Empire
Generating Co LLC

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October 29, 2008

Mr. Corbin Gosier
Biologist 1 (Ecology)
NYS Department of Environmental Conservation
625 Broadway, 5th Floor
Albany, New York 12233-4756

RE: Submerged Aquatic Vegetation Survey Report for Site No. 442027

Dear Mr. Gosier,

In accordance with the approved Interim Remediation Work Plan for Sediment Removal and Disposal in Conjunction with Outfall Construction Project approved by NYSDEC on September 12, 2008, Empire Generating Co, LLC agreed to prepare a more detailed site-specific map of the Submerged Aquatic Vegetation (SAV) along with confirmation of the species composition within the SAV beds prior to commencement of the diffuser pipe construction activities that will accommodate wastewater discharges from the Empire Generating Co facility.

The attached report prepared by Kleinschmidt Energy & Water Consultants fulfills this obligation. As noted in the report and shown on Figure 1, a narrow near shore bed of water celery was observed down stream of the proposed diffuser pipe location and is not expected to be impacted by construction of the diffuser pipe outfall.

Empire is in the process of evaluating contractors to perform the work and it is expected that in-river work will commence on December 1, 2008 and be completed by the end of the first quarter 2009.

If you have any questions, please contact me at (860) 895-6961.

Best Regards,

FirstLight Power Resources as agent for
Empire Generating Co, LLC

Cynthia E. Vodopivec
Environmental, Health & Safety Manager

Copy:
Peter Leighton, FirstLight
John Wanalista, LG
John Shepard, LG
Doug Reid-Green, BASF
John Bleiler, ENSR
John Strang, NYSDEC

EMPIRE GENERATING CO, LLC

SUBMERGED AQUATIC VEGETATION SURVEY

SUBMERGED AQUATIC VEGETATION REPORT
HUDSON RIVER, BASF FACILITY, RENSSELAER, NY

OCTOBER 2008

Prepared by:

Kleinschmidt
Energy & Water Resource Consultants

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1.0 INTRODUCTION

Empire Generating Co LLC (Empire) has plans to construct a power generating facility at 75 Riverside Avenue (former BASF facility) in the City of Rensselear, New York. An Interim Remedial Measure (IRM) Work Plan was developed which summarizes proposed work to be performed during installation of a process water discharge outfall to support the Empire Generating Project. A component of this work will be the dredging and management of Hudson River sediment to accommodate the installation of a diffuser pipe. As outlined in the IRM Work Plan an additional site specific submerged aquatic vegetation (SAV) survey was requested by the project partners and New York State Department of Environmental Conservation (NYSDEC).

The project locus was identified by a 2002 NYSDEC SAV survey (Ecology and Distribution of Hudson River SAV, CD Release Date March 2007) to contain near-shore SAV beds. This preliminary NYSDEC survey identified two discrete beds of water celery (*Vallisneria Americana*) located immediately to the west of the bulkhead separating the Hudson River from the project site.

In response to a request from Empire Generating CO, LLC and NYSDEC, prior to the commencement of the diffuser pipe construction activities, Kleinschmidt performed a site specific SAV field survey of the previously identified area, in order to provide a site specific map of SAV in the project site, along with confirmation of the species composition and stand properties from within the SAV bed(s).

2.0 METHODS

2.1 Study Site

The project site is a former dye manufacturing facility with a history of use that dates back to the late 1800s. The site is located along the highly industrialized east banks of the Hudson River (Figure 1). The banks of the Hudson River at the project site are armed and stabilized with a high steel bulkhead. This tidal stretch of Hudson River receives steady commercial and recreational boat traffic and the water clarity (determined by secchi disc readings) is turbid. There is a distinct narrow shelf along the base of the bulkhead that extends roughly 50 feet into the channel, where it abruptly drops from a approximate water depth of 4 feet to 8 feet to a center channel depth greater then 30 feet.

2.2 Aquatic Plant Sampling

The presence and extent of SAV in the Hudson River within the vicinity of the subject construction activities was surveyed by boat on October 17, 2008.

The IRM Work Plan and published maps of the approximate location of aquatic plants were used in the field as an added data source. Within random points in each stand of aquatic plants observed, percent plant cover was recorded within a randomly placed ½ m x ½ m quadrant as sparse (range = 5–25% cover); moderate (range = 25–75% cover); or dense (range = 75–100% cover). For the purposes of this study, percent cover is defined as the percent cover of a given stand. Percent cover was estimated visually using a Field Master Aquavue™ under water viewer, with the observer situated directly above the plot. Species observed in the sample plot were recorded. The height of fully submersed stands and water column depths were recorded with a 25' stadia rod.

An underwater Atlantis™ Panning Camera was used to aid in underwater viewing of plants in those instances where plants were not clearly visible from the surface. In certain instances, plants were brought to the surface for species verification.

2.3 GIS Mapping of Aquatic Plants

SAV stands were located in the field with a sub-meter Trimble™ Global Positioning System (GPS) unit. Each GPS point contained attribute information regarding the species observed, and percent cover. In addition to the GPS data, site sketches were drawn in the field to aid in mapping coordination.

3.0 RESULTS

3.1 Submerged Aquatic Vegetation

A narrow near shore bed of water celery was observed down stream of the proposed diffuser pipe. The water celery bed is oriented parallel to the shore line and is approximately 135 feet long and 25 feet wide. This SAV bed of water celery is depicted in Figure 2. The remainder of the project area consisted of a exposed silt and fine grained substrates. There were no additional areas of notable SAV beds or other aquatic plant species within the project limits.

3.1.1 Stand Properties

The composition of the aquatic plant community within the project area is dominated by water celery. Water celery was observed at low relative percentages during the survey. The low density SAV bed was characterized as sparse (5%-25%) cover. The mean water depth at which the stands were observed to occur is 4.4 feet at high tide. The substrate consisted of silts and fine grained sediments with an extremely small fraction of sand. The maximum water depth at which water celery was observed to occur was noted at 6.5 feet at high tide, while the shallowest observation was 3 feet at high tide. Stand height and water column depth were roughly equal.

4.0 DISCUSSION

The only aquatic plant species observed during the survey was the water celery. Water celery is the most commonly occurring aquatic plant in the Hudson River. Water celery is a submersed, perennial, aquatic plant with long linear ribbon like leaves up to 9 feet long and 1 inch wide. Submerged aquatic vegetation plays a vital role in aquatic ecosystems. Healthy stands oxygenate the water column and provide food and refuge to aquatic organisms. Typically, in the Hudson River water celery occurs in distinct beds, exhibiting peak growth from mid July to mid September.

Depth and water clarity exert the primary control over SAV zonation and degree of colonization. Water clarity determined with secchi disc readings was low. This may suggest that underwater spectral quality may be affecting SAV growth and bed density. In conclusion, the diffuser pipe installation will not directly disturb or significantly alter the sparse water celery noted within the project area.

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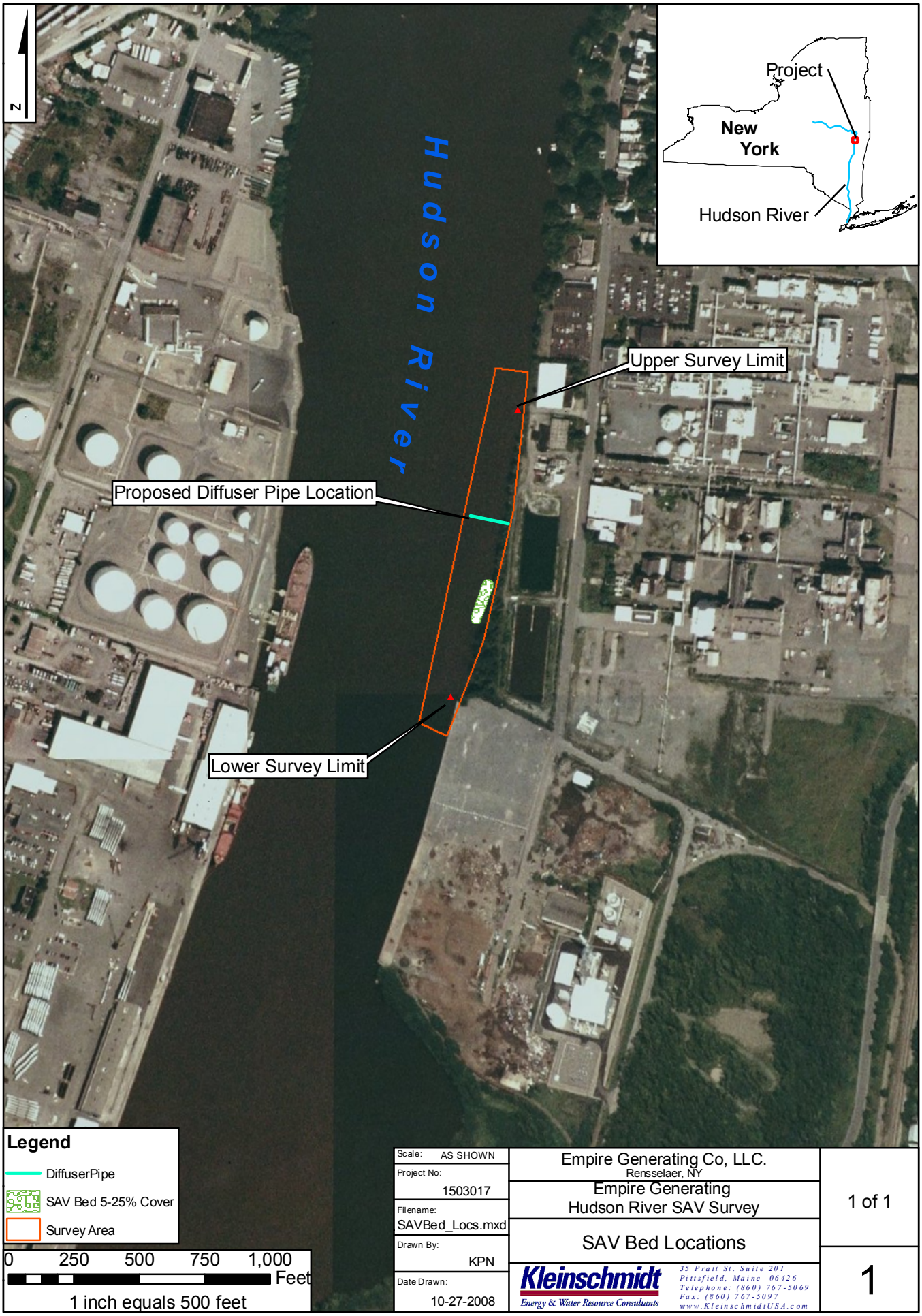
FIGURES



Scale:	AS SHOWN
Project No:	1503017
Filename:	SAVBed_Locs.mxd
Drawn By:	KPN
Date Drawn:	10-27-2008

Empire Generating Co, LLC.
Rensselaer, NY

Empire Generating
Hudson River SAV Survey

SAV Bed Locations

1 of 1

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Figure 2. Approximate Location of Water Celery Submerged Aquatic Vegetation Bed at BASF Facility

Photo Taken 10/17/2008
View Facing North