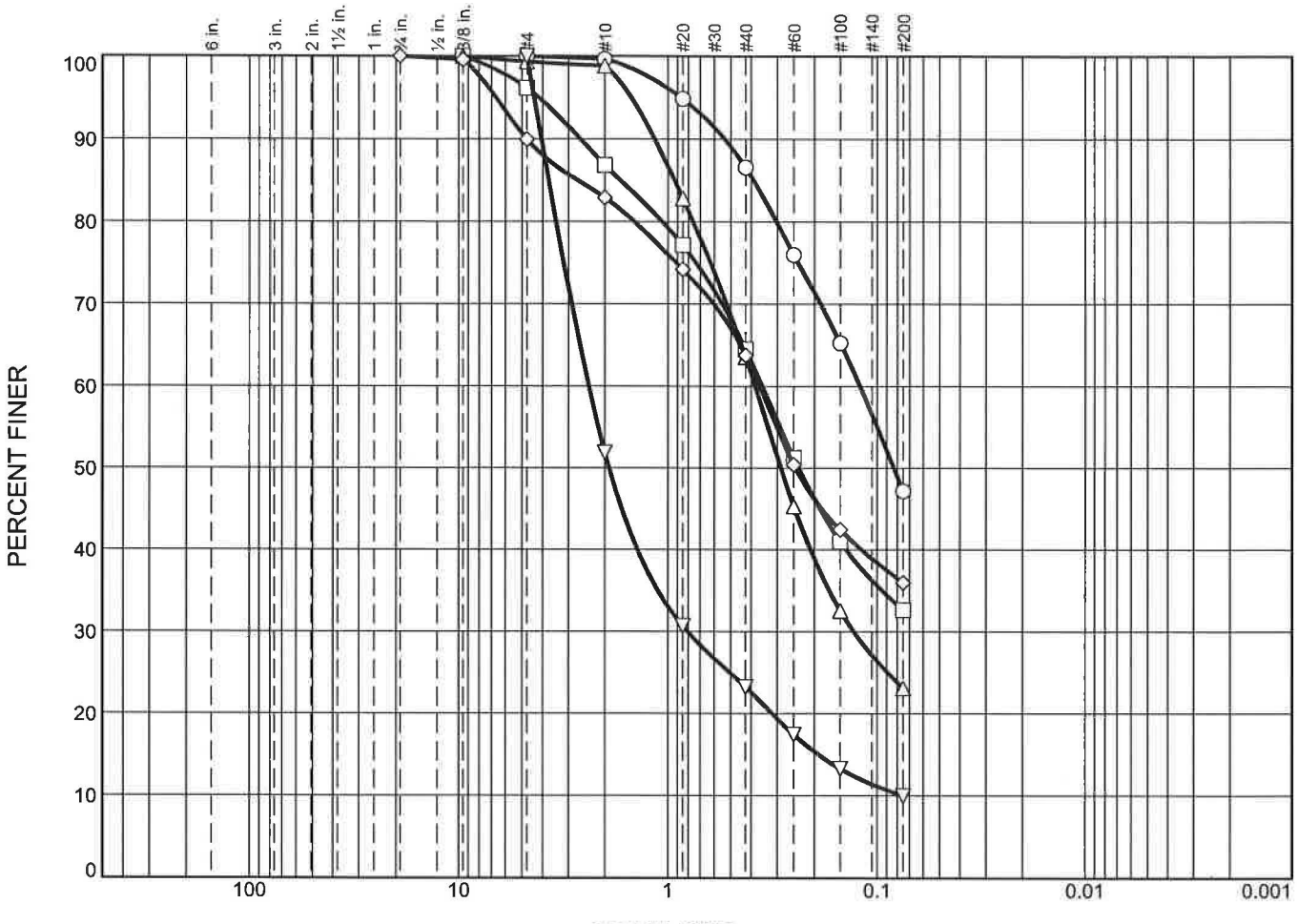
Plate 6C

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	0.0	0.4	13.0	39.4	47.2
□	0.0	0.0	3.8	9.3	22.4	31.9	32.6
△	0.0	0.0	0.7	0.5	35.3	40.4	23.1
◇	0.0	0.0	10.0	7.1	19.1	27.8	36.0
▽	0.0	0.0	0.0	48.1	28.7	13.2	10.0

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-3	S-2	0.7	Fine to medium Sand, and Silt. (MC=18.9%)	Fill
□	TP-3	S-3	1.3	Fine to coarse Sand, some Silt, trace fine Gravel. (MC=27.4%)	Fill
△	TP-4	S-1	0.2	Fine to medium Sand, some Silt, trace fine Gravel. (MC=43.4%)	Fill
◇	TP-4	S-3	1.3	Fine to coarse Sand, and Silt, little fine Gravel. (MC=13.0%)	Fill
▽	TP-4	S-6	5	Peat/Fine to coarse Sand, little Silt. (MC=228.8%)	SP-SM/PT

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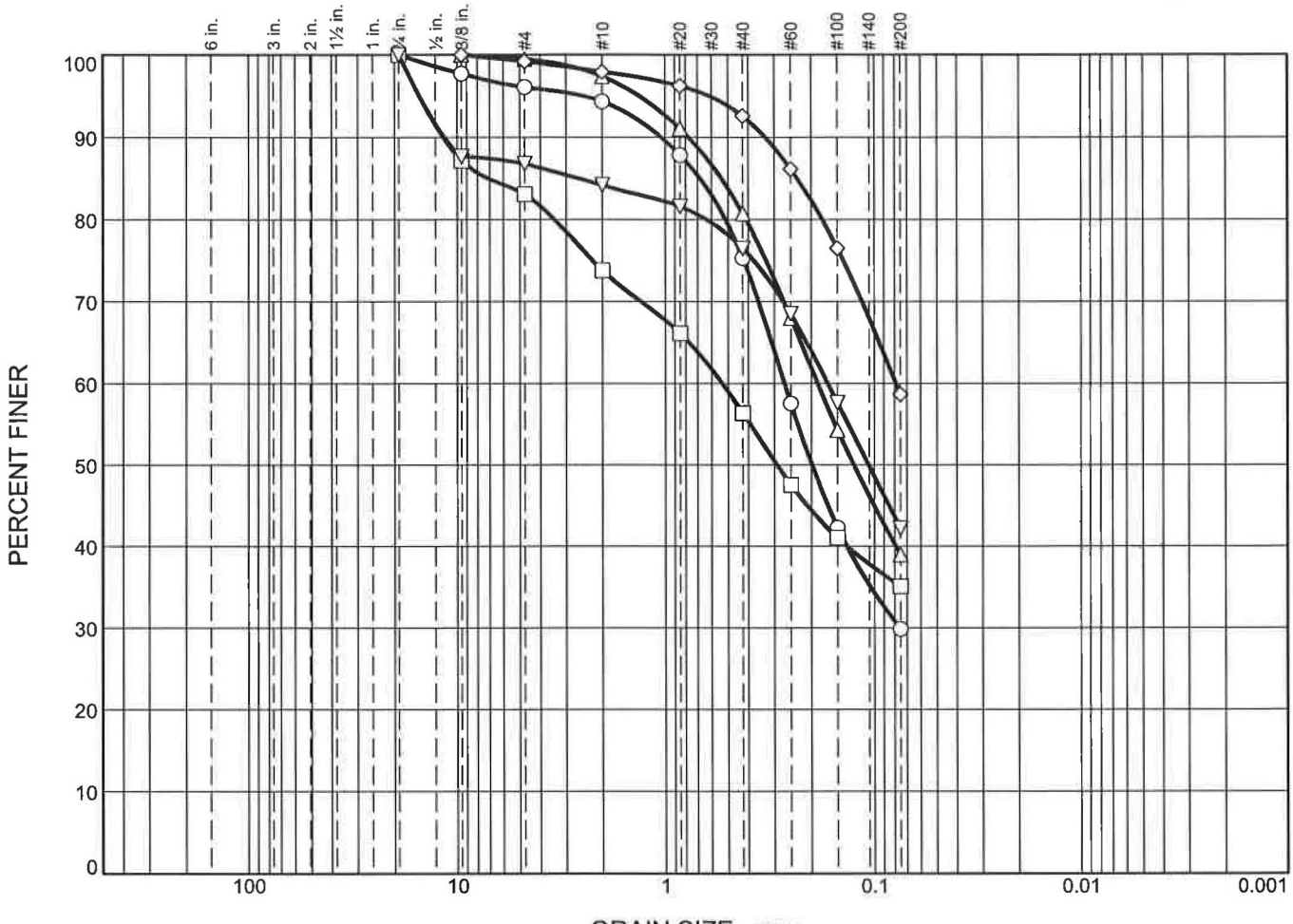
Plate 6D

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	3.9	1.8	19.0	45.5	29.8
□	0.0	0.0	16.9	9.3	17.5	21.2	35.1
△	0.0	0.0	0.5	2.1	16.7	41.7	39.0
◇	0.0	0.0	0.8	1.3	5.3	33.9	58.7
▽	0.0	0.0	13.2	2.6	7.7	34.3	42.2

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-5	S-1	0.3	Fine to medium Sand, some Silt, trace fine Gravel. (MC=22.9%)	SM
□	TP-5	S-3	2	Fine to coarse Sand, and Silt, little fine Gravel. (MC=88.1%)	SM
△	TP-6	S-1	0.3	Topsoil/F-m Sand, and Silt, trace fine Gravel. (MC=29.6%)	SM
◇	TP-6	S-2	0.7	Silt, and fine to medium Sand, trace fine Gravel. (MC=15.2%)	ML
▽	TP-6	S-3	1.5	Fine to medium Sand, and Silt, little fine Gravel. (MC=18.3%)	SM

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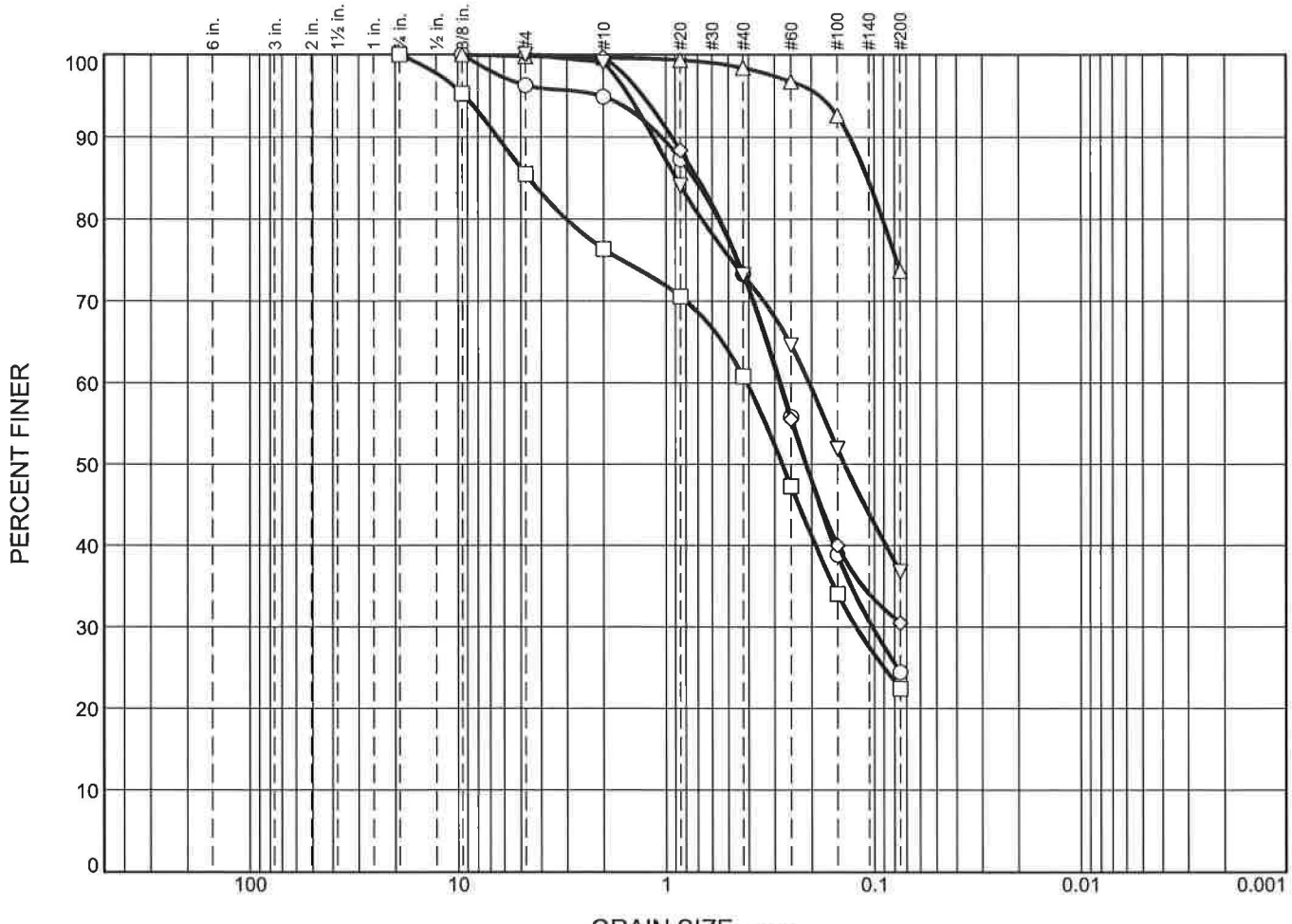
Plate 6E

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	3.7	1.4	21.6	48.9	24.4
□	0.0	0.0	14.5	9.1	15.6	38.4	22.4
△	0.0	0.0	0.2	0.2	1.2	24.7	73.7
◇	0.0	0.0	0.0	0.3	26.4	42.8	30.5
▽	0.0	0.0	0.0	0.9	25.9	36.4	36.8

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-7	S-1	0.3	Fine to medium Sand, some Silt, trace fine Gravel. (MC=46.5%)	Fill
□	TP-7	S-2	0.67	Fine to coarse Sand, some Silt, little fine Gravel. (MC=27.6%)	Fill
△	TP-7	S-3	1.7	Silt, some fine Sand, trace fine Gravel. (MC=20.9%)	ML
◇	TP-8	S-1	0.5	Fine to medium Sand, some Silt. (MC=28.8%)	Fill
▽	TP-8	S-2	1.5	Peat with fine to medium Sand, and Silt. (MC=109.1%)	SM/PT

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Client: Concord Resort Development

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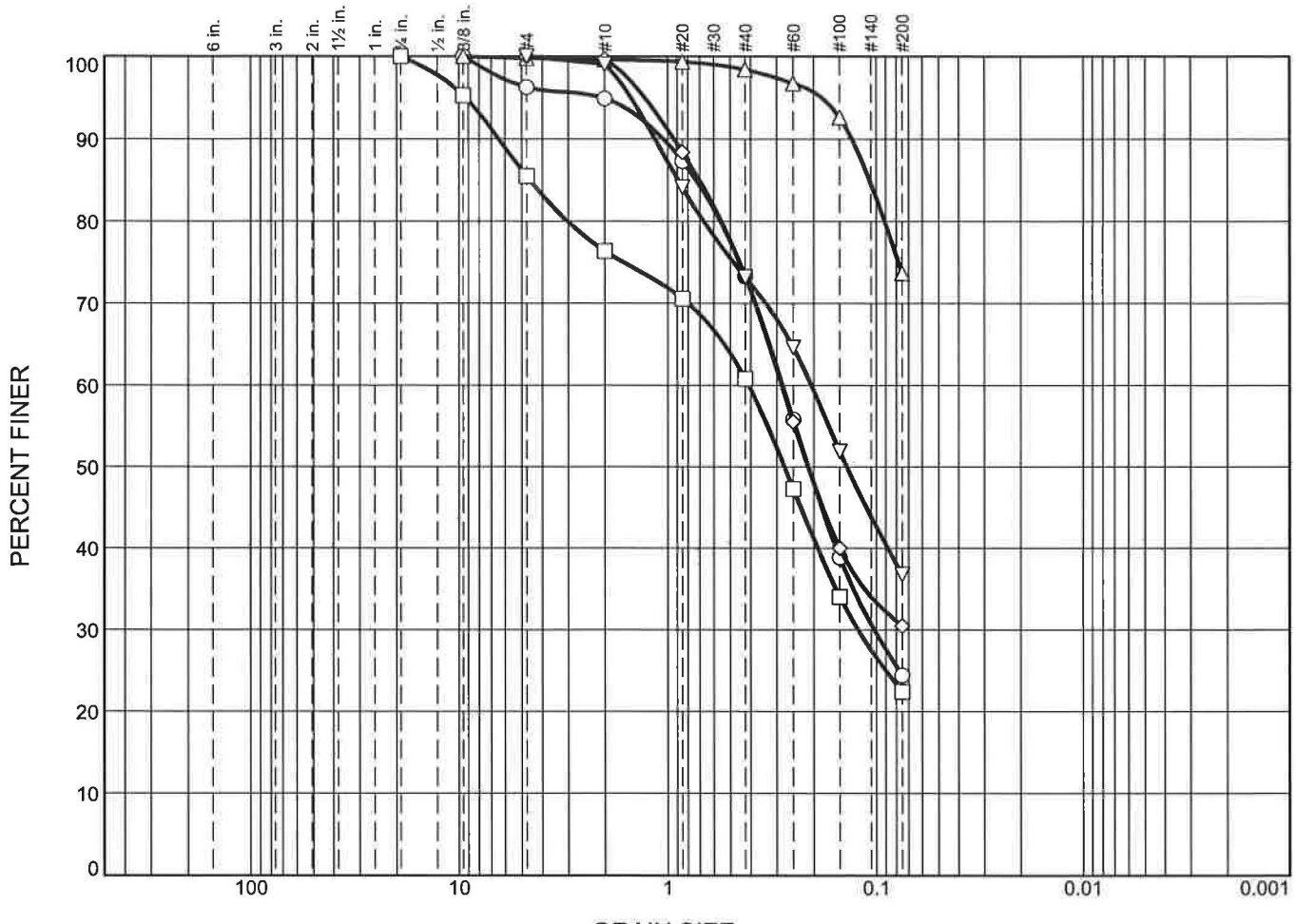
Plate 6F

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	3.7	1.4	21.6	48.9	24.4
□	0.0	0.0	14.5	9.1	15.6	38.4	22.4
△	0.0	0.0	0.2	0.2	1.2	24.7	73.7
◇	0.0	0.0	0.0	0.3	26.4	42.8	30.5
▽	0.0	0.0	0.0	0.9	25.9	36.4	36.8

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-7	S-1	0.3	Fine to medium Sand, some Silt, trace fine Gravel. (MC=46.5%)	Fill
□	TP-7	S-2	0.67	Fine to coarse Sand, some Silt, little fine Gravel. (MC=27.6%)	Fill
△	TP-7	S-3	1.7	Silt, some fine Sand, trace fine Gravel. (MC=20.9%)	ML
◇	TP-8	S-1	0.5	Fine to medium Sand, some Silt. (MC=28.8%)	Fill
▽	TP-8	S-2	1.5	Peat with fine to medium Sand, and Silt. (MC=109.1%)	SM/PT

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South Bound Brook, NJ

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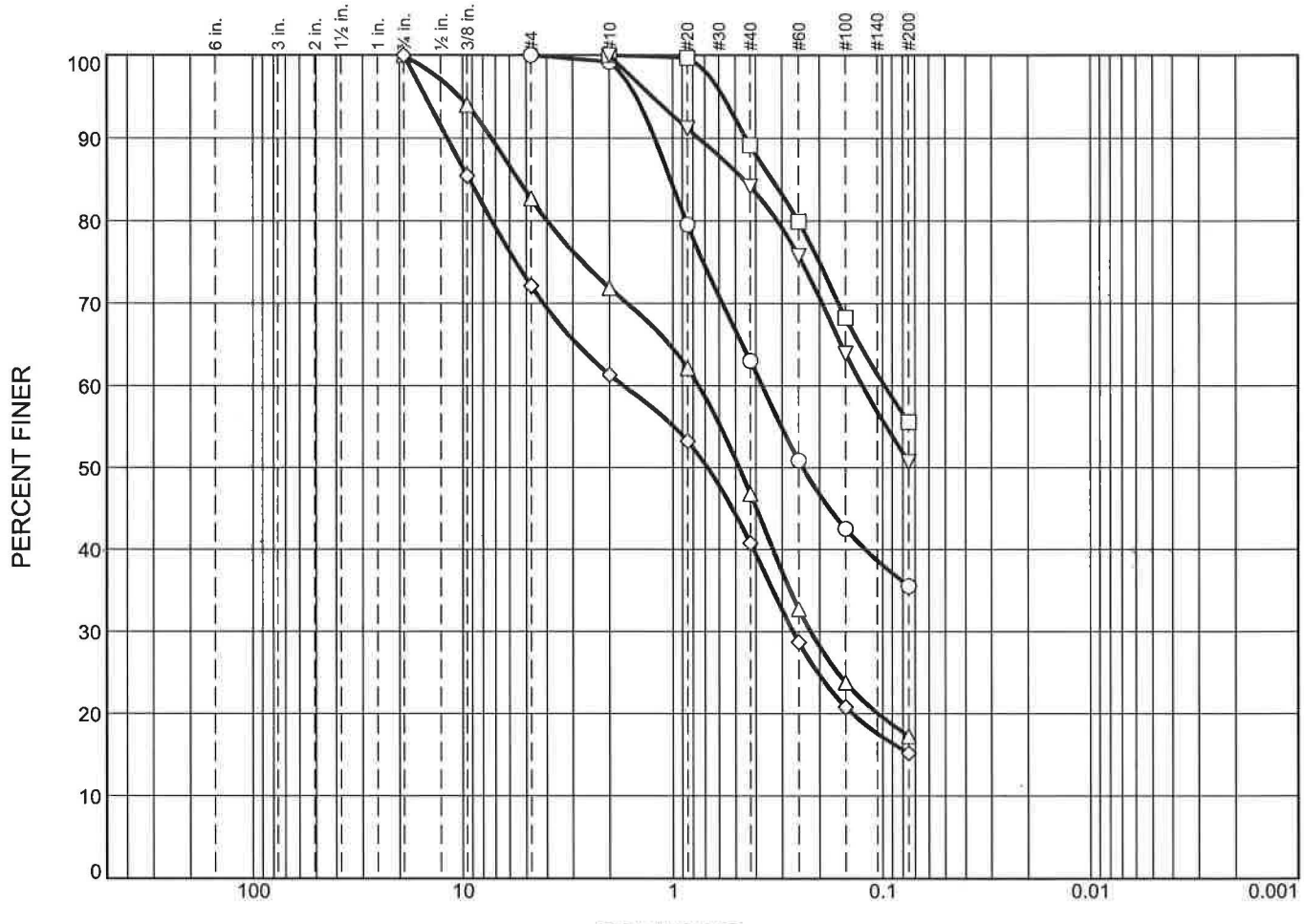
Plate 6F

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	0.0	0.8	36.2	27.5	35.5
□	0.0	0.0	0.0	0.0	10.9	33.5	55.6
△	0.0	0.0	17.3	10.8	25.1	29.6	17.2
◇	0.0	0.0	27.9	10.8	20.5	25.6	15.2
▽	0.0	0.0	0.0	0.0	15.8	33.5	50.7

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-9	S-1	0.25	Fine to medium Sand, and Silt. (MC=41.4%)	Fill
□	TP-9	S-3	1.5	Silt, and fine to medium Sand. (MC=26.1%)	ML
△	TP-10	S-1	0.25	Fine to coarse Sand, little Silt, little fine Gravel. (MC=10.8%)	Fill
◇	TP-10	S-2	1	Fine to coarse Sand, some fine Gravel, little Silt. (MC=7.7%)	Fill
▽	TP-10	S-6	5	Silt, and fine to medium Sand. (MC=10.0%)	ML

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Project: Concord Resort Development, Thompson, NY

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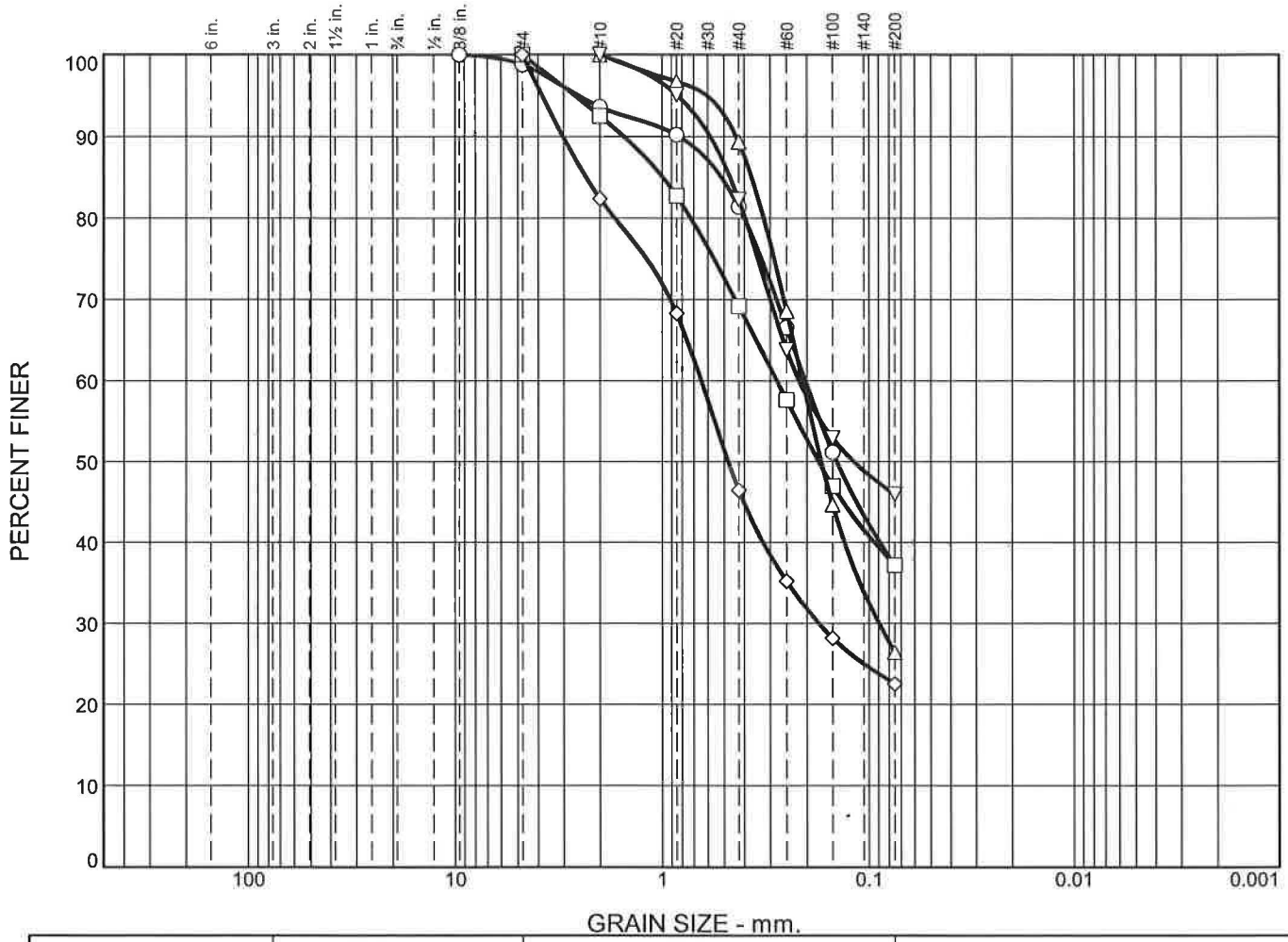
Plate 6G

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	1.2	5.2	12.2	44.3	37.1
□	0.0	0.0	0.0	7.5	23.3	32.0	37.2
△	0.0	0.0	0.0	0.0	10.7	62.9	26.4
◇	0.0	0.0	0.0	17.6	35.9	24.0	22.5
▽	0.0	0.0	0.0	0.0	17.7	36.4	45.9

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-11	S-1	0.5	Fine to medium Sand, and Silt, trace fine Gravel. (MC=23.8%)	Fill
□	TP-11	S-2	1	Fine to coarse Sand, and Silt. (MC=138.5%)	Fill
△	TP-11	S-3	2	Fine to medium Sand, some Silt. (MC=25.3%)	SM
◇	TP-11	S-5	4.5	Peat/Fine to coarse Sand, some Silt. (MC=457.1%)	PT/SM
▽	TP-13	S-1	.5	Fine to medium Sand, and Silt. (MC=55.0%)	Fill

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Plate 6H

Gradation Curve(s)

	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	0.0	0.0	15.4	38.6	46.0
□	0.0	0.0	0.0	0.0	65.1	30.8	4.1
△	0.0	0.0	4.6	2.7	11.3	47.2	34.2
◇	0.0	0.0	1.3	1.0	12.3	51.8	33.6
▽	0.0	0.0	0.0	0.3	18.7	58.2	22.8

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-13	S-2	1.5	Fine to medium Sand, and Silt. (MC=52.2%)	Fill
□	TP-13	S-3	2	Fine to medium Sand, trace Silt. (MC=25.0%)	Fill
△	TP-14	S-1	0.25	Fine to medium Sand, some Silt, trace fine Gravel. (MC=16.8%)	SM
◇	TP-14	S-2	0.5	Fine to medium Sand, some Silt, trace fine Gravel. (MC=9.1%)	SM
▽	TP-14	S-3	1.5	Fine to coarse Sand, some Silt. (MC=14.1%)	SM

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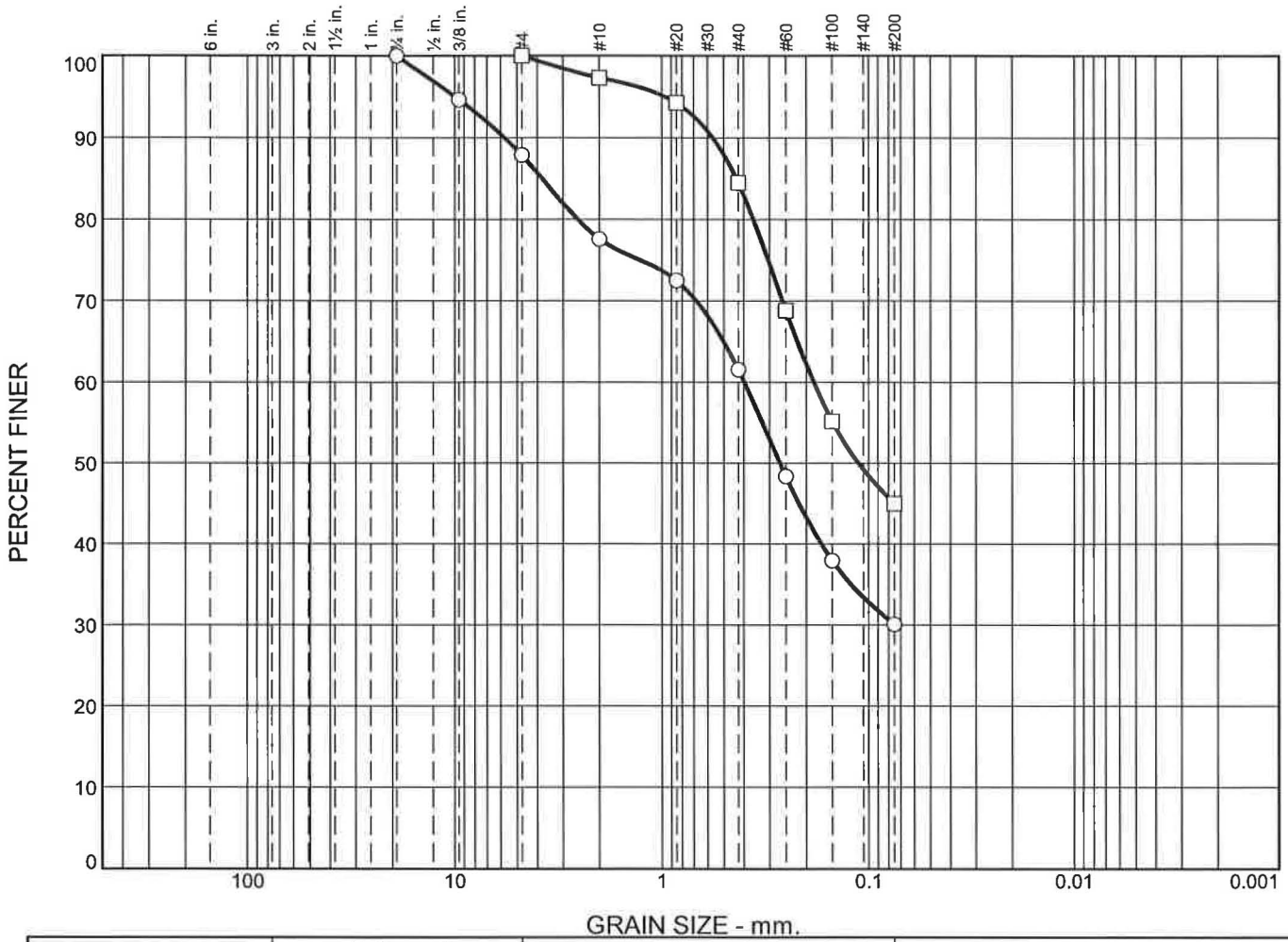
Plate 6I

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	12.1	10.3	16.1	31.4	30.1
□	0.0	0.0	0.0	2.7	12.8	39.5	45.0

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-15	S-1	0.25	Fine to coarse Sand, some Silt, little fine Gravel. (MC=13.3%)	Fill
□	TP-15	S-2	0.5	Fine to medium Sand, and Silt. (MC=10.2%)	SM

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South Bound Brook, NJ

Client: Concord Resort Development

Project: Concord Resort Development, Thompson, NY

Project No.: 8979-002

Plate 6J

DATA SUMMARY SHEET
Concord Resort Development
Thompson, New York

Explorations No.	Depth	Moisture Content (%)	Organic Matter (%)	Total Density (pcf)	Gradation Test	In-Place Permeability Test
B-1	0-2'	21.8	-	-	*	
B-1	2-4'	10.3	-	-	*	
B-1	4-6'	108.4	16.7	-		
B-2	2-4'	23.0	-	-	*	
B-2	4-5'	29.9	6.5	-		
B-3	0-2'	16.0	-	-	*	
B-4	0-2'	10.1	-	-	*	
B-4	2-4'	17.0	-	-	*	
B-5	0-2'	62.9	13.0	-		
B-6	0-2'	9.2	-	-	*	
B-7	0-2'	37.1	12.5	-		
B-7	2-4'	24.8	-	-		
TP-1	0-8"	154.1	34.1	116.4	*	
TP-1	8-16"	23.6	5.6	101.4	*	
TP-1	16-24"	79.2	7.6	63.5	*	
TP-1	3'	249.6	37.5	-	*	
TP-2	6-8"	46.1	12.1	99.4	*	
TP-2	8-16"	27.3	3.1	102.6	*	
TP-2	16-24"	23.7	1.7	114.3	*	
TP-3	0-8"	21.4	5.0	107.5	*	
TP-3	8-16"	18.9	2.8	113.2	*	
TP-3	16-24"	14.0	6.9	135.4	*	
TP-4	0-8"	11.3	11.1	128.1	*	
TP-4	8-16"	13.0	1.5	119.8	*	
TP-5	0-8"	22.9	4.4	100.7	*	
TP-5	8-16"	34.6	20.7	93.3		
TP-5	16-24"	88.1	-	88.0	*	
TP-6	0-8"	29.6	11.9	115.2	*	
TP-6	8-16"	15.2	1.0	108.8	*	*
TP-6	16-24"	18.3	2.1	125.4	*	
TP-7	0-8"	46.5	13.7	96.8	*	
TP-7	8-16"	16.0	5.3	136.1	*	
TP-7	16-24"	20.9	0.5	127.4	*	*
TP-8	0-16"	28.8	7.1	105.3	*	
TP-8	16-24"	109.1	20.1	103.8	*	

DATA SUMMARY SHEET
Concord Resort Development
Thompson, New York

Explorations No.	Depth	Moisture Content (%)	Organic Matter (%)	Total Density (pcf)	Gradation Test	In-Place Permeability Test
TP-9	0-8"	41.4	10.8	110.5	*	
TP-9	8-16"	38.7	2.9	119.5		
TP-9	16-24"	26.1	-	108.7	*	
TP-10	0-8"	10.8	1.8	128.4	*	
TP-10	8-16"	27.4	1.5	115.6	*	
TP-10	16-24"	27.2	-	108.2		
TP-10	5'	10.0	4.9	-	*	
TP-11	0-8"	23.8	6.4	109.0	*	
TP-11	8-16"	138.5	35.3	72.3	*	
TP-11	16-24"	55.0	3.5	99.0	*	
TP-11	4'-6"	457.1	75.4	-	*	
TP-12	8-12"	17.6	-	125.4		
TP-12	12-24"	18.2	-	125.0		
TP-13	0-8"	55.0	11.4	89.3	*	
TP-13	8-16"	52.2	7.5	82.2	*	
TP-13	16-24"	25.0	0.6	83.7	*	
TP-14	0-8"	16.8	5.1	83.3	*	
TP-14	8-16"	9.1	6.1	-	*	
TP-14	16-24"	14.1	4.1	117.2	*	*
TP-15	0-8"	13.3	4.3	140.2	*	
TP-15	8-16"	10.2	1.4	154.4	*	
TP-15	16-24"	8.1	-	-		

APPENDIX

APPENDIX

Limitations

A. Subsurface Information

Locations: The locations of the explorations were approximately determined by tape and compass measurement from untitled plans provided to us by AKRF. Elevations of the explorations were approximately determined by interpolation between contours shown on topographic plans provided to us by the site engineer. The locations and elevations of the explorations should be considered accurate only to the degree implied by the method used.

Interface of Strata: The stratification lines shown on the individual logs of the subsurface explorations represent the approximate boundaries between soil types, and the transitions may be gradual.

Field Logs/Final Logs: A field log was prepared for each exploration by a member of our staff. The field log contains factual information and interpretation of the soil conditions between samples. Our recommendations are based on the final logs as shown in this report and the information contained therein, and not on the field logs. The final logs represent our interpretation of the contents of the field logs, and the results of the laboratory observations and/or tests of the field samples.

Water Levels: Water level readings have been made in the explorations at times and under conditions stated on the individual logs. These data have been reviewed and interpretations made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater will occur due to variations in rainfall, temperature, and other factors.

Pollution/Contamination: Unless specifically indicated to the contrary in this report, the scope of our services was limited only to investigation and evaluation of the geotechnical engineering aspects of the site conditions, and did not include any consideration of potential site pollution or contamination resulting from the presence of chemicals, metals, radioactive elements, etc. This report offers no facts or opinions related to potential pollution/contamination of the site.

Environmental Considerations: Unless specifically indicated to the contrary in this report, this report does not address environmental considerations which may affect the site development, e.g., wetlands determinations, flora and fauna, wildlife, etc. The conclusions and recommendations of this report are not intended to supersede any environmental conditions which should be reflected in the site planning.

B. Applicability of Report

This report has been prepared in accordance with generally accepted soils and foundation engineering practices for the exclusive use of The Concord Resort Development for specific application to the design of the proposed development. No other warranty, expressed or implied, is made.

A more detailed subsurface investigation should be performed at the site prior to proceeding with final design. This investigation should consider the final locations and design features of the proposed facilities and should serve to confirm and/or further define the subsurface conditions and recommendations discussed in this preliminary study.

C. Reinterpretation of Recommendations

Change in Location or Nature of Facilities: In the event that any changes in the nature, design or location of the facilities are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

Changed Conditions During Construction: The analyses and recommendations submitted in this report are based in part upon the data obtained from seven widely-spaced test borings and 15 test pit excavations performed for this study. The nature and extent of variations between the explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

Changes in State-of-the-Art: The conclusions and recommendations contained in this report are based upon the applicable standards of our profession at the time this report was prepared.

D. Use of Report by Prospective Bidders

This soil and foundation engineering report was prepared for the project by Melick-Tully and Associates, P.C. for design purposes and may not be sufficient to prepare an accurate bid. Contractors utilizing the information in the report should do so with the express understanding that its scope was developed to address design considerations. Prospective bidders should obtain the owner's permission to perform whatever additional explorations or data gathering they deem necessary to prepare their bid accurately.

E. Construction Observation

We recommend that Melick-Tully and Associates, P.C. be retained to provide on-site soils engineering services during the earthwork construction and foundation phases of the work. This is to observe compliance with the design concepts and to allow changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

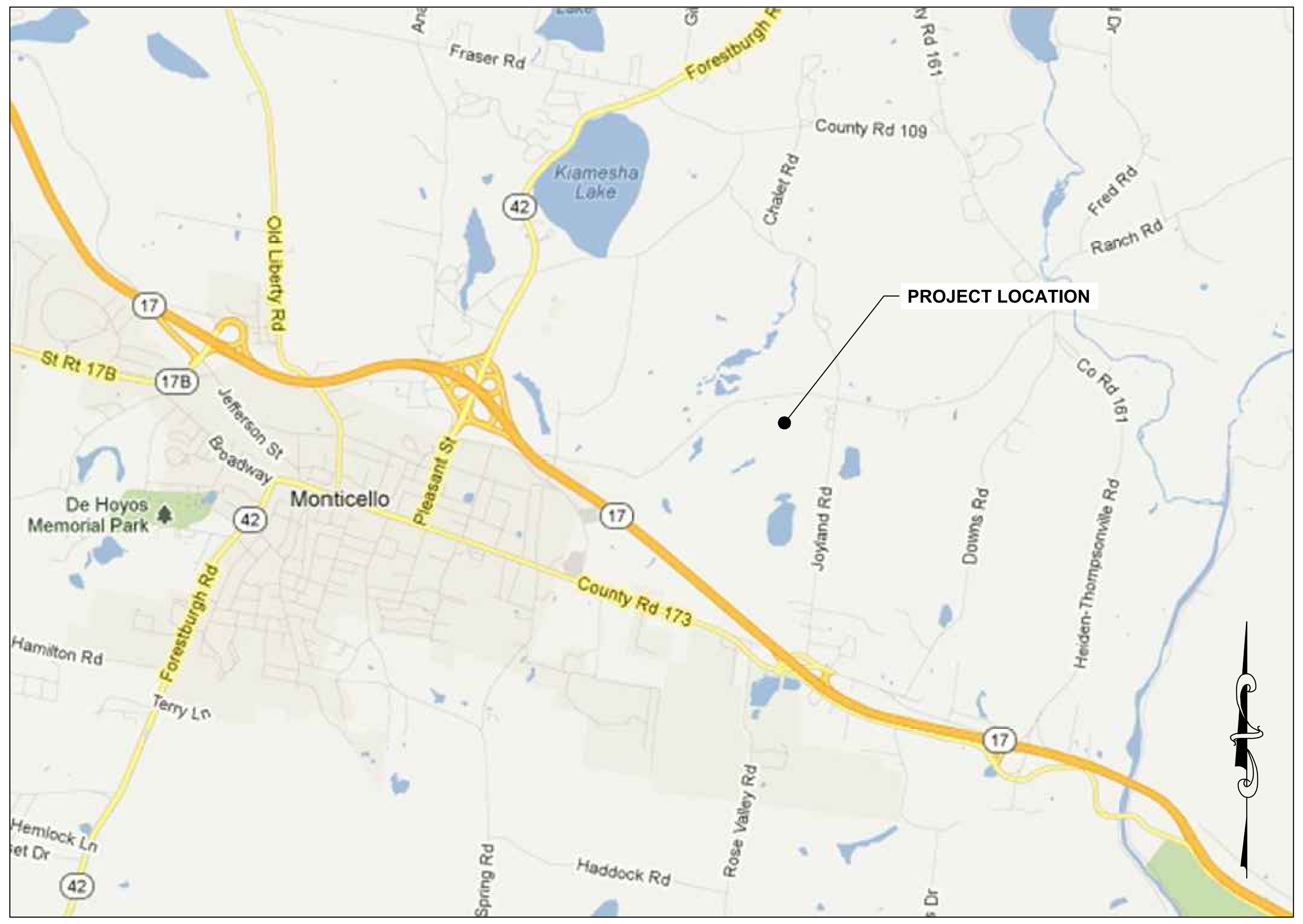
Volume II

Wetland Mitigation Plan Sheets

(large scale – provided under separate cover)

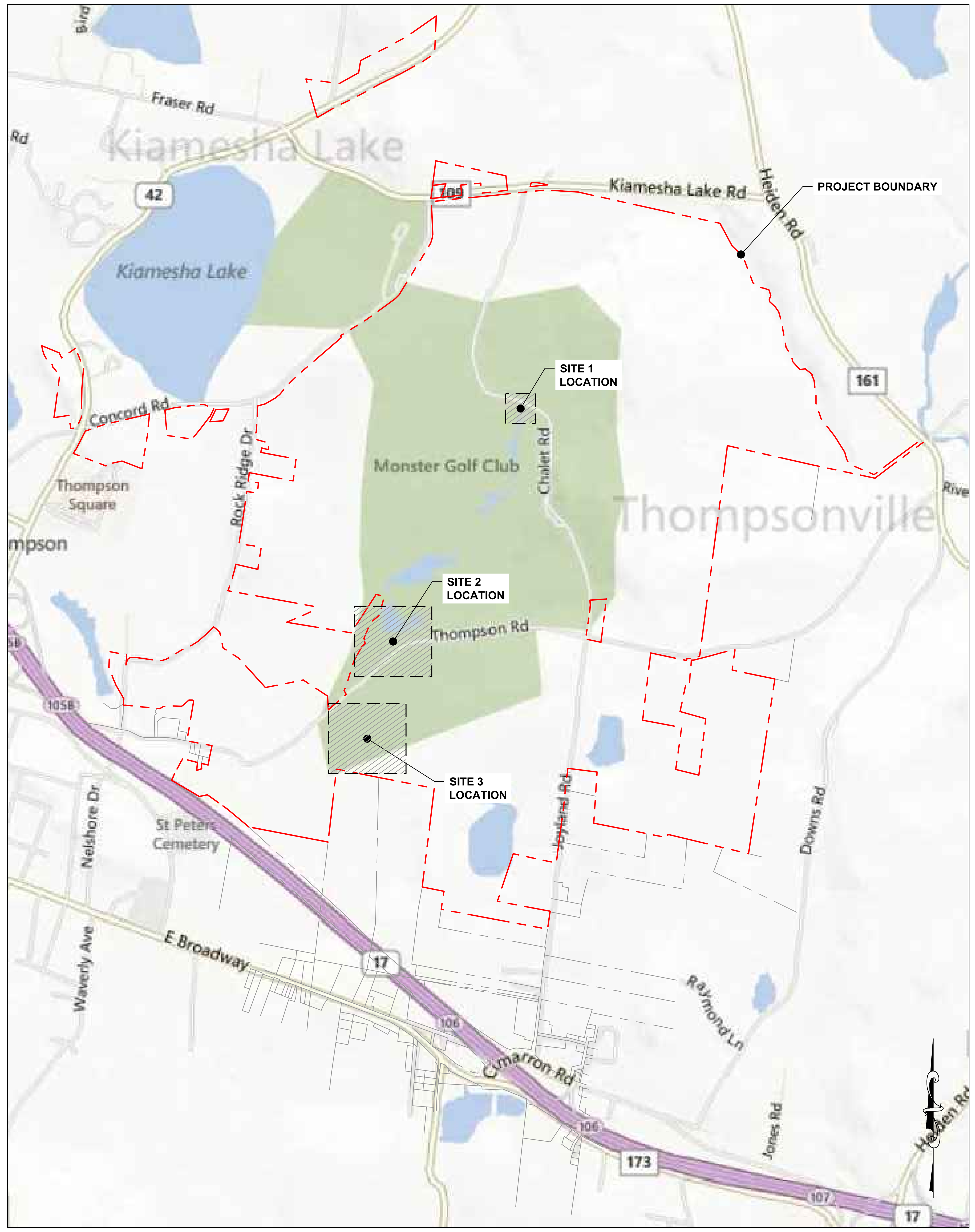
CONCORD RESORT
WETLAND MITIGATION

TOWN OF THOMPSON, SULLIVAN COUNTY, NY



1) PROJECT VICINITY MAP

SCALE: 1" = 0.5 MILES



2) SITE MAP

SCALE: 1" = 1000'

GENERAL NOTES

1. SURVEY INFORMATION SHOWN IS BASED ON TOPOGRAPHIC AND UTILITY SURVEY PERFORMED BY CONTRACTOR'S LINE & GRADE SOUTH, LLC. ALL VALUES SHOWN ARE IN ENGLISH UNITS. EXISTING UNDERGROUND UTILITIES, AS SHOWN ON THIS DRAWING, HAVE BEEN DETERMINED BY STANDARD SURVEY METHODS AND AVAILABLE UTILITY RECORDS. NEITHER THE EXACT LOCATION NOR THE INFORMATION GIVEN FOR THESE EXISTING UTILITIES IS GUARANTEED TO BE COMPLETE OR CORRECT.
2. ALL CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE 2006, AND TO ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS INCLUDING, BUT NOT LIMITED TO ALL APPLICABLE OSHA AND ADA REQUIREMENTS.
3. CONSTRUCTION PROCEDURES, INCLUDING, BUT NOT LIMITED TO MEANS, METHODS, COORDINATION AND SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL LAYOUT, LINE AND GRADE IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. DO NOT SCALE DRAWINGS.
6. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED. MINOR DETAILS OR INCIDENTAL ITEMS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR A COMPLETE AND PROPER INSTALLATION OF ANY PART OF THE WORK INDICATED SHALL BE PROVIDED AS REQUIRED.
7. ACCEPTANCE OF CONSTRUCTION CONFORMANCE TO THE APPLICABLE STANDARDS AND CODES IS THE RESPONSIBILITY OF THE OWNER. TO MAINTAIN ADEQUATE FIELD QUALITY CONTROL FULL-TIME CONSTRUCTION INSPECTION IS RECOMMENDED. CONSTRUCTION UNDERTAKEN WITHOUT SUCH INSPECTION SHALL BE AT THE OWNER'S RISK.
8. FIELD QUALITY CONTROL TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AND THE RESULTS ARE TO BE FURNISHED TO PROJECT ENGINEER FOR REVIEW AND APPROVAL.
9. IF, AT ANY TIME, THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS INDICATED ON THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH A PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND MODIFICATIONS OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENT HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER.
10. ANY DISCREPANCIES BETWEEN THE GENERAL NOTES, SPECIFICATIONS, DRAWINGS, CODES OR STANDARDS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR DIRECTION PRIOR TO PROCEEDING WITH CONSTRUCTION, FABRICATION OR PROCUREMENT OF MATERIALS.
11. THE EXISTING UTILITIES SHOWN ON THE SURVEY WERE TAKEN FROM THE BEST AVAILABLE INFORMATION AND ARE NOT GUARANTEED TO BE ACCURATE. FIELD CONDITIONS MAY VARY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE LOCAL UTILITY COMPANIES THAT HAVE SUBSURFACE INSTALLATIONS IN THE AREA OF WORK FOR THIS CONTRACT AND DIRECT THEM TO HAVE THEIR FACILITIES MARKED OUT PRIOR TO COMMENCING WORK.
12. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH PROPER UTILITY COMPANY OR AGENCY FOR DISCONNECTING SERVICES, RELOCATING SERVICES, AND PROVIDING NEW SERVICES WITHIN THE PROJECT AREA.
13. WHERE CONSTRUCTION, INCLUDING UTILITY LINES, CROSSES OR IS ADJACENT TO EXISTING UTILITY LINES (FUEL, WATER, SEWER, TELECOMMUNICATION, GAS OR ELECTRIC), CONTRACTOR SHALL DIG TEST PITS AND CAREFULLY HAND EXCAVATE SO AS TO LOCATE, MARK, AND PROTECT THE UTILITY LINES AGAINST DISTURBANCE OR DAMAGE.
14. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REGRADING OVER EXISTING/NEW UTILITIES INCLUDING, BUT NOT LIMITED TO STORM AND SANITARY SEWERS, WATER MAINS, GAS AND ELECTRIC LINES.
15. CONTRACTOR TO FIELD-VERIFY ALL REMOVAL QUANTITIES.
16. CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL THROUGHOUT CONSTRUCTION PERIODS AND UNTIL SITE IS PERMANENTLY STABILIZED. SITE SHALL BE WATERED DOWN DURING CONSTRUCTION TO MINIMIZE DUST. THIS ACTIVITY SHALL BE PERFORMED BY THE CONTRACTOR AS DEEMED NECESSARY BY THE ENGINEER.
17. SITE EXCAVATION: ALL EXCAVATED SOIL SHALL BE STOCKPILED IN CONFORMANCE WITH THE EROSION AND SEDIMENT POLLUTION CONTROL DETAILS. ALL APPLICABLE REGULATIONS FOR REMOVAL OF CONTROLLED FILL SHALL BE ADHERED TO.
18. THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO BUILDING WALLS TO REMAIN IN PLACE.
19. ALL UNSUITABLE MATERIAL, CONSTRUCTION DEBRIS, ETC. SHALL BE PROPERLY REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES AND LAWS.
20. ALL DEMOLITION, GRADING, AND TREE REMOVAL PROCEDURES, PERMITS AND APPROVALS SHALL BE IN ACCORDANCE WITH PADEP AND/OR OTHER APPROPRIATE AUTHORIZING AGENCIES AND ARE THE RESPONSIBILITY OF THE CONTRACTOR.
21. CONTRACTOR SHALL MAINTAIN SAFE ACCESS TO ALL BUILDING ENTRANCES WITHIN PROJECT LIMITS, AS APPLICABLE.
22. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ENSURE THE SAFETY OF HIS EMPLOYEES AND THE GENERAL PUBLIC, STRUCTURAL/SITE FEATURES TO REMAIN, ADJACENT PROPERTIES & PUBLIC RIGHT-OF-WAYS DURING ALL CONSTRUCTION AND REMOVAL ACTIVITIES IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES AND REGULATIONS. THE OWNER AND PROJECT ENGINEER ASSUME NO RESPONSIBILITIES FOR THE CONTRACTOR'S SAFETY PROGRAM AND PROCEDURES IN CONNECTION WITH THE WORK.
23. CONTRACTOR SHALL PERFORM WORK IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH CURRENT SITE ACTIVITIES; INGRESS AND EGRESS LOCATIONS, WALKWAYS, AND ADJACENT PROPERTIES.
24. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS AND APPROVALS PRIOR TO COMMENCING WORK.
25. CONTRACTOR SHALL EXAMINE AND FIELD VERIFY ALL EXISTING AND GIVEN DIMENSIONS AND CONDITIONS WITH THOSE SHOWN ON THE PLANS. IN CASE OF ANY DISCREPANCY, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTIONS AND OFF ALIGNMENTS ACCORDING TO CODES AND STANDARDS OF GOOD PRACTICE.
27. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR, EQUIPMENT, AND MATERIALS AS REQUIRED FOR THE IMPROVEMENT WORK SHOWN WITHIN THE PROJECT AREA.
28. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR ALL PRODUCTS (I.E. PIPES, STRUCTURES, ETC.) INCLUDING MATERIAL SPECIFICATIONS FOR ROCK, FILL MATERIAL, EROSION CONTROL MAT, SILT FENCE, PAVEMENT SECTION, ETC. ALL SITE-RELATED SHOP DRAWINGS SUBMITTED TO THE ENGINEER SHALL BEAR THE APPROVAL STAMP OF GENERAL CONTRACTOR.
29. WHERE MANUFACTURER'S NAMES AND PRODUCT NUMBERS ARE INDICATED ON DRAWINGS, IT SHALL BE CONSTRUED TO MEAN THE ESTABLISHMENT OF QUALITY AND PERFORMANCE STANDARDS OF SUCH ITEMS. ALL OTHER PRODUCTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE THEY SHALL BE DEEMED EQUAL.
30. EXISTING ASPHALT OR CONCRETE PAVEMENT IN THE AREAS OF NEW PAVEMENT SHALL BE ENTIRELY REMOVED AND DISPOSED OF BY THE CONTRACTOR IN CONFORMANCE WITH PADEP AND PHILADELPHIA CODE. THE SUBGRADE SHALL BE PREPARED AND BROUGHT TO THE REQUIRED ELEVATION PRIOR TO CONSTRUCTING BASE AND TOP COURSE.
31. WHERE EXISTING CONCRETE PAVEMENT OR ASPHALT CONCRETE PAVEMENT ARE REMOVED, THE CONTRACTOR SHALL SAWCUT AND NEATLY TRIM EDGE OF REMAINING PAVEMENT BEFORE INSTALLING NEW CONSTRUCTION.
32. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION METHODS AND MEANS FOR COMPLETION OF THE WORK DEPICTED ON THESE PLANS, NOR FOR ANY CONFLICTS AND/OR REVISIONS WHICH RESULT FROM THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING METHODS AND MEANS OF COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND NOTIFY THE PROJECT ENGINEER WHEN A CONFLICT IS IDENTIFIED.
33. CONTRACTOR IS RESPONSIBLE TO KEEP PUBLIC RIGHTS-OF-WAY ALONG SITE BOUNDARIES CLEAR OF SOIL AND DEBRIS AND IS RESPONSIBLE FOR ANY STREET CLEANING NECESSARY DURING THE COURSE OF THE PROJECT.
34. PRIOR TO STARTING ANY CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL COORDINATE AND ATTEND A PRECONSTRUCTION MEETING WITH THE OWNER, ENGINEER AND REGULATORY AGENCY REPRESENTATIVES.

Sheet List Table

Sheet Number	Sheet Title
T-1	TITLE SHEET
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S-2	GRADING PLAN - SITE 3
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CS-1	CROSS SECTION SHEET - PROFILES A, B, C, AND D
D-1	DETAIL SHEET
L-1	LANDSCAPING PLAN - SITES 1 AND 2
L-2	LANDSCAPING PLAN - SITE 3
L-3	LANDSCAPING SCHEDULES AND DETAILS
L-4	LANDSCAPING DETAILS

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(212) 481-3768 (FAX)

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TITLE SHEET

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SCALES:
PLAN N/A
PROFILE HORIZ. N/A
VERT. N/A
SECTION N/A

DATE	03/08/2013
DRAWN BY:	GLR
DESIGNED BY:	AFW
CHECKED BY:	RRR

SHEET NO. T-1

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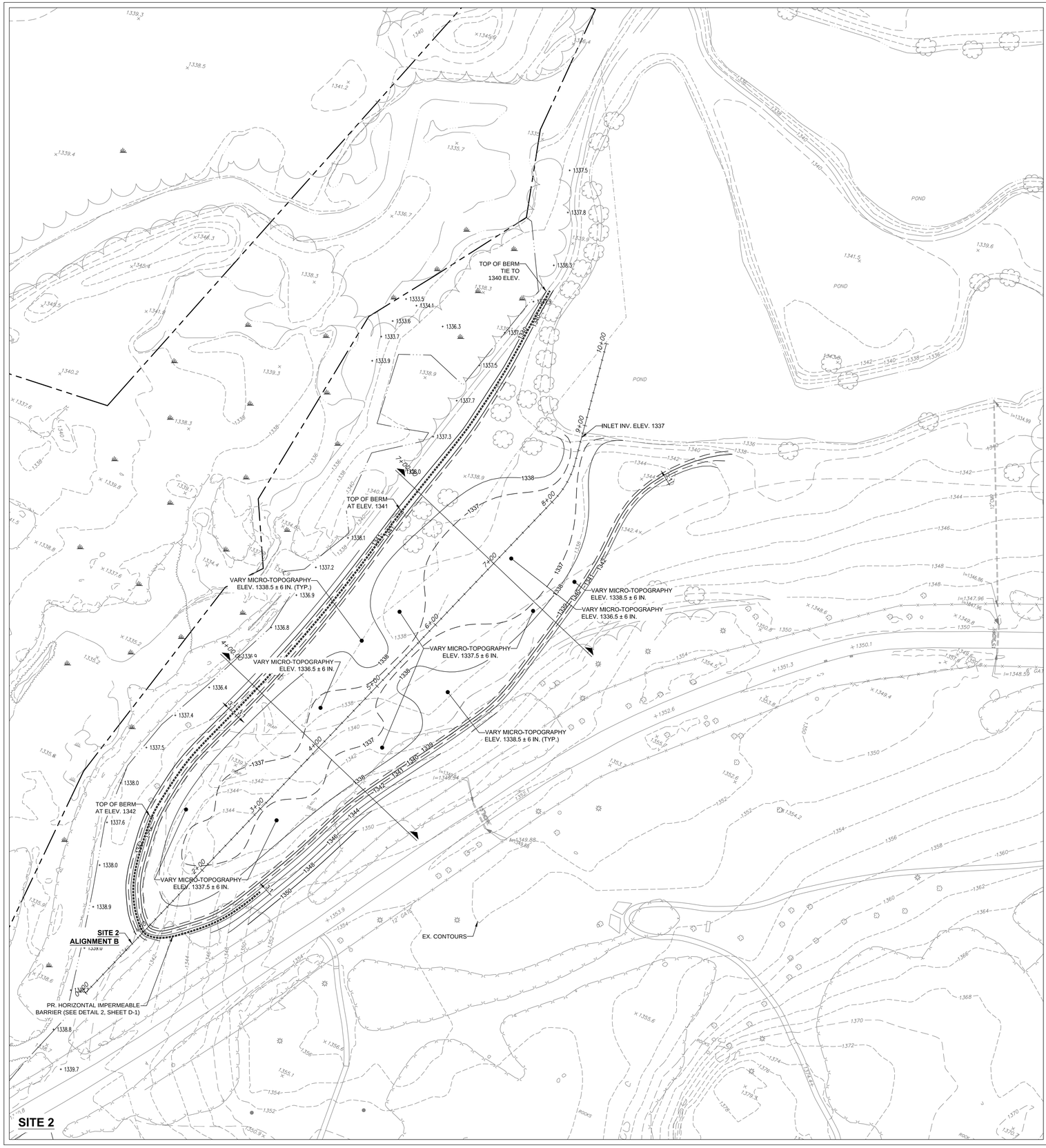

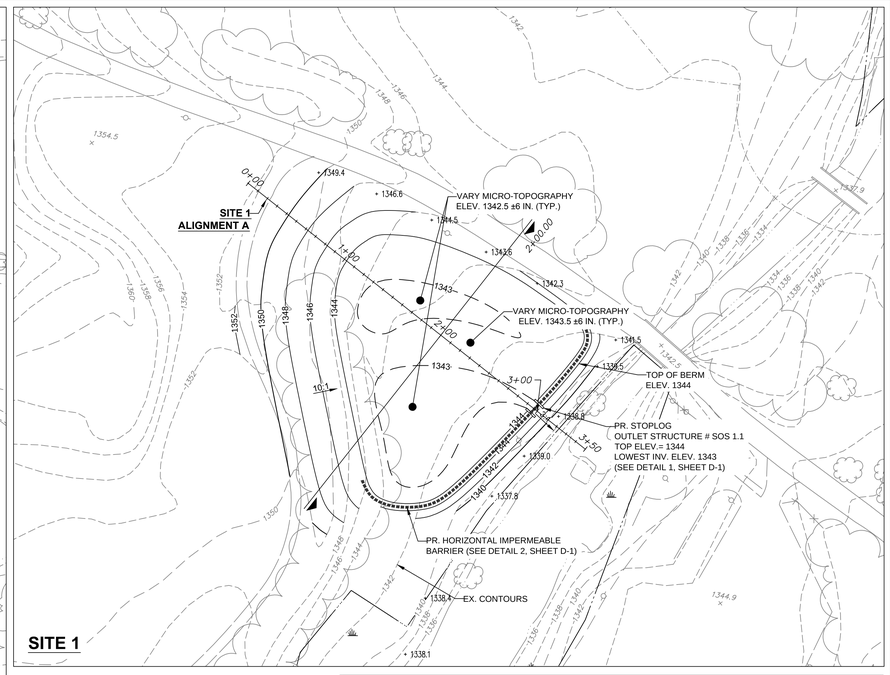

LEGEND

- PROPERTY BOUNDARY
- OFF-SITE PARCEL LINES
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- EX. MINOR CONTOUR (1378)
- EX. SPOT ELEVATION (1379.3)
- EX. WETLANDS
- EX. WETLAND SETBACK
- EX. EDGE OF WATER
- EX. FEMA FLOOD ZONE "A" BOUNDARY
- EX. FENCE
- EX. PAVED ROAD
- EX. DIRT ROAD
- EX. TREELINE
- EX. TREELINE
- EX. BRUSHLINE
- EX. TREES
- EX. STUMPS
- EX. UTILITY POLE
- PR. MAJOR CONTOUR (1350)
- PR. MINOR CONTOUR (1348)
- PR. INTERMEDIATE CONTOUR (1349)
- PR. STOPLOG OUTLET STRUCTURE
- PR. BASELINE ALIGNMENT (4+00)
- PR. CROSS SECTION LOCATION (4+00.00)
- PR. HORIZONTAL IMPERMEABLE BARRIER
- PR. SLOPE (H:V) (3:1)

25 0 50 100
Scale 1" = 50'

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GRADING PLAN - SITES 1 AND 2

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SCALES:
PLAN 1" = 50'
PROFILE HORIZ. N/A VERT. N/A
SECTION N/A

DATE	03/08/2013
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DESIGNED BY:	AFW
CHECKED BY:	RRR

SHEET NO. S-1

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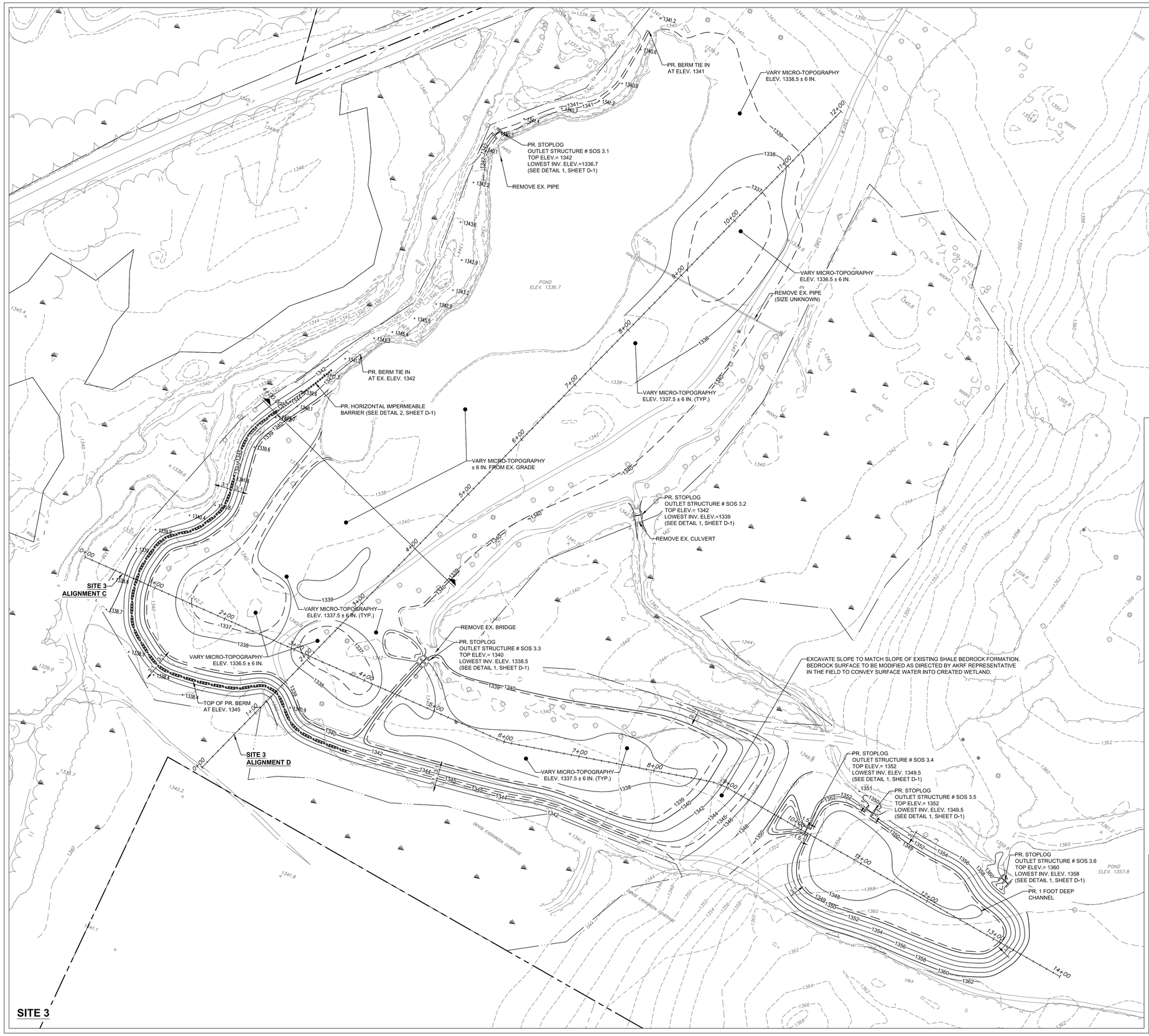

LEGEND

- PROPERTY BOUNDARY
- OFF-SITE PARCEL LINES
- EX. MAJOR CONTOUR (1380)
- EX. MINOR CONTOUR (1378)
- EX. SPOT ELEVATION (1379.3)
- EX. WETLANDS
- EX. WETLAND SETBACK
- EX. EDGE OF WATER
- EX. FEMA FLOOD ZONE "A" BOUNDARY
- EX. FENCE
- EX. PAVED ROAD
- EX. DIRT ROAD
- EX. TREELINE
- EX. TREELINE
- EX. BRUSHLINE
- EX. TREES
- EX. STUMPS
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- PR. MAJOR CONTOUR (1350)
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- PR. STOPLOG OUTLET STRUCTURE
- PR. BASELINE ALIGNMENT (4+00)
- PR. CROSS SECTION LOCATION (4+00.00)
- PR. HORIZONTAL IMPERMEABLE BARRIER
- PR. SLOPE (H:V) (3:1)

25 0 50 100
Scale 1" = 50'

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SCALES:
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PROFILE
SECTION HORIZ. N/A VERT. N/A N/A

SHEET NO. S-2

DATE	03/08/2013
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DESIGNED BY:	AFW
CHECKED BY:	RrRR

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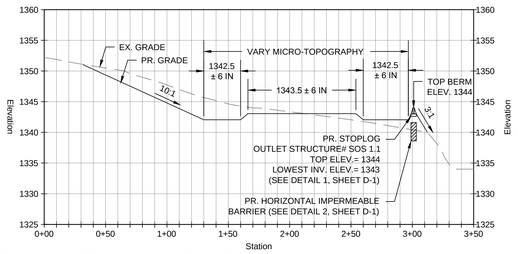

SITE 1 - ALIGNMENT A: STA 0+00 - 3+50

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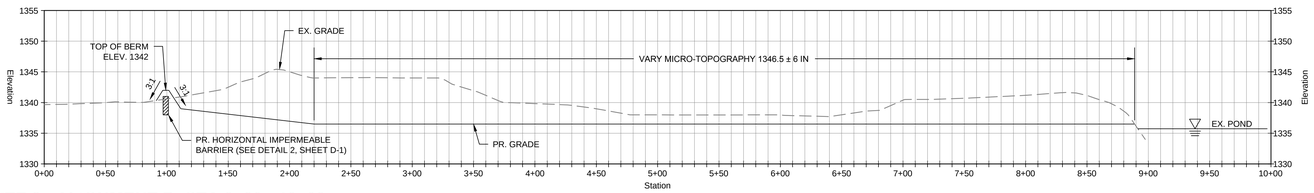
HORIZONTAL SCALE: 1" = 50'



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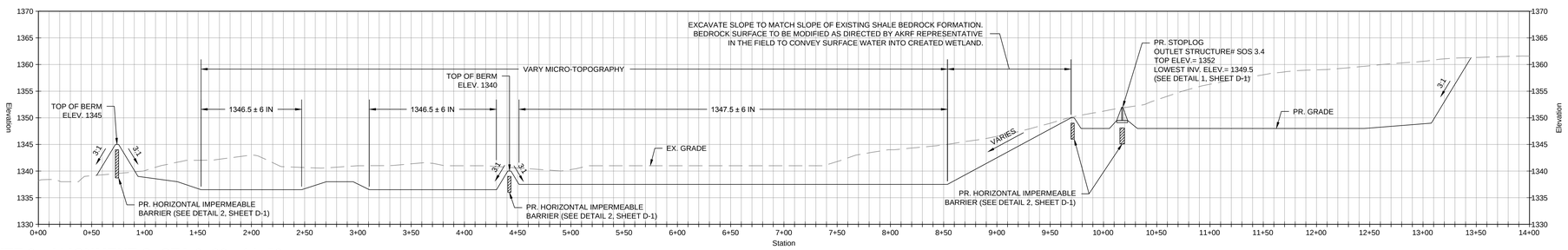
HORIZONTAL SCALE: 1" = 50'



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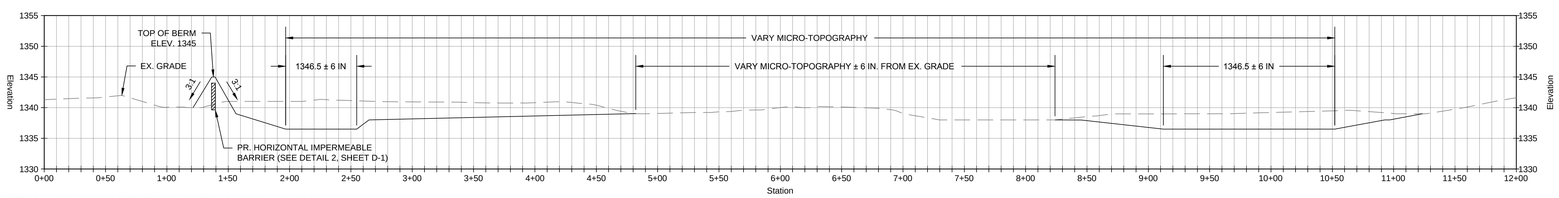

SITE 3 - ALIGNMENT D: STA 0+00 - 3+50

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 50'

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PROFILE SHEET - PROFILES A, B, C, AND D

LEGEND:

EX. GRADE
PR. GRADE
PR. HORIZONTAL IMPERMEABLE BARRIER
PR. STOPLOG OUTLET STRUCTURE

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APPROVED

SCALES:
PLAN N/A
PROFILE HORIZ. AS SHOWN
VERT. AS SHOWN
SECTION N/A

DATE	03/08/2013
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DESIGNED BY:	AFW
CHECKED BY:	RRR

SHEET NO. PR-1

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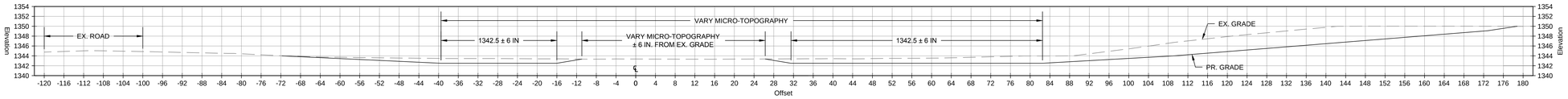
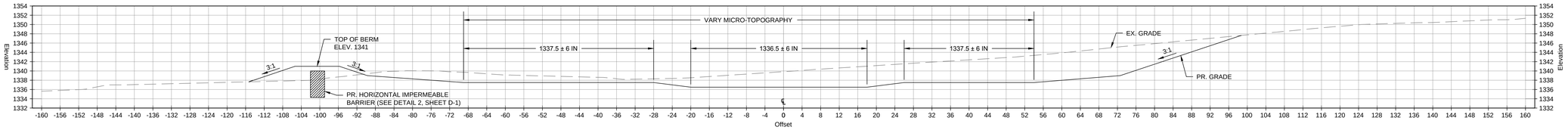


SITE 1 - PROFILE A - CROSS SECTION: STA 2+00.00

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 10'



SITE 2 - PROFILE B - CROSS SECTION: STA 4+00.00

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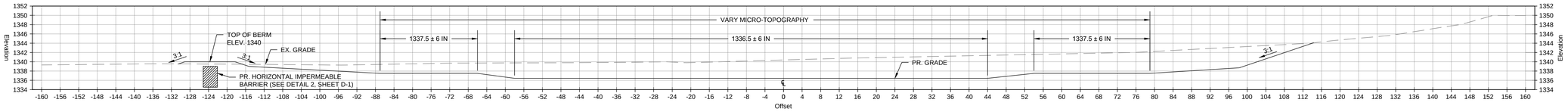
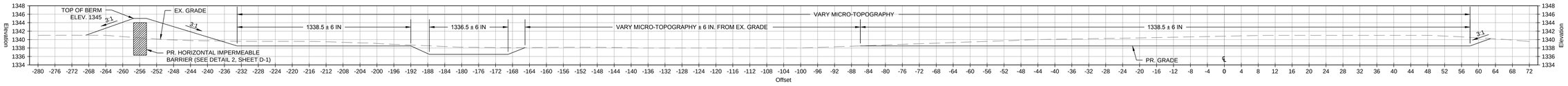
HORIZONTAL SCALE: 1" = 10'



SITE 2 - PROFILE C - CROSS SECTION: STA 7+00.00

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 10'



SITE 3 - PROFILE D - CROSS SECTION: STA 4+00.00

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 10'

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STAKEOUT REQUESTS: 1-800-962-7962 OR 811
ADMINISTRATION: 315-437-7394

CROSS SECTION SHEET - PROFILES A, B, C, AND D

LEGEND:

EX. GRADE
PR. GRADE
PR. HORIZONTAL IMPERMEABLE BARRIER

CONCORD RESORT
WETLAND MITIGATION
PRELIMINARY PLANS 30% DESIGN

AKRF, INC.
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ARTHUR F. WAWIERNIA, P.E. - AKRF, INC.
NY LICENSE # 088018
APPROVED

SCALES:

PLAN	N/A
PROFILE	
HORIZ.	AS SHOWN
VERT.	AS SHOWN
SECTION	N/A

DATE	03/08/2013
DRAWN BY:	GLR
DESIGNED BY:	AFW
CHECKED BY:	RrRR

SHEET NO. CS-1

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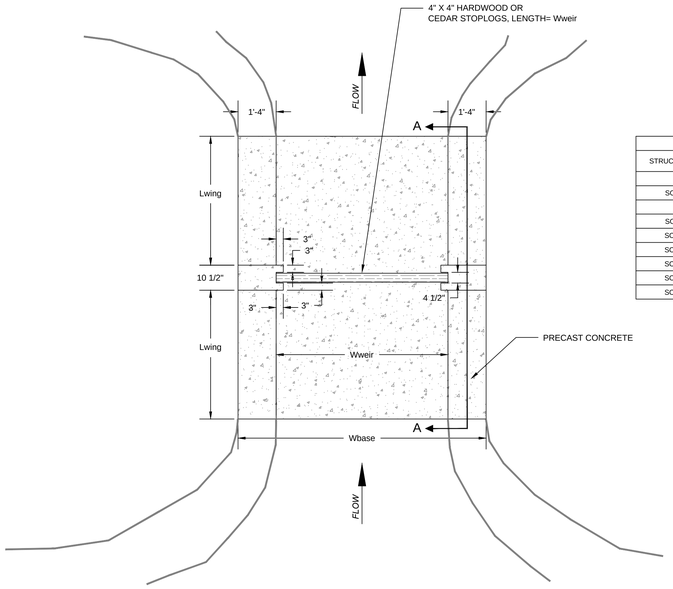
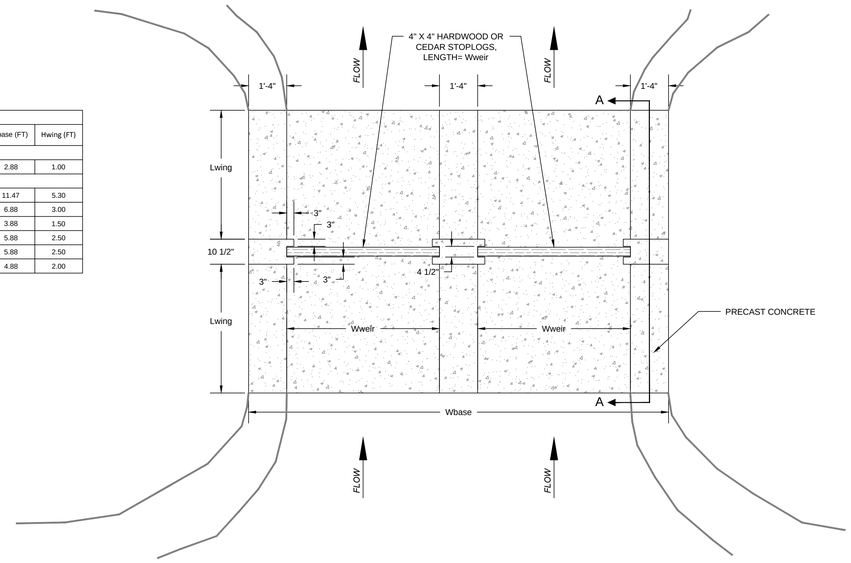
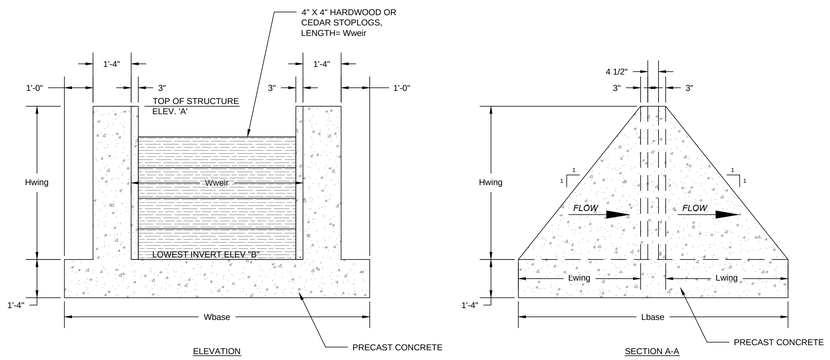


PLAN

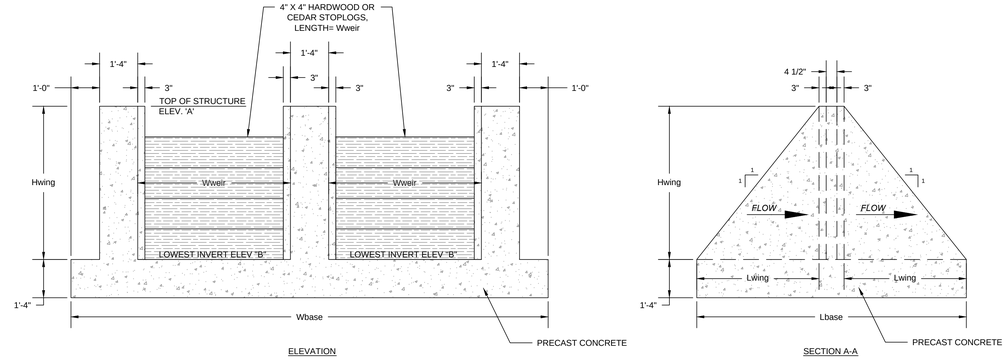
STOPLOG OUTLET STRUCTURE SCHEDULE								
STRUCTURE ID#	CONFIGURATION	TOP OF STRUCTURE ELEV. 'A'	LOWEST INVERT ELEV. 'B'	Wweir (FT)	Wbase (FT)	Lwing (FT)	Lbase (FT)	Hwing (FT)
SITE 1								
SOS 1.1	SINGLE	1344.00	1343.00	8	12.67	1.00	2.88	1.00
SITE 3								
SOS 3.1	SINGLE	1342.00	1336.70	8	12.67	5.30	11.47	5.30
SOS 3.2	SINGLE	1342.00	1339.00	8	12.67	3.00	6.88	3.00
SOS 3.3	DOUBLE	1340.00	1338.50	12	30	1.50	3.88	1.50
SOS 3.4	SINGLE	1352.00	1349.50	12	16.67	2.50	5.88	2.50
SOS 3.5	SINGLE	1352.00	1349.50	12	16.67	2.50	5.88	2.50
SOS 3.6	DOUBLE	1360.00	1358.00	8	22	2.00	4.88	2.00



PLAN



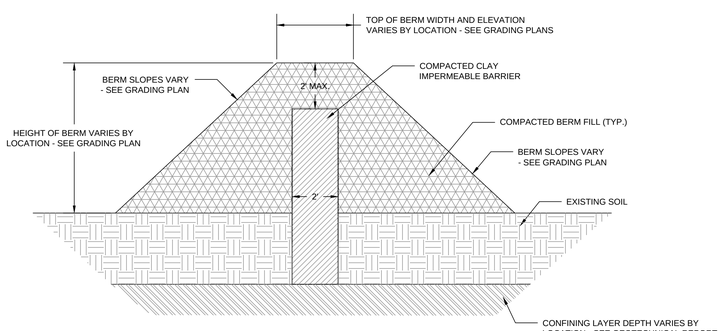
SINGLE WEIR TYPE



DOUBLE WEIR TYPE

1 STOPLOG OUTLET STRUCTURE

N.T.S.



2 HORIZONTAL IMPERMEABLE BARRIER

N.T.S.

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ADMINISTRATION: 315-437-7394

DETAIL SHEET

CONCORD RESORT
WETLAND MITIGATION
PRELIMINARY PLANS 30% DESIGN

AKRF

AKRF, INC.
307 FELLOWSHIP ROAD
SUITE 214
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APPROVED

SCALES:

PLAN	N/A
PROFILE	
HORIZ.	N/A
VERT.	N/A
SECTION	N/A

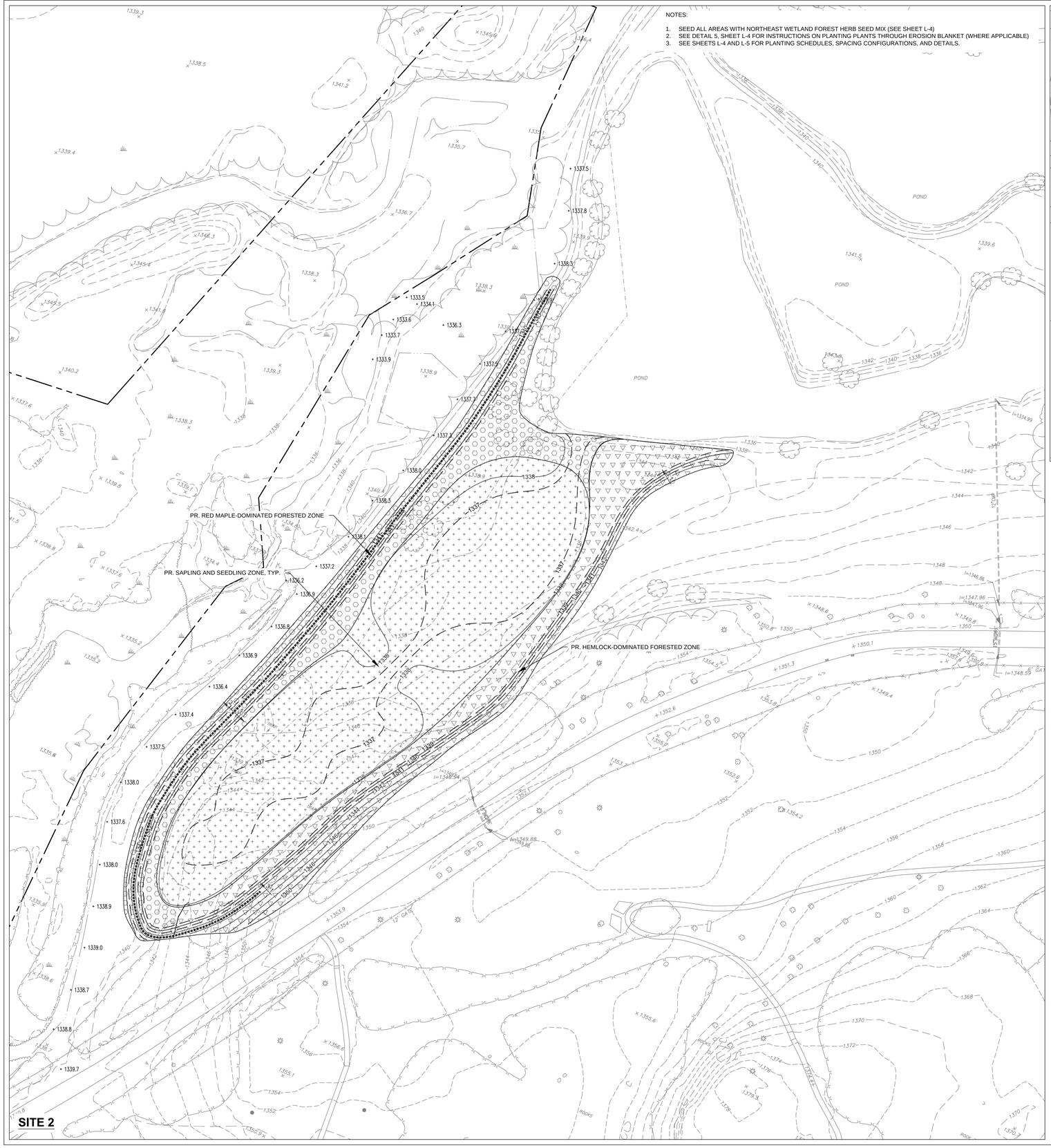
SHEET NO. D-1

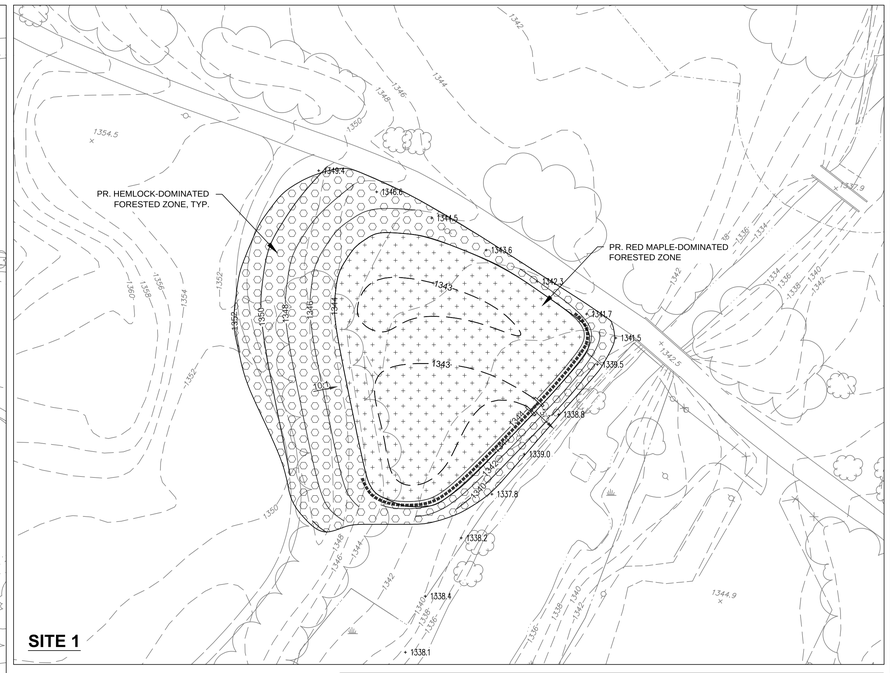
DATE	03/08/2013
DRAWN BY:	GLR
DESIGNED BY:	AFW
CHECKED BY:	RRR

V:\PROJECTS\4379 - CONCORD RESORT\CAD FILE (check with ENG before submitting to client)_Sheets\4379_grad.dwg, D-1, 3/7/2013 11:48:16 AM, gradeguer

NOTES:

1. SEED ALL AREAS WITH NORTHEAST WETLAND FOREST HERB SEED MIX (SEE SHEET L-4)
2. SEE DETAIL 5, SHEET L-4 FOR INSTRUCTIONS ON PLANTING PLANTS THROUGH EROSION BLANKET (WHERE APPLICABLE)
3. SEE SHEETS L-4 AND L-5 FOR PLANTING SCHEDULES, SPACING CONFIGURATIONS, AND DETAILS.





LEGEND

- PROPERTY BOUNDARY
- OFF-SITE PARCEL LINES
- EX. MAJOR CONTOUR (1380)
- EX. MINOR CONTOUR (1378)
- EX. SPOT ELEVATION (1379.3)
- EX. WETLANDS
- EX. WETLAND SETBACK
- EX. EDGE OF WATER
- EX. FEMA FLOOD ZONE "A" BOUNDARY
- EX. FENCE
- EX. PAVED ROAD
- EX. DIRT ROAD
- EX. TREELINE
- EX. TREELINE
- EX. BRUSHLINE
- EX. TREES
- EX. STUMPS
- EX. UTILITY POLE
- 1350 PR. MAJOR CONTOUR
- 1348 PR. MINOR CONTOUR
- 1349 PR. INTERMEDIATE CONTOUR
- PR. STOPLOG OUTLET STRUCTURE
- 4+00 PR. BASELINE ALIGNMENT
- 4+00.00 PR. CROSS SECTION LOCATION
- PR. HORIZONTAL IMPERMEABLE BARRIER
- 3:1 PR. SLOPE (H:V)
- PR. RED MAPLE-DOMINATED FORESTED ZONE AND NORTHEAST WETLAND FOREST HERB SEED MIX
- PR. HEMLOCK-DOMINATED FORESTED ZONE AND NORTHEAST WETLAND FOREST HERB SEED MIX
- PR. SAPLING AND SEEDLING ZONE AND NORTHEAST WETLAND FOREST HERB SEED MIX
- PR. SCRUB-SHRUB ZONE AND NORTHEAST WETLAND FOREST HERB SEED MIX

25 0 50 100
Scale 1" = 50'

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ADMINISTRATION: 315-437-7394

Call 811 before you dig

LANDSCAPING PLAN - SITES 1 AND 2

CONCORD RESORT
WETLAND MITIGATION
PRELIMINARY PLANS 30% DESIGN

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NY LICENSE # 088018
APPROVED

SCALES:
PLAN 1" = 50'
PROFILE
HORIZ. N/A
VERT. N/A
SECTION N/A

DATE	03/08/2013
DRAWN BY:	JAH
DESIGNED BY:	AFW
CHECKED BY:	RRR

SHEET NO. L-1

V:\PROJECTS\60376 - CONCORD RESORT\ACAD FILE (check with ENG before submitting to client)\2_Sheets\60376_landscape.dwg, L1, 3/7/2013 11:16:35 AM, grainger

NOTES:

1. SEED ALL AREAS WITH NORTHEAST WETLAND FOREST HERB SEED MIX (SEE SHEET L-4)
2. SEE DETAIL 5, SHEET L-4 FOR INSTRUCTIONS ON PLANTING PLANTS THROUGH EROSION BLANKET (WHERE APPLICABLE)
3. SEE SHEETS L-4 AND L-5 FOR PLANTING SCHEDULES, SPACING CONFIGURATIONS, AND DETAILS.

LEGEND

- PROPERTY BOUNDARY
- OFF-SITE PARCEL LINES
- EX. MAJOR CONTOUR (1380)
- EX. MINOR CONTOUR (1378)
- EX. SPOT ELEVATION (1379.3)
- EX. WETLANDS
- EX. WETLAND SETBACK
- EX. EDGE OF WATER
- EX. FEMA FLOOD ZONE "A" BOUNDARY
- EX. FENCE
- EX. PAVED ROAD
- EX. DIRT ROAD
- EX. TREELINE
- EX. TREELINE
- EX. BRUSHLINE
- EX. TREES
- EX. STUMPS
- EX. UTILITY POLE
- PR. MAJOR CONTOUR (1350)
- PR. MINOR CONTOUR (1348)
- PR. INTERMEDIATE CONTOUR (1349)
- PR. STOPLOG OUTLET STRUCTURE
- PR. BASELINE ALIGNMENT (4+00)
- PR. CROSS SECTION LOCATION (4+00.00)
- PR. HORIZONTAL IMPERMEABLE BARRIER
- PR. SLOPE (H:V) (3:1)
- PR. RED MAPLE-DOMINATED FORESTED ZONE AND NORTHEAST WETLAND FOREST HERB SEED MIX
- PR. HEMLOCK-DOMINATED FORESTED ZONE AND NORTHEAST WETLAND FOREST HERB SEED MIX
- PR. SAPLING AND SEEDLING ZONE AND NORTHEAST WETLAND FOREST HERB SEED MIX
- PR. SCRUB-SHRUB ZONE AND NORTHEAST WETLAND FOREST HERB SEED MIX

25 0 50 100
Scale 1" = 50'

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LANDSCAPING PLAN - SITE 3

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SCALES:
PLAN 1" = 50'
PROFILE
SECTION
HORIZ. N/A
VERT. N/A
N/A

DATE	03/08/2013
DRAWN BY:	JAH
DESIGNED BY:	AFW
CHECKED BY:	RRR

SHEET NO. L-2

V:\PROJECTS\43774 - CONCORD RESORT\CAD FILE (check with ENG before submitting to client)_Drawings\43774_landscape.dwg, L-2, 3/7/2013 11:49:51 AM, grodriguez

SCRUB - SHRUB ZONE PLANTING SCHEDULE

TYPE	SYMBOL	LATIN NAME	COMMON NAME	NURSERY STOCK	SIZE	QUANTITY
Shrubs	CA	*Cornus amomum*	Silky dogwood	Container	#2	104
	IV	*Ilex verticillata*	Winterberry	Container	#2	104
	RM	*Rhododendron maximum*	Rosebay rhododendron	Container	#2	104
	RV	*Rhododendron viscosum*	Swamp azalea	Container	#2	104
	RH	*Rubus hispidus*	Bristly dewberry	Container	#2	104
	SA	*Spiraea alba*	White meadowsweet	Container	#2	104
	VC	*Vaccinium corymbosum*	Highbush blueberry	Container	#2	103
	VD	*Viburnum dentatum*	Arrowwood viburnum	Container	#2	103

NOTES:
-See detail 2, sheet L-4 for planting configurations
-See planting details on sheet L-5
-Do not substitute any species without written approval

RED MAPLE-DOMINATED FORESTED ZONE PLANTING SCHEDULE

TYPE	SYMBOL	LATIN NAME	COMMON NAME	NURSERY STOCK	SIZE	QUANTITY
Trees	AR	*Acer rubrum*	Red maple	Container	6'-8'	618
	AS	*Acer saccharinum*	Silver maple	Container	6'-8'	26
	BA	*Betula alleghaniensis*	Yellow birch	Container	6'-8'	26
	BP	*Betula populifolia*	Gray birch	Container	6'-8'	26
	FN	*Fraxinus nigra*	Black ash	Container	6'-8'	26
	NS	*Nyssa sylvatica*	Black-gum	Container	6'-8'	26
	PS	*Pinus strobus*	White pine	Container	6'-8'	26
	QP	*Quercus palustris*	Pin oak	Container	6'-8'	26
	TC	*Tsuga canadensis*	Eastern hemlock	Container	6'-8'	25
Saplings	AR	*Acer rubrum*	Red maple	Sapling	3-4'	516
	AS	*Acer saccharinum*	Silver maple	Sapling	3-4'	22
	BA	*Betula alleghaniensis*	Yellow birch	Sapling	3-4'	22
	BP	*Betula populifolia*	Gray birch	Sapling	3-4'	22
	FN	*Fraxinus nigra*	Black ash	Sapling	3-4'	22
	NS	*Nyssa sylvatica*	Black-gum	Sapling	3-4'	21
	PS	*Pinus strobus*	White pine	Sapling	3-4'	21
	QP	*Quercus palustris*	Pin oak	Sapling	3-4'	21
	TC	*Tsuga canadensis*	Eastern hemlock	Sapling	3-4'	21
Seedlings	AR	*Acer rubrum*	Red maple	Seedling	1-2'	1547
	AS	*Acer saccharinum*	Silver maple	Seedling	1-2'	65
	BA	*Betula alleghaniensis*	Yellow birch	Seedling	1-2'	65
	BP	*Betula populifolia*	Gray birch	Seedling	1-2'	65
	FN	*Fraxinus nigra*	Black ash	Seedling	1-2'	64
	NS	*Nyssa sylvatica*	Black-gum	Seedling	1-2'	64
	PS	*Pinus strobus*	White pine	Seedling	1-2'	64
	QP	*Quercus palustris*	Pin oak	Seedling	1-2'	64
	TC	*Tsuga canadensis*	Eastern hemlock	Seedling	1-2'	64

NOTES:
-See detail 1, sheet L-4 for planting configurations
-See planting details on sheet L-5
-Do not substitute any species without written approval

HEMLOCK-DOMINATED FORESTED ZONE PLANTING SCHEDULE

TYPE	SYMBOL	LATIN NAME	COMMON NAME	NURSERY STOCK	SIZE	QUANTITY
Trees	AR	*Acer rubrum*	Red maple	Container	6'-8'	76
	AS	*Acer saccharinum*	Silver maple	Container	6'-8'	76
	BA	*Betula alleghaniensis*	Yellow birch	Container	6'-8'	75
	BP	*Betula populifolia*	Gray birch	Container	6'-8'	75
	FN	*Fraxinus nigra*	Black ash	Container	6'-8'	75
	NS	*Nyssa sylvatica*	Black-gum	Container	6'-8'	75
	PS	*Pinus strobus*	White pine	Container	6'-8'	75
	QP	*Quercus palustris*	Pin oak	Container	6'-8'	75
	TC	*Tsuga canadensis*	Eastern Hemlock	Container	6'-8'	201
Saplings	AR	*Acer rubrum*	Red maple	Sapling	3-4'	63
	AS	*Acer saccharinum*	Silver maple	Sapling	3-4'	63
	BA	*Betula alleghaniensis*	Yellow birch	Sapling	3-4'	63
	BP	*Betula populifolia*	Gray birch	Sapling	3-4'	63
	FN	*Fraxinus nigra*	Black ash	Sapling	3-4'	63
	NS	*Nyssa sylvatica*	Black-gum	Sapling	3-4'	63
	PS	*Pinus strobus*	White pine	Sapling	3-4'	62
	QP	*Quercus palustris*	Pin oak	Sapling	3-4'	62
	TC	*Tsuga canadensis*	Eastern hemlock	Sapling	3-4'	167
Seedlings	AR	*Acer rubrum*	Red maple	Seedling	1-2'	188
	AS	*Acer saccharinum*	Silver maple	Seedling	1-2'	188
	BA	*Betula alleghaniensis*	Yellow birch	Seedling	1-2'	188
	BP	*Betula populifolia*	Gray birch	Seedling	1-2'	188
	FN	*Fraxinus nigra*	Black ash	Seedling	1-2'	188
	NS	*Nyssa sylvatica*	Black-gum	Seedling	1-2'	188
	PS	*Pinus strobus*	White pine	Seedling	1-2'	188
	QP	*Quercus palustris*	Pin oak	Seedling	1-2'	188
	TC	*Tsuga canadensis*	Eastern hemlock	Seedling	1-2'	502

NOTES:
-See detail 1, sheet L-4 for planting configurations
-See planting details on sheet L-5
-Do not substitute any species without written approval

SAPLING AND SEEDLING ZONE PLANTING SCHEDULE

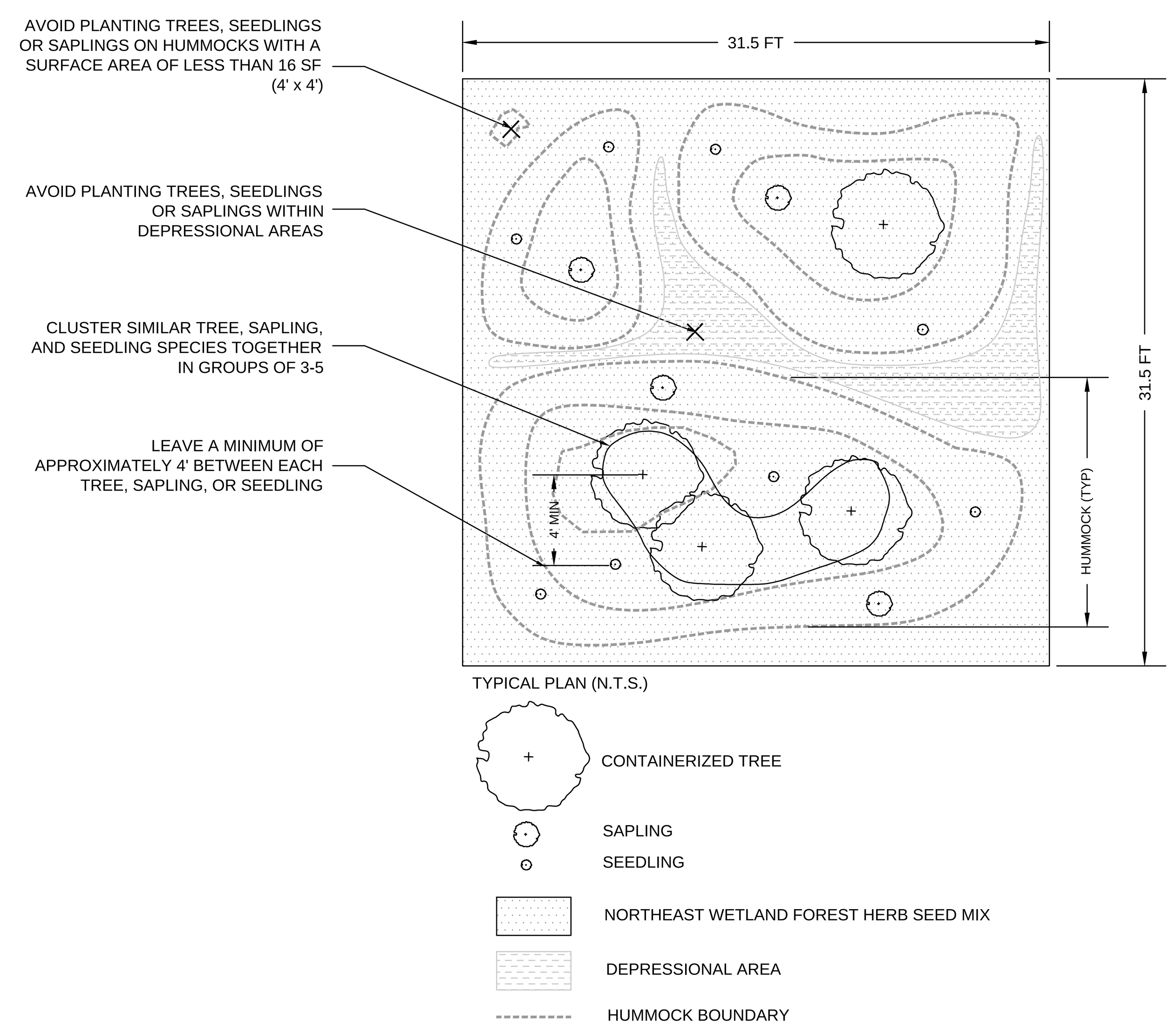
TYPE	SYMBOL	LATIN NAME	COMMON NAME	NURSERY STOCK	SIZE	QUANTITY
Saplings	AR	*Acer rubrum*	Red maple	Sapling	3-4'	206
	AS	*Acer saccharinum*	Silver maple	Sapling	3-4'	9
	BA	*Betula alleghaniensis*	Yellow birch	Sapling	3-4'	9
	BP	*Betula populifolia*	Gray birch	Sapling	3-4'	9
	FN	*Fraxinus nigra*	Black ash	Sapling	3-4'	9
	NS	*Nyssa sylvatica*	Black-gum	Sapling	3-4'	9
	PS	*Pinus strobus*	White pine	Sapling	3-4'	8
	QP	*Quercus palustris*	Pin oak	Sapling	3-4'	8
	TC	*Tsuga canadensis*	Eastern hemlock	Sapling	3-4'	8
Seedlings	AR	*Acer rubrum*	Red maple	Seedling	1-2'	619
	AS	*Acer saccharinum*	Silver maple	Seedling	1-2'	26
	BA	*Betula alleghaniensis*	Yellow birch	Seedling	1-2'	26
	BP	*Betula populifolia*	Gray birch	Seedling	1-2'	26
	FN	*Fraxinus nigra*	Black ash	Seedling	1-2'	26
	NS	*Nyssa sylvatica*	Black-gum	Seedling	1-2'	26
	PS	*Pinus strobus*	White pine	Seedling	1-2'	26
	QP	*Quercus palustris*	Pin oak	Seedling	1-2'	25
	TC	*Tsuga canadensis*	Eastern hemlock	Seedling	1-2'	25

NOTES:
-See detail 1, sheet L-4 for planting configurations
-See planting details on sheet L-5
-Do not substitute any species without written approval

NORTHEAST WETLAND FOREST HERB SEED MIX

% SEED	LATIN NAME	COMMON NAME	TYPE
2	*Asclepias incarnate*	Swamp Milkweed	Forb
2	*Boehmeria cylindrical*	False Nettle	Forb
2	*Carex lupulina*	Hop Sedge	Sedge
2	*Carex lurida*	Shallow Sedge	Sedge
30	*Carex vulpinoidea*	Fox Sedge	Sedge
2	*Cephalanthus occidentalis*	Buttonbush	Shrub
2	*Cinna arundinacea*	Wood Reed	Graminoid
2	*Dichanthelium clandestinum*	Deertongue	Graminoid
9	*Elymus canadensis*	Wild Rye	Graminoid
8	*Elymus riparius*	Riverbank Wild Rye	Graminoid
8	*Elymus virginicus*	Virginia Wild Rye	Graminoid
2	*Geum macrophyllum*	Large-Leaf Avens	Forb
2	*Glyceria canadensis*	Canada Mannagrass	Graminoid
2	*Glyceria grandis*	Reed Meadowgrass	Graminoid
2	*Glyceria melicaria*	Melic Mannagrass	Graminoid
2	*Glyceria striata*	Fowl manna grass	Graminoid
2	*Leersia virginica*	Whitegrass	Graminoid
2	*Lilium superbum*	Turk's Cap Lily	Forb
2	*Rubus allegheniensis*	Blackberry	Shrub
2	*Rumex verticillatus*	Water Dock	Forb
2	*Scirpus cyperinus*	Wool Grass	Rush
2	*Sium suave*	Water Parsnip	Forb
2	*Solidago gigantean*	Giant Goldenrod	Forb
2	*Solidago rugosa*	Wrinkled Goldenrod	Forb
1	*Urtica dioica*	Stinging Nettle	Forb
2	*Verbena hastata*	Blue Vervain	Forb
2	*Verbena urticifolia*	White Vervain	Forb

NOTES:
-Percent by number of seeds
-Apply seed mixes at rate of XX pound per 1000 square feet
-Do not substitute any species without written approval

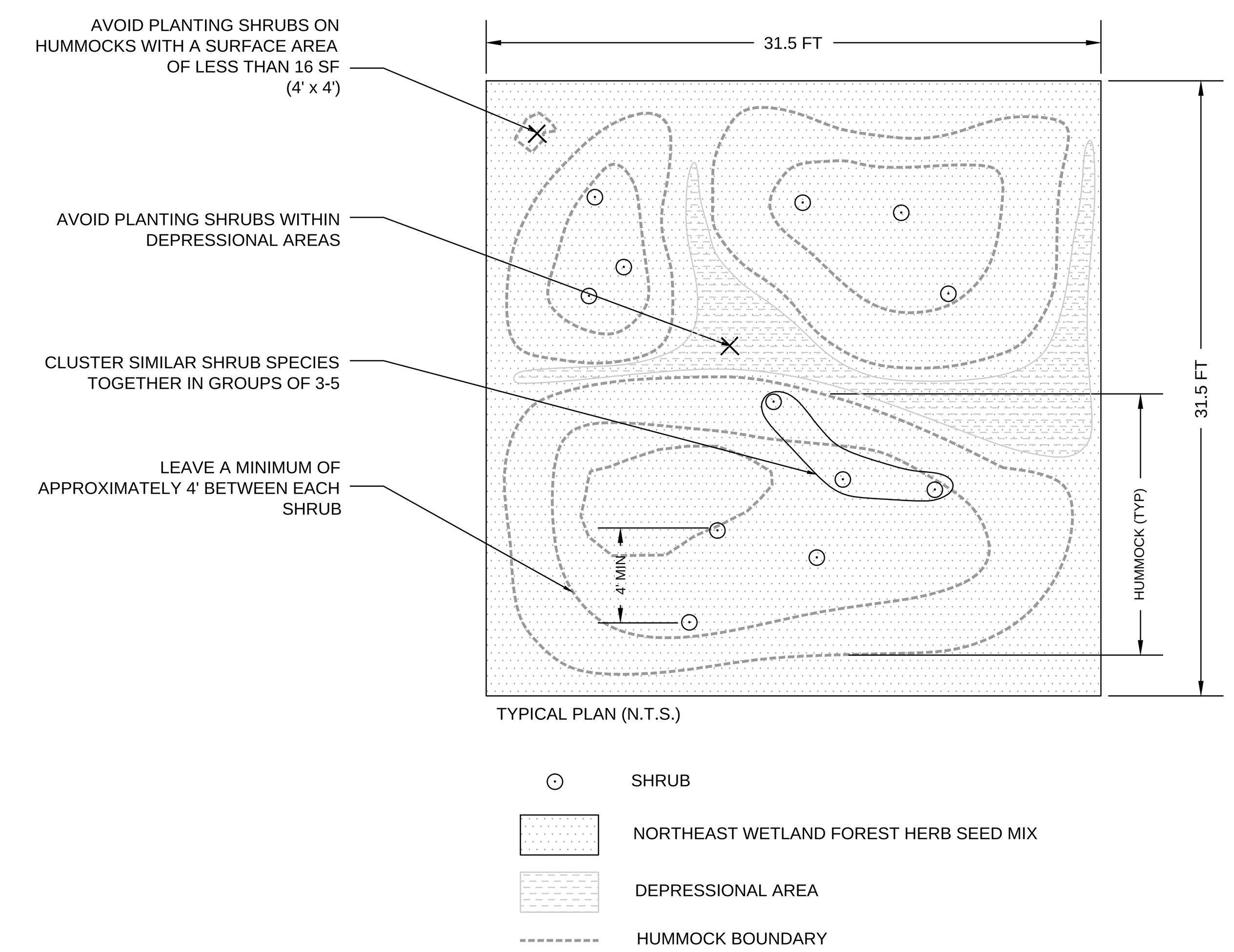


NOTES:

-PER 1,000 SF AREA, PLANT APPROXIMATELY 8 SEEDLINGS, 4 SAPLINGS, AND 4 CONTAINERIZED TREES
-PLANT TREES, SAPLINGS, AND SEEDLINGS IN ORGANIC CLUSTER CONFIGURATIONS AS OPPOSED TO GEOMETRIC GRIDS
-EVENLY APPLY SEED MIX OVER ENTIRE AREA AT XX POUND PER 1000 SF
-THIS PLAN SHOWS A TYPICAL CONFIGURATION FOR PLANT SPACING AND IS NOT TO BE REPLICATED EXACTLY AS SHOWN

1 TYPICAL PLANTING CONFIGURATION PER 1000 SQUARE FOOT (SF) AREA TREES, SAPLINGS, SEEDLINGS, AND SEED MIX

N.T.S.



NOTES:

-PER 1,000 SF AREA, PLANT APPROXIMATELY 12 SHRUBS
-PLANT SHRUBS IN ORGANIC CLUSTER CONFIGURATIONS AS OPPOSED TO GEOMETRIC GRIDS
-EVENLY APPLY SEED MIX OVER ENTIRE AREA AT XX POUND PER 1000 SF
-THIS PLAN SHOWS A TYPICAL CONFIGURATION FOR PLANT SPACING AND IS NOT TO BE REPLICATED EXACTLY AS SHOWN

2 TYPICAL PLANTING CONFIGURATION PER 1000 SQUARE FOOT (SF) AREA SHRUBS AND SEED MIX

N.T.S.

NOTICE:
THE CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK, AT LEAST 3 DAYS PRIOR TO EXCAVATION:
DIG | SAFELY. NEW YORK
5063 BRITTONFIELD PARKWAY
EAST SYRACUSE, NY 13057
STAKEOUT REQUESTS: 1-800-962-7962 OR 811
ADMINISTRATION: 315-437-7394

LANDSCAPING SCHEDULES AND DETAILS

CONCORD RESORT WETLAND MITIGATION PRELIMINARY PLANS 30% DESIGN

AKRF, INC.
307 FELLOWSHIP ROAD
SUITE 214
MOUNT LAUREL, NJ 08054
(856) 797-9930 (PHONE)
(856) 797-9932 (FAX)

ENTERTAINMENT PROPERTIES TRUST
909 WALNUT, SUITE 200
KANSAS CITY, MO 64106
(816) 472-1700 (PHONE)
(816) 472-5794 (FAX)

HART HOWERTON
10 EAST 40TH STREET
NEW YORK, NY 10016
(212) 683-5631 (PHONE)
(212) 481-3768 (FAX)

STATE OF NEW YORK · ARTHUR F. WAWIERNIA · 088018 · LICENSED PROFESSIONAL ENGINEER
ARTHUR F. WAWIERNIA, P.E. - AKRF, INC
NY LICENSE # 088018
APPROVED

SCALES:
PLAN N/A
PROFILE HORIZ. N/A
VERT. N/A
SECTION N/A

DATE	03/08/2013
DRAWN BY:	JAH
DESIGNED BY:	AFW
CHECKED BY:	RRR

SHEET NO. L-3

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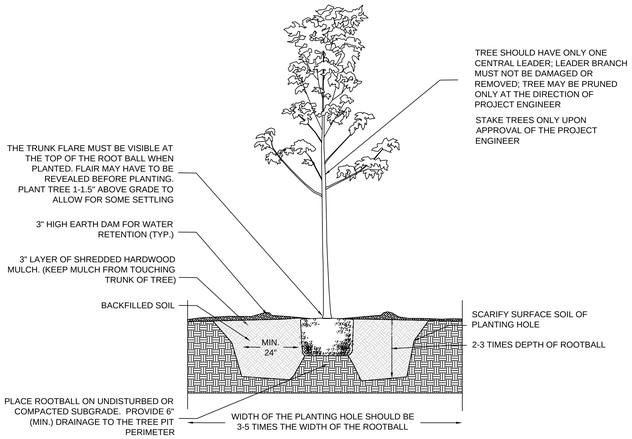
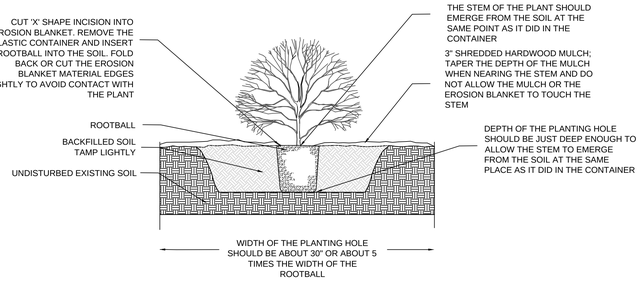


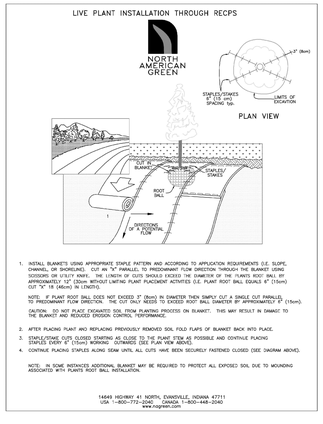
3 CONTAINERIZED TREE

N.T.S.



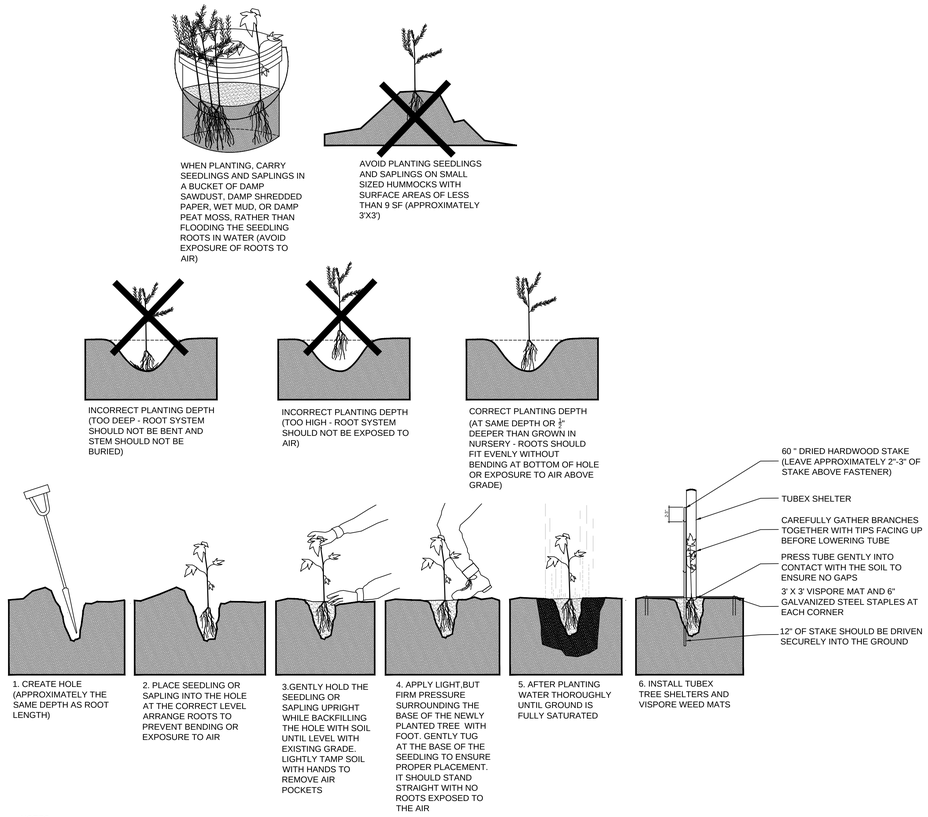
4 CONTAINERIZED SHRUB

N.T.S.



5 LIVE PLANT INSTALLATION THROUGH EROSION BLANKET

N.T.S.



NOTES

-HANDLE CAREFULLY BY THE STEM, NOT THE ROOTS
-LEAVE PROTECTIVE BAGS AND WRAPS AROUND ROOTS AS MUCH AS POSSIBLE
-PREVENT FROM BEING CRUSHED OR SQUEEZED
-PLANT WITHIN 24 HOURS OF DELIVERY
-WHEN PLANTING, CARRY SEEDLINGS AND SAPLINGS IN A BUCKET OF DAMP SAWDUST, SHREDDED PAPER, WET MUD, OR PEAT MOSS, RATHER THAN FLOODING THE SEEDLINGS IN WATER

-EXTRACT FROM STORAGE ONLY AS MANY SEEDLINGS OR SAPLINGS AS CAN BE PLANTED IN THE FIELD QUICKLY; KEEP THE PARTIALLY FILLED STORAGE BAGS SHUT
-PLACE UNPLANTED STOCK IN THE SHADE OR UNDER A VEHICLE OR LOOSE TARP IN OPEN FIELDS

6 BAREROOT TREE SEEDLINGS AND SAPLINGS

N.T.S.

NOTICE:
THE CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK,
AT LEAST 3 DAYS PRIOR TO EXCAVATION:
DIG | SAFELY. NEW YORK
5063 BRITTONFIELD PARKWAY
EAST SYRACUSE, NY 13057
STAKEOUT REQUESTS: 1-800-962-7962 OR 811
ADMINISTRATION: 315-437-7394

LANDSCAPING DETAILS

CONCORD RESORT
WETLAND MITIGATION
PRELIMINARY PLANS 30% DESIGN

AKRF
AKRF, INC.
307 FELLOWSHIP ROAD
SUITE 214
MOUNT LAUREL, NJ 08054
(856) 797-9930 (PHONE)
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HART HOWERTON
10 EAST 40TH STREET
NEW YORK, NY 10016
(212) 683-5631 (PHONE)
(212) 481-3768 (FAX)

STATE OF NEW YORK · ARTHUR F. WAWIERNIA · 088018 · LICENSED PROFESSIONAL ENGINEER

ARTHUR F. WAWIERNIA, P.E. - AKRF, INC
NY LICENSE # 088018
APPROVED

SCALES:

PLAN	N/A
PROFILE	
HORIZ.	N/A
VERT.	N/A
SECTION	N/A

DATE	03/08/2013
DRAWN BY:	JAH
DESIGNED BY:	AFW
CHECKED BY:	RRR

SHEET NO. L-4

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NOTES:

1. SEED MIX SHALL BE LANDSCAPE ZONES USING THE INTERSEEDING METHOD (SEE SHEET L-2 FOR MIXES)
2. SEE SHEETS L-2 AND L-3 FOR PLANTING SCHEDULES, NOTES AND DETAILS.
3. WITHIN PLANTING ZONES, PLANT PLUGS ON HUMMOCKS, SLOPES OR DEPRESSIONS PER THE TYPICAL DETAIL AND PLANTING SCHEDULE.

LANDSCAPING PLAN - WETLANDS 45A AND 45B

LEGEND

- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. SPOT ELEVATION
- EX. WETLANDS
- EX. WETLAND SETBACK
- EX. EDGE OF WATER
- EX. FEMA FLOOD ZONE "A" BOUNDARY
- EX. FENCE
- EX. PAVED ROAD
- EX. DIRT ROAD
- EX. TREELINE
- EX. TREELINE
- EX. BRUSHLINE
- EX. TREES
- EX. STUMPS
- EX. UTILITY POLE
- PR. MINOR CONTOUR
- PR. MAJOR CONTOUR
- PR. LANDSCAPE ZONE 1
- PR. LANDSCAPE ZONE 2
- PR. SHRUB ZONE

50 0 50 100
Scale 1" = 50'

NOTICE:

THE CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK, AT LEAST 3 DAYS PRIOR TO EXCAVATION:
DIG | SAFELY. NEW YORK
5063 BRITTONFIELD PARKWAY
EAST SYRACUSE, NY 13057
STAKEOUT REQUESTS: 1-800-962-7962 OR 811
ADMINISTRATION: 315-437-7394

Call811 Before you dig

APPLICANT

EPT CONCORD II, LLC
909 WALNUT, SUITE 200
KANSAS CITY, MO 64106
(816) 472-1700 (PHONE)
(816) 472-5794 (FAX)

MASTER PLANNER / LANDSCAPE ARCHITECT

HART | HOWERTON

HART HOWERTON
10 EAST 40TH STREET
NEW YORK, NY 10016
(212) 683-5631 (PHONE)
(212) 481-3768 (FAX)

CASINO RESORT DEVELOPER

MONTICELLO RACEWAY
MANAGEMENT, INC.
MONTICELLO, NEW YORK

SITE/CIVIL ENGINEER

AKRF

AKRF ENGINEERING, P.C.
34 SOUTH BROADWAY, SUITE 401
WHITE PLAINS, NY 10601
(914) 949-7336 (PHONE)
(914) 949-7559 (FAX)

ARCHITECT - CASINO RESORT

JCJ ARCHITECTURE

JCJ ARCHITECTURE
2 GRAND CENTRAL TOWER
140 EAST 45TH STREET
NEW YORK, NY 10017

SURVEYOR

CONTRACTORS' LINE & GRADE
SOUTH, LLC
23 NEPPERHAN AVENUE
ELMSFORD, NY 10523
(914) 347-3141 (PHONE)
(914) 347-3120 (FAX)

GEOTECHNICAL CONSULTANT

MELICK-TULLY AND ASSOCIATES, P.C.
117 CANAL ROAD
SOUTH BOUND BROOK, NJ 08880
(732) 356-3400 (PHONE)
(732) 356-9054 (FAX)

LANDSCAPE ARCHITECT

CR3
571 HOPMEADOW STREET
SIMSBURY, CT 06070
(860) 658-1988 (PHONE)

STATE OF NEW YORK
ARTHUR F. WAWIERNIA
088018
LICENSED PROFESSIONAL ENGINEER

ARTHUR F. WAWIERNIA

SITE PLAN SUBMISSION
NOT FOR CONSTRUCTION

NEW YORK STATE EDUCATION LAW 145, SECTION 7209, PROHIBITS ANY INDIVIDUAL FROM ALTERING THESE DRAWINGS AND/OR ACCOMPANYING SPECIFICATIONS IN ANY WAY, UNLESS IT IS UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. IF ALTERATIONS ARE MADE, THE ALTERING ENGINEER MUST SIGN, SEAL, DATE, AND DESCRIBE THE FULL DESCRIPTION OF THE ALTERATION ON THE DRAWING AND/OR SPECIFICATIONS.

REVISIONS

No.	DATE	DESCRIPTION

PROJECT
EPT CONCORD RESORT PHASE 1
TOWN OF THOMPSON NEW YORK

DRAWN BY	CHECKED BY
JAH	AW
SCALE	DATE
1"=50'	03/08/13

SHEET TITLE

LANDSCAPING PLAN

WETLANDS 45A AND 45B

SHEET NO.

WL - 101

SHRUB SCHEDULE (ZONES 1-8)					
SYMBOL	LATIN NAME	COMMON NAME	SIZE	TYPE	QTY
CO	*Cephalanthus occidentalis*	Common buttonbush	# 3	Shrub	6
CA	*Clethra alnifolia*	Sweet pepperbush	# 3	Shrub	17
CN	*Cornus amomum*	Silky dogwood	# 3	Shrub	25
CR	*Cornus racemosa*	Gray-stemmed dogwood	# 3	Shrub	68
CS	*Cornus sericea*	Red-osier dogwood	# 3	Shrub	95
IV	*Ilex verticillata*	Winterberry holly	# 3	Shrub	19
KA	*Kalmia angustifolia*	Sheep laurel	# 3	Shrub	11
PM	*Photina melanocarpa*	Viking' Black chokeberry	# 3	Shrub	76
PP	*Photina pyrifolia*	Red chokeberry	# 3	Shrub	40
RV	*Rhododendron viscosum*	Swamp azalea	# 3	Shrub	14
RP	*Rosa palustris*	Swamp rose	# 3	Shrub	17
SD	*Salix discolor*	Pussy willow	# 3	Shrub	11
SC	*Sambucus candensis*	Common elderberry	# 3	Shrub	36
SA	*Spirea alba*	Meadowsweet	# 3	Shrub	19
VC	*Vaccinium corymbosum*	Highbush blueberry	# 3	Shrub	8
VD	*Viburnum dentatum*	Arrowwood viburnum	# 3	Shrub	68

NOTES:
-Plant 9 shrubs per 1000 square feet within designated zones

SHRUB ZONE 1:
-Alternate between Black Chokeberry, Red Chokeberry, Gray-Stemmed Dogwood, Arrowwood Viburnum and Red-Osier Dogwood

SHRUB ZONE 2:
-Alternate between Meadowsweet, Highbush Blueberry, Red Chokeberry, Black Chokeberry, Red-Osier Dogwood, and Winterberry

SHRUB ZONE 3:
-Alternate between Common Elderberry, Black Chokeberry, Arrowwood Viburnum, Gray-Stemmed Dogwood, Red-Osier Dogwood

SHRUB ZONE 4:
-Alternate between Common Elderberry, Black Chokeberry, Arrowwood Viburnum, and Gray-Stemmed Dogwood

SHRUB ZONE 5:
-Alternate between Meadowsweet, Sheep Laurel, Red-Osier Dogwood, and Winterberry

SHRUB ZONE 6:
-Alternate between Red-Osier Dogwood, Pussy Willow, and Silky Dogwood

SHRUB ZONE 7:
-Alternate between Swamp Azalea, Swamp Rose, Silky Dogwood, Sweet Pepperbush, and Red-Osier Dogwood

SHRUB ZONE 8:
-Alternate between Sweet Pepperbush, Swamp Rose, and Common Buttonbush

PLUG SCHEDULE: LANDSCAPE ZONE 1 - DEPRESSION				
SYMBOL	LATIN NAME	COMMON NAME	TYPE	QTY
AC	*Acorus calamus*	Sweet flag	Forb	496
AG	*Andropogon glomeratus*	Bushy bluestem	Graminoid	496
CL	*Chelone lyonii*	Turtlehead	Forb	496
CV	*Carex vulpinoidea*	Fox sedge	Sedge	496
CA	*Carex amphibola*	Creek sedge	Sedge	496
CB	*Carex baileyi*	Bailey's sedge	Sedge	496
CX	*Carex comosa*	Longhair sedge	Sedge	496
CC	*Carex crinita*	Fringed sedge	Sedge	496
CE	*Carex emory*	Emory's sedge	Sedge	496
CL	*Carex lurida*	Shallow sedge	Sedge	496
CT	*Carex stricta*	Tussock sedge	Sedge	496
DC	*Dichanthelium clandestinum*	Deertongue	Graminoid	496
ER	*Elymus riparius*	Riverbank wild rye	Graminoid	496
EC	*Elymus canadensis*	Canada wildrye	Graminoid	496
EP	*Eupatorium purpureum*	Sweetscented joe-pye weed	Forb	496
IV	*Iris versicolor*	Blue flag iris	Forb	496
JE	*Juncus effusus*	Soft rush	Rush	496
LC	*Lobelia cardinalis*	Red cardinal flower	Forb	496
LS	*Lobelia siphilitica*	Great blue lobelia	Forb	496
OS	*Onoclea sensibilis*	Sensitive fern	Fern	496
PV	*Panicum virgatum*	Switchgrass	Graminoid	496
PE	*Peltandra virginica*	Green arrow arum	Forb	496
RO	*Rosa palustris*	Swamp rose	Forb	496
RL	*Rudbeckia laciniata*	Green headed coneflower	Forb	496
SL	*Sagittaria latifolia*	Broadleaf arrowhead	Forb	496
SI	*Scirpus atrovirens*	Green bulrush	Rush	496
SR	*Scirpus cyperinus*	Woolgrass bulrush	Rush	496
SV	*Scirpus validus*	Soft-stemmed bulrush	Rush	496
SN	*Symphyotrichum novae-angliae*	New England aster	Forb	496
SP	*Symphyotrichum puniceum*	Swamp aster	Forb	496
VH	*Verbena hastata*	Blue vervain	Forb	496
VN	*Vernonia noveboracensis*	New York Ironweed	Forb	496

NOTES:
-Plant plugs 1' on center; alternate between species
-See planting details and notes on sheets L-2 and L-3
-Do not substitute any species without written approval

PLUG SCHEDULE: LANDSCAPE ZONE 1 - SLOPE				
SYMBOL	LATIN NAME	COMMON NAME	TYPE	QTY
AS	*Asclepias syriaca*	Common milkweed	Forb	3677
CD	*Calamagrostis canadensis*	Bluejoint grass	Graminoid	3677
CL	*Chelone lyonii* 'Hot Lips'	Hot Lips' Turtlehead	Forb	1836
ET	*Echinacea* 'Twilight'	Twilight' coneflower	Forb	3677
EH	*Echinacea* 'PowWow Wild Berry'	PowWow Wild Berry' coneflower	Forb	3677
EP	*Echinacea purpurea*	Purple coneflower	Forb	3677
EC	*Elymus canadensis*	Canada wildrye	Graminoid	3677
EV	*Elymus virginicus*	Virginia wildrye	Graminoid	3677
MD	*Mondarda didyma* 'Jacob Cline'	Jacob Cline' Beebalm	Forb	3677
PV	*Panicum virgatum*	Switchgrass	Graminoid	3677
PVD	*Panicum virgatum* 'Dallas Blues'	Dallas Blues' Switchgrass	Graminoid	7350
PVH	*Panicum virgatum* 'Heavy Metal'	Heavy Metal' Switchgrass	Graminoid	7350
PVS	*Panicum virgatum* 'Shenandoah'	Shenandoah' Switchgrass	Graminoid	7350
PH	*Physostegia virginiana* 'Vivid'	Vivid' Obedient plant	Forb	1836
PM	*Pycnanthemum muticum*	Clustered mountainmint	Forb	3677
PY	*Pycnanthemum virginianum*	Common mountainmint	Forb	3677
RH	*Rudbeckia hirta*	Black-eyed susan	Forb	3677
RS	*Rudbeckia subtomentosa*	Sweet coneflower	Forb	1836
SO	*Solidago rugosa* 'Fireworks'	Fireworks' goldenrod	Forb	3677
SY	*Symphyotrichum laevis*	Blue aster	Forb	1836
SM	*Symphyotrichum novae-angliae*	New England aster	Forb	3677
VN	*Vernonia noveboracensis*	New York Ironweed	Forb	3677

NOTES:
-Plant plugs 1' on center; alternate between species
-See planting details and notes on sheets L-2 and L-3
-Do not substitute any species without written approval

PLUG SCHEDULE: LANDSCAPE ZONE 1 - HUMMOCK				
SYMBOL	LATIN NAME	COMMON NAME	TYPE	QTY
AT	*Asclepias tuberosa*	Butterfly weed	Forb	2492
BA	*Baptisia australis* 'Purple Smoke'	Purple Smoke' Blue wild indigo	Forb	2492
BT	*Baptisia tinctoria*	Horsefyweed	Forb	2492
CI	*Coreopsis lanceolata*	Tickseed	Forb	1246
ET	*Echinacea* 'Twilight'	Twilight' coneflower	Forb	2492
EH	*Echinacea* 'PowWow Wild Berry'	PowWow Wild Berry' coneflower	Forb	2492
EP	*Echinacea purpurea*	Purple coneflower	Forb	1246
EC	*Elymus canadensis*	Canada wildrye	Graminoid	2492
EV	*Elymus virginicus*	Virginia wildrye	Graminoid	2492
ES	*Eragrostis spectabilis*	Purple lovegrass	Graminoid	2492
GA	*Gallardia sp.*	Blanketflower	Forb	1246
GS	*Glyceria striata*	Fowl manna grass	Graminoid	2492
LS	*Liatris spicata*	Gayfeather	Forb	1246
MF	*Monarda fistulosa*	Wild Bergamont	Forb	2492
PVS	*Panicum virgatum*	Panicum virgatum	Graminoid	3738
PVD	*Panicum virgatum* 'Dallas Blues'	Dallas Blues' Switchgrass	Graminoid	4559
PVH	*Panicum virgatum* 'Heavy Metal'	Heavy Metal' Switchgrass	Graminoid	4559
PVS	*Panicum virgatum* 'Shenandoah'	Shenandoah' Switchgrass	Graminoid	4559
PH	*Physostegia virginiana* 'Vivid'	Vivid' Obedient plant	Forb	1246
PM	*Pycnanthemum muticum*	Clustered mountainmint	Forb	2492
PY	*Pycnanthemum virginianum*	Common mountainmint	Forb	2492
RH	*Rudbeckia hirta*	Black-eyed Susan	Forb	2492
RS	*Rudbeckia subtomentosa*	Sweet coneflower	Forb	2492
RT	*Rudbeckia triloba*	Brown-eyed Susan	Forb	2492
SS	*Schizachyrium scoparium*	Little bluestem	Graminoid	2492
SO	*Solidago rugosa* 'Fireworks'	Fireworks' Golderrod	Forb	2492
SH	*Sporobolus heterolepis*	Prairie dropseed	Graminoid	2492

NOTES:
-Plant plugs 1' on center; alternate between species
-See planting details and notes on sheets L-2 and L-3
-Do not substitute any species without written approval

PLUG SCHEDULE: LANDSCAPE ZONE 2 - OPEN WATER				
SYMBOL	LATIN NAME	COMMON NAME	TYPE	QTY
JM	*Juncus militaris*	Bayonet rush	Rush	1057
NL	*Nuphar lutea*	Yellow pond-lily	Forb	1057
NO	*Nymphaea odorata*	American white water lily	Forb	1057
SL	*Sagittaria latifolia*	Broadleaf arrowhead	Forb	1057

NOTES:
-Plant plugs 1' on center; alternate between species
-See planting details and notes on sheets L-2 and L-3
-Do not substitute any species without written approval

PLUG SCHEDULE: LANDSCAPE ZONE 2 - DEPRESSION				
SYMBOL	LATIN NAME	COMMON NAME	TYPE	QTY
AG	*Andropogon glomeratus*	Bushy bluestem	Graminoid	769
ELE	*Eleocharis palustris*	Common spikerush	Rush	769
ELC	*Elodea canadensis*	Broad water weed	Forb	769
JC	*Juncus canadensis*	Canada rush	Rush	769
JM	*Juncus militaris*	Bayonet rush	Rush	769
PEV	*Peltandra virginica*	Green arrow arum	Forb	769
PC	*Pontederia cordata*	Pickerelweed	Forb	769
SL	*Sagittaria latifolia*	Broadleaf arrowhead	Forb	769
SAC	*Saururus cernuus*	Lizard's tail	Forb	769
ST	*Scirpus tabernaemontani*	Softstem bulrush	Rush	769
SE	*Sparganium eurycarpum*	Broadfruit bur-reed	Reed	769

NOTES:
-Plant plugs 1' on center; alternate between species
-See planting details and notes on sheets L-2 and L-3
-Do not substitute any species without written approval

PLUG SCHEDULE: LANDSCAPE ZONE 2 - SLOPE				
SYMBOL	LATIN NAME	COMMON NAME	TYPE	QTY
AG	*Andropogon glomeratus*	Bushy bluestem	Graminoid	1153
CP	*Caltha palustris*	Yellow marsh marigold	Forb	1153
CS	*Carex stricta*	Tussock sedge	Sedge	1153
ELE	*Eleocharis palustris*	Common spikerush	Rush	1153
IV	*Iris versicolor*	Blue flag iris	Forb	1153
JE	*Juncus effusus*	Soft rush	Rush	1153
LO	*Leersia oryzoides*	Rice cutgrass	Graminoid	1153
SC	*Saururus cernuus*	Lizard's tail	Forb	1153
SA	*Scirpus atrovirens*	Green bulrush	Rush	1153
SP	*Scirpus pungens*	Common three square	Rush	1153
SA	*Sparganium americanum*	American bur-reed	Reed	1153

NOTES:
-Plant plugs 1' on center; alternate between species
-See planting details and notes on sheets L-2 and L-3
-Do not substitute any species without written approval

PLUG SCHEDULE: LANDSCAPE ZONE 2 - HUMMOCK				
SYMBOL	LATIN NAME	COMMON NAME	TYPE	QTY
AC	*Acorus calamus*	Sweet flag	Forb	496
AG	*Andropogon glomeratus*	Bushy bluestem	Graminoid	496
CL	*Chelone lyonii*	Turtlehead	Forb	496
CV	*Carex vulpinoidea*	Fox sedge	Sedge	496
CA	*Carex amphibola*	Creek sedge	Sedge	496
CB	*Carex baileyi*	Bailey's sedge	Sedge	496
CX	*Carex comosa*	Longhair sedge	Sedge	496
CC	*Carex crinita*	Fringed sedge	Sedge	496
CE	*Carex emory*	Emory's sedge	Sedge	496
CL	*Carex lurida*	Shallow sedge	Sedge	496
CT	*Carex stricta*	Tussock sedge	Sedge	496
DC	*Dichanthelium clandestinum*	Deertongue	Graminoid	496
ER	*Elymus riparius*	Riverbank wild rye	Graminoid	496
EC	*Elymus canadensis*	Canada wildrye	Graminoid	496
EP	*Eupatorium purpureum*	Sweetscented joe-pye weed	Forb	496
IV	*Iris versicolor*	Blue flag iris	Forb	496
JE	*Juncus effusus*	Soft rush	Rush	496
LC	*Lobelia cardinalis*	Red cardinal flower	Forb	496
LS	*Lobelia siphilitica*	Great blue lobelia	Forb	496
OS	*Onoclea sensibilis*	Sensitive fern	Fern	496
PV	*Panicum virgatum*	Switchgrass	Graminoid	496
PE	*Peltandra virginica*	Green arrow arum	Forb	496
RO	*Rosa palustris*	Swamp rose	Forb	496
RL	*Rudbeckia laciniata*	Green headed coneflower	Forb	496
SL	*Sagittaria latifolia*	Broadleaf arrowhead	Forb	496
SI	*Scirpus atrovirens*	Green bulrush	Rush	496
SR	*Scirpus cyperinus*	Woolgrass bulrush	Rush	496
SV	*Scirpus validus*	Soft-stemmed bulrush	Rush	496
SN	*Symphyotrichum novae-angliae*	New England aster	Forb	496
SP	*Symphyotrichum puniceum*	Swamp aster	Forb	496
VH	*Verbena hastata*	Blue vervain	Forb	496
VN	*Vernonia noveboracensis*	New York Ironweed	Forb	496

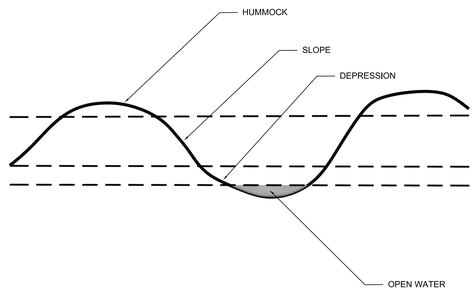
NOTES:
-Plant plugs 1' on center; alternate between species
-See planting details and notes on sheets L-2 and L-3
-Do not substitute any species without written approval

LANDSCAPE ZONE 1 SEED MIX		
LATIN NAME	COMMON NAME	%
Asclepias syriaca	Common milkweed	4
Baptisia australis	Blue wild indigo	7
Baptisia tinctoria	Horsefyweed	7
Coreopsis lanceolata	Tickseed	2
Echinacea purpurea	Purple coneflower	3
Elymus canadensis	Canada wildrye	10
Elymus virginicus	Virginia wildrye	8
Eragrostis spectabilis	Purple lovegrass	9
Liatris spicata	Gayfeather	2
Monarda fistulosa	Wild Bergamont	1
Panicum virgatum	Panicum virgatum	20
Pycnanthemum muticum	Clustered mountainmint	3
Pycnanthemum virginianum	Common mountainmint	3
Rudbeckia hirta	Black-eyed Susan	5
Rudbeckia subtomentosa	Sweet coneflower	5
Rudbeckia triloba	Brown-eyed Susan	4
Schizachyrium scoparium	Little bluestem	7

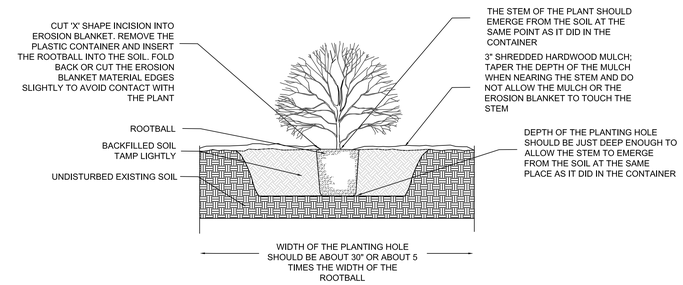
NOTES:
-Percent by number of seeds
-Apply seed mixes at rate of 20 lbs per acre
-Do not substitute any species without written approval

LANDSCAPE ZONE 2 SEED MIX		
LATIN NAME	COMMON NAME	%
Acorus calamus	Sweet flag	4
Andropogon glomeratus	Bushy bluestem	4
Chelone lyonii	Turtlehead	2
Carex vulpinoidea	Fox sedge	10
Carex lurida	Shallow sedge	5
Carex stricta	Tussock sedge	7
Elymus riparius	Riverbank wild rye	4
Elymus canadensis	Canada wildrye	4
Eupatorium purpureum	Sweetscented joe-pye weed	3
Iris versicolor	Blue flag iris	5
Juncus effusus	Soft rush	6
Lobelia cardinalis	Red cardinal flower	3
Lobelia siphilitica	Great blue lobelia	3
Onoclea sensibilis	Sensitive fern	4
Peltandra virginica	Green arrow arum	3
Rosa palustris	Swamp rose	2
Rudbeckia laciniata	Green headed coneflower	6
Sagittaria latifolia	Broadleaf arrowhead	2
Scirpus atrovirens	Green bulrush	4
Scirpus cyperinus	Woolgrass bulrush	6
Symphyotrichum novae-angliae	New England aster	5
Symphyotrichum puniceum	Swamp aster	2
Verbena hastata	Blue vervain	2
Vernonia noveboracensis	New York Ironweed	4

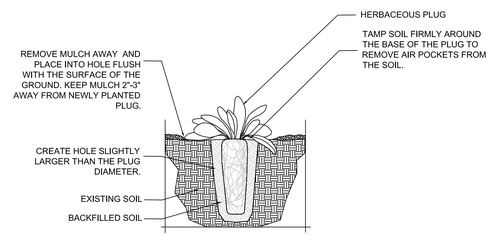
NOTES:
-Percent by number of seeds
-Apply seed mixes at rate of 20 lbs per acre
-Do not substitute any species without written approval



1 TYPICAL LANDSCAPE ZONE GRADIENT
N.T.S.



2 CONTAINERIZED SHRUB
N.T.S.



NOTES:

-STORE PLUGS ON SITE IN A SHADED AREA FOR NO LONGER THAN 24 HOURS (WATERING ONCE IN MORNING AND EVENING UNTIL PLANTED)
-DO NOT APPLY FERTILIZER AT ANY TIME
-PLUGS SHOULD BE PLANTED AFTER SEEDING, INSTALLATION OF EROSION MAT, OR MULCH APPLICATION
-WATER PLUGS IMMEDIATELY AFTER PLANTING (SOIL SHOULD BE SATURATED TO A MINIMUM OF 3")
-KEEP PLUGS WELL WATERED FOR THE FIRST TWO WEEKS (SOIL SURFACE DAMP)
-TO PLANT IN EROSION MAT, CUT A SMALL INCISION INTO THE SURFACE OF THE MAT

3 HERBACEOUS PLUG
N.T.S.

APPLICANT

EPT CONCORD II, LLC
909 WALNUT, SUITE 200
KANSAS CITY, MO 64106
(816) 472-1700 (PHONE)
(816) 472-5794 (FAX)

MASTER PLANNER / LANDSCAPE ARCHITECT

HART | HOWERTON

HART HOWERTON
10 EAST 40TH STREET
NEW YORK, NY 10016
(212) 683-5631 (PHONE)
(212) 481-3768 (FAX)

CASINO RESORT DEVELOPER

MONTICELLO RACEWAY MANAGEMENT, INC.
MONTICELLO, NEW YORK

SITE/CIVIL ENGINEER

AKRF

AKRF ENGINEERING, P.C.
34 SOUTH BROADWAY, SUITE 401
WHITE PLAINS, NY 10601
(914) 949-7336 (PHONE)
(914) 949-7559 (FAX)

ARCHITECT - CASINO RESORT

JCJ ARCHITECTURE

JCJ ARCHITECTURE
2 GRAND CENTRAL TOWER
140 EAST 45TH STREET
NEW YORK, NY 10017

SURVEYOR

CONTRACTORS' LINE & GRADE SOUTH, LLC
23 NEPPERHAN AVENUE
ELMSFORD, NY 10523
(914) 347-3141 (PHONE)
(914) 347-3120 (FAX)

GEOTECHNICAL CONSULTANT

MELICK-TULLY AND ASSOCIATES, P.C.
117 CANAL ROAD
SOUTH BOUND BROOK, NJ 08880
(732) 356-3400 (PHONE)
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LANDSCAPE ARCHITECT

CR3
571 HOPMEADOW STREET
SIMSBURY, CT 06070
(860) 658-1988 (PHONE)

STATE OF NEW YORK · ARTHUR F. WAWIERNIA · 088018 · LICENSED PROFESSIONAL ENGINEER

ARTHUR F. WAWIERNIA

SITE PLAN SUBMISSION
NOT FOR CONSTRUCTION

NEW YORK STATE EDUCATION LAW 145, SECTION 7209, PROHIBITS ANY INDIVIDUAL FROM ALTERING THESE DRAWINGS AND/OR ACCOMPANYING SPECIFICATIONS IN ANY WAY, UNLESS IT IS UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. IF ALTERATIONS ARE MADE, THE ALTERING ENGINEER MUST SIGN, SEAL, DATE, AND DESCRIBE THE FULL DESCRIPTION OF THE ALTERATION ON THE DRAWING AND/OR SPECIFICATIONS.

REVISIONS

No.	DATE	DESCRIPTION

PROJECT
EPT CONCORD RESORT PHASE 1
TOWN OF THOMPSON NEW YORK

DRAWN BY	CHECKED BY
JAH	AW
SCALE 1"=50'	DATE 03/08/13

SHEET TITLE

LANDSCAPING PLAN

WETLANDS 45A AND 45B

SHEET NO.

WL - 102

SPECIFICATION FOR HAND REMOVAL OF VEGETATION WITHIN WETLANDS 45A AND 45B

DESCRIPTION

THE WORK CONSISTS OF SITE ACCESS AND STAGING, CUTTING AND REMOVING ALL WOODY VEGETATION, INCLUDING TREES AND SHRUBS, AND AGGRESSIVE VINES FROM WETLANDS 45A AND 45B, TREATMENT OF RESIDUAL STUMPS WITH CONTACT HERBICIDE TO LIMIT REGROWTH OF WOODY MATERIAL, AND SITE RESTORATION. WORK SHALL BE ACCOMPLISHED WITH A PRIMARY GOAL OF MINIMIZING IMPACTS TO THE EXISTING WETLAND.

MATERIALS AND EQUIPMENT

1. VEHICLES
   a. MECHANIZED VEHICLES USED TO ACCESS WORK SITES AND TO REMOVE VEGETATIVE DEBRIS SHALL BE SMALL, TRACKED VEHICLES WITH LOW GROUND PRESSURE, AS APPROVED BY THE ENVIRONMENTAL INSPECTOR. ACCEPTABLE VEHICLES INCLUDE TRACKED "CRAWLER/HAULER" DUMP TRUCKS.
   b. WHEELED VEHICLES ARE NOT PERMITTED.
2. SAWS AND LOPPERS
   a. EQUIPMENT USED TO REMOVE WOODY DEBRIS SHALL BE GAS-POWERED CHAIN SAWS, HAND SAWS, RATCHET LOPPERS, AND OTHER HAND EQUIPMENT AS APPROVED BY THE ENVIRONMENTAL INSPECTOR.
3. MARSH MAT
   a. THE TYPE OF MARSH MAT TO BE USED WITHIN WETLAND AREAS SHALL BE AS SPECIFIED ON THE PLANS AND WITHIN SPECIFICATIONS.
4. HERBICIDE
   a. THE TYPE OF HERBICIDE TO BE USED SHALL BE DETERMINED PER THE SPECIFIC REQUIREMENTS OF EACH SPECIES AND AS APPROVED BY THE ENVIRONMENTAL INSPECTOR. ALL HERBICIDE APPLICATION SHALL BE IN ACCORDANCE WITH LABEL INSTRUCTIONS AND WITH APPLICABLE REGULATIONS AND LAWS.

EXECUTION

1. COORDINATION AND OVERSIGHT
   A. THE CONTRACTOR SHALL COORDINATE WITH AN APPOINTED 3RD PARTY DESIGNATED ENVIRONMENTAL INSPECTOR TO OVERSEE CUTTING OPERATIONS WITHIN WETLANDS 45A AND 45B. THE ENVIRONMENTAL INSPECTOR WILL FIELD IDENTIFY TREES, LARGE WOODY SHRUBS AND AGGRESSIVE WOODY VINES TO BE REMOVED PRIOR TO EACH DAY OF CUTTING.
   B. THE CONTRACTOR SHALL DISCUSS SITE SPECIFIC CONSTRAINTS AND DETERMINE THE APPROPRIATE FIELD SCHEDULE WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO THE START OF ANY CUTTING OPERATIONS WITHIN WETLANDS 45A AND 45B.
   C. THE CONTRACTOR WILL HAVE ALL MECHANICAL EQUIPMENT PROPOSED FOR USE WITHIN WETLANDS 45A AND 45B APPROVED BY THE ENVIRONMENTAL INSPECTOR PRIOR TO THE START OF WORK.
   D. THE CONTRACTOR SHALL COORDINATE WITH THE ENVIRONMENTAL INSPECTOR TO DETERMINE THE APPROPRIATE HERBICIDE APPLICATION TECHNIQUES (AS PERMITTED BY APPLICABLE REGULATIONS AND LAWS) TO BE USED TO CONTROL THE BASAL RESPROUTING OF CERTAIN SPECIES.
   E. THE CONTRACTOR WILL HAVE A REMOVAL AND DISPOSAL PLAN APPROVED BY THE ENVIRONMENTAL INSPECTOR TO DISPOSE OF VEGETATIVE DEBRIS. THIS PLAN WILL IDENTIFY A PROPOSED SCHEDULE, ACCESS ROUTES, MARSH MAT OR GEOTEXTILE LAYDOWN AREAS, AND PROPOSED VEHICLES OR EQUIPMENT TO BE USED FOR REMOVING VEGETATIVE DEBRIS.
   F. THE CONTRACTOR WILL COORDINATE WITH THE ENVIRONMENTAL INSPECTOR TO PHOTOGRAPH PRE AND POST CONDITIONS OF WETLANDS 45A AND 45B AND COMPLETE AN INSPECTION WALK DAILY UNTIL ALL CLEARING OF TREES, SHRUBS AND AGGRESSIVE VINES ARE REMOVED.
2. TIMING OF WORK
   A. WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH ANY SEASONAL OR TIMING RESTRICTIONS AS IDENTIFIED WITHIN THE ISSUED PERMIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL OF THE APPLICABLE TERMS AND CONDITIONS OF THE ISSUED PERMIT.
   B. TREE REMOVAL WORK SHOULD BE CONDUCTED DURING PERIODS OF SUSTAINED FREEZING WEATHER TO MINIMIZE EARTH DISTURBANCE.
3. SITE ACCESS AND STAGING
   A. PRIOR TO WORK, THE CONTRACTOR SHALL PREPARE A SITE ACCESS AND STAGING PLAN. THE THE PLAN SHALL DIVIDE THE WETLAND AREA INTO WORK CELLS AND DEFINE A MINIMALLY DISRUPTIVE ACCESS ROUTE TO EACH WORK CELL THAT MINIMIZES THE NEED FOR TRAVERSING THROUGH DEPRESSIONAL (LOW) AREAS AND MINIMIZES THE TOTAL DISTANCE OF TRAVEL.
   B. CONTRACTOR SHALL AVOID WETLAND CROSSING WITH MECHANICAL EQUIPMENT TO THE GREATEST EXTENT POSSIBLE.
   C. EQUIPMENT AND PERSONNEL REQUIRED FOR CLEARING ACTIVITIES SHALL BE TRANSPORTED VIA CLEARLY ESTABLISHED AND PRE-AUTHORIZED SITE ACCESS ROUTES TO PRE-DEFINED WORK CELLS.
   D. TRAVERSING OF THE WETLAND SITE WITH MECHANIZED VEHICLES SHALL BE LIMITED TO PRE-AUTHORIZED ACCESS ROUTES.
   E. WHERE CROSSING IS UNAVOIDABLE IN WETLAND SOILS AND IF THE SOILS COULD BE HIGHLY DISTURBED OR COMPACTED BY MECHANICAL EQUIPMENT, MARSH MATS SHOULD BE USED TO AVOID PERMANENT SOIL DAMAGE.
   F. MARSH MATS SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
4. CUTTING OF WOODY VEGETATION
   A. THE CONTRACTOR SHALL CLEAR ALL WOODY VEGETATION BY CUTTING OF INDIVIDUAL STEMS. BULLDOZING OR OTHER MEANS OF VEGETATION CLEARING THAT CAUSE EARTH DISTURBANCE ARE NOT PERMITTED. ROOT SYSTEMS SHALL BE LEFT INTACT IN ALL CASES.
   B. CUTTING OF WOODY VEGETATION SHALL OCCUR IN A SINGLE WORK CELL AT A TIME. WORK IN MULTIPLE WORK CELLS IS PROHIBITED.
   C. MOWING IS NOT PERMITTED.
   D. CUTTING SHALL BE PERFORMED USING A CHAIN SAW OR MANUAL SAW.
   E. STUMPS SHALL BE CUT TO A HEIGHT OF NO MORE THAN 4 IN. ABOVE GROUND SURFACE.
   F. GRINDING OF STUMPS IS NOT REQUIRED.
   G. REMOVAL OF STUMPS IS NOT PERMITTED OR REQUIRED.
   H. CUTTING OF WOODY TREES AND SHRUBS WITHIN WETLANDS 45A AND 45B SHALL BE CARRIED OUT BY THE CONTRACTOR IN A MANNER THAT MINIMIZES DISTURBANCE TO THE WETLAND SUBSTRATE AND HUMMOCKS TO THE GREATEST EXTENT PRACTICAL.
5. CUTTING OF AGGRESSIVE VINES
   A. THE CONTRACTOR SHALL CLEAR ALL AGGRESSIVE VINES BY CUTTING OF INDIVIDUAL STEMS AT THE BASE.
   B. CUTTING OF AGGRESSIVE VINES SHALL OCCUR AT THE SAME TIME AS THE CUTTING OF WOODY VEGETATION IN A SINGLE WORK CELL AT A TIME.
   C. MOWING IS NOT PERMITTED.
   D. CUTTING SHALL BE PERFORMED USING A CHAIN SAW, RATCHET LOPPERS, MANUAL SAWS, OR OTHER APPROVED MANUAL EQUIPMENT.
6. HERBICIDE TREATMENT
   A. THE CONTRACTOR SHALL ONLY APPLY HERBICIDE TREATMENT TO WOODY VEGETATION AND AGGRESSIVE VINES ONLY AS REQUIRED ON A CASE BY CASE BASIS PER EACH INDIVIDUAL SPECIES REMOVED.
   B. HERBICIDE APPLICATIONS WITHIN THE WETLAND SHALL BE PAINTED OR SNIP & DRIPPED DIRECTLY ONTO THE STUMP OR CUT END OF THE SPECIES REQUIRING REMOVAL. ALL CHEMICAL CONTROL TECHNIQUES (HERBICIDE) SUBSTANCES MUST BE USED IN ACCORDANCE WITH LABEL INSTRUCTIONS AND WITH APPLICABLE REGULATIONS AND LAWS.
7. REMOVAL AND DISPOSAL OF VEGETATIVE DEBRIS
   A. ALL VEGETATIVE DEBRIS FROM CUTTING OPERATIONS SHALL BE REMOVED FROM THE WETLAND AND WETLAND BUFFER. CUT WOOD AND BRUSH ARE NOT TO BE LEFT IN THE WETLAND, UNLESS OTHERWISE DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
   B. DEPENDING UPON WETLAND CONDITIONS, AND AS APPROVED BY THE ENVIRONMENTAL INSPECTOR, CUT BRUSH CAN BE DRAGGED ALONG THE SITE ACCESS ROUTE TO REACH UPLAND AREA.
   C. HAULING OF VEGETATIVE DEBRIS SHALL BE LIMITED TO THE DESIGNATED AND PRE-AUTHORIZED SITE ACCESS ROUTES. EQUIPMENT USED TO HAUL VEGETATIVE DEBRIS SHALL BE APPROVED BY THE ENVIRONMENTAL INSPECTOR.
   D. ALL VEGETATIVE MATERIAL REMOVED FROM THE WETLANDS SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH STATE LAW. LARGE WOOD (I.E., GREATER THAN 18 INCHES IN DIAMETER) THAT CAN BE REPURPOSED FOR LUMBER OR FIREWOOD SHOULD BE STACKED IN A PREDETERMINED LOCATION OUTSIDE OF THE WETLAND. ALL OTHER WOODY VEGETATION CAN BE CHIPPED AS LONG AS ALL VEGETATIVE DEBRIS FROM CUTTING OPERATIONS IS REMOVED FROM THE WETLAND AND WETLAND BUFFER OR PROPERLY DISPOSED OF OFF SITE IN ACCORDANCE WITH NY STATE LAW.
   E. STOCKPILING OF DEBRIS WITHIN THE WETLAND BOUNDARY IS NOT PERMITTED. DEBRIS SHALL BE REMOVED INCREMENTALLY AS IT IS GENERATED.
8. SITE RESTORATION
   A. ANY AREAS OF COMPACTION OR EARTH DISTURBANCE SHALL BE IMMEDIATELY RESTORED AS FOLLOWS:
   B. THE CONTRACTOR SHALL COORDINATE WITH THE ENVIRONMENTAL INSPECTOR TO RESTORE ANY AREAS OF COMPACTION CAUSED FROM CUTTING OR VEGETATION REMOVAL ACTIVITIES.
   C. IN THE EVENT OF ANY SOIL COMPACTION OR EARTH DISTURBANCE, THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY MECHANICAL EQUIPMENT THAT CAUSED THE COMPACTION FROM THE VICINITY PER THE PRE-AUTHORIZED SITE ACCESS ROUTES WITHOUT CAUSING ADDITIONAL SOIL COMPACTION OR EARTH DISTURBANCE.
   D. COMPACTED SOIL SHALL BE MANUALLY AERATED USING APPROVED HAND EQUIPMENT, SUCH AS FORKS, SPADES, OR HOES TO SUFFICIENTLY RELIEVE COMPACTION OF THE SOIL. THE CONTRACTOR SHALL USE A 'LIFT AND DROP' METHOD FOR SOIL AERATION, TAKING CARE TO KEEP THE EXISTING SOIL HORIZONS IN TACT.
   E. THE CONTRACTOR SHALL WORK FROM THE INTERIOR OUTWARDS TO THE EXTERIOR OF THE AREA OF COMPACTION, TAKING CARE TO AVOID COMPACTION OF THE RECENTLY AERATED SOIL.
   F. FOLLOWING AERATION, SOIL SHALL BE LIGHTLY TAMPED AND RESHAPED BY HAND IF NECESSARY.
   G. SOIL SHALL BE STABILIZED USING BIODEGRADABLE EROSION CONTROL BLANKET IF SLOPES IN AREAS OF EARTH DISTURBANCE ARE 3:1 OR GREATER.
   H. AREAS OF COMPACTION OR EARTH DISTURBANCE SHALL BE RESEEDED AND PLANTED AS INDICATED PER THE PLANS AND PLANTING SPECIFICATIONS.

GENERAL PLANTING NOTES

WATERING

1. $\frac{1}{2}$ OF THE TOTAL PLUGS SHOULD BE PLANTED UPON INITIAL RESTORATION OF THE WETLAND; THE REMAINING $\frac{1}{2}$ OF THE TOTAL PLUGS SHOULD BE INSTALLED DURING THE NEXT GROWING SEASON TO ALLOW FOR CLOSER OBSERVATION OF THE NEW HYDROLOGIC FUNCTION OF THE WETLAND WITH TREE REMOVAL. THE PROJECT LANDSCAPE ARCHITECT SHOULD BE CONSULTED FOR PLACEMENT OF THE REMAINING PLUGS PER THE NEW HYDROLOGICAL FUNCTION OF THE WETLAND.
2. WATER ALL OF THE VEGETATION UNTIL THE GROUND IS SATURATED (TO A DEPTH OF APPROXIMATELY 3-4") DIRECTLY AFTER INSTALLATION OF THE PLANTS. THE NEWLY INSTALLED PLANTS SHOULD BE WATERED A MINIMUM OF ONCE A WEEK FOR TWO TO THREE WEEKS AFTER INSTALLATION IF THERE IS NO SUBSTANTIAL RAIN EVENT WHICH SATURATES THE GROUND. IF PLANTING IS IN LATE FALL, ONCE LEAF DROP HAS OCCURRED, WATERING EFFORTS CAN BE DISCONTINUED FOR THE WINTER. (THE ABOVE WATERING EFFORTS MAY VARY BASED UPON PRECIPITATION AMOUNTS AND TEMPERATURE).
3. DURING THE FIRST SPRING AND SUMMER, WATER VEGETATION REGULARLY TO ENSURE SUCCESSFUL ESTABLISHMENT (DEPENDENT UPON PRECIPITATION AMOUNTS). WATER VEGETATION IN THE MORNING OR LATE AFTERNOON/EARLY EVENING.
4. DURING PERIODS OF EXTENDED DROUGHT, WATER VEGETATION A MINIMUM OF ONCE WEEKLY. ADJUST THIS AMOUNT ACCORDING TO SPECIFIC SITE CONDITIONS AND PRECIPITATION AMOUNTS.

INSPECTION PERIODS
FIRST YEAR AFTER INSTALLATION

1. DURING THE FIRST SPRING AND SUMMER, WATER VEGETATION REGULARLY TO ENSURE SUCCESSFUL ESTABLISHMENT (DEPENDENT UPON PRECIPITATION AMOUNTS). WATER VEGETATION IN THE MORNING OR LATE AFTERNOON/EVENING.
2. DURING PERIODS OF EXTENDED DROUGHT, WATER VEGETATION A MINIMUM OF ONCE WEEKLY. ADJUST THIS AMOUNT ACCORDING TO SPECIFIC SITE CONDITIONS AND PRECIPITATION AMOUNTS.
3. INSPECT VEGETATION AT THE END OF THE FIRST GROWING SEASON TO EVALUATE HEALTH AND ESTABLISHMENT SUCCESS. REPLACE IF NECESSARY.
4. PRUNE VEGETATION (HEIGHT, WIDTH, AND DENSITY) AS NECESSARY TO MAINTAIN VISIBILIY/ LINES-OF-SIGHT, ENHANCE AESTHETICS, AND REMOVE DEAD/DISEASED BRANCHES.
5. AGGRESSIVE REMOVAL OF INVASIVE SPECIES MONTHLY PER ACCEPTABLE, ENVIRONMENTALLY SENSITIVE METHODS.
4. PLANT REMAINING $\frac{1}{2}$ OF TOTAL PLUGS PER THE NEW HYDROLOGIC REGIME OF THE WETLAND TO MAINTAIN VISUAL INTEREST, IMPROVE AESTHETICS, AND ENHANCE HABITAT QUALITY AND EMERGENT WETLAND FUNCTION.

AS NEEDED

1. REMOVAL INVASIVE SPECIES
2. DURING PERIODS OF EXTENDED DROUGHT, WATER VEGETATION A MINIMUM OF ONCE WEEKLY. ADJUST THIS AMOUNT ACCORDING TO SPECIFIC SITE CONDITIONS AND PRECIPITATION AMOUNTS.
3. PRUNE VEGETATION (HEIGHT, WIDTH, AND DENSITY) AS NECESSARY TO MAINTAIN VISIBILIY/ LINES-OF-SIGHT, ENHANCE AESTHETICS, AND REMOVE DEAD/DISEASED BRANCHES.
4. SUPPLEMENT VEGETATION TO MAINTAIN VISUAL INTEREST, IMPROVE AESTHETICS, AND ENHANCE HABITAT QUALITY.

CONTRACTOR'S RESPONSIBILITIES

HANDLING OF PLANT MATERIAL DURING TRANSPORT AND UPON DELIVERY TO SITE

- CONTRACTOR SHALL PROTECT ALL PLANT MATERIAL DURING TRANSPORT THROUGH THE USE OF A WIND TARP. ANY PLANT MATERIAL THAT IS DAMAGED UPON DELIVERY TO THE SITE SHALL BE REPLACED BY THE CONTRACTOR.
- ALL PLANT MATERIAL SHALL BE STORED ON SITE IN A SHADY AREA FOR NO LONGER THAN TWO (2) DAYS, AND SHALL BE WATERED THOROUGHLY ONCE IN THE MORNING AND ONCE IN THE EVENING UNTIL PLANTED.
- CONTRACTOR SHALL MAKE NO SUBSTITUTIONS FOR PLANT SPECIES OR SIZES UNLESS APPROVED BY PROJECT ENGINEER.
- CONTRACTOR SHALL NOT INSTALL PLANT MATERIAL UNTIL INSPECTED AND APPROVED UPON DELIVERY BY PROJECT ENGINEER.

PLANT INSTALLATION PROCEDURE

1. CONTRACTOR SHALL SEED VEGETATION AS INDICATED ON THE PLANS AND PER THE SPECIFICATIONS OUTLINED.
2. FOLLOWING SEEDING, THE CONTRACTOR SHALL PLACE EROSION MAT OR CLEAN STRAW MULCH AS INDICATED ON THE PLANS AND PER THE SPECIFICATIONS OUTLINED.
3. FOLLOWING SEEDING AND INSTALLATION OF EROSION MAT, CONTRACTOR SHALL PLANT TREES, SHRUBS, AND POTTED PERENNIALS ACCORDING TO PLANTING DETAILS AND SPECIFICATIONS.
4. CONTRACTOR SHALL PLACE THE MULCH LAYER (AS INDICATED ON THE PLANTING PLANS AND PER THE PLANTING DETAILS AND SPECIFICATIONS) AFTER PLANTING THE TREES, SHRUBS AND POTTED PERENNIALS.
5. CONTRACTOR SHALL PLANT HERBACEOUS PLUGS FOLLOWING THE MULCH OR EROSION MAT INSTALLATION PER THE PLANTING DETAILS AND SPECIFICATIONS.

PLANTING SCHEDULE AND SPECIFICATIONS

PLANTING TREES AND SHRUBS

PRODUCTS
1.01 MATERIALS

A. PLANT MATERIAL
1. THE CONTRACTOR WILL BE RESPONSIBLE FOR PURCHASING ALL PLANT MATERIAL FOR THIS PROJECT IN COMPLIANCE WITH ALL APPLICABLE SPECIFICATIONS.

B. THE CONTRACTOR MUST PROVIDE TO THE ENGINEER EACH OF HIS PLANT SUPPLIER'S SHIPPING LISTS FOR REVIEW AND APPROVAL AFTER ORDERING, BUT PRIOR TO SUPPLIER'S SHIPMENT OF ANY PLANT MATERIAL. ONLY SPECIFIED PLANT SPECIES WILL BE ACCEPTED.

C. ALL STOCK MUST BE HEALTHY AND VIGOROUS AND BE FREE OF DAMAGE FROM DISEASE, MISHANDLING OR POOR PRUNING. PLANTS THAT HAVE EVIDENCE OF STRESS, DISEASE, DIEBACK OR MISHANDLING WILL BE REJECTED. PLANT MATERIALS MUST BE SELECTED FROM CERTIFIED NURSERIES THAT HAVE BEEN INSPECTED BY STATE AND/OR FEDERAL AGENCIES. NURSERY INSPECTION CERTIFICATES SHALL BE FURNISHED TO THE LANDSCAPE ARCHITECT UPON REQUEST. THE NURSERY SUPPLY SOURCE SHALL CERTIFY THE ORIGIN OF THE SEEDS FROM WHICH THE TREES AND SHRUBS WERE PRODUCED.

D. CONTAINER GROWN STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL. ROOTS SHALL VISIBLY EXTEND TO THE INSIDE FACE OF THE GROWING CONTAINER. SHRUBS WITH GIRDLING ROOT SYSTEMS WILL NOT BE ACCEPTED. ALL CONTAINER-GROWN PLANTS SHALL BE GROUPED AND WATERED DAILY UNTIL THEY ARE PLANTED. PLANTS DAMAGED IN HANDLING OR TRANSPORTATION MAY BE REJECTED BY THE LANDSCAPE ARCHITECT. EACH PLANT OR SAME-SPECIES GROUP OF PLANTS SHIPPED TO THE JOB SITE MUST BE CLEARLY LABELED WITH ITS SCIENTIFIC NAME. THE CONTRACTOR IS RESPONSIBLE TO CHECK TO SEE THAT THE PLANTS ARE CORRECTLY LABELED. THE ENGINEER WILL NOT ACCEPT IMPROPERLY LABELED PLANTS. THE CONTRACTOR IS NOT ALLOWED TO ADD, ALTER OR REMOVE LABELS.

E. SUBSTITUTE PLANT MATERIAL.

1. ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PURCHASE AND PLANTING. IF A SUBSTITUTE IS SELECTED, IT MUST BE NATIVE TO THE PHILADELPHIA REGION AND OF THE SAME SIZE, VALUE, AND QUALITY AS THE ORIGINAL PLANT.

F. WEED-FREE STRAW.
ALL EXPOSED EARTH ON SITE THAT IS NOT TO BE COVERED WITH EROSION MAT OR SHREDDED HARDWOOD MULCH IS TO BE COVERED WITH WEED-FREE STRAW TO PREVENT RAIN DAMAGE AND FOSTER GERMINATION OF NEW PLANTS. THE CONTRACTOR MUST PROVIDE THE LANDSCAPE ARCHITECT DOCUMENTATION FROM THE SUPPLIER THAT THE MATERIAL IS WEED-FREE. STRAW OBTAINED FROM REGULAR FARMING OPERATIONS IS NOT WEED-FREE AND WILL NOT BE ACCEPTED BY THE LANDSCAPE ARCHITECT.

G. WATER.

1. WATER USED IN THE ESTABLISHMENT OR CARING OF PLANTS SHALL BE FREE FROM ANY SUBSTANCE THAT IS INJURIOUS TO PLANT LIFE.

I. SALVAGED PLANTS.

ALL PLANT MATERIALS MARKED AND IDENTIFIED AS SALVAGED PLANTS SHALL BE TRANSPLANTED TO AREAS DIRECTED BY THE LANDSCAPE ARCHITECT.

J. HARDWOOD MULCH.

1. TREE, AND SHRUB AREA MULCH: ORGANIC MULCH SHALL CONSIST OF SHREDDED HARDWOOD, DARK BROWN IN COLOR, AT LEAST 1-YEAR OLD, CLEAN AND FREE OF WEED SEEDS. BARK MULCH IS NOT ACCEPTABLE. MATERIAL TO BE SUBMITTED FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

K. GAME DETERRENT SPRAY

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING GAME DETERRENT SPRAY FOR ALL SHRUBS. CONTRACTOR MUST USE A USDA APPROVED SPRAY FOR ORGANIC GARDENING SUCH AS HAVAHART DEER AWAY (OR APPROVED EQUAL).

PART 2 EXECUTION
2.01 CONSTRUCTION
A. GENERAL
1. ALL RESTORATION SITES DESIGNATED FOR NATIVE PLANTINGS SHALL BE PLANTED IN ACCORDANCE WITH THE COMPOSITION AND PLANTING SCHEDULES FOR EACH DESIGNATED PLANTING ZONE AS SHOWN ON THE PLANTING PLANS.

2. THE CONTRACTOR SHALL REFER TO THE PLANT SCHEDULES AND DETAILS FOR SPECIFIC SPACING REQUIREMENTS. THE CONTRACTOR SHALL USE THE OVERALL SPACING DIMENSION AND LAYOUT AS INDICATED ON THE PLANT SCHEDULES AND DETAIL TO DETERMINE THE SPACING BETWEEN EACH PLANT. THE CONTRACTOR SHALL USE THE INDIVIDUAL SPACING DIMENSION AND DETAIL TO DETERMINE THE SPACING BETWEEN EACH PLANT OF THE SAME SPECIES.

3. IMMEDIATELY AFTER SITE PREPARATION AND APPROVAL (WHICH INCLUDES REMOVAL AND PROPER DISPOSAL OF DEAD INVASIVE PLANT MATERIAL), PLANT MATERIAL SHALL BE INSTALLED. ALL PLANT MATERIAL MUST BE PLANTED IN THE SPRING (MARCH 15 - JUNE 15) OR FALL (SEPTEMBER 15 - NOVEMBER 30), OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.

4. ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT FROM THE SOURCE TO THE PROJECT AREA AND UNTIL PLANTED.

5. PRIOR TO PLANTING, ALL LIVE WOODY PLANT MATERIAL MUST BE GROUPED TOGETHER AND TREATED WITH GAME DETERRENT SPRAY. CONTRACTOR MUST FOLLOW ALL TREATMENT AND SAFETY INSTRUCTIONS ASSOCIATED WITH THE PRODUCT.

SHRUB INSTALLATION

1. ALL PLANTING PITS SHALL BE DUG SO THE WALLS OF THE PLANTING PITS SHALL BE VERTICAL OR SLOPING OUTWARD IN HEAVY SOILS. SCARIFY THE WALLS OF THE PIT AFTER DIGGING.

2. EXCAVATE THE PLANTING PIT TO AT LEAST 3-5 TIMES WIDER IN ALL DIRECTIONS THAN THE ROOT SPREAD. REMOVE ALL DEBRIS FROM THE PIT AND TAMP LOOSE SOIL IN THE BOTTOM OF THE PIT BY HAND. CAREFULLY REMOVE THE PLANT FROM ITS CONTAINER. DO NOT LIFT OR CARRY THE PLANTS BY THE BRANCHES, LEAVES OR STEM.

3. PLACE THE PLANT STRAIGHT IN THE CENTER OF THE PLANTING PIT. PLANT THE SAPLING SO THAT THE BEGINNING OF THE ROOT FLARE IS VISIBLE AT SOIL LEVEL. IT IS CRITICAL NOT TO PLANT THE SAPLING TOO DEEP. LAY A SHOVEL ACROSS THE HOLE TO SEE WHERE THE SHOVEL MEETS THE ROOT FLARE AND ADJUST THE PLANTING DEPTH ACCORDINGLY.

4. BACKFILL PLANTING PIT WITH EXISTING SOIL AND TAMP FIRMLY TO FILL ALL VOIDS AND AIR POCKETS. DO NOT OVER COMPACT SOIL. MAKE SURE PLANT REMAINS STRAIGHT DURING BACKFILLING/TAMPING PROCEDURE. DO NOT COVER STEM WITH SOIL. WATER PLANT THOROUGHLY IMMEDIATELY AFTER PLANTING. WATERING SHALL BE OF A SUFFICIENT QUANTITY TO SATURATE THE BACKFILL, AND SHALL BE APPLIED SLOWLY ENOUGH TO SINK INTO THE SOIL AND AVOIDING RUNOFF. THE NEED FOR ADDITIONAL WATERING, OR DETERMINATION OF WHEN WATERING IS NOT NECESSARY, SHALL BE AT THE DISCRETION OF THE LANDSCAPE ARCHITECT. THIS SHALL INCLUDE UP TO SIX (6) SEPARATE WATERING VISITS EXECUTED DURING THE GROWING SEASON (APRIL-OCTOBER).

5. ALL SHRUB PLANTING AREAS SHALL BE STABILIZED WITH HARDWOOD MULCH TO A DEPTH OF 3-4 INCHES WITH A RADIUS OF APPROXIMATELY 24 INCHES FROM THE TREE STEM(S). NO MULCH IS TO REST DIRECTLY AGAINST ANY TREE STEM.

6. THE CONTRACTOR SHALL LEAVE NO OPEN PLANTING PITS AT THE CLOSE OF EACH DAY. COVER ALL AREAS OF EXPOSED EARTH WITH A WEED-FREE STRAW OR SALT HAY AT THE RATE OF 2 TONS PER ACRE.

7. DURING PLANTING, ALL AREAS SHALL BE KEPT NEAT, CLEAN AND FREE OF ALL TRASH AND DEBRIS, AND ALL REASONABLE PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING PLANTS, TURF, STRUCTURES, AND PRIVATE PROPERTY. REMOVE ALL TAGS, LABELS, STRINGS AND WIRE FROM THE PLANT MATERIALS, UNLESS OTHERWISE DIRECTED BY THE THE LANDSCAPE ARCHITECT.

SHRUB MAINTENANCE

1. THE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIAL FOR ONE YEAR FOLLOWING PROJECT APPROVAL.
2. WEED CONTROL
   a. INVASIVE SPECIES GROWING WITHIN THE PLANTING AREA SHALL BE ERADICATED BY HAND. DURING EACH GROWING SEASON FOLLOWING INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE PROJECT REPRESENTATIVE AND WILL INSPECT THE SITE ON OR ABOUT MAY 30, JULY 15 AND AUGUST 30 TO DETERMINE IF WEED CONTROL IS ACCEPTABLE.
   b. THE FOLLOWING SPECIES ARE KNOWN TO EXIST WITHIN OR ADJACENT TO THE RESTORATION SITE AND ARE CONSIDERED INVASIVE FOR THE PURPOSES OF THIS PROJECT:

MULTIFLORA ROSE	*ROSA MULTIFLORA*
JAPANESE HONEYSUCKLE	*LONICERA JAPONICA*
LESSER CALANDINE	*RANUNCULUS FICARA*
COMMON PRIVET	*LIGUSTRUM VULGARE*
ENGLISH IVY	*HEDEEVA HELIX*
JAPANESE HONEYSUCKLE	*LONICERA JAPONICA*
JAPANESE STILT GRASS	*MICROSTEGIUM VIMINEUM*
GARLIC MUSTARD	*ALLIARIA OFFICINALIS*
COMMON REED	*PHRAGMITES AUSTRALIS*
JAPANESE KNOTWEED	*POLYGONUM CUSPIDATUM*
TREE OF HEAVAN	*AILANTHUS ALTISSIMA*

   c. INVASIVE SPECIES SHALL BE REMOVED PER ACCEPTABLE AND ENVIRONMENTALLY SENSITIVE METHODS.
3. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY WATER IF THERE IS NONE AVAILABLE ON THE SITE. ANY COSTS ASSOCIATED WITH SUPPLYING WATER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

A. CLEANUP.
1. FINAL CLEANUP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND CONSIST OF REMOVING ALL TRASH AND MATERIALS INCIDENTAL TO THE PROJECT AND DISPOSING OF THEM OFF-SITE.
2. PROMPTLY REMOVE SOIL DEBRIS CREATED BY WORK FROM PAVED AREAS. CLEAN WHEELS OF VEHICLES BEFORE LEAVING SITE TO AVOID TRACKING SOIL ONTO ROADS, WALKS OR OTHER PAVED AREAS.

B. WARRANTY.
1. THE CONTRACTOR SHALL MAINTAIN A 90% CARE AND REPLACEMENT WARRANTY FOR ONE YEAR FOR ALL SHRUBS AND HERBACEOUS PLANTS. REPLACEMENT OF TREES, SHRUBS, AND HERBACEOUS PLANTS SHALL BE CONDUCTED IN ACCORDANCE WITH THE MATERIAL AND CONSTRUCTION (INCLUDING SCHEDULE) IN THESE SPECIAL PROVISIONS. THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR DAMAGE OR PLANT MORTALITY DUE TO VANDALISM, WILDLIFE PREDATION, OR NATURAL PHENOMENON BEYOND THE CONTRACTOR'S CONTROL AND RESPONSIBILITY (E.G., FLOODS). PLANT REPLACEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS.
2. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE PROJECT REPRESENTATIVE FOR A FINAL ACCEPTANCE OF THE PLANTING ON THE PROJECT.

NATIVE SEEDING & MULCHING

PART 1: GENERAL
1.01 DESCRIPTION

A. THIS WORK SHALL CONSIST OF FURNISHING AND INCORPORATING ALL HERBACEOUS SEED AS SHOWN ON CONTRACT DOCUMENTS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.
B. PRIOR TO THE START OF WORK ON THIS ITEM, THE CONTRACTOR SHALL SUBMIT A PROPOSED SEEDING SCHEDULE, INCLUDING SOURCE OF SEED.
C. SUBMIT A PROPOSED SEEDING SCHEDULE, INCLUDING SOURCE OF SEED AT LEAST ONE (1) WEEK PRIOR TO THE START OF THE WORK

PART 2: PRODUCTS
2.01 MATERIALS
A. GRASS SEED
1. NATIVE SEED SHALL CONSIST OF SEED VARIETIES SPECIFIED IN THE COMPOSITION SCHEDULES SHOWN ON THE DRAWINGS.
   a. SEED SHALL BE CERTIFIED THAT THE PURE LIVE SEED (PLS) PERCENTAGE IS EQUAL TO OR GREATER THAN THAT WHICH IS SPECIFIED ON THE PLANT SCHEDULES. IF THE PLS IS LESS THAN SPECIFIED, THE CONTRACTOR SHALL INCREASE THE SEEDING RATE TO COMPENSATE FOR THE PLS DIFFERENCE AT HIS/HER OWN EXPENSE. ALL SEED AND SEED VARIETIES MUST CONTAIN ONLY SPECIES SPECIFIED AND SHALL BE FREE FROM PROHIBITED NOXIOUS WEED SEEDS AND THE FOLLOWING:
   BULL THISTLE
   CANADA THISTLE
   JIMSONWEED
   JOHNSONGRASS
   KUDZU
   MARIJUANA
   MILE-A-MINUTE WEED
   MULTIFLORA ROSE
   MUSK THISTLE
   PURPLE LOOSESTRIFE
   SHATTERCANE

A. MULCH
1. SEED MULCH SHALL CONSIST OF WEED-FREE STRAW OR WOOD CELLULOSE FIBER.

C. WATER
1. WATER USED IN THE ESTABLISHMENT OR CARING OF PLANTS AND SEED SHALL BE FREE FROM ANY SUBSTANCE THAT IS INJURIOUS TO PLANT LIFE.

D. FERTILIZER
1. HERBACEOUS SEEDING AREAS SHALL NOT BE FERTILIZED.

E. LIMESTONE
1. HERBACEOUS SEEDING AREAS SHALL NOT BE LIMED.

PART 3: EXECUTION
3.01 CONSTRUCTION

A. GENERAL
1. WETLAND 45A AND 45B SHALL BE SEEDED IN ACCORDANCE WITH THE PLANTING PLANS AND SCHEDULES. THE HERBACEOUS PLANT SEED MIX IS SPECIFIED ON THE COMPOSITION SCHEDULES. SEED SHALL BE APPLIED BY HAND USING AN INTERSEEDING METHOD, SOWING SEEDS INTO EXISTING VEGETATION AND SOIL.

2. SEEDING SHALL BE PERFORMED BETWEEN MARCH 1 AND MAY 15 OR AUGUST 15 AND OCTOBER 15, OR AS DIRECTED BY THE ENGINEER. NO SEEDING SHALL BE PERFORMED ON FROZEN GROUND OR WHEN THE TEMPERATURE IS 32°F/0°C OR LOWER.

3. SEEDING TO BE PERFORMED ONLY AFTER ALL WORK IN AN AREA IS COMPLETE.

4. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT LANDSCAPE ARCHITECT TO ENSURE THAT PROPER INTERSEEDING METHODS ARE BEING IMPLEMENTED.

B. SEED AND MULCH APPLICATION
1. SEED SHALL BE APPLIED BY HAND AND INTERMIXED INTO EXISTING VEGETATION USING THE INTERSEEDING METHOD. (NOTE: THE EXISTING VEGETATION SHALL NOT BE ENTIRELY CLEARED OR REMOVED).

2. PRIOR TO SEEDING, EACH AREA SHALL BE LIGHTLY SCARIFIED AND RAKED BY HAND TO EXPOSE SOIL AT THE BASE OF EXISTING VEGETATION.

3. SEEDING SHALL BE ACCOMPLISHED BY HAND BROADCASTING ONLY AND SHALL BE APPLIED EVENLY WITHIN EXISTING VEGETATION STANDS TO AVOID MISSES AND OVERLAPS.

4. SEED SHALL BE APPLIED IN TWO DIFFERENT DIRECTIONS AND RAKED INTO THE FIRST ¼" OF TOPSOIL. THE CONTRACTOR SHALL MAXIMIZE THE SEED/SOIL CONTACT BY FIRMING SOIL AROUND THE SEED. IMMEDIATELY AFTER SEEDING, THE SITE SHALL BE WATERED LIGHTLY BUT THOROUGHLY SO THAT THE TOP FOUR INCHES (4") OF SOIL IS SATURATED. THE CONTRACTOR SHALL MULCH AND TACK ALL BROADCAST-SEEDED AREAS WITHIN 12 HOURS AFTER SEEDING WITH A WEED-FREE STRAW AT THE RATE OF 3 TONS/ACRE.

C. MAINTENANCE.
1. MAINTENANCE SHALL CONSIST OF WATERING AND WEEDING AS NEEDED (SEE GENERAL PLANTING NOTES).

2. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY WATER IF THERE IS NONE AVAILABLE ON THE SITE. ANY COSTS ASSOCIATED WITH SUPPLYING WATER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. WEED CONTROL

   a. INVASIVE SPECIES GROWING WITHIN THE PLANTING AREA SHALL BE ERADICATED BY HAND. DURING EACH GROWING SEASON FOLLOWING INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE PROJECT REPRESENTATIVE AND WILL INSPECT THE SITE ON OR ABOUT MAY 30, JULY 15 AND AUGUST 30 TO DETERMINE IF WEED CONTROL IS ACCEPTABLE.
   b. THE FOLLOWING SPECIES ARE KNOWN TO EXIST WITHIN OR ADJACENT TO THE RESTORATION SITE AND ARE CONSIDERED INVASIVE FOR THE PURPOSES OF THIS PROJECT:

MULTIFLORA ROSE	*ROSA MULTIFLORA*
JAPANESE HONEYSUCKLE	*LONICERA JAPONICA*
LESSER CALANDINE	*RANUNCULUS FICARA*
COMMON PRIVET	*LIGUSTRUM VULGARE*
ENGLISH IVY	*HEDEEVA HELIX*
JAPANESE HONEYSUCKLE	*LONICERA JAPONICA*
JAPANESE STILT GRASS	*MICROSTEGIUM VIMINEUM*
GARLIC MUSTARD	*ALLIARIA OFFICINALIS*
COMMON REED	*PHRAGMITES AUSTRALIS*
JAPANESE KNOTWEED	*POLYGONUM CUSPIDATUM*
TREE OF HEAVAN	*AILANTHUS ALTISSIMA*

   c. WEEDS MAY BE TREATED USING GLYPHOSATE BASED HERBICIDES BY A LICENSED APPLICATOR FOLLOWING LABEL DIRECTIONS IN ACCORDANCE WITH ALL LEGAL REQUIREMENTS INCLUDING POSTING AND NOTIFICATION AS APPROPRIATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING (OR OVERSEEDING AS APPROPRIATE) ANY NON-TARGET PLANT MATERIAL THAT IS KILLED OR DAMAGED BY THE CONTRACTOR IN CONTROLLING WEEDS ON THE PROJECT.
   d. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING AND PRUNING ANY LIVE STAKES/WHIPS WHICH ARE KILLED OR EXCESSIVELY DAMAGED THROUGH ANY ACT OF NEGLIGENCE BY THE CONTRACTOR IN APPLYING AND HANDLING OF THE HERBICIDE ON THE PROJECT.

D. CLEANUP.
1. FINAL CLEANUP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND CONSIST OF REMOVING ALL TRASH AND MATERIALS INCIDENTAL TO THE PROJECT AND DISPOSING OF THEM OFF-SITE.

2. PROMPTLY REMOVE SOIL DEBRIS CREATED BY WORK FROM PAVED AREAS. CLEAN WHEELS OF VEHICLES BEFORE LEAVING SITE TO AVOID TRACKING SOIL ONTO ROADS, WALKS OR OTHER PAVED AREAS.

E. WARRANTY
1. THE CONTRACTOR SHALL MAINTAIN A ONE (1) YEAR, EIGHTY-FIVE PERCENT (85%) AERIAL COVERAGE CARE AND REPLACEMENT WARRANTY ON ALL NATIVE SEEDING PER 1,000 SQUARE FOOT AREA. THE PERIOD OF CARE AND REPLACEMENT SHALL BEGIN AFTER FINAL INSPECTION AND APPROVAL OF THE INITIAL INSTALLATION OF SEED. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR SEEDED AREAS THAT HAVE BEEN DAMAGED BY VANDALISM, FIRE, FLOODING, ANIMAL PREDATION, OR OTHER ACTIVITIES BEYOND THE CONTRACTOR'S CONTROL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESEEDING ALL AREAS EXPERIENCING LESS THAN AN EIGHTY-FIVE PERCENT (85%) SURVIVAL RATE, PRIOR TO THE END OF THE GROWING SEASON (OCTOBER) OF THE YEAR FOLLOWING COMPLETION OF SEEDING.

2. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE PROJECT REPRESENTATIVE FOR A FINAL ACCEPTANCE OF THE SEEDED AREAS ON THE PROJECT.

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STATE OF NEW YORK · ARTHUR F. WAWIERNIA · 088018 · LICENSED PROFESSIONAL ENGINEER

ARTHUR F. WAWIERNIA

SITE PLAN SUBMISSION
NOT FOR CONSTRUCTION

NEW YORK STATE EDUCATION LAW 145, SECTION 7209, PROHIBITS ANY INDIVIDUAL FROM ALTERING THESE DRAWINGS AND/OR ACCOMPANYING SPECIFICATIONS IN ANY WAY, UNLESS IT IS UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. IF ALTERATIONS ARE MADE, THE ALTERING ENGINEER MUST SIGN, SEAL, DATE, AND DESCRIBE THE FULL DESCRIPTION OF THE ALTERATION ON THE DRAWING AND/OR SPECIFICATIONS.

REVISIONS

No.	DATE	DESCRIPTION

PROJECT
EPT CONCORD RESORT PHASE 1
TOWN OF THOMPSON NEW YORK

DRAWN BY	CHECKED BY
JAH	AW
SCALE	DATE
1"=50'	03/08/13

SHEET TITLE
LANDSCAPING PLAN
WETLANDS 45A AND 45B

SHEET NO.
WL - 103