ROALD HAESTAD, INC.
Consulting Engineers

37 Brookside Road, Waterbury, Connecticut 06708
Telephone: (203) 753-9800 FAX: (203) 575-9249
Website: www.rhiengineering.com

ROALD HAESTAD, P.E., F-ASCE, DEE
RONALD G. LITKE, P.E., M-ASCE
DONALD L. SMITH, P.E., F-ASCE
SALVATORE LONGO, P.E., M-ASCE
WILLIAM S. ANDRES, P.E.-L.S., M-ASCE, CALS
DAVID J. LOMBARDO, P.E., M-ASCE
MICHAEL K. WILSON, P.E.

December 22, 2011

CT DEEP Eastern District HQ
209 Hebron Road
Marlborough, CT 06447

Attention: Robin Blum
Wildlife Technician

Re: Housatonic NRD Potential Project
Removal of Pin Shop Pond Dam
Oakville, CT

Ladies & Gentlemen:

Enclosed is the initial submittal for the Removal of the Pin Shop Pond Dam on Steele Brook Watertown, CT. The submitted project is for the removal of the dam and construction of a channel through the pond to open the river for diadromous fishes. Constructing the channel will require excavation and disposal of contaminated sediments. The opinion of probable cost for this project is $1,300,000.

The owners of the dam, The Old Pin Shop, LLC, are under order from DEEP to "put the dam in a safe condition". The current spillway capacity is inadequate and overtopping would cause failure of the dam and possible loss of life. Removing the dam would accomplish this purpose. An alternative project of constructing concrete stepped erosion protection for the dam and spillway would also accomplish the purpose, and would cost about $600,000. The grant request is for the difference in cost of $700,000. Copies of plans and opinions of probable costs for both alternatives are included in this application. The Old Pin Shop, LLC will fund the $600,000, but does not have the resources to fund the $1,300,000 project for dam removal. Without the grant, it will be necessary to proceed with the alternative project.

The Old Pin Shop, LLC has spent about $200,000 to date on environmental assessments, wetland mapping, engineering design and permit applications. The construction plans and specifications are complete, with the exception of final revisions that may be required by the permits. Applications for a DEEP 401 Water Quality and 404 Army Corp of Engineers permits have been applied for and are in the final stages of review. The project is ready for construction this summer. The work must be done in the summer low flow period.

ROALD HAESTAD, INC.

Housatonic NRD Potential Project
Removal of Pin Shop Pond Dam
Oakville, CT

All of the construction work will be put out to bid and awarded to the lowest qualified bidder. Roald Haestad, Inc. will provide contract management and resident project representation.

A grant request was submitted last year for a NOAA Open Rivers Initiative grant. However, that grant program was not funded for either 2011 or 2012.

The project for removal of the dam has strong support from DEEP Fisheries, the Town of Watertown, Valley Council of Governments and others. The Town and the Valley Council of Governments contributed to the initial environmental assessment of the site. The Town has requested part of the property after the dam removal for construction of a Greenway.

We appreciate the opportunity of submitting this grant application. We will be pleased to provide any additional information you may need for the project.

Very truly yours,

ROALD HAESTAD, INC.

By Donald L. Smith

Donald L. Smith, P.E.
Vice President

DLS/dls/jnc
cc: F. Fabiani
File 165-009

HOUSATONIC RIVER NATURAL RESOURCES RESTORATION PROJECT
CONNECTICUT SUBCOUNCIL REQUEST FOR PROPOSALS (RFP)

Part A: RESPONDER AND PROJECT SUMMARY FORM

Please read "RFP: Overview of Selection Process" before completing this form.

Part A must be completed using Submittal Form A.
Responses may be entered electronically using the Microsoft Word version of Part A of this form available on the Housatonic River Basin Natural Resource Restoration Project in Connecticut website (www.housatonicrestoration.org), saved and printed. Alternatively, the responder may print the form and complete it with black ink.
An Adobe Acrobat version of the entire from (Part A and Part B) is also available on the Housatonic River Basin Natural Resource Restoration Project in Connecticut website

Project Name Provide a brief working name.

Removal of Pin Shop Pond Dam

Responder – if there is more than one party involved in the project, please provide the information for the primary or lead party.

The Old Pin Shop, LLC, Francis Fabiani
Name

Member
Title

20 Main Street
Address

Address

Oakville, CT 06779
City State Zip

518 456-2412
Phone

franm0614@aol.com
Email

Type of Entity
Check the box that best describes the primary respondent.

- ☐ Private individual
- ☐ Non-profit organization
- ☐ Municipal government
- ☐ State government
- ☐ County government
- ☐ Federal government
- ☐ Tribal government
- ☒ Corporation or Business
- ☐ Academic Institution
- ☐ Other (explain)

Project Implementation
Does the responder plan to be the Project Sponsor and respond to the Request for Supplemental Information (RSI) pending approval of this Proposal?
☒ Yes ☐ No
If yes, please list any other project participants. _____

If the responder does **NOT** plan to be the Project Sponsor and does **NOT** intend to respond to the Request for Supplemental Information (RSI), is the responder interested in being a project participant and assisting a different Project Sponsor on this project?

☐ Yes ☐ No

Restoration Priority Funding Category *See Sec. 3 of "RFP: Overview of Selection Process" for category descriptions.*

Primary Restoration Category. ***Check the restoration category that is the primary goal of the project.***
Check one box.
☒ Aquatic Natural Resources Restoration/Enhancement
☐ Riparian & Floodplain Natural Resources Restoration/Enhancement
☐ Restoration/Enhancement of Recreational Uses of Natural Resources

Secondary Categories. Check all relevant boxes.
☐ Aquatic Natural Resources Restoration/Enhancement
☐ Riparian & Floodplain Natural Resources Restoration/Enhancement
☒ Restoration/Enhancement of Recreational Uses of Natural Resources

List Specific Injured Natural Resources and/or Impaired Natural Resource Services to Benefit from Project

Dam blocks fish passage, contaminated sediments fill pond. Removal of dam opens Steele Brook and Wattles Brook to fish passage . Contaminated sediment removal improves environment; draining pond provides site for greenway.

Project Location (if known) See directions and ***"RFP: Overview of Selection Process"*** for additional materials to provide (maps, aerial photographs)

Municipality/ies:
Watertown

Longitude for approximate center of project area: 41 degrees 35.2'

Latitude for approximate center of project area: 73 degrees 05.1'

Project Budget Estimate (if known)

Total Project Cost Estimate: $ 1,300,000

Housatonic River NRD Fund Estimate: $ 700,000

THE OLD PIN SHOP, LLC
Oakville, Connecticut

PIN SHOP POND DAM
Watertown, Connecticut

PROJECT ABSTRACT

The Pin Shop Pond Dam forms a small impoundment on Steele Brook. The dam is located in Watertown, Connecticut, 2.3 miles upstream of the confluence with the Naugatuck River. The pond is almost filled with sediment and debris.

The goals of the project are to eliminate the potential hazard of a dam failure and the release of contaminated sediment into the Housatonic River Watershed, and to open Steele Brook and Wattles Brook for Anadromous fish passage. The project will restore a portion of Steele Brook from a shallow sediment filled pond to a flowing river channel. The invasive species growing on the islands in the pond will be removed and the native wetland species transplanted to the exposed areas of the old pond bottom.

The primary deficiency of the dam is the lack of adequate spillway capacity. Overtopping of the embankment would cause failure that could cause loss of life. In order to eliminate the potential hazard of a dam failure, it is proposed to breach the spillway section of the dam, drain the pond and construct a riprapped channel through the impoundment. The pond sediments were found to be contaminated with PAHs and elevated levels of metals from upstream industrial discharges.

The proposed project, will include removing the spillway and constructing a riprapped channel through the pond, including the excavation and disposal on site of about 15,000 cubic yards of sediment. Weirs will be installed in the channel to provide fish passage past the dam site. The excavated sediments will be relocated to a disposal area at the southwest corner of the pond and capped with an impermeable membrane.

Breaching the dam will open about 4.2 miles of Steele Brook for the passage of Diadromous fish. Pin Shop Pond Dam is included in the DEEP list of dams to be removed in their publication "Anadromous Fish Restoration in the Naugatuck River Basin".

Included in this application are contract documents with detailed technical specifications, contract drawings, sedimentation and erosion control plans, flood contingency plan, soil scientist report and letters of support from public and private groups.

The construction plans are complete. Once the DEEP Water Quality and the Corps of Engineer's permits are issued, it is expected to take about one year to complete the project. The majority of the work is to be done during the summer low flow season.

PROJECT NARRATIVE

Background

Like the Naugatuck River it feeds, Steele Brook is part of the proud history of Connecticut's manufacturing past. Sadly, we now know the damaging ecological consequences early manufacturing has had on Connecticut's land, rivers, and streams. The economic consequences have had a crippling strangle hold on the Naugatuck River Valley. Communities lining the Naugatuck River have been struggling since the brass industry died after World War II. Factories remain vacant. Contaminated land is orphaned. Ponds, rivers and streams are abandoned. Property owners are overwhelmed and hobbled by the magnitude of the clean-up task.

The "Old Pin Shop" is a cluster of old factory buildings located in the center of Oakville, Connecticut, a part of the Town of Watertown, in which the Scovill Company manufactured pins until the 1950's. It is now owned by a Limited Liability Company, The Old Pin Shop, LLC (the Pin Shop). The company members are a parent and his three children. The parent is a long-retired developer who acquired the property in 1978, unaware of the accumulated contamination in the pond from upstream factories, his contractor-son, and his two daughters who are an accountant and an architect. In addition to their regular employment activities, family members manage the Old Pin Shop and have been endeavoring to address costly environmental issues at the Pin Shop Pond and Dam. Over time, the Pin Shop buildings are slowly being refurbished and occupied and a good relationship with the Town of Watertown has developed, but the need to address environmental and safety issues posed by the pond and dam have encumbered progress.

In its current iteration Pin Shop factory buildings offer reasonably priced rental space to small and incubating businesses. The Watertown Food Bank and the Girls' Rapid Oakville Watertown Softball team have rent-free space in the Pin Shop. Tenants include two fitness centers, woodworkers, wall-paper artisans, a metal-tooling company, a photographer, a book wholesaler, a kayak and river-environment advocate, a computer software developer, a bottle and can redemption center, a furniture repair and resale establishment, a tack shop, a metal-works studio, and rehearsal space for music groups.

The Pin Shop Pond on Steele Brook is a small but glaring example of an aquatic habitat in need and worthy of redemption. Via dam removal and river restoration, The Pin Shop members aspire to host a comeback for a portion of the Steele Brook, provide land for the Watertown Greenway and town ball fields, and spark the revitalization of Oakville Center. The steps are seemingly simple: remove a dam; reclaim a stream; welcome fish; grow a greenway; and breathe new life into a humble, working-class village center. Work has begun and partnerships have been forged in the process, but there is much yet to do. This narrative endeavors to describe the problem, the solution, and the vision.

The Pin Shop Pond and Dam

The Pin Shop Pond and Dam (hereafter referred to as the "Pond" and the "Dam"), owned by The Old Pin Shop, LLC, originally supplied water to an industrial facility immediately downstream of the Dam. The Dam was constructed prior to 1927, and currently serves no formal purpose. The Pond has a large accumulation of sediment with several sediment islands. The pond surface area was about 6.5 acres, but has been reduced to 3.5 acres by sediment. The average depth is about 1 foot, and almost the entire Pond is less than 2 feet deep. The watershed area of Steele Brook at the Dam is about 11.9 square miles.

The Dam is located in the Oakville Section of Watertown, Connecticut on Steele Brook, a tributary to the Naugatuck River, about 900 feet upstream of the corporate limits between the Town of Watertown and the City of Waterbury. Access to the Dam is from Connecticut Route 73 (Main Street). The Dam is shown on the Waterbury, Connecticut, USGS Quadrangle map as having coordinates of latitude 41°-35.2' North and longitude 73°-05.1' West.

The Dam consists of an earthen embankment with a stone masonry overflow spillway located at the left (looking downstream) end of the Dam with outlet works located to the left of the spillway. The Dam has a length of 480 feet and a maximum height of 23 feet. The spillway is 100 feet long with the crest about 20 feet above streambed. Below the spillway a concrete apron extends approximately 22 feet downstream. There is a stone masonry training wall at each end of the spillway. The Dam is in poor condition with inadequate spillway capacity and steeply eroded embankment slope. The outlet gates are inoperative. Overtopping could cause failure of the Dam, serious damage, and possible loss of life in the downstream flood area.

Because of the inadequate spillway and potential hazard, the Connecticut Department of Energy and Environmental Protection (DEEP) have ordered The Old Pin Shop, LLC to "put the dam in a safe condition". Removing the dam is one alternative for achieving that end, but not the least expensive.

The Pin Shop Pond Dam removal project (the "Project") will eliminate the Dam by removing the stone masonry spillway and the downstream concrete apron. The Project includes removal of about 15,000 cubic yards of sediment from the Pond and construction of a riprapped channel with fish weirs to allow fish passage, as well as removal of a steel weir downstream of the Dam.

The new channel through the former pond will be lined with standard riprap up to 30" in size to control erosion. Voids in the riprap will be filled with sand and gravel. The concrete apron at the toe of the spillway will be removed to allow fish passage. The plans were reviewed by the DEEP Inland Fisheries Division and, at its request; five vortex rock weirs will be constructed across the channel to improve fish passage. See Design Documents.

Changes to Hydrology and Flooding

The removal of the Dam will lower the 100-year flood level by as much as to 14 feet in the immediate vicinity of the Dam. There will be minimal effect to the existing pond boundary upstream. The storage capacity of the 3.5-acre Pond is so small compared to the 11.9 square mile watershed that the removal of the Dam will not significantly increase the downstream flows. The area of the 100-year flood plain will be reduced from the current 5.5 acres to about 3.1 acres.

Climate change is increasing the intensity of rainstorms in the northeast. These increases in rainfall will also increase the probability of the already inadequate spillway capacity being exceeded, which would result in overtopping and failure of the dam. The dam was within 8 inches of overtopping during tropical storm Lee in September 2011.

Sediment Characterization

The sediment in the Pond upstream of the Dam has been sampled and tested. The Town of Watertown applied for and received a Regional Brownfields Partnership grant from the Valley Council of Governments, funded through the U.S. Environmental Protection Agency (EPA), for an Environmental Site Assessment (ESA). One of the grant conditions was the Town would pay 10 percent of the cost. The Old Pin Shop, LLC contributed the Town's 10 percent for the study. To help determine the present environmental conditions prior to the Town's accepting the donation of the land, The Louis Berger Group, Inc, completed Phase I ESA in August 2006. In 2007, a Limited Sediment Quality Investigation was conducted with additional sampling and testing, also by The Louis Berger Group, Inc., under contract with the Town and The Old Pin Shop, LLC.

The findings of the sediment quality investigation indicate Pond sediments at various locations throughout the Pond contain concentrations of metals, polynuclear aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs), requiring special management in connection with the removal of the Dam. The sources of contaminates have been identified as upstream industrial facilities. Most of these facilities are no longer in operation, and those that are have ceased discharging contaminates. The presence of contaminates is an inherited problem, not the result of actions by the current property owner

The control of water for the Dam removal will include excavating sediment in front of the existing timber sluice gate and removal of the sluice gate. The sluice gate discharges to a downstream concrete chamber that will be used as a sediment trap. The wall of the chamber adjacent to the brook will be lowered in stages, which will control the Pond water level. The area between the chamber and the brook is ledge so no erosion will occur. An intake and diversion pipe will be installed in the Pond to divert the brook to the sluice gate opening while the channel is being constructed. The stone masonry spillway will also be lowered in stages to control overtopping from potential storm flows.

Because contaminates are present in the sediments, a disposal site is needed. The southwest corner of the Pond has been selected as the disposal area. The sediment excavated to construct the discharge channel will be placed and compacted in the disposal area. It will be capped with an impervious membrane, covered with compacted cover material and topsoil, and then seeded. To prevent erosion, the slope of the disposal area facing the brook channel will be protected with riprap. The CT DEEP Remediation, Solid Waste and Aquatic Toxicity programs have reviewed and accepted this sediment disposal plan. Sediment and erosion control measures will be installed. Geotextile silt fence will be provided at the toe of slopes and the tops of riprapped slopes. All areas of exposed Pond bottom will be seeded. Water pumped from excavations will be discharged to pump settling basins or filter bags.

Diadromous Fish Presence

The DEEP Bureau of Natural Resources, Fisheries Division produced a plan in 1994, and revised in 1996, to provide a blueprint for the restoration of anadromous fish to the Naugatuck River. The plan, titled "Anadromous Fish Restoration in the Naugatuck River," focused on how to get fish beyond the many dams in the watershed. The Pin Shop Dam blocks fish passage on Steele Brook, a tributary of the Naugatuck River, but the plan identified the Pin Shop Dam as one of the dams to be removed to allow fish passage. Since the issuance of the plan seven dams in the Naugatuck River watershed have been removed, and a fishway was built at another. The DEEP's plan for restoring diadromous fishes (American eel was added later) is well underway. See Supplemental Information.

Currently seven species of diadromous fish reach the first dam on the Naugatuck, the Kinneytown Dam, in Seymour, and are passed through either the Denil fishway or eel pass. Fish found there include American shad, gizzard shad, alewife, blueback herring, sea-run brown trout, sea lamprey, and American eel. These fish runs reach the next dam, the Tingue Dam, near the village of Seymour. The DEEP has been working with the Town of Seymour, the CT DOT, and NOAA to build a unique, nature-like fishway around this historic dam. This project is funded by the NOAA Restoration Center using funds provided by the American Recovery and Reinvestment Act (ARRA). It is fully designed, permitted, and expected to go out to bid shortly. Tingue Dam is 14 miles downstream of the confluence of Steele Brook and the Naugatuck River with no dams present between.

The Pin Shop Pond Dam is located on Steele Brook 2.3 miles upstream of the confluence with the Naugatuck River. About 0.4 miles upstream from the confluence and 1.8 miles downstream of the Dam there is a 4-foot high, steel sheet-pile weir. The Old Pin Shop, LLC proposes to remove this small barrier as part of the Dam removal, thus opening 4.2 miles of Steele Brook to migratory fishes. Furthermore, the next upstream dam from the Pin Shop Pond Dam, Heminway Dam, is proposed for removal in a separate project by the Town of Watertown. While this application does not claim the additional 3.9 miles of stream as a project consequence, the likelihood of this additional habitat being re-opened is an increased benefit.

Quality of Upstream Diadromous Fish Habitat and Watershed Conditions

The table below summarizes the length of stream the Project will make accessible to diadromous fish. The DEEP Inland Fisheries Division (IFD) using geospatial information systems (GIS) has verified mileage. The value of the habitat has been checked by the IFD. And, during the summer of 2010, the IFD surveyed the lower Steele Brook to verify the entire reach would be passable to diadromous fishes once the two dams are removed. Although some bedrock outcrops were observed, none is deemed a barrier to migration of native anadromous fish species (*Source: Steve Gephard, DEEP, Inland Fisheries Division, Old Lyme, CT, personal communications.*)

STREAM MILEAGE TO BE MADE ACCESSIBLE FOR DIADROMOUS FISH

River Reach	Number of miles	Comments
Mouth of Steele Brook to Weir	0.4	Weir proposed for removal
Weir to Pin Shop Pond Dam	1.9	Pin Shop Pond proposed for removal
Pin Shop Pond Dam to Heminway Pond Dam	2.3	Does not include potential mileage in lower Turkey Hill, Wattles, and Echo Lake Brooks.
Heminway Pond Dam to next dams (two tributaries)	3.9	Heminway Pond Dam proposed to be removed in the future by the Town
TOTAL	4.6/8.5	First number as a direct result of this proposal/second number adds potential mileage gained by future.

Steele Brook flows through an industrialized and dammed portion of Connecticut as it flows along CT State Route 73. It passes through the Bunker Hill section of Waterbury, the Oakville section of Watertown, as well as the main village of Watertown. The headwaters are lightly developed and rural in nature, while the lower portion is lined with old factories and well-established neighborhoods. Despite this, the in-stream habitat is in relatively good condition, according to Steve Gephard, fisheries biologist with the DEEP IFD. Gephard indicated many former dams have washed away and the substrate remains trash-free and supporting clean boulder and cobble. Despite the riparian development, trees line the river and provide a generally complete overhead canopy. Residual contaminates in the Pond remain a potential threat to healthy fish populations. The proposal in this application to remove the Dam, remove sediment from the remaining channel, and perch and de-water the remaining pond bed will take the contaminated sediments out of harm's way and reduce the risk of downstream transport of the contaminates. The restoration of native diadromous fish species to a densely populated community presents an opportunity to expose, educate, and engage a large number of residents who have lacked the opportunity to interact with such natural resources.

Engineering Design and Additional Concerns and Opportunities

Roald Haestad, Inc. (RHI), civil engineers, designed the Project and will provide Contract Administration and resident engineering during construction. RHI has extensive experience in the repair and modifications of dams. RHI engineered the removal of Watertown Reservoir Dam and New Milford Reservoir Nos. 1 and 2 dams in Connecticut.

A review of the DEEP Endangered Species Maps showed no endangered or threatened species, or species of special concern within or near the Project area.

A letter has been sent to the Connecticut Historic Preservation Office requesting their review of historical and cultural issues associated with the proposed site and activities. A response has not yet been received, but because of the extensive disturbance of the area, no issues are expected.

Permits have been submitted to the Corps of Engineers for a 404 Permit and to DEEP for a 401 Water Quality Permit. The contract drawings and specifications will be revised to include provisions required by these permits.

The Dam and weir removal, and brook reclamation project is estimated to create 10 construction jobs for 5 to 6 months.

Alternatives and Agreement

An analysis of alternative solutions, which included repairing the Dam, an approved course of action by DEEP, was initiated by the Old Pin Shop, LLC. Having studied the three solutions and having considered what is best for the river, the Old Pin Shop, LLC has chosen to pursue the option of dam removal. The three alternatives were (1) providing erosion protection for the embankment to permit overtopping without failure, (2) lowering the spillway to increase the discharge capacity and to prevent overtopping and (3) removing the Dam. Removing the Dam would eliminate the potential hazard of a dam failure, reduce maintenance, and allow for fish passage. The DEEP Dam Safety Section has reviewed and accepted the removal of the Dam as the preferred alternative. Draining the Pond will also provide land for the Town of Watertown to construct the greenway and to expand ball fields.

The proposal serves the interests of many entities, including the property owner, the Town of Watertown, baseball proponents, greenway advocates, business and property owners in Oakville center, and residents of Watertown and nearby communities. This solution resolves a long-standing, inherited problem. It is a good example of the cooperation of many interested groups working toward a common goal.

Support for the Project

The Old Pin Shop, LLC, the Town of Watertown, environmental and aquatic-life advocates both private and governmental, support the Project including Regional Brownfields Partnership, Connecticut Outdoor, LLC, and the DEEP Dam Safety and Inland Fisheries, which specifically support dam removal. See Letters of Support.

The Town of Watertown has proposed to construct the Steele Brook Greenway beginning from The Old Pin Shop in Oakville Center to Smith Pond in the northern section of Watertown. The groundbreaking ceremony for the greenway was held on November 12, 2009. See Supplemental Information.

After Dam removal is complete, The Old Pin Shop, LLC has agreed to donate a portion of the pond property to the Town of Watertown for ball field expansion and the Greenway. The ball fields are accessible from the Greenway and from transit serving Oakville Center.

The Town of Watertown applied for and received a Regional Brownfields Partnership grant from the Valley Council of Governments, funded through the U.S. Environmental Protection Agency (EPA), for an Environmental Site Assessment (ESA). One of the grant conditions was that the Town would pay 10 percent of the cost. The Old Pin Shop, LLC contributed the Town's 10 percent for the study. The Phase I ESA was completed in August 2006, by The Louis Berger Group, Inc. to help determine the present environmental conditions prior to the Town's accepting the donation of the land. In 2007, a Limited Sediment Quality Investigation was conducted with additional sampling and testing, also by The Louis Berger Group, Inc. under contract with the Town and The Old Pin Shop, LLC.

Community Benefits

The Old Pin Shop, LLC, the Town of Watertown, its residents and residents of nearby communities, as well as business and property owners in Oakville Center will benefit from the increased safety and aesthetic and environmental improvements resulting from the Project. It will be a visible evidence of government programs that restore natural habitat and benefit its citizens, and will be a successful outcome of cooperation among a private business and local and state governments.

The removal and environmentally sound disposal of the contaminated sediment will improve the water quality and environment of Steele Brook. The removal of the Pond and construction of the new channel will increase oxygen levels in the brook because of the aeration provided, and will lower the downstream water temperature by eliminating the warming effect of the pond. Removal of the Dam will eliminate potential dam failure with resulting property damage and possible loss of life.

The restored brook and pond will become an asset to the community. It will be an appealing, accessible, and attractive natural element of Oakville Center. Families will be able to view nature from the greenway. It will be a place to rest and relax where decks looking out over the brook could be a feature useable for picnicking and for outdoor dining by restaurant guests. The brook will be a clean and sustainable habitat for birds and aquatic wildlife and plants.

The reclaimed land will provide a site for a greenway hub in Oakville Center. The greenway will be a fitness catalyst, incorporate existing recreational uses along the route, be a community gathering area, support and enhance adjacent uses, and improve the quality of life for residents and visitors.

Main Street in Oakville Center is served by transit and will connect Waterbury residents to Oakville Center and the Watertown greenway, making the pleasures of the natural environment more accessible. Located in Oakville Center are a U.S. Post Office, a cluster of small businesses (restaurants, barbershop, clothing stores, music shop, and bank), The Old Pin Shop, The Clockwork Repertory Theater, town ball fields, a school, and two churches.

This proposal will also provide additional land for the Town's baseball field expansion at the north end of the Pond, which is accessible from the greenway or via transit.

Conclusion

This locally-motivated project removes an old dam, restores a brook, reclaims land for active and passive recreation, welcomes aquatic life to spawning grounds from which it had been barred, and presents an aesthetic gift to the community. It is a great resolution of inherited problems. No one working on the Project created the problems the Project works to solve. The problems are a legacy of early industrialization that made our state and country grow and thrive, but by working together the participants of this project can support economic growth and bequeath a safer, more ecologically strong and environmentally wholesome environment.

COMMUNITY INVOLVEMENT AND SUPPORT

The Old Pin Shop, LLC, the Town of Watertown, environmental and aquatic-life advocates both private and governmental, support the Project including Regional Brownfields Partnership, Connecticut Outdoor, LLC, and the CT DEP Dam Safety and Inland Fisheries, which specifically support the dam removal. See Letters of Support.

The Town of Watertown has proposed to construct the Steele Brook Greenway beginning from The Old Pin Shop in Oakville Center to Smith Pond in the northern section of Watertown. The groundbreaking ceremony for the greenway was held on November 12, 2009. See Supplemental Information.

After dam removal is complete, The Old Pin Shop, LLC has agreed to donate a portion of the pond property to the Town of Watertown for ball field expansion and for construction of the Greenway. The ball fields are accessible from the Greenway and from transit serving Oakville Center.

The Town of Watertown applied for and received a Regional Brownfields Partnership grant from the Valley Council of Governments, funded through the U.S. Environmental Protection Agency (EPA), for an Environmental Site Assessment (ESA). One of the grant conditions was that the Town would pay 10 percent of the cost. The Old Pin Shop, LLC contributed the Town's 10 percent for the study. The Phase I ESA was completed in August 2006, by The Louis Berger Group, Inc. to help determine the present environmental conditions prior to the Town's accepting the donation of the land. In 2007, a Limited Sediment Quality Investigation was conducted with additional sampling and testing, also by The Louis Berger Group, Inc. under contract with the Town and The Old Pin Shop, LLC.

The CT DEP Bureau of Natural Resources, Fisheries Division produced a plan in 1994, and revised in 1996, to provide a blueprint for the restoration of Anadromous fish to the Naugatuck River. The plan, titled "Anadromous Fish Restoration in the Naugatuck River," focused on how to get fish beyond the many dams in the watershed. The Pin Shop Dam blocks fish passage on Steele Brook, a tributary of the Naugatuck River, but the plan identified the Pin Shop Dam as one of the dams to be removed to allow fish passage. Since the issuance of the plan seven dams in the Naugatuck River watershed have been removed, and a fishway was built at another. The CT DEP's plan for restoring diadromous fishes (American eel was added later) is well underway.

LETTERS OF SUPPORT

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
PO Box 719
Old Lyme, CT 06371

November 4, 2010

Ms. Frances Fabiani
The Old Pin Shop, LLC
20 Main St.
Oakville, CT 06779

RE: Application for Open Rivers Initiative/ NOAA Grant

Dear Ms. Fabiani,

I am writing to support your application for the 2010 Open Rivers Initiative Grant for the Removal of the Pin Shop Pond Dam on Steele Brook in Watertown, CT. The Naugatuck River watershed has been the focus of many activities within the CT DEP and my program within the DEP's Inland Fisheries Division has been working to restore diadromous fishes to the watershed. We operate a fishway at the lowermost dam in the watershed and we have been stocking several species of fish into the rivers. An important strategy has been the removal of dams and our department and partners have already removed seven dams within the watershed. Our effort to restore fish runs also targets the major tributaries, including Steele Brook. Soon, anadromous fish will be present at the mouth of Steele Brook and the only thing keeping them from re-colonizing the river are the two dams that your application proposes to remove. I strongly endorse your proposal to remove these dams. It would be a lost opportunity if you instead decided to just repair your dam and leave these two barriers intact. Removal of these dams would be the best thing for the river and the effort to restore diadromous fish to the river. I wish you good luck with your application and pledge my support as you move forward.

Sincerely,

Steve Gephard

Stephen Gephard
Supervising Fisheries Biologist

Inland Fisheries Division
P.O. Box 719
Old Lyme, CT 06371
860-447-4316
steve.gephard@ct.gov

OFFICE OF THE TOWN MANAGER

WATERTOWN, CONNECTICUT

November 2, 2010

Mr. Maurice Fabiani, Jr.
The Old Pin Shop
20 Main Street
Oakville, Ct 06779

RE: Dam Removal, Pin Shop Pond

Dear Maurice,

The town of Watertown wholeheartedly endorses your project to remove the dam at the Pin Shop Pond. Not only will there be numerous environmental benefits that will accrue from this project, the town is also looking forward to working with you to convert a portion of the area to public use as passive recreation space. This area, which serves as a gateway to our community, has the potential to become a tremendous community asset. The dam removal will be a significant factor in our continuing efforts to restore the entire Steele Brook to the original, natural condition.

If you have any questions regarding our support for this project, please do not hesitate to contact this office at (860) 945-5255.

Very truly yours,

Charles A. Frigon
Town Manager

Cc: D. Smith, Haestad Engineers

File: Correspondence - Pin Shop Pond

Regional Brownfields Partnership of West Central Connecticut

RBP

November 12, 2010

Ms. Frances Fabiani
Old Pin Shop
Watertown, CT

Dear Ms. Fabiani:

The Regional Brownfields Partnership of West Central CT (RBP) has been pleased to support the Town of Watertown in its efforts to develop the greenway through part of your property. We remain committed to the project and have discussed what other resources may be provided to the Town to complete this worthwhile effort. We support your NOAA application to breach the dam on the Steele Brook. It is a wonderful vision to think that fish could have access once again all the way from Long Island Sound to the Town of Watertown.

Your project fits the organization's vision of restoration and smart growth in the reuse and reclamation of this property. We have in the past helped with community outreach and education. Please know that the RBP will continue to support those efforts by the towns. Feel free to call on us if there is anything else you think we can do to help.

Very truly yours,

Rick Dunne
RBP Coordinator

Railroad Station
12 Main Street
Derby, CT 06418

Phone: 203-735-8688
Fax: 203-735-8680
E-mail:
info1@valleycog.org

Letter of support for the purposed plans for the Pin Shop Pond / Steel Brook renovation in Oakville, Ct.

11/12/10

To whom it may concern;

I am writing in support of the purposed plans to the Pin Shop Pond in Oakville Ct. as explained to me by the owners of the Oakville property that the pond is located on. The pond that currently dams the Steel Brook by an earthen dam and a traditional rock lined spillway. I whole heartily support the unimpeded flow of the Steel brook and thus support removing the current Dam and renovation plans of the pond's property with addition mixed use of the remaining property re; Open Space, possible extension of the abutted Ball Field and with hope that the area could be enhanced with the addition of walking trails and a staging area for the Oakville Watertown Greenway trail.

I feel I have a vested interest in this area as the owner of Connecticut Outdoors, LLC the area's Outdoor Outfitter specializing in Kayak and Canoes Sales in Connecticut. As a neighbor of the property I have kayaked and conducted clean-up events on the exact location in question and have seen firsthand and share the vision that the owners have expressed to me.

I would like to add a little about my work along with the area's Outdoors group named the Naugatuck Valley Outdoors Club (NVOC) that we co-founded to help the efforts to the return and recovery the Naugatuck River back to recreational use with the continued clean-up events by the Naugatuck Valley's residents, river towns and participating corporate sponsors. We have worked on many of its tributaries also which includes the Steel Brook and we have worked with Laura Wildman of American Rivers at the time of the project and currently working with Princeton Hydro of Glastonbury, Ct. whom at the time was the Hydro Engineer the Naugatuck River industrial Dan removal project and continued recovery and education projects supporting the return of natural fish migration of Naugatuck River and its tributaries.

We co-founded the Naugatuck Valley River Race (NVRR Race) which returns valley and regional residents back to the river for a Great Kayak and Canoe race (on utube) and well attended River Festival located at the course end in Beacon Falls and in-turn we ask for the participants to offer their time for pre-race and season end clean-up events that we conduct on this special waterway.

I have also worked to educated the importance of residual involvement through many education events in-which I speak on the importance of the Tingue Dan Fish ladder project, continued recovery projects along the Naugatuck River and I have talked with John Monroe of the US park service on our hopes for a recognized National Park Service Corridor through the Naugatuck Valley. I also have been utilized as an advisor to the Waterbury Greenway project and I offer my assistance and advise to help the purposed project.

Thanks and please contact me with and questions that you may have;

David Faber – owner – Connecticut Outdoors, LLC
www.4ctoutdoors.com
Email; david@4ctoutdoors.com

THE OLD PIN SHOP, LLC

20 Main Street
Oakville, CT 06779

Department of Commerce
CFDA Number: 11.463
CFDA Description: Habitat Conservation
NOAA-NMFS-HCPO-2011-2002644
Competition ID: 2195294
Competition Title: 2011 Open Rivers Initiative
RE: Grant Application

November 10, 2010

In 1978, we acquired the property now known as The Old Pin Shop, LLC, which include century-old buildings, a pond and dam. Over the years we have and continue to slowly improve the factory buildings and grounds.

Ownership of this property has allowed us to support local entrepreneurs by offering low-cost rent for their new business ventures, to provide rent-free space for the Town of Watertown Food Bank and the Girls Rapid Oakville/Watertown Softball Team. We acquired and donated a 200,000 square foot metal building to the Town of Watertown to use as an indoor sports arena for the community. In addition, The Old Pin Shop, LLC has provided the Town of Watertown with funds for the Eligibility Determination Application to the EPA and for the Environmental Investigation of the Pin Shop Pond Application.

The elimination of the dam at the Old Pin Shop presents opportunities for new environmental and municipal benefits. The reclaimed land would form the gateway for the Town of Watertown Greenway project and provide open space for future town recreational projects. It would aid to restore fish passage in the Steele Brook. It would eliminate potential dam failure and bring an end to unsafe sediment accumulation.

Though the elimination of the Pin Shop Pond and Dam create benefits to the environment and the quality of life improvements in Watertown, if we are to go it alone, the financial repercussions will have a significantly adverse effect on the well-being of our small, closely held, family business. It would limit the improvements we could make to the property and cause us to reassess our ability to support local businesses, youth organizations, and the community. The Pin Shop Pond and Dam have been a concern for many years, but we need help to accomplish this overwhelming task. We respectfully request your financial support to pursue the environmental goals we share with the community, the Connecticut Department of Environmental Protection, and the CT DEP Inland Fisheries Division.

Sincerely,

Frances Fabiani
Member, The Old Pin Shop, LLC

SUPPLEMENTAL INFORMATION

ANADROMOUS FISH RESTORATION IN THE NAUGATUCK RIVER BASIN

American Shad

THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

Sea-run Brown Trout

RESTORATION GOALS

The Naugatuck River and its tributaries offer the potential for excellent cold water fish habitat and have historically supported anadromous (sea-run) fish runs. The existence of these runs ceased during the industrial revolution due to the construction of numerous run-of-the-river dams and poor water quality. The Connecticut Department of Environmental Protection has initiated an aggressive watershed wide effort, in partnership with numerous advocacy groups, private industries, municipalities, and state and federal agencies to restore the Naugatuck River and its tributaries. The scope of this unique restoration effort includes: restoring anadromous fish runs by removing obsolete dams or providing passage around them; upgrading sewage treatment plants along the river; augmenting flow; revegetating the river corridor; organizing river clean-ups; enhancing tributary habitat; monitoring water quality; inspecting the watershed; and building a riverside trail system.

Primary objectives of this restoration effort are to enhance riverine habitat, resolve fish passage issues at nine obsolete industrial dams within the Naugatuck River basin, and restore, where possible, free flowing conditions to the Naugatuck River and its tributaries. The program will also facilitate recreational boating, assist in maintaining water quality, remove safety hazards, and reduce flood levels. Fish species targeted for restoration are American shad, blueback herring, alewife, and sea-run brown trout. The CT DEP anticipates that annual runs of 23,000 American shad could be restored, making the Naugatuck River the third largest American shad sport fishery in Connecticut.

Ultimately, this restoration work will provide a living legacy to our children where we envision a Naugatuck River and watershed alive with recreational opportunities. This work is dedicated to future generations for their enjoyment and pleasure.

CURRENT PROJECT STATUS

Major restoration tasks underway or completed within the Naugatuck River basin include the removal of four dams on the Naugatuck River and two on the Mad River completed in 1999, construction of a fish ladder on the first dam on the Naugatuck River completed in 1999, numerous sewage treatment plant upgrades including the current Waterbury and Thomaston Sewage Treatment Plant upgrades, revegetation of segments of the river corridor, and several successful river clean-ups. However, there is still a significant amount more to accomplish in order to complete this restoration program and restore the Naugatuck River. The CT DEP is seeking partners in this highly publicized restoration effort to assist in sponsoring several exciting tasks which lie ahead, some of which are outlined in this summary.

TRIBUTARY HABITAT ENHANCEMENTS

Estimated Cost: $100,000

Six tributaries along the Naugatuck River have been selected for fish habitat enhancement. These tributaries include:

- Beacon Hill Brook, Naugatuck
- Hockanum Brook, Beacon Falls
- Fulling Mill Brook, Waterbury
- Spruce Brook, Beacon Falls/Naugatuck
- Little River, Seymour
- Bladens Brook, Seymour

Tributaries play a crucial roll as refuges for fish during periods of stress in the Naugatuck River. Their confluences with the Naugatuck River have become obstructed with sediment, effectively blocking fish from migrating up the tributaries to critical fish habitat. An essential part of restoring healthy populations of anadromous fish to the Naugatuck River is to open up and enhance these tributaries, allowing fish to utilize essential tributary habitat.

CHASE BRASS DAM REMOVAL

Estimated Cost: $300,000

The Chase Brass Dam is a low head concrete dam, along the Watertown/Waterbury town line, that blocks fish passage on the Naugatuck River. The dam is no longer in use and is in poor condition. In order to fully restore fish passage to the Naugatuck River, fish passage must be provided at this site. It is assumed at this stage of the project that the Chase Brass Dam will be fully removed. Removal of the dam will open up six additional miles of river to the base of the Plume & Atwood Dam. The Plume & Atwood Dam is also scheduled for fish passage as part of the Naugatuck River restoration project.

Dam removal is the best alternative for complete restoration of the Naugatuck River to a natural free flowing condition. The benefits of removing the Chase Brass Dam include: restoring natural movement to aquatic organisms; improving water quality; restoring natural unrestricted flow conditions; eliminating potential increases in water temperature and debris jams associated with the dam's impoundment; providing for a natural system of sediment transportation; eliminating the chance of a future dam break; increasing public safety; and providing recreational boat passage.

In combination with the numerous other dam removals and fish passage facilities planned or already constructed within the Naugatuck River basin, the removal of the Chase Brass Dam will play a significant roll in the restoration of the Naugatuck River and its historic anadromous fish runs.

TINGUE DAM BY-PASS CHANNEL FOR FISH PASSAGE AND WHITE WATER BOATING

Estimated Cost: $2,000,000

The Tingue Dam is a stone masonry dam constructed on natural ledge. The dam ranges in height from 5 to 20 feet and blocks the passage of fish on the Naugatuck River. Due to the recent construction of a fish ladder at the Kinneytown Dam, the first dam along the Naugatuck River, the Tingue Dam is now the first block to fish migration on the Naugatuck River. Numerous fish passage alternatives were investigated at this site. The selected alternative is a 35 to 40 ft wide, 500 ft long by-pass channel that would provide both passage for fish and recreational white water boat passage around the dam. This by-pass channel will be the first of its kind in New England.

The by-pass channel design will combine many features of a natural river channel and provide in-stream habitat value as well as passage. The Tingue by-pass channel will be integrated into the sites rocky landscape along with a riverside park, providing significant recreational benefits such as picnicking, white water boating and fishing.

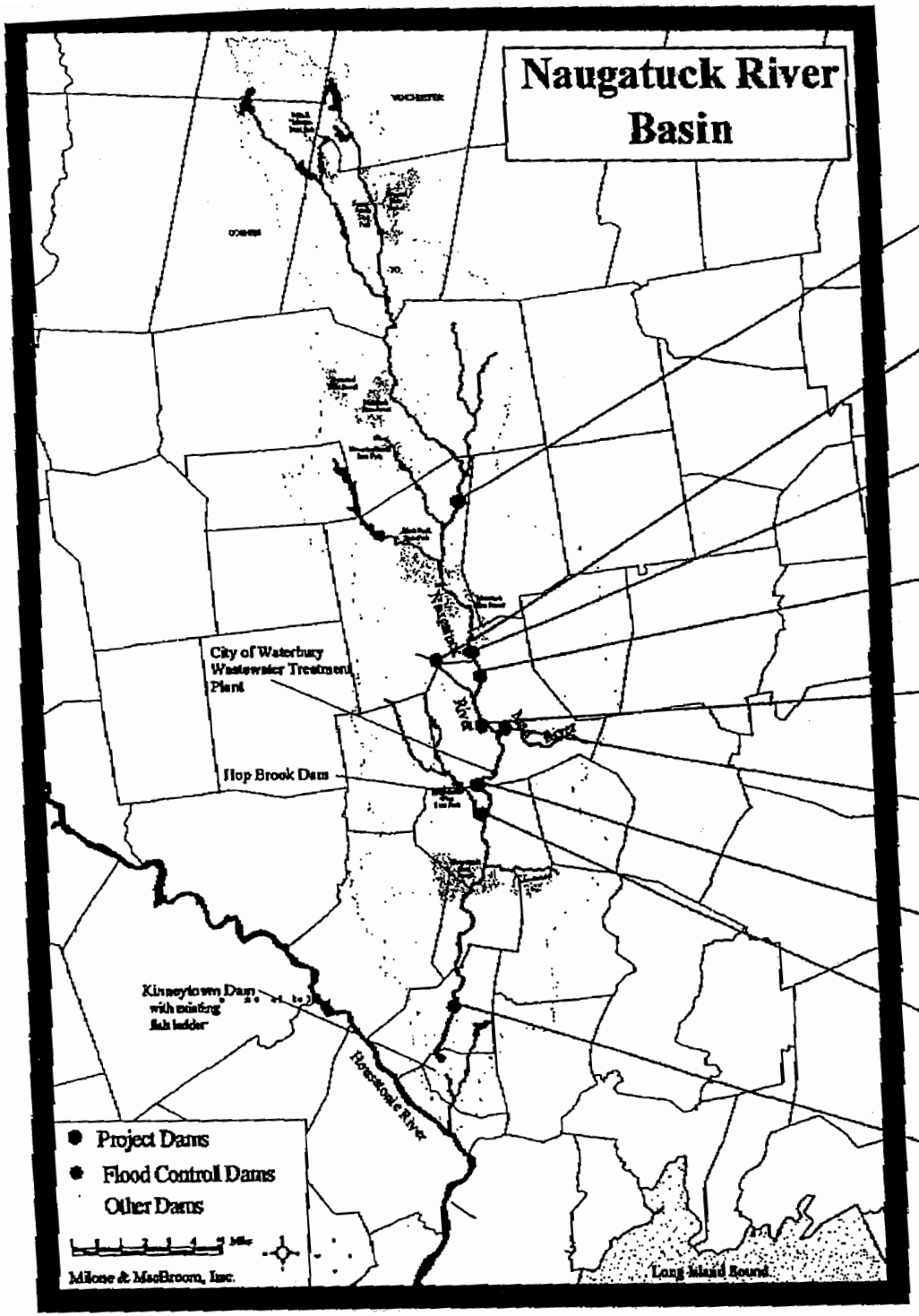
PIN SHOP POND DAM REMOVAL

Estimated Cost: $300,000

The Pin Shop Pond Dam is a 20 ft high, high hazard, concrete dam in Oakville, that blocks fish passage on Steele Brook, a tributary to the Naugatuck River. The dam is no longer in use and is in poor condition. In order to restore fish passage on Steele Brook and allow fish to reach critical tributary habitat, fish passage must be provided at this site. It is assumed at this stage of the project that the Pin Shop Pond Dam will be fully removed.

Similar to the Chase Brass Dam, mentioned above, removal of the Pin Shop Pond Dam will restore natural movement to aquatic organisms; improve water quality; restore natural unrestricted flow conditions; eliminate potential increases in water temperature and debris jams associated with the dam's impoundment; provide for a natural system of sediment transportation; eliminate the chance of a future dam break; increase public safety; and provide recreational boat passage.

Opening up key tributaries as well as the Naugatuck River itself will be instrumental in establishing a large, healthy anadromous fish run within the Naugatuck River basin. The removal of the Pin Shop Pond Dam will therefore play a significant roll in the restoration of the Naugatuck River and its historic anadromous fish runs.



PROJECT DAMS

Plume & Atwood Dam
(rock ramp fishway design completed)

Pin Shop Pond Dam

Chase Brass Dam

Anaconda Dam
(removed, 2/1999)

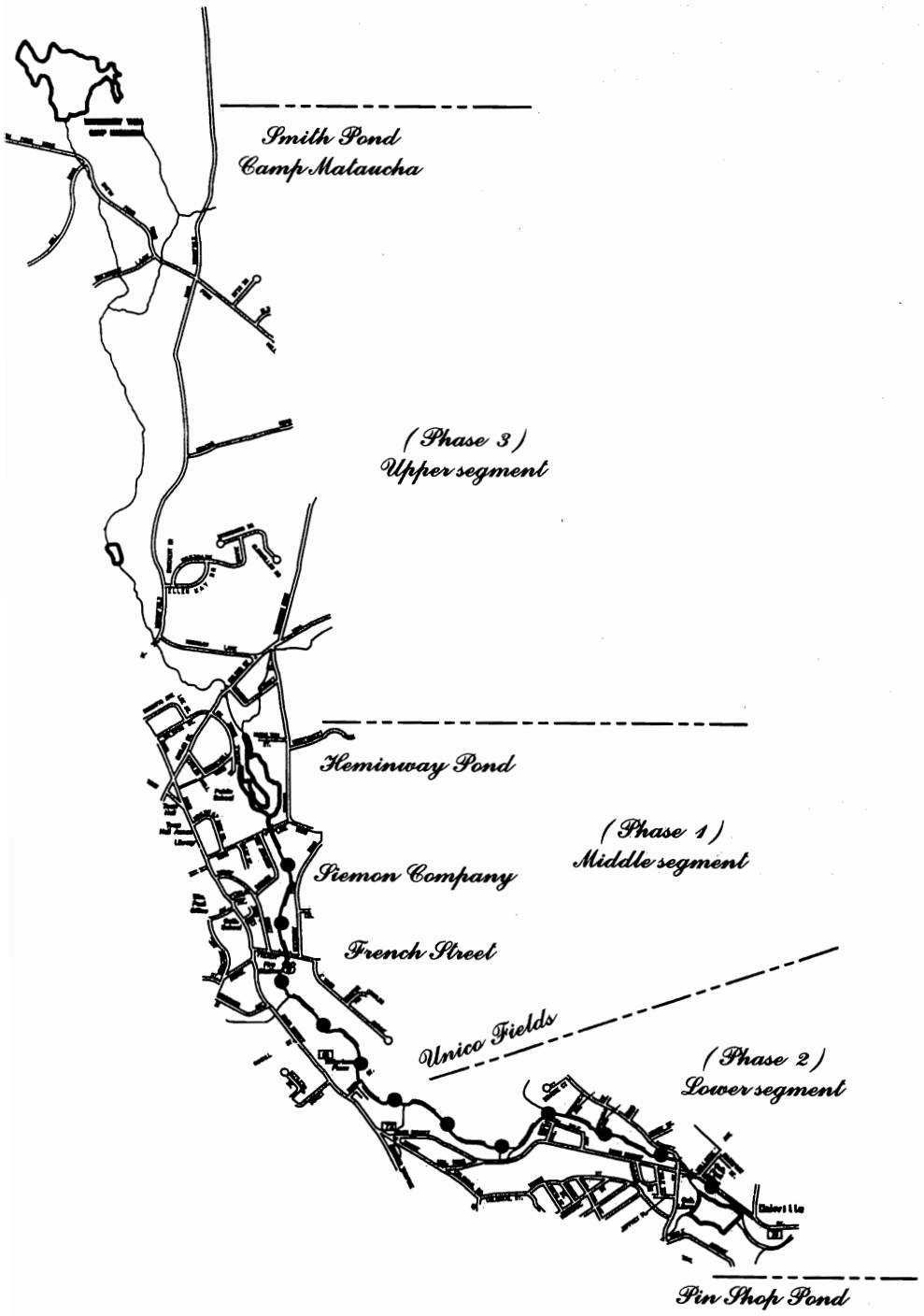
Freight Street Dam
(removed, 8/1999)

Bray's Buckle Dam
(fish ladder design completed)

Platts Mill Dam
(removed, 8/1999)

Union City Dam
(removed, 8/1999)

Tingue Dam
(by-pass channel design completed)



Town of Watertown

STEELE BROOK GREEN

WATERTOWN•OAKVILLE

Steel Brook Greenway

Ground Breaking Ceremony

Thursday, November 12, 2009

11:00 A.M.

Steele Brook Greenway

The Steele Brook Greenway will extend from Pin Shop Pond in Oakville to the area of Smith Pond in the northern section of Watertown. While the main purpose of the greenway is recreational development, the greenway will also enhance and promote economic and community development as well as environmental protection through the dedicated walkway connecting the Oakville and Watertown sections of Town. The greenway will incorporate existing recreational uses along the proposed route with the vision of developing a community gathering area which will support and enhance adjacent uses and the quality of life for residents and users of the area.

The project has been divided into three segments with the lower segment extending from the Pin Shop Pond to the bridge at the old Fire District Sewer treatment plant. (Unico fields) The middle segment begins at this bridge and extends upstream to Heminway Pond. The upper segment begins in the area of the Heminway Pond and extends northward to the area of Smith Pond.

The greenway will incorporate an area adequate for both walking and bicycling and will be paved in the lower two segments. Benches, picnic areas and scenic overlook areas will be incorporated along the route. Historical, environmental and educational placards will be utilized to enhance the users experience while using the greenway. Future connections to other important areas of Town are anticipated to include; : Swift School, Mosgrove Field, the High School, UNICO Fields, Deland Field as well as the Main Street areas of Watertown and Oakville.

Steele Brook Greenway Ceremony

Welcome: Chuck Frigon, Town Manager

Susan Frechette, Deputy Commissioner DEP

Ray Primini, Chairman Watertown Town Council

Chris Donnelly, DEP Forestry

Sean Williams, State Representative

Rob Kane, State Senator

Carl Siemon, President Siemon Company

Refreshments

SIEMON™

BTS Graphics & Printing, LLC

The Town of Watertown would like to acknowledge and thank the Siemon Company for providing the refreshments as well BTS Graphics & Printing, LLC for the printing of this brochure.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

September 8, 2010

Frances Fabiani
The Old Pin Shop, LLC
20 Main Street
Oakville, CT 06779

Re: **Pin Shop Pond Dam – Preliminary Approval of Breach Alternative C**
DEP Dam Safety Order No. DSCO-1997-1039V
Watertown

Dear Ms. Fabiani,

This letter is to advise you that the Department has reviewed the preliminary plans and specification documents submitted on October 16, 2009, which were required by paragraph B.1(d) of the Order. The October 16 submittal indicates the selection of Alternative C (a full breach), as described in the February 2007 Design Report. The plans depict the work needed to breach the dam; construct a breach channel and related berms for the passage of Steele Brook and Wattles Brook; re-locate the contaminated sediments encountered during the channel construction to the southwest corner of the pond; and construct an engineered control to contain the relocated sediments.

Before we can approve these plans for construction, however, they will need to be modified to include any special requirements resulting from the review processes of the required Army Corps Wetlands Permit and state Water Quality Certificate. In addition, the final plans must incorporate methods for limiting public access to the sediment disposal area. Finally, the plans must address fisheries concerns respecting the resulting breached structure. Please contact Don Mysling at (860) 567-8998 to discuss methods to accommodate fish passage in the channel and breach area.

The applications for Army Corps of Engineers permit and the state Water Quality Certificate typically require water handling and flood contingency plans. The plans included in Appendix B of the detailed specifications should be included in those applications.

Please note that the Department's Remediation, Solid Waste and Aquatic Toxicity programs have also reviewed the preliminary plans and specification documents and have determined that no further submissions or applications with respect to these programs are necessary at this time.

The Army Corps permit and Water Quality Certificate applications should be made as soon as is possible and not later than within 60 days of the date of this letter. You may contact Robert Gilmore at (860) 424-3866 with any questions regarding the Army Corps and Water Quality Certificate processes. Once these approvals are in hand, a final set of construction drawings should be prepared which incorporate any and all special requirements of the approvals and the fisheries concerns. The final drawings should be submitted within 30 days of the date of the Army Corps permit and Water Quality Certificate issuance.

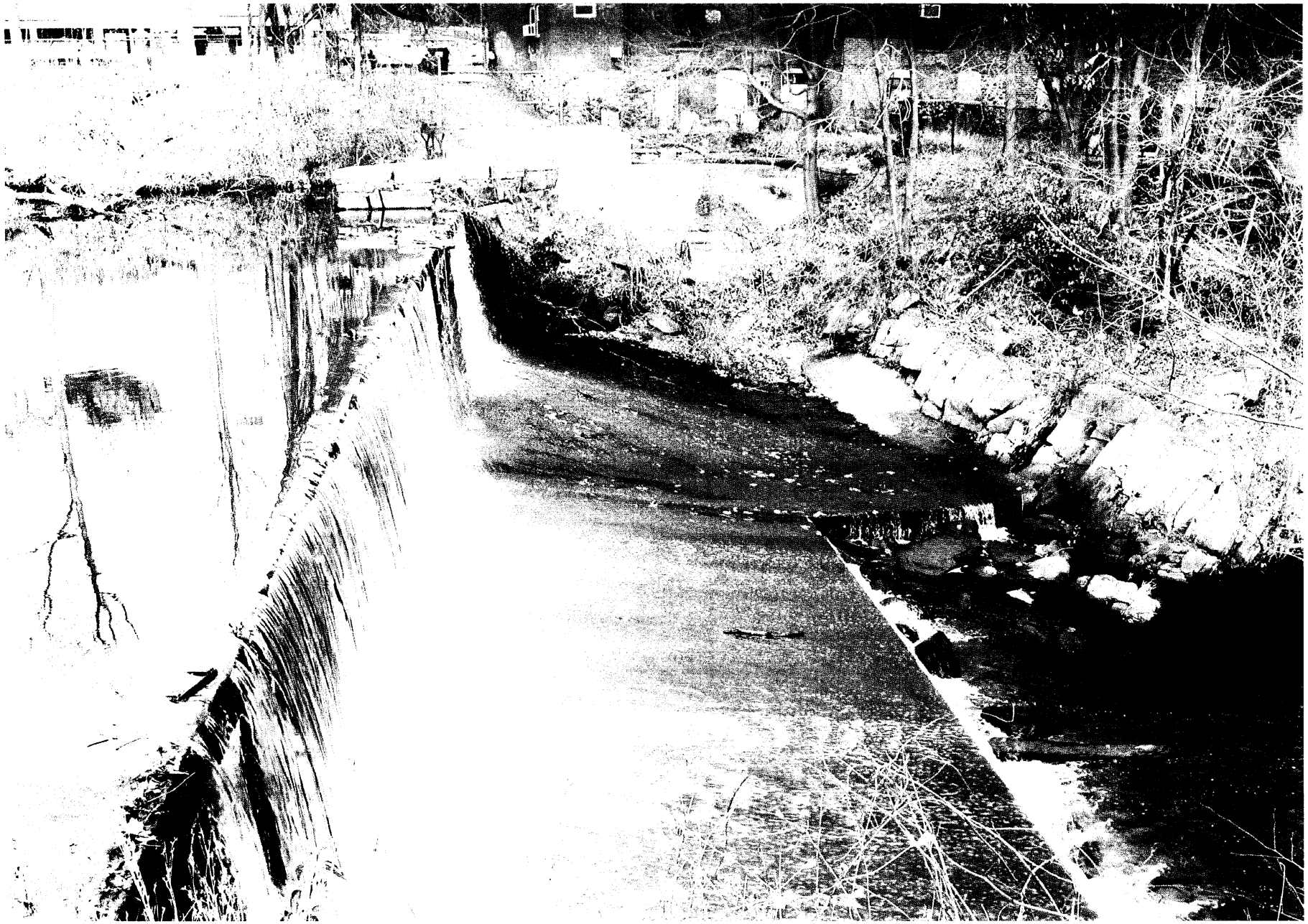
Please contact Mr. Peter Spangenberg of my staff if you have any questions regarding this matter. He can be reached at (860) 424-3870.

Sincerely,

Denise Ruzicka, Director
Inland Water Resources Division

cc: Assistant Attorney General Wrinn
Robert Gilmore, DEP IWRD
Don Mysling, DEP Fisheries

PIN SHOP POND DAM
SPILLWAY AND APRON FROM DOWNSTREAM



PIN SHOP POND DAM
SPILLWAY AND CONCRETE APRON

PIN SHOP POND DAM
FILLED WITH SEDIMENT AND DEBRIS

STEELE BROOK
SMALL DOWNSTREAM WEIR TO BE REMOVED

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Soil Science • Ecological Studies • Hazardous Waste Assessments • Project Planning • Soil & Water Testing

KENNETH C. STEVENS, Jr.
President

Environmental Assessment Report
Proposed Dam Removal
Pin Shop Pond Dam, Main Street (Route 73)
Watertown, CT

March 28, 2011

Prepared For:
Roald Haestad, Inc.
37 Brookside Road
Waterbury, CT 06708

Prepared By:
SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.
545 Highland Avenue
Cheshire, CT 06410

SS&ES,Inc. Job Number: 11/10-198-CT-WTT-3A
Located JLB File Name PinShopPondDam.WTT

Table of Contents

Introduction

It is proposed to remove the earthen dam across Steel Brook that creates Pin Shop Pond. The project area is located in the southeastern portion of Watertown, CT (Figure 1) near the Waterbury town line.

On January 11, 2011 and March 15, 2011, Jennifer Beno, Biologist, inspected the existing conditions of the wetland systems within the project area. The inspections were conducted in order to identify the dominant vegetation within the wetlands, to assess the functional values of the wetlands and to evaluate the potential wetland impacts caused by the proposed dam removal project. There was approximately 6 to 8 inches of snow during the January 11, 2011 inspection. There was no snow or ice cover during the March 15, 2011 inspection. In addition to the site inspection, other information presented in this report is based on data provided to us by Roald Haestad, Inc. Consulting Engineers. A plan set titled "The Old Pin Shop, LLC, Breaching Pin Shop Pond Dam, Watertown, Connecticut," dated December 2010 was prepared by Roald Haestad, Inc. and submitted for our review.

General Site Description

The proposed dam removal project area is located within a mixed commercial, retail and residential area of Watertown. Fill, roads, a manufacturing business, retail and commercial businesses, a gas station, restaurant, barber shop and residential houses and driveways border the Pin Shop Pond and dam site. A narrow wetland corridor is associated with the Steel Brook watercourse north of Pin Shop Pond and south of the dam. The wider pond area is mostly filled with alluvial sediments. Steele Brook flows southeasterly under Main Street.

Topography and Drainage Basins

The project area has been altered by the surrounding land use and construction of the earthen dam and concrete spillway. Generally, the existing topography is as follows. The elevation within the project area ranges from approximately 390 feet above mean sea level along the western edge of the wetland associated with Pin Shop Pond to approximately 366 feet above mean sea level along Steele Brook downstream of the dam.

The dam removal project area is located in the Steel Brook drainage basin. This drainage basin is located within the Naugatuck Regional Basin of the Housatonic Major Basin.

Geology

The dominant bedrock formation underlying the project area is Taine Mountain Formation. According to the Bedrock Geological Map of Connecticut (Connecticut

SOIL SCIENCE and ENVIRONMENTAL SERVICES, INC.	U.S.G.S. Topography Map Pin Shop Pond Dam Removal Project Main Street (Route 73), Watertown, CT	Date 3/15/11 Figure No. 1

Geological and Natural History Survey, 1985), Taine Mountain Formation is described as a gray, medium-grained, well-laminated granofels. Granofels is a light to dark, medium- to coarse-grained, massive to poorly layered metamorphic rock composed primarily of quartz and feldspar. It lacks the compositional banding of gneiss.

A review of the Surficial Materials Map of Connecticut, DEP, 1992, indicates that most of the area surrounding the pond and dam is underlain by sand and gravel. The area to the north of the pond and dam is underlain by thin till.

Soils Description

Thomas Pietras, Registered Professional Soil Scientist of Soil Science and Environmental Services, Inc., classified the soils and delineated the wetlands in the project area on December 7, 2010. The Soils/Wetlands/Watercourses Report and sketch map of the CT regulated wetland locations delineated by Soil Science and Environmental Services, Inc. are located in Appendix I. Federal wetland boundaries were also identified on the same day. A description of the federal wetlands are included under separate cover prepared by Thomas Pietras and dated December 29, 2010.

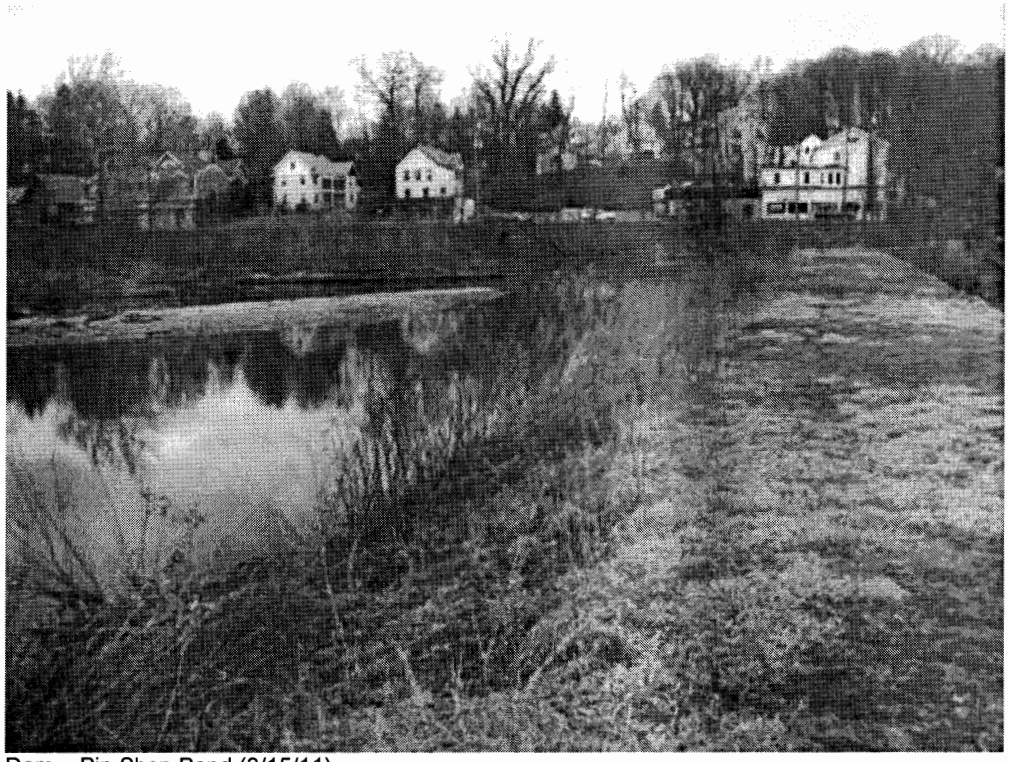
The soil types in the wetlands found within the project area consist of fluvaquents-udifluvents (109) occurring in the area of Pin Shop Pond and a very small isolated area of poorly and very poorly drained, recently created soil (Aq).

The upland soil types within the project area consist of the moderately well drained Ninigret and Tisbury soils (21), Urban land (307) and the well to moderately well drained Udorthents (308) soil that has had two or more feet of the original soil surface altered by filling, excavation and/or grading. For more information regarding the soil types, refer to Appendix I.

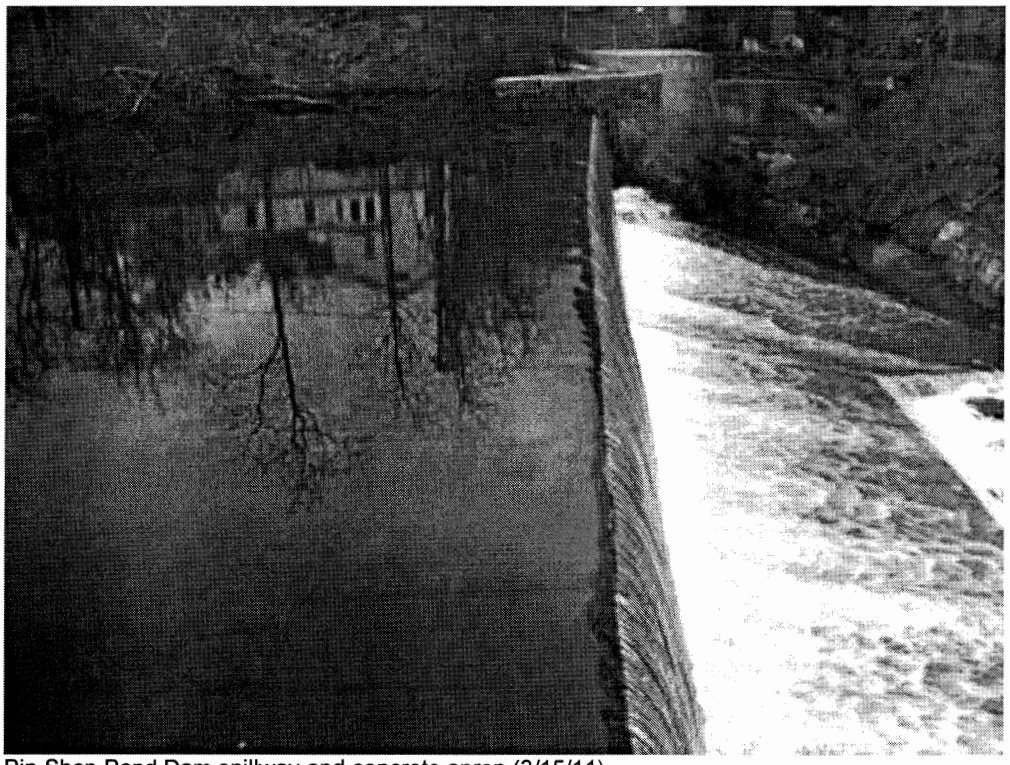
Description of Uplands

The uplands surrounding the dam removal project area include industrial, retail, commercial and residential development. Houses, a library, ball field and business structures (gas station, barber shop and pizza restaurant) as well as parking lots, roads and fill surround the wetlands and pond within the dam removal project area. A narrow area of wooded upland borders the wetland and pond area to the south. The wooded upland is dominated by cottonwood, locust, red maple, spruce, sycamore, tatarian honeysuckle, multiflora rose, Japanese barberry, winged euonymus, bittersweet, grape, Japanese knotweed, colt's foot and grasses.

The earthen dam located at the eastern end of Pin Shop Pond is periodically mowed to maintain herbaceous vegetation. The dominant vegetation on the dam includes mowed grasses, evening primrose, Japanese knotweed, goldenrod, multiflora rose, silky dogwood and purple loosestrife.



Dam – Pin Shop Pond (3/15/11).

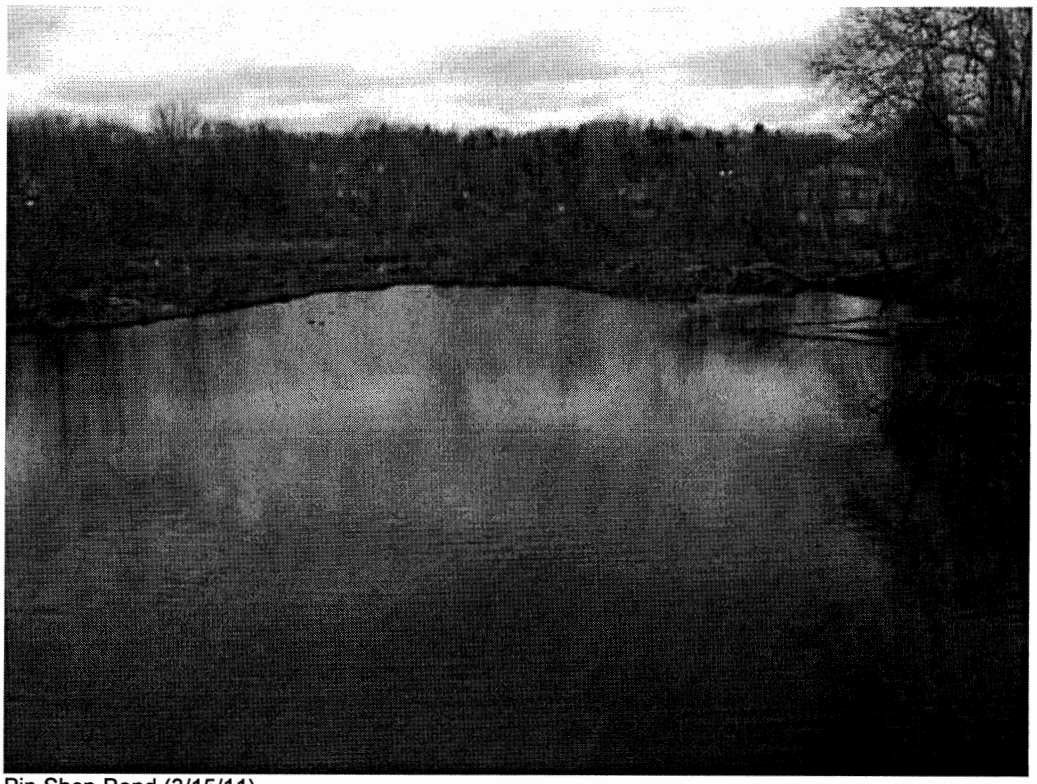


Pin Shop Pond Dam spillway and concrete apron (3/15/11).

Description of Wetlands

Pin Shop Pond Wetlands

The Pin Shop Pond and wetland complex is bordered by Main Street (Route 73) and several businesses to the north, by various commercial/retail and residential developments to the east of the dam, by a sanitary sewer line and various building debris and discarded rocks and boulders to the south and by a ball field, paved parking area and library to the west of the pond. Retaining walls are present to the north of the pond along Main Street and along Steele Brook behind the gas station. The majority of the upland soils surrounding the pond and wetland complex have been disturbed and/or developed. Miscellaneous trash debris including tires, metal barrels and various metal, plastic and glass objects were observed within the watercourses, wetland and pond areas. Beaver activity (i.e. felled trees, dam and lodge) was observed within the pond and along the pond edge. Stormwater runoff discharges to the watercourses and pond from the surrounding roads and developments. Sediments were observed through the watercourse, wetland and pond areas. These sediments are derived from natural erosion within the watershed and accelerated erosion from urban areas and road sands.

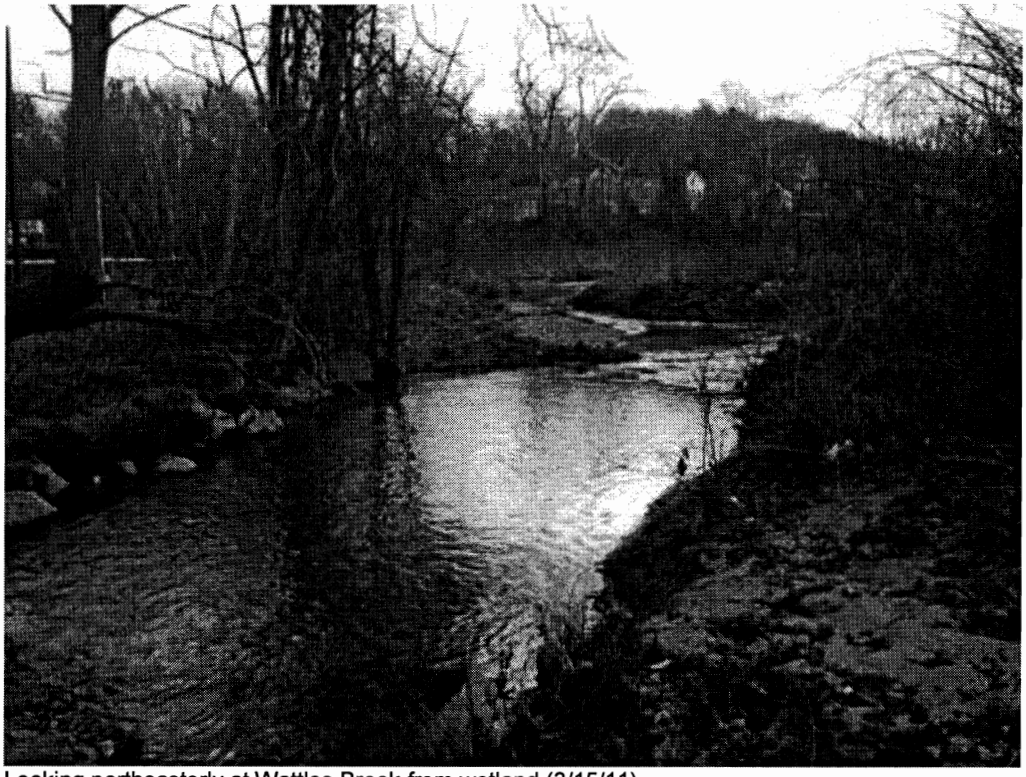


Pin Shop Pond (3/15/11).

A complex of wooded swamp, shrub swamp, shallow marsh and open water communities dominate the regulated wetland and pond areas behind the Pin Shop Pond Dam. Most of the wetland areas qualify as both CT and Federal Wetlands. The

earthen dam and concrete spillway is approximately 23 feet high and 480 feet long. Over time the Pin Shop Pond has filled in with sediments. The original pond was approximately 6.5 acres in size. It is now approximately 3.5 acres in size with small islands and peninsulas consisting of alluvium throughout the pond. The average depth of the pond is approximately 1 foot. Due to historic industrial discharges, there are contaminates within the sediments in the pond.

Two perennial watercourses flow into the pond. Wattles Brook flows into the pond from the southwest. This watercourse is approximately 20 feet wide and ranged from 6 inches to 2 feet in depth during the inspection. The substrate of Wattles Brook is comprised of sand, gravel and rocks. Rip Rap has been placed along the northern bank of Wattles Brook in the area behind the library. Steele Brook enters the pond and wetland complex from the north. Steele Brook is approximately 30 to 40 feet wide as it enters the pond. The water depth of Steele Brook ranged from 1 to 3 feet and the substrate of the watercourse consists of sand, gravel and rocks. Steele Brook, in the vicinity of Davis Street, has been channelized by retaining walls and rip rap.



Looking northeasterly at Wattles Brook from wetland (3/15/11).

Looking easterly at Steele Brook from Davis Street (3/15/11).

Vegetation within the wetland areas (including the peninsulas and islands) is dense. The dominant species observed during the inspections include red maple, elm, black cherry, sycamore, white and gray birch, locust, red cedar, oaks, catalpa, willows, alder, silky dogwood, elderberry, red osier dogwood, winged euonymus, multiflora rose, tatarian honeysuckle, Japanese barberry, meadowsweet, bittersweet, grape, poison ivy, Japanese knotweed, iris, goldenrod, soft rush, sedges, aster, skunk cabbage, cattail, bindweed and arrow-leaf tearthumb. Several of these species are considered to be invasive.

Portion of Pin Shop Pond and vegetated peninsula (3/15/11).

Isolated Wetland South of Pond

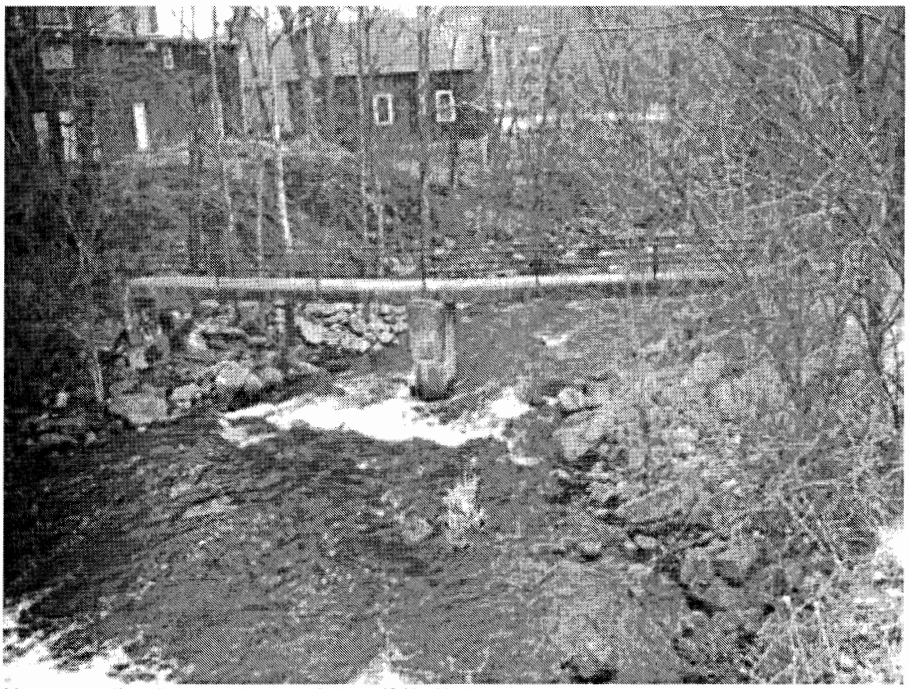
A small, isolated, disturbed wetland is present to the south of Pin Shop Pond. This wetland was identified as both a CT and Federal wetland. The sanitary sewer line passes through the wetland and fill and miscellaneous building debris and rocks surround the small wetland. The soils within the wetland are disturbed. Vegetation within the wetland is dense and provides dense tree canopy cover and moderately dense to dense shrub and herbaceous understory growth. The dominant vegetation within the wetland includes locust, red maple, cottonwood, silky dogwood, multiflora rose, winged euonymus, bittersweet, grape, Japanese knotweed, sedges, soft rush, manna grass, goldenrod and skunk cabbage.

Although no channel exists between the isolated wetland and pond, surface water flows out of the wetland to the north and into the pond. Water flow was observed during the March inspection.

Isolated wetland south of Pin Shop Pond (3/15/11).

Wetland Downstream of Dam

A narrow wooded wetland exists along Steele Brook as it flows easterly away from the dam. This wetland was delineated only as a CT regulated wetland. The narrow wetland provides dense tree canopy cover and shade over the watercourse. The dominant vegetation along this wetland includes sycamore, elm, red maple, locust and Japanese knotweed.



Narrow wetland downstream of dam (3/15/11).

Wetland Functional Quality

Attached is the completed Highway Methodology form for the wetlands situated within the dam removal project area. The principal functions provided by the Pin Shop Pond wetland system include fish habitat, production export, shoreline stabilization and wildlife habitat. The primary function of the isolated wetland area located to the south of Pin Shop Pond is wildlife habitat. All of the functions provided by the wetlands within Pin Shop Pond are limited due to the surrounding development, significant sedimentation, contaminated sediments, the dam and the high percent coverage of invasive species.

Impacts

Soil Science and Environmental Services, Inc. reviewed a Plan titled "Permit Drawing – Wetland Disturbance Areas, The Old Pin Shop, LLC, Breaching Pin Shop Pond Dam, Watertown, Connecticut," dated January 2011, that was prepared by Roald Haestad, Inc. According to the plan, there will be approximately 2.027 acres of wetland disturbance to the Pin Shop Pond federal wetlands (0.54 acre direct impact for fill and 1.49 acres indirect impact for excavation) and approximately 3.255 acres of water disturbance for the dam removal project and sediment disposal area.

It is proposed to remove the dam, properly remove and dispose of the contaminated sediments on-site and restore a fish passage within Steele Brook. It is proposed to remove the existing spillway and to excavate the watercourse channel to approximately 20 feet below the existing top of the spillway. Rock weirs will be constructed across the created channel in order to control flow and prevent scour thus maintaining finfish habitat and passage. It is proposed to install 30 inch diameter rip rap over a 12 inch deep gravel bed on top of filter fabric along the 2:1 side slope adjacent to the watercourse channel in order to prevent erosion of the remaining sediments.

A small temporary structure will be constructed across the perennial watercourse channel and water flow will be diverted from Steele Brook and Wattles Brook into a temporary diversion channel. The diverted water will flow towards a sluice gate and sediment chamber. The diversion channel will be constructed in sand and mucky organic material. The diversion channel should be stabilized to prevent erosion of the channel to control sedimentation impacts downstream of the project site.

Water and sediment control will be accomplished during construction by allowing water to discharge through the sluice gate (which will be removed) and pass through a chamber which will collect sediments. The chamber wall and masonry spillway will be lowered in stages to allow water flow control out of the pond especially during storm events.

Approximately ~~1,500~~ 15,000 cubic yards of contaminated sediments will be removed and disposed of in the southwestern corner of the pond (i.e. wetland and waterbody). According to Roald Haestad, Inc. the disposal plan has been approved by the CT Department of Environmental Protection. The sediments will be capped, covered and seeded. Additional information pertaining to the disposal of the contaminated sediments should be obtained from Roald Haestad, Inc.

As with any development, upland communities, which are not generally regulated to protect wildlife, will be disturbed. The uplands on the project site do not contain critical habitats. Critical habitat can be described as a habitat that rare species require for survival (Dowhan, 1976). Critical habitats could include trap-rock ridges, floodplain forests, old-growth forests, extensive grasslands, calcareous habitats, coastal marshes and sand plains. No State of CT or Federally listed Threatened or Endangered Species or Species of Special Concern were observed in the project area. SSES, Inc. also reviewed the December 2010 State and Federal Listed Species and Significant Natural Communities map of Watertown, CT (see attached). No listed species or areas of concern are identified on the property or in the vicinity of the property.

There will be impacts and changes to the existing wetland areas due to the change in water level and soil moisture content. Most of the wetlands were created by alluvial sediments due to damming of the watercourses and sediment build-up. These wetland areas are dominated by invasive species including Japanese knotweed.

Benefits

There will be significant benefits to removing the dam and restoring the watercourse channel. The 100-year flood level will be lowered by approximately 14 feet in the general vicinity of Pin Shop Pond Dam thus eliminating the potential safety hazard of a failed dam structure. The floodplain area will be reduced from approximately 5.5 acres to approximately 3.1 acres. Another benefit will be opening up anadromous fish passage from and to the Naugatuck River. According to the CT DEP, fish species, potentially including American shad, gizzard shad, alewife, blueback herring, sea-run brown trout, sea lamprey and American eel, use the Naugatuck River and therefore migrate up Steele Brook for spawning once the Pin Shop Pond and Heminway dams are removed and a fishway is built around the Tingue Dam in Seymour. An additional benefit will be for passive recreation and education. The Applicant plans to transfer portions of the property to the Town of Watertown once work has been completed. The Town is proposing a greenway for residents along Steele Brook that would be part of a separate project.

Mitigation

Conventional wetland mitigation, creation, restoration or enhancement, is not proposed at this location. There are no upland areas on the site that could be used for wetland creation. It is unknown what the hydrology will be in the area once the dam is removed and the watercourse channel is created.

Mitigation in the form of stream channel restoration and fish passage will be achieved. These goals are promoted by the CT DEP. Passive recreation and potential educational resources will be provided if the Town of Watertown Greenway project is completed. The project will remove a contamination source from Steele Brook. The removal of the dam provides a solution to a known dam safety issue.

The proposed project will enhance the finfish habitat, educational and recreational functions of the wetland on the project site. Currently these functions are limited or non-existent due

to the private ownership of the land, the dam, and degradation of the pond by sediments and the establishment of invasive species.

Recommendations

1. Conduct work during low flow period.

2. Properly install all erosion and sedimentation control measures prior to construction activities and properly maintain the measures during the duration of the construction activities. Erosion and sedimentation control measures should be removed once the project area has been stabilized following completion of the project.

3. Any disturbed habitat should be re-vegetated with non-invasive species following completion of the project. The re-establishment of the vegetation will stabilize the soils within the adjacent streambanks, wetlands and uplands. Suitable seed mixes should be used in the area between the newly created Steele Brook watercourse channel and the contaminated sediment storage area. A recommended seed mix for this area could include the New England Erosion Control/Restoration Mix or similar (see attached).

4. Stabilize the proposed diversion channel to prevent erosion of the channel and downstream sedimentation.

Table: WETLAND FUNCTION-VALUE EVALUATION FORM

Wetland I.D. ***Pin Shop Pond Dam, Watertown, CT***

Total area of wetland ***corridor*** Human made? ***Yes (dam)*** Is wetland part of a wildlife corridor? ***Yes*** Or a "habitat island? ***No***

Lat. ***+41°35'13"N*** Long. ***+73°05'07"W***

Adjacent land use: ***fill, development*** Distance to nearest roadway or development ***0' (fill - dam)***

Prepared by ***JLB*** Date ***3/15/11***

Dominant wetland systems present ***PFO1E/PSS1*** Contiguous undeveloped buffer zone present ***No***

Wetland Impact:
Type: ***Excavation*** Area ***± 2.027 acres*** (federal wetland)

Is the wetland a separate hydraulic system? ***No*** If not, where does the wetland lie in the drainage basin? ***Low- Mid***

Evaluation based on:
Office ***Y*** Field ***Y***
Corps manual wetland delineation Completed? Y ***X*** N

How many tributaries contribute to the wetland? 2 Wildlife & vegetation diversity/abundance ***(see attached)***

Function/Value	Occurrence *Y*	Occurrence *N*	Rationale *(Reference #)**	Principal *Function(s)/Value(s)*	*Comments*
Groundwater Recharge/Discharge		X	3, 4, 5, 7, 9, 10, 16		Water quality designated as Class GB. Known contaminates within the sediments in the pond (identified by others).
Floodflow Alteration		X	4, 6, 7, 9, 11, 13, 15, 16		Dam artificially impounds water along Steele Brook. Could fail during large storm event. Pond is filled in with sediments which limits flood storage.
Fish and Shellfish Habitat	X		4, 7, 8, 10, 12, 14, 17	**X**	Minimal – sediments - shallow pond at project area. Dam restricts movement along watercourse.
Sediment/Toxicant Retention	X		1, 2, 3, 5, 8, 9, 10, 12		Wetland in the project area provides limited sediment/toxicant retention due to small size. Sediments containing contaminates are retained within the pond.
Nutrient Removal	X		3, 4, 5, 8, 9, 14		Wetland in the project area provides limited sediment/toxicant retention due to small size. Limited vegetation along pond edge aids in nutrient removal.
Production Export	X		1, 2, 4, 5, 6, 10, 13		Nutrients appear to be exported via Steele Brook.
Sediment/Shoreline Stabilization	X		1, 3, 5, 8, 9, 14	**X**	No significant bank erosion, scour, undercutting could be observed along the pond edge.
Wildlife Habitat	X		6, 13, 16, 17, 18, 19	**X**	Limited. Narrow wetland, shallow waterbody, dam, sediment contamination, surrounded by disturbed soils, development and retaining walls.
Recreation		X	2		No public access at project site. Contaminated sediments.
Educational Scientific Value		X	14		No public access at project site.
Uniqueness/Heritage		X	1,3,4,12, 14, 17, 21, 23		Was old dam for a pin shop factory which closed in the 1950's
Visual Quality/Aesthetics		X	1, 2, 6		Private property – no access. Surrounded by development.
ES Endangered Species Habitat		X	none		None observed. None listed on CT Natural Diversity Data Base Map (attached), dated December 2010.
Other					

*** refer to back up list of considerations (attached)**

Table: WETLAND FUNCTION-VALUE EVALUATION FORM

Isolated Wetland south of Pin Shop Pond,
Wetland I.D. ***Watertown, CT***

Total area of wetland ***isolated*** Human made? ***Yes*** Is wetland part of a wildlife corridor? ***Yes*** Or a "habitat island? ***No***

Lat. ***+41°35'13"N*** Long. ***+73°05'07"W***

Adjacent land use: ***fill, development*** Distance to nearest roadway or development ***0' (fil)***

Prepared by ***JLB*** Date ***3/15/11***

Dominant wetland systems present ***PFO1E*** Contiguous undeveloped buffer zone present ***No***

Wetland Impact:
Type: ***Excavation*** Area ***± 0 sq.ft.*** (federal wetland)

Is the wetland a separate hydraulic system? ***Yes*** If not, where does the wetland lie in the drainage basin? ***Low- Mid***

Evaluation based on:
Office ***Y*** Field ***Y***
Corps manual wetland delineation
Completed? Y ***X*** N

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance ***(see attached)***

	Occurrence		Rationale	Principal	
Function/Value	*Y*	*N*	*(Reference #)**	*Function(s)/Value(s)*	*Comments*
Groundwater Recharge/Discharge		X	3, 5, 13		Water quality designated as Class GB.
Floodflow Alteration		X	7, 18		Very small, isolated wetland; no watercourses or waterbodies.
Fish and Shellfish Habitat		X	1, 2		No watercourses or waterbodies associated with the wetland.
Sediment/Toxicant Retention		X	2, 4		Very small, isolated wetland. No significant sediment sources in contributing watershed.
Nutrient Removal		X	8		Very small, isolated wetland. No significant sediment sources in contributing watershed.
Production Export		X	1, 4, 5		Very small, isolated wetland; no watercourses associated with the wetland.
Sediment/Shoreline Stabilization		X	none		No watercourses or waterbodies associated with the wetland.
Wildlife Habitat	X		7, 8, 11	**X**	Limited. Very small and isolated wetland. Disturbed soils and invasive species.
Recreation		X	none		No public access at project site. Very small, isolated wetland.
Educational Scientific Value		X	none		No public access at project site. Very small, isolated wetland.
Uniqueness/Heritage		X	none		No observed historical sites in project area. Very small, isolated wetland.
Visual Quality/Aesthetics		X	none		Private property – no access. Surrounded by development.
ES Endangered Species Habitat		X	none		None observed. None listed on CT Natural Diversity Data Base Map (attached), dated December 2010.
Other					

*** refer to back up list of considerations (attached)**

APPENDIX II: WETLAND FUNCTION EVALUATION

Appendix A

Wetland evaluation supporting documentation and reproducible forms.

Below is an example list of considerations that was used for a New Hampshire highway project. Considerations are flexible, based on best professional judgement and interdisciplinary team consensus. This example provides a comprehensive base, however, and may only need slight modifications for use in other projects.

GROUNDWATER RECHARGE/DISCHARGE— This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

CONSIDERATIONS/QUALIFIERS

1. Public or private wells occur downstream of the wetland.
2. Potential exists for public or private wells downstream of the wetland.
3. Wetland is underlain by stratified drift.
4. Gravel or sandy soils present in/or adjacent to the wetland.
5. Fragipan does not occur in the wetland.
6. Fragipan, impervious soils, or bedrock, does occur in the wetland.
7. Wetland is associated with a perennial or intermittent watercourse.
8. Signs of groundwater recharge are present or piezometer data demonstrates recharge.
9. Wetland is associated with a watercourse, but lacks a defined outlet or contains a constricted outlet.
10. Wetland contains only an outlet.
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.
12. Quality of water associated with the wetland is high.
13. Signs of groundwater discharge are present (e.g. springs).
14. Water temperature suggests it is a discharge site.
15. Wetland shows signs of variable water levels.
16. Gravel or sandy soils present in or adjacent to wetland.
17. Piezometer data demonstrates discharge.
18. Other

FLOODFLOW ALTERATION (Storage & Desynchronization) — This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas.

CONSIDERATIONS/QUALIFIERS

1. Area of this wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of or above the wetland.
4. Wetland watershed contains a high degree of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.
8. During flood events, this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.
10. In the event of a large storm, this wetland may receive and detain excessive flood water from a nearby watercourse.
11. Valuable properties, structures or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associated with one or more watercourses.
14. This wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.
19. Other

FISH AND SHELLFISH HABITAT — This function considers the effectiveness of seasonal or permanent watercourses associated with the wetland in question for fish and shellfish habitat.

CONSIDERATIONS/QUALIFIERS

1. Forest land dominant in the watershed above this wetland.
2. Abundance of cover objects present.

STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

3. Size of this wetland is able to support large fish/shellfish populations.
4. Wetland is part of a larger, contiguous watercourse.
5. Wetland has sufficient size and depth in open water areas so as not to freeze solid and retains some open water during winter.
6. Stream width (bank to bank) is more than 50 feet.
7. Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish populations.
8. Streamside vegetation provides shade for the watercourse.
9. Spawning areas are present (submerged vegetation or gravel beds).
10. Food is available to fish/shellfish populations within this wetland.
11. Barrier(s) to anadromous fish (such as dams, including beaver dams, water falls, road crossing, etc.) are absent from the stream reach associated with this wetland.
12. Evidence of fish is present.
13. Wetland is stocked with fish.
14. The watercourse is persistent.
15. Man-made streams are absent.
16. Water velocities are not too excessive for fish usage.
17. Defined stream channel is present.
18. Other

SEDIMENT/TOXICANT/PATHOGEN RETENTION —This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens in runoff water from surrounding uplands, or upstream erod-

ing wetland areas.

CONSIDERATIONS/QUALIFIERS

1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the watershed above the wetland.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Mineral, fine grained, or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in the wetland.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

10. Wetland is associated with an intermittent or perennial stream, or a lake.
11. Channelized flows have visible velocity decreases in the wetland.
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
13. No indicators of erosive forces are present. No high water velocities are present.
14. Diffuse water flows are present in the wetland.
15. Wetland has a high degree of water and vegetation interspersion.
16. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation is present by dense vegetation.
17. Other

NUTRIENT REMOVAL/RETENTION/TRANSFORMATION — This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands, and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers or estuaries.

CONSIDERATIONS/QUALIFIERS

1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists.
3. Overall potential for sediment trapping exists in the wetland.
4. Potential sources of excess nutrients present in the watershed above the wetland.
5. Wetland saturated for most of the season. Ponded water is present in the wetland.
6. Deep organic/sediment deposits are present.
7. Slowly drained mineral, fine grained, or organic soils, are present.
8. Dense vegetation is present.
9. Emergent vegetation and/or dense woody stems are dominant.
10. Aquatic diversity/abundance sufficient to utilize nutrients.
11. Opportunity for nutrient attenuation exists.
12. Vegetation diversity/abundance sufficient to utilize nutrients.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

13. Waterflow through this wetland is diffuse.
14. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
15. Water moves slowly through this wetland.
16. Other

PRODUCTION EXPORT (Nutrient) — This function evaluates the effectiveness of the wetland to produce food or usable products for man or other living organisms.

CONSIDERATIONS/QUALIFIERS

1. Wildlife food sources grow within this wetland.
2. Detritus development is present within this wetland
3. Economically or commercially used products found in this wetland.

4. Evidence of wildlife use found within this wetland.
5. Higher trophic level consumers are utilizing this wetland.
6. Fish or shellfish develop or occur in this wetland.
7. High vegetation density is present.
8. Wetland exhibits high degree of plant community structure/species diversity.
9. High aquatic diversity/abundance is present.
10. Nutrients exported in wetland watercourses (permanent outlet present).
11. "Flushing" of relatively large amounts of organic plant material occurs from this wetland.
12. Wetland contains flowering plants which are used by nectar-gathering insects.
13. Indications of export are present.
14. High production levels occurring however, no visible signs of export (assumes export is attenuated).
15. Other

SEDIMENT/SHORELINE STABILIZATION — This function considers the effectiveness of a wetland to stabilize stream banks and shorelines against erosion.

CONSIDERATIONS/QUALIFIERS

1. Indications of erosion, siltation present.
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.
5. A distinct step between the open waterbody or stream and the adjacent land exists (i.e. sharp bank) with dense roots throughout.
6. Wide wetland (>10') bordering watercourse, lake, or pond.
7. High flow velocities in the wetland.
8. Potential sediment sources present upstream.
9. The watershed is of sufficient size to produce channelized flow.
10. Open water fetch is present.
11. Boating activity is present.
12. Dense vegetation is bordering watercourse, lake, or pond.
13. High percentage of energy absorbing emergents and/or shrubs bordering watercourse, lake or pond.
14. Vegetation comprised of large trees and shrubs which withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).
15. Vegetation comprised of dense resilient herbaceous layer which stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.
16. Other

WILDLIFE HABITAT — This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered. Species lists of observed and potential animals should be included in the wetland assessment report.[2]

CONSIDERATIONS/QUALIFIERS

1. Wetland is not degraded by human activity.
2. Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.
3. Wetland is not fragmented by development.
4. Upland surrounding this wetland is undeveloped.
5. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g.,brushland, wood land, active farmland, or idle land) at least 500 feet in width.
6. Wetland contiguous with other wetland systems connected by watercourse or lake.
7. Wildlife overland access to other wetlands is present.
8. Wildlife food sources are within this wetland or are nearby.

9. Wetland exhibits a high degree of interspersion of vegetation classes and/or open water.
10. Two or more islands or inclusions of upland within the wetland are present.
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.
12. More than three acres of shallow permanent open water (less than 6.6 feet deep), including streams in or adjacent to wetland are present.
13. Density of the wetland vegetation is high.
14. Wetland exhibits a high degree of plant species diversity.
15. Wetland exhibits a high degree of diversity in plant community structure (e.g. tree/shrub/vine /grasses/mosses/etc.)
16. Plant/animal indicator species present.
17. Animal signs observed (tracks, scats, nesting areas, etc.)
18. Seasonal uses vary for wildlife, and wetland appears to support varied population diversity/abundance during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain large amphibian populations.
21. Wetland has a high avian utilization or its potential.
22. Indications of less disturbance-tolerant species present.
23. Signs of wildlife habitat enhancement present (birdhouses, nesting boxes, food sources, etc.).
24. Other

RECREATION (Consumptive and Non-Consumptive) — This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish these resources of the wetland.

CONSIDERATIONS/QUALIFIERS

1. Wetland is part of a recreation area, park, forest, or refuge.
2. Fishing is available within or from the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or has potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond, or lake, associated with the wetland is unpolluted.
7. High visual/aesthetic quality of this potential recreation site.
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at the potential recreation site.
11. Accessibility and travel ease is present at this site.
12. The wetland is within a short drive or safe walk from highly populated public and private areas.
13. Other

EDUCATIONAL/SCIENTIFIC VALUE — This value considers the suitability of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.

CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened, rare, or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains a diversity of wetland classes which are accessible or potentially accessible.
4. Potential educational site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.

6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, food sources, etc.).
8. Off-road parking at potential educational site suitable for school bus access in or near wetland.
9. Potential educational site is within safe walking distance or a short drive to schools.
10. Potential educational site within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site available.
12. Direct access to pond or lake at potential educational site available.
13. No known safety hazards within the potential educational site.
14. Public access to the potential educational site is controlled.
15. Handicap accessibility is available.
16. Site is currently used for educational or scientific purposes.
17. Other

UNIQUENESS/HERITAGE — This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation, and habitat diversity.

CONSIDERATIONS/QUALIFIERS

1. Upland surrounding wetland primarily urban.
2. Upland surrounding wetland developing rapidly.
3. More than 3 acres of shallow permanent open water occur in wetlands (less than 6.6 feet deep) including streams .
4. Three or more wetland classes present.
5. Deep and/or shallow marsh, or wooded swamp dominate.
6. High degree of interspersion of vegetation and/or open water occurring in this wetland.
7. Well-vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.
8. Potential educational site is within a short drive or a safe walk from schools.
9. Off-road parking at potential educational site is suitable for school buses.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake at potential educational site.
12. Two or more wetland classes visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub-shrub, bogs, open water) visible from primary viewing locations.
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.
15. Large area of wetland is dominated by flowering plants, or plants which turn vibrant colors in different seasons.
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
17. Overall view of the wetland is available from the surrounding upland.
18. Quality of the water associated with the wetland is high.
19. Opportunities for wildlife observations are available.
20. Historical buildings occur within the wetland.
21. Presence of pond or pond site and remains of a dam occur within the wetland.
22. Wetland within 50 yards of the nearest perennial watercourse.
23. Visible stone or earthen foundations, berms, dams, standing structures or associated features occur within the wetland.
24. Wetland contains critical habitat for a state or federally listed threatened or endangered species.
25. Wetland is known to be a study site for scientific research.
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
27. Wetland has local significance because it serves several functional values.

28. Wetland has local significance because it has biological, geological, or other features which are locally rare or unique.
29. Wetland is known to contain an important archaeological site.
30. Wetland is hydrologically connected to a state or federally designated scenic river.
31. Wetland is located in an area experiencing a high wetland loss rate.
32. Other

VISUAL QUALITY/AESTHETICS — This value considers the visual and aesthetic quality or usefulness of the wetland.

CONSIDERATIONS/QUALIFIERS

1. Multiple wetland classes visible from primary viewing locations.
2. Emergent marsh and/or open water visible from primary viewing locations.
3. Diversity of vegetation species visible from primary viewing locations.
4. Wetland dominated by flowering plants, or plants which turn vibrant colors in different seasons.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Visible surrounding land use form contrasts with wetland.
7. Wetland views absent of trash, debris, and signs of disturbance.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.
11. Unpleasant odors absent at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.
13. Other

ES ENDANGERED SPECIES HABITAT — This value considers the suitability of the wetland to support threatened or endangered species.

CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened or endangered species.
2. Wetland contains critical habitat for a state or federally listed threatened or endangered species.
3. Other

- Although the above example refers to freshwater wetlands, it can also be adapted for marine ecosystems. Below is an example of an adaptation for the fish and shellfish function provided by the National Marine Fisheries Service.

FISH AND SHELLFISH HABITAT --- This function considers the effectiveness of wetlands, embayments, tidal flats, vegetated shallows, and other environments in supporting marine resources such as fish, shellfish, marine mammals, and sea turtles.

CONSIDERATIONS/QUALIFIERS (Marine)

1. Special aquatic sites (tidal marsh, mud flats, eelgrass beds) are present.
2. Suitable spawning habitat is present at the site or in the area.
3. Commercially or recreationally important species are present or suitable habitat exists.
4. The wetland/waterway supports prey for higher trophic level marine organisms.
5. The waterway provides migratory habitat for anadromous fish.
6. Other

- In March 1995 a rapid wildlife habitat assessment method was completed by a University of Massachusetts research team, with funding and oversight provided by the New England Transportation Consortium. The method is called WEThings (wetland habitat indicators for non- game species). It produces a list of potential wetland- dependent mammals, reptiles, and amphibian species that may be present in the wetland. The output is based on observable habitat characteristics documented on the field data form. This method may be used to generate the wildlife species list recommended as backup information to the wetland evaluation form, and to augment the considerations. Use of this method should first be coordinated with the Corps project manager. A computer program is also available to expedite this process.

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Soil Science • Ecological Studies • Hazardous Waste Assessments • Project Planning • Soil & Water Testing

KENNETH C. STEVENS, Jr.
President

December 29, 2010

ATTN: Donald L. Smith, P.E.
Roald Haestad, Inc.
37 Brookside Road
Waterbury, CT 06708

Re: Pin Shop Pond Dam, Main Street (Route 73), Oakville,
Watertown, CT
SS&ES Job No. 2010-198-CT-WTT-3

Dear Mr. Smith:

In accordance with your request, Soil Science And Environmental Services, Inc. (SS&ES) conducted a site inspection on December 7, 2010 for purposes of wetland delineation. Thomas W. Pietras, SS&ES Professional Wetland Scientist and Soil Scientist, performed the investigation. The project area is situated in the southeastern portion of the Town of Watertown in the Oakville section (Figure 1). Pin Shop Pond was developed for industrial use and created by constructing a concrete dam below the junction of Steele Brook and Wattles Brook. The landscape surrounding the pond has been highly altered from a combination of industrial, commercial and residential development. The upstream watershed for Steele Brook has been urbanized and this has resulted in both periodic significant storm flows and large volumes of sedimentation. The former pond has essentially been filled with sediments. Low-lying alluvial floodplain soils have developed in the sediments that washed into the former pond. These floodplain soils are subject to frequent flooding, seasonal water tables at or very near the soil surface and they support pioneer vegetative communities. Invasive plants, including Japanese knotweed, purple loosestrife and black locust are common in the floodplain. Other common plants growing on the floodplain soils include: cattail, aster, goldenrod, silky dogwood, willow, alder, gray birch cottonwood and multiflora rose.

The project area was field inspected for both Inland Wetlands and Federal Wetlands. Test holes were dug with a spade and auger for soils identification. The vegetative communities and any physical indicators of hydrology on the site were also examined. Both State of Connecticut Inland Wetlands and Federal Wetlands were identified in the project area. The limits of the Connecticut Inland Wetlands were delineated with numbered, orange survey tapes. Federal Wetlands were delineated with consecutively numbered, blue survey tapes.

DEFINITIONS OF INLAND WETLANDS AND FEDERAL WETLANDS

According to Section 22a-38 of the State of Connecticut Inland Wetlands and Watercourses Act, Wetlands "means land, including submerged land, not regulated pursuant to sections 22a-28 to 22a-35, which consist of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey, as may be amended from time to time, of the Natural Resources Conservation Service of the United States Department of Agriculture". Watercourses "means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private".

545 Highland Avenue • Route 10 • Cheshire • Connecticut • 06410 • (203) 272-7837 • Fax (203) 272-6698

Federal Wetlands are defined by the U.S. Army Corps of Engineers 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" (33CFRS328.3(B)). The 1987 U.S. Corps of Engineers Delineation Manual provides information and procedures for conducting Federal Wetland delineation. The methodology established by the Federal Government uses a three parameter approach utilizing hydrologic indicators, hydrophytic vegetation and hydric soils for identifying Federal Wetlands.

CT INLAND WETLANDS, WATERCOURSES AND SOIL TYPES

A sketch map showing CT Inland Wetlands and Watercourses is presented in Figure 2. The wetlands within the project area consist of variable drained Fluvaqents-Udifluvents (109) in the floodplain and poorly and very poorly Aquents (Aq) within a disturbed soil area by a sanitary sewer line. Brief descriptions of these soils are provided in Appendix I. Non-wetland soil map units identified on the project site consist of moderately well to well drained Udorthents (308), Urban land (307) and altered moderately well drained Ninigret and Tisbury soils (21).

FEDERAL WETLANDS

Federal Wetlands are present within the recently developed floodplain soils that have developed in the former pond and occur as emergent wetland, scrub shrub wetland and riverine wetland. A very small, isolated pocket of young forested wetland has developed in the disturbed Aquents soil by the sewer line. A sketch map of the Federal Wetlands is presented in Figure 3. In some areas of the project site the wetland boundaries for the CT Inland Wetlands were determined to be the same as for the Federal Wetlands. In other areas within the floodplain the extent of CT Inland Wetlands was greater than the extent of Federal Wetlands. Areas of floodplain determined not to quality as Federal Wetlands are in those areas where the floodplain soils are non-hydric and the vegetation is not dominated by hydrophytic plants. Three transects with two Federal Wetland Data plots per transect plus three individual plots were established to document the vegetation, soils and hydrologic indicators found along the Federal Wetlands boundaries. The information gathered from each data plot was recorded on Federal Wetland Data Sheets. These sheets are included with this report.

Portions of the Federal Wetlands that have developed in the young alluvial soils in the former pond are problematic for wetland identification. These alluvial soils are very recently created, low-lying and subject to frequent flooding. Very recent alluvial deposits of fine sands and medium-fine sands are common in those sections of floodplain situated near to Steele Brook. Miscellaneous flood debris are also scattered across the floodplain. In some sections of the floodplain scouring from stream overflow has removed soil and vegetation. The floodplain located that borders to Steele Brook was found to commonly contain facultative-upland (FACU) species, primarily Japanese knotweed and black locust, as dominant plants. These areas where FACU species are dominant were included within the mapped Federal Wetlands, due to their landscape position (i.e. low-lying, frequent flooding and adjacent to streams) and presence of hydric alluvial soils.

Respectfully submitted,

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Thomas W. Pietras

Thomas W. Pietras,
Professional Wetland and Soil Scientist

APPENDIX I. BRIEF DESCRIPTIONS OF SOIL TYPES IDENTIFIED IN PROJECT SITE PIN SHOP POND DAM, WATERTOWN, CT

WETLAND SOILS

109 Fluvaquents-Udifluvents This soil map unit consists of well drained to very poorly drained, nearly level soils that formed in recent alluvial deposits. The soils are occasionally to frequently flooded, which often results in stream scouring, lateral erosion and shifting of soil from place to place. Soil characteristics, such as texture and stoniness, are usually highly variable within short distances.

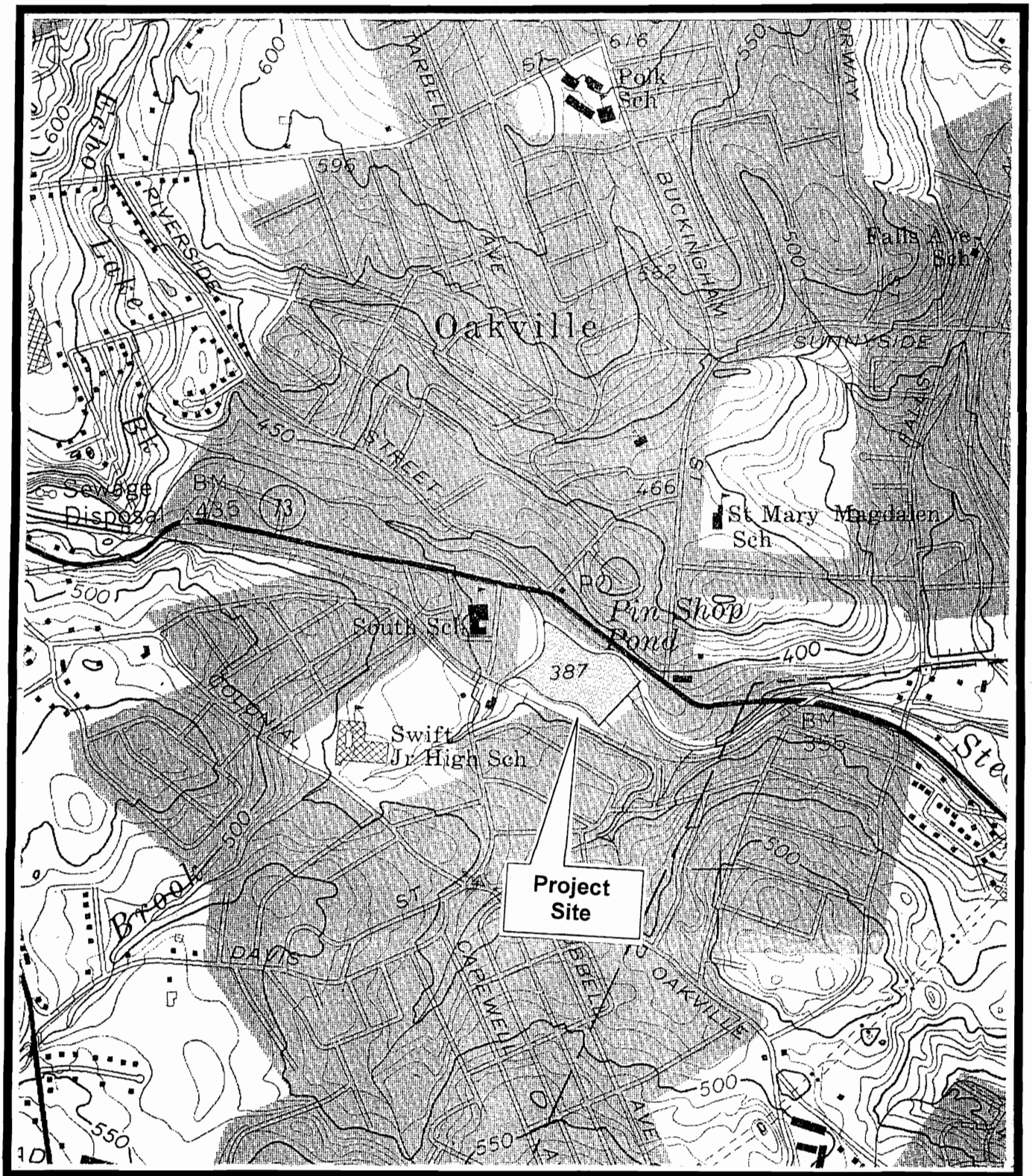
Aq Aquents – This is a poorly to very poorly drained, recently created soil. Aquents are characterized by a seasonal to prolong high groundwater table or shallow inundation and under normal conditions they support a dominance of hydrophytic plants.

NON-WETLAND SOILS

21 Ninigret and Tisbury soils (Aquic Dystrudepts) - These are deep, moderately well drained, friable, coarse-loamy and loamy textured soils that have developed over sandy and gravelly, glacial outwash derived from schist, gneiss and granite. Outwash soils occur in valleys, outwash plains and terraces.

307 Urban land – This map unit consists of land which is mostly covered with streets, parking lots, buildings and other structures. Generally, more than 75% of the map unit consists of impervious surface.

308 Udorthents, smoothed) - This is a well drained to moderately well drained soil that has had two or more feet of the original soil surface altered by filling, excavation and/or grading. Udorthents soils commonly occur on leveled land and fill landforms.



SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.	Project Location Map Pin Shop Pond Dam Main Street (Route73), Oakville Watertown, CT	Dec 2010 Figure 1

Pin Shop Pond Dam, Main Street (Rte 73), Oakville, Watertown, CT (Dec. 2010)

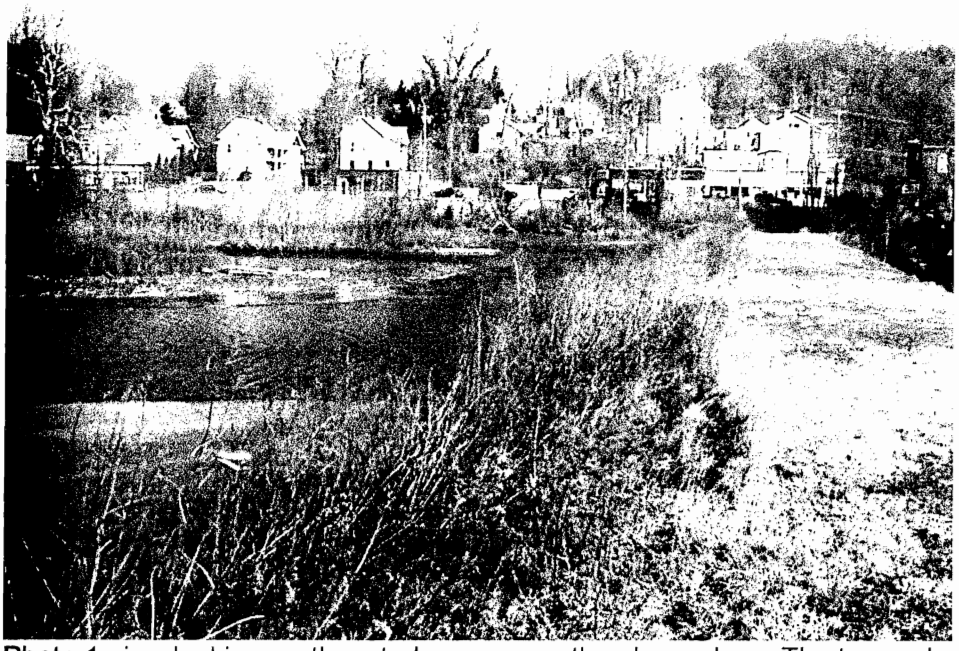


Photo 1-view looking northeasterly across earthen berm dam. The top and southwestern side of the berm is maintained in mowed grass vegetation.

Photo 2-view looking northeast at concrete and stone dam for Pin Ship Pond. Buildings along Main Street are visible behind the pond.

Pin Shop Pond Dam, Main Street (Rte 73), Oakville, Watertown, CT (Dec. 2010)

Photo 3-view looking north from top of dam at the northeastern portion of Pin Shop Pond. Elongated peninsula formed by stream sediments extends almost to the dam.

Photo 4- view looking northwest from top of earthen berm dam at stream sediment peninsula. Steele Brook flows along the left side of the peninsula.

Pin Shop Pond Dam, Main Street (Rte 73), Oakville, Watertown, CT (Dec. 2010)

Photo 5-view looking northwesterly from top of earthen berm dam across the sediment-laden remains of Pin Shop Pond. Steele Brook is toward the right side of photo.

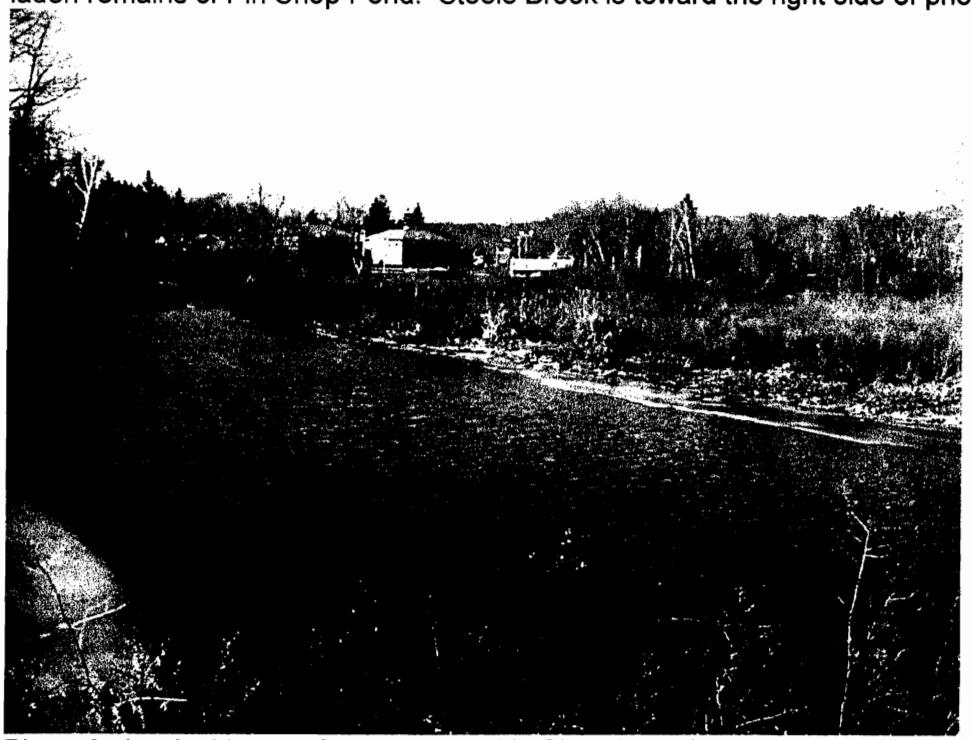
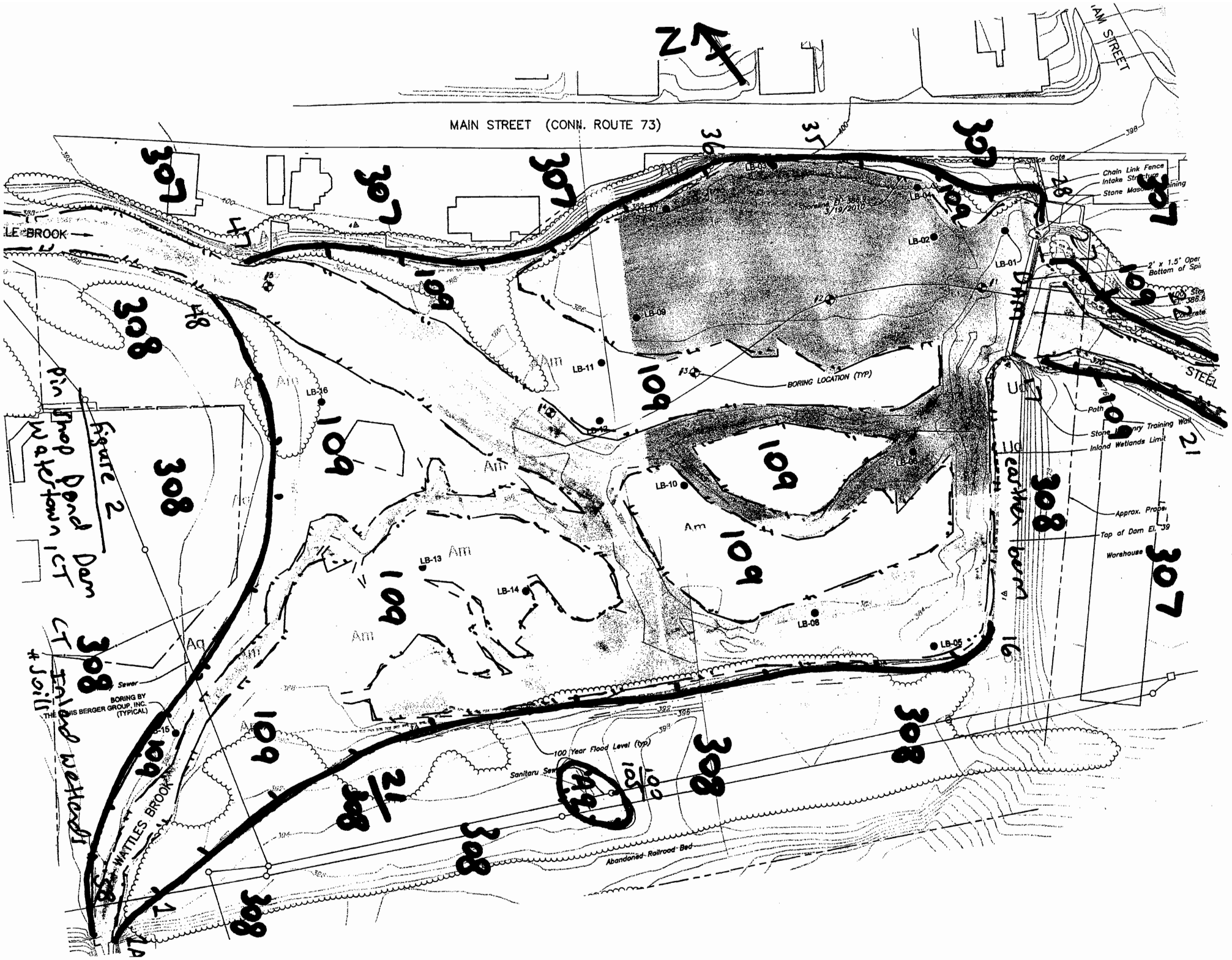


Photo 6-view looking northwest across Pin Shop Pond from southeastern end of the earthen berm dam. Accumulated sediments in pond are vegetated with pioneer species.


MAIN STREET (CONN. ROUTE 73)
MAIN STREET
LE BROOK
WATTLES BROOK
Dam
Earthen berm
STEEL
Chain Link Fence
Stone Masonry Training Wall
Inland Wetlands Limit
Path
Approx. Property Line
Top of Dam El. 399
Warehouse
Sewer
Sanitary Sewer
100 Year Flood Level (typ)
Abandoned Railroad Bed
BORING LOCATION (TYP)
BORING BY THE LOUIS BERGER GROUP, INC. (TYPICAL)
LB-01
LB-02
LB-04
LB-05
LB-06
LB-07
LB-08
LB-09
LB-10
LB-11
LB-13
LB-14
LB-15
LB-16
Showing El. 386.8 3/19/2010
Figure 2
Pin Shop Pond
Watertown, CT
CT Inland Wetlands
+ Soils

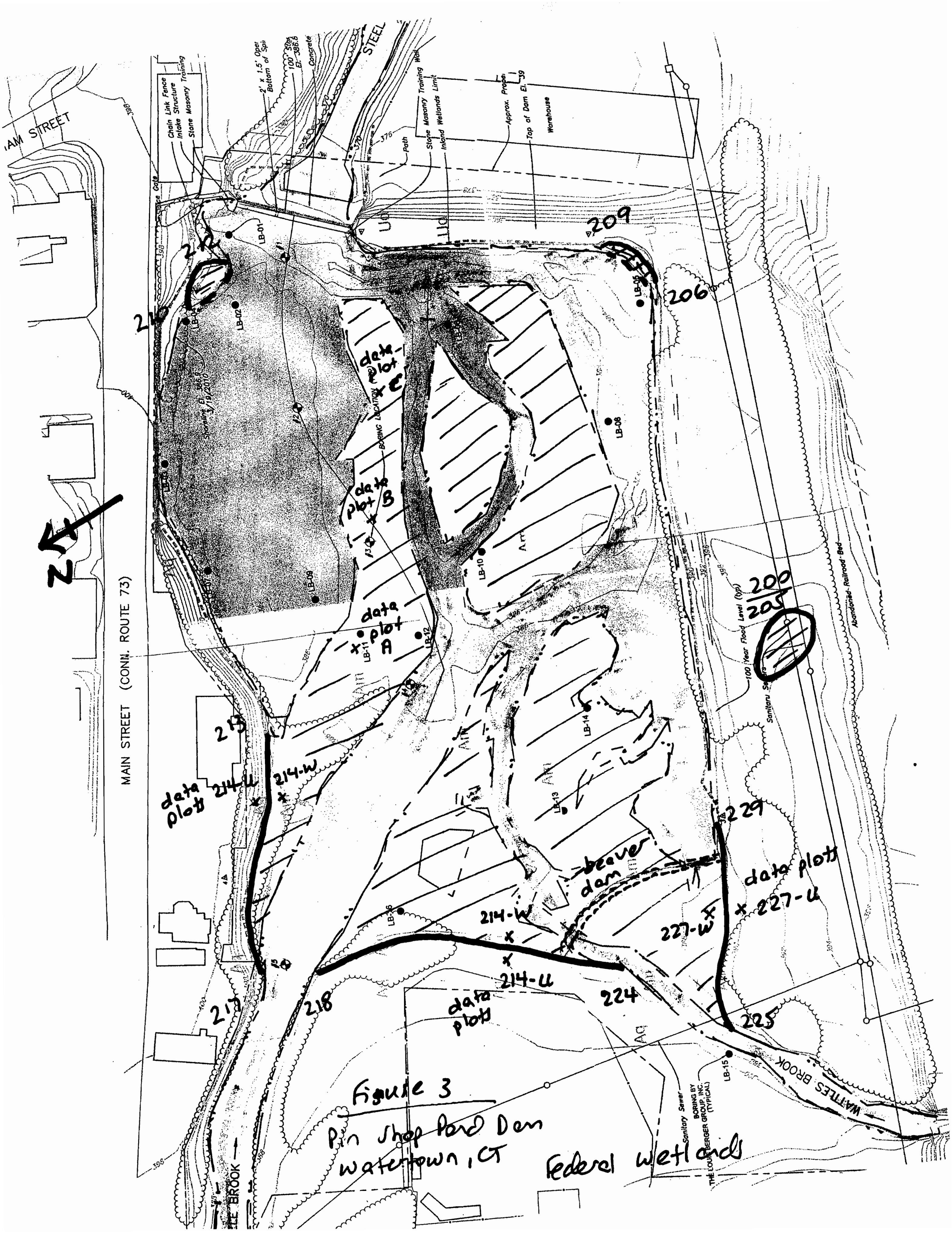


Figure 3
Pin Shop Pond Dam
Watertown, CT
Federal Wetlands
N
MAIN STREET (CONN. ROUTE 73)
WATTLES BROOK
Chain Link Fence
Intake Structure
Stone Masonry Training
Stone Masonry Training Wall
Inland Wetlands Limit
Top of Dam El. 39
Warehouse
Path
Concrete
Abandoned Railroad Bed
100 Year Flood Level (typ)
Sanitary Sewer
BORING BY THE LOUISBERGER GROUP, INC. (TYPICAL)
BORING LOCATION
beaver dam
data plot A
data plot B
data plot C
data plots 214-U
214-W
214-W
214-U
data plots
data plots
227-W
227-U
200
205
206
209
212
210
215
217
218
224
225
229
LB-01
LB-02
LB-06
LB-08
LB-09
LB-10
LB-11
LB-12
LB-13
LB-14
LB-15
STEEL

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region (DRAFT)

Project/Site: Pin Shop Pond Dam City/County: Watertown Sampling Date: 12/07/2010

Applicant/Owner: Roald Haestad, Inc. State: CT Sampling Point: 214-W

Investigator(s): Thomas W. Pietras, SS + ES, Inc. Section, Township, Range:

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): nearly level

Slope (%): 0-3 Lat: Long: Datum:

Soil Map Unit Name: Fluvaquents NWI classification: R3FL5

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? yes Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? yes (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?**	Yes X No ____
Hydric Soil Present?	Yes X No ____	If yes, optional Wetland Site ID:	
Wetland Hydrology Present?	Yes X No ____		

Remarks: (Explain alternative procedures here or in a separate report.)
recently developed alluvial soil + pioneer vegetation

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Platanus occidentalis	15	Y	FACW
2. Ulmus americana	10	Y	FACW
3. Acer saccharum	10	Y	FACU
4. Prunus serotina	5	N	FACU
5. 20% = 8 50% = 20			
	40	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Acer saccharum	10	Y	FACU
2. Ulmus americana	8	Y	FACW
3. Prunus serotina	3	N	FACU
4.			
5. 20% = 4 50% = 10.5			
	21	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Polygonum cuspidatum	60	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	1	N	FAC
2.			
	1	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	33	x 2 =	66
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	111 (A)		386 (B)

Prevalence Index = B/A = 3.48

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Problematic wetland plant community dominated by dry-site species: Polygonum cuspidatum - an invasive species that has colonized recent hydric alluvium

SOIL Pin Shop Pond Dam, Watertown, CT Sampling Point: 214-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
A	0-2	10YR2/2						mucky 1 fs	
C1	2-5	10YR3/3		5YR4/6	5	C	M	1 fs	
C2	5-11	10YR2/2						mucky si l	
C3	11-24	10YR2/2		5YR4/6	5	C	M	1 fs	
C4	24-30	10YR2/2						soft muck - former pond bottom	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3) **(except MLRA 143)**
- ___ Hydrogen Sulfide (A4)
- ✓ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Drop in LRR R?)**
- ___ Dark Surface (S7) **(MLRA 149B of LRR S)**
- ___ Polyvalue Below Surface (S8) **(LRR R, S)**
- ___ Thin Dark Surface (S9) **(LRR R, S)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, S)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

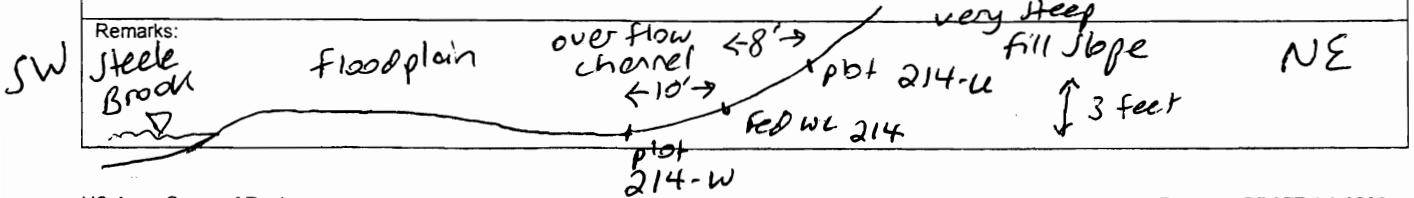
Water Table Present? Yes ✓ No ___ Depth (inches): 11

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 5

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region (DRAFT)

Project/Site: Pin Shop Road Dam City/County: Watertown Sampling Date: 12/07/2010

Applicant/Owner: Ronald Haestad, Inc. State: CT Sampling Point: 214-U

Investigator(s): Thomas W. Pietras, SJ+ES Inc. Section, Township, Range: _____

Landform (hillslope, terrace, etc.): fill slope Local relief (concave, convex, none): convex

Slope (%): 15 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Udorthents NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? yes Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? no (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

plot 214-U on very steep fill slope

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Platanus occidentalis	25	Y	FACW
2. Prunus serotina	20	Y	FACU
3. Acer saccharum	25	Y	FACU
4. Acer platanoides	5	N	NI
5. Ulmus americana	3	N	FACW
	78	= Total Cover	

20% - 15.6 50% - 39

Sapling/Shrub Stratum (Plot size: 15')			
1. Acer saccharum	15	Y	FACU
2. Prunus serotina	3		FACU
3. Ulmus americana	2		FACW
4.			
5.			
	20	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	3	Y	FAC
2. Acer saccharum	1	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1. Toxicodendron radicans	2	N	FAC
2.			
	2	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Pin Shop Pond Dam, Watertown, CT Sampling Point: 214-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
Oi 2-0							fibric -	leaf litter
A 0-4	10YR2/2						vfsl	
C 4-22	10YR6/4 +		10YR3/3				gr lfs	with
fill								rotten rock material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3) **(except MLRA 143)**
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Drop in LRR R?)**
- ___ Dark Surface (S7) **(MLRA 149B of LRR S)**
- ___ Polyvalue Below Surface (S8) **(LRR R, S)**
- ___ Thin Dark Surface (S9) **(LRR R, S)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, S)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region (DRAFT)

Project/Site: Pin Shop Pond Dam City/County: Watertown Sampling Date: 12/07/2010
Applicant/Owner: Roelf Haestad, Inc. State: CT Sampling Point: 222-W
Investigator(s): Thomas W. Pietras, JJ+EJ, Inc. Section, Township, Range: _____
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): level
Slope (%): 0-1 Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Aquents NWI classification: PEM / PSS
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. ✓			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Alnus rugosa	20	Y	FACW
2. Robinia pseudoacacia	4	N	FACU
3. Rhus typhina	2	N	NI
4.			
5. 20% - 5.2 50% - 13			
	26 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Polygonum sagittatum	10	Y	OBL
2. Impatiens capensis	10	Y	FACW
3. Alnus rugosa	10	Y	FACW
4. Epilobium coloratum	5	N	OBL
5. Aster spp.	5	N	–
6. Salix nigra	5	N	FACW
7. Juncus effusus	3	N	FACW
8.			
9.			
10. 20% - 9.6 50% - 24			
	48 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. ✓			
2.			
	= Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Pin Shop Road Dam, Watertown, CT Sampling Point: 222-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
A 0-10	10YR3/1		5YR4/6	10	C	M	lfs	
C 10-21	10YR4/2		5YR4/6	10	C	M	lvfs	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3) **(except MLRA 143)**
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Drop in LRR R?)**
- ___ Dark Surface (S7) **(MLRA 149B of LRR S)**
- ___ Polyvalue Below Surface (S8) **(LRR R, S)**
- ___ Thin Dark Surface (S9) **(LRR R, S)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, S)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes 1 No ✓ Depth (inches): ___

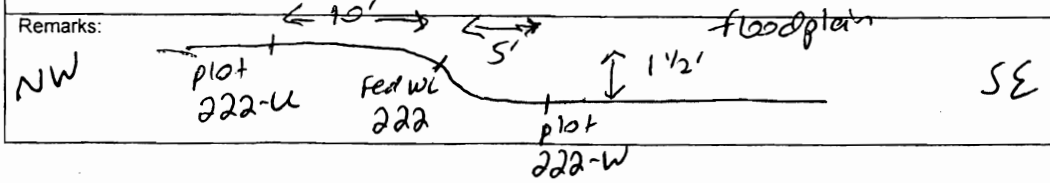
Water Table Present? Yes X No ___ Depth (inches): 3

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region (DRAFT)

Project/Site: Pin Shop Pond Dam City/County: Watertown Sampling Date: 12/07/2010
Applicant/Owner: Roald Haested, Inc. State: CT Sampling Point: 222-U
Investigator(s): Thomas W. Pietras, JJ+EJ, INC Section, Township, Range:
Landform (hillslope, terrace, etc.): Fill lend Local relief (concave, convex, none): nearly level
Slope (%): 1-3 Lat: Long: Datum:
Soil Map Unit Name: Udorthents NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? yes Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No ____	
Wetland Hydrology Present?	Yes ____	No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
fill landscape adjacent to floodplain

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. /			
2.			
3.			
4.			
5.			
	____	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Alnus rugosa	15	Y	FACW
2. Betula papyrifera	5	N	FAC
3. Rhus typhina	5	N	NI
4.			
5. 20% - 5 50% - 12.5			
	25	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Alnus rugosa	20	Y	FACW
2. Salix nigra	10	Y	FACW
3. Solidago sp.	10	-	-
4. Calystegia sepium	10	Y	FAC
5. Cornus racemosa	10	Y	FAC
6. Rosa multiflora	5		FACU
7. Polygonum cuspidatum	5		FACU
8.			
9.			
10. 20% - 14 50% - 35			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1. /			
2.			
	____	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
beaver cutting of woody sprouts - mainly alder, gray birch + black willow

SOIL Pin Shop Pond Dam, Watertown, CT Sampling Point: 222-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
A 0-4	10YR 3/2						fsl	
Cfill-1 4-15	10YR 3/3						stony, sc	U
Cfill-2 15-24	10YR 4/3						stony, sc	U

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3) **(except MLRA 143)**
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Drop in LRR R?)**
- ___ Dark Surface (S7) **(MLRA 149B of LRR S)**
- ___ Polyvalue Below Surface (S8) **(LRR R, S)**
- ___ Thin Dark Surface (S9) **(LRR R, S)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, S)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 18

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region (DRAFT)

Project/Site: Pin Shop Pond Dam City/County: Watertown Sampling Date: 12/07/2010
Applicant/Owner: Roald Haestad, Inc. State: CT Sampling Point: 227-W
Investigator(s): Thomas W. Pietras, JS+EJ, Inc. Section, Township, Range:
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): level
Slope (%): 0-1 Lat: Long: Datum:
Soil Map Unit Name: Flur Aquents NWI classification: PJJ 1
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X	No	If yes, optional Wetland Site ID:
Wetland Hydrology Present?	Yes X	No	

Remarks: (Explain alternative procedures here or in a separate report.)
1 1/2 to 2 ft tall beaver dam has raised water level in vicinity of plot 227-W

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. ✓			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Alnus rugose	8	Y	FACW
2. Rosa multiflora	4	Y	FACU
3. Betula pepyrifera	2		FAC
4.			
5. 20% - 3.2 50% - 8			
	16 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Aster sp.	8	✓	✓
2. Betula papyrifera	8	Y	FAC
3. Spiraea latifolia	5	Y	FAC
4. Cornus stolonifera	2	N	FACW
5.			
6.			
7.			
8.			
9.			
10. 20% - 4.6 50% - 11.5			
	23 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1. ✓			
2.			
	= Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
X Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
beaver cuttings of small trees, saplings + shrubs

SOIL Pin Shop Pond Dam, Watertown, CT Sampling Point: 227-W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
A	0-4	10YR2/2						gr fsl	
C fill-1	4-10	10YR3/2		5YR4/6	5	C	M	gr ls	
C fill-2	10-16	10YR4/3		5YR4/6	8	C	M	gr ls	
C	16-22	10YR2/2		5YR4/6	5	C	M	gr l-fs	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3) **(except MLRA 143)**
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Drop in LRR R?)**
- ___ Dark Surface (S7) **(MLRA 149B of LRR S)**
- ___ Polyvalue Below Surface (S8) **(LRR R, S)**
- ___ Thin Dark Surface (S9) **(LRR R, S)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, S)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

- shallow fill soil overlying alluvial deposits
- hydric condition in soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

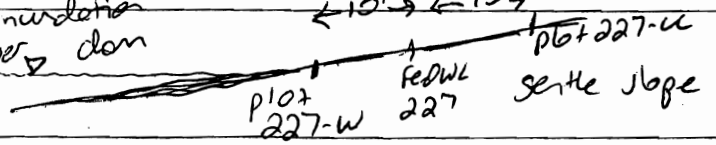
Water Table Present? Yes X No ___ Depth (inches): 4

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: shallow inundation from beaver dam



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region (DRAFT)

Project/Site: Pin Shop Road Dam City/County: Watertown Sampling Date: 12/07/2010

Applicant/Owner: Roald Haested, Inc. State: CT Sampling Point: 227-U

Investigator(s): Thomas W. Pietras, JJ+EJ, Inc. Section, Township, Range: _____

Landform (hillslope, terrace, etc.): gentle slope Local relief (concave, convex, none): convex

Slope (%): 3-5 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Udorthents NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. Robinia pseudoacacia	5	Y	FACU
2.			
3.			
4.			
5.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Betula papyrifera	15	Y	FAC
2.			
3.			
4.			
5.			
	15	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Panicum sp.	10		-
2. Solidago sp.	10		-
3. Betula papyrifera	10	Y	FAC
4. Aster sp	5		-
5. Cornus stolonifera	1		FACW
6. Juniperus virginiana	1		FACU
7.			
8.			
9.			
10. 20% - 7.4 50% - 18.5			
	37	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. /			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ✓ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Pin Shop Pond Dam, Watertown, CT Sampling Point: 227-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
A 0-3	10YR 2/2						sl	
C1 3-8	10YR 4/3						gr ls	
C2 8-18	10YR 3/3						very gr ls	
C3 18-24	10YR 4/3		5YR 5/6	3	C	M	gr sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3) **(except MLRA 143)**
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Drop in LRR R?)**
- ___ Dark Surface (S7) **(MLRA 149B of LRR S)**
- ___ Polyvalue Below Surface (S8) **(LRR R, S)**
- ___ Thin Dark Surface (S9) **(LRR R, S)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, S)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 13

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region (DRAFT)

Project/Site: Pin Shop Pond Dam City/County: Watertown Sampling Date: 12/07/2010
Applicant/Owner: Roald Haesteds, Inc. State: CT Sampling Point: A
Investigator(s): Thomas W. Pietras Section, Township, Range:
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): convex - nearly level
Slope (%): 1-3 Lat: Long: Datum:
Soil Map Unit Name: Fluvaquents NWI classification: R3 FL 5
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes	No	
Wetland Hydrology Present?	Yes	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
pioneer species FACU, species growing on newly developed hydric alluvial soil

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. /			
2.			
3.			
4.			
5.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Alnus rugosa	30	Y	FACW
2. Rosa multiflora	8	N	FACU
3. Salix nigra	5	N	FACW
4. Cornus amomum	5	N	FACW
5. Sambucus canadensis	2	N	FACW
20% - 10 50% - 25 5'	50	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Polygonum cuspidatum	15	Y	FACU
2. Aster sp.	10		-
3. Iris versicolor	5	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10. 20% - 6 50% - 15			
	30	= Total Cover	

Woody Vine Stratum (Plot size: 30')			
1. /			
2.			
	= Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)
Pioneer invasive species – Polygonum cuspidatum dominant on newly developed hydric alluvium

SOIL Pin Shop Pond Dam, Watertown, CT Sampling Point: A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
AC	0-15	10YR2/2						mucky silt loam	oxidized rhizospheres
C_1	15-30	10YR3/3						LS - alluvium	
C_2	30-35	10YR2/2						mucky lfs - alluvium	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3) **(except MLRA 143)**
- ✓ Hydrogen Sulfide (A4)
- X Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Drop in LRR R?)**
- ___ Dark Surface (S7) **(MLRA 149B of LRR S)**
- ___ Polyvalue Below Surface (S8) **(LRR R, S)**
- ___ Thin Dark Surface (S9) **(LRR R, S)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, S)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

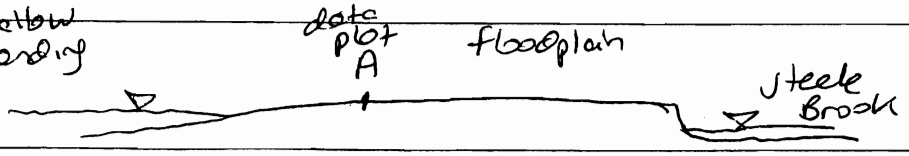
Water Table Present? Yes ✓ No ___ Depth (inches): 11

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 3

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region (DRAFT)

Project/Site: Pin Shop Pond Dam City/County: Watertown Sampling Date: 12/07/2010

Applicant/Owner: Roald Haestad Inc State: CT Sampling Point: B

Investigator(s): Thomas W. Pietrol, SS+ES, Inc. Section, Township, Range: _____

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): convex-nearly level

Slope (%): 1-3 Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Fluvaquents / Udifluvents NWI classification: R3 FL5

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation X, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
pioneer FACU species growing on young alluvial soil subject to frequent flooding

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Robinia Pseudoacacia	20	Y	FACU
2. Salix nigra	3	N	FACW
3. Catalpa speciosa	2	N	FAC
4.			
5.			
	25 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Polygonum cuspidatum	20	Y	FACU
2. Aster sp	15	-	-
3. Calystegia sepium	5	N	FAC
4. Salix nigra	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	45 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A = _____

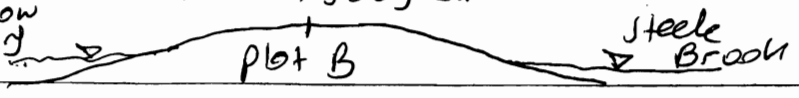
Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.) sandy alluvium



SOIL Pin Shop Pond Den, Watertown, CT Sampling Point: B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
A 0-3	10YR 3/3						lfs	
C1 3-17	10YR 4/4						lfs	alluvium
C2 17-21	10YR 2/2		5YR 4/6	5	C	M	lfs	alluvium
C3 21-35	10YR 4/2						lfs	alluvium

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3) **(except MLRA 143)**
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Drop in LRR R?)**
- ___ Dark Surface (S7) **(MLRA 149B of LRR S)**
- ___ Polyvalue Below Surface (S8) **(LRR R, S)**
- ___ Thin Dark Surface (S9) **(LRR R, S)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, S)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks: recent alluvial soil subject to frequent flooding + occasional high ground water

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- X Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sandy alluvial soil subject to frequent flooding. Site subject to sandy alluvial deposition

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region (DRAFT)

Project/Site: Pin Shop Pond Dam City/County: Watertown Sampling Date: 12/07/2010
Applicant/Owner: Road Maested, Inc. State: CT Sampling Point: C
Investigator(s): Thomas W. Pietras, SS+ES Inc. Section, Township, Range:
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): convex
Slope (%): 1-3 Lat: Long: Datum:
Soil Map Unit Name: Fluvaquents NWI classification: R3 FL 5
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2. /			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Robinia pseudoacacia	40	Y	FACU
2. Salix nigra	10	N	FAC
3. Cornus amomum	10	N	FAC
4.			
5. 20% - 12 50% - 30			
	60 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Aster sp.	45	-	-
2. Solidago sp.	15	-	-
3. Calystegia sepium	15	N	FAC
4. Polygonum cuspidatum	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10. 20% - 16 50% - 40			
	80 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Rapid Test for Hydrophytic Vegetation
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
pioneer FACU invasive species growing on recently created alluvial floodplain subject to frequent flooding & hydric conditions

SOIL Pin Shop Pond Dam, Watertown, CT Sampling Point: C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR3/2						mucky silt loam	
								oxidized rhizospheres
10-12	10YR5/3		5YR4/6	5	C	M	loamy sand	
12-18	10YR2/2						silt loam	
18-24	10YR2/2						fs	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3) **(except MLRA 143)**
- ___ Hydrogen Sulfide (A4)
- X Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6) **(Drop in LRR R?)**
- ___ Dark Surface (S7) **(MLRA 149B of LRR S)**
- ___ Polyvalue Below Surface (S8) **(LRR R, S)**
- ___ Thin Dark Surface (S9) **(LRR R, S)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, S)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12)
- ___ Piedmont Floodplain Soils (F19)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ✓ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): ____

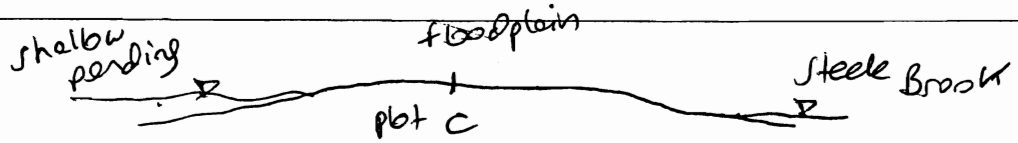
Water Table Present? Yes ✓ No ____ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 4

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Wetland Delineations Ecological Studies Site Assessments Project Planning Soil Testing

July 7, 2011

ATTN: Donald Smith, P.E.
Roald Haestad, Inc.
37 Brookside Road
Waterbury, CT 06708

RE: Pin Shop Pond Dam, Main Street, Watertown, CT

Dear Mr. Smith:

In accordance with your request, we have addressed portions of item #3 contained within the letter from the State of Connecticut Department of Environmental Protection that requests additional information pertaining to the above-referenced project. The letter was dated June 10, 2011. The questions contained within item #3 of the CT DEP letter are in bold and italics and our response follows in plain text. Other portions of item #3 will be addressed by Roald Haestad, Inc. under separate cover.

How will the principal functions of the Pin Shop Pond, listed in the submittal dated March 28, 2011, be affected by the dam removal? What will the functions of the area be after the project is complete?

The principal functions provided by Pin Shop Pond dam and associated wetlands include fish and shellfish habitat, sediment/shoreline stabilization and wildlife habitat. The principal functions provided by the pond and wetland complex are all either minimal or limited by the existing dam which blocks finfish passage and traps sediments (including contaminated sediments) reducing the water depth. In addition, the surrounding fill, retaining walls and development, and narrow configuration of the wetlands limit the wetland functions. And finally, the wetlands contain invasive species dominated by Japanese knotweed, purple loosestrife, euonymus, Japanese barberry, multiflora rose, honeysuckle, and bittersweet.

The finfish habitat provided in the pond is currently minimal due to the deep sediments which have caused shallow water conditions. The finfish habitat function following dam removal will increase due to the opening of the fish passage way down to the Naugatuck River. Also, it is proposed to install rock weirs in order to improve fish habitat and passage. The sediment/shoreline stabilization function of the pond will be eliminated when the dam is removed. The plans indicate a gravel bedding and riprap along the proposed 2:1 slopes along the constructed channel. These measures will provide shoreline stabilization along the re-established watercourse channel. No significant sediment accumulation is anticipated within the open channel compared with

545 Highland Avenue • Route 10 • Cheshire • Connecticut • 06410 • (203) 272-7837 • Fax (203) 272-6698

the sedimentation that occurred and is occurring due to the dam. The sediment/shoreline stabilization function will remain present, but just alter the function from along the pond edge to the watercourse channel. The wildlife habitat function associated with the pond and sediment created wetland islands is limited due to the narrow wetlands, shallow water depth, dam, contaminated sediments, invasive species, and surrounding development and retaining walls. Wildlife habitat will be enhanced along the re-created watercourse channel and corridor. Native herbaceous and shrub and tree plantings along the edge of the watercourse will improve the wildlife habitat that is present within the project area.

How far upstream in Steele Brook and in Wattles Brook will be affected by the dam removal? The impact map in the submittal dated March 28, 2011 shows that these brooks will be affected. What will the effects be?

Roald Haestad, Inc. will address these questions under separate cover.

How will the functions of the two brooks be affected?

The extent of impoundment because of the existing dam will be altered in a portion of the two brooks. The ponded water along Wattles Brook extends to approximately 300 feet downstream of the railroad bridge and the ponded water along Steele Brook extends to the Route 73 bridge. The primary functions of the Brooks include fish and shellfish habitat, nutrient export and sediment/shoreline stabilization. The warm water finfish habitat will decrease with the decreased water levels once the dam is removed. However, the opportunity for finfish habitat within the Brooks will be increased due to the removal of the existing dam and opening of the fishway to the Naugatuck River. The newly created fishway will be more beneficial to finfish than the existing shallow, warm water environment. The nutrient export function will be enhanced due to the removal of the dam. The sediment/shoreline stabilization function will remain the same since no work is planned along the wetland areas adjacent to the Brooks.

Will there be any affects upstream or downstream due to the loss of floodplain?

The floodplain along Steele Brook and Wattles Brook will still exist. There currently is very minimal floodplain along the pond edge. Roald Haestad, Inc. will address this question further under separate cover.

Respectfully submitted,

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Jennifer L. Beno
Biologist

ATTACHMENT I

THE OLD PIN SHOP, LLC
Oakville, Connecticut

PIN SHOP POND DAM
EROSION AND SEDIMENTATION CONTROL PLAN

SEQUENCE OF ACTIVITIES

Oakville, Connecticut

A. Project Description

The proposed project is for the breaching of the spillway, construction of a riprapped channel through the sediment in the pond at Pin Shop Pond Dam. The work will include demolition of the spillway, training walls, downstream spillway apron and footbridge; excavation and disposal on site of contaminated sediments; furnishing and placing an impermeable membrane cap and clean cover material; and topsoiling and seeding.

B. Sequence of Activities at Dam

The following is a general sequence of construction activities that relate to erosion and sediment control measures at the dam. The 2002 Connecticut Guidelines for Soil Erosion and Sediment Control were used in preparing this Plan. Temporary erosion and sediment control measures are shown on the Contract Drawings.

Work on the demolition and sediment removal is to be done under low flow conditions.

1. Install silt fence (GSF) along the top of the riprap and at the toe of fills, and stone check dams (SCD) in the brook channel downstream of the dam.
2. Excavate sediment upstream of the existing inoperative sluice gate and remove the old sluice gate.
3. Maintain a heavy road plate on site and equipment to lower it into the opening to control the flow.
4. Lower water level in Pin Shop Pond by removing the top portion of the downstream concrete outlet structure west wall.
5. Install a drop inlet structure and diversion pipeline along the east side of the pond to the intake.
6. Remove additional portions of the west wall of the downstream outlet structure to lower the water level in the pond.
7. Clear and grub areas to be excavated or filled. Trees and brush from clearing are to be salvaged or chipped. No burning will be permitted.
8. Wetland plants that are not invasive species are to be saved for replanting in the dewatered areas.

9. Proceed with excavation of the sediment for the construction of the permanent riprapped channel.
10. Dewater the excavation by pumping to the pump settling basins downstream of the dam.
11. All excavated sediment is to be disposed of on site in accordance with the Department of Environmental Protection permit requirements.
12. Construct the new ripped lined channel and rock fish weirs.
13. Remove the spillway section of the dam, the west training wall, the concrete spillway apron and footbridge.
14. Divert the stream flow through the new channel.
15. Proceed with demolition of the east training wall.
16. Remove the drop inlet structure on the diversion piping and plug the upstream end of the pipe.
17. Fill the outlet chamber with clean fill compacted in place.
18. Replant the salvaged wetland plants in the disturbed and dewatered areas (LP).
19. Grade, topsoil (TO), seed (PS), and mulch (MS) all disturbed areas not otherwise protected. Topsoil to be placed to a depth of 6 inches. Install erosion control blankets (ECB) on all slopes 3 horizontal to 1 vertical or steeper as each section is completed.

C. Maintenance of Erosion and Sediment Control

1. Maintain all erosion and sediment control measures for the duration of the project. Maintain stone check dams, replace silt fence and hay bales, and remove accumulated sediment, as necessary.
2. Replace filter bags at dewatering pump discharges, as required.
3. Inspect and repair erosion and sedimentation control measures weekly and after all rainfall events.
4. Install additional erosion and sediment control measures as needed or as directed.
5. Maintain additional hay bales, silt fence, and spill containment equipment on-site.
6. Fill erosion gullies. Reseed and remulch any grassed areas that exhibit signs of poor growth.
7. When disturbed areas are stabilized and a good growth of grass has been established, remove and dispose of the silt fence, hay bales and other erosion and sediment control materials.
8. Remove stone check dams and accumulated sediment.

ATTACHMENT I

FLOOD CONTINGENCY PLAN

The following Flood Contingency Plan has been prepared to guide the Contractor on safety measures to be taken in the event that a major storm is forecast with potential for significant flooding. The following steps are to be taken:

1. The Contractor shall monitor the weather forecasts and plan construction accordingly.

2. If the weather forecasts should indicate the possibility of significant rainfall, the Contractor shall plan for the possibility of high water levels at the site. Also, the Contractor shall notify the Engineer and Owner.

3. If a significant rainfall occurs, the Contractor shall maintain surveillance of the site.

4. The Contractor shall not store equipment, construction materials (i.e., fuels, solvents, hydraulic fluids, explosives, floatable objects, etc.) and stockpiles within the potential inundation area.

5. The diversion inlet shall be kept clear of obstructions and in operational condition until the channel is completed.

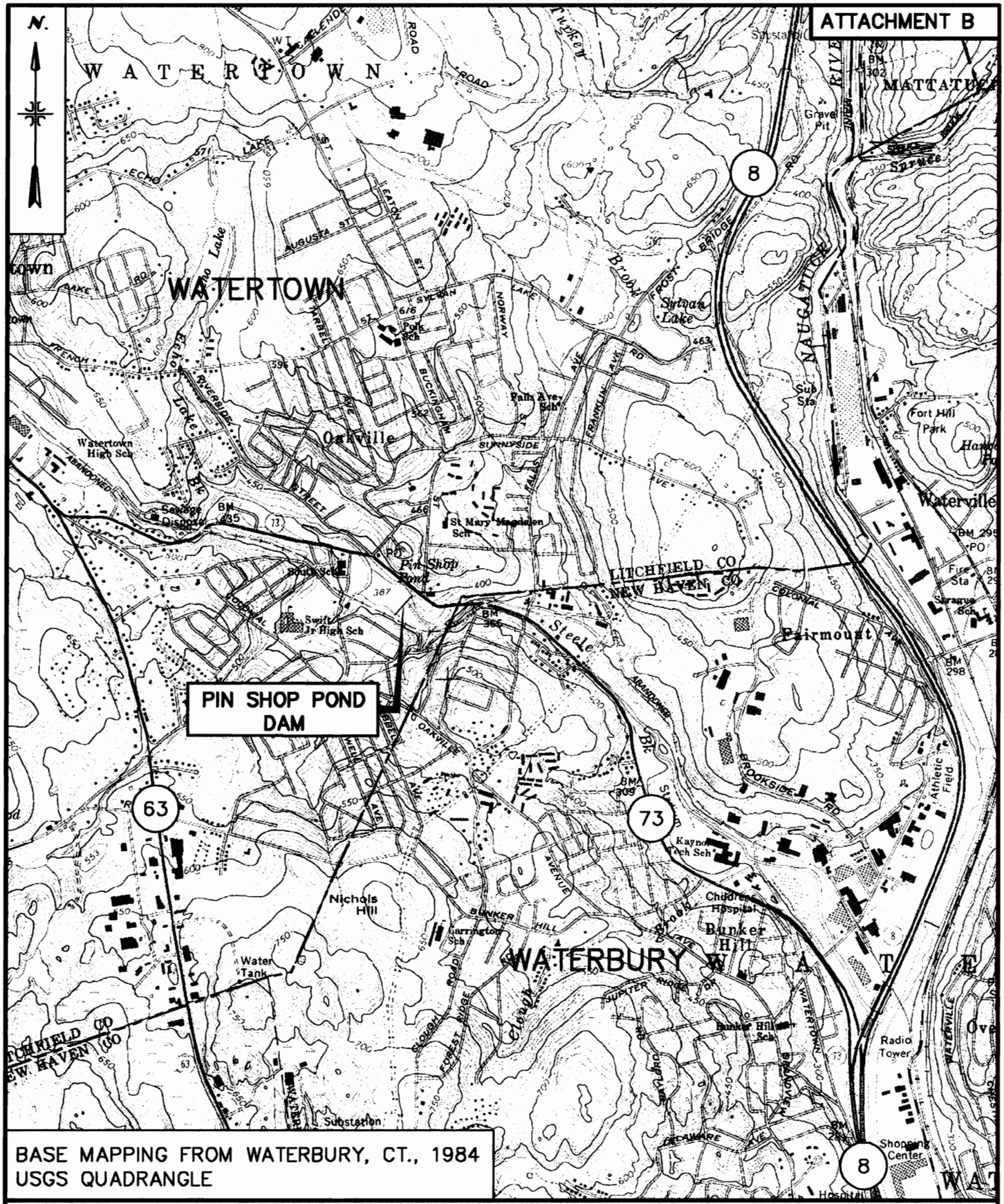
6. The Contractor shall maintain sufficient equipment and manpower at the sites in order to react to a flooding emergency.

7. Sedimentation and erosion control measures shall be inspected before and after all significant rainfalls. Repairs and maintenance shall be performed as required.

8. The Contractor shall submit the Flood Contingency Plan before any work commences, detailing actions to be taken during a flood emergency. The Contractor shall certify that personnel are familiar with all provisions of his plan and able to execute the same. The Contractor may use the above plan or prepare a plan of his own. In either case, **the Contractor shall submit a Flood Contingency Plan for approval within 15 days of the contract signing**.

9. The Contractor shall submit the names and 24-hour telephone numbers of responsible personnel, to be contacted in the event of an emergency. These personnel are to respond to the site if notified of an emergency.

ATTACHMENT B



BASE MAPPING FROM WATERBURY, CT., 1984 USGS QUADRANGLE

THE OLD PIN SHOP, LLC.

PIN SHOP POND DAM

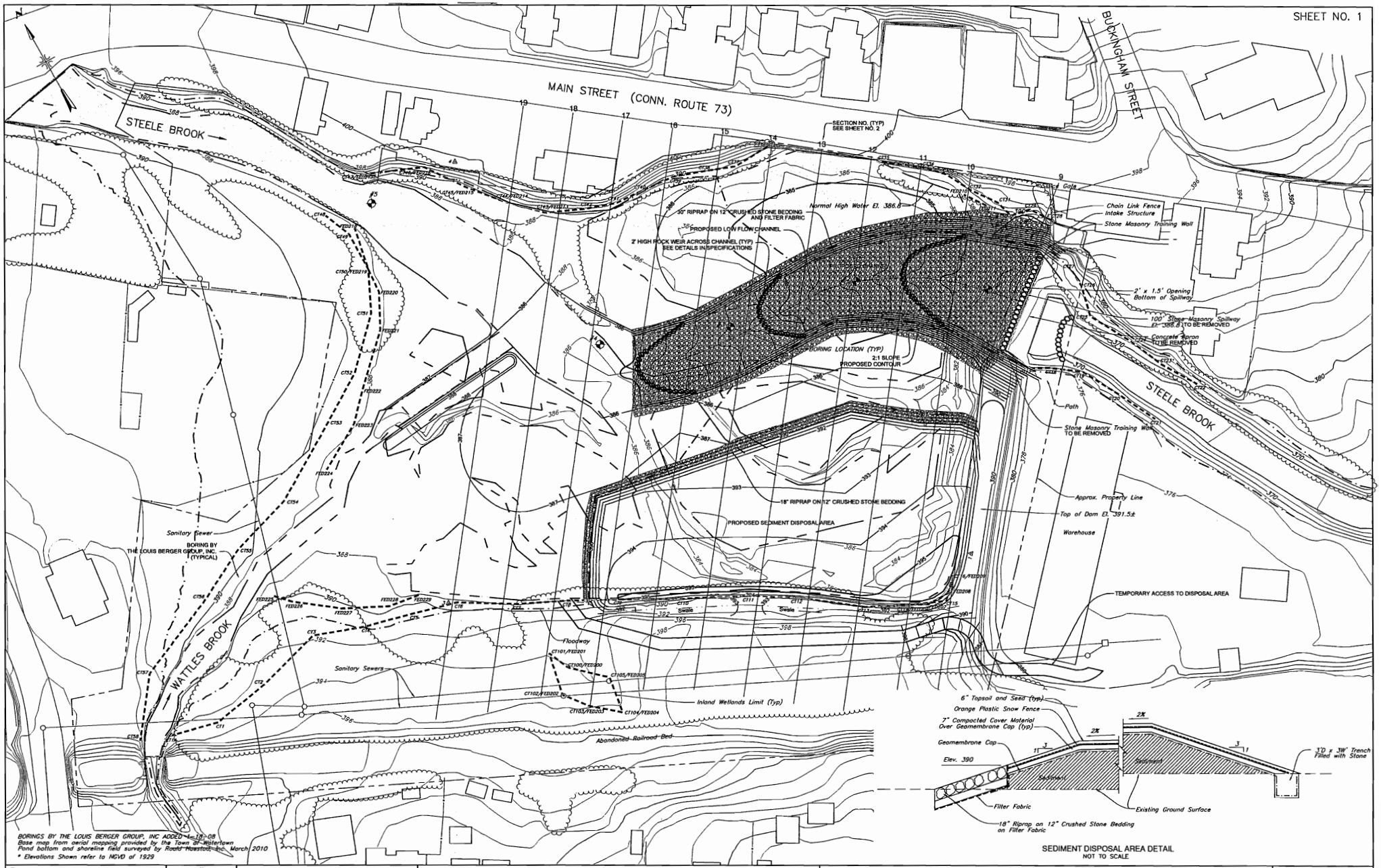
WATERTOWN, CONNECTICUT

LOCATION PLAN

SCALE: 1" = 2000'

ROALD HAESTAD, INC.

DECEMBER 2011



BORINGS BY THE LOUIS BERGER GROUP, INC ADDED 4-18-08
Base map from aerial mapping provided by the Town of Watertown
Pond bottom and shoreline field surveyed by Roald Haestad, Inc. March 2010
* Elevations Shown refer to NGVD of 1929

SEDIMENT DISPOSAL AREA DETAIL
NOT TO SCALE

ROALD HAESTAD, INC.
CONSULTING ENGINEERS
WATERBURY, CONNECTICUT

DESIGNED DLS DRAWN CHECKED MCW
REVISED 1 Per DEEP Comments 12/14/2011

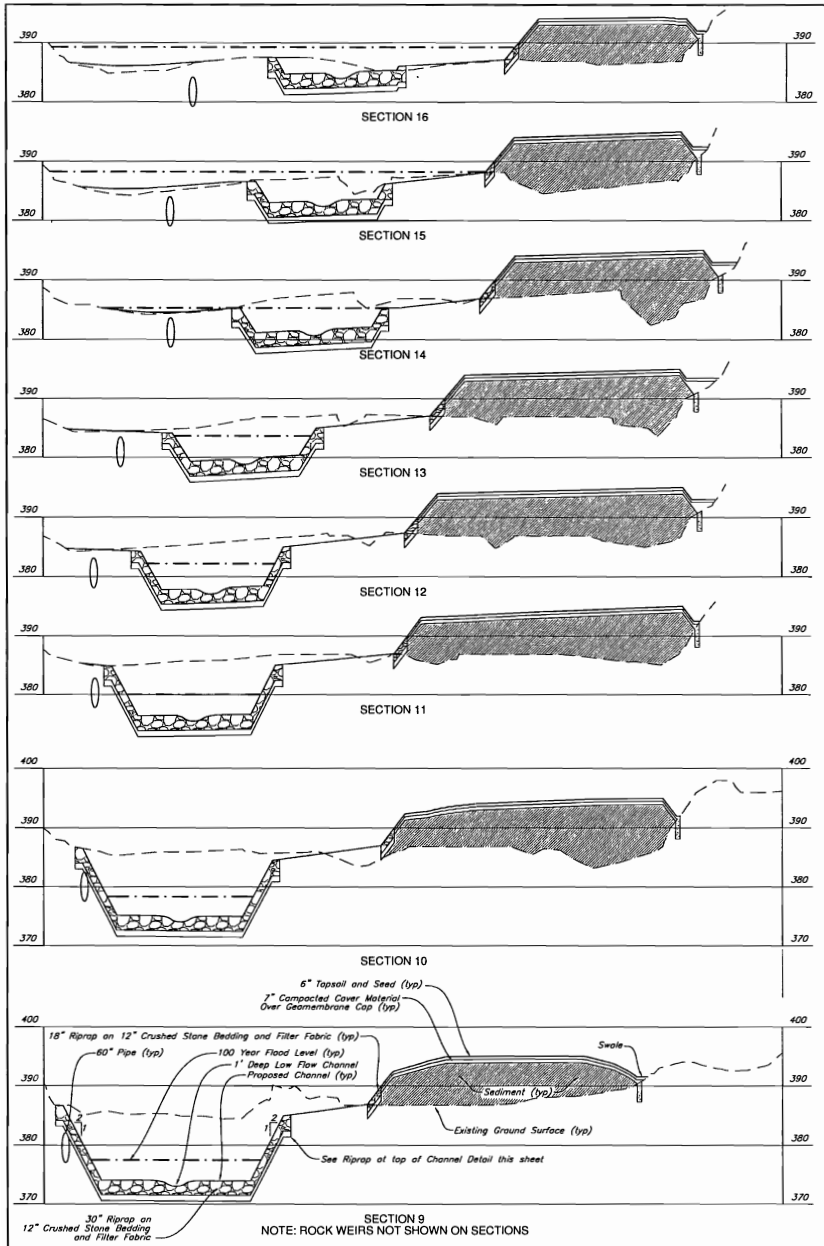
THE OLD PIN SHOP, LLC.
BREACHING PIN SHOP POND DAM
WATERTOWN, CONNECTICUT

SITE PLAN AND DETAIL

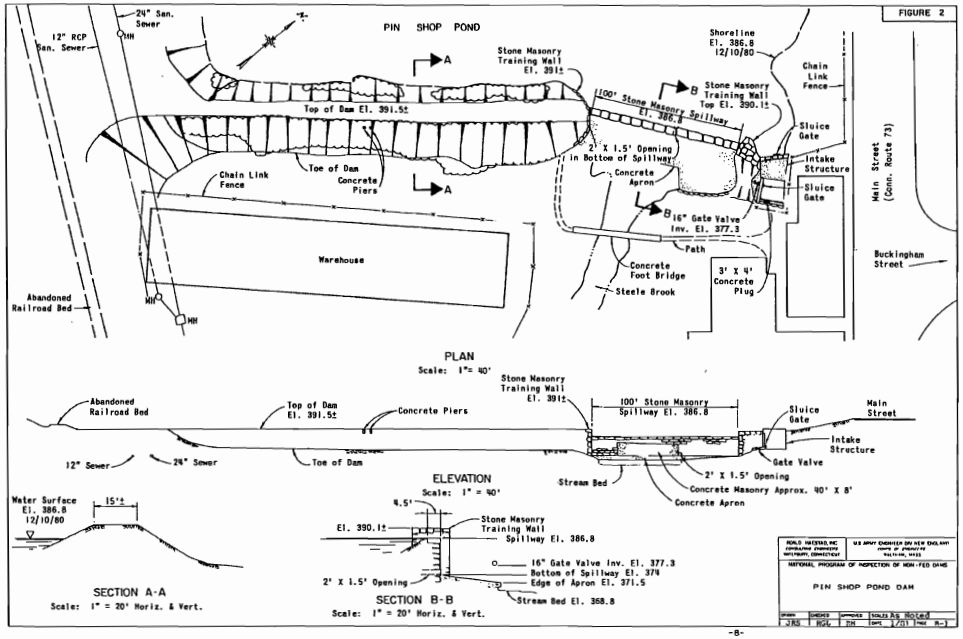
SCALE: 1"= 40' EXCEPT AS OTHERWISE NOTED

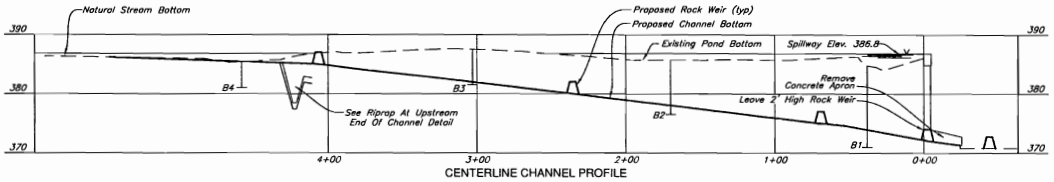
DATE: AUGUST 2011
SHEET NO. 1 OF 5
DWG. NO. 165-008-01.1

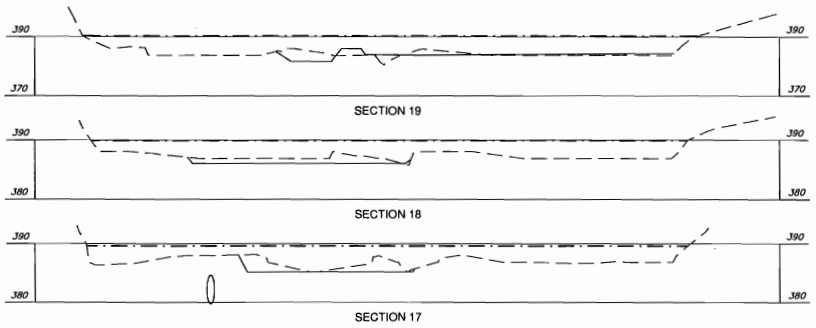
CAD FILE ID: PINSHOPSITEPLAN12-08

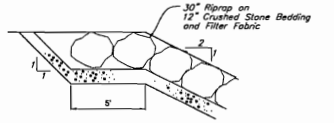


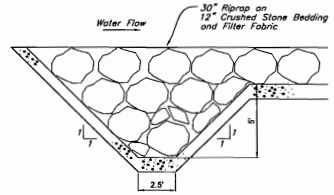
* Elevations Shown refer to NGVD of 1929











ROALD HAESTAD, INC.
CONSULTING ENGINEERS
WATERBURY, CONNECTICUT

DESIGNED DLS DRAWN CHECKED DLS

REVISED 1 Per DEEP Comments 12/14/2011

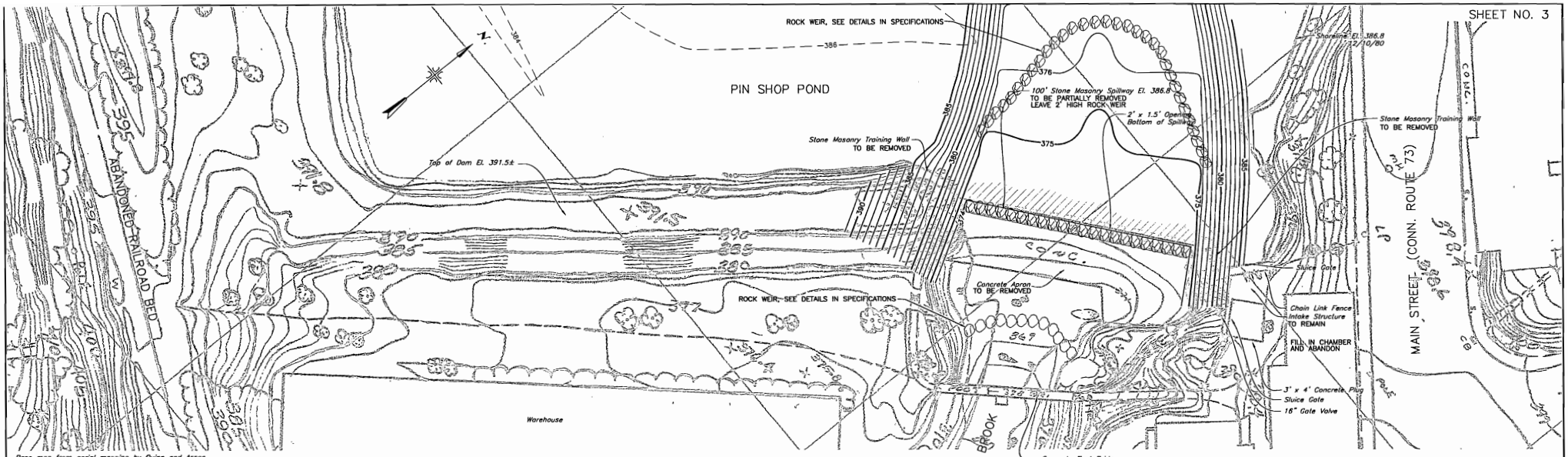
THE OLD PIN SHOP, LLC.
BREACHING PIN SHOP POND DAM
WATERTOWN, CONNECTICUT

PLAN, PROFILE AND SECTIONS

SCALES: 1" = 40' HORIZ., 1" = 10' VERT. EXCEPT AS OTHERWISE NOTED

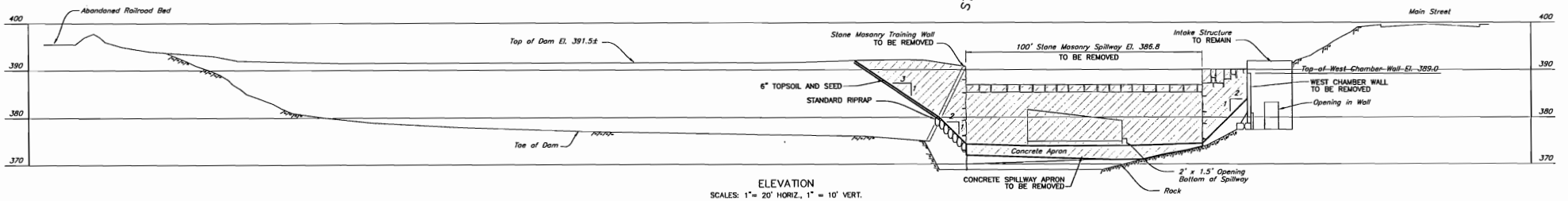
DATE: AUGUST 2011
SHEET NO. 2 OF 5
DWG. NO. 165-008-02.1

CAD FILE ID "PINSHOPSECTIONS"

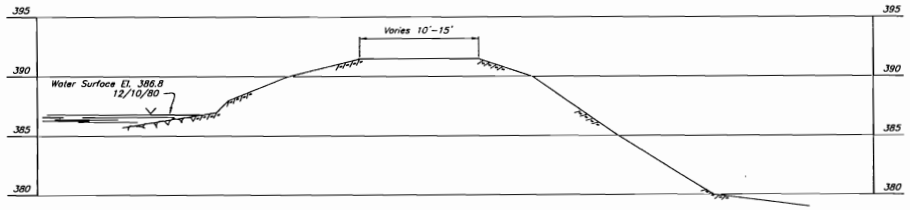


Base map from aerial mapping by Quinn and Assoc.

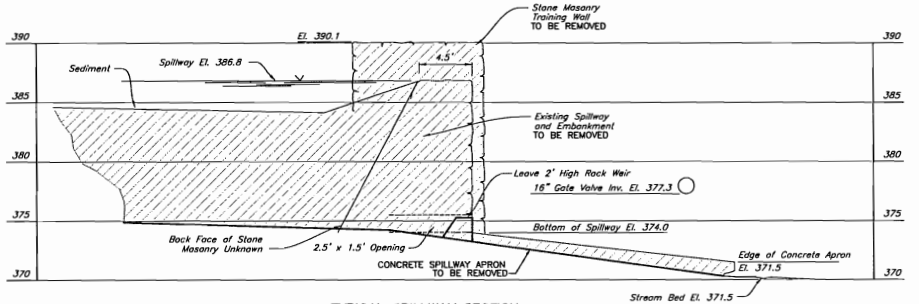
SITE PLAN
SCALE: 1"= 20'



ELEVATION
SCALES: 1"= 20' HORIZ., 1" = 10' VERT.



TYPICAL EMBANKMENT SECTION
SCALE: 1"= 5'



TYPICAL SPILLWAY SECTION
SCALE: 1"= 5'

* Elevations Shown refer to NGVD of 1929

ROALD HAESTAD, INC.
CONSULTING ENGINEERS
WATERBURY, CONNECTICUT

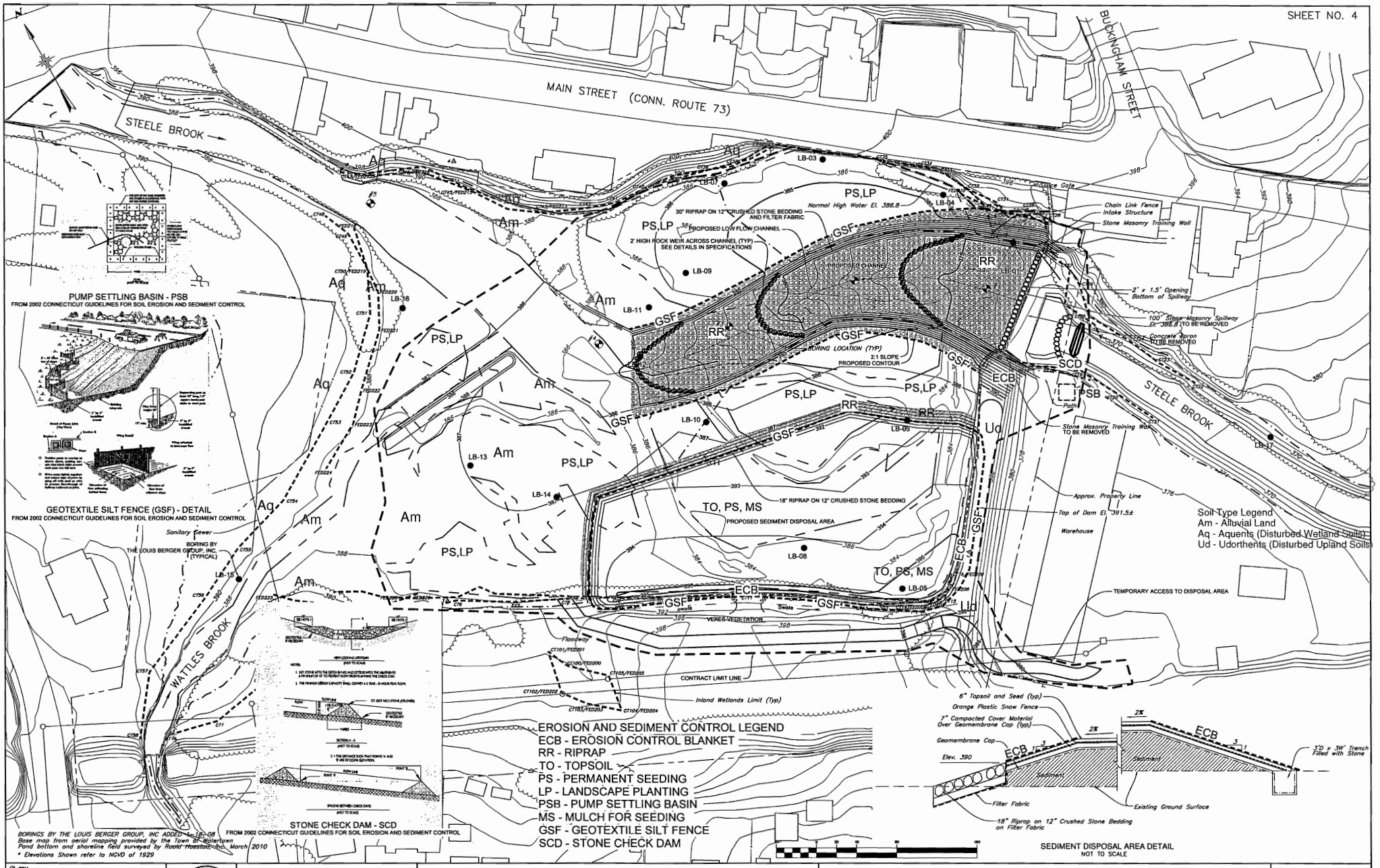
DESIGNED DLS DRAWN CNA CHECKED MVH DLS
REVISED 1 Per DEEP Comments 12/14/2011

THE OLD PIN SHOP, LLC.
BREACHING PIN SHOP POND DAM
WATERTOWN, CONNECTICUT

DAM BREACH
PLAN, ELEVATION AND SECTIONS
SCALES AS NOTED

DATE: AUGUST 2011
SHEET NO. 3 OF 5
DWG. NO. 165-008-03.1

CAD FILE ID 'SHEET3'



BORINGS BY THE LOUIS BERGER GROUP, INC AUGUST 18-08
Base map from aerial mapping provided by the Town of Watertown
Pond bottom and shoreline field surveyed by Roald Haestad, Inc. March 2010
* Elevations Shown refer to NGVD of 1929

ROALD HAESTAD, INC.
CONSULTING ENGINEERS
WATERBURY, CONNECTICUT

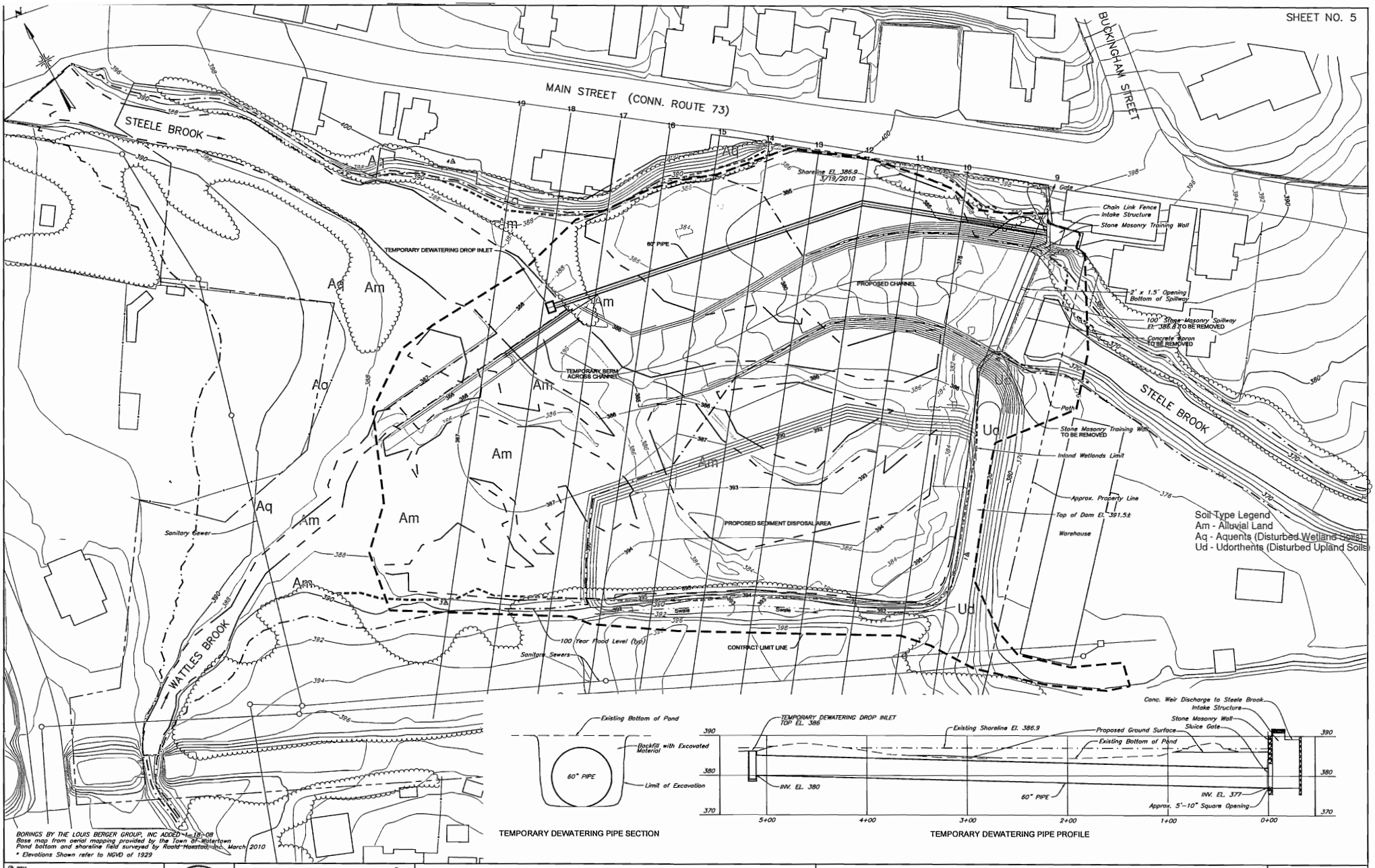
DESIGNED DLS DRAWN CHECKED
REVISED 1 Per DEEP Comments 12/14/2011

THE OLD PIN SHOP, LLC.
BREACHING PIN SHOP POND DAM
WATERTOWN, CONNECTICUT

EROSION AND SEDIMENT CONTROL PLAN AND DETAILS
SCALE: 1"= 40' EXCEPT AS OTHERWISE NOTED

DATE: AUGUST 2011
SHEET NO. 4 OF 5
DWG. NO. 165-008-04.1

CAD FILE ID 'ESCON'



TEMPORARY DEWATERING PIPE SECTION

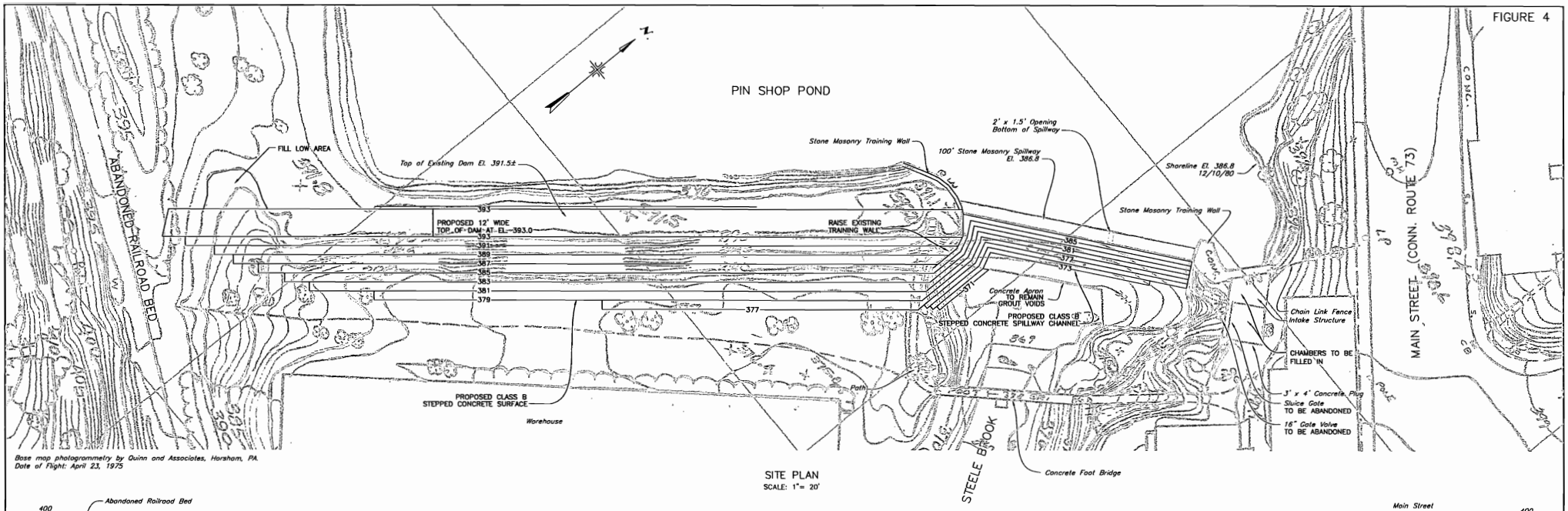
TEMPORARY DEWATERING PIPE PROFILE

BORINGS BY THE LOUIS BERGER GROUP, INC ADDED 1-18-08
Base map from aerial mapping provided by the Town of Watertown
Pond bottom and shoreline field surveyed by Roald Haestad, Inc. March 2010
* Elevations Shown refer to NGVD of 1929

ROALD HAESTAD, INC. *CONSULTING ENGINEERS* WATERBURY, CONNECTICUT	DESIGNED DLC DRAWN CHK CHECKED DLC MJJ REVISED	THE OLD PIN SHOP, LLC. **BREACHING PIN SHOP POND DAM** WATERTOWN, CONNECTICUT	CONTROL OF WATER SCALES: 1"= 40' HORIZ., 1" = 10' VERT.	DATE: AUGUST 2011 SHEET NO. 5 OF 5 DWG. NO.165-008-05.0

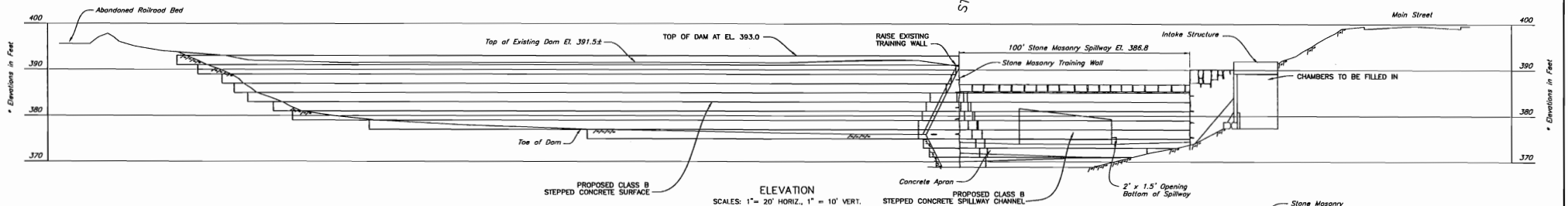
CAD FILE ID 'CONTROLOFWATERWITHPIPE'

FIGURE 4

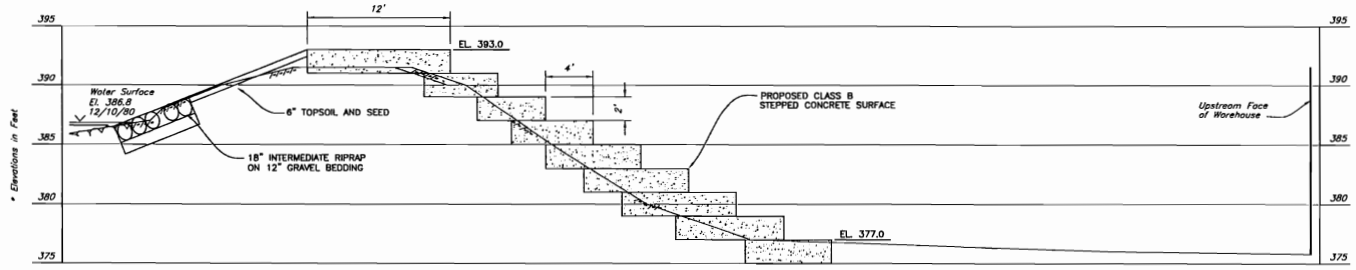


Base map photogrammetry by Quinn and Associates, Horsham, PA.
Date of Flight: April 23, 1975

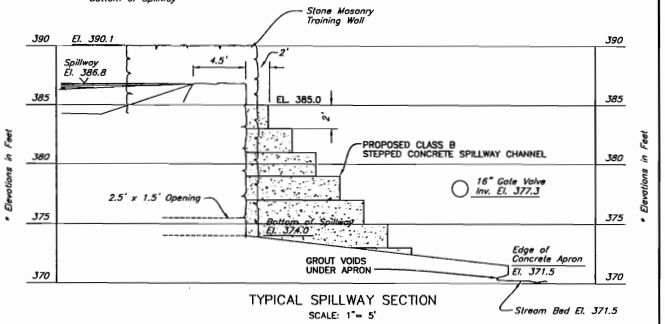
SITE PLAN
SCALE: 1"= 20'



ELEVATION
SCALES: 1"= 20' HORIZ., 1" = 10' VERT.



TYPICAL EMBANKMENT SECTION
SCALE: 1"= 5'



TYPICAL SPILLWAY SECTION
SCALE: 1"= 5'

THE OLD PIN SHOP, LLC.

PIN SHOP POND DAM

WATERTOWN, CONNECTICUT

ALTERNATIVE A
STEPPED CLASS B CONCRETE DAM
SITE PLAN, DAM ELEVATION, AND SECTIONS

SCALES AS NOTED

* Elevations Shown refer to NGVD of 1929

ROALD HAESTAD, INC. DECEMBER 2011

CAD FILE ID 'CLASSB2T01ANDSW'

PROJECT BUDGET

The Owner, The Old Pin Shop, LLC has already spent over $100,000 on studies, design and permit applications, which are not included in the below figures.

The Town of Watertown obtained a $40,000 grant from the Valley Council of Governments for a Brownfields pilot environmental study of the pond sediments. The Old Pin Shop paid the Town's 10% share.

Opinions of Probable Construction Cost (OPCC) have been made for both the breaching of the dam and for the alternative concrete armoring of the embankment. The Opinions of Probable Construction Cost include engineering fees and contingencies.

The OPCC for concrete armoring the embankment is about $600,000. This alternative does not require sediment disposal or wetlands mitigation costs. Control of water costs will be minimal.

The OPCC for breaching the dam and disposal of the sediments is about $1,300,000. This includes control of water, but not wetland mitigations costs, which have not been determined (waiting for Corps of Engineers determination).

The additional cost for breaching the dam over the cost to "make it safe" is $600,000.

The requested grant is $700,000 the other $600,000 will be paid for by The Old Pin Shop, LLC.

PIN SHOP POND DAM

OPINION OF PROBABLE CONSTRUCTION COSTS

IMPERMEABLE MEMBRANE CAP

BREACH DAM

12/21/2011

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	COMPUTED TOTAL
1	Site Work	LUMP SUM	50,000.00	50,000
2	Control of Water	LUMP SUM	50,000.00	50,000
3	Demolition of Existing Structures	600 c.y.	100.00	60,000
4	Excavation and Disposal of Sediments	15,000 c.y.	10.00	150,000
5	Riprap			
	5A. Standard Riprap	4,400 s.y.	50.00	220,000
	5B. Intermediate Riprap	400 s.y.	30.00	12,000
	5C. Crushed Stone Bedding	1,600 c.y.	35.00	56,000
	5D. Filter Fabric	4,800 s.y.	3.00	14,400
6	Impermeable Membrane Cap	7,500 s.y.	50.00	375,000
7	Compacted Cover Material	2,000 c.y.	20.00	40,000
8	Topsoil	7,500 s.y.	5.00	37,500
9	Seeding	10,000 s.y.	3.00	30,000
10	Remove Downstream Weir	Lump Sum	50,000	50,000
			COMPUTED TOTAL	**$1,144,900**
			Contingencies	**$100,000**
			Engineering	**$50,000**
			Total	**$1,294,900**
			FOR BUDGET PURPOSES USE	**$1,300,000**

PIN SHOP POND DAM

Oakville, Connecticut

Preliminary Opinion of Probable Costs

CONCRETE STEPPED EMBANKMENT PROTECTION

12/21/2011

ITEM No.	DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	COMPUTED TOTAL
1	Site Work	Lump Sum	50,000	50,000
2	Control of Water	Lump Sum	10,000	10,000
3	Class "B" Concrete	2,100 c.y.	200	420,000
4	Riprap	200 s.y.	60	12,000
			Subtotal	$492,000
			Contingencies	$50,000
			Engineering	$30,000
			Total	$572,000
			For Budget Purposes Use	**$600,000**

TABLE 1. HOUSATONIC RIVER NRD FUNDING ALLOCATION BY FISCAL YEARS [2]

PROJECT TITLE:	Removing Pin Shop Pond Dam, Watertown, CT						
SPONSOR NAME:	The Old Pin Shop, LLC						
EXPENSE CATEGORY (See App. A)	**FISCAL YEAR 1**		**FISCAL YEAR 2**		**FISCAL YEAR 3**		**FISCAL YEAR 4**
	Housatonic River NRD Funds		**Housatonic River NRD Funds**		**Housatonic River NRD Funds**		**Housatonic River NRD Funds**
A. SALARIES							
B. OVERHEAD AND BENEFITS							
C. CONTRACTED SERVICES		$700,000		0		0	0
D. SUPPLIES, MATERIALS AND EQUIPMENT							
E. TRAVEL							
F. OTHER (LIST)							
G. OTHER (LIST)							
TOTAL BY FISCAL YEAR	**1**	$700,000	**2**	0	**3**	0	**4** 0
GRAND TOTAL (sum of boxes 1+2+3+4) [This sum is the total NRD fund request and should match Part A, Budget Summary, Box 1]							

[2] The fiscal year is July 1 – June 30. If the proposed project will be completed in one year, fill in only the column titled "Fiscal Year 1."

TABLE 2. PROJECT BUDGET SUMMARY BY TASK AND FUNDING SOURCE

PROJECT TITLE:	Removing Pin Shop Pond Dam, Watertown, CT
SPONSOR NAME:	The Old Pin Shop, LLC

TASK[3]	HOUSATONIC RIVER NRD FUNDS	OTHER CONTRIBUTIONS		TOTAL COST BY TASK
		COMMITTED	NOT COMMITTED	
A. Project Construction	$700,000	$550,000		$1,250,000
B. Engineering	0	$50,000		$50,000
C.				
D.				
E.				
F.				
G.				
TOTAL BY FUNDING SOURCE	**5** $700,000	**6** $600,000	**7**	**8** **GRAND TOTAL** $1,300,000

NOTES: Box 5 should be the same as the Grand Total indicated in Part D Table 1. Box 6 above should match Part A, Budget Summary, Box 2. Box 7 above should match Part A, Budget Summary, Box 3. Box 8 should match Part A, Budget Summary, Box 4.

[3] The listed tasks should correspond with information provided in the Project Implementation Plan.