

**ATTACHMENT A**

**QUESTION 3:**

**PROJECT DESCRIPTION**

**PROJECT MAP**

**AERIAL PHOTOS**

## **BLACK RIVER PROJECT DESCRIPTION**

Erie Boulevard Hydropower, L.P.'s (Erie's) Black River Project (FERC No. 2569) consists of five hydroelectric developments along the Black River in Jefferson County, New York.

The Black River drainage basin is located in the north-central region of the state and has a total area of 1,876 square miles (at USGS gage located at Vanduzee Street). The Black River drains a portion of the western slope of the Adirondack Mountains and eastern and northern portions of the Tug Hill Plateau, and the river flows for 112 miles from its origin in the Adirondacks to its mouth at Lake Ontario. The river is divided into three general topographic reaches. The upper reach is mountainous and characterized by rapids and waterfalls. Below Lyons Falls (RM 73), the river enters a middle reach—the Black River Flats—that stretches 42 miles to the village of Carthage. Below Carthage, the river enters a lower reach, also characterized by rapids and falls as this reach drops 480 ft over 30 miles before entering Lake Ontario.

Three major storage reservoirs in the upstream drainage area are operated by the Board of the Hudson River/Black River Regulating District to provide storage of spring runoff, flood mitigation, and low-flow augmentation for the lower Black River. The Black River began providing hydroelectric power for pulp and paper mills and other industries during the mid-1800s. And while most of the mills and industries are no longer operating, 21 operating hydropower developments still line the Black River from river mile 92.0 to 1.5.

The five hydropower dams and powerhouses that comprise Erie's Black River Project lie between the City of Watertown and west of the Village of Carthage. Progressing downstream from Carthage, these are the Herrings (RM 27.5), Deferiet (26.0), Kamargo (RM 17.0), Black River (RM 15.0), and Sewalls (RM 10.0) developments. These developments are all operated automatically to maintain impoundment levels within 0.5 foot below the dam crest or the top of flashboards and provide a continuous baseflow of not less than 1,000 cfs (or inflow) through the entire project.

### **A. Black River Project**

#### *Herrings Development*

The 140-acre Herrings reservoir is impounded by a 512-foot-wide by 25-foot-high, L-shaped concrete gravity dam. The dam has a crest elevation of 679.1 ft and is topped with seasonally-installed 1-foot-high wooden flashboards. The intake structure is integral with the powerhouse and consists of a 9-foot-wide stoplog waste sluice, an 11-foot-wide stoplog waste sluice downstream of the trashracks, and nine motor-operated slide gates. The intake structure is equipped with 2-inch clear-spaced trashracks with 1-inch clear-spaced seasonal trashracks in the top half of the water column.

The brick and masonry powerhouse contains three vertical Allis-Chalmers generating units, each rated at 1.8 MW. The units have a combined hydraulic capacity of 3,609 cfs. The units discharge to the Black River via a short excavated rock tailrace. Additional licensed works at the Herrings Development include transmission lines, a step-up transformer, and appurtenant facilities.

The Herrings Development does not have a true bypassed reach, but there is a 100-foot-long area between the foot of the angled dam and the powerhouse tailrace. A constant minimum flow of 20 cfs is released through the stoplog section located between the dam and trashracks.



**Figure 1. Powerhouse and L-shaped dam at the Herrings Development.**

### *Deferiet Development*

The dam at the Deferiet Developments consists of a 503-foot-long by 18-foot-high Ambursen dam section with a crest elevation of 656 feet and topped with a 3-foot-high pneumatic flashboard system. There is also a 192-foot-long sluice gate section with eleven stoplog bays and a 180-foot-wide concrete power canal headworks section with ten steel gates. The dam forms a reservoir with a surface area of 70 acres. A 4,200-foot-long canal connects the intake headworks with the powerhouse. The intake structure consists of three steel slide gates and an 11-foot-wide ice sluice controlled by stoplogs. The existing 3.5-inch clear-spaced trashracks were replaced in 2008 with 2-inch clear-spaced trashracks with 1-inch clear-spaced seasonal trashracks in the top half of the water column.

The powerhouse is adjacent to a now-idle paper mill, which was originally owned by St. Regis Paper Company and is currently being decommissioned. The industrial character of this portion of the development contrasts with the wooded surroundings of the dam and reservoir. The brick and masonry Deferiet powerhouse contains three vertical Francis generating units, each rated at 3.6 MW. The units have a combined hydraulic capacity of 3,441 cfs and discharge to a 1,400-foot-long excavated tailrace. Additional licensed works at the Deferiet Development include transmission lines, a step-up transformer, and appurtenant facilities.

The bypassed reach formed by the Deferiet Development is 1.6 miles long, with the lower 0.5 miles backwatered from riffles and a split channel complex around an island immediately downstream of the tailrace. A total minimum flow of 245 cfs is released at the dam at all times, and an additional 555 cfs is released during walleye spawning season.



**Figure 2. The Deferiet dam, with 3-foot pneumatic flashboards**

### *Kamargo Development*

The main spillway sections of the dam at the Kamargo Development is a 647-foot-long by 12-foot-high concrete gravity section with a crest elevation of 561.8 feet and topped with seasonally-installed 2-foot-high wooden flashboards. The dam, which forms a reservoir with a surface area of 40 acres, also includes a 150-foot-long non-overflow section and a 131-foot-long power canal gated headworks structure. A 3,850-foot-long unlined canal leads to the 580-foot-long concrete forebay channel, which consists of a 190-foot-long concrete gravity overflow section, a 230-foot-long concrete gravity section topped with 1-foot-high wooden flashboards, and a 160-foot-long side channel spillway section equipped with twelve stoplog bays. The intake structure includes a waste sluice and nine timber gates with stoplog slots and is equipped with 2-inch clear-spaced trashracks with 1-inch clear-spaced seasonal trashracks in the top half of the water column.

The brick and masonry Kamargo powerhouse contains three vertical Francis generating units, each rated at 1.8 MW. The units have a combined hydraulic capacity of 3,300 cfs and discharge directly to the river via a short excavated tailrace. Additional licensed works at the Kamargo Development include transmission lines, a step-up transformer, and appurtenant facilities.

The bypassed reach formed by the Kamargo Development is 3,000 feet long. A minimum flow of 120 cfs (or inflow) is released through a notched section of the dam at all times.



**Figure 3. Downstream view of power canal and bypassed reach at the Kamargo Development.**

### *Black River Development*

The 25-acre Black River Development reservoir is formed by a 327-foot-long by 16-foot-high horseshoe-shaped dam. The dam includes a concrete wall abutment, a 36.5-foot-long gated section housing two sluice gates with an abandoned substructure powerhouse and a 291-foot-long by 25-foot-high concrete gravity spillway with a crest elevation of 534 feet and topped with 2-foot-high wooden flashboards. An 80-foot-long concrete power canal headworks structure with thirteen timber slide gates leads to the 2,250-foot-long concrete-lined power canal with a side concrete waste weir. The intake structure consists of nine timber slide gates and is equipped with 2-inch clear-spaced trashracks with 1-inch clear-spaced seasonal trashracks in the top half of the water column.

The brick and masonry Black River powerhouse contains three vertical Francis generating units, each rated at 2 MW. The units have a combined hydraulic capacity of 3,201 cfs and discharge directly to the river via a short excavated tailrace. Additional licensed works at the Black River Development include transmission lines, a step-up transformer, and appurtenant facilities.

The bypassed reach formed by the Black River Development is 2,800 feet long. A minimum flow of 80 cfs (or inflow) is released through a notched section of the dam at all times, and an additional 220 cfs released at the dam during walleye spawning season.



**Figure 4. Upstream view of tailrace, powerhouse, canal, and bypassed reach at the Black River Development.**

#### *Sewalls Development*

The last two developments of the Black River Projects, the Sewalls and Beebee Island Developments, are located within the City of Watertown. The Sewalls Development formerly consisted of powerhouses and dams on each the south and north channel of Sewalls Island. The north channel facility is no longer used for power generation.

The south channel dam at the Sewalls Development is a 243-foot-long by 15.5-foot-high concrete gravity dam with a crest elevation of 463.9 feet and no flashboards. The Sewalls reservoir has a surface area of only 4 acres. A 65.5-foot-long gated power canal headworks structure with two stoplog bays and two steel slide gates leads to the 400-foot-long by approximately 34-foot-wide concrete-lined power canal. The wall of the canal is adjacent to the Black River, has a crest elevation of 463 feet and is topped with 2-foot-high flashboards. The intake structure includes a waste sluice, low-level drain, and four steel slide gates and is equipped with 2-inch clear-spaced trashracks.

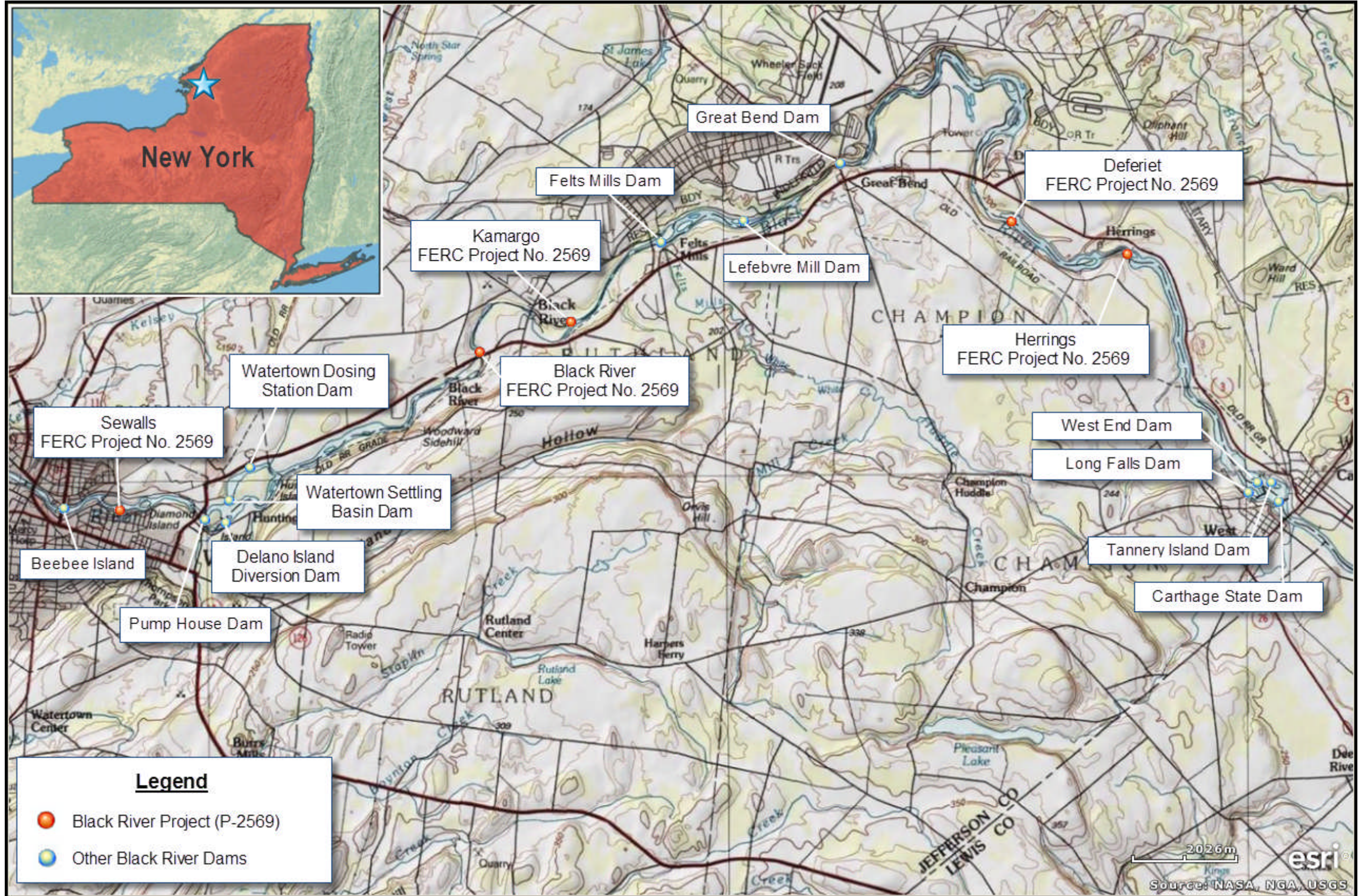
The brick and masonry Sewalls powerhouse contains three vertical Allis-Chalmers propeller-type generating units, each rated at 1 MW. The units have a combined hydraulic capacity of 2,700 cfs and discharge directly to the river via a short excavated tailrace. Additional licensed works at the Sewalls Development include transmission lines, a step-up transformer, and appurtenant facilities.

Bypassed reaches exist in both the south and north channels around Sewalls Island. The Sewalls Island south channel bypass is only 400 feet long, and a minimum flow of 137 cfs is maintained in the south channel at all times. The north channel bypass consists of two large connected pools, one immediately downstream of the dam and one immediately upstream of Black Clawson dam. A minimum flow of 32

cfs is released into the north channel at all times.

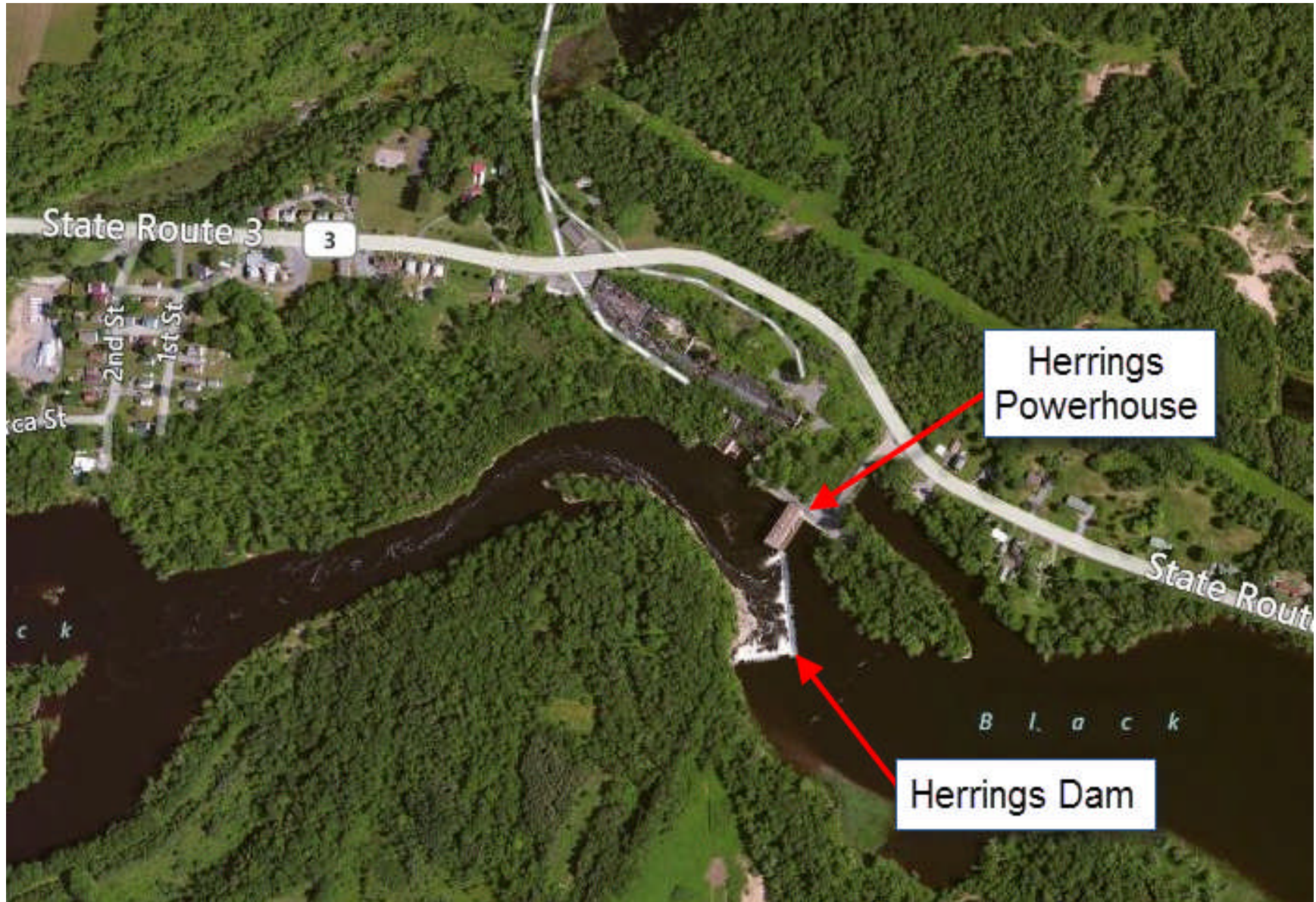


**Figure 5. Downstream view of the Sewalls Development, which is located within the City of Watertown.**

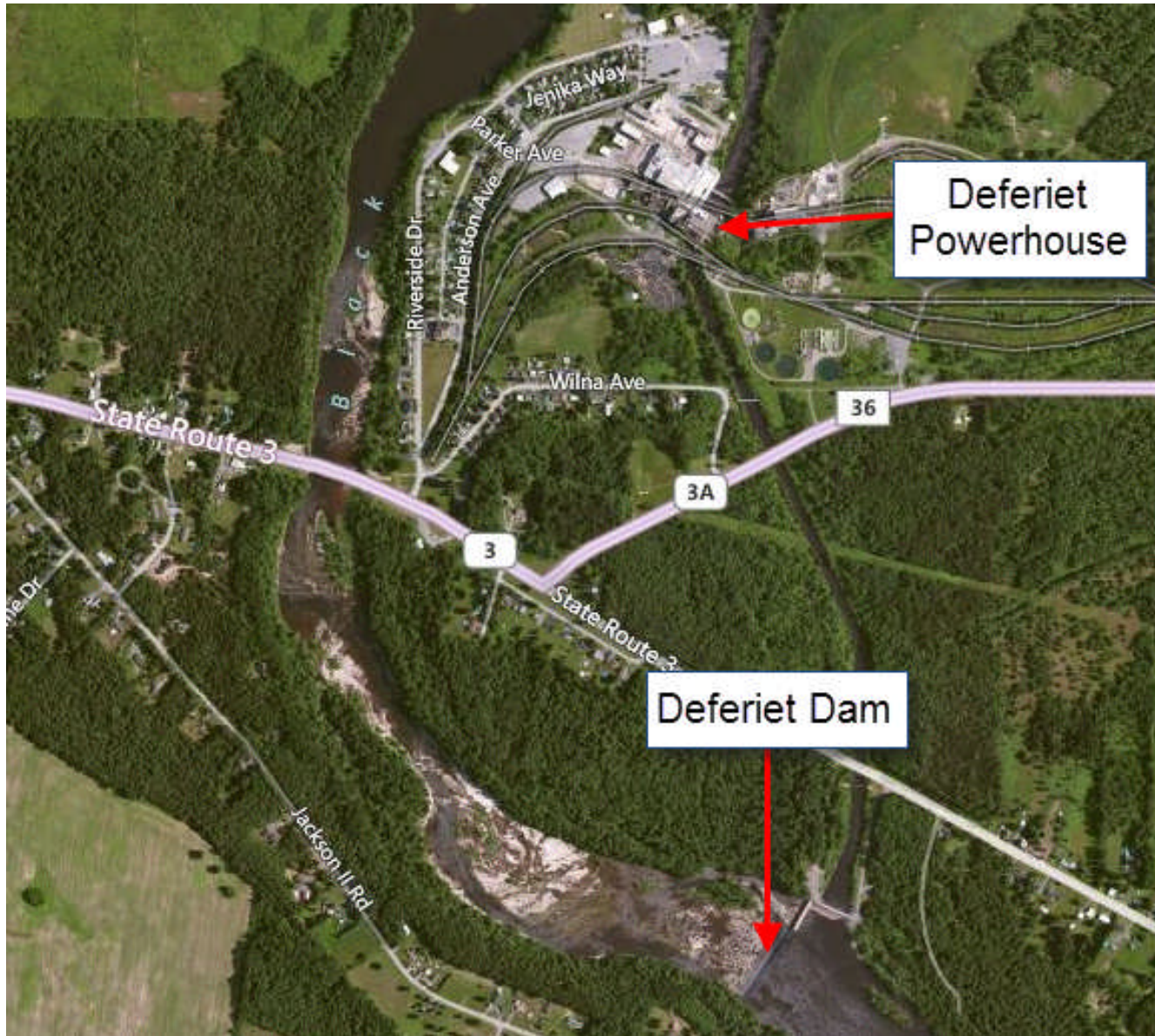




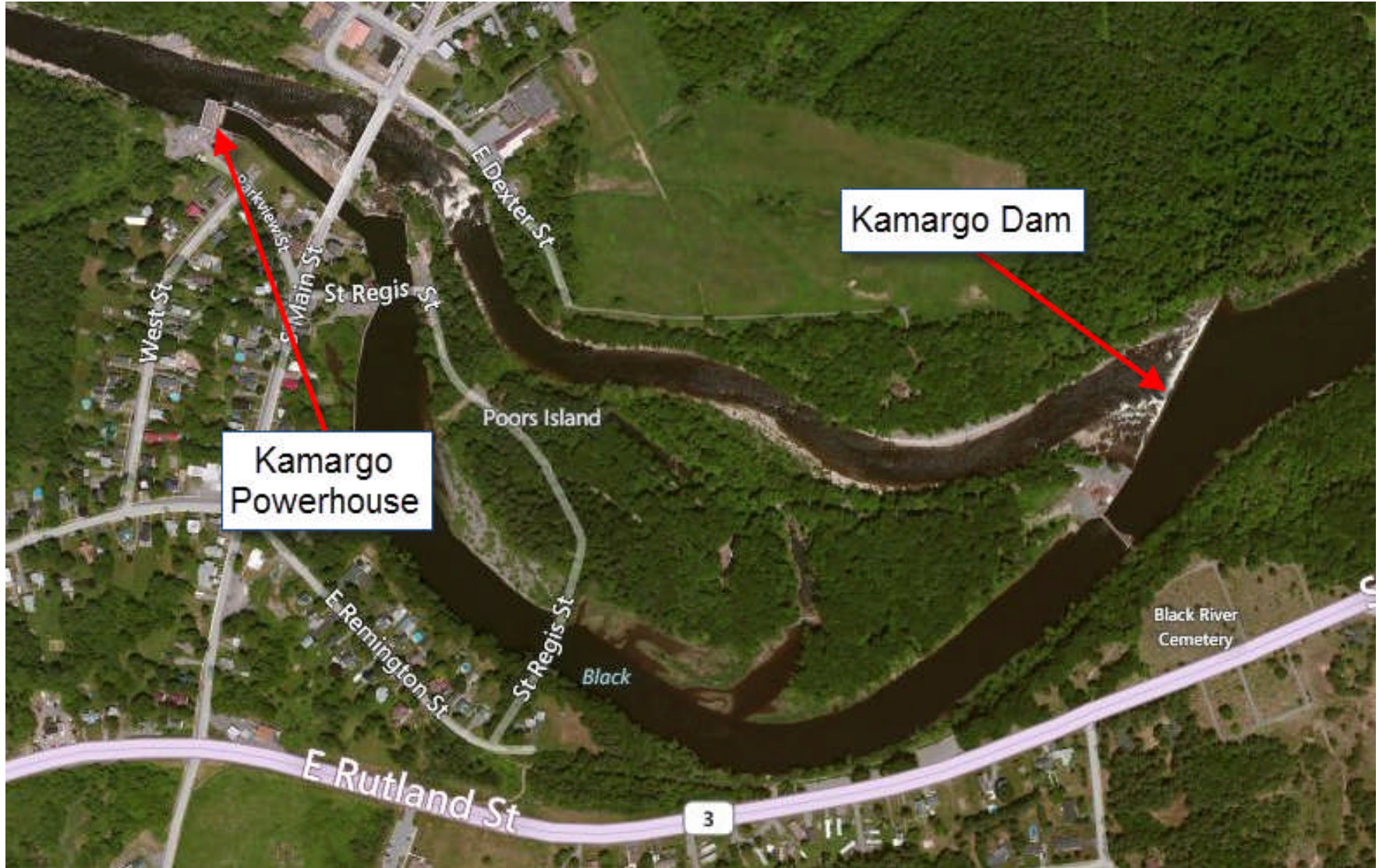
# HERRINGS DEVELOPMENT



## DEFERIET DEVELOPMENT



# KAMARGO DEVELOPMENT



# BLACK RIVER DEVELOPMENT



**SEWALLS DEVELOPMENT**



**ATTACHMENT B**

**QUESTION 6:**

**SEPTEMBER 14, 1995 BLACK RIVER PROJECT & BEEBEE ISLAND PROJECT  
SETTLEMENT OFFER**

**DECEMBER 24, 1996 ORDER ISSUING NEW LICENSE (P-2569)**

**NOVEMBER 3, 1995 WATER QUALITY CERTIFICATION**

**AUGUST 20, 1998 ORDER AMENDING LICENSE ARTICLE 401**

BLACK RIVER PROJECT, FERC NO. 2569,

of

NIAGARA MOHAWK POWER CORPORATION

and

BEEBEE ISLAND PROJECT, FERC NO. 2538,

of

BEEBEE ISLAND CORPORATION

SETTLEMENT OFFER

September 14, 1995

Black River Project FERC No. 2569  
and  
Beebee Island Project FERC No. 2538

Settlement Offer

Signatories:

Niagara Mohawk Power Corporation  
Beebee Island Corporation  
New York State Department of Environmental Conservation  
United States National Park Service  
United States Fish and Wildlife Service  
Adirondack Mountain Club  
New York Council, Trout Unlimited  
New York State Conservation Council  
New York Rivers United  
American Whitewater Affiliation  
Natural Heritage Institute  
American Rivers  
National Audubon Society

Final signatories revision 10/10/95



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## I. INTRODUCTION

The purpose of this Settlement Offer is to document the areas of agreement that exist as the result of comprehensive settlement discussions between the signatories with regard to the relicensing of the Black River Project (Federal Energy Regulatory Commission [FERC] No. 2569) and the Beebee Island Project (FERC No. 2538). As such, it is a summary of all areas of agreement emanating from the detailed license application exhibits, studies, reports, meeting minutes and other consultation records that have been and will be developed for the projects and submitted to the consulted resource agencies and FERC.

The goal of this Settlement is to provide for power generation plus the long-term protection of, mitigation for damage to, and enhancement of the Black River's fish and wildlife resources as affected by the hydropower developments at the Black River and Beebee Island Projects. The Settlement will enhance opportunities for recreational and other river uses by reducing non-natural fluctuations in impoundments and riverine reaches affected by the developments in both Projects. Finally, the Settlement will include provisions for monitoring, enforcement and updating or revisitation of agreements.

This Settlement Offer provides the terms and conditions for the resolution of the operations, fisheries, wildlife, water quality, lands management and ownership, recreation and aesthetics issues raised by the signatories regarding the issuance of new licenses for the Black River and Beebee Island Hydroelectric Projects, these being all the issues presently addressed.

The Black River Project, which is licensed to, owned, operated and maintained by Niagara Mohawk Power Corporation (NMPC) consists of the Herrings, Deferiet, Kamargo, Black River and Sewalls Developments. The Beebee Island Project, which is owned by and licensed to Beebee Island Corporation (BIC) but operated and maintained by NMPC pursuant to contractual agreement with BIC, consists of just the Beebee Island Development. BIC is partly owned by NMPC.

All 6 developments are located on the Black River in New York State. The Herrings Development, the furthest upstream, is located 27.5 miles from Lake Ontario and the Beebee Island Project, the most downstream, is located 9.5 miles from Lake Ontario. The developments are in the Villages of Black River and Deferiet, Towns of Champion, Wilna, Rutland and Leray and in the City of Watertown in Jefferson County, New York.

## (I. GENERAL AGREEMENTS

### A. Abbreviations

The following abbreviations will be used throughout this document:

Additional Information Request = AIR  
Adirondack Mountain Club = ADK  
American Whitewater Affiliation = AWA  
Beebe Island Corporation = BIC, or licensee \*  
Cubic feet per second = cfs  
Federal Energy Regulatory Commission = FERC  
National Park Service = NPS  
New York Council, Trout Unlimited = NY/TU  
New York Rivers United = NYRU  
New York State Department of Environmental Conservation = NYSDEC  
New York State Conservation Council = NYSCC  
Niagara Mohawk Power Corporation = NMPC, or licensee \*  
Run of River = r-o-r  
United States Fish and Wildlife Service = USFWS

\* or, "the licensees" in uses applying to both corporations

### B. Effective Date

The effective date of this Settlement Offer is the date the FERC license is issued. However, if a party seeks rehearing on a particular issue, then the effective date of obligations under the Settlement Offer on that particular issue will be the date of final resolution of that issue by FERC or the applicable judicial forum.

### C. Run-of-River Operation

For the purposes of this Settlement Offer, run-of-river operation is defined as operation based on an active storage volume of zero cubic feet at all times; therefore, the instantaneous sum of all discharges and releases will equal the instantaneous inflow to the impoundment to the extent practicable. This condition may be temporarily modified by operating emergencies beyond the control of licensees or for short periods upon mutual agreement between the licensee and the NYSDEC. The USFWS will be notified of these events by licensee.

D. Flows

1. The licensees will provide a continuous flow of not less than 1,000 cfs through the 6 developments, except when inflow is less than 1,000 cfs, outflow will be determined by and be equivalent to inflow.

2. There are some surges that are within and others that are beyond the control of licensees. For the purposes of this Settlement Offer, "surge" is defined as a sudden and perceptible, manmade raising or lowering of river flow and stage (where "sudden" is on the order of minutes).

3. For the purpose of establishing the duration of flows designated for walleye spawning season, walleye spawning season is defined as that period of the year commencing on March 15 and continuing until 30 days after the average daily water temperature of 50 degrees Fahrenheit is reached or exceeded on four consecutive days after April 15, unless modified by mutual agreement between NYSDEC and USFWS.

E. Flow Release Structures

Flow release structures will be designed to minimize adverse impacts to fish moving downstream and be cost effective and reasonable. Final details of designs, including final locations and the potential need for fish protection and conveyance measures (e.g., plunge pools, piping, etc.), if any, will be based on 1996 field inspections and professional judgement of the USFWS and NYSDEC. Installation will be undertaken by licensees within two years of FERC license issuance.

F. Project Operations

1. For compliance purposes, no impoundment elevation shall drop lower than 0.5 feet below the permanent crest of dam or the top of flashboards when dam is so equipped. This condition may be temporarily modified by operating emergencies beyond the control of the licensee or for short periods upon mutual agreement between the licensee and the NYSDEC. The USFWS will be notified of these events by licensee.

Additional operating conditions are described for the Herrings Development (III.A.), the Sewalls Development (VII.A.), and the Beebee Island Project (VIII.A.).

2. In order to protect nests of reservoir spawning fish and migratory and non-migratory nesting birds, flashboards shall be installed at each development by May 1 or as soon thereafter as safely possible.

3. If the impoundment cannot be maintained within 0.5 feet of the top of the flashboards between May 1 and June 30 because of flashboard problems, licensees will, for ease of communication, alert the local NYSDEC to propose remedial actions. NYSDEC will communicate with the USFWS, and will within 5 business days approve which, if any, remedial actions may be done before June 30. Permission for remedial actions will be granted only upon agreement by both agencies.

G. Fish Protection

To exclude many adult fish from being entrained through the turbines, licensees will replace the existing trashracks at all developments with new trashracks having 2-inch clear bar spacing. In addition, at all developments except for Sewalls Development (for which only the 2-inch clear bar spacing trashracks are required), overlays having 1-inch clear bar spacing will be placed in the top 50% of the water column from May 1 through October 1.

Installation of at least one set of new trashracks and overlays at any development will be completed within 2 years of the date of license issuance. Work on all developments within a project will be completed by year 12 from the date of issuance of the applicable license.

H. Upstream Fish Passage

Consistent with existing fishery management objectives, no upstream fish passage measures will be required at this time.

I. Fisheries Management

No effectiveness studies of fish exclusion, protection or movement will be required as part of this Settlement. However, should the understanding of fish movements, fish-passage technology, fishery management goals, or other needs change during the term of the licenses, the USFWS reserves the authority of the Department of Interior to prescribe fishways as may be deemed necessary in the future.

J. Endangered Species and Historic Preservation

There are no endangered species or historic preservation issues for these developments according to presently available information.

K. Visual Resources

All new and replacement fencing, including support structures, will be painted or finished in a dark brown-green (as used at the Kosterville Development on the Moose River). Existing fencing will be finished to the same color when maintenance includes painting or refinishing. Similar consideration will be given to out buildings or other architectural improvements to existing structures.

L. Access

Any access granted or acquired for recreational purposes in the context of this Settlement will be for general public use and not restricted to fishing.

M. Recreation Facilities and Consultation

Recreational facilities, as described in the above-referenced FERC new license applications and any Additional Information Request (AIR) responses filed with FERC, will be provided at each applicable development within two years of effective date of license issuance. Any exceptions or additions are described under the Recreation section for each development listed in this Settlement Offer (and are generally indicated on maps for each development, included as Attachment 3). Indicated recreational facilities will be located on licensees' existing lands unless otherwise noted. Existing recreational facilities as described in the applications will be maintained unless otherwise noted herein.

Recreation enhancements will be developed in consultation with individual members of the Black River Advisory Council (described in Attachment 1).

N. Cartop Boat

For the purposes of this Settlement, a cartop boat is one which requires neither a ramp nor trailer to launch and retrieve.

O. Proposals Withdrawn

Licensees' proposals to erect pneumatic flashboards at the Deferiet, Kamargo and Black River Developments; to construct a new powerhouse and generating facility on the north channel of the Sewalls Development; and to construct a new powerhouse and generating facility on the north shore of the Beebee Island Project and to increase the impoundment elevation at the Beebee Island Project by 5 feet through the installation of an inflatable crest dam, are all withdrawn. No changes to existing normal impoundment elevations are proposed.



### III. HERRINGS DEVELOPMENT

#### A. Reservoir Fluctuations

For compliance purposes, the impoundment elevation shall not drop lower than 0.5 feet below the permanent crest of dam, or the top of flashboards if they have been installed. In an effort to further minimize fluctuating flows in the river reach below the Deferiet Development, licensee agrees to use its best efforts to achieve a goal of further reducing impoundment fluctuations at Herrings from 0.5 feet to 0.2 feet during a combination of the following conditions:

- 1) when river flows are between 1400 and 1900 cfs; and
- 2) between the dates of May 1 and October 1.

The degree of success on the part of the licensee in achieving this goal will not be used for regulatory compliance purposes. The licensee will annually report to the Black River Advisory Council on its effectiveness in achieving this goal.

#### B. Flow Release

A year-round flow of not less than 20 cfs will be released through the stoplog section located between the dam and trashracks to provide a downstream fish movement route.

#### C. Recreation

The following will be provided (see also Herrings map in Attachment 3):

1. **Portage Trail** -- Licensee will provide a portage trail on licensee's lands from the existing cartop boat launch on the north shore to a put-in below the tailrace, details to be determined in consultation with members of the Black River Advisory Council.
2. **Cartop Boat Launches** -- Licensee will provide overland access to a new cartop boat launch at the downstream end of the new portage trail described in III.C.1., above. Licensee will also continue to provide access to and parking at the existing cartop boat launch as this will serve as the starting point of the new portage trail.

#### IV. DEFERIET DEVELOPMENT

##### A. Bypassed Reach Flows

Bypassed reach flows will be provided through a combination of leakage, releases over the dam, and releases through the stoplog structure. Regardless of the portion of the bypassed reach flow attributed to leakage, licensee will provide a flow of not less than 45 cfs through the modified stoplog structure to provide for downstream fish movement. An instream flow of not less than 800 cfs will be provided through walleye spawning season and not less than 245 cfs throughout the remainder of the year. Reduction of flows at the end of walleye season will be in no more than 200 cfs increments at no less than four hour intervals, or as otherwise determined to be needed based on field inspections by licensee, NYSDEC and USFWS which will be conducted during the first year after release structures are installed.

##### B. Recreation

The following will be provided (see also Deferiet map in Attachment 3):

1. **Cartop Boat Take-out/Put-in at Deferiet Impoundment** -- Licensee will provide a new cartop boat put-in/take-out on the north shore of the Deferiet impoundment above the existing boat barrier, to include a 6 to 8 car capacity parking area with access from NYS Route 3.
2. **Cartop Boat Put-in at Deferiet Bypassed Reach** -- Licensee will provide a canoe put-in approximately 200 feet below the Deferiet dam. Signs here shall warn of downstream whitewater associated with use of this put-in.
3. **Recreational Access to the Black River at Deferiet Bypass/Tailrace Confluence** -- Licensee in cooperation with the Village of Deferiet will support cooperative development of recreational access to the Black River on Village of Deferiet and licensee's land about 8,000 feet downstream of the dam, subject to approval of licensee's plans submitted to the Village of Deferiet and cooperation of the Village of Deferiet in making their lands available for the public.
4. **Portage Trail** -- Licensee will provide a portage trail across the headgate structure between the impoundment take-out and the bypass put-in.
5. **South Shore Access** -- The existing access along the south shore of the Deferiet impoundment will be maintained as is.
6. **Other** --
  - (a) Licensee will provide a whitewater hazard warning sign at the headgate for downstream boaters.
  - (b) Licensee will paint fencing along the power canal dark green-brown, as specified in II.K.
  - (c) Licensee will cut off exposed rods in the river bed downstream of the stoplog section of the dam to enhance the area's safety.

V. KAMARGO DEVELOPMENT

A. Bypassed Reach Flows

A year-round instream flow of not less than 120 cfs will be provided in the bypassed reach through a notched section of the dam.

B. Recreation

The following will be provided (see also Kamargo map in Attachment 3):

1. Portage -- Licensee will provide cartop boat portage accommodations described below:

a. Licensee will provide a cartop boat take-out from the impoundment at the upstream end of Poors Island between the Kamargo dam and canal headgate structure;

b. Licensee will provide a new cartop boat put-in at the power canal immediately downstream of the canal headgate structure;

c. Licensee will allow cartop boat passage down a portion of the power canal where water velocities are slow, and will install a new boat barrier and cartop boat take-out on the Poors Island side about 1,600 feet down the power canal from the canal head gate structure in the vicinity of the 23 kv transmission line crossing;

d. Licensee will provide a foot trail from the power canal take-out connecting to the proposed Poors Island Recreation Area trail system;

e. Licensee will provide parking for 4 to 6 cars near the Poors Island access bridge approximately 300 feet from the canal take-out;

f. Licensee will provide a sign near the power canal take-out directing boaters to the cartop boat put-in near the Village of Black River overlook; and

g. Licensee's proposal for a cartop boat take-out on the north shore is withdrawn.

2. Cartop Boat Put-In -- Licensee will provide a new cartop boat put-in upstream of the Main Street bridge adjacent to the Village of Black River overlook and will modify the area to allow safe access.

3. Other -- Licensee will permit shoreline fishing on Poors Island and the north and south shorelines of the power canal upstream of the boat barrier described in V.B.1.c., via lands owned or controlled by the licensee.

## VI. BLACK RIVER DEVELOPMENT

### A. Bypassed Reach Flows

Instream flows of not less than 300 cfs will be provided in the bypassed reach during walleye spawning season through a combination of notched dam and low-level sluice-gate(s). Not less than 80 cfs will be provided through a notch in the dam during the balance of the year to provide for downstream fish movement. Reduction of flows at the end of walleye season will be in no more than 75 cfs increments at no less than four hour intervals, or as otherwise determined to be needed based on field inspections by licensee, NYSDEC and USFWS which will be conducted during the first year after release structures are installed.

### B. Recreation

The following will be provided (see also Black River map in Attachment 3):

1. **Cartop Boat Launch and Take-out** -- Licensee will provide a cartop boat launch and take-out downstream from the site shown in the application. At least four parking spaces will be provided along Huntington Street on licensee's land. Additional parking will be provided as described in VI.B.4. Handicapped (wheelchair) access will be also provided at this location.
2. **Cartop Boat Put-in** -- Licensee will provide a cartop boat put-in as far upstream in the bypass reach as possible.
3. **Portage Trail** -- Licensee will provide a portage trail using Huntington Road and an existing rough dirt road close to the bypass reach.
4. **Other** --
  - (a) Licensee will provide additional parking south of NYS Route 3 and east of the NYS Route 3 bridge. Licensee will maintain parking at the existing picnic area along the bypass reach south of NYS Route 3.
  - (b) Licensee will remove the present security fence but will install a protective railing at the present overlook and picnic area and in other locations where licensee deems such necessary for reasonable protection of the public.

## VII. SEWALLS DEVELOPMENT

### A. Reservoir Fluctuations

Licensee will maintain run-of-river operation, as defined in II.C., of the Sewalls Development between May 1 and September 30 whenever river flow is below 2,000 cfs. During such periods of run-of-river operation, licensee may maintain constant spillage flows above the permanent crest elevation to provide run-of-river operation.

### B. Bypassed Reach Flows

Year-round instream flows will be provided in both bypassed reaches as follows:

- 1) In the north channel, there will be a release of not less than 20 cfs through a notch in the dam in addition to the existing 12 cfs leakage; if leakage is reduced in the future, additional release modifications will be provided to maintain a flow of 32 cfs in the north channel.
- 2) In the south channel, current leakage of 137 cfs is sufficient; if leakage is reduced in the future, additional release modifications will be provided to maintain a flow of 137 cfs in the south channel.
- 3) The 20 cfs release through the notch in the dam in the north channel will provide for downstream fish movement.

### C. Recreation

The following will be provided (see also Sewalls map in Attachment 3):

1. **Cartop Boat Access** -- Licensee will provide a new cartop boat take-out point at the river overlook on the south shore of the Sewalls impoundment. Signage will be provided at the take-out point to provide direction to potential downstream put-in locations.
2. **Flow Stabilization** -- Licensee will stabilize flow levels downstream to facilitate whitewater recreation by maintaining run-of-river operation between May 1 and September 30 as described in VII.A., above.

## VIII. BEEBEE ISLAND PROJECT

### A. Operations

Licensee shall operate in a run-of-river mode as described in Section II.C. To respond to instantaneous changes in inflow to the extent practicable, the controls will be set to actuate incremental changes of unit discharge within 0.2 feet of the top of flashboard elevation (431.0 feet USGS), or 0.2 feet of the spillway crest (428.0 feet USGS) when boards are out. For compliance purposes, the Beebee Island Project impoundment shall not drop below elevation 430.5 feet USGS when the flashboards are in or below elevation 427.5 feet USGS when the flashboards are out, in accordance with II.F.1.

### B. Bypassed Reach Flows

A year-round instream flow of not less than 14 cfs will be provided in the south channel bypassed reach through a pipe through the dam with a plunge pool downstream.

### C. Fish Protection and Downstream Movement

To reduce turbine entrainment-related fish mortality, new trash racks with 2-inch-wide clear space openings will be installed at the project and seasonal overlays will be installed on an annual basis as described in II.G.

Downstream fish movement will be provided from April 1 through November 30 via a modification to the existing stoplogged ice chute. To accommodate safe downstream fish movement, an approximately 3-foot-wide by 2.5-foot-deep flume with a rounded bottom will be installed within the existing ice chute so that it extends beyond the lip of the ogee spillway. A flow of 37 cfs will be provided to attract and convey fish. Measures will be implemented to provide for a 4-foot-deep plunge pool and an improved outlet at the end of the ice chute. Licensee will consult with the USFWS and NYSDEC on the final design. This fish conveyance structure will be installed within 2 years of license issuance.

### D. Recreation

The following will be provided (see also Beebee Island map in Attachment 3):

1. **Cartop Boat Take-out** -- Licensee will provide a cartop boat take-out point on the south bank of the Beebee Island impoundment. Signage will be provided at the take-out point to provide direction to potential downstream put-in locations.

2. **Veiling Flow** -- Licensee will provide a veiling flow from the middle section of the Beebee Island Project spillway, approximately 92 feet long. This flow will be provided starting May 1, or as soon thereafter as licensees can safely install flashboards, through October 31 each year. The veiling flow will be released through a 1/2" gap to be maintained under the 3-foot high project flashboards, or through a functionally equivalent alternative.

IX. MISCELLANEOUS

A. Black River Advisory Council

In order to keep abreast of changing conditions that may affect river flows and management objectives, an Advisory Council to be representative of the various interests in the Black River corridor will be formed as more specifically detailed in Attachment 1.

B. Black River Fund

A fund will be established as described in Attachment 1.

C. Enforceability

This Settlement Offer shall be enforceable by any party to the extent that this Settlement Offer is accepted and approved by the NYSDEC and/or FERC and incorporated into the terms and conditions of any § 401 water quality certificate issued by NYSDEC or any new license issued by FERC for the Black River Hydroelectric Project (FERC No. 2569) and Beebee Island Hydroelectric Project (FERC No. 2538).

D. Cooperation

Each and all signatories will abide by and support the agreements and understandings commemorated herein in the context of their participation in the Black River Project No. 2569 and Beebee Island Project No. 2538 licensing proceedings before the FERC, the § 401 water quality certification proceedings before NYSDEC and any other forum, as appropriate.

E. Streamflow Monitoring

Licensees shall develop a flow monitoring plan in consultation with all signatories within 6 months of FERC license issuance. This flow monitoring plan will provide for the installation and maintenance of a United States Geological Survey (USGS) gaging station, unless justification for an alternative gaging system is provided. The flow monitoring plan shall include all gages and/or equipment for the purposes of:

- a. determining the stage and/or flow of the Black River;
- b. determining all other project flows including flows through the turbines and any other bypass/diversion flows; and,
- c. determining project headpond and tailwater elevation.

Licensees shall keep accurate and sufficient records of the impoundment elevations and all project discharges to the satisfaction of the NYSDEC and shall provide such data in a format and interval as the NYSDEC may prescribe. All records will be made available for inspection at NMPC-Watertown within 5 business days or in writing within 30 business days of licensees' receipt of a written request for such records by any of the signatories to this Settlement. Furthermore, licensees will provide a 7-day per week contact person to provide immediate responses to questions about abnormal conditions.

All gaging and ancillary equipment associated with the project, including the headpond and tailwater gages, shall be made operational and fully calibrated within 12 months of FERC license issuance.

The flow monitoring plan including the gage calibration plan shall be submitted to the NYSDEC for review and approval.

Permanent staff gages shall be installed to allow independent verification of headpond and tailwater elevations to the nearest 0.1 foot. Stage versus discharge ratings shall be calibrated when rating changes occur, and maintained for these sites. Access to staff gages shall be provided to the NYSDEC, USFWS and/or their authorized representatives.

NMPC will continue operation of the current data logger array in the present locations and maintain or improve their current data sampling frequency and precision. The precision, location and number of data loggers will not be changed without notice to all signatories to the agreement.

#### F. Compliance With The Law

Nothing in this Settlement Offer shall preclude FERC, any resource agency or the licensees from complying with their obligations or exercising their responsibilities under the National Environmental Policy Act, the Clean Water Act, the Endangered Species Act, the Federal Power Act as amended by the Electric Consumers Protection Act, the Fish and Wildlife Coordination Act or any other applicable state or federal laws. However, by entering into this Settlement Offer, each signatory represents that it believes its statutory obligations or responsibilities are, or can be, met consistent with this Settlement Offer.

#### G. Binding Effect

Nothing in this Settlement Offer shall be construed as binding the USFWS or the NPS to expend in any one fiscal year any sum in excess of appropriations made by Congress or administratively allocated for the purpose of this Settlement Offer for the fiscal year, or to involve the USFWS or the NPS in any contract or other obligation for the future expenditure of money in excess of such appropriations or allocations.



## H. General Provisions

1. Licensees agree to implement the various obligations and requirements set forth herein. Resource agencies and other signatories agree to support a new 30 year license for the Black River and Beebee Island Projects, incorporating and implementing the provisions contained herein. This support shall include reasonable efforts to expedite the National Environmental Policy Act (NEPA) process. For those issues addressed herein, the signatories agree not to propose, support or otherwise communicate to FERC or any other federal or state resource agency with jurisdiction directly related to the relicensing process any comments, certificate or license conditions other than ones consistent with the terms of this Settlement Offer. However, this Settlement Offer shall not be interpreted to restrict any signatory's participation or comments in future relicensing of this project. Further, this section shall not be read to predetermine the outcome of the NEPA analysis.

If such NEPA analysis leads to addition of any license conditions inconsistent with those contained herein, the signatories recognize that such addition would trigger the rights of the signatories to modify or withdraw from the Settlement Offer pursuant to Paragraph IX.I.1.

2. The signatories agree that this Settlement Offer fairly and appropriately considers the environmental, recreational, fishery, energy and other uses and interests on the Black River. The signatories further agree that this agreement is specific to the Black River and Beebee Island Projects. No signatory shall be deemed, by virtue of execution of this Settlement Offer, to have established precedent, or admitted or consented to any approach, methodology, or principle except as expressly provided for herein. In the event that this Settlement Offer is approved by the NYSDEC and/or FERC, such approval shall not be deemed precedential or controlling regarding any particular issue or contention in any other proceeding.

3. If a § 401 water quality certification or FERC license is issued that results in certificate or FERC license terms inconsistent with the terms of the Settlement Offer, any signatory may withdraw pursuant to Section IX.I.1 of this Settlement Offer. The Settlement Offer, including all mitigative measures and annual contributions to the Black River Fund as specified in Attachment 1, shall remain in effect for the term of the new license and for any annual license issued subsequent thereto, subject to authority reserved by FERC in the new license to require modifications.

4. The signatories have entered into the negotiations and discussions leading to this Settlement Offer with the explicit understanding that all offers of settlement and the discussions relating thereto are privileged, shall not prejudice the position of any signatory participant taking part in such discussions and negotiations, and are not to be otherwise used in any manner in connection with these or any other proceedings.

5. The Settlement Offer shall apply to, and be binding on, the signatories and their successors and assigns, but only with regard to the above-captioned proceeding and then only if the Settlement Offer is made effective as provided herein. No change in corporate status of either or both licensees shall in any way alter licensees' responsibilities under the Settlement Offer. Each signatory to the Settlement Offer certifies that he or she is authorized to execute the Settlement and legally bind the party he or she represents.

## I. Approval of Settlement

1. The signatories have entered into and jointly submit this Settlement Offer with the express conditions that NYSDEC approves and accepts all provisions herein and either issues or waives § 401 water quality certifications and that FERC approves and accepts all provisions herein and issues new project licenses for the Black River and Beebee Island Projects consistent with the terms of the Settlement Offer. In the event that either NYSDEC and/or FERC changes, conditions or modifies any provision contained herein in any NYSDEC issued § 401 water quality certifications or FERC orders issuing new licenses, whether through its own action or through incorporation of conditions of § 401 water quality certifications, the Settlement Offer shall be considered modified to conform to the FERC orders unless any signatory to the Settlement Offer within 30 days of NYSDEC's or FERC's action provides written notice by certified mail to the other signatories that it objects to the modification, change or condition. The signatories shall then commence negotiations for a period of up to 90 days to resolve the issue and modify the Settlement Offer, as needed. If agreement cannot be reached, then the objecting party may withdraw from the Settlement Offer, without incurring any obligations or benefitting from rights associated with the Settlement Offer. In the event that the Settlement Offer is withdrawn, it shall not constitute a part of the record of ongoing proceedings.

2. In the event that FERC issues final orders that do not include conditions consistent with Paragraphs IX.A, IX.B and Attachments 1 and 2 of this Settlement Offer and regardless of whether this Settlement is withdrawn from by a party other than licensees, NYSDEC, USFWS or NPS, licensees agree that they will comply with and implement the terms of Paragraphs IX.A and IX.B and Attachments 1 and 2 as long as the Black River and Beebee Island Projects receive new FERC licenses with operational terms and conditions and financial impacts consistent with the Settlement Offer as filed.

## J. Dispute Resolution

In the event that any dispute arises with the terms and conditions of this Settlement Offer, the signatories agree to engage in good faith negotiations for a period of at least 90 days, if necessary, in an effort to resolve the dispute, said negotiations to be initiated by the aggrieved party. A minimum of two meetings shall be held to attempt to resolve the dispute during the 90-day period, if necessary. In the event that resolution cannot be reached within the 90-day negotiating period, the dispute may be referred to FERC pursuant to FERC's Rules of Practice and Procedure (18 CFR 385, et seq.).

Notwithstanding any other provision of this Settlement Offer, any signatory may seek relief in any appropriate forum for noncompliance with this Settlement Offer by any signatory hereto.

K. Project Decommissioning

This Settlement Offer does not include any condition relating to decommissioning or dam removal of the Black River or Beebee Island Projects in whole or part. With or without amendment of this Settlement Offer by mutual consent, any signatory may seek such further relief from FERC regarding such decommissioning as FERC may order, recognizing that no signatory to this Settlement Offer has or is advocating decommissioning of either project or any of the project facilities during the term of the new license for the project.

L. Use of Reopener Clauses in the New License

This Settlement Offer is not intended to limit or restrict any signatory's authority, if any, to seek different or modified license conditions through a license reopener. Before any signatory proceeds to seek a reopener, the signatory shall request all signatories to commence negotiations for a period of at least 90 days to resolve the issue, and to agree to modify this Settlement Offer accordingly, if necessary.

M. Severability

In the event that FERC rejects or modifies any of the provisions of this Settlement Offer, then the rest of the agreement shall remain in effect, subject to the provisions of IX.I.1., IX.I.2., and IX.J., above.

X. SIGNATORIES

Black River Project FERC No. 2569  
and Beebee Island Project FERC No. 2538  
Settlement Offer

NIAGARA MOHAWK POWER CORPORATION

BEEBEE ISLAND CORPORATION

By: Thomas H. Bacon

By: Thomas H. Bacon

Vice President -  
Title: Fossil & Hydro Generation

Title: President

Date: September 21, 1995

Date: September 21, 1995

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

By: Arthur S. Gendron, Jr.

Title: Director, Natural Resource Planning

Date: 10/2/95

NATIONAL PARK SERVICE

By: Wm. W. Savage

Title: Asst. Dir. Field Director

Date: Sept. 21, 1995

Black River Project FERC No. 2569  
and Beebee Island Project FERC No. 2538  
Settlement Offer

UNITED STATES FISH AND WILDLIFE SERVICE

By: Ronald E. Lamberton

Title: Regional Director

Date: 10-6-95

ADIRONDACK MOUNTAIN CLUB

By: Betty Lou Bailey

Title: Chairman, Canoe Route Subcommittee

Date: Sept. 29, 1995



NEW YORK STATE COUNCIL, TROUT UNLIMITED

By: Thomas R. Martiss

Title: Committee on Hydro Relicensing

Date: September 18, 1995

NEW YORK STATE CONSERVATION COUNCIL

By: Henry Cosselman

Title: President

Date: Sept. 20, 1995

NEW YORK RIVERS UNITED

By:   
Bruce R. Carpenter

Title: Executive Director, New York Rivers United

Date: 9-18-95

Black River Project FERC No. 2569  
and Beebee Island Project FERC No. 2538  
Settlement Offer

AMERICAN WHITEWATER AFFILIATION

By: Peter H. de

Title: Director

Date: 9/24/95

ORGANIZATION:

Natural Heritage Institute

By: Richard Ross Celh

Title: Attorney, New York Rivers United

Date: October 4, 1995

AMERICAN RIVERS

By: Margaret Bunker

Title: Director of Hydropower Programs

Date: Sept 26, 1985

Black River Project FERC No. 2569  
and Badice Island Project FERC No. 2538  
Settlement Offer

NATIONAL AUDUBON SOCIETY

By: *John [unclear]*  
Title: *Regional Counsel*  
Date: *Oct 10 1995*

September 14, 1995

**BLACK RIVER FUND AND ADVISORY COUNCIL**



THE BLACK RIVER FUND AND ADVISORY COUNCIL

1. Beginning with the year the FERC License is accepted, NMPC will contribute annually \$3,000 to the Black River Fund ("Fund") for 15 years and \$4,000 annually for the following 15 years.

The fund may be used to facilitate acquisition or options, for the public benefit, of some or a combination of parcels described in Attachment 2, consisting of the following from NMPC:

- (a) permanent conservation easement(s);
- (b) reserved right(s); or
- (c) fee title(s);  
    all with appropriate reservations for NMPC access, operation and maintenance purposes;
- and, additionally,
- (d) any other NMPC lands, easements and mineral rights not essential to project operation or maintenance and not otherwise identified herein.

Any money not used for such acquisitions will remain will remain in the fund for other uses.

Financing and requisition will be arranged through NMPC's Land Management & Development subsidiary. NMPC agrees not to alter, encumber or convey rights to the above-referenced parcels for 18 months following license issuance for the Black River Project, FERC No. 2569.

NYSDEC shall be responsible for facilitating the purchase agreement. The State will prepare the title documents, appraisal, surveys and all other documents necessary to transfer title of the property to be acquired at no cost to the Black River Fund or NMPC.

2. The Black River Fund will be administratively managed by NMPC and distributed according to the recommendation of a Black River Advisory Council ("Advisory Council"). The NYSDEC will chair the Advisory Council. At a minimum the following entities shall be invited to serve on the Advisory Council, with service being conditioned, save for Jefferson County, on those entities listed below being signatories to the Settlement:

- New York State Department of Environmental Conservation
- Niagara Mohawk Power Corporation
- United States Fish & Wildlife Service
- New York Rivers United
- New York State Conservation Council
- Adirondack Mountain Club
- Jefferson County
- New York Council, Trout Unlimited
- American Whitewater Affiliation
- National Park Service

Each member will have one vote, with distribution of funds and other Advisory Council decisions to be based on majority vote.

The Advisory Council will also make recommendations for consideration by the regulatory agencies and licensees regarding management of the Black River and hydropower project operations, in accordance with other provisions of this Settlement Offer. The Council shall designate one of the Watertown whitewater outfitters to serve as the liaison with licensees in cases of abnormal river conditions.

The Black River Fund will be used within the Black River basin for projects and services designated by majority vote of the Advisory Council for purposes of ecosystem restoration and protection, natural resource stewardship, public education, facility maintenance, applied research necessary to accomplish these projects and provide these services and additional public access to outdoor recreational resources not currently agreed to by licensees. The Fund is not intended for any of the signatories to carry out any obligations under the new FERC licenses or any amendment thereto. Furthermore, the Fund is not intended for any signatory to discharge any legal or statutory obligations. Unspent money shall accumulate with interest in a Federal Deposit Insurance Corporation (FDIC) insured account or instrument managed pursuant to prevailing trust standards. Within one year following surrender or expiration without annual renewal of the new FERC license for NMPC, available funds accumulated and not otherwise obligated shall revert to NMPC. .

**PURCHASE OPTIONS  
FOR CERTAIN BLACK RIVER  
LANDS AND INTERESTS OWNED BY NMPC**

BLACK RIVER LAND PURCHASE/EASEMENT OPTIONS

OPTION	PARCEL DESCRIPTION	PARCEL SBL #	OPTION DESCRIPTION	ACRES	S/A CRE	\$
1	Land on north side of river	66.00-3-3	Purchase of land on north side of river.	2.59	\$650	\$168,350
2	Mill Island	75.12-2-1	Purchase of Mill Island.	10.10	\$1,000	\$10,100
3	Sheep Island	75.12-2-4	Purchase of Sheep Island.	7.89	\$650	\$5,200
4	Land on north side of river	66.00-3-3	Conservation easement on all of the land on the north side of the river. <sup>1</sup>	2.59	\$325	\$84,175
5	Mill Island	75.12-2-1	Conservation easement on Mill Island. <sup>1</sup>	10.10	\$500	\$5,050
6	Sheep Island	75.12-2-4	Conservation easement on Sheep Island. <sup>1</sup>	7.89	\$325	\$2,600
7	Land on north side of river	66.00-3-3	Conservation easement for two (2) parking areas and a 250' strip along the northern shoreline. <sup>2</sup>	80 <sup>3</sup>	\$325	\$26,000 <sup>4</sup>
8	Land on south side of river	75.12-2-4 76.06-2-1	100' buffer strip that prohibits building	32 <sup>5</sup>	\$425	\$13,600

<sup>1</sup> The conservation easement would prohibit development of the property and allow public access for recreational purposes.

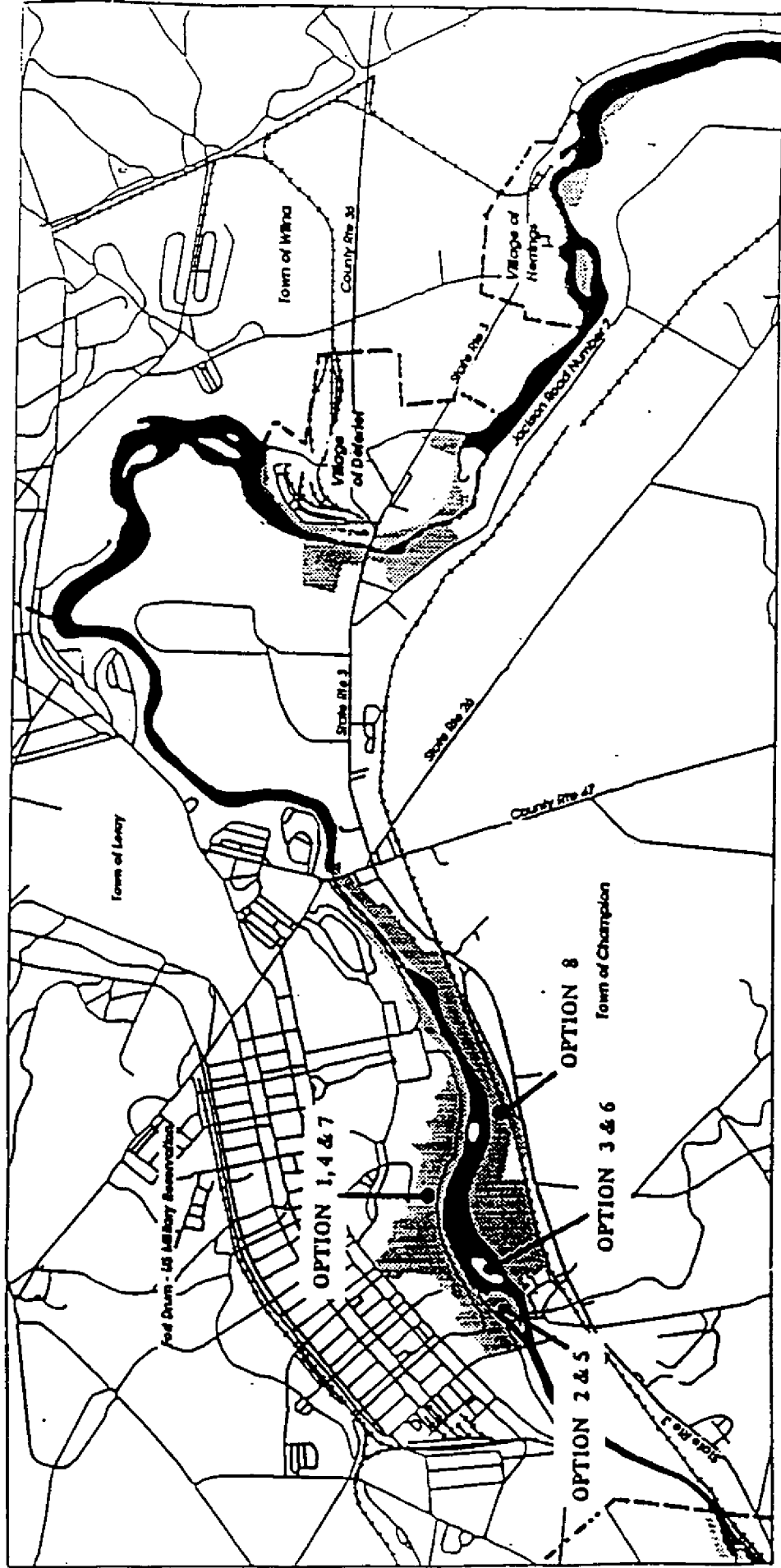
<sup>2</sup> The conservation easement would prohibit development and cutting of vegetation within 250' of the shoreline and would allow public access for recreational purposes within the 250' strip.

<sup>3</sup> Approximately 14,000' of shoreline 250' in width plus two (2) parking areas each approximately 200' X 200'.

<sup>4</sup> Does not include any capital costs for improvements.

<sup>5</sup> Approximately 14,000' of shoreline 100' in width. No public access. Only prohibits building.

# Black River - Development Inventory

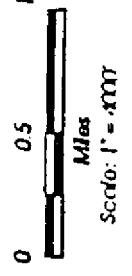


## Legend



NMPC Property

Figure BLA-1.2  
NMPC PROPERTY  
(2 of 2)



**RECREATIONAL FACILITIES:  
ADDITIONS AND CHANGES**

# Herrings

## Herrings Recreational Site

- Existing Carlop Boat Launch to Item
- Day Use Site
- Picnic Tables
- Shoreline Fishing
- Scenic River Views

Parking (6-8 CARS)

Portage Trail

Town of Wilna

Village of Herrings

Black River

Top of Dam  
Top of Embankment

Shoreline Visual Buffer  
To Remain Intact

Shoreline Visual Buffer  
To Remain Intact

Forested Habitat Preserve  
• Shoreline Visual Buffer

N.Y.S. Rt. 3

St. Regis Paper Co.  
100 0' 0"

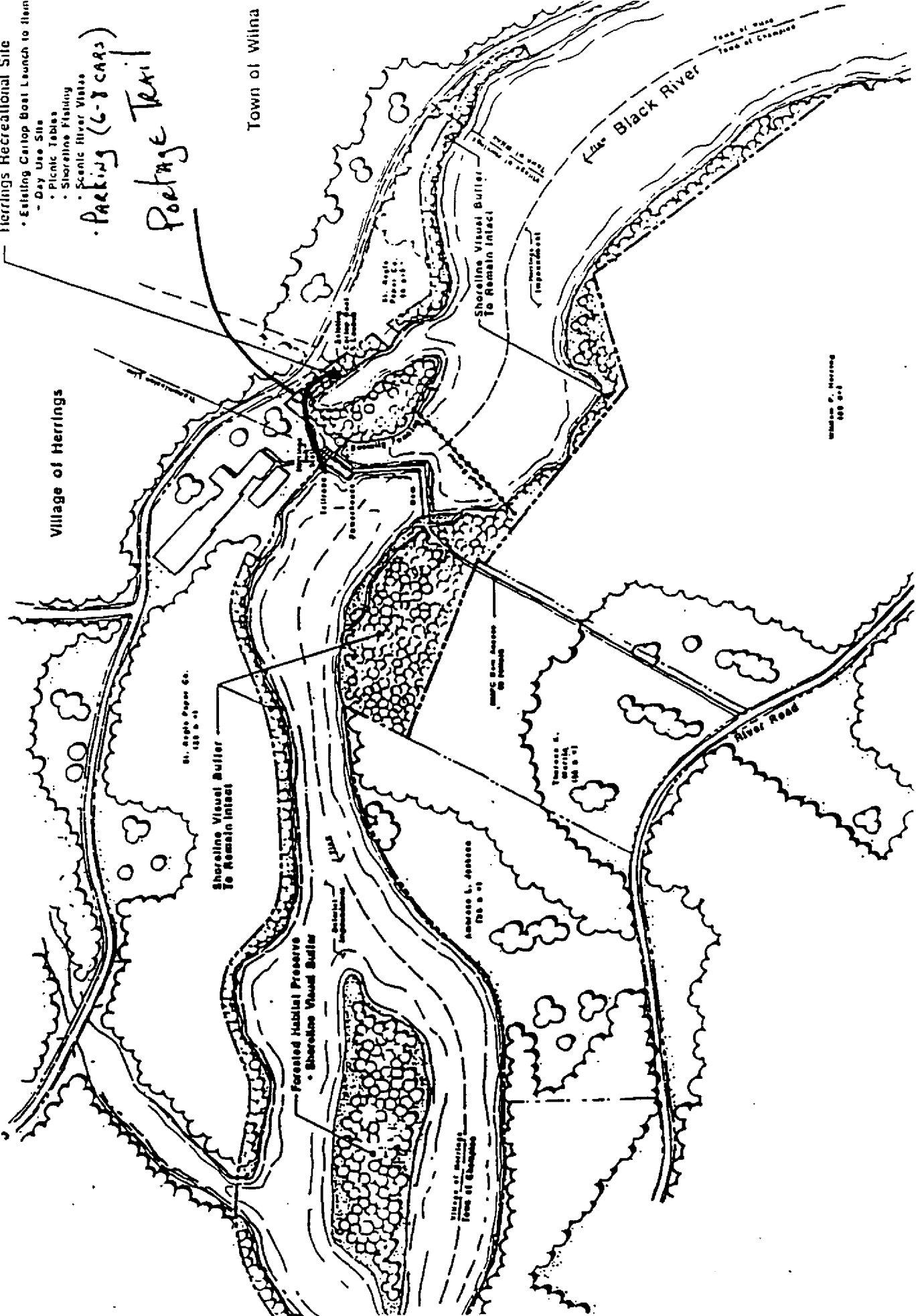
Amesbury S. Jensen  
100 0' 0"

Thomas S.  
Merrill  
100 0' 0"

Village of Herrings  
Town of Chazy

William C. Herrings  
100 0' 0"

River Road



# Deterlet

## CARTOP BOAT TAKE-OUT/PUT-IN

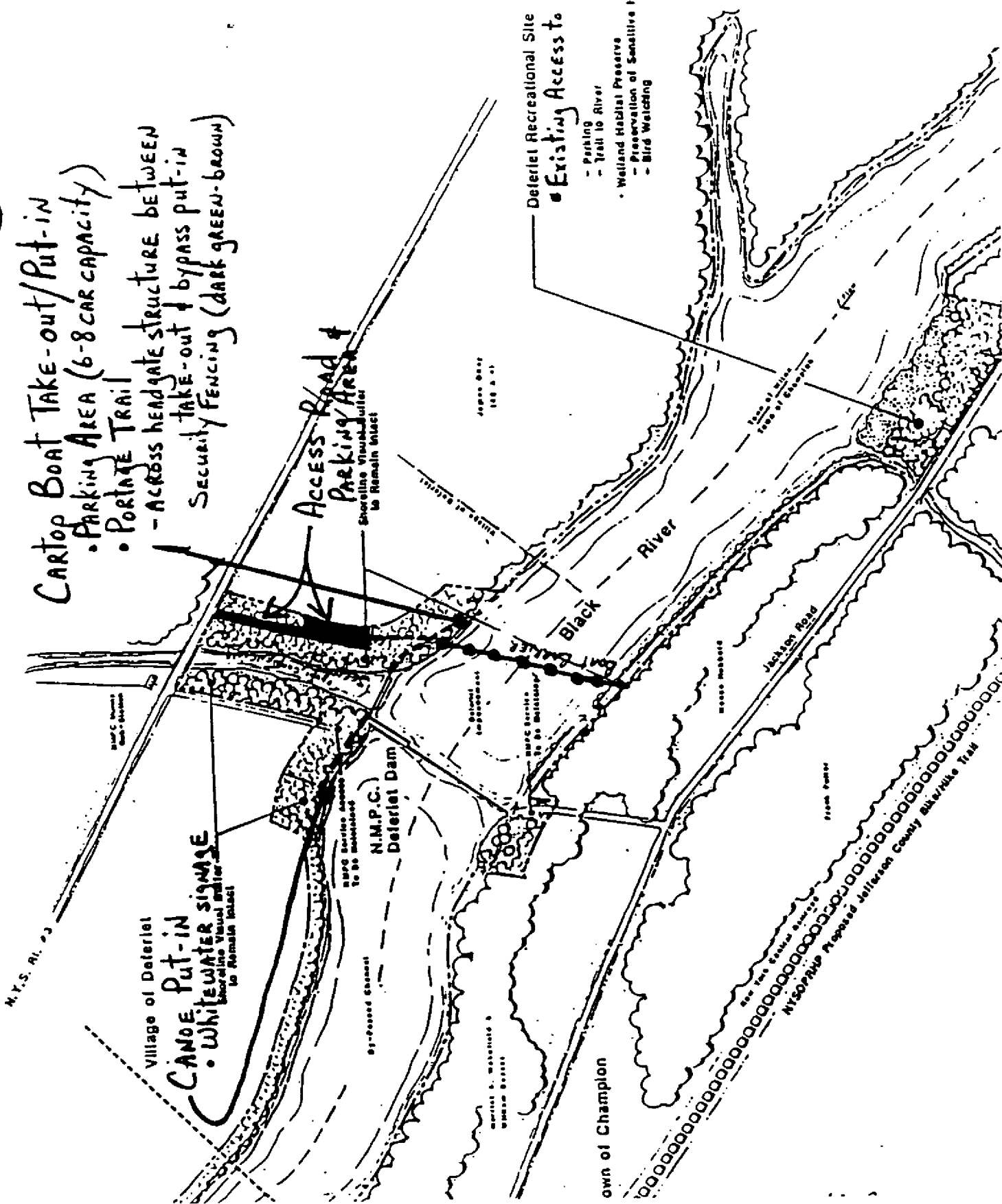
- PARKING AREA (6-8 CAR CAPACITY)
- PORTAGE TRAIL
- ACROSS HEADGATE STRUCTURE BETWEEN TAKE-OUT & BYPASS PUT-IN
- SECURITY FENCING (DARK GREEN-BROWN)

## ACCESS ROAD & PARKING AREA

Specialty Visual Buffer to Remain Intact

## Deterlet Recreational Site

- Existing Access to Remain
  - Parking
  - Trail to River
- Wetland Habitat Preserve
- Preservation of Sensitive Habitat
- Bird Watching



Village of Deterlet  
**CANE PUT-IN**  
 Specialty Visual Buffer to Remain Intact

N.M.P.C.  
 Deterlet Dam

Town of Champlon

Jackson Road

Black River

M.Y.S. Rt. 23

Wetland Habitat Preserve  
 N.Y.S. Thruway Authority  
 N.Y.S. Thruway Project  
 Jefferson County Sullivan Trail



# KAMARGO

Potential Expansion To Jefferson Place Riverwalk  
 - Village Greenpace/Trail System Extended To NMPC Riverfront Property

Village of Black River

CANOE Put-in (Adjacent)

Black River Village Overlook  
 - NMPC Construction with Village of Black River

PARKING (EXISTING)

CANOE PORTAGE USING EXISTING ROAD AND TRAIL OR USE CANAL

(MOVED)  
 Canoe Portage  
 NMPC to identify site of old boat barrier

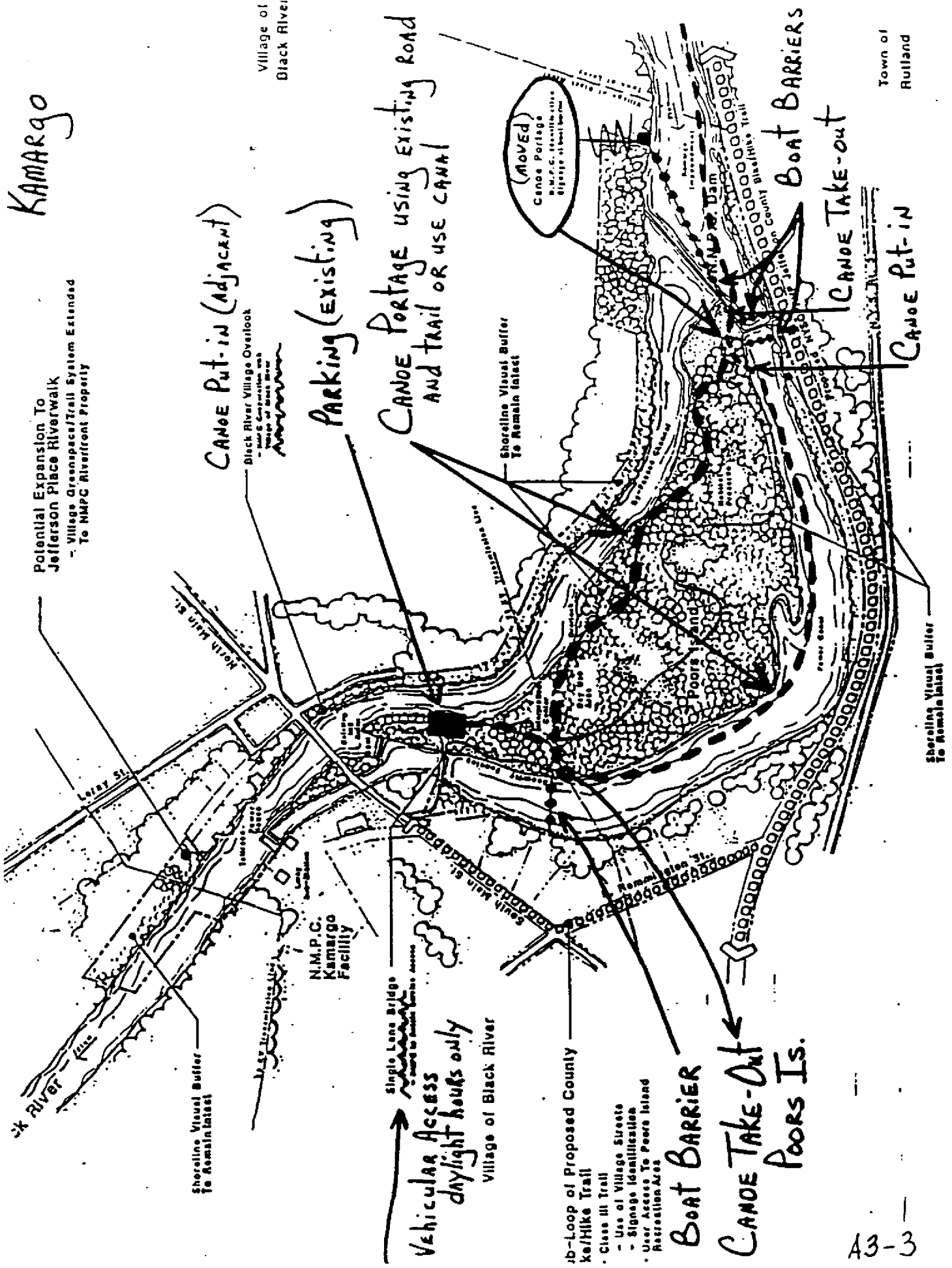
Shoreline Visual Buffer To Remain Intact

BOAT BARRIERS

CANOE TAKE-out

CANOE Put-in

Town of Rutland



Single Lane Bridge  
 Vehicular Access  
 daylight hours only

Village of Black River

1b-Loop of Proposed County Keith/Ke Trail

- Close All Trail
- Use of Village Streets
- Signage Identification
- User Access To Peete Island Recreation Area

BOAT BARRIER

CANOE TAKE-OUT  
 POOLS IS.

Shoreline Visual Buffer To Remain Intact

# Black River

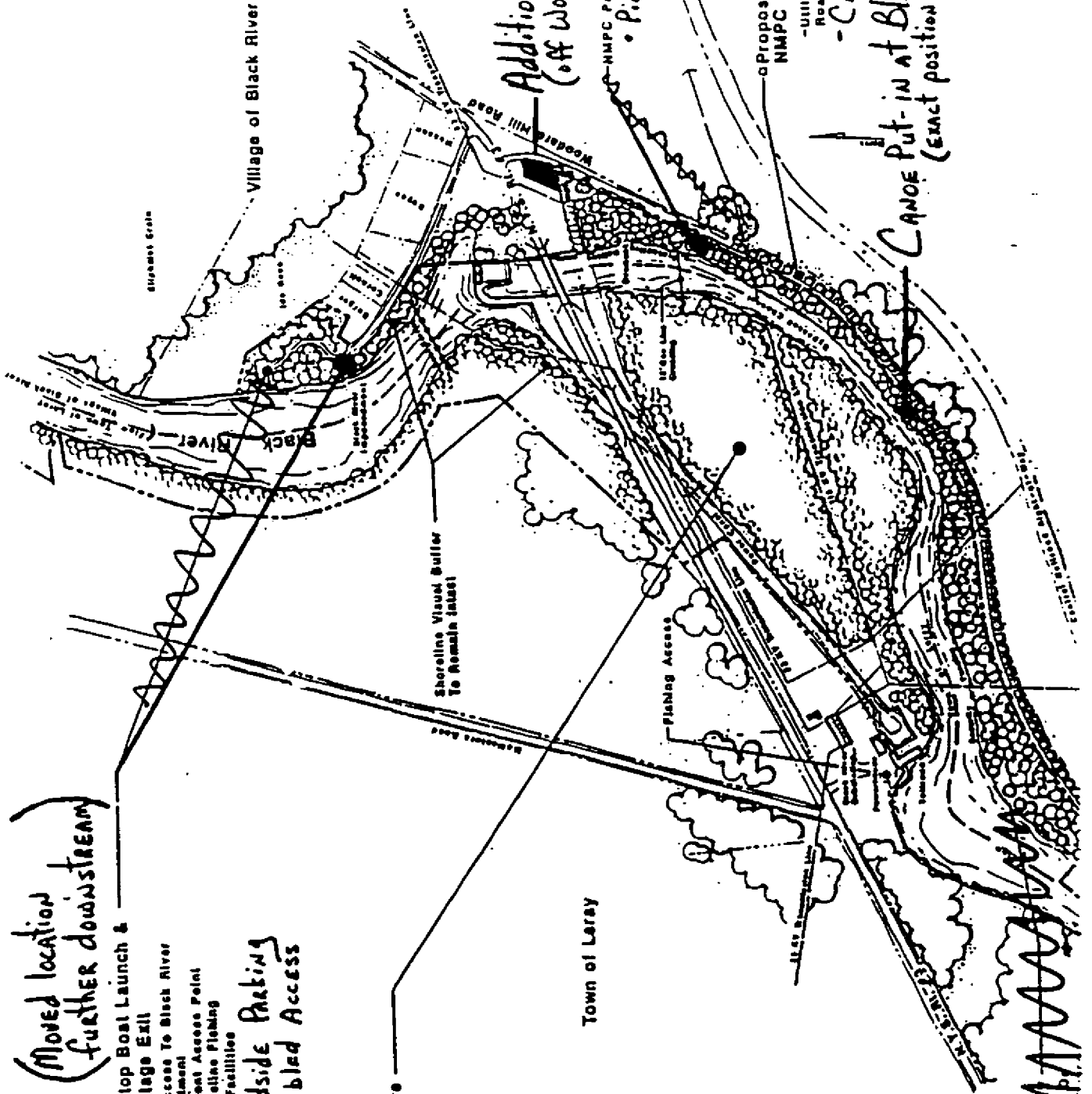
Project Boundary

(Moved location further downstream)

- NMPC Cartop Boat Launch & Canoe Portage Exit
  - Boat Access To Black River
  - Impoundment
  - Waterfront Access Point
    - Shoreline Flooding
  - Picnic Facilities
  - **Roadside Parking**
  - **Disabled Access**

ed Island Preserve  
al Preservation  
eline Visual Buffer  
(remain intact)

Town of Lora



Additional Parking  
(off Woodard Hill Road)

• Picnic Facilities (Existing)

Proposed NYSOPRHP/Jefferson Count  
NMPC Bike Hike Trail

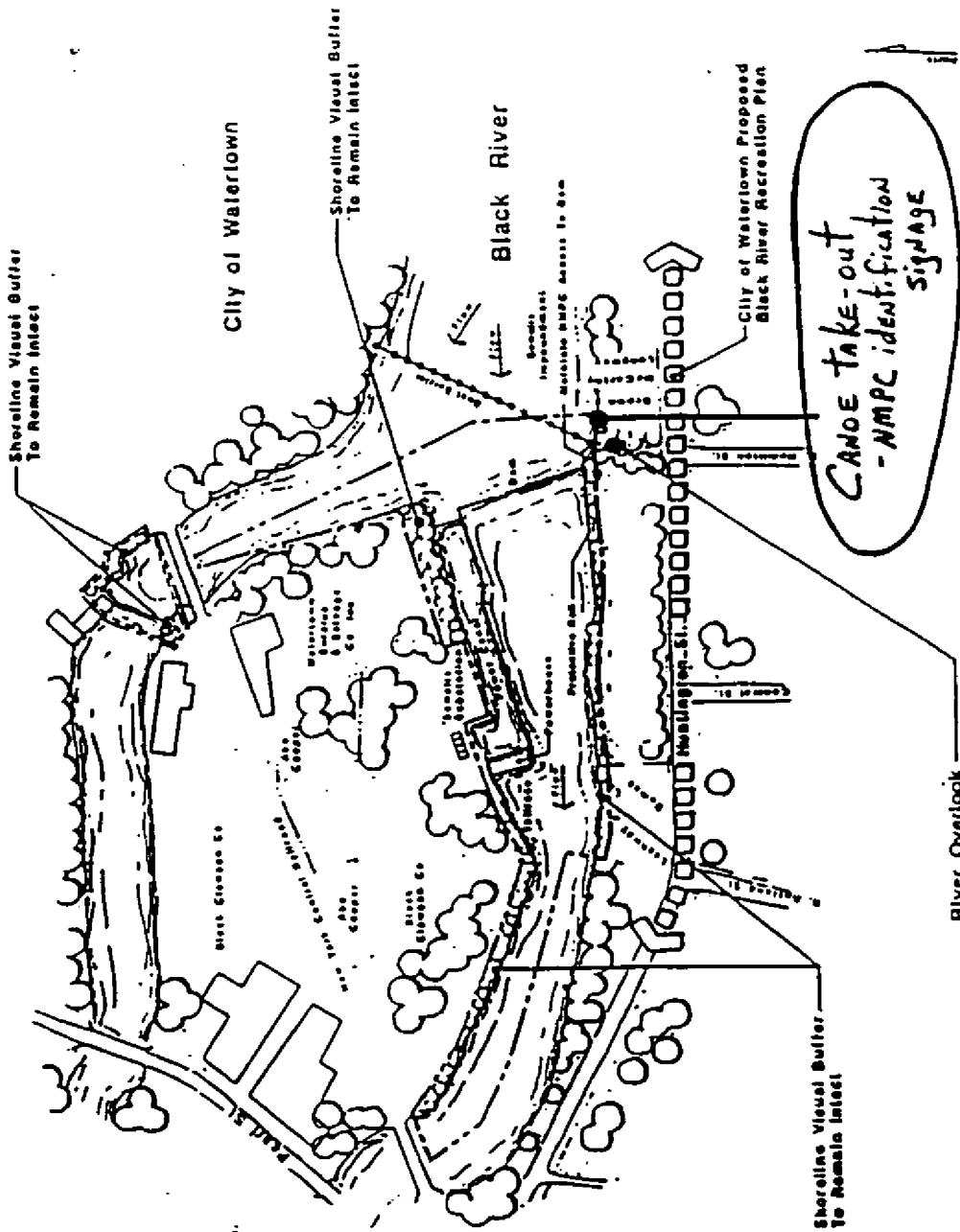
- Utilizing Existing Unimproved Shoreline  
Road as NMPC Land

- CANOE PORTAGE TRAIL

CANOE Put-in at Black River BYPASSED REACH  
(exact position to be determined in field)

# SEWALLS

Hydro facility

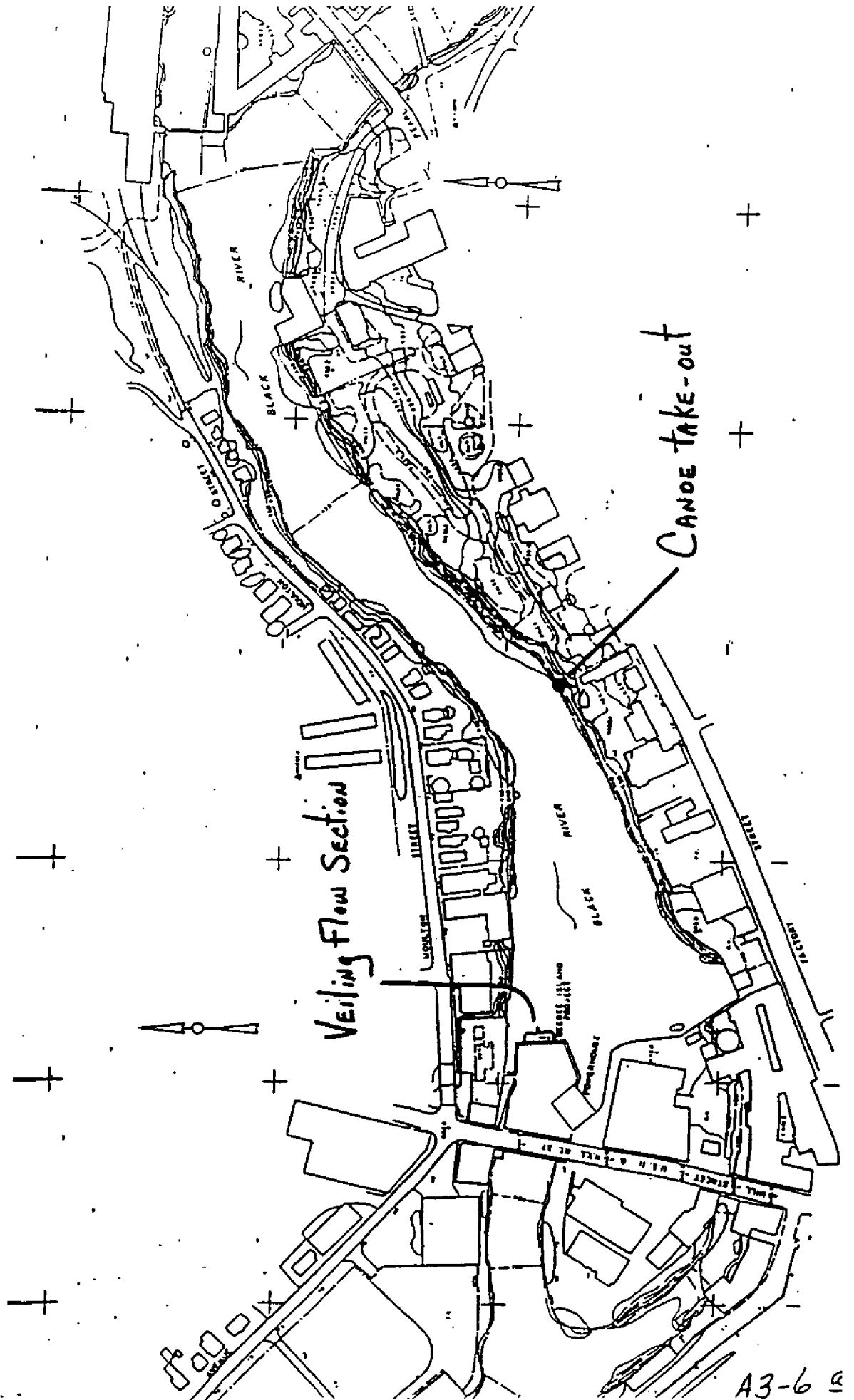


CANOE TAKE-OUT  
- NMPC identification signage

- River Overlook
- Shoreline Fluffing "Rat"
  - Secure Water Access
  - Pedestrian Path From Huntington St.
  - Riverside Walk
  - Hydro Generation Interpretive Signage
  - History of Sewalls Island
  - Hydroelectric Process

City of Watertown

BEEBEE ISLAND



A3-6 a

ATTACHMENT 4

**HYDROELECTRIC FACILITIES ON THE BLACK RIVER  
AND TRIBUTARIES**

September 14, 1995

## Existing Hydroelectric Developments in the Black River Basin

(excerpted from City of Watertown Project Environmental Assessment, FERC staff)

<u>River / Plant</u>	<u>Mile*</u>	<u>River / Plant</u>	<u>Mile*</u>
<b>Black River</b>		<b>Deer River</b>	
Dexter	1.5	High Falls	5
Glen Park	8	Kings Falls	8
Beebee Island	9.5	<b>Beaver River</b>	
Sewall's Island	10	Lower Beaver Falls	4
Diamond Island	10.5	Beaver Falls	5
Watertown	11	High Falls	11
Black River	15	Belfort	13
Kamargo	17	Taylorville	14
Deferiet	26	Elmer Falls	15
Herrings	27.5	Effley Falls	16
Long Falls	31	Soft Maple	20
Carthage Mill	31	Eagle Falls	23
Tannery Island	31	Moshier Falls	29
Carthage Paper Mkr.	31	Stillwater	31
Lyons Falls	73	<b>Otter Creek</b>	
Port Leyden (Low.)	76	Otter Creek	3
Rock Island	76	<b>Moose River</b>	
Port Leyden (Up.)	76	Gouldtown (Mill #5)	1
Denley	79	Kosterville (Mill B)	1
Forestport	91	Moose River	2
Kayuta Lake	95	Lyonsdale	3

\* Miles measured upstream from the mouth of each river.

UNITED STATES OF AMERICA  
 FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Elizabeth Anne Moler, Chair;  
 Vicky A. Bailey, James J. Hoecker,  
 William L. Massey, and Donald F. Santa, Jr.

Niagara Mohawk Power Corporation ) Project No. 2569-004

ORDER APPROVING SETTLEMENT OFFER  
 AND ISSUING NEW LICENSE

(Issued December 24, 1996)

The Niagara Mohawk Power Corporation (Niagara Mohawk), an investor-owned utility that sells electricity throughout upstate New York, applied, on November 27, 1991, for a new license, 1/ under Sections 4(e) and 15 of the Federal Power Act (FPA), 16 U.S.C. §§ 797(e) and 808, to continue to operate and maintain the 29.6-megawatt (MW) Black River Hydroelectric Project No. 2569, located on the ~~Black River~~, 2/ in Jefferson County, New York. The project has five developments spanning approximately 17 miles: the 5.4-MW Herrings Development, at river mile 27.5, in the Towns of Wilna and Champion and the Village of Herrings; the 10.8-MW Deferiet Development, at river mile 26, in the Towns of Wilna and Champion and the Village of Deferiet; the 5.4-MW Kamargo Development, at river mile 17, in the Towns of LeRay and Rutland and the Village of Black River; the 6.0-MW Black River Development, at river mile 15, in the Towns of LeRay and Rutland and the Village of Black River; and the 2.0-MW Sewalls Development, at river mile 10, in the City of Watertown (Watertown).

- 1/ The Commission issued the original license to Niagara Mohawk on September 15, 1977. 59 FPC 1935, 1936 (1977). The original license expired on December 31, 1993, and since then, the project has operated under annual license. See Section 15(a)(1) of the FPA, 16 U.S.C. § 808(1). On January 21, 1994, the Commission Secretary issued notice authorizing continued operation of the project pending the disposition of Niagara Mohawk's application. 59 F.R. 10125 (March 3, 1994); 66 FERC ¶ 61,145 (1994).
- 2/ The Commission had previously found the Black River to be navigable under the FPA from its mouth at Lake Ontario to at least Lyons Falls, at river mile 72, beyond which the river traverses mountainous area. See Frank E. Peacock, 32 FPC 1101, 1102 (1964). Section 23(b)(1) of the FPA, 16 U.S.C. § 817(1), therefore requires the Black River Project to be licensed.

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Niagara Mohawk amended its new license application by filing a Settlement Offer 3/ that it had negotiated with the entities interested in this relicensing proceeding and in the contemporaneous relicensing proceeding for the adjacent Beebe Island Project No. 2538, at river mile 9, licensed to Beebe Island Corporation (Beebe Island). 4/ (Niagara Mohawk is the majority stockholder of Beebe Island.) The Settlement Offer contains certain environmental measures. We are approving the Settlement Offer and incorporating all appropriate provisions thereof into this 30-year new license.

#### I. PROCEDURAL BACKGROUND

Following publication of our December 16, 1992 notice that Niagara Mohawk had filed a new license application, 5/ the following entities filed timely motions to intervene in the proceeding: the U.S. Department of the Interior (Interior), presenting the views of the U.S. Fish and Wildlife Service (FWS) and the National Park Service (NPS); the New York State Department of Environmental Conservation (NYSDEC); Watertown; 6/ Beebe Island; the Black Clawson Company (Black Clawson); 7/ the Adirondack Mountain Club (Adirondack); and,

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- 3/ The Black River Project, FERC No. 2569, of Niagara Mohawk Power Corporation and Beebe Island Project, FERC No. 2538, of Beebe Island Corporation, Settlement Offer, September 14, 1995, filed on October 13, 1995.
- 4/ We are issuing a new license for Project No. 2538 concurrently with this new license for Project No. 2569. See FERC ¶ 61, \_\_\_ (1996).
- 5/ 58 FR 13471, 13474 (March 11, 1993).
- 6/ Watertown is the owner and operator of the Watertown Project No. 2442, located on the Black River at river mile 11, between the Sewalls and Black River Developments. Project No. 2442 received a new license, requiring run-of-river operation, on June 16, 1995. 71 FERC ¶ 62,193.
- 7/ Black Clawson owns land, structures, and riparian rights along the Black River, in the vicinity of the Sewalls Island Development, specifically on the north bank of the North Channel around Sewalls Island, on Sewalls Island itself, and on the south bank of the South Channel around Sewalls Island. Black Clawson was concerned that Niagara Mohawk's initial proposal to repair or recondition the abandoned powerhouse on the North Channel would adversely affect Black Clawson's lands and structures. The Settlement Offer
- (continued...)



jointly, five environmental interest groups, the American Whitewater Affiliation (Whitewater), American Rivers, Inc. (American Rivers), New York Rivers United (New York Rivers), the National Audubon Society, and the Natural Heritage Institute (Heritage) (jointly, the Environmental Associations). 8/

Interior's intervention motion opposed relicense of the project, as proposed in the new license application, because of concerns over fishways, fish injury and mortality caused by entrainment, degradation of aquatic and terrestrial habitats, and the need for better recreation access. Although a signatory to the Settlement Offer, Interior reserves its opposition to license issuance. 9/

NYSDEC, on November 19, 1992, denied Niagara Mohawk's request for water quality certification, a statutory prerequisite of licensing, in this and eight other Niagara Mohawk relicensing proceedings. 10/ Negotiations ensued in which

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7/ (...continued)

withdraws the proposed expansion at the Sewalls Development. Since filing its motion to intervene, Black Clawson made no further filings in this proceeding.

8/ These motions to intervene were timely and unopposed and therefore granted automatically under Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c)(1) (1996).

2/ FWS' April 8, 1996 filing with the Commission, commenting on the Draft Environmental Assessment. FWS stated that Interior would not oppose new licenses for the Beebee Island and Black River Projects if the licenses were consistent with the Settlement Offer, but that the Draft EA had not included the draft license articles for FWS to review for consistency.

10/ The eight other Niagara Mohawk proceedings are: Beaver Project No. 2645, which received a new license on August 2, 1996, 76 FERC ¶ 61,152, reh'g pending, unpublished order granting rehearing for further consideration, issued September 19, 1996; E.J. West Project No. 2318; Middle Raquette River Project No. 2320; Lower Raquette River No. 2330; Oswego River Project No. 2474; Hudson River Project No. 2482; School Street Project No. 2539; and Hoosic River Project No. 2616. All nine projects were the subject of a Black River Fish Entrainment and Mortality Study, conducted by Kleinschmidt Associates. For the Black River Project, the final report (Black River Project, FERC

(continued...)

intervenors in this relicense proceeding, the related Beebe Island relicense proceeding, and the water quality certification proceedings were invited to participate. For the Beebe and Black River Projects, these negotiations took place between September 1994 and September 1995, and culminated in settlement agreements.

Niagara Mohawk filed the Settlement Offer containing the agreements pertaining to this project and the Beebe Island Project, together with an explanatory statement, on October 13, 1995, pursuant to Commission Rule 602. 11/ The Settlement Offer signatories are: Niagara Mohawk, Beebe Island, NPS, FWS, NYSDEC, Adirondack, Whitewater, American Rivers, New York Rivers, Heritage, the New York Council of Trout Unlimited, and the New York State Conservation Council.

On October 24, 1995, the Commission's staff issued notice that the Black River Project new license application, as modified by the Settlement Offer, was ready for environmental analysis. 12/ Felts Mills Energy Partners L.P. (Felts Mills), on December 22, 1995, filed a motion for late intervention in this and the Beebe Island Project relicense proceedings, and requested dismissal of the Settlement Offer, claiming that the Settlement Offer conflicts with its license application for the proposed Felts Mills Hydroelectric Project No. 4715. By unpublished order issued January 30, 1996, the Secretary granted Felts Mills late intervention.

The Commission's staff issued the Draft Environmental Assessment for the Beebe Island and the Black River Hydroelectric Projects (Draft EA) on March 18, 1996. 13/ Niagara Mohawk, FWS, NYSDEC, New York Rivers, and Adirondack filed comments on the Draft EA. Interior, Adirondack and New York Rivers had filed comments previously on the Settlement Offer. The final Environmental Assessment (EA), issued on September 27, 1996, 14/ and made part of this order, responds to all those comments. The EA contains background information

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10/ (...continued)

No. 2569, Fish Entrainment and Mortality Study, Final Report, Kleinschmidt Associates, Pittsfield, Maine, January 12, 1996) was filed on January 16, 1996.

11/ 18 C.F.R. § 385.602 (1996).

12/ 60 FR 56992, 56993 (Nov. 13, 1995).

13/ 61 FR 11823 (March 22, 1996).

14/ See Notice of Issuance, 61 FR 51697 (Oct. 3, 1996).

and analysis of environmental impacts and of the need for power, and provides the basis for our finding that continued operation of both projects will have no significant impact on the environment. 15/

Felts Mills opposes the Settlement Offer because it would establish the Black River Fund, which a Black River Advisory Council would use to fund, inter alia, the purchase and dedication to conservation purposes of parcels of land that are located within the project boundaries of Felts Mills' proposed Felts Mills Hydroelectric Project No. 4715. 16/ Felts Mills argues that because these lands cannot be both preserved for conservation and licensed for development, our approval of the Settlement Offer necessarily precludes issuance of a license to develop the Felts Mills site. We find that approval of the Settlement Offer does not preclude licensing the Felts Mills Project.

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15/ On November 6, 7, and 12, 1996, respectively, New York Rivers, FWS, and Niagara Mohawk filed subsequent comments on the EA.

16/ The proposed Felts Mills Project comprises two developments located at river miles 19.2 and 21.7 of the Black River at two partially-breached dams, which Felts Mills proposes to refurbish, and the site of a third breached dam in between the two other dams, which Felts Mills proposes to demolish. The site of the proposed Felts Mill Project lies between the Black River Project's Deferiet and Kamargo Developments, approximately ten miles upstream from the Beebee Island Project. The EA for the Black River and Beebee Island projects and the environmental impact statement for the Felts Mills Project, issued September 1996, analyze cumulative impacts of the three projects. The Black River/Beebee Island EA (section V.B.) finds no major cumulative impacts of the three projects and includes, by reference, the Felts Mills EIS, which makes specific findings of no significant cumulative impacts on water, terrestrial, transportation, and cultural resources, and findings of positive impacts on socioeconomic and recreation resources. Since the three projects will not contribute to cumulative adverse impacts, and since, as discussed below (see sections VI and VII, infra, and section VII of the Beebee Island order, issued contemporaneously with this order), the projects do not conflict, we are processing the application for the proposed the Felts Mills Project separately from the applications for the Beebee Island and Black River projects. See, e.g., Jack M. Fuls, 32 FERC ¶ 61,424 at pp. 61,934-35 (1985).

We have fully considered the Settlement Offer, all the motions and comments of the above-named organizations, and the staff's conclusions and recommendations in the EA in determining to issue a new license for the Black River Project.

## II. PROJECT DESCRIPTION

The five developments of the Black River Project were constructed or were converted from hydromechanical to hydroelectric plants between 1920 and 1925. The project is one of ten existing or proposed hydroelectric projects on the lower reaches of the Black River, between Carthage, New York, and the river's mouth at Lake Ontario. 17/

All five developments operate run-of-river with pondage, 18/ and are subject to flood control and flow augmentation regulation by upstream storage projects, principally the Hudson River-Black River Regulating District's (Hudson-Black) Stillwater Reservoir Project No. 6743, located on the Beaver River. 19/

All project turbines are manually controlled, and their gate openings to admit water manually set. Typically, they operate at best gate (the discharge at which a turbine-generator unit operates most efficiently), which is normally 85 to 90 percent of full gate (the maximum possible discharge through a turbine-generator unit). When the flow available for generation at a development exceeds the best gate of one turbine but does not

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17/ These dams and their associated hydroelectric plants are shown in Figure 2 and Table 5 of the Environmental Assessment issued in this proceeding.

18/ Niagara Mohawk explains run-of-river with pondage as each development utilizing its turbines efficiently, but with minimal impoundment fluctuations, so that normal discharge from the development fluctuates above or below the immediate river flow. License Application at p. B-3.

19/ On March 16, 1984, Hudson-Black was granted an exemption from licensing under Part I of the FPA for the 1.2-MW Stillwater Reservoir Project No. 6743. See 26 FERC ¶ 62,247. The Stillwater Reservoir, located at the headwaters of the Beaver River, is the largest regulating body of water in the Black River Basin. It is primarily operated for flood control and flow augmentation, with a targeted minimum flow of 1,000 cubic feet per second at the Watertown U.S. Geological Survey gaging station, located approximately two miles upstream of the Beebe Island Project.

exceed development capacity, another turbine utilizes the excess available flow until the development's headpond is drawn down to its pre-set minimum elevation.

Ponding operations are controlled by seasonal wooden flashboards at all developments except Sewells (which has none). Niagara Mohawk installs the flashboards each year, in May or June. Typically, these flashboards wear out and are lost during the following January or February. 20/

Each development is described below in descending river mile order. Ordering Paragraph (B) contains more detailed description.

#### Herrings Development

The Herrings Development's principal features consist of: (1) a 512-foot-long by 25-foot-high "L"-shaped concrete gravity dam with crest elevation of 679.1 feet U.S. Geological Survey Datum (USGS), topped by 1-foot-high wooden flashboards; (2) an impoundment with surface area of 140 acres at normal maximum surface elevation of 680.1 feet USGS, and gross storage capacity of 669.4 acre-feet; (3) an intake structure, integral with the powerhouse, having a 9-foot-wide stop-log waste sluice upstream of the trashracks; (4) a 101-foot-wide by 31-foot-high trashrack; (5) an 11-foot-wide stop-log waste sluice downstream of the trashracks; (6) nine motor-operated slide gates; and (7) a 137-foot-wide, 33-foot-long brick and masonry powerhouse containing three vertical generating units, each rated at 1,800 kilowatts (kW), for a total installed capacity of 5.4 MW.

#### Deferiet Development

The Deferiet Development's principal features consist of: (1) a 695-foot-long dam having a 503-foot-long by 18-foot-high Ambursen dam section with crest elevation of 656 feet USGS, topped by 3-foot-high wooden flashboards, and a 192-foot-long sluice gate section that houses eleven 14-foot-wide stop-log bays; (2) an impoundment with surface area of 70 acres at normal maximum surface elevation of 659 feet USGS, and gross storage capacity of 405.0 acre-feet; (3) a 180-foot-wide concrete power canal headworks section housing 20 5-foot-wide by 12.5-foot-high timber slide gates; (4) a 4,200-foot-long power canal; (5) an intake structure, integral with the powerhouse, having a 108-foot-wide by 27-foot-high trashrack, three slide gates, and, adjacent to the trashracks, an 11-foot-wide ice sluice controlled by stop-logs; and (6) a 145.5-foot-wide by 92.5-foot-long

powerhouse containing three vertical generating units, each rated at 3,600 kW for a total installed capacity of 10.8 MW.

#### Kamargo Development

The Kamargo Development's principal features consist of: (1) a dam consisting of a 647-foot-long by 12-foot-high concrete gravity spillway section with crest elevation of 561.8 feet USGS, topped by 2-foot-high wooden flashboards, a 150-foot-long non-overflow section with crest elevation of 570.0 feet USGS, and a 141-foot-long power canal headworks structure containing fourteen 8-foot-wide by 11-foot-high wooden headgates, at the western end of Poors Island; (2) an impoundment with surface area of 40 acres at normal maximum surface elevation of 563.8 feet USGS, and gross storage capacity of 359.5 acre feet.; (3) a 3,850-foot-long unlined power canal, around the south edge of Poors Island, containing a 143-foot-long bulkhead section at the east end of Poors Island; (4) a 580-foot-long concrete forebay channel at Mill Island, comprised of a 190-foot-long concrete gravity overflow section, a 230-foot-long concrete gravity overflow section topped with 1-foot wooden flashboards, and a 160-foot-long side channel spillway section, equipped with twelve 11-foot-wide stop-log bays; and (5) a 97.5-foot-high by 37-foot-long brick and masonry powerhouse containing three vertical generating units, each rated at 1,800 kW for a total installed capacity of 5.4 MW.

#### Black River Development

The Black River Development's principal features consist of: (1) a 327.5-foot-long by 16-foot-high horseshoe-shaped dam with a concrete retaining wall abutment, a 36.5-foot-long gated section with two sluice gates, and a 291-foot-long by 25-foot-high concrete gravity spillway with crest elevation of 534 feet USGS, topped by 2-foot-high flashboards; (2) an impoundment with surface area of 25 acres at normal maximum surface elevation of 536.0 feet USGS, and gross storage capacity of 123.0 acre feet; (3) an 80-foot-long concrete power canal headworks structure with twelve timber slide gates and one other gate; (4) a 2,250-foot-long power canal; and (5) an 118-foot-wide by 66-foot-long powerhouse containing three vertical generating units, each rated at 2,000 kW, for a total installed capacity of 6 MW.

#### Sewalls Development

The Sewalls Development's principal features consist of: (1) a 343-foot-long by 15.5-foot-high concrete gravity dam across the Black River's channel to the south of Sewalls Island, with crest elevation of 463.9 feet USGS; (2) a small impoundment with surface area of 4.0 acres at normal maximum surface elevation of 463.9 feet USGS, and gross storage capacity of 48.0 acre feet;

(3) a 65.5-foot-long power canal headworks structure with two stop-log bays and two automated steel slide gates; (4) a 400-foot-long and 30- to 55-foot-wide power canal, whose wall adjacent to the river has a permanent crest elevation of 463 feet USGS and is equipped with 2-foot-high flashboards along its entire length; (5) an intake structure at the powerhouse having four steel slide gates; and (6) an 81-foot-wide by 32-foot-long powerhouse, on the south channel, containing two vertical generating units, each rated at 1,000 kW, for a total installed capacity of 2 MW. The project also has a 90-foot-long by 18.5-foot-high concrete gravity dam across the Black River's channel to the north of Sewalls Island, with crest elevation of 463.9 feet USGS, and abandoned headworks and an abandoned powerhouse.

### III. THE SETTLEMENT OFFER

The Settlement Offer treats project operation, fish and wildlife resources, water quality, recreation, lands management and ownership, and aesthetics. Its provisions, in these areas, supersede any conflicting proposals made by Niagara Mohawk in its new license application and subsequent submittals. 21/ Niagara Mohawk's proposals not in conflict with the Settlement Offer are maintained. The Settlement Offer maintains all recreational features proposed by Niagara Mohawk and adds to them.

The Settlement Offer resolves a range of resource use issues. For this new license, we consider only those terms that apply to the Black River Project and not those relating solely to the Beebee Island Project. While, absent the Settlement Offer, we may not have conditioned the Black River new license with all the terms we herein approve, we conclude that the agreement negotiated by the parties is in the public interest. We will include in the license those terms of the Settlement Offer that pertain to the Black River Project, 22/ modified to accord

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21/ Niagara Mohawk filed responses to additional information requests, reports, studies, and other information concerning its new license application between March 1992 and February 1996. Among these were the various preliminary and supplemental fishery studies, that culminated in the noted final report on fish entrainment and mortality report, filed on January 16, 1996.

22/ Accordingly, our approval of the Settlement Offer does not create a precedent on any specific matters thereunder.

with our policies, together with provisions enabling us to ensure compliance with all license conditions. 23/

We emphasize that the Settlement Offer's provisions, such as the dispute resolution process, cannot interfere with Niagara Mohawk's compliance with its license. 24/ The licensee must comply with Commission orders, even when an order relates to a matter currently subject to dispute resolution. The licensee cannot perform actions subject to Commission approval without first receiving Commission authorization even if the result of the dispute resolution process requires these actions.

#### IV. APPROVAL OF THE SETTLEMENT OFFER PROVISIONS

We describe here the Settlement Offer's provisions for the Black River Project new license, followed by how our license articles implement them, with any needed modifications.

##### A. Withdrawn Proposals

The Settlement Offer withdraws Niagara Mohawk's two proposals intended to increase project generation: construction of a new powerhouse and generating facility at the Sewalls Development, on the North Channel of the Black River, which would have increased installed capacity there by 1.2 MW; and erection of pneumatic flashboards at the Deferiet, Kamargo, and Black River Developments, which would have increased these developments' annual generation by 2,280 megawatt hours (MWh), 2,330 MWh, and 1,620 MWh, respectively.

##### B. Project Operations

###### 1. Impoundment Levels

The Settlement Offer requires maintenance of project impoundment levels no lower than 0.5 foot below the permanent crest of each development's dam or below the top of the flashboards, when the dam is so equipped. Niagara Mohawk may modify this flow during operating emergencies, or for short time periods with the agreement of NYSDEC, and with notification by Niagara Mohawk to FWS.

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23/ See order approving settlement agreement and issuing new license in Niagara Mohawk Power Corporation, supra, 76 FERC at p. 61,833, citing Consumers Power Co., 68 FERC ¶ 61,077 (1994).

24/ Consumers Power Co., supra, 68 FERC at pp. 61,372, 61,374.



At the Herrings Development, between May 1 and October 1, and when Black River flow is between 1400 cubic feet per second (cfs) and 1900 cfs, the Settlement Offer requires Niagara Mohawk to use its best efforts to maintain the development's impoundment within 0.2 foot of the dam's crest or the flashboards' top. The purpose is to minimize fluctuating flows in the Black River below the adjacent Deferiet Development, 1.5 miles downstream. Niagara Mohawk will submit an annual report of its efforts to maintain the Herrings Development impoundment levels.

At the Sewalls Development, the Settlement Offer requires Niagara Mohawk to maintain run-of-river operation, between May 1 and September 30 whenever river flow is below 2,000 cfs. The Settlement Offer defines run-of-river as active storage volume of zero cubic feet at all times, and the instantaneous sum of all discharges and releases from each impoundment to equal the instantaneous inflow into that impoundment, to the extent practicable. During such run-of-river operation, Niagara Mohawk may maintain constant spillage flows above the dam's permanent crest elevation to provide the run-of-river operation.

Article 401 requires the licensee to restrict all impoundment fluctuations to a lower limit of 0.5 foot below the impoundment dam's crest or the top of the impoundment's flashboards, when mounted. It requires the licensee to use its best efforts to restrict impoundment fluctuations at the Herrings Development to a lower limit of 0.2 foot, from May 1 through September 30, when Black River flows are between 1400 cfs and 1900 cfs, and to make annual reports of its success.

Article 401 also takes cognizance of operating emergencies that prevent compliance, and permits the licensee to modify project flows then, but requires the licensee to notify the Commission, FWS and NYSDEC promptly. It similarly permits modification of project flows for short time periods, with the prior consent of NYSDEC and prompt notification to the Commission and FWS.

## 2. Flashboards

To protect fish spawning in and birds nesting around the project impoundments, the Settlement Offer requires Niagara Mohawk to install flashboards at each development by May 1, or as soon thereafter as safely possible. Article 403 adopts this requirement. Should flashboard problems prevent compliance with the impoundment level requirement, Article 401 requires the licensee to so inform the Commission, FWS and NYSDEC, and to propose remedial action.

### 3. Run-of-River

Article 402 requires the licensee to operate the Sewalls Development as run-of-river from May 1 through September 30 at times when Black River flows are below 2,000 cfs. It takes cognizance of operating emergencies that prevent compliance, but requires prompt notification to the Commission, FWS and NYSDEC. Similarly, it permits short-time modifications of the required run-of-river flow with the consent of NYSDEC and prompt notification to the Commission and FWS.

#### C. Flows

##### 1. Continuous flow

The Settlement Offer requires Niagara Mohawk to provide a continuous flow of not less than 1,000 cfs through the entire project, except when inflow to the project is below 1,000 cfs. Then, inflow will determine and equal outflow. Article 404 requires that this standard be met within 270 days of license issuance.

##### 2. Minimum flows

The Settlement Offer requires specific minimum flow releases at identified locations to enable downstream fish passage and to foster aquatic habitat in the project's bypassed reaches.

At the Herrings Development, Niagara Mohawk is to release a year-round minimum flow of 20 cfs through the stop-log section, between the dam and the trashracks, into the river channel to enable fish to move downstream.

At the Deferiet Development, where bypassed reach flows are provided by leakage, releases over the dam, and releases through the stop-log structure, Niagara Mohawk is to provide, regardless of leakage flows, a year-round minimum flow of 45 cfs through the modified stop-log structure at the dam to provide for downstream fish movement. During the walleye spawning season, 25/ Niagara Mohawk is to provide an instream flow into the bypassed reach of not less than 800 cfs. Throughout the rest of the year, Niagara Mohawk is to maintain flows there of not less than 245 cfs. At the end of the walleye spawning season, Niagara

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25/ The Settlement Offer, at p. 3, defines walleye spawning season as that period of the year commencing on March 15 and continuing until 30 days after the average daily water temperature of 50 degrees Fahrenheit is reached or exceeded on four consecutive days after April 15, unless modified by mutual agreement between FWS and NYSDEC.

Mohawk is to ramp down by increments no greater than 200 cfs and at no less than four hour intervals. This ramping regime may be changed after field inspections by NYSDEC and FWS during the first year after flow release structures (see item C.3, below) are operational at the dam.

At the Kamargo Development, Niagara Mohawk is to release a year-round instream flow of not less than 120 cfs into the bypassed reach through a notched section in the dam.

At the Black River Development, during walleye spawning season, Niagara Mohawk is to release instream flows into the bypassed reach of not less than 300 cfs, utilizing a notched dam and low level sluice-gate(s). During the balance of the year, Niagara Mohawk is to release at least 80 cfs through the notch in the dam to enable downstream fish movement. At the end of the walleye spawning season, Niagara Mohawk is to ramp down by increments no greater than 75 cfs at no less than four hour intervals. This ramping regime may be changed after field inspections by NYSDEC and FWS during the first year after the flow release structures (see item C.3, below) are operational at the dam.

At the Sewalls Development, Niagara is to provide year-round instream flows into both the North and South Channels' bypassed reaches. In the North Channel, the total release is to be maintained at 32 cfs. At least 20 cfs must come from a notch in the dam, to provide for downstream fish movement, with the remainder from leakage from the dam, which is now 12 cfs. In the South Channel, the instream flow is to be maintained at 137 cfs, the existing leakage from the dam. Should either leakage amount be reduced in the future, Niagara Mohawk is to provide additional release mechanisms to maintain the respective 32 cfs and 137 cfs flows into the North and South Channels' bypassed reaches.

Article 405 adopts these requirements. Additionally, it provides that these minimum flow releases may be modified temporarily for operating emergencies, or, for short periods of time, with the prior consent of NYSDEC and subsequent prompt notification to the Commission and FWS.

Article 405 also requires the licensee, during the first year that the required flow release structures are operational at the Deferiet and Black River Developments, to conduct field investigations there to determine the effects of the ramping regimens on spawning walleye. After consultation with FWS and NYSDEC, the licensee is to report its observations to the Commission, along with any recommendations for changes to the required ramping schedules.

### 3. Flow release structures

The Settlement Offer requires installation of flow release structures that are designed to minimize adverse effects to downstream passing fish while being cost effective and reasonable. Final design details, device locations, and other fish conveyance measures, such as plunge pools and piping, are to be based on 1996 field inspections and the judgment of FWS and NYSDEC. Niagara Mohawk is to install approved devices within two years of license issuance.

Article 406 requires the licensee to file, within one year of license issuance, its plan and installation schedule for constructing flow release structures and fish conveyance measures in conformity with the Settlement Offer's conditions, and after consultation with FWS and NYSDEC. It requires installation of the structures and measures within two years of Commission approval of the plan.

### 4. Staff gages

The Settlement Offer requires Niagara Mohawk to install permanent staff gages to allow independent verification of headpond and tailwater elevations to the nearest 0.1 foot. Niagara Mohawk is to provide FWS and NYSDEC staff and representatives with access to these gages. Article 407 adopts these requirements.

### 5. Flow monitoring plan

The Settlement Offer requires Niagara Mohawk to develop a flow monitoring plan, after consultation with all signatories and within six months of license issuance, that includes installation and maintenance of a U.S. Geological Survey gaging station, unless Niagara Mohawk provides justification for an alternative gaging system. The plan is to also include all gages or other equipment needed to determine the stage and/or flow of the Black River, all project flows, and headpond and tailwater elevations. Niagara Mohawk is also to calibrate stage versus discharge ratings when rating changes occur. Niagara Mohawk is to keep records of the impoundments elevations and all project discharges to NYSDEC's satisfaction and to provide the recorded data as NYSDEC may prescribe. The plan is to be submitted to NYSDEC for approval, and all equipment is to be made fully operational within one year of license issuance.

Article 408 requires the licensee to file, within 180 days of license issuance and for Commission approval, a plan to monitor its compliance with the flow requirements of this license. The plan is to include a gaging system, calibration, a schedule for making the gages and ancillary equipment operational

within one year, and provisions for contact people to respond to questions about flow or impoundment conditions. The article requires the licensee to consult with FWS, NYSDEC, and the Advisory Council prior to filing its plan and schedule. The Commission reserves the right to make changes to the plan and schedule, and requires their implementation within one year of approval.

Article 409 requires the licensee to file, within 180 days of license issuance and for Commission approval, a plan describing its current or proposed practices for keeping records of impoundment levels and water flows, and their changes and rates of change. The plan is also to include the licensee's method of advance notification to FWS, NYSDEC, and the Advisory Council before the licensee proposes to the Commission any future changes to the record keeping practices. The plan must also accommodate FWS, NYSDEC and Advisory Council requests for access to the records both for inspection and for copies. The licensee is required to consult with FWS, NYSDEC and the Advisory Council before filing the plan.

#### D. Fish and Wildlife Protection

##### 1. Fish Entrainment

To prevent entrainment of adult fish, the Settlement Offer requires Niagara Mohawk to replace the existing trashracks at the five developments of the Black River Project with trashracks having two-inch clearance bar spacing. From May 1 through October 1, Niagara Mohawk is to install overlays having one-inch clearance bar spacing over the trashracks in the top half of the water column, except at the Sewalls Development, where only two-inch clearance bar spacing is required. Installation of the new trashracks and overlays at the Black River Project's five developments and at the Beebee Island Project is to begin within two years of license issuance, for both projects, and is to be completed, for both projects, by twelve years from the date the two licenses issue.

Article 410 requires the licensee, within one year of license issuance, and after consultation with FWS and NYSDEC, to file, for Commission approval, design drawings for permanent 2-inch-clearance bar spacing trashracks and for 1-inch-clearance bar spacing overlays for installation, except at the Sewalls Development, and an implementation schedule. The article also reserves the Commission's right to make changes to the plan and schedule.

## 2. Fish Passage

The Settlement Offer provides for downstream fish passage via the flow release structures in each development's dam, as described above, under Flows (see item C.2, above). The Settlement Offer does not require upstream fish passage measures.

### E. Recreation

The Settlement Offer requires Niagara Mohawk, within two years of license issuance, to provide and maintain the recreational facilities described in its new license application and additional information submittals, and in the Settlement Offer, and to maintain these facilities during the term of the license. Niagara Mohawk is to develop the facilities and other recreational enhancements in consultation with members of the Advisory Council. Table 15 of the EA lists, in detail, the new recreational facilities proposed in the license application and the Settlement Offer. Summary descriptions of the recreational facilities added by the Settlement Offer follow:

#### 1. Herrings Development

At the Herrings Development, Niagara Mohawk is to provide parking and a new portage trail from an existing car-top boat launch 26/ to a put-in below the tailrace. Also, Niagara Mohawk is to provide a new car-top boat launch site at the downstream end of the new portage trail, and overland access to the launch site.

#### 2. Deferiet Development

At the Deferiet Development, Niagara Mohawk is to provide: a new road to a new car-top boat put-in/take-out, with a new parking area, on the north shore of the impoundment; a canoe put-in below the dam; a new canoe put-in in the bypassed reach below the dam with signs there warning of downstream whitewater; a new portage trail between the impoundment take-out and the bypass put-in; well-maintained access to the impoundment's south shore; additional recreational access to the Black River through Niagara Mohawk's land and through land belonging to the Village of Deferiet, in cooperation with the village; and various boater safety measures.

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26/ The Settlement Offer, at p. 5, defines a car-top boat as one that requires neither a ramp nor trailer for launching and retrieving.

### 3. Kamargo Development

At the Kamargo Development, Niagara Mohawk is to permit shoreline fishing on Poors Island and the north and south shorelines of the power canal, upstream of a boat barrier to be installed. Niagara Mohawk is to replace its proposal for a car-top boat take-out on the north shore of the impoundment with a car-top boat take-out from the impoundment at the upstream end of Poors Island. Additionally, Niagara Mohawk is to: provide a new car-top boat put-in immediately downstream of the canal headgate structure of the power canal; allow passage of car-top boats down a portion of the power canal where water velocities are slow; install a new boat barrier and car-top boat take-out on the Poors Island side of the power canal, about 1,600 feet down the canal from the headgate structure; provide a foot trail from the power canal boat take-out to the proposed Poors Island Recreation Area trail system; provide parking near the Poors Island access bridge; provide a new car-top boat put-in upstream of the Main Street Bridge, adjacent to the existing Black River Village Overlook, and modify the area to allow safe access.

### 4. Black River Development

In addition to providing the car-top boat launch and take-out as described in its new license application, and to make provision for parking, Niagara Mohawk is to: provide a car-top boat put-in in the upstream area of the bypassed reach and a canoe portage trail; maintain the parking area at an existing picnic area along the bypassed reach; and provide additional and handicapped parking at specified locations. Niagara Mohawk is also to replace its existing security fence with protective railings at the overlook and picnic areas, and at other locations deemed necessary.

### 5. Sewalls Development

Niagara Mohawk is required to provide a new car-top boat take-out on the south shore of the impoundment, and signage directing to potential downstream put-in locations. Niagara Mohawk's maintenance of run-of-river operation between May 1 and September 1, as described above, will stabilize flow levels downstream and facilitate whitewater boating.

Article 413 requires the licensee to file, within six months of license issuance, a detailed plan and implementation schedule to construct, operate, and maintain recreational features at the project in conformity with its license application, its responses to additional information responses, and the Settlement Offer. The licensee must first consult with appropriate federal, state and local agencies, and with the Advisory Council.

#### F. Aesthetics

The Settlement Offer requires Niagara Mohawk to paint or finish in a dark green-brown color all new and replacement fencing, including support structures. It must maintain the color scheme for existing fences or structures that need re-painting.

Article 414 adopts the color scheme requirements. Additionally, Article 413 requires the recreational features to have consistent designs and colors to make a unified system, and Article 415 requires maintenance of the existing wooded areas around the project impoundments and visual screens for the new access road and parking area at the Deferiet Development.

#### G. Water Quality Certification

The Settlement Offer foresees NYSDEC's issuance of water quality certification, pursuant to Section 401 of the Clean Water Act to the Black River Project. It provides that, to the extent that certification incorporates the Settlement Offer's provisions, or that the Commission incorporates these provisions into the terms and conditions of the issued new license, any signatory may enforce the Settlement Offer's provisions. If the certification or the issued new license contains conditions that conflict with the Settlement Offer's provisions, any signatory may withdraw from the Settlement Offer.

As discussed below (section VI), valid water quality certification conditions become part of an issued license and are enforced by the Commission.

#### H. Other Provisions

The signatories agreed not to request the Commission to include in the issued license any terms or conditions inconsistent with the Settlement Offer's provisions. The Settlement Offer also provides that if the Commission rejects or modifies the provisions of the Settlement Offer, each signatory has the right to modify or withdraw from the Settlement Offer, but the rest of the agreement would remain in effect.

The Settlement Offer's provisions are to remain in effect during the term of an issued license and any annual license issued subsequently, subject to any authority that the Commission may reserve to itself to require modifications during the term of the new license. Should a signatory wish to modify a term or condition through a license reopener, the signatory must first request all signatories to commence negotiations for 90 days to resolve the issue and to try to agree on modification of the Settlement Offer. Should a dispute arise over the provisions of



the Settlement Offer, the signatories agree to negotiate in good faith for at least 90 days to resolve the dispute. If resolution can not be attained, the dispute may be referred to the Commission pursuant to the Commission's Rules of Practice and Procedure. As noted (see section III, supra), the dispute resolution process cannot interfere with Niagara Mohawk's compliance with license requirements.

#### V. ENVIRONMENTAL ANALYSIS

The staff's environmental assessment of Niagara Mohawk's new license application, as amended by the Settlement Offer, analyzed the effects of continued project operation on water quality, maintenance of stable minimum flows, fisheries (including fish passage), vegetation and wildlife, geological resources, recreation, aesthetic resources, and cultural resources.

It concluded that Niagara Mohawk's implementation of the Settlement Offer's proposed project conditions will produce beneficial effects. Reducing fluctuations of impoundment water levels in the project's five impoundments will reduce shoreline erosion and will enhance habitat and reproduction conditions for resident fish. Fish stranding will be reduced, and the more stable wetlands around the impoundments' shorelines will provide increased habitat for birds and other animals. Fish entrainment at the intakes will be reduced and fish passage will be improved. The 1,000 cfs continuous flow and surge control will stabilize riverine fish habitat downstream of the project. Boating, picnicking and other recreational activities will be expanded. Project aesthetics will be enhanced. The project will be subject to mitigation measures to protect aesthetics values.

#### VI. WATER QUALITY CERTIFICATION

Under Section 401(a)(1) of the Clean Water Act, 33 U.S.C. § 1341 et seq., applicants for federal license or permit for any activity that may result in any discharge into navigable waters of the United States must request, from the state in which the discharge originates, certification that any such discharge will comply with applicable state water quality standards. The Commission may not issue a license for a hydroelectric project unless the state certifying agency has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable time, not to exceed one year. 27/

27/ On November 25, 1991, Niagara Mohawk submitted to NYSDEC a request for water quality certification. On November 19, 1992, NYSDEC denied the request without prejudice. Niagara  
(continued...)

On November 3, 1995, after signing the Settlement Offer, NYSDEC issued water quality certification for the Black River Island Project. 28/ Its provisions are contained in the appendix to this order. The certification includes both NYSDEC's standard conditions and the terms and conditions of the Settlement Offer.

NYSDEC's standard conditions include: (1) inspection of the project and project records by NYSDEC to determine project compliance with the certification conditions; (2) cessation of generation and flow through turbines before dredging in any intake or forebay area; (3) contaminant testing of sediments to be disturbed or removed from project waters; (4) NYSDEC approval of an erosion and sediment control plan prior to the licensee commencement of activities that could adversely affect water quality; (5) placement of cofferdams, ramps, roads and other structures encroaching on the Black River in accord with the erosion and sediment control plan; (6) maintenance, during construction, of adequate flows to ensure that established water quality standards are met; (7) upstream and downstream turbidity monitoring during construction, and correction of activities that cause downstream turbidity to exceed upstream turbidity; and (8) prior notification to NYSDEC of any activities subject to the above conditions.

These standard conditions are valid certification conditions and are adopted as license requirements. However, we note that the state's power under the Clean Water Act is not unbounded, and that it is the Commission, not the state certifying agency, that administers and enforces all license conditions, including those in a Section 401 certification. 29/ Accordingly, whereas standard certification condition 4 requires NYSDEC approval of an erosion and sediment control plan prior to undertaking any activity that affects water quality, it will be the Commission that authorizes Niagara Mohawk to commence those activities, NYSDEC's prior approval notwithstanding.

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27/ (...continued)

Mohawk submitted a request for a NYSDEC hearing on the certification denial. Subsequent negotiations led to the Settlement Offer.

28/ November 3, 1995 letter to Niagara Mohawk from NYSDEC, included in Niagara Mohawk's November 9, 1995 filing. NYSDEC's water quality certification covered both the Beebee Island and the Black River Projects.

29/ See Great Northern Paper, Inc., 77 FERC ¶ 61,068 at pp. 61,271-72 (1996).

The certification (p. 2) states that NYSDEC "reserves the right to reconsider the entire Certification if there is a significant change in the scope of the proposal or the project license, or in the event that the referenced application or Settlement Agreement are further amended." To the extent that the reservation referred to pre-relicensing amendments to the proposed project, it was governed by section 4.38(f)(7) of our regulations, which requires a new request for water quality certification "if the amendment would have a material adverse impact on the water quality in the discharge from the project or proposed project." <sup>30/</sup> However, to the extent that the reservation purports to give NYSDEC the right to revise certification conditions after the license has been issued and becomes final, we reject such reservation as outside the scope of Section 401 of the Clean Water Act. <sup>31/</sup>

#### VII. BLACK RIVER FUND AND BLACK RIVER ADVISORY COUNCIL

The Settlement Offer provides for Niagara Mohawk to contribute \$3,000 annually for the first 15 years of the expected new license, and \$4,000 annually for the next 15 years, to a Black River Fund (Fund), to be administratively managed by Niagara Mohawk and distributed according to the recommendations of the Advisory Council, which the Settlement Offer also establishes.

The Advisory Council is to be chaired by NYSDEC and composed, at a minimum, of Jefferson County and the signatories to the Settlement Offer, except for Beebee Island and Heritage. Each member has one vote, and decisions are to be by majority vote. In addition to recommending uses of the Fund, the Advisory Council is to recommend to regulatory agencies and project licensees measures concerning management of the Black River and hydropower project operations.

The Advisory Council is to use the Fund within the Black River Basin for ecosystem restoration and protection, natural resource stewardship, public education, facility maintenance, applied research to accomplish these undertakings, and additional public access to outdoor recreational resources not required by the project licenses.

The Settlement Offer provides specifically for acquisition of interests in lands owned by Niagara Mohawk and located along the shores of the Black River. These property interests would include permanent conservation easements, reserved rights, and

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<sup>30/</sup> 18 C.F.R. § 4.38(f)(7)(iii).

<sup>31/</sup> See Niagara Mohawk, supra, 76 FERC at p. 61,832.

fee titles of certain land parcels lying between the Deferiet and Kamargo Developments. The Fund also provides for additional purchase from Niagara Mohawk of other, as yet-unidentified, lands, easements, and mineral rights not essential for project purposes.

NYSDEC is to prepare, without cost to Niagara Mohawk or to the Fund, the title documents, appraisal, surveys and other documents necessary to transfer title of the lands. The Settlement Offer is unclear as to whether the lands transferee is NYSDEC or the Advisory Council, and, if the latter, to whom the interests in land would be transferred, should the Advisory Council disband.

Since, pursuant the Fund, interests in property affecting the Black River Project could be transferred for environmental purposes, we are requiring Niagara Mohawk to file for Commission approval annual plans of its proposed annual monetary contribution to the Black River Fund to be spent on the purposes described in the provisions in the Settlement Offer. However, since the sole named Advisory Council member under our jurisdiction is Niagara Mohawk, we lack the authority to establish the Advisory Council or to direct its actions. With respect to the provisions for Niagara Mohawk to transfer specified property rights under provisions of the Fund, the terms of such conveyances must ensure that Niagara Mohawk retains all rights necessary to carry out not just hydropower operations but also project purposes identified in the license. 32/

Article 412 requires the licensee to file, for Commission approval, annual plans of monetary contributions and their intended disposition. We reserve the right to require changes to a plan, after notice and opportunity for hearing.

#### VIII. FELTS MILLS' OPPOSITION TO THE NEW LICENSE

Pursuant to the Offer of Settlement, NYSDEC would acquire rights to Niagara Mohawk-owned lands that are included in the project boundary for the proposed 13.2 MW Felts Mills Project No. 4715, for which an original license application has been filed by Felts Mills Energy Partners, L.P. The Felts Mills Project would comprise two developments, to be located at what are currently partially breached dams on the Black River at river miles 19.2 and 21.7, between two (of five) Black River Project developments, Kamargo (mile 17) and Deferiet (mile 26).

Felts Mills protests that, under the River Fund aspect of the Black River settlement, parties on record as opposing the

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32/ See Niagara Mohawk, supra, 76 FERC at p. 61,833.

Felts Mill Project -- including Niagara Mohawk and NYSDEC -- have deliberately selected for conservation easements lands proposed for inclusion in the Felts Mills Project. It asserts that the settlement should be dismissed because it places the Black River and Felts Mills Projects in competition long after the deadline for the filing of competing applications; and that approving the Black River settlement will necessitate the denial of the Felts Mills license application.

Niagara Mohawk and NYSDEC respond that the Commission cannot block the land transfers at issue, because the settlement does not propose to include such lands within the Black River Project boundary, and so their management will be beyond the Commission's jurisdiction. They also note that issuance of a license does not by itself create or alter property rights; consequently, the licensing of the Felts Mills Project would not automatically impose restrictions on Niagara Mohawk's ability to convey or encumber any of its property within the Felts Mills Project boundary. They assert that there has been no showing that transfer to NYSDEC of the lands in question would have anything more than a de minimis impact on the Felts Mills Project and license. They state that, any event, the Black River settlement does not require denial of the Felts Mills license application, because (1) the settlement authorizes, but does not require, the River Fund to be used to transfer the Niagara Mohawk property rights in question to NYSDEC, and other lands could be selected; and (2) a license would give Felts Mills access to the eminent domain powers described in FPA Section 21, pursuant to which Felts Mills could acquire whatever property rights it needed for its project.

We agree with the basic legal points made by Niagara Mohawk and NYSDEC. Moreover, if the Commission licenses Felts Mills, then Commission approval will be needed for any future transfer of project property rights. Even if lands have already been transferred to NYSDEC, the Commission can require Felts Mills to obtain those rights deemed necessary to enable the Commission and its licensee to fulfill project purposes. We stress that our approval of the Settlement Offer in this proceeding does not mean that we are requiring the Fund to acquire the noted property interests located within the boundary for the proposed Felts Mills Project, and we affirm that, if we license Felts Mills, we could require its licensee to reacquire whatever property rights it needs for project purposes. Accordingly, we find that issuance of a new license for Niagara Mohawk's Black River Project will not prevent the licensing of the Felts Mills Project.

## IX. SECTION 18 FISHWAY PRESCRIPTION

Section 18 of the FPA, 16 U.S.C. § 811, states that the Commission shall require construction, maintenance, and operation by a licensee of such fishways as the Secretaries of Commerce and the Interior may prescribe. Commerce did not submit a prescription. Interior requested reservation of its authority to prescribe upstream and downstream fishways in the future. 33/ FWS, in the Settlement Offer, agreed to defer installation of upstream fish passage devices at the Black River Project until development of salmonid restoration management goals for the Black River Basin, but specifically reserved Interior's authority to prescribe fishways as may be deemed necessary in the future. 34/ FWS subsequently specified that the reservation includes both upstream and downstream fishways. 35/

With recent installation of fish ladders at the two projects between the Beebee Island Project and Lake Ontario, the Dexter Project No. 2695 at river mile 1 and the Glen Park Project at river mile 6, anadromous salmonids (Atlantic salmon and steelhead trout) can now migrate upstream to the base of the Beebee Island Dam. Interior's reservation of its fishway prescription authority is reasonable. Consistent with Commission practice, Article 411 reserves our authority to require Niagara Mohawk to construct, operate, and maintain such fishways as the Secretary of the Interior may prescribe. 36/

## X. CULTURAL RESOURCES

The Historic Preservation Field Services Bureau, New York's state historic preservation office (SHPO), 37/ notified Niagara Mohawk, on January 18, 1991, that the Black River Project

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33/ Interior's filing of December 19, 1995, at 8.

34/ Settlement Offer at 4.

35/ FWS' April 8, 1996 filing.

36/ See Wisconsin Public Service Corporation, 62 FERC ¶ 61,095 at p. 61,685-86 (1993), aff'd sub nom. Wisconsin Public Service Corporation v. FERC, 32 F.3d 1165 (7th Cir. 1994).

37/ See National Historic Preservation Act, 16 U.S.C. § 470 et seq. In issuing licenses, the Commission must act to preserve the nation's historic, cultural and archaeological heritage, and must consult with the appropriate State Historic Preservation Officer.

will have no effect on cultural resources in or eligible for inclusion in the National Register of Historic Places. 38/

On July 19, 1996, a Programmatic Agreement was executed between the Commission, the (U.S.) Advisory Council on Historic Preservation (Historic Preservation), the SHPO, and Niagara Mohawk and its associated or subsidiary companies. The Programmatic Agreement requires the licensees to administer each project in accord with the project's cultural resources management plan (CRMP) that specifies how historic properties will be protected. Historic Preservation found that the Programmatic Agreement satisfied the Commission's responsibilities under the National Historic Preservation Act, 16 U.S.C. § 470 et seq., and regulations thereunder. 39/ On December 1, 1996, the Commission's staff revised the appendices to the Programmatic Agreement for the Beebee Island and Black River Projects, including the changes proposed by Historic Preservation, the SHPO, and Niagara Mohawk (acting for both projects). 40/ The Programmatic Agreement requires the licensees to administer each project in accord with the project's cultural resources management plan (CRMP), which specifies how historic properties will be protected.

Article 416 requires Niagara Mohawk: to implement the Programmatic Agreement, including the filing of a CRMP; to implement the provisions of an approved CRMP; and, should the Programmatic Agreement be terminated prior to Commission approval of the CRMP, to obtain Commission approval before engaging in any ground disturbing or other activities that may affect historic properties.

#### XI. SECTION 10 OF THE FEDERAL POWER ACT

Section 15(a)(2) of the FPA, 16 U.S.C. § 808(a)(2), provides that the requirements of Section 10 of the FPA, 16 U.S.C. § 803, pertaining to conditions of licenses are applicable also to Commission consideration of new license applications.

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38/ Niagara Mohawk's filing of January 25, 1991.

39/ August 5, 1996 filing by the Advisory Council on Historic Preservation.

40/ December 1, 1996 letter from Director, Division of Licensing and Compliance, to the Advisory Council on Historic Preservation, the New York State Office of Parks, Recreation and Historic Preservation, and Niagara Mohawk.

### A. Federal and State Comprehensive Plans

Section 10(a)(2)(A) of the FPA, 16 U.S.C. § 803(a)(2)(A), requires us to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving waterways affected by the project. 41/ Under this statutory provision, federal and state agencies filed 27 comprehensive plans that address various resources in New York. Of these, the Commission's staff identified and reviewed ten plans relevant to the project, 42/

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41/ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (1996).

42/ The federal plans are: (1) Nationwide Rivers Inventory, National Park Service, U.S. Department of the Interior, Washington, D.C., January 1982; (2) North American Waterfowl Management Plan: A Strategy for Cooperation, Fish and Wildlife Service, U.S. Department of the Interior, and Canadian Wildlife Service, Environment Canada, Washington, D.C., May 1986; and (3) Fisheries USA: the Recreational Fisheries Policy of the U.S. Fish and Wildlife Service, Washington, D.C., undated.

The state plans are: (1) Adirondack Park State Land Master Plan, Adirondack Park Agency, Ray Brook, New York, January 1985; (2) New York State Wild, Scenic, and Recreational Rivers System Field Investigation Summaries, Adirondack Park Agency, Albany, New York, undated; (3) Fisheries Enhancement Plan for the Black River, New York, Fish and Wildlife Service, U.S. Department of the Interior and New York State Department of Environmental Conservation, Amherst, New York, March 1994; (4) New York State Wild, Scenic, and Recreational River System Act, New York State Department of Environmental Conservation, Albany, New York, March 1985; (5) Article 27 -- Adirondack Park Agency Act, New York State Executive Law, Albany, New York, July 15, 1981; (6) Regulation for Administration and Management of the Wild, Scenic, and Recreational Rivers Systems in New York State excepting the Adirondack Park, New York State Department of Environmental Conservation, Albany, New York, March 26, 1986; and (7) State Comprehensive Outdoor Recreation Plan, New York State Parks, Recreation, and Historic Preservation, 1994.



and found no conflicts between these plans and the Black River Project. 43/

B. Recommendation of Other Agencies

Section 10(a)(2)(B) of the FPA, 16 U.S.C. § 803(a)(2)(B), requires us to consider the recommendations of relevant federal and state agencies exercising administration over flood control, navigation, irrigation, recreation, cultural, and other relevant resources, as well as the recommendations of Indian tribes affected by the project. The Settlement Offer constitutes the recommendations of NYSDEC concerning relevant state resources. No federal agency recommendations were filed concerning flood control or navigation, and no Indian tribe made any filings.

C. Consumption Efficiency Improvement Program

Section 10(a)(2)(C) of the FPA, 16 U.S.C. § 803(a)(2)(C), requires that the Commission, in acting on a license application such as this, consider the electricity consumption efficiency improvement program of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers to conserve electricity cost-effectively, taking into account the published policies, restrictions, and requirements of state regulatory authorities.

Responding to a request from the New York State Public Service Commission, Niagara Mohawk prepared twelve demand-side

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43/ FWS' November 7, 1996 filing argues that the Settlement Offer qualifies as a comprehensive plan pursuant to this section of the FPA, and accordingly, to the extent that the Felts Mills Project conflicts with the Settlement Offer, it cannot be considered to be in the best interest of the comprehensive development of the waterway involved. We disagree; although two federal and two state agencies are among the signatories to the Settlement Offer, the signatories, as a body, do not constitute an agency authorized by the United States or New York State to prepare such a plan. See the definition of comprehensive plan 18 C.F.R. § 2.19. In any event, a project's conflict with a comprehensive plan does not preclude licensing. Section 10(a)(2)(A), 16 U.S.C. § 803(a)(2)(A), of the FPA does not limit the Commission's ability to carry out its broad responsibilities under Sections 10(a)(1) and 4(e) of the FPA, 16 U.S.C. §§ 803(a)(1) and 797(e), to consider and balance all aspects of the public interest in determining whether, and under what conditions, a hydroelectric license should be issued. See Richard Balagur, 57 FERC ¶ 61,315 at p. 62,016 (1991).

management programs whose goals are to encourage efficient use of energy resources. These programs include measures ranging from water heater wraps to high efficiency lighting and equipment. Niagara Mohawk also has innovative rate options that include time-of-use rates, real-time pricing, and voluntary interruptible and curtailable rate programs. <sup>44/</sup> Periodically, Niagara Mohawk re-evaluates these programs for their cost-effectiveness, and for examination of whether they continue to meet customer and system needs.

Niagara Mohawk's conservation and load management programs show that the company has made an effort to conserve electricity and reduce peak hour demands. We conclude that Niagara Mohawk has made a satisfactory good faith effort to comply with Section 10(a)(2)(C) of the FPA.

D. Recommendations of Federal and State Fish and Wildlife Agencies

Section 10(j) of the FPA, 16 U.S.C. § 803(j), requires the Commission to include license conditions based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act, 16 U.S.C. § 661 *et seq.*, for the protection, mitigation, and enhancement of fish and wildlife resources. The Settlement Offer represents the recommendations of FWS and NYSDEC. We have required their implementation in Articles 401 through 411.

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<sup>44/</sup> Time-of-use rates are prices that vary according to the time of day, week, or year of the power bought, with power during high demand times being more costly.

Real-time pricing means that the cost to the customer for power bought will be the market price for the power at the time of sale.

Interruptible rates are prices that are lower than rates for non-interruptible service. Customers buying at this lower rate run the risk that the power will be cut off during periods of unusually high demand or loss of generation in order to maintain service to customers paying higher rates for non-interruptible service.

Curtailable rates are prices that are lower than would otherwise be charged because only an agreed-upon amount of power will be sold at these rates. Additional power will be more costly.

## XII. APPLICANT'S PLANS AND CAPABILITIES

In accordance with Section 15(a) of the FPA, 16 U.S.C. § 808(a), which requires us to determine whether the proposed license is best adapted to serve the public interest, we have evaluated Niagara Mohawk's record as a licensee. Under Section 15(a)(2), we evaluated: (1) plans and abilities to comply with the new license; (2) safe management, operation, and maintenance of the project; (3) ability to provide efficient and reliable electric service; (4) need for power; (5) transmission services; and (6) cost-effectiveness of plans. Under Section 15(a)(3), we evaluated: (7) compliance record and (8) actions affecting the public.

1. Plans and Abilities to Comply with the New License

Section 15(a)(2)(A) requires us to consider Niagara Mohawk's plans and abilities to comply with the articles, terms, and conditions of any license issued, and with other applicable provisions of Part I of the FPA. We have reviewed Niagara Mohawk's license application, and have also reviewed Niagara Mohawk's record for good faith compliance with the articles, terms, and conditions of its current license. As a result of our review, we believe that Niagara Mohawk has or can acquire the resources and expertise to comply with the conditions of the new license.

2. Safe Management, Operation, and Maintenance of the Project

Section 15(a)(2)(B) requires us to consider Niagara Mohawk's plans to manage, operate, and maintain the project safely. Niagara Mohawk routinely inspects the Black River Project and makes needed repairs. Each development's energy output is continuously monitored by Niagara Mohawk staff, who would notice any equipment failure or water conduit failure and would take remedial action promptly. During unusually high flow periods, Niagara Mohawk dispatches staff to the project site to monitor conditions and to operate all generating units at maximum gate openings. Niagara Mohawk has a comprehensive employee safety program that includes regularly scheduled safety meetings. Niagara Mohawk promotes public safety at the project by use of warning signs, boat barriers and booms, and by fencing hazardous areas to prevent public access.

The Commission's staff in the New York Regional Office (NYRO) inspected the project most recently on June 7 and 8, 1994. NYRO staff described the project as being in good condition and having no significant public or dam safety problems. All project dams have low hazard potential as defined by the U.S. Army Corps

of Engineers. 45/ On the basis of Niagara Mohawk's March 1991 dambreak analysis and supplemental information of June 24, 1991, NYRO staff exempted the project, on October 23, 1991, from the requirement of filing an Emergency Action Plan (EAP) unless conditions changed so as to require revision of the hazard potential. 46/ On June 13, 1996, NYRO staff, after review of the project's safety and adequacy, reported that the dam and project works are in safe condition, the licensee having completed all necessary repairs pursuant to the June 1994 inspection report, and recommended that the new license include no special article related to dam safety. 47/

Niagara Mohawk has incorporated the notification procedure in case of dam failure or errant operation for all its projects on the Black River, including the Black River Project, into a Black River Drainage Basin EAP, which it updates quarterly.

We conclude that the project will be safe for continued operation during the new license term, and will pose no threat to public safety if operated and maintained according to good engineering practices and our regulations governing hydroelectric projects.

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45/ See 33 C.F.R. Part 222. The hazard potential pertains to the potential for loss of human life or property in the area downstream of the dam in the event of a failure or errant operation of the dam. Low hazard potential requires the downstream area to have no permanent structures for human habitation and to be relatively undeveloped so that only minimal economic loss would occur.

46/ October 23, 1991 letter from NYRO staff to Niagara Mohawk, exempting the Beebee Island and the Black River Projects from the requirement of filing an EAP. NYRO staff confirmed the continuing exemption in December 1993 and November 1994. On January 4, 1996, Niagara Mohawk filed with the NYRO staff its report attesting to its continued compliance with Commission regulations (18 C.F.R. § 12.21(c)) enabling exemption.

47/ June 13, 1996 internal memorandum from Director, NYRO, to Director, Division of Dam Safety and Inspections. Subsequently, on June 20, 1996, NYRO staff again inspected the project, but found nothing to merit changing the earlier recommendation. June 25, 1996 letter from NYRO staff to Niagara Mohawk.

3. Ability to Provide Efficient and Reliable Electric Service

Section 15(a) (2) (C) requires us to review the plans and abilities of Niagara Mohawk to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Niagara Mohawk periodically evaluates the feasibility of increasing capacity or generation at its hydroelectric projects.

Niagara Mohawk has a program of frequent inspection and regularly scheduled maintenance. Before filing its new license application, Niagara Mohawk rehabilitated the facilities at each of the project's five developments. Niagara Mohawk coordinates the operation of the Black River Project with the upstream Stillwater Reservoir to efficiently use daily releases from the Stillwater Reservoir for generation.

Based upon our review of past project operation, we conclude that Niagara Mohawk has been operating the project in an efficient manner within the constraints of the existing license, and that it will continue to provide efficient and reliable electric service in the future.

4. Need for Power

Section 15(a) (2) (D) requires us to review Niagara Mohawk's need for project electricity to serve its customers.

Hydroelectric generation accounts for approximately 10 percent of Niagara Mohawk's total owned generation capability. The Black River Project has provided and can continue to provide a portion of Niagara Mohawk's power requirements, and contribute to Niagara Mohawk's resource diversity, as well as to the capacity needs of the New York Power Pool (NYPP) area of the Northeast Power Coordination Council region.

The NYPP forecasts an average annual increase in peak capacity demand of 0.6 percent during the summer months and 0.5 percent during the winter months for the 1995 to 2004 planning period. Based on these estimates, current capacity reserve margins, while adequate, may diminish in the short run. Relicensing the project will contribute to maintaining available capacity. Niagara Mohawk states that if it does not receive a new license for the Black River Project, it will have to purchase power or to replace the project's capacity by constructing new facilities. Short-term replacement power would probably come

from increased generation by Niagara Mohawk's oil and gas facilities. 48/

We conclude that Niagara Mohawk's and short and long term need for power justifies licensing the project.

#### 5. Transmission Services

Section 15(a)(2)(E) requires us to consider Niagara Mohawk's transmission services in relation to system reliability, costs and other applicable economic and technical factors. Niagara Mohawk proposes no new or additional transmission facilities at the project because no added generation is proposed and the existing transmission system suffices. We are satisfied that existing transmission facilities are adequate.

#### 6. Cost-effectiveness of Plans

Section 15(a)(2)(F) requires us to consider whether Niagara Mohawk's plans will be achieved in a cost-effective manner. After review of the new license application, we conclude that the project as presently configured and operated, as Niagara Mohawk proposes, will continue to provide power in a cost-effective manner. We agree that adding additional capacity at this time is unnecessary.

#### 7. Compliance Record

Section 15(a)(3)(A) requires us to consider Niagara Mohawk's record of compliance with the terms and conditions of its existing license. We have reviewed Niagara Mohawk's record of making timely filings and of complying with the terms and conditions of its existing license, including the reports made by the NYRO staff. We conclude that Niagara Mohawk's overall record is satisfactory.

#### 8. Actions Affecting the Public

Section 15(a)(3)(B) requires us to consider Niagara Mohawk's actions relating to the project that affect the public. The project has a beneficial effect on the socioeconomics of the lower Black River area by contributing taxes to state and local governments, and by its expenditures to foster recreational opportunities that attract recreational users. Niagara Mohawk has emphasized improving water-based and other recreational activities in the Black River corridor by extending the Black River canoe route and by maintaining boat launch and day use areas at the Herrings and Black River Developments. Under the

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48/ License Application at p. H5-2.

new license, Niagara Mohawk will continue and increase these recreational services.

#### XI. COMPREHENSIVE DEVELOPMENT AND RECOMMENDED ALTERNATIVE

Sections 4(e) and 10(a)(1) of the FPA, 16 U.S.C. §§ 797(e) and 803(a)(1), require the Commission, in acting on applications for a license, to give equal consideration to the power and development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for beneficial public uses. Our decision to issue a new license for this project, with the terms and conditions included herein, reflects such consideration.

We have analyzed the Settlement Offer and have adopted license terms and conditions consistent with it. Among the environmental and recreational enhancements that will occur under the new license are: improved habitat and reproductive conditions for resident fish; improved fish protection at intakes; improved fish passage through the project; additional recreational facilities; and improved visual aspects.

We have also analyzed the economic benefits of power produced by the project. Under our approach to evaluating the economics of hydropower licensing, as articulated in Mead Corp., 49/ our analysis uses current costs to compare the costs of the project and likely alternative power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of our economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to issuing the license.

In addition, certain economic factors related to project decommissioning impinge on the decision to issue a new license that are not present in the original licensing of new projects. If an existing project is not issued a new license, or if the licensee declines to accept the new license, the project probably will have to be retired in one form or another. This could range from simply removing the generator at the project to major

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49/ 72 FERC ¶ 61,027 (1995), reh'g, 76 FERC ¶ 61,352 (1996).

environmental restoration varying from minor measures to dam removal.

Based on current economic condition, without future escalation or inflation, the Commission's staff predicts that the Black River Project, if licensed as proposed in the Settlement Offer, will produce approximately 148.8 gigawatt hours of energy annually at a cost of approximately \$4,998,200, about 33.6 mills per kilowatt hour (kWh). The staff estimated the cost of an equivalent amount of power from alternative sources to be \$3,459,800, or about 23.3 mills per kWh, based on 1995 data of natural gas-fueled electric plants in the Middle Atlantic area. Thus, the cost of Black Project power is approximately \$1,538,400, or about 10.3 mills per kWh, greater than the cost of an equivalent amount of power from comparable alternative sources. 50/

Nevertheless, we find that the project remains a viable energy-producing resource to Niagara Mohawk and its customers. We have taken into account the other public interest factors that apply to the decision whether or not to issue a license, inter alia, a source of power to replace fossil-fueled generating systems, the capability of hydropower to come on-line momentarily, recreation, fish and wildlife enhancements, flood control, and cultural resource preservation. 51/

We therefore find that the Black River Project, with our mitigative and enhancement measures, will be best adapted to the comprehensive development of the Black River for beneficial public purposes. We leave to Niagara Mohawk the business decision of whether or not to accept the license. We also conclude that issuance of a new license for the Black River Project will not constitute a major federal action significantly affecting the quality of the human environment.

### XIII. LICENSE TERM

Pursuant to Section 15(e) of the FPA, 16 U.S.C. § 808(e), relicense terms shall be not less than 30 years nor more than 50 years. Our general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigative and enhancement measures; 40-year terms for projects with a moderate amount of proposed redevelopment, new construction, new capacity, or mitigative and enhancement measures; and 50-year terms for projects with

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50/ See EA at VI. Developmental Analysis and Table 19.

51/ See Mead Corp., supra.



proposed extensive development, new construction, new capacity, or mitigative and enhancement measures.

According to the Settlement Offer filed in this proceeding, the parties contemplate a 30-year license for the Black River Project. Because the term of the new license was likely an important element in the negotiations that led to the Settlement, and because Niagara Mohawk proposes no additional capacity or new construction, we will issue the license for a term of 30 years.

#### XIV. SUMMARY

In light of all of the above, including our review of the staff's environmental analysis of the proposed project and alternatives to it, we conclude that issuing a new license for the Black River Project with the requirements included herein will not conflict with any planned or authorized development and will best adapt the project to a comprehensive plan for developing the Black River for beneficial public purposes.

#### The Commission orders:

(A) This license is issued to Niagara Mohawk Power Corporation (Licensee), for a term of 30 years, effective the first day of the month in which the license is issued, to operate and maintain the Black River Project. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the Licensee's interests in those lands, shown by the following drawings in Exhibit G, which were included in the application for new license filed on November 29, 1991:

Exhibit	FERC Drawing No.	Description
G-1	2569-1001	Herrings Development Project Boundary and Location Map
G-2	2569-1002	Deferiet Development Project Boundary and Location Map
G-3	2569-1003	Kamargo Development Project Boundary and Location Map
G-4	2569-1004	Black River Development Project Boundary and Location Map
G-5	2569-1005	Sewalls Development Project Boundary and Location Map
G-6	2569-1006	Sewalls Development Project Boundary and Location Map

(2) The facilities of five existing hydroelectric developments, Herrings, Deferiet, Kamargo, Black River, and Sewalls Island, as described in the following five paragraphs:

(a) Herrings Development

The Herrings Development consists of: (1) a 140-acre reservoir which, at the normal maximum surface elevation of 680.1 feet U.S. Geological Survey Datum (USGS), has gross storage capacity of 669.4 acre-feet; (2) a 512-foot-wide by 25-foot-high "L"-shaped concrete gravity dam with crest elevation of 679.1 feet, topped with 1-foot-high wooden flashboards; (3) an intake structure, integral with the powerhouse, consisting of (a) a 9-foot-wide stop-log waste sluice; (b) a perpendicular trashrack measuring 101 feet wide by 31 feet high with 0.5-inch-wide bars at 3.5 inches of clear spacing, (c) an 11-foot-wide stop-log waste sluice downstream of the trashracks, and (d) nine 9-foot-wide, 12.5-foot-high motor operated slide gates; (4) a 137-foot-wide, 33-foot-long brick-masonry powerhouse containing three vertical Allis-Chalmers generating units, each rated at 1,800 kW, for a combined nameplate capacity of 5.4 MW, and each with a design head of 19.5 feet and hydraulic capacity of 1,203 cubic feet per second (cfs); (5) a short excavated rock tailrace discharging directly into the Black River; (6) transmission lines consisting of (a) 30, 70, and 108-foot-long leads connecting to a 2.4-kilovolt (kV) powerhouse bus, and (b) three 97-foot-long 2.4-kV lines connected to a 2.4/23-kV step-up transformer; and (7) appurtenant facilities.

(b) Deferiet Development

The Deferiet Development consists of: (1) a 70-acre reservoir which, at the normal maximum surface elevation of 659.0 feet USGS has gross storage capacity of 405 acre-feet; (2) a dam consisting of (a) a 503-foot-long by 18-foot-high Ambursen dam section, with permanent crest elevation of 656 feet, topped with 3-foot-high wooden flashboards, and (b) a 192-foot-long sluice gate section housing eleven 14-foot-wide stop-log bays; (3) a 180-foot-wide concrete power canal headworks section housing twenty 5-foot-wide by 12.5-foot-high, hand-operated, timber slide gates; (4) a 4,200-foot-long canal that connects the power canal headworks and powerhouse; (5) an intake structure consisting of (a) a 108-foot-wide by 27-foot-high perpendicular trashrack with 0.5-inch-wide bars at 3.5 inches of clear spacing, (b) three steel slide gates, and (c) an 11-foot-wide ice sluice controlled by stop-logs; (6) a 145.5-foot-wide by 92.5-foot-long brick and masonry powerhouse equipped with three vertical Francis generating units, each rated at 3,600 kW, for a combined nameplate capacity of 10.8 MW, and each with a design head of 46 feet, and hydraulic capacity of 1,147 cfs; (7) a 1,400-foot-long excavated rock tailrace; (8) transmission lines consisting of (a) 65-, 45-, and 65-foot-long leads connecting to a 2.4-kV powerhouse bus, (b) 67-, 69-, and 73-foot-long 2.4-kV underground lines connecting to a 2.4/23-kV step-up transformer; and (9) appurtenant facilities.

(c) Kamargo Development

The Kamargo Development consists of: (1) a 40-acre reservoir which, at the normal maximum surface elevation of 563.8 feet USGS, has gross storage capacity of 359.5 acre-feet; (2) a dam consisting of (a) a 647-foot-long by 12-foot-high concrete gravity spillway section, with permanent crest elevation of 561.8 feet, topped with 2-foot-high wooden flashboards, (b) a 150-foot-long non-overflow section and (c) a 131-foot-long power canal headworks structure, housing 14 8-foot-wide by 11-foot-high wooden headgates; (3) a 3,850-foot-long unlined power canal containing a 143-foot-long bulkhead section; (4) a 580-foot-long concrete forebay channel consisting of (a) a 190-foot-long concrete gravity overflow section, (b) a 230-foot-long concrete gravity section topped with 1-foot-high flashboards, and (c) a 160-foot-long side channel spillway section equipped with twelve stop-log-bays; (5) an intake structure consisting of (a) a 66-foot-wide by 28.5-foot-high perpendicular trashrack with 0.5-inch-wide bars at 3.5 inches of clear spacing, (b) a waste sluice, and (c) nine timber gates with stop-log slots; (6) a 97.5-foot-wide by 37-foot-long brick and masonry powerhouse equipped with three vertical Francis generating units, each rated at 1,800 kW, for a combined nameplate capacity of 5.4 MW, and each with a design head of 25 feet, and a hydraulic capacity of

1,100 cfs; (7) a short excavated rock tailrace discharging directly into the Black River; (8) transmission lines consisting of (a) three 25-foot-long leads connecting to a 2.4-kV powerhouse bus, and (b) three 89-foot-long, 2.4-kV underground lines connecting to a 2.4/23-kV step-up transformer; and (9) appurtenant facilities.

(d) Black River Development

The Black River Development consists of: (1) a 25-acre reservoir which, at normal maximum surface elevation of 536 feet USGS, has gross storage capacity of 128 acre-feet; (2) a 327-foot-long by 16-foot-high horseshoe-shaped dam consisting of (a) a concrete retaining wall abutment, (b) a 36.5-foot-long gated section housing two sluice gates with an abandoned substructure powerhouse, and (c) a 291-foot-long by 25-foot-high concrete gravity spillway, with a permanent crest of 534 feet, topped with 2-foot-high wooden flashboards; (3) an 80-foot-long concrete power canal headworks structure housing twelve 6-foot-wide by 11-foot-high timber slide gates and one 3.5-foot-wide by 11.0-foot-high gate; (4) a 2,250-foot-long power canal composed of a 1,270-foot-long unlined section containing a 250-foot-long side concrete waste weir, and a 980-foot-long concrete-lined section containing a 134-foot-long side concrete waste weir and low-level sluice gate; (5) an intake structure consisting of (a) an 80-foot-wide by 29-foot-high perpendicular trashrack with 0.5-inch-wide bars at 3.5-inches of clear spacing, and (b) nine timber slide gates; (6) a 118-foot-wide by 66-foot-long powerhouse equipped with three vertical Francis generating units, each rated at 2,000 kW, for a combined installed capacity of 6.0 MW and each with a design head of 33 feet, and a hydraulic capacity of 1,067 cfs; (6) a short excavated rock tailrace discharging directly into the Black River; (7) transmission lines consisting of (a) 36-, 65-, and 95-foot-long leads connecting to a 2.4-kV powerhouse bus, and (b) three 88-foot-long, 2.4-kV underground lines connecting to a 2.4/23-kV step-up transformer; and (8) appurtenant facilities.

(e) Sewalls Development

The Sewalls Development consists of: (1) a 4-acre reservoir which, at normal maximum surface elevation of 463.9 feet USGS, has gross storage capacity of 48 acre-feet; (2) a 243-foot-long by 15.5-foot-high concrete gravity dam with a permanent crest elevation of 463.9 feet; (3) a 65.5-foot-long power canal headworks structure housing two 7-foot-wide by 21-foot-high stop-log bays and two 15-foot-wide by 12-foot-high automated steel slide gates; (4) a 400-foot-long by 33-to-35-foot-wide concrete-lined power canal, whose wall, adjacent to the Black River, has a permanent crest elevation of 463 feet and is equipped along its entire length with 2-foot-high flashboards;

(5) an intake structure, integral with the powerhouse, consisting of (a) a 69-foot-wide by 21-foot-high perpendicular trashrack with 0.5-inch-wide bars at 3.5 inches of clear spacing, (b) a 6-foot-wide waste sluice, (c) a 3-foot-high by 4-foot-wide low-level drain, and (d) four 14-foot-wide by 15-foot-high gate openings for steel slide gates; (6) an 81-foot-wide by 32-foot-long powerhouse equipped with two vertical Allis-Chalmers propeller-type generating units, each rated at 1,000 kW, for a combined installed capacity of 2 MW, a design head of 15.5 feet, and a hydraulic capacity of 900 cfs; (7) a short excavated rock tailrace discharging directly into the Black River; (8) transmission lines consisting of (a) 12- and 47-foot leads connecting to a 2.4-kV powerhouse bus, and (b) two 180-foot-long, 2.4-kV underground lines connecting to a 2.4/23-kV step-up transformer; and (9) appurtenant facilities.

The project works generally described above are more specifically shown and described by the following exhibits, which also were included in the application for new license filed on November 29, 1991:

Exhibit A:

The existing mechanical, electrical, and transmission equipment as described on pages A-1 through A-19 of Exhibit A.

Exhibit F:

The following Exhibit F drawings:

Exhibit	FERC Drawing No.	Description
F-1	2569-1007	Herrings Development General Plan and Details of Dam
F-2	2569-1008	Herrings Development Intake and Powerhouse Plan and Sections
F-3	2569-1009	Deferiet Development General Plan and Details of Dam
F-4	2569-1010	Deferiet Development Intake and Powerhouse Plan and Sections
F-5	2569-1011	Kamargo Development General Plan and Details of Dam and Headgates
F-6	2569-1012	Kamargo Development Headrace, Spillway and Tailrace Plan and Sections
F-7	2569-1013	Kamargo Development Powerhouse Plan and Sections
F-8	2569-1014	Black River Development General Plan & Details of Dam and Upper Forebay
F-9	2569-1015	Black River Development Lower Forebay, Powerhouse & Tailrace Plan and Sections
F-10	2569-1016	Sewalls Development South Channel General Plan and Details of Dam, Headworks and Flume
F-11	2569-1017	Sewalls Development South Channel Powerhouse Plans and Section
F-12	2569-1018	Sewalls Development North Channel General Plan and Details of Dam, Headworks and Flume

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation and maintenance of the project.

(C) The Exhibits A, F, and G described above are approved and made part of the license.

(D) This license is subject to the articles set forth in Form L-3 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters of the United States", 54 F.P.C. 1792, 1817-24, and the following additional articles:

Article 201. The licensee shall pay the United States the following annual charges, effective as of the first day of the month in which this license is issued, for the purposes of reimbursing the United States for the costs of administering Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 29,600 kilowatts.

Article 202. If the licensee's project was directly benefitted by the construction work of another licensee, a Permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license.

Article 203. Pursuant to Section 10(d) of the Federal Power Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment.

To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on

current capital ratios developed from an average of 13 monthly balances of amounts properly includible in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10 year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 301. Within 45 days of the date of license issuance, the licensee shall file an original set and two duplicate sets of aperture cards of the approved drawings. The set of originals must be reproduced on silver or gelatin 35 mm microfilm. The duplicate sets are copies of the originals made on diazo-type microfilm. All microfilm must be mounted on type D (3-1/4" x 7-3/8") aperture cards.

Prior to microfilming, the FERC Drawing Number (2569-1001, -1002, etc.) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number must be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (e.g., F-1, G-1, etc.), Drawing Title, and date of this license must be typed on the upper left corner of each aperture card.

The original and one duplicate set of aperture cards must be filed with the Secretary of the Commission. The remaining duplicate set of aperture cards shall be filed with the Commission's New York Regional Office.

Article 302. Within 90 days of completion of construction of the facilities authorized by this license (flow release structure, recreation, etc.) the licensee shall file, for approval, revised Exhibits A, F, and G to show those project facilities as built.

Article 401. Within 90 days of the date of issuance of this license, the licensee shall operate the project so that the water levels at each development's impoundment are maintained no lower than 0.5 foot below the permanent crest of the dam or below the top of the flashboards, when the dam is so equipped. This condition may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the New York State Department of Environmental Conservation (NYSDEC). If the flow is so modified, the licensee shall notify the Commission, the U.S. Fish and Wildlife Service (FWS) and NYSDEC, if not already notified, as soon as possible, but no later than ten days after each such incident.



If flashboard problems prevent the licensee from maintaining an impoundment within 0.5 foot of the top of the flashboards, the licensee shall so notify the Commission, FWS and NYSDEC. The licensee shall propose remedial action, for Commission approval, together with the comments and recommendations of these agencies on the proposed remedies. The Commission reserves the right to make changes to the proposed remedies.

Whenever, from May 1 through September 30, Black River flows are between 1400 cfs and 1900 cfs, the licensee will use its best efforts to maintain the Herrings Development impoundment level no lower than 0.2 foot below the top of the permanent crest of the dam or the top of the flashboards when installed. Within 60 days following the end of each year, the licensee shall submit to the Commission, FWS, NYSDEC, and the Black River Advisory Council a report on the results of the licensee's attempts to so maintain the Herrings Development impoundment level.

Article 402. Whenever, from May 1 through September 30, Black River flows are below 2,000 cubic feet per second (cfs), the licensee shall operate the Sewalls Development in a run-of-river mode, so that, at any point in time, flows, as measured immediately downstream from the project tailrace approximate the sum of inflows to the project impoundment.

Run-of-river operation at the Sewalls Development may be temporarily modified if required by operating emergencies beyond the licensee's control, and for short periods of time upon mutual agreement between the licensee and the New York State Department of Environmental Conservation (NYSDEC). If the flow is so modified, the licensee shall notify the Commission, the U.S. Fish and Wildlife Service, and NYSDEC, if not already notified, as soon as possible, but no later than ten days after each such incident.

Article 403. The licensee shall install flashboards at each development each year by May 1 or as soon thereafter as safely possible. The licensee shall remove the flashboards in the fall each year as the licensee deems advisable, based on ice conditions.

Article 404. Within 270 days of the date of issuance of this license, the licensee shall provide a continuous flow through the project's five developments of not less than 1,000 cubic feet per second (cfs), except when inflow is less than 1,000 cfs, in which case outflow will be determined by and be equivalent to inflow.

Article 405. To minimize project impacts on fish moving downstream and to provide year-round flows for the protection and enhancement of fish and invertebrate habitat in the project's bypassed reaches, the licensee shall, after installation of the flow release structures or fish conveyance measures required in Article 406, provide minimum flows as described below.

Herrings: 20 cubic feet per second (cfs) at all times, released through the stop-log section located between the dam and the trashracks.

Deferiet: 45 cfs at all times, through the stop-log ice sluice; additional flows from leakage and from releases over the dam to total 800 cfs during walleye spawning season, which is defined for this purpose as starting on March 15 and continuing through the 30th day after the last of four consecutive days after April 15 when average daily water temperature has reached or exceeded 50 degrees, Fahrenheit; and, during the remainder of the year, additional flows from leakage and from releases over the dam to total 245 cfs. Flows at the end of walleye spawning season shall be ramped down in increments no greater than 200 cfs and at intervals of no less than four hours.

Kamargo: 120 cfs at all times released through a notched section of the dam.

Black River: 80 cfs at all times through a notch in the dam; additional flows through the notch or the stop-log ice sluice to total 300 cfs during walleye spawning season, as defined above. Flows at the end of walleye spawning season shall be ramped down in increments no greater than 75 cfs and at intervals of no less than four hours.

Sewalls: 32 cfs at all times into the North Channel bypassed reach with a minimum of 20 cfs at all times through a notched section of the dam, and the remainder from leakage or other mechanisms; and 137 cfs at all times into the South Channel bypassed reach from leakage or other mechanisms.

These minimum flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the New York State Department of Environmental Conservation (NYSDEC). If a flow is so modified, the licensee shall notify the Commission, the Fish and Wildlife Service, and NYSDEC, if not already notified, as soon as possible, but no later than ten days after each such incident.

During the first year after installation of the flow release structures required by Article 406, the licensee shall conduct

field inspections to evaluate the effects on spawning walleye of the seasonal 200 cfs and 75 cfs ramping regimens at the Deferiet and Black River Developments, respectively. The licensee shall report to the Commission the results of its investigation and whether it recommends any changes in these ramping regimens. The licensee shall prepare this report after consultation with FWS and NYSDEC. The licensee shall include with its report documentation of consultation, copies of agency comments on the licensee's recommendations, and specific descriptions of how the agencies' comments are accommodated by the licensee. The licensee shall allow a minimum of 30 days for the agencies to comment and make their recommendations before filing the report with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

Article 406. Within one year of the date of issuance of this license, the licensee shall file, for Commission approval, detailed design drawings of the licensee's proposed flow release structures and fish conveyance measures to provide minimum flows and enable downstream fish passage, together with an implementation schedule. The licensee shall conform the structures and measures with the conditions specified at page 3 of the Settlement Offer filed October 13, 1995. The licensee shall complete installation within two years of Commission approval of the design drawings.

The licensee shall prepare the aforementioned drawings and schedule after consultation with the U.S. Fish and Wildlife Service and the New York Department of Environmental Conservation. The licensee shall include, with the drawings and schedule, documentation of consultation, copies of agency comments and recommendations on the drawings and schedule, after they have been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the licensee's proposed structure and schedule. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the drawings and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed structures, measures and schedule. Construction of the new structures shall not begin until the licensee is notified that the filing is approved. Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

Article 407. Within one year of the date of issuance of this license, the licensee shall install at each development, and

make fully calibrated and operational, permanent staff gages to allow measurement of headpond and tailwater elevations to the nearest 0.1 foot. The licensee shall provide access for reading the staff gages to staff and representatives of the U.S. Fish and Wildlife Service and the New York State Department of Environmental Conservation.

Article 408. Within 180 days from the date of issuance of this license, the licensee shall file, for Commission approval, a plan to monitor its compliance with the flow requirements of this license, together with an implementation schedule.

The plan's provisions shall include:

- (1) installation and maintenance of a gaging system to measure: (a) stages and flows of the Black River; (b) each development's headpond and tailwaters elevations; and (c) all other project flows including flows through the turbines and any other bypass or diversion flows;
- (2) calibration of stage versus discharge ratings when rating changes occur;
- (3) a schedule for installing all necessary gages and necessary ancillary equipment and making them operational and fully calibrated within one year of Commission approval of the plan;
- (4) provision for contact persons who will be available every day to respond to questions about abnormal flow or impoundment conditions.

The licensee shall prepare the monitoring plan and schedule after consultation with the U.S. Fish and Wildlife Service, the New York State Department of Environmental Conservation, and the Black River Advisory Council. The licensee shall include with the plan and schedule documentation of consultation, copies of comments and recommendations on the completed plan and schedule after they have been prepared and provided to the commenting entities, and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan and schedule. Upon Commission approval, the licensee shall implement the plan and schedule, including any changes required

by the Commission. The licensee shall complete implementation of the plan and schedule within one year of Commission approval.

Article 409. Within 180 days of the date of issuance of this license, the licensee shall file, for Commission approval, a plan of its current or proposed practices for keeping accurate and sufficient records of the impoundment elevations and all discharges at the five developments. The plan shall include: the format of the data; the sampling techniques used; the frequency of data collection; and the locations of the data logging equipment. The plan shall provide for prior notification to the Fish and Wildlife Service (FWS), the New York State Department of Environmental Conservation (NYSDEC) and the Black River Advisory Council (Advisory Council) of any changes the licensee proposes to make, in the future, to its methods of data collection, and for filing its revised practices with the Commission for approval. The plan shall also provide for inspection of the records by NYSDEC, FWS, or Advisory Council representatives, within five business days of request for inspection, and for licensee provision of copies of these records to NYSDEC, FWS or Advisory Council representatives within 30 business days of receipt of a written request for copies.

The licensee shall prepare the aforementioned plan after consultation with FWS, NYSDEC, and the Advisory Council. The licensee shall include, with the plan, documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the consulting entities, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan or schedule. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 410. Within one year of the date of issuance of this license, the licensee shall file, for Commission approval, detailed design drawings for the licensee's proposed new trashracks (or equivalent) with 2-inch-clearance bar-spacing, and provision for trashrack overlays having 1-inch-clearance bar-spacing to be placed on the trashracks in the top half of the water column, from May 1 through October 1, and an implementation schedule. This implementation schedule is to be prepared in coordination with a corresponding implementation schedule required by Article 410 of the new license for the Beebee Island

Project No. 2538. The new trashracks and overlays are to be installed at the five developments of the Black River Project and the Beebee Island Project at the rate of one development every two years, and installation of the required trashracks and overlays at both projects is to be completed within twelve years of the issuance date of the contemporaneous new licenses for both projects.

The licensee shall prepare the aforementioned drawings and schedule after consultation with the U.S. Fish and Wildlife Service and the New York State Department of Environmental Conservation. The licensee shall include with the drawings and schedule documentation of consultation, copies of agency comments and recommendations on the drawings and schedule after they have been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the licensee's proposed structures and schedule. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed drawings and schedule. Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

Article 411. Authority is reserved by the Commission to require the licensee to construct, operate, and maintain, or to provide for construction, operation, and maintenance of, such fish passage facilities as may be prescribed by the Secretary of the Interior under Section 18 of the Federal Power Act.

Article 412. Within 90 days from the date of issuance of this license, the licensee shall file for Commission approval a detailed plan for the licensee's participation in and management of the Black River Fund, as set forth at pages A1-1 and A1-2 of the Settlement Offer filed October 13, 1995. On or before October 1 of each year, in accordance with the articles of this license and the Commission's Uniform System of Accounts, the licensee shall file for Commission approval a plan which shows the amount of money that the licensee will spend or contribute to the Black River Fund for the following year, pursuant to the funding provisions set forth in the Settlement Offer. The Commission reserves the right to require changes in the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. The Commission also reserves the right, after notice and opportunity for hearing, to modify the funding arrangement, including ordering a

suspension or cessation of contributions and expenditures, should it be necessary or appropriate.

The licensee shall also file, on or before April 1 of each year, a statement for the previous calendar year, in accordance with the articles of this license and the Commission's Uniform System of Accounts, showing the amounts of money the licensee has spent or contributed to the Black River Fund, and the purposes for which these amounts have been spent or contributed. The statement shall be sufficiently detailed to show whether the money has been spent on the purposes approved in the license.

Article 413. Within 180 days of the date of issuance of this license, the licensee shall file, for Commission approval, a detailed plan to construct, operate, and maintain existing and proposed recreational facilities at the project's developments as specified in: (1) item E.5(i)(A) at pages E.5-1 and E.5-2, and item E.5(iv) at pages E.5-11 through E.5-13 in Appendix E of the application for new license filed on November 29, 1991; (2) responses B-17 and B-18 of Responses to Additional Information Request, filed November 30, 1993; and (3) pages 6 through 10, and A-3-1 through A-3-5 of the Settlement Offer filed October 13, 1995. Recreational facilities by development are listed at Table 15 and accompanying Figures 1 through 5 of the Environmental Assessment issued September 27, 1996. The licensee shall file an implementation schedule with the plan.

The recreation plan shall include, but not be limited to:

- (1) improved and expanded river access for fishing and for general recreational use; car-top boat facilities; put-ins and take-outs; parking areas; interpretive signage; portage trails; foot trails; bike trails; fishing areas, picnicking areas; bird-watching areas; scenic viewing areas and overlooks; protective railings, warning signs and boat barriers; access to Poors Island, bicycle storage there, and establishment there of a habitat reserve with interpretative center offering environmental programs;
- (2) final site plans for the facilities;
- (3) identification of any additional lands underlying the new recreational facilities that the licensee recommends be incorporated within the project boundary; and revised Exhibit G maps, for Commission approval, showing the additional lands to be incorporated within the project boundary;
- (4) the name(s) of the entity or entities responsible for operating and maintaining the facilities;

- (5) a discussion of how the facilities design takes into consideration the guidelines established by the Architectural and Transportation Barriers Compliance Board (36 C.F.R. Part 1191) (1995);
- (6) erosion and sediment control measures and measures for revegetation of disturbed areas to be implemented during and after construction of the new recreational facilities; and
- (7) a schedule for constructing the facilities within one year of Commission approval of the plan.

The licensee shall use consistent design themes in path widths, signage typeface, colors, and the like to make apparent that the recreation features are components of an integrated system.

The licensee shall prepare the plan and schedule after consultation with: the U.S. Fish and Wildlife Service, the U.S. National Park Service, the New York State Department of Environmental Conservation; the New York State Office of Parks, Recreation and Historic Preservation; Jefferson County; the communities where the recreational features are located; and the Black River Advisory Council.

The licensee shall include with the plan and schedule, documentation of consultation, copies of consulting entity comments and recommendations on the completed plan and schedule after they have been prepared and provided to the entities and specific descriptions of how the entities' comments are accommodated by the plan and schedule. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan and schedule. No ground disturbing or land clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan and schedule, including any changes required by the Commission. Within 90 days after completion of construction, the licensee shall file as-built drawings of the recreation facilities with the Commission.

Article 414. The licensee shall paint or finish all new and replacement fencing, including support structures, in a dark brown-green color. Existing fencing will be finished to the same



color when maintenance includes painting or refinishing, as will outbuildings and other improvements to existing structures.

Article 415. The licensee shall maintain the existing woodland buffer areas along the five developments' shorelines, and shall provide visual screens or buffers for the new access road and parking area to be constructed at the Deferiet Development.

At least 90 days before the start of any land disturbing or land clearing activities for the Deferiet Development's new access road and parking area, the licensee shall file, for Commission approval, detailed design drawings of the screens or buffers and the parking area, with description of materials to be used, and a schedule for their construction and maintenance.

The licensee shall prepare the aforementioned drawings, materials description, and schedule after consultation with the appropriate federal and state soil conservation, water quality, and fish and wildlife agencies. The licensee shall include, with the drawings, materials description and schedule, documentation of consultation, copies of agency comments and recommendations on the drawings, materials descriptions, and schedule, after they have been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the drawings, materials description and schedule with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the drawings, materials description, and schedule. No land disturbing or land clearing activities shall begin until the licensee is notified by the Commission that its proposal is approved. Upon approval by the Commission, the licensee shall implement the plan, including any changes required by the Commission.

Article 416. The licensee shall implement the "Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, and the New York State Historic Preservation Officer for Managing Historic Properties that may be Affected by Licenses Issuing to the Niagara Mohawk Power Corporation, Beebee Island Corporation, or Moreau Manufacturing Corporation for the Continued Operation of Fourteen Hydroelectric Power Projects in Upstate New York", executed on

July 19, 1996, 52/ including but not limited to the Cultural Resource Management Plan (CRMP) for the project. In the event that the Programmatic Agreement is terminated, the licensee shall implement the provisions of its approved CRMP. The Commission reserves the authority to require changes to the CRMP at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the CRMP, the licensee shall obtain approval from the Commission before engaging in any ground disturbing activities or taking any other action that may affect any historic properties within the project's area of potential effect.

Article 417. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article.

If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal or any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are:

- (1) landscape plantings;
- (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10

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52/ The Programmatic Agreement was supplemented by the Commission's letter of December 1, 1996, which added Appendix A. II.

watercraft at a time and where said facility is intended to serve single-family type dwellings;

(3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and

(4) food plots and other wildlife enhancement.

To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements.

Before granting permission for construction of bulkheads or retaining walls, the licensee shall:

- (1) inspect the site of the proposed construction;
- (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site; and
- (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline.

To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for:

- (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained;
- (2) storm drains and water mains;
- (3) sewers that do not discharge into project waters;
- (4) minor access roads;

(5) telephone, gas, and electric utility distribution lines;

(6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary;

(7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and

(8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir.

No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for:

(1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained;

(2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained;

(3) other pipelines that cross project lands or waters but do not discharge into project waters;

(4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained;

(5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina;

(6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and

(7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from

project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d) (7) in any calendar year.

At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of the period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land; (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.


(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(E) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(F) This order is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the Federal Power Act. The filing of a request for rehearing does not operate as a stay of the effective date of this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission.

( S E A L )

  
Lois D. Cashell,  
Secretary.

Appendix

Water Quality Certification Conditions  
for the Black River Project No. 2569

New York State Department of Environmental Conservation  
Division of Regulatory Services  
November 3, 1995

The Department of Environmental Conservation (the Department) hereby certifies that, based on our review of all pertinent information presented by Niagara Mohawk Power Corporation (NMPC) in its application for federal licenses for the Black River and Beebee Island Hydroelectric Projects and the Settlement Agreement dated September 14, 1995, NMPC has provided reasonable assurance that the subject Projects will comply with all applicable effluent standards, standards of performance and other state statutes, regulations and criteria applicable to the affected waterbody as required by the State regulatory provisions implementing Section 401 of the Federal Water Pollution Control Act.

This certification is issued pursuant to Section 401 of the Federal Water Pollution Control Act, 33 U.S.C. 1341. The Department makes this certification provided that the attached standard conditions are met, as well as the terms and conditions of the attached Settlement Agreement signed by the Department, NMPC, Beebee Island Corporation, the U.S. Fish and Wildlife Service, the National Park Service, New York Rivers United, the Adirondack Mountain Club, the National Audubon Society, the American Whitewater Affiliation, American Rivers, the New York State Conservation Council, the New York State Council of Trout Unlimited, and the National Heritage Institute. The terms and conditions of this settlement describe the operations of the five developments comprising the Black River Project and the one development of the Beebee Island Project located in the Towns of Champion, Wilna, Rutland, and Leray, the Villages of Black River and Deferiet, and the City of Watertown, Jefferson County.

The Department reserves the right to reconsider the entire Certification if there is a significant change in the scope of the proposal or the project license, or in the event the referenced application or Settlement Agreement are further amended.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
STANDARD WATER QUALITY CONDITIONS

A. OVERSIGHT AND ADMINISTRATION

1. Inspections: The projects, including relevant records, are subject to inspection at reasonable hours and intervals, upon reasonable notice to the certificate holder, by an authorized representative of the

Department to determine whether the certificate holder is complying with this certification. A copy of this certification, including all referenced maps, drawings, and special conditions, must be available for inspection by the Department during such inspections at the project.

B. PROJECT MAINTENANCE AND CONSTRUCTION

2. Maintenance Dredging: The certificate holder shall curtail generation and install stoplogs or otherwise shut off flow through the turbine(s) prior to commencing any maintenance dredging activities in any intake/forebay area.
3. Sediment Analysis and Disposal: The certificate holder must sample any sediments to be disturbed or removed from the projects' waters and test them for contaminants. Sampling and testing shall be accomplished according to a protocol submitted to and approved by the Department beforehand. Prior to dredging or other excavation, the certificate holder must secure Department approval for all disposal locations for any contaminated sediments to be removed from the project waters.
4. Erosion and Sediment Control: Prior to commencing activities which could adversely affect water quality, the certificate holder must receive Department approval of an Erosion and Sediment Control Plan. This plan must be submitted at least 60 days before the intended date for commencing work. Actions undertaken in response to an emergency and governed by the procedures contained in 6 NYCRR Section 621.12 are exempt from this condition. At minimum, the certificate holder must:
  - a. isolate instream work from the flow of water and prevent discolored (turbid) discharges and sediments from entering the waters of the river due to excavation, dewatering and construction activities.
  - b. avoid using heavy construction equipment below the mean high water line of the river until the work area is protected by an approved structure and dewatered.
  - c. stabilize any disturbed banks by grading to an appropriate slope, followed by armoring or



vegetating as appropriate, to prevent erosion and sedimentation into the waterbody.

- d. minimize soil disturbance, provide appropriate grading and temporary and permanent revegetation of stockpiles and other disturbed areas to minimize erosion/sedimentation potential.
  - e. install and maintain, in a fully functional condition, effective erosion control measures on the downslope of all disturbed areas before commencing any other soil disturbing activities.
  - f. protect all waters from contamination by deleterious materials such as wet concrete, gasoline, solvents, epoxy resins or other materials used in construction, maintenance and operation of the project.
  - g. ensure complete removal of all dredged and excavated material, debris, or excess materials from construction from the bed and banks of all water areas to an approved upland disposal site.
  - h. ensure that all temporary fill and other materials placed in the waters of the river are completely removed promptly upon completion of construction unless otherwise directed by the Department.
5. Placement of cofferdams, construction of temporary access roads or ramps, or other temporary structures which encroach upon the bed or banks of the river: The design of all such structures will be developed in accordance with Condition #4 (above).
6. Maintenance of River Flow: During all periods of construction, the certificate holder shall maintain adequate flows immediately downstream of worksites to ensure that the water quality standards established for the water body are met.
7. Turbidity Monitoring: During all periods of construction, the certificate holder will monitor the waters of the river at a point immediately upstream of project activities and at a point no more than 100 feet downstream from any discharge point or other potential source of turbidity, to the extent practicable; and if not practicable, then at the nearest point beyond 100 feet downstream, but in no event beyond 200 feet downstream from the turbidity source. If at any time, turbidity measurements from the downstream locations

exceed the measurements from the locations upstream of the work areas, certificate holder specifically agrees to immediately take all action necessary to identify the activities causing the turbidity and to correct the situation.

8. Notifications: At least two (2) weeks prior to commencing any work subject to conditions 2 through 7 of this certificate the certificate holder shall provide written notification to:

Chief, Project Management Section  
New York State Department of Environmental  
Conservation, Division of Regulatory Services  
50 Wolf Road, Room 538  
Albany New York 12233-1750

**New York State Department of Environmental Conservation**  
Division of Regulatory Services - Room 538  
50 Wolf Road, Albany, New York 12233-1750  
Telephone: (518) 457-2224  
Fax: (518) 457-5965



**Michael D. Zagata**  
Commission

November 3, 1995

Mr. Michael W. Murphy  
Niagara Mohawk Power Corporation  
300 Erie Boulevard West  
Syracuse, NY 13202

Re: Black River Project, FERC No. 2569  
and  
Beebee Island Project, FERC No. 2538  
Water Quality Certificate

Dear Mr. Murphy:

The Department of Environmental Conservation (the Department) hereby certifies that, based on our review of all pertinent information presented by Niagara Mohawk Power Corporation (NMPC) in its application for federal licenses for the Black River and Beebee Island Hydroelectric Projects and the Settlement Agreement dated September 14, 1995, NMPC has provided reasonable assurance that the subject Projects will comply with all applicable effluent standards, standards of performance and other state statutes, regulations and criteria applicable to the affected waterbody as required by the State regulatory provisions implementing Section 401 of the Federal Water Pollution Control Act.

This certification is issued pursuant to Section 401 of the Federal Water Pollution Control Act, 33 U.S.C. 1341. The Department makes this certification provided that the attached standard conditions are met, as well as the terms and conditions of the attached Settlement Agreement signed by the Department, NMPC, Beebee Island Corporation, the U.S. Fish and Wildlife Service, the National Park Service, New York Rivers United, the Adirondack Mountain Club, the National Audubon Society, the American Whitewater Affiliation, American Rivers, the New York State Conservation Council, the New York State Council of Trout Unlimited,

**Mr. Michael W. Murphy**

and the National Heritage Institute. The terms and conditions of this Settlement describe the operations of the five developments comprising the Black River Project and the one development of the Beebee Island Project located in the Towns of Champion, Wilna, Rutland, and Leray, the Villages of Black River and Deferiet, and the City of Watertown, Jefferson County.

The Department reserves the right to reconsider the entire Certification if there is a significant change in the scope of the proposal or the project license, or in the event the referenced application or Settlement Agreement are further amended.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey J. Sama", with a long horizontal line extending to the right.

**Jeffrey J. Sama**  
Deputy Chief Permit  
Administrator

JJS/BAH/ik  
Enclosures

cc with enclosure:

401 Service List

Signatories

R.Vaas, Regional Permit Administrator, Reg.6

L.Olivett, Habitat Protection Biologist, Reg.6

W.Sarbello & M.Woythal, Bureau of Environmental Protection

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
STANDARD WATER QUALITY CONDITIONS

A. OVERSIGHT AND ADMINISTRATION

1. Inspections: The projects, including relevant records, are subject to inspection at reasonable hours and intervals, upon reasonable notice to the certificate holder, by an authorized representative of the Department to determine whether the certificate holder is complying with this certification. A copy of this certification, including all referenced maps, drawings, and special conditions, must be available for inspection by the Department during such inspections at the project.

B. PROJECT MAINTENANCE AND CONSTRUCTION

2. Maintenance Dredging: The certificate holder shall curtail generation and install stoplogs or otherwise shut off flow through the turbine(s) prior to commencing any maintenance dredging activities in any intake/forebay area.
3. Sediment Analysis and Disposal: The certificate holder must sample any sediments to be disturbed or removed from the projects' waters and test them for contaminants. Sampling and testing shall be accomplished according to a protocol submitted to and approved by the Department beforehand. Prior to dredging or other excavation, the certificate holder must secure Department approval for all disposal locations for any contaminated sediments to be removed from the project waters.
4. Erosion and Sediment Control: Prior to commencing activities which could adversely affect water quality, the certificate holder must receive Department approval of an Erosion and Sediment Control Plan. This plan must be submitted at least 60 days before the intended date for commencing work. Actions undertaken in response to an emergency and governed by the procedures contained in 6 NYCRR Section 621.12 are exempt from this condition. At minimum, the certificate holder must:
  - a. isolate instream work from the flow of water and prevent discolored (turbid) discharges and sediments from entering the waters of the river due to excavation, dewatering and construction activities.
  - b. avoid using heavy construction equipment below the mean high water line of the river until the work area is protected by an approved structure and dewatered.
  - c. stabilize any disturbed banks by grading to an appropriate slope, followed by armoring or vegetating as appropriate, to prevent erosion and sedimentation into the waterbody.
  - d. minimize soil disturbance, provide appropriate grading and temporary and permanent revegetation of stockpiles and other disturbed areas to minimize erosion/sedimentation potential.

- e. install and maintain, in a fully functional condition, effective erosion control measures on the downslope of all disturbed areas before commencing any other soil disturbing activities.
  - f. protect all waters from contamination by deleterious materials such as wet concrete, gasoline, solvents, epoxy resins or other materials used in construction, maintenance and operation of the project.
  - g. ensure complete removal of all dredged and excavated material, debris, or excess materials from construction from the bed and banks of all water areas to an approved upland disposal site.
  - h. ensure that all temporary fill and other materials placed in the waters of the river are completely removed promptly upon completion of construction unless otherwise directed by the Department.
5. Placement of cofferdams, construction of temporary access roads or ramps, or other temporary structures which encroach upon the bed or banks of the river: The design of all such structures will be developed in accordance with Condition #4 (above).
6. Maintenance of River Flow: During all periods of construction, the certificate holder shall maintain adequate flows immediately downstream of worksites to ensure that the water quality standards established for the water body are met.
7. Turbidity Monitoring: During all periods of construction, the certificate holder will monitor the waters of the river at a point immediately upstream of project activities and at a point no more than 100 feet downstream from any discharge point or other potential source of turbidity, to the extent practicable; and if not practicable, then at the nearest point beyond 100 feet downstream, but in no event beyond 200 feet downstream from the turbidity source. If at any time, turbidity measurements from the downstream locations exceed the measurements from the locations upstream of the work areas, certificate holder specifically agrees to immediately take all action necessary to identify the activities causing the turbidity and to correct the situation.
8. Notifications: At least two (2) weeks prior to commencing any work subject to conditions 2 through 7 of this certificate the certificate holder shall provide written notification to:

Chief, Project Management Section  
New York State Department of Environmental Conservation,  
Division of Regulatory Services  
50 Wolf Road, Room 538  
Albany New York 12233-1750

UNITED STATES OF AMERICA 84 FERC ¶ 62,161  
FEDERAL ENERGY REGULATORY COMMISSION

Niagara Mohawk Power Corporation

Project No. 2569-027

ORDER AMENDING ARTICLE 401  
(Issued August 20, 1998)

On June 22, and supplemented on July 1, 1998, Niagara Mohawk Power Corporation (licensee) filed a request to amend license article 401 1/ for the Black River Hydroelectric Project located on the Black River in Jefferson County, New York.

Article 401 requires, in part, that the licensee operate the project so that the water levels at each development's impoundment are maintained no lower than 0.5 foot below the permanent crest of the dam or below the top of the flashboards, when the dam is so equipped. Further, the second paragraph of article 401, (and the subject of the licensee's amendment request) states:

"If flashboard problems prevent the licensee from maintaining an impoundment within 0.5 foot of the top of the flashboards, the licensee shall so notify the Commission, FWS [the U.S. Fish and Wildlife Service] and NYSDEC [the New York State Department of Environmental Conservation]. The licensee shall propose remedial action, for Commission approval, together with the comments and recommendations of these agencies on the proposed remedies. The Commission reserves the right to require changes to the proposed remedies".

THE LICENSEE'S FILING

The licensee stated that article 403 and the General Agreement of the Settlement Offer interplay with the request to amend article 401. Article 403 states that the licensee shall install flashboards each year by May 1 or as soon thereafter as safely possible and remove the flashboards in the fall as the licensee deems advisable based on ice conditions.

The licensee added that Paragraph F, entitled "Project Operations" under section II of the Settlement Offer stated, "If the impoundment cannot be maintained within 0.5 feet of the top of the flashboards between May 1 and June 30 because of flashboard problems, licensees will, for ease of communication, alert the local NYSDEC to propose remedial actions. NYSDEC will

1/ 77 FERC ¶61,306 (1996).

□

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communicate with the USFWS, and will within 5 business days approve which, if any, remedial actions may be done before June 30. Permission for remedial actions will be granted only upon agreement by both agencies."

The licensee stated that the Commission may have overlooked the time period and reporting mechanism for remedial actions to be implemented when drafting the language for article 401. Remedial actions are intended to be used during the May 1 to June 30 time frame for centrarchid spawning. Further, the licensee added that remedial actions are generally limited to adjusting the flashboard configuration, or modifying spillage over the dam. The licensee indicated that the remedial actions are operational in nature and do not require any construction but do require quick decisions based on hydrologic and biological factors known to the local agencies.

Based on the above, the licensee stated that they do not believe that the Commission needs to exercise any review and approval authority in this limited instance. The licensee proposed the following amendment of article 401:

"If flashboard problems prevent the licensee from maintaining an impoundment within 0.5 foot of the top of the flashboards between May 1 and June 30, the licensee will, for ease of communication, alert the local NYSDEC to propose remedial actions. NYSDEC will communicate with the USFWS, and will within 5 business days approve which, if any, remedial actions may be done before June 30. Permission for remedial actions will be granted only upon agreement by both agencies. The remedial actions proposed and approved, together with the schedule for accomplishing same, shall be reported to the Commission within 5 business days of the licensee's receipt of approval for same."

By letter dated May 15, 1998 the licensee sent via FAX their amendment proposal to the FWS and NYSDEC requesting their review and comment.

#### RESOURCE AGENCY COMMENTS

The licensee stated that the NYSDEC concurred with their amendment proposal via e-mail. The licensee stated that the NYSDEC indicated that flashboard installation should occur by May 1 of each year or at the time when river flows fall below the plant capacity so the water level can be lowered below the crest in order to allow work crews to safely install the flashboards.

By letter dated July 13, 1998, the FWS also concurred with the licensee's request for amending article 401. The FWS stated

□



that the intent of whether or not to replace flashboards was left to a mutually agreed upon solution between the NYSDEC and the FWS.

#### DISCUSSION

A Final Environmental Assessment, issued September 27, 1996, indicated that installing flashboards by May 1 each year would improve shoreline habitat at the beginning of the fish spawning season. 2/ This habitat is ideally suited for fish nesting and larval and juvenile fish rearing. If flashboards were lost during the winter and early spring due to ice or high flow conditions, the licensee is required to replace them as soon as possible under safe conditions.

The Settlement Offer recognized that the licensee may have problems maintaining the flashboards during the spring and, in the event that the flashboards failed between May 1 and June 30, (after initial replacement) the licensee would contact the NYSDEC, who in turn would contact the FWS regarding remedial actions, such as flashboard replacement. Consideration of viable options would depend on fish spawning, bird nesting, hydrologic conditions and the time of year. The Settlement Offer left the decision on whether or not to replace the flashboards during the May 1 to June 30 period, to a mutually agreed upon solution between the licensee, NYSDEC and FWS.

The licensee's amendment request proposes to omit the Commission from having to approve any remedial action for flashboard replacement during the May 1 to June 30 time frame. The licensee proposes to report to the Commission, within 5 business days, any remedial actions recommended by the licensee and approved by the agencies along with a schedule for accomplishing the actions.

For short term events that are limited in scope and duration (like the interruption in the installation of flashboards), the Commission routinely requires licensees to obtain concurrence from the relevant resource agencies. The subject amendment request is consistent with this practice. Therefore, since there is a short time frame associated with the enhancements provided by installing flashboards, or any remedial actions in the event of problems with maintaining the flashboards, the licensee's request to amend article 401 appears reasonable.

However, based on information contained in any future report filed with the Commission, the Commission should reserve the right to require structural or operational changes to ensure

2/ See Notice of Issuance, 61 FR 51697 (Oct. 3, 1996).

□

Attach 6\_Black River Project\_19980820\_Order Amend Art 401.txt

compliance with article 401. Accordingly, the licensee's request to amend article 401, as modified, should be approved.

The Director Orders:

(A) Niagara Mohawk Power Corporation's (licensee) request to amend license article 401, filed June 22, and supplemented on July 1, 1998, for the Black River Hydroelectric Project, located on the Black River in Jefferson County, New York, as modified in Paragraph (B), is approved.

(B) The second paragraph of license article 401 is amended to read:

"If flashboard problems prevent the licensee from maintaining the impoundment elevation within 0.5 foot of the top of the flashboards between May 1 and June 30, the licensee shall, for ease of communication, alert the local NYSDEC to propose remedial actions. The NYSDEC has agreed to communicate with the USFWS, and approve, within 5 business days, which, if any, remedial actions may be done before June 30. Implementation of the remedial actions shall be completed only after agreement by both agencies. The remedial actions proposed and approved, together with the schedule for accomplishing same, shall be reported to the Commission within 5 business days of the licensee's receipt of the agencies' approval. Based on the licensee's report, the Commission reserves the right to require structural or operational changes to ensure future compliance with article 401."

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

Carol L. Sampson  
Director  
Office of Hydropower Licensing

□

# 87 FERC ¶ 61,338

## UNITED STATES OF AMERICA FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: James J. Hoecker, Chairman;  
Vicky A. Bailey, William L. Massey,  
Linda Breathitt, and Curt Hébert, Jr.

Niagara Mohawk Power Corporation ) Project No. 2569-037

### ORDER AMENDING LICENSE

(Issued June 21, 1999)

Niagara Mohawk Power Corporation (Niagara Mohawk) has applied to amend its license for the Black River Project No. 2569 to permit it to replace wooden flashboards on the crest of the dam at the project's Deferiet development with a pneumatic crest control device. The application is opposed on procedural grounds by the U.S. Department of the Interior (Interior) and New York Rivers United (New York Rivers). As discussed below, we find the proposed amendment to be in the public interest and will approve it.

#### BACKGROUND

The 29.60-megawatt (MW) Black River Project is located on the Black River, in Jefferson County, New York. One of the project's five developments is the 10.8-MW Deferiet Development.

The project was issued a new license in 1996, pursuant to a Settlement Offer negotiated by Niagara Mohawk and other parties to the license proceeding and approved by the Commission. 1/ The Settlement resolved a range of issues relating to project operation, fish and wildlife resources, water quality, recreation, land management and ownership, and aesthetics.

On January 6, 1999, Niagara Mohawk filed an application to amend the license by replacing the existing three-foot-high wooden flashboards on the Deferiet dam crest with a pneumatic system of the same height. 2/ The Commission issued public

1/ Niagara Mohawk Power Corporation, 77 FERC ¶ 61,306.

2/ Flashboards are wooden boards affixed horizontally to the crest of a dam in a metal framework. The level of the impoundment can be raised or lowered by installing or removing boards. They are designed to fail under certain high-water conditions in order to reduce or prevent flooding upstream of the dam. A pneumatic crest device is an

(continued...)

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notice of the application. 3/ New York Rivers and Interior filed motions to intervene, asserting that the application violates dispute resolution procedures set forth in the approved Settlement. Interior requests that Niagara Mohawk's application be rejected. Interior and New York Rivers also state that they do not oppose the application, provided Niagara Mohawk accelerates the schedule for implementing certain environmental enhancements called for in the Settlement, or offers other environmental enhancements. Niagara Mohawk filed an answer opposing Interior's motion to intervene and disputing Interior's and New York Rivers' contentions regarding compliance with the Settlement.

## DISCUSSION

### A. Intervention

Niagara Mohawk argues that because neither Interior nor its Solicitor executed the Settlement Offer, Interior has no interest with respect to its implementation. However, both the U.S. Fish and Wildlife Service (FWS) and the National Park Service, elements of Interior, did execute the Settlement Offer, and several license articles resulting therefrom provide for consultation with FWS. Interior has therefore shown a sufficient interest to warrant intervention, which we will grant.

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2/ (...continued)  
inflatable rubber bladder affixed to the dam crest over which flows may be released. When the bladder is filled with air from a blower, it rises to block water. When air is released through an exhaust valve, it lies flat on the crest, permitting the free flow of water.

3/ 64 Fed. Reg. 3295 (January 21, 1999).

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B. Settlement Terms

Interior voices no technical objection to the use of a pneumatic flashboard at Deferiet, <sup>4/</sup> but asserts that Niagara Mohawk failed to follow the Settlement's procedures before filing to amend the license. Part IX, Section L of the Settlement provides:

This Settlement Offer is not intended to limit or restrict any signatory's authority, if any, to seek different or modified license conditions through a license reopener. Before any signatory proceeds to seek a reopener, the signatory shall request all signatories to commence negotiations for a period of at least 90 days to resolve the issue, and to agree to modify this Settlement Offer accordingly, if necessary.

Interior contends that Niagara Mohawk's crestgate proposal is subject to this 90-day negotiation procedure. Niagara Mohawk advances a number of arguments as to why its actions were appropriate.

The Commission has repeatedly emphasized its support of settlement agreements that resolve licensing issues in the public interest, <sup>5/</sup> and we congratulate the settlement parties in this proceeding for their successful efforts in this regard. Consistent with prior orders approving such settlement agreements, when we licensed the Black River Project we approved the Settlement Offer and included in the license those Settlement terms that pertain to the operation and management of the Black River Project, <sup>6/</sup> but we did not include inter-party agreements that do not directly involve the Commission's regulatory

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<sup>4/</sup> Part II, Section O of the Settlement provides that "Licensees' proposal to erect pneumatic flashboards at the Deferiet . . . Development . . . [is] withdrawn." Niagara Mohawk's withdrawal of this proposal was a matter of logistics and economics, not of substantive opposition by the parties. See Niagara Mohawk's October 13, 1995 Explanatory Statement for the Settlement Offer at 4 (proposal not cost-justified) and its May 15, 1998 letter to the Commission withdrawing the proposal.

<sup>5/</sup> See, e.g., Consumers Power Corp., 68 FERC ¶ 61,077 at p. 61,372 (1994); City of Seattle, Wash., 71 FERC ¶ 61,159 at p. 61,532 (1995).

<sup>6/</sup> See 77 FERC at pp. 62,384-85.

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function. 7/ Thus, we did not reserve to ourselves the authority to resolve whether a party has violated Settlement terms not included in the license. The Settlement has a dispute resolution provision that would seem to apply to Interior and Niagara Mohawk's disagreement over how to interpret Section J's reopening petition terms. 8/ We do, however, urge Niagara Mohawk to engage

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7/ See, e.g., Consumers Power Corp., 68 FERC ¶ 61,077 at p. 61,372 (1994):

We applaud the efforts of the parties to reach agreement on the wide range of resource issues presented by the applications and to recommend to the Commission resolutions of those issues. . . .

Certain sections of the Settlement . . . set forth undertakings by resource agencies and may also include closely related undertakings by the licensee. These matters relate primarily to questions of procedure for consultation and dispute resolution among the parties. The Commission cannot incorporate those undertakings into license articles, which by definition bind the licensee only. We accept such undertakings, however, insofar as they do not conflict with the license articles in this proceeding or interfere with the exercise of the Commission's statutory authority. [Footnote omitted.]

As noted in the text of the instant order, to the extent there is disagreement between the parties as to the meaning or applicability of a non-license undertaking, it is for the parties to the undertaking, not the Commission, to resolve the disagreement.

8/ Part IX, Section J of the Settlement states:

In the event that any dispute arises with the terms and conditions of this Settlement Offer, the signatories agree to engage in good faith negotiations for a period of at least 90 days, if necessary, in an effort to resolve the dispute, said negotiations to be initiated by the aggrieved party. A minimum of two meetings shall be held to attempt to resolve the dispute during the 90-day period, if necessary. In the event that resolution cannot be reached within the 90-day negotiating period, the dispute may be referred to FERC pursuant to FERC's Rules of Practice and Procedure (18 CFR 385, et seq.).

(continued...)

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in better communication and coordination with the other Settlement parties with respect to resource issues arising post-licensing, consistent with the collaborative spirit the Settlement Offer was designed to foster.

For Commission purposes, the term "reopener provision" refers to a license article reserving the Commission's authority, on its own motion or at the request of another entity, to initiate a license amendment proceeding for specified purposes. For instance, every license includes certain broad reservations of the Commission's authority to require, in the public interest, alterations to project works and operations, after notice and opportunity for hearing. One of these pertains to fish and wildlife resources. <sup>9/</sup> But these "reopener" articles never refer to the licensee as an entity that can petition the Commission to initiate an amendment proceeding. This is because the licensee can always initiate a license amendment proceeding by filing an amendment application. <sup>10/</sup> We will therefore entertain Niagara Mohawk's application in this proceeding.

#### C. Niagara Mohawk's Proposal

Pursuant to the Settlement, Article 401 of the Black River Project license requires the Deferiet impoundment to be maintained at no lower than 0.5 foot below the permanent crest of the dam or the top of any flashboards that are in place. Also pursuant to the Settlement, Article 403 requires the flashboards to be installed by May 1 of each year (or as soon thereafter as is safely possible), to prevent dewatering of fish nesting areas and juvenile fish habitat.

While wooden flashboards are designed to maintain these higher impoundment levels, they are also designed to prevent upstream flooding by failing under very high water conditions. This occurs principally during the late spring and early summer.

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8/ (...continued)

Notwithstanding any other provision of this Settlement Offer, any signatory may seek relief in any appropriate forum for non-compliance with this Settlement Offer by any signatory thereto.

9/ Ordering paragraph (D) of the Black River license order incorporates by reference the articles set forth in Standard Form L-3 (October 1975), 54 FPC 1792, 1817-24. Article 15 of Form L-3 pertains to fish and wildlife.

10/ Section 6 of the Federal Power Act, 16 U.S.C. § 799, provides that licenses "may be altered . . . only upon mutual agreement between the licensee and the Commission after thirty days' public notice."

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Such failures, which are often irregular (that is, some flashboard sections may fail while others remain in place), may cause the sudden release of a large volume of water over a small section of the spillway rather than evenly across the dam crest. This may damage fish nests immediately downstream from the dam. Further, the imprecise nature of flashboard failure can cause rapid drops in impoundment levels, which can dewater upstream fish nesting sites and expose shoreline bird nests to predators.

In contrast, a pneumatic crest device tends to compress evenly across the dam crest as overtop flows increase, thereby providing a more stable impoundment level and flows. <sup>11/</sup> It can also be deflated as needed. Indeed, in its comments on Niagara Mohawk's draft relicense application for the Black River Project, FWS recommended use of these devices. <sup>12/</sup>

In light of all of the above, we will approve Niagara Mohawk's pneumatic crestgate proposal.

The Commission orders:

(A) The U.S. Department of the Interior's February 23, 1999 motion to intervene in this proceeding is granted.

(B) Niagara Mohawk Power Corp.'s January 6, 1999 application to amend the Black River Project No. 2569 license to authorize the replacement of the wooden flashboards at the Deferiet Development with a pneumatic crest device (as described in its application) is approved.

(C) Prior to installing the replacement pneumatic flashboard system, Niagara Mohawk Power Corp. shall coordinate the scheduled work with the Commission's New York Regional

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<sup>11/</sup> A pneumatic crest device will thus make it easier for Niagara Mohawk to comply with the impoundment level and run-of-river requirements of the license. The device also makes project operation safer by eliminating the need for project operators to work on the dam crest to replace boards lost during high flows.

<sup>12/</sup> See FWS letter (at p. 7) to Niagara Mohawk dated March 11, 1991, Attachment 2 to Niagara Mohawk's filing of March 10, 1999. NYSDEC also supports use of the device at Deferiet. See NYSDEC's letter of December 3, 1998, attached to Niagara Mohawk's filings of December 29, 1998, and March 10, 1999.




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Office. Following the completion of construction, Niagara Mohawk Power Corp. shall update the appropriate exhibits to reflect the as-built configuration of the pneumatic flashboard system.

By the Commission.

( S E A L )

  
David P. Boergers,  
Secretary.



**ATTACHMENT C**

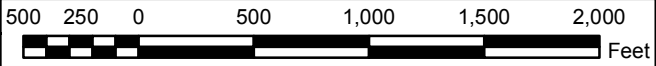
**QUESTION 10:**

**MAP SHOWING 200 FT ZONE AROUND RESERVOIR**





**Legend**

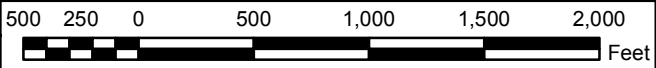
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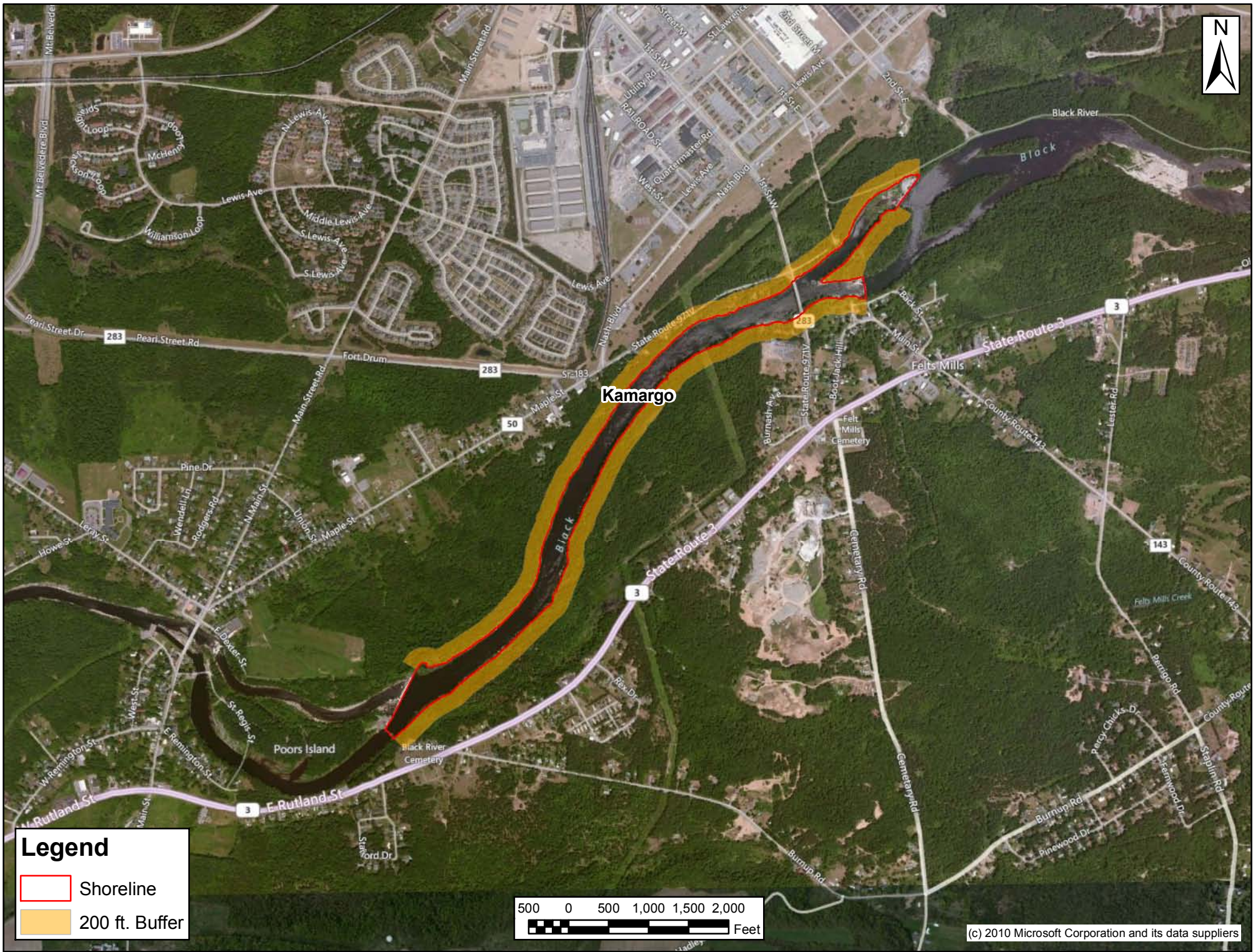






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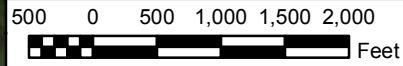
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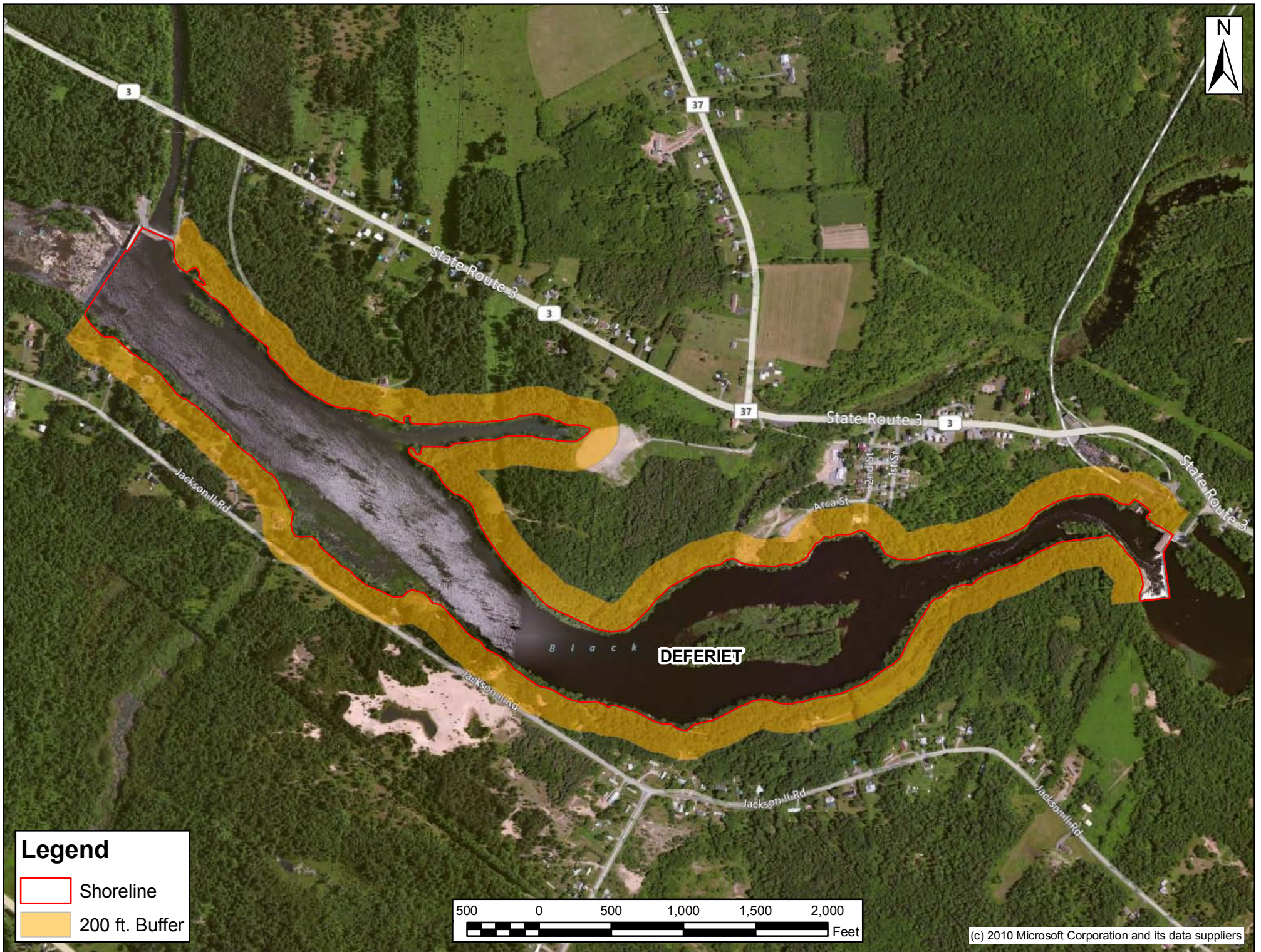




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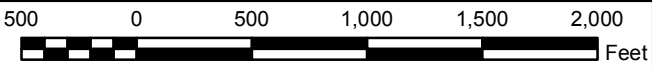
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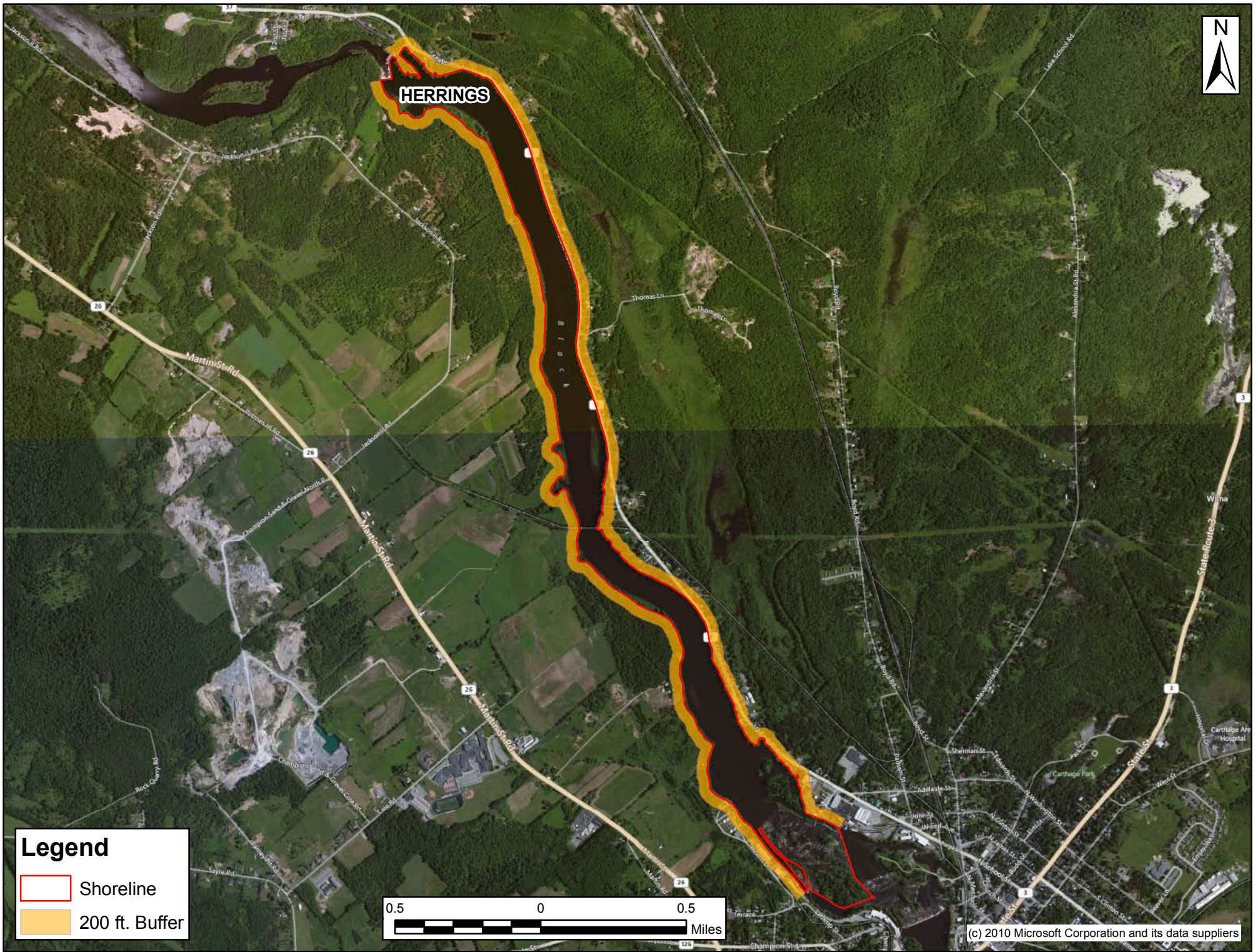




**Legend**



- Shoreline
- 200 ft. Buffer

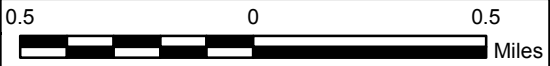




HERRINGS

**Legend**

-  Shoreline
-  200 ft. Buffer



(c) 2010 Microsoft Corporation and its data suppliers

**ATTACHMENT D**

**QUESTION 11:**

**LIST OF KEY AGENCY/STAKEHOLDER CONTACTS**



Adirondack Mountain Club  
301 Hamilton Street  
Albany, NY 12210

American Rivers  
1101 14<sup>th</sup> Street, NW, Suite 1400  
Washington, D.C. 20005

American Whitewater  
1035 Van Buren Street  
Missoula, MT 59802

National Audubon Society  
200 Trillium Lane  
Albany, NY 12203

National Park Service  
15 State Street  
Boston, MA 02109

Natural Heritage Institute  
Richard Roos-Collins  
100 Pine Street, Suite 1550  
San Francisco, CA 94111

New York Council, Trout Unlimited  
7 Helen Street  
Plattsburg, NY 12901

New York State Conservation Council  
8 East Main Street  
Ilion, NY 13357

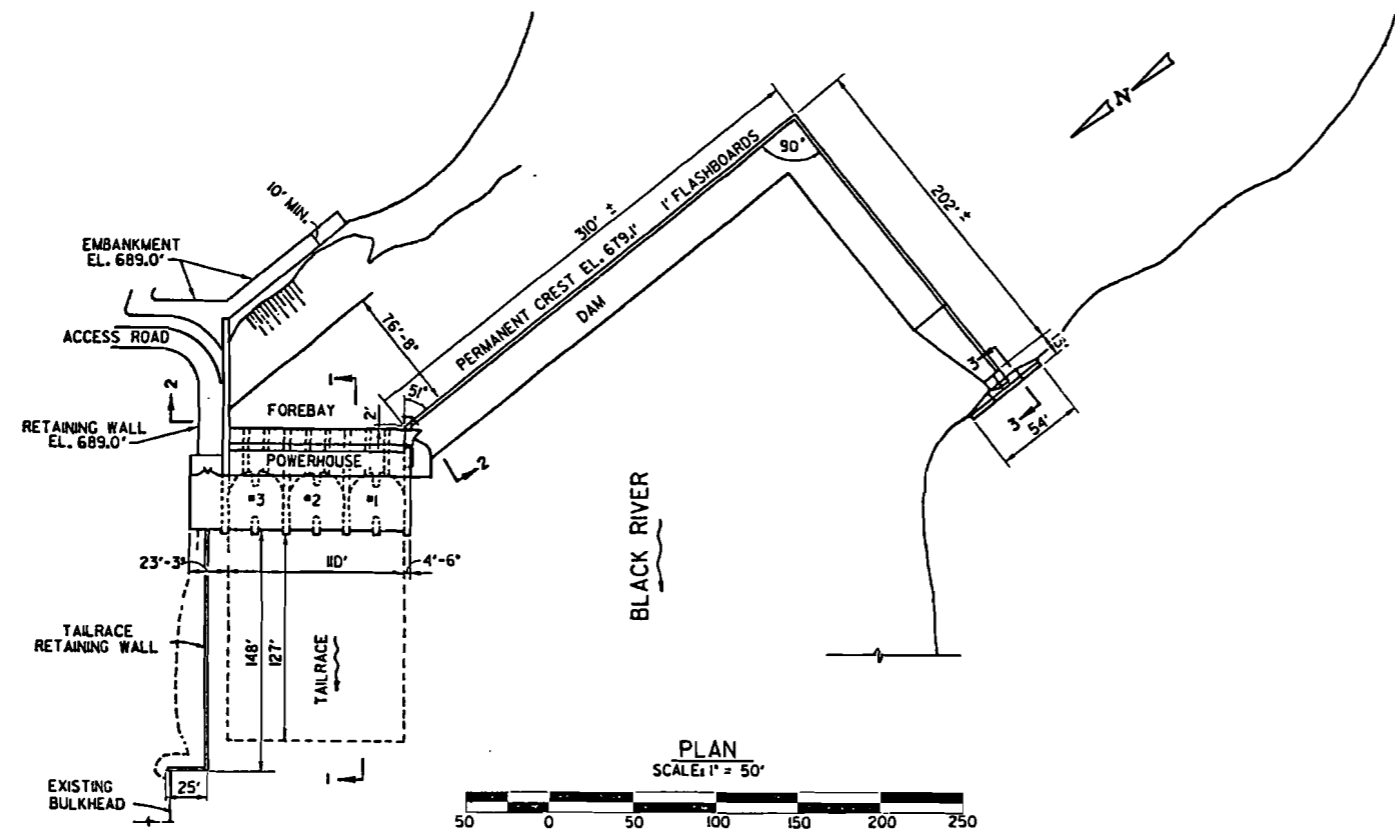
New York State Department of Environmental Conservation  
Alice Richardson  
Dulles State Office Building  
317 Washington Street  
Watertown, NY 13601

U.S. Fish & Wildlife Service  
Steven Patch  
3817 Luker Road  
Cortland, NY 13045

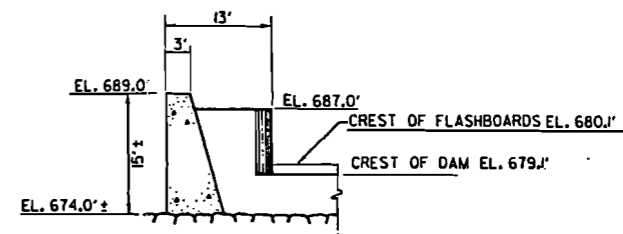
**ATTACHMENT E**

**QUESTION 12:**

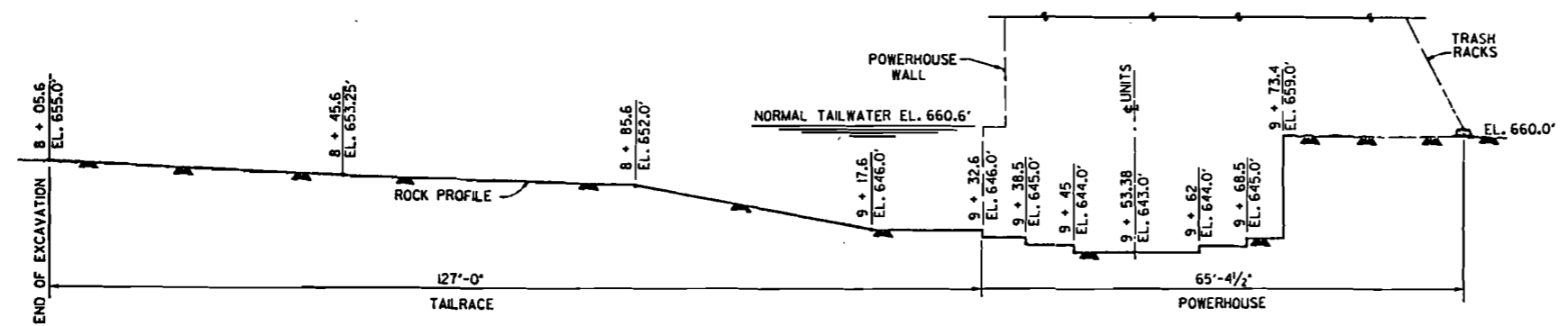
**EXHIBIT F & G DRAWINGS (P-2569)**



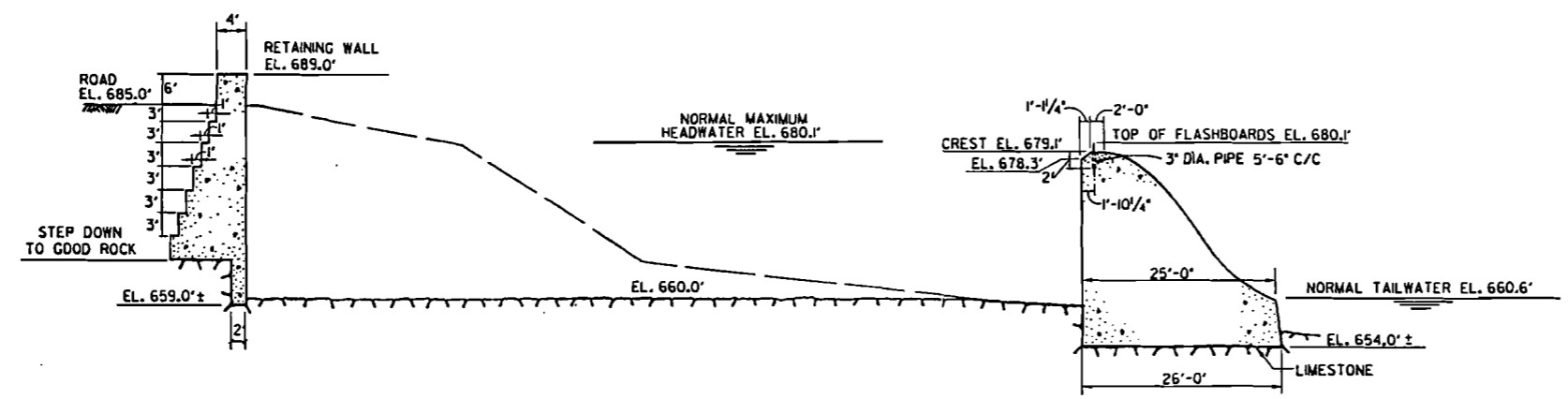
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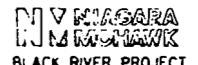
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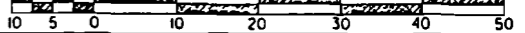


SECTION 1-1  
SCALE: 1" = 10'



SECTION 2-2  
SCALE: 1" = 10'

  
 BLACK RIVER PROJECT  
**HERRINGS DEVELOPMENT**  
 GENERAL PLAN  
 AND DETAILS OF DAM  
 EXHIBIT F      SCALE: 1" = 10'      SHEET NO. 1



NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP. NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP. NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP. NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP. NO.	
2	10/25/91	LICENSE APPLICATION	KIW	GEC	JLS																
1	8/5/90	DRAFT LICENSE APPLICATION	PRW	GEC	JLS																

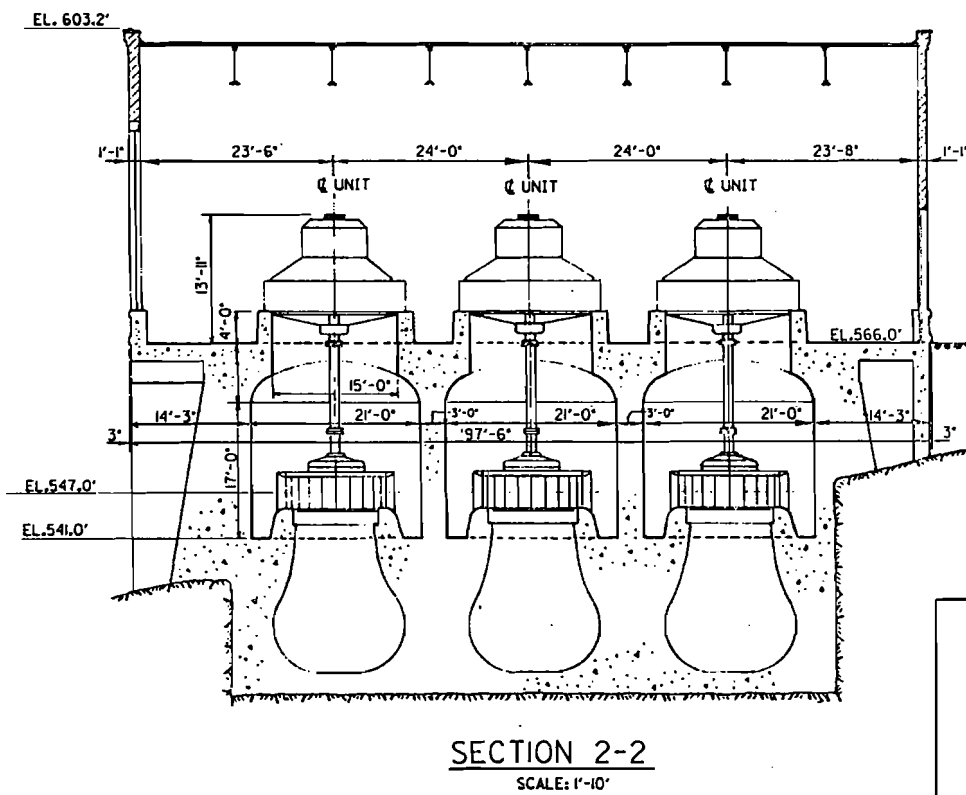
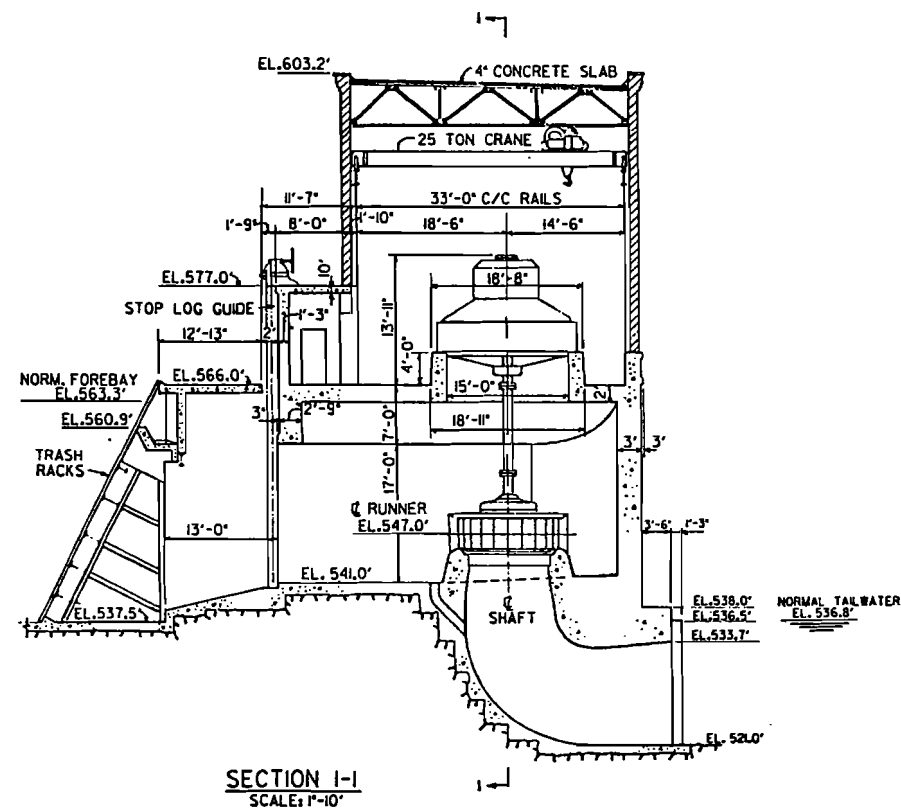
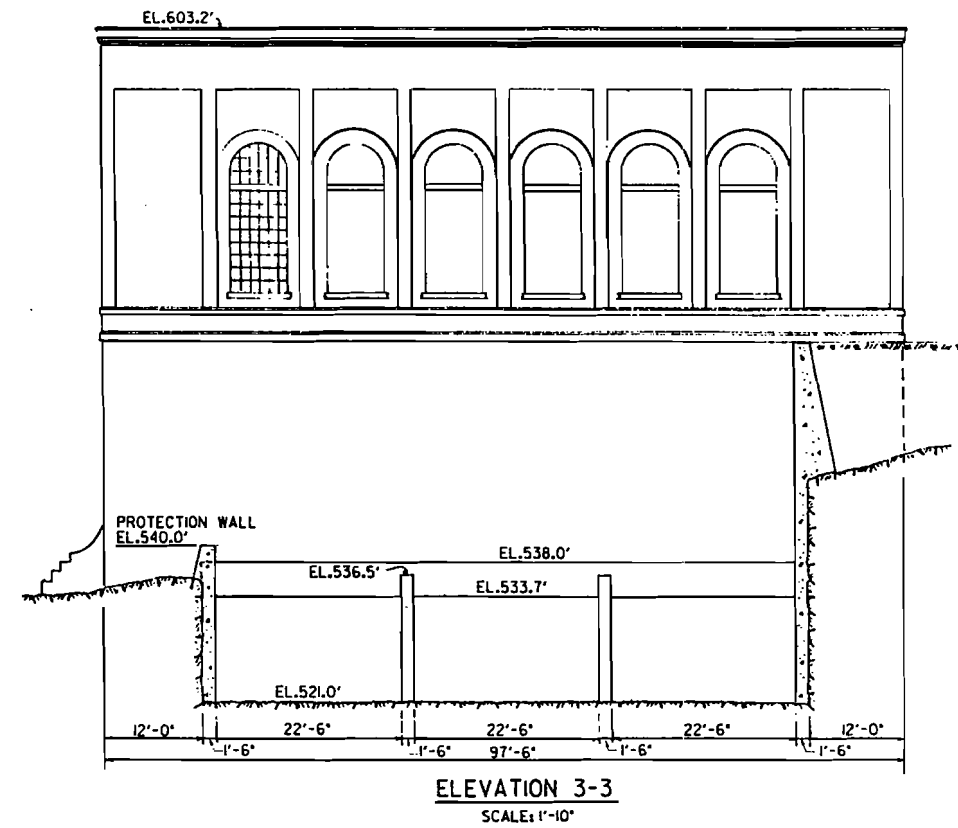
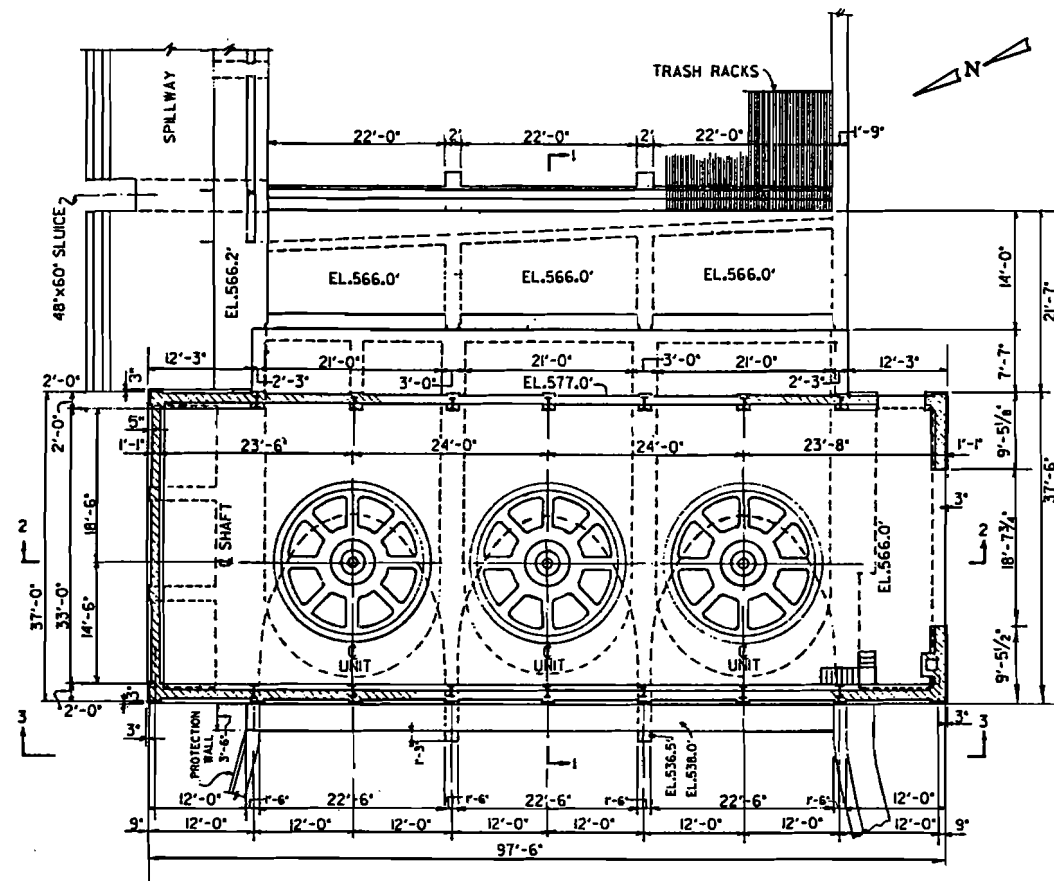
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FILE INDEX	
DRAWING NUMBER	









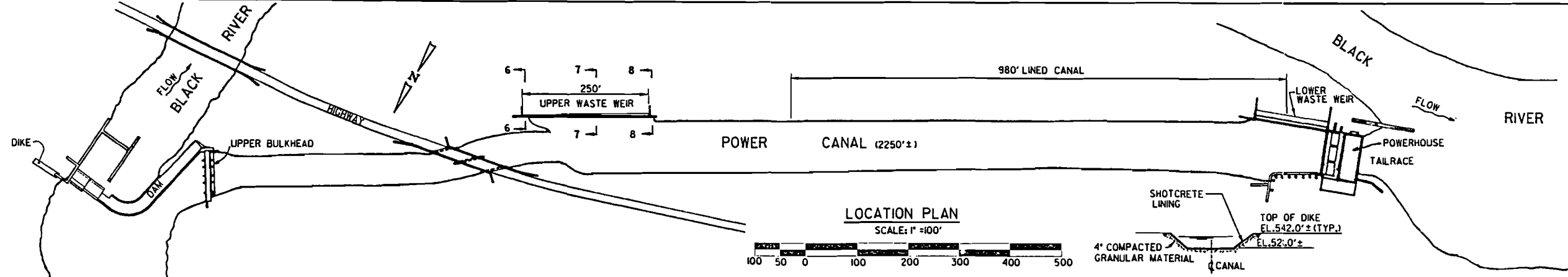


TOWN OF KAMARGO  
 BLACK RIVER PROJECT  
**KAMARGO DEVELOPMENT**  
 POWERHOUSE  
 PLAN AND SECTIONS  
 EXHIBIT F  
 SCALE: 1" = 10'  
 SHEET NO. 7

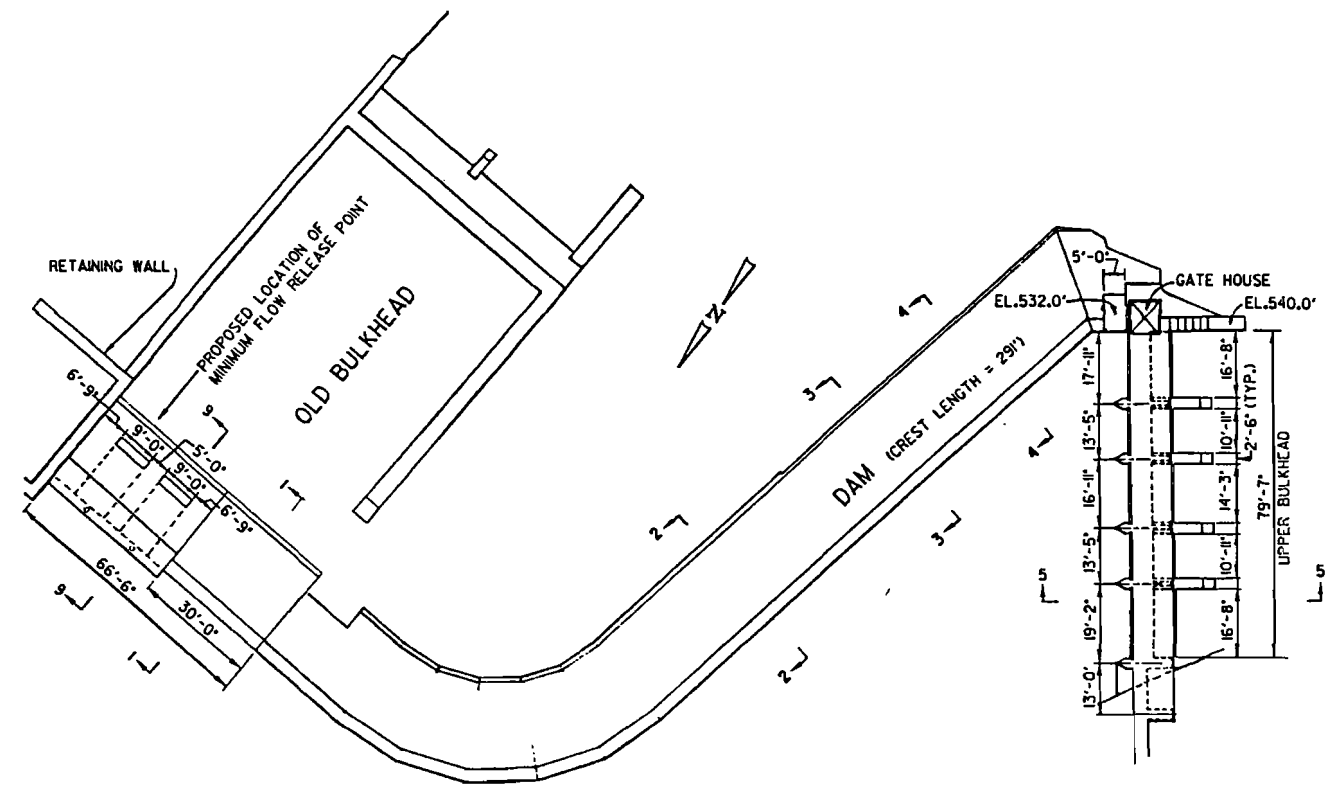
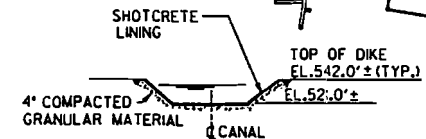
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1	8-5-90	DRAFT LICENSE APPLICATION															

ORIGINAL ISSUE DATE
FILE INDEX
DRAWING NUMBER

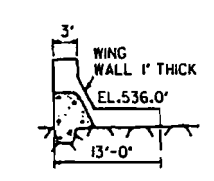




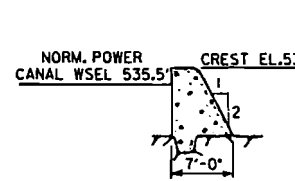
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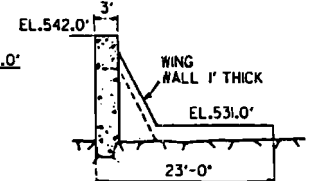
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SECTION 6-6  
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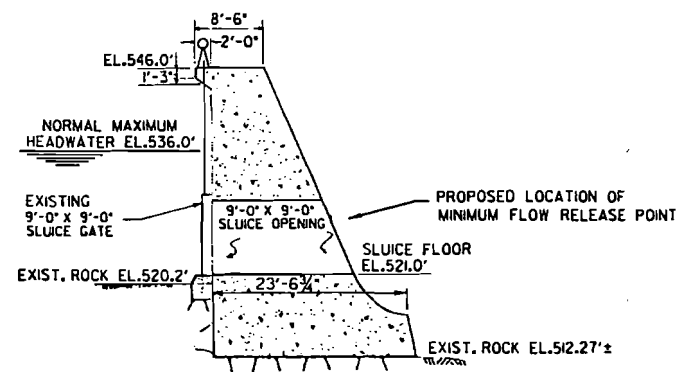


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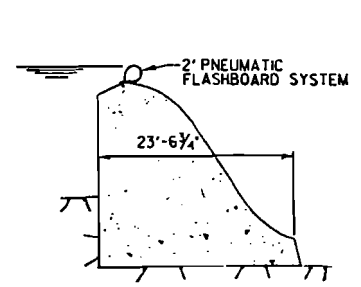


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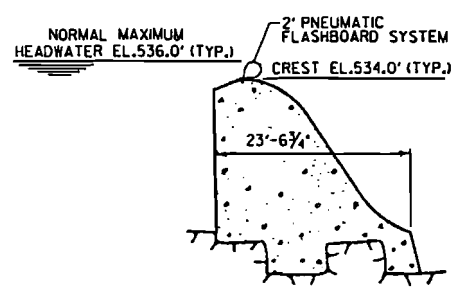
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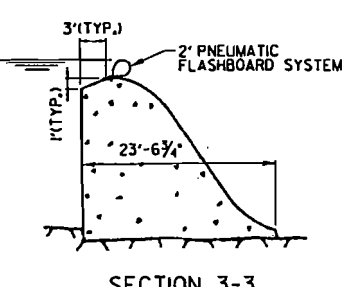
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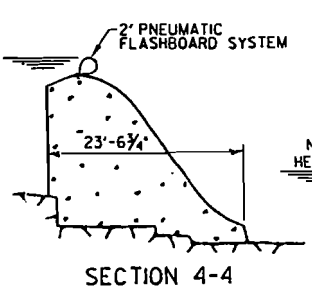
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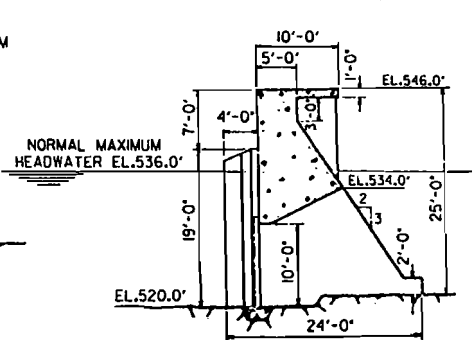
SECTION 2-2  
SCALE: 1" = 10'



SECTION 3-3  
SCALE: 1" = 10'



SECTION 4-4  
SCALE: 1" = 10'



SECTION 5-5  
SCALE: 1" = 10'

SCALE: 1" = 10'

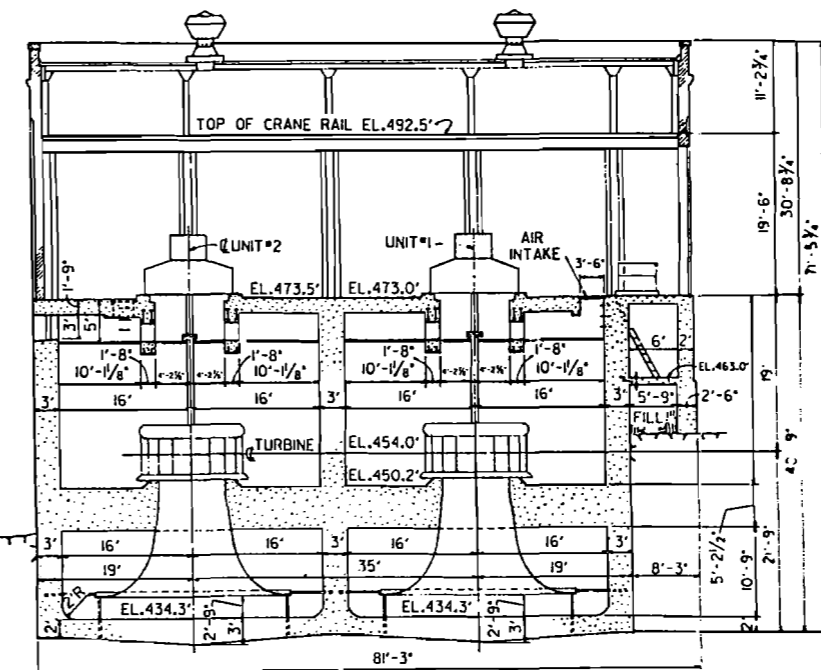
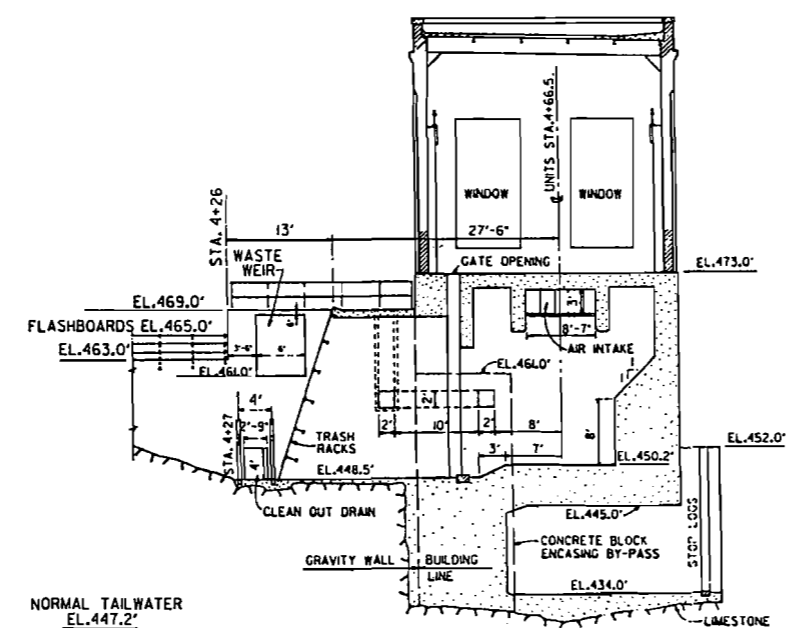
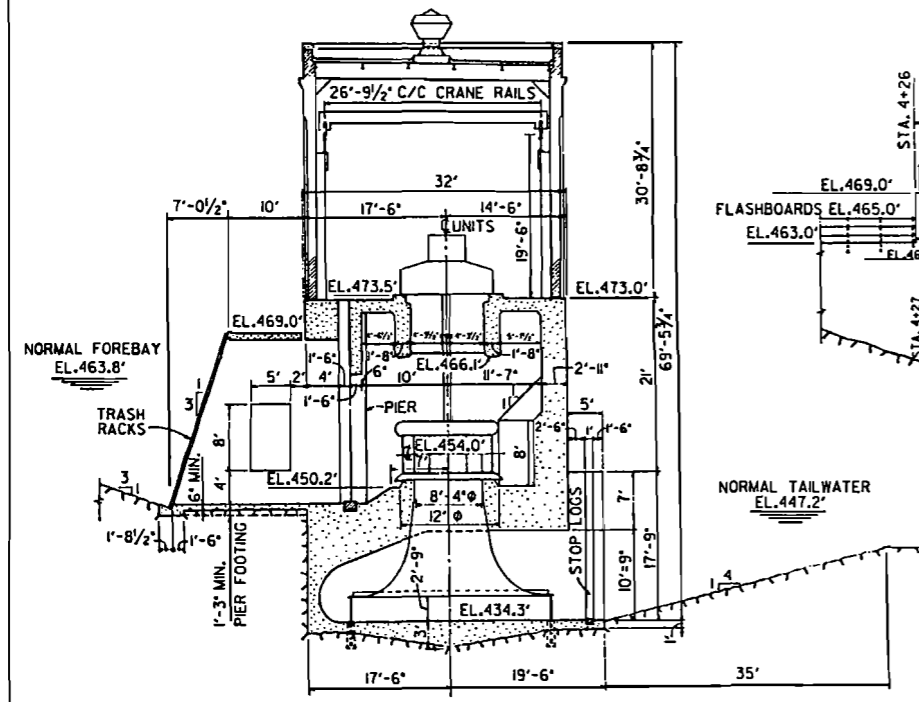
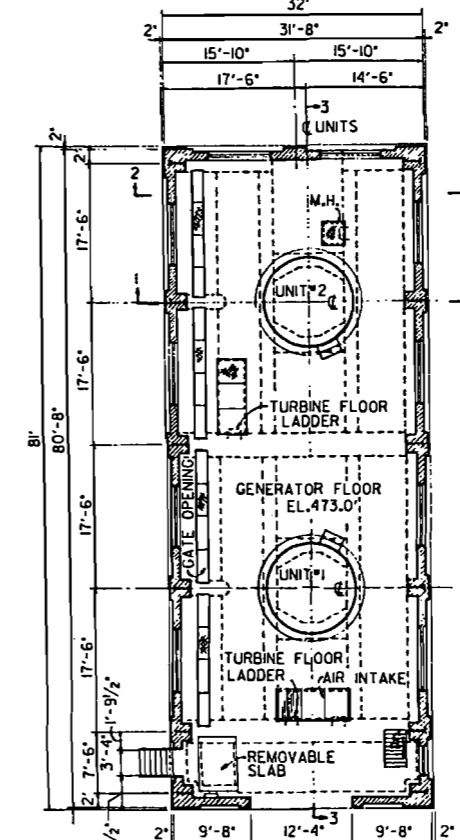
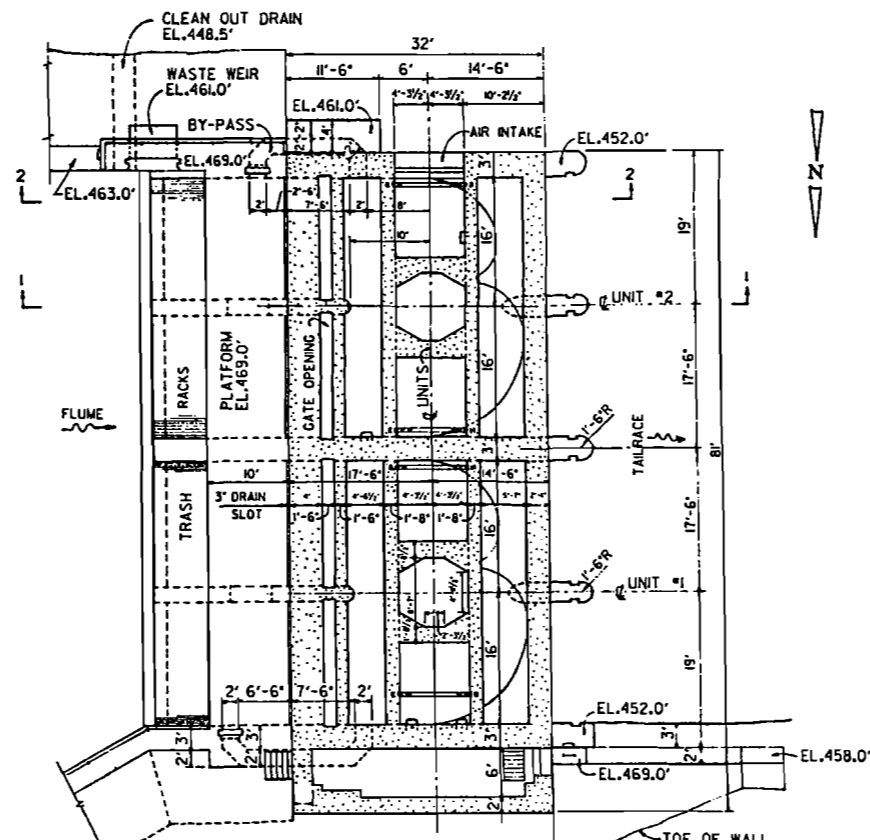
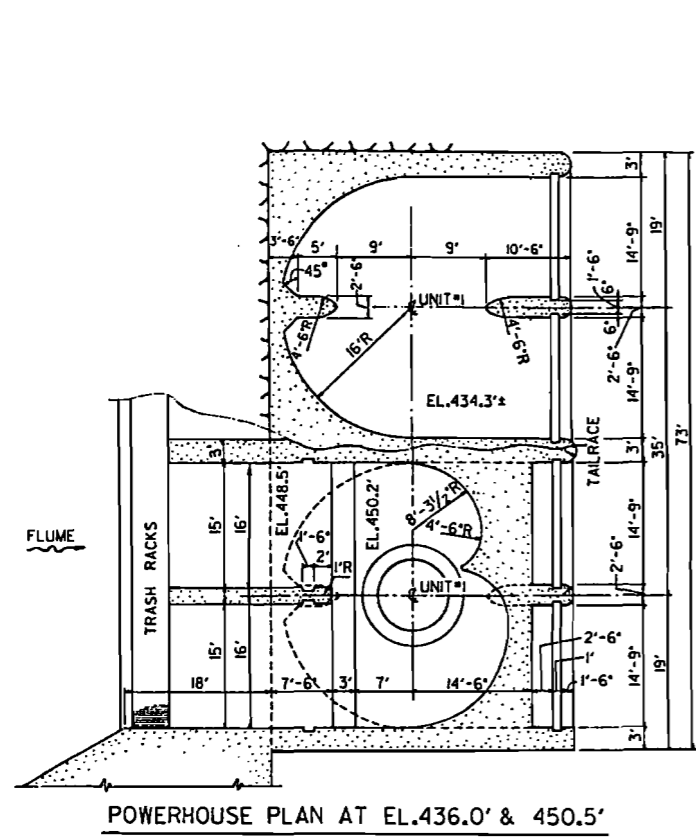
**N V NIAGARA  
M MOHAWK**  
BLACK RIVER PROJECT  
**BLACK RIVER DEVELOPMENT**  
GENERAL PLAN  
& DETAILS OF DAM AND UPPER FOREBAY  
EXHIBIT F  
SCALE: 1" = 20' SHEET NO. 8

NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.
2	10/25/91	LICENSE APPLICATION	KIR	CEC	RS/AV												
1	1/5/90	DRAFT LICENSE APPLICATION	PRW	GEC	JLS												

ORIGINAL ISSUE DATE
FILE INDEX
DRAWING NUMBER







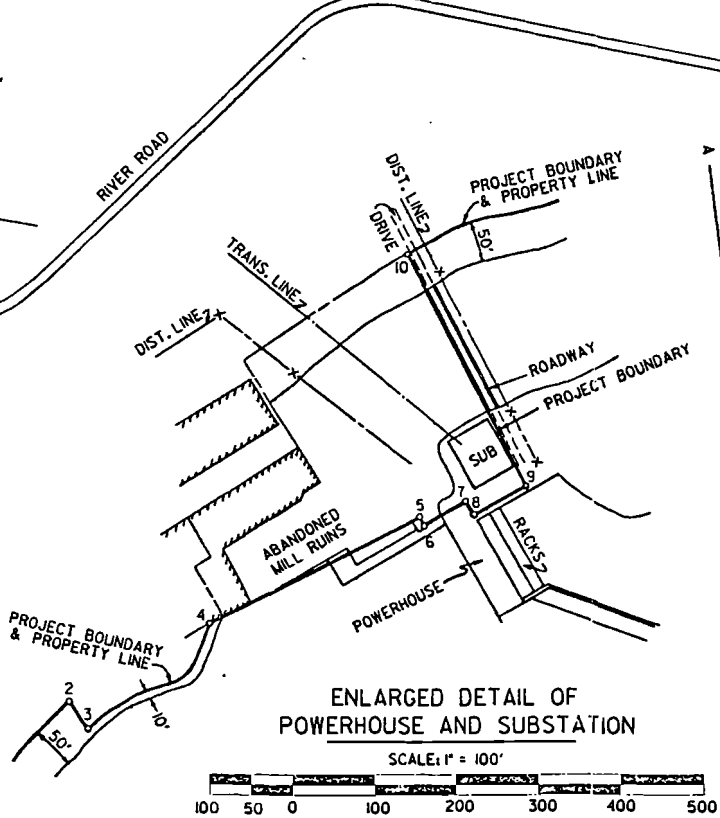
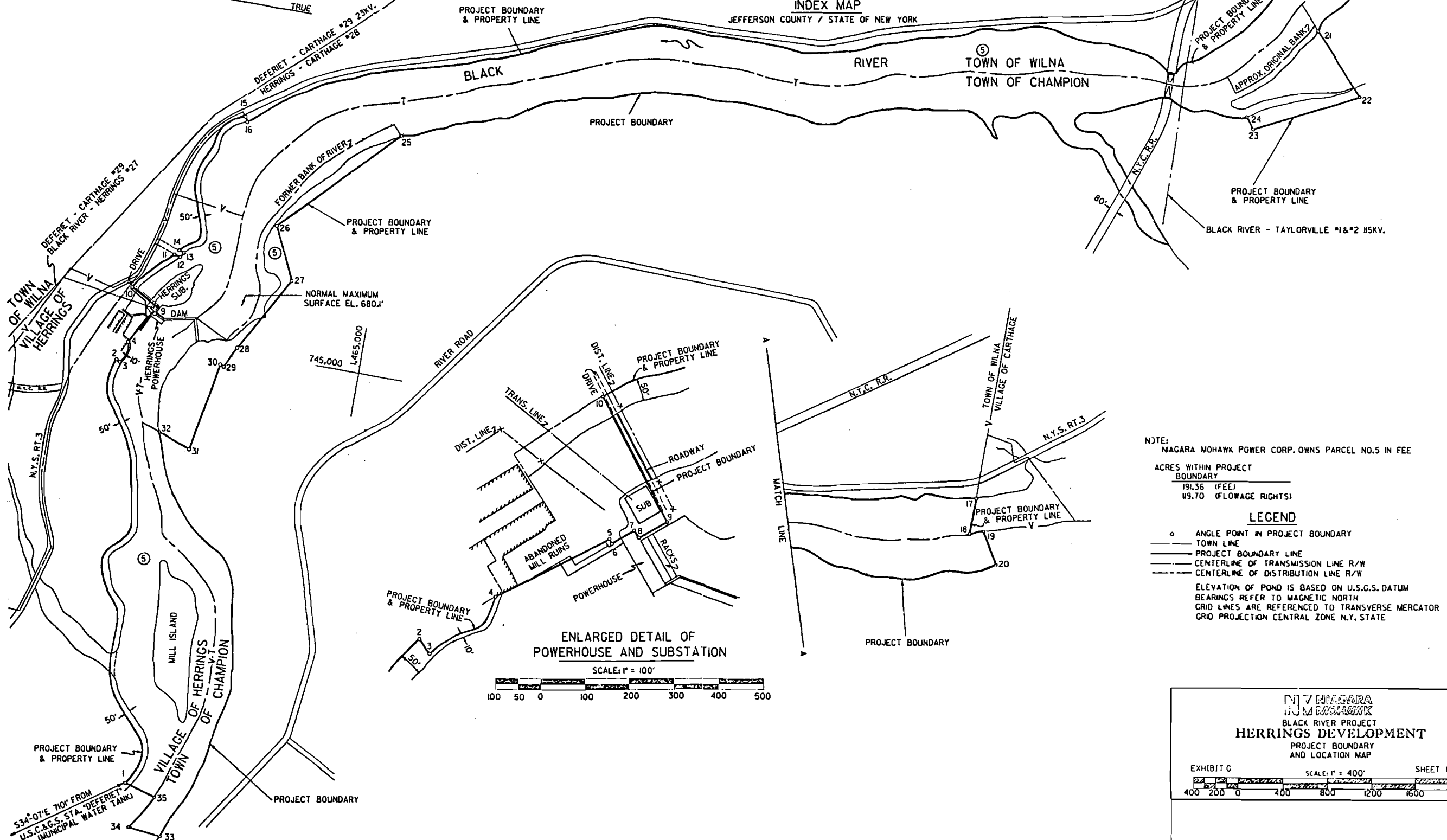
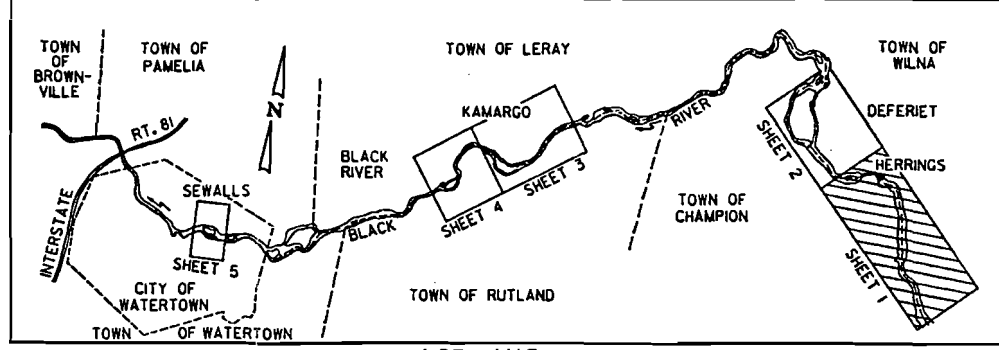
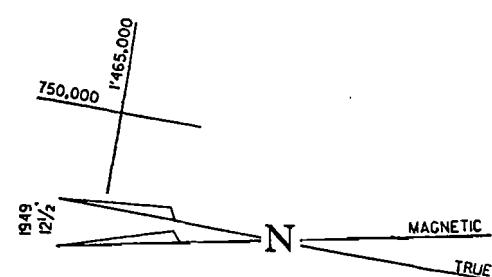
BLACK RIVER PROJECT  
SEWALLS DEVELOPMENT  
SOUTH CHANNEL POWERHOUSE  
PLANS AND SECTION

EXHIBIT F SCALE: 1" = 10' SHEET NO. 11

NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	
2	10/25/91	LICENSE APPLICATION																						
1	8/5/90	DRAFT LICENSE APPLICATION																						

ORIGINAL ISSUE DATE	
FILE INDEX	
DRAWING NUMBER	





NJTE:  
 NIAGARA MOHAWK POWER CORP. OWNS PARCEL NO. 5 IN FEE

ACRES WITHIN PROJECT BOUNDARY  
 191.36 (FEE)  
 49.70 (FLOWAGE RIGHTS)

**LEGEND**

- ANGLE POINT IN PROJECT BOUNDARY
- TOWN LINE
- PROJECT BOUNDARY LINE
- CENTERLINE OF TRANSMISSION LINE R/W
- CENTERLINE OF DISTRIBUTION LINE R/W

ELEVATION OF POND IS BASED ON U.S.G.S. DATUM  
 BEARINGS REFER TO MAGNETIC NORTH  
 GRID LINES ARE REFERENCED TO TRANSVERSE MERCATOR  
 GRID PROJECTION CENTRAL ZONE N.Y. STATE

**NIAGARA MOHAWK**  
 BLACK RIVER PROJECT  
**HERRINGS DEVELOPMENT**  
 PROJECT BOUNDARY AND LOCATION MAP

EXHIBIT G      SCALE: 1" = 400'      SHEET NO. 1

NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.
2	10/25/91	LICENSE APPLICATION																					
1	8/5/90	DRAFT LICENSE APPLICATION																					

ORIGINAL ISSUE DATE	
FILE INDEX	
DRAWING NUMBER	













**ATTACHMENT F**

**QUESTION A – FLOW:**

**2012 ANNUAL MINIMUM FLOW COMPLIANCE REPORT (P-2538 & P-2569)**

**HYDRO OPERATING PROCEDURE 202**

# NEW YORK WEST OPERATIONS

## Transmittal Memo

**DATE:** April 4, 2012  
**FROM:** STEVEN P. MURPHY  
 (315) 413-2788 (office)  
 (315) 461-8577 (fax)  
 (315) 439-0096 (cell)

- TO:**
- ADAMS, M.
  - AUSER, J.
  - AUSTIN, P.
  - BATES, D.
  - BERNARD, J.
  - BURTICK, D.
  - BUSH, B.
  - CARVEL, R.
  - CLOOT, J.P.
  - COLE, C.
  - COLEMAN, CATHY
  - DAOUST, D.
  - DONOVAN, B.
  - ELMER, J.
  - GAMBLE, J.
  - HICKEY, D.
  - JOHNSON, M.
  - LONGO, R.
  - LEMIEUX, T.
  - JIGANTI, M.
  - SMITH, A.
  - SNYDER, A.
  - UNCHER, T.
  - ZECHER, M.
  - ZARRELLA, T.

<b>DATE OF ATTACHMENT</b>	April 4, 2012
<b>TYPE OF ATTACHMENT</b>	2011 Min Flow / Headpond Compliance Certification
<b>FERC No</b>	All NYW
<b>PROJECT</b>	All NYW
<b>DEVELOPMENT</b>	All NYW

**NOTES**

- SARAH KULPA (HDR)
- AMANDA MINER (HDR)
- JIM GIBSON (HDR)

**ORIGINAL TO SCANNER**

For Your Information                       Per Your Request                       Review & Comment

Follow-Up Action Req'd  
(see below)                       No Action Now, More to Follow

Follow-Up By Whom:  
 Date:  
 Action:

# Brookfield

New York West Operations  
Erie Boulevard Hydropower, LP  
33 West 1<sup>st</sup> Street South  
Fulton, NY 13069

Tel. (315) 593-3118  
Fax (315) 598-4831  
www.brookfieldpower.com

April 4, 2012

Mr. Gerald Cross, Regional Engineer  
**FEDERAL ENERGY REGULATORY COMMISSION**  
New York Regional Office  
19 West 34<sup>th</sup> Street - Suite 400  
New York, New York 10001

**Subject: Minimum Flow and Pond Level Compliance for 2011**

Project No. 2330 Lower Raquette River  
Project No. 2474 Oswego River  
Project No. 2498 Hewittville  
Project No. 2499 Unionville  
Project No. 2538 Beebee Island  
Project No. 2569 Black River  
Project No. 2645 Beaver River  
Project No. 2713 Oswegatchie River  
Project No. 2837 Granby  
Project No. 4402 Talcville

Project No. 4472 Franklin Falls  
Project No. 5984 Oswego Falls  
Project No. 7000 Newton Falls  
Project No. 7320 Chasm  
Project No. 7321 Macomb  
Project No. 7387 Piercefield  
Project No. 7518 Hogansburg  
Project No. 9222 Yaleville  
Project No. 10461 W. Branch St. Regis River

Dear Mr. Cross:

Erie Boulevard Hydropower, L. P. (Erie) submits, for the above referenced projects, that it has complied with minimum flow releases, headpond levels, and special water releases and similar requirements in calendar years 2011, except as previously advised in letter reports filed with the Commission for the respective hydro developments.

Should you have any questions, please contact the undersigned at (315) 598-6130.

Very truly yours,



Steven P. Murphy  
New York West Operations

xc: J. Elmer  
D. Daoust

# Erie Boulevard Hydropower, LP

## HYDRO OPERATING PROCEDURE

Doc. No. **HOP - 202**

Page 1 of 7

Date 07/26/04

SUBJECT **Drawdown / Dewatering of Ponds, Waterways  
and Canals.**

**SECTION 2**  
**Pondage, Dams, Waterways**

### 1. General

- a. This Hydro Operating Procedure (HOP) establishes the necessary requirements and responsibilities for the planning, timely notification, reporting, steps and follow through actions that must be implemented when performing a drawdown or dewatering operation (drawdown).
- b. This HOP shall apply when it is determined that water storage facilities such as reservoirs, impoundments, ponds, canals, forebays, or other water containment and retaining structures must be dewatered or lowered beyond the lowest normal or licensed operating elevation for the purposes of inspection, repairs, maintenance, construction, dredging, or other activities.
- c. To ensure timely notification, General Managers or their designee must submit an **Anticipated Drawdown Schedule** (page 7) to the Hydro Control Center (HCC) by March 15 each year, and revise the schedule if additional drawdowns are anticipated. The HCC will maintain a master list identifying all anticipated and approved drawdowns. Except for emergencies, a drawdown shall not be performed unless it is on the master list and a **Site-Specific Drawdown Plan** (pages 4-6) has been properly completed and approved.
- d. The Anticipated Drawdown Schedule shall also be used by General Managers to report anticipated **pipeline** dewatering operations. HOP 202 does not apply to pipeline dewaterings that do not require a drawdown.
- e. A drawdown shall not be conducted when an acceptable cost-effective alternative method can be developed to accomplish the work required. The General Manager or designee shall be responsible for making the determination of whether such an alternative is available. For any given structure, the frequency of drawdowns should be minimized and intervals between drawdowns maximized.
- f. HOP 202 does not address obtaining permits and approvals that may be required from the NYSDEC or other regulatory agencies. The General Manager or designee shall coordinate with compliance & environmental staff in preparing the **Site-Specific Drawdown Plan** and to ensure all necessary regulatory permits, notifications and approvals are obtained prior to the drawdown.
- g. HOP-203 entitled "Sediment Disturbance/Disposal and Erosion Control Plan" shall be reviewed, and if applicable, applied in conjunction with HOP 202.
- h. The General Manager or designee shall be responsible for directly supervising any drawdown and ensuring that plant generation is used to accomplish the drawdown to the extent practicable.

Supersedes Documents Dated  
2/25/04 and 3/26/04

Authorized By  
**Environmental Manager**

Approved By  
**Vice President New York  
Operations**

**2. Drawdown  
Planning**

- a. Prior to approving a drawdown, the General Manager or designee must complete a **Site-Specific Drawdown Plan** (pages 4-6) that addresses:
1. The location, purpose, duration and magnitude of drawdown;
  2. A drawdown rate that considers shoreline gradients, bathymetry, impacts to shallow areas, time of year and other biological or regulatory constraints (**drawdown rates should generally not exceed one foot per hour however, site specific conditions may require that drawdown rates vary at specific elevations to accommodate changes in bathymetry**);
  3. Measures to reduce fish stranding or recover/transport fish;
  4. Measures to reduce the opportunity for channel/pond bed erosion and the suspension and transport of sediments causing turbidity;
  5. Measures to maintain water flow (if appropriate) through the facility that is drawdown;
  6. Measures to maintain required minimum or baseflows or variances to same if the full requirement cannot be achieved;
  7. Means by which water levels will be controlled and maintained through coordinated turbine and/or gate operations (levels to be maintained as high as practicable);
  8. Measures to monitor water levels, minimum or base flow requirements;
  9. Measures to maintain a downstream flow during re-filling; and
  10. Discussions held with NYSDEC with respect to items above.

**3. Notification**

- a. Prior to the commencement of a drawdown, the General Manager or designee shall be responsible for providing notification to all appropriate State & Federal agencies, government officials, local agencies & entities and outside persons.
- b. The General Manager or designee must also prepare and issue local newspaper press releases and local radio/TV station announcements.

**4. Steps For  
Drawdown**

**STEP 1** The General Manager or designee shall complete a **Site-Specific Drawdown Plan** (pages 4-6). The preparer should first determine if historical plans exist for past drawdowns at the site, and use same as appropriate. As part of completing the plan, the preparer will be required to document coordination with the NYSDEC. Once complete, the preparer shall transmit the plan to the HCC for review and concurrence.

**STEP 2** The HCC will review and indicate concurrence with the plan, and then transmit the plan to the General Manager for review and approval. Once approved, the General Manager or designee will distribute the completed plan to all persons and departments listed at the bottom of the plan.

**STEP 3** Prior to starting the drawdown, the General Manager or designee shall:

- a. Notify appropriate State and Federal agencies, government officials, local agencies and entities, lake associations or individuals of the date, time and estimated duration of the drawdown (such notifications must be documented). *Note, by completing the **Site-Specific Drawdown Plan**, the NYSDEC will have already been notified.*



- b. Prepare and issue local newspaper press releases, and local radio/TV station announcements (and distribute same to compliance/environmental staff and to the HCC).
- c. Coordinate with Area staff and the HCC to ensure that all involved personnel are prepared to proceed and proper communication contacts and channels have been established.

**STEP 4** Upon completion of Step 3, the General Manager shall be notified, who in turn, will issue final authorization to proceed. **Area staff shall not begin the drawdown until authorized by the General Manager.** For the duration of the drawdown, the General Manager or designee shall:

- a. Ensure that Area staff maintain communication with the HCC at regularly specified time intervals to verify actual water elevations correlate to readings at the HCC and to coordinate changes in gate operation. Such communications will be maintained until the drawdown and refill operation is complete, or as otherwise established and directed by the HCC.
- b. Confirm that adequate field supervision has been established for the duration of the project, including extended drawdown operations that occur beyond normal shift hours such as weekends and overnight periods.
- c. Establish special coverage arrangements such that specified inspection time intervals and continuous communication are maintained between the project site and the HCC.
- d. Confirm that Area staff maintain a clear and detailed written record of the drawdown in the on-site log books for all drawdowns, scheduled or otherwise.

**STEP 5** Once the drawdown and refilling is complete, the General Manager or designee shall prepare and retain a file containing the Site-Specific Drawdown Plan, press releases, correspondence, and any other pertinent information for use in planning future drawdowns.

**5. *Unscheduled Drawdowns***

If an inadvertent or unscheduled drawdown were to occur, the General Manager or designee will contact the Vice President New York Operations, the HCC and appropriate NYSDEC representative(s) immediately. Unless prior arrangements were made, coordination and follow-up with the NYSDEC will be the responsibility of the General Manager or designee, and the Vice President and HCC kept informed of any status changes.

## HOP 202 SITE-SPECIFIC DRAWDOWN PLAN

<b>1. GENERAL INFORMATION</b>	
Date Form Completed	
Form Completed By	
Operating Area	
River	
Project	
Development	
Facility/Structure	
Purpose of Drawdown	
Duration of Drawdown	
Magnitude of Drawdown	
<b>2. DRAWDOWN RATE</b>	
Describe Drawdown Rate(s) to be Employed	
<b>3. FISH STRANDING</b>	
Describe Measures to Reduce Fish Stranding	
Describe Measures to Recover and Transport Fish	

**HOP 202  
SITE-SPECIFIC DRAWDOWN PLAN**

<b>4. EROSION &amp; TURBIDITY</b>	
Describe Measures to Reduce Opportunity for Erosion and Turbidity	
<b>5. WATER FLOW-THROUGH</b>	
Describe Measures to Provide Water Flow Through Waterbody During the Drawdown	
<b>6. MINIMUM &amp; BASE FLOWS</b>	
Describe Measures to Maintain Minimum or Base Flows	
Describe Variances if Minimum or Base Flow Requirements Cannot be Fully Maintained	
<b>7. WATER LEVEL CONTROL</b>	
Describe How Water Levels Will be Controlled and Maintained (Turbine/Gate Operations)	
<b>8. MONITORING</b>	
Describe How Water Levels Will be Monitored	

**HOP 202  
SITE-SPECIFIC DRAWDOWN PLAN**

<b>9. RE-FILLING</b>	
Describe Measures to Maintain Downstream Flows During Re-filling	
<b>10. AGENCY COORDINATION</b>	
Summarize Coordination with NYSDEC Regarding Items 1-9 (dates, staff, recommendations)	

Drawdown Plan Form Completed By: \_\_\_\_\_ Date: \_\_\_\_\_

Hydro Control Center Review & Concurrence By: \_\_\_\_\_ Date: \_\_\_\_\_

General Manager Review & Approval By: \_\_\_\_\_ Date: \_\_\_\_\_

**Copies to be distributed to:**

- Vice President New York Operations
- General Manager
- HCC
- Area Superintendent
- Compliance/Environmental Staff





**ATTACHMENT G**

**QUESTION C – FISH PASSAGE AND PROTECTION:**

**SEPTEMBER 11, 1998 FLOW RELEASE CONVEYANCE STRUCTURE PLAN  
(ARTICLE 406)**

**SEPTEMBER 22, 1998 ORDER MODIFYING AND APPROVING FLOW RELEASE  
STRUCTURE PLAN (ARTICLE 406)**

# Niagara Mohawk

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

EXPRESS MAIL

ORIGINAL

September 10, 1998

FILED  
OFFICE OF THE SECRETARY  
FEDERAL ENERGY  
REGULATORY  
COMMISSION  
98 SEP 11 PM 12:15

Acting Secretary Boergers  
FEDERAL ENERGY REGULATORY COMMISSION  
888 First Street, N.E.  
Washington, DC 20426

019

032

**Subject: Beebee Island Project LP 2538 NY & Black River Project LP 2569 NY  
Final Plans for Black River License Article 406 - Flow Release Structures &  
Beebee Island License Article 411 - Fish Conveyance Structure**

Dear Acting Secretary Boergers:

In accordance with the ORDER APPROVING SETTLEMENT OFFER AND ISSUING NEW LICENSE (License) for both of the referenced projects issued on December 24, 1996, Niagara Mohawk is herein filing an original and eight copies of the final plans for the above referenced license articles. Niagara Mohawk submitted a draft plan for consultation purposes with the New York State Department of Environmental Conservation (DEC) and the United States Fish and Wildlife Service (Service) as required by the License for each project on January 13, 1998. Agency correspondence addressing the above subject is included herein. Following is a summary of agencies in receipt of the draft plan, agencies providing comments, and Niagara Mohawk's position on the comments received.

**ARTICLE 406  
FLOW RELEASE STRUCTURES**

**BLACK RIVER PROJECT**

*Batch Contains*  
**POOR QUALITY ORIGINALS**

Agencies in receipt of draft plans:

New York State Department of Environmental Conservation (DEC)  
U.S. Fish and Wildlife Service (USFWS)

Agencies providing comments:

New York State Department of Environmental Conservation (DEC)  
U.S. Fish and Wildlife Service (USFWS)

REC'D-DOCKETED  
SEP 11 1998

980914.0286-3



Niagara Mohawk's position on agency comments:

**New York State Department of Environmental Conservation comment letter of February 5, 1998**

**DEC Comments:** DEC offered one general comment pertaining to the five Black River sites and Beebee Island. Essentially, DEC rejected the design approach used in the draft plan for the flow release structures. DEC stated that the notches should be sized to provide the required minimum flow when the pond level is at the low point of the fluctuation range. DEC further provided some options for consideration in redesigning the flow release structures.

**Licensee Response:** The draft design approach calculated the minimum flow release based upon a head differential measured from the mid-point of the fluctuation range to the center of the opening. This resulted in varying minimum flow releases dependent upon headwater level with an average or "nominal flow" approximating the required minimum flow over the range of fluctuation.

Niagara Mohawk has redesigned the minimum flow release structures to provide the required minimum flow release at the low point of the fluctuation range. As the headpond level remains at or near the top of the fluctuation range, the minimum flow releases at all sites will be significantly exceeded nearly all the time.<sup>1</sup>

**United States Fish & Wildlife Service comment letter of March 4, 1998**

**USFWS Comments - General:** The USFWS notes that the draft design of the minimum flow release structures does not meet the requirements of the licenses or the Settlement Agreement since they were designed for a "nominal flow" which at times would release less water than the required "not less than" flow. The USFWS also states that the mechanisms to provide a safe fish passage route have not been incorporated into the design drawings.

USFWS comments that calibration of the discharge coefficients or verifying the actual discharge in the channels will be needed.

**Licensee Response:** The issue of "nominal flows" has been addressed under DEC comments above. Several of the mechanisms required to provide safe fish passage are unknown at this time for inclusion on the final design drawings. After installation of the release structures and observation of the releases, a better understanding of the mechanisms required for safe fish passage requirements will be known. Where known, the final design drawings denote same either in detail or description.

---

<sup>1</sup> This results in increases in flow over the minimum requirement a majority of the time as follows: Herrings - 23%; Kamargo - 15%; Black River - 19%; Sewalls - 41%; and Beebee Island's Fish Conveyance Structure - 7.5%.

Niagara Mohawk feels that the use of an empirical formula with conservative assumptions therein for calculating the minimum flow releases, in conjunction with flow releases being significantly higher than the license requirement, verifying the actual discharge in the channels is not necessary.

**USFWS Comments on Herrings Development:** The USFWS offers suggestions on redesigning the release structure. The USFWS also notes that structures necessary for safe fish passage include a side-wall down the face of the spillway to contain flow and a plunge pool at the downstream end.

**Licensee Response:** Niagara Mohawk has redesigned the minimum flow weir to provide the 20 cfs minimum flow requirement at the low point of the allowable fluctuation range, or elevation 679.60 feet. This results in a release of 20 cfs when the pond is at elevation 679.60 feet and a release of 26.89 cfs when the pond is at top of flashboards or elevation 680.10 feet.

As shown on the Herrings drawing D-54123-C, wood timbers creating a chute are proposed to be installed along the downstream face of the spillway to provide a safe fish passage route down the spillway face. Since the Deferiet impoundment backs up to toe of the Herrings spillway, the Deferiet impoundment headwater generally is the tailwater at the toe of the Herrings spillway. Based upon this physical connection, the need for installation of a plunge pool at the base of the spillway will be determined after installation of the weir and timber chute, while observing various headpond levels at Deferiet.

**USFWS Comments on Deferiet Development:** The USFWS offers suggestions on redesigning the release structure. The USFWS also notes that a plunge pool and water conveyance channel may be needed if the released flow does not provide adequate depth. The USFWS states that the release mechanism needs to be modified or project operations adjusted during low flow periods to meet the required total release of 245 cfs. The USFWS comments that a flow of 177 cfs was reported during the settlement discussion site visit.

The USFWS comments that the proposal to construct pneumatic flashboards is in direct conflict with the Settlement Offer, which would require an amendment of the license, and does not concur with this proposal.

**Licensee Response:** Niagara Mohawk has changed the minimum flow weir to an orifice to provide the 45 cfs minimum flow requirement at the low point of the allowable fluctuation range, or elevation 658.50 feet. This results in a release of 45 cfs when the pond is at elevation 659.00 feet and 46.01 cfs when the pond is at top of flashboards or elevation 659.00 feet. The need, if any, for a plunge pool and channel modifications will be determined after the stoplog structure is modified.

In May of 1995 a leakage measurement was performed measuring 178 cfs, which was the figure mentioned during the settlement site visit. Previous leakage measurements were performed in July 1993 and August 1993 measuring 275 cfs and 375 cfs respectively, before some rehabilitation measures were performed on the canal intake. Niagara Mohawk feels that

leakage sources associated with the dam and stoplog structure is ample leakage flow to meet or exceed the 200 cfs leakage requirement and no other modifications to operations or the release mechanism are required.

In May of 1998 Niagara Mohawk decided not to pursue the installation of the pneumatic flashboards because of time constraints affecting the installation schedule and the regulatory requirements. Niagara Mohawk will proceed with the amendment process when and if we decide to go forward with this very beneficial project to all interests.

**USFWS Comments on Kamargo Development:** The USFWS offers suggestions on redesigning the release structure. The USFWS notes that the present design lacks a flow conveyance route.

**Licensee Response:** Niagara Mohawk has redesigned the minimum flow weir to provide the 120 cfs minimum flow requirement at the low point of the allowable fluctuation range, or elevation 563.30 feet. This results in a release of 120 cfs when the pond is at elevation 563.30 feet and a release of 137.58 cfs when the pond is at top of flashboards or elevation 563.80 feet.

The nature of the downstream area at the Kamargo dam, essentially a flat sloping bedrock surface with numerous wide crevices, is generally not conducive to fish passage. The area selected for installation of the minimum flow weir is near the original river channel. The final details of fish conveyance measures need to be resolved after installation of the minimum flow weir is completed, but Niagara Mohawk is not amenable to modifying the existing river channel downstream of the release point at this site.

**USFWS Comments on Black River Development:** The USFWS offers suggestions on redesigning the release structure and recommends intermediate plunge pools to safely convey fish into the tailwater at the base of the dam.

The USFWS disagrees with the coefficient of 0.81 used for the sluice gate release calculations and notes that the USFWS's engineers use a coefficient of 0.70 whereas the US Bureau of Reclamation's Water Measurement Manual recommends a coefficient of 0.72. USFWS comments that the required release should be field verified.

**Licensee Response:** Niagara Mohawk has redesigned the minimum flow weir to provide the 80 cfs minimum flow requirement at the low point of the allowable fluctuation range, or elevation 535.50 feet. This results in a release of 80.09 cfs when the pond is at elevation 535.50 feet and a release of 95.52 cfs when the pond is at top of flashboards or elevation 536.00 feet. The need for intermediate plunge pools for fish conveyance into the tailwater at the dam will be determined after installation of the minimum flow weir.

Niagara Mohawk has recalculated the sluice gate release utilizing a coefficient of 0.72. This recalculation results in calculated releases of 220 cfs at a pond elevation of 535.50 feet and a release of 223.91 cfs at a pond elevation of 536.00 feet for the seasonal walleye spawning

release. Based upon the empirical formula used which includes conservative assumptions therein, and the magnitude of the required release, Niagara Mohawk does not find it necessary to perform a field verification of this release. Further, other leakage sources will provide additional flow such that the seasonal 220 cfs release requirement will be supplemented even more.

**USFWS Comments on Sewalls Development:** The USFWS offers suggestions on redesigning the release structure and notes that a plunge pool and conveyance structures may be needed dependent upon tailwater conditions.

**Licensee Response:** Niagara Mohawk has redesigned the minimum flow weir to provide the 20 cfs minimum flow requirement at the low point of the allowable fluctuation range, or elevation 463.40 feet. This results in a release of 20 cfs when the pond is at elevation 463.40 feet and a release of 28.26 cfs when the pond is at dam crest or elevation 463.90 feet. The need for a plunge pool for fish conveyance into the tailwater will be determined after installation of the minimum flow weir.

## **ARTICLE 411 FISH CONVEYANCE STRUCTURE**

### **BEEBEE ISLAND PROJECT**

#### **New York State Department of Environmental Conservation comment letter of February 5, 1998**

The DEC comment letter of February 5, 1998 did not provide any specific comments regarding Beebee Island, just the general comment regarding the design approach used for the release structures.

#### **United States Fish & Wildlife Service comment letter of March 4, 1998**

**USFWS Comments on Beebee Island Project:** The USFWS comments that plugging of the fish conveyance slot is a concern. The USFWS suggests that a resurfacing of the slot and an extension of the ice flume to the tailwater may be required.

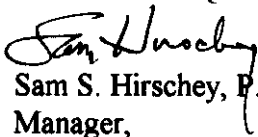
**Licensee Response:** Niagara Mohawk also has concerns regarding plugging of the fish conveyance slot with trash and debris. However, utilization of this area was discussed during the settlement negotiations and was the agreed upon location. Niagara Mohawk will proceed with the installation as proposed and, if necessary, will modify this location as appropriate or seek a better solution to the fish conveyance issue if this location becomes unmaintainable. Niagara Mohawk will resurface the slot as necessary. Measures for safe fish conveyance into the tailrace will be determined after installation of this conveyance measure.

September 10, 1998

Page 6

If you have any further questions regarding this submittal, please contact Thomas M. Skutnik at (315) 428-5564.

Sincerely,



Sam S. Hirschey, P.E.

Manager,

Hydro Licensing & Regulatory Compliance

**Enclosures:**

- xc: Ms. Carol Sampson, FERC, Washington, DC
- Ms. Lenore Kuwik, NYSDEC - Albany
- Ms. Janet Audunson, Beebee Island Corporation
- Mr. Len Ollivett, NYSDEC, Watertown
- Ms. Sherry Morgan, USFWS, Cortland
- Mr. Curt Orvis, USFWS - Hadley, Ma.
- Mr. Anton Sidoti, FERC - New York
- Mr. Thomas M. Skutnik

**FINAL PLAN  
FOR  
BLACK RIVER PROJECT #2569  
ARTICLE 406 - FLOW RELEASE STRUCTURES  
&  
BEEBEE ISLAND PROJECT #2538  
ARTICLE 411 - FISH CONVEYANCE STRUCTURE**

## **BLACK RIVER PROJECT**

### **Herrings Development**

License Article 405 requires 20 cubic feet per second (cfs) at all times to be released through the stop-log section located between the dam and the trashracks.

The existing stoplog structure will be modified by installing a weir having a length of 2.15 feet and a weir crest elevation of 677.50 feet to provide the 20 cfs minimum flow release. The minimum flow release through the weir will vary from 20.00 cfs to 26.89 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 680.10 feet). During the time period of May 1 through September 30, when Black River flows are between 1400 cfs and 1900 cfs, the reservoir fluctuation is limited to 0.2 feet by License Article 401. During this time period, the minimum flow release through the weir will vary from approximately 24.09 cfs to 26.89 cfs.

### **Deferiet Development**

License Article 405 requires 45 cfs at all times to be released through the stop-log structure located north of the dam.

The 45 cfs minimum flow release will be provided through an orifice in the third bay from the right abutment of the existing stoplog structure. The orifice will have a discharge area of 2.17 square feet with an invert elevation of 647.0 feet. The minimum flow release through the orifice will vary from 45.00 cfs to 46.01 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 659.00 feet).

License Article 405 also requires a minimum flow of 245 cfs downstream of the dam, which will consist of 45 cfs through the orifice and 200 cfs from leakage. During walleye spawning season, a total flow of 800 cfs is required downstream of the dam by License Article 405. Niagara Mohawk is planning on utilizing spill over the top of the flashboards or dam crest in conjunction with spill through other bays of the stoplog structure to satisfy this requirement.

### **Kamargo Development**

License Article 405 requires 120 cfs at all times to be released through a notched section of the dam.

A weir having a length of 5.64 feet and a crest elevation of 558.80 feet will be constructed in the northern end of the dam and will provide the 120 cfs minimum flow release. The minimum flow release through the weir will vary from 120.00 cfs to 137.58 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 563.8 feet).

## Black River Development

License Article 405 requires 80 cfs at all times to be released through a notch in the dam.

A weir having a length of 4.40 feet and a crest elevation of 532.00 feet will be constructed in the southern end of the dam and will provide the 80 cfs minimum flow release. The minimum flow release through the weir will vary from 80.09 cfs to 95.52 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 536.0 feet).

Flows required for the walleye spawning season, 300 cfs total flow, also required by License Article 405, will consist of 80 cfs through the weir and the remaining 220 cfs to be released through one of the two existing sluice gates. The flow release through one sluice gate will vary from 220.00 cfs to 223.91 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 536.0 feet).

## Sewalls Development

License Article 405 requires 32 cfs at all times to be released into the north channel bypassed reach; 20 cfs to be provided through a notched section of the dam and 12 cfs from leakage or other mechanisms.

A weir having a length of 3.61 feet and a crest elevation of 461.65 feet will be constructed in the north channel dam and will provide the 20 cfs minimum flow release. The minimum flow release will vary from 20.00 cfs to 28.26 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (dam crest elevation 463.9 feet). The remaining 12 cfs will be provided from leakage.

## **BEEBEE ISLAND PROJECT**

### Beebee Island Development

License Article 404 requires a year round minimum flow of 14 cfs to be released into the south channel. License Article 406 requires the 14 cfs to be released through a pipe in the dam.

Niagara Mohawk is currently negotiating with Knowlton Brothers on utilizing an existing intake to the manufacturing facility, having an existing piping and valve arrangement, to provide the 14 cfs minimum flow release into the south channel. Details of the minimum flow release mechanism will be provided at a later date.

The fish attractant flow of 37 cfs required to be provided seasonally (April 1 through November 30) by License Article 411 will be provided through the existing stoplogged ice chute located along the western side of the powerhouse. A weir having a length of 2.04 feet and a crest elevation of 426.00 feet will be constructed within the existing stoplogs and will provide the 37 cfs



fish attractant flow. The fish attractant flow will vary from 37.00 cfs to 39.76 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 431.0 feet).

The fish conveyance structure proposed herein, differs from the conveyance structure concept developed previously by Niagara Mohawk and Curt Orvis of the United States Fish & Wildlife Service (Service). The proposed structure will use 2+ feet of the existing stoplogged 8 foot wide ice chute. A vertical beam will be installed which will provide support for the remaining stoplogs. The crest elevation of the fish conveyance structure will be the same as the crest elevation of the ogee spillway or elevation 426.00 feet. Timber curbing of varying depth will be installed along the surface of the ogee spillway and extend to the downstream end of the powerhouse, to provide a chute for safe downstream fish passage.

Niagara Mohawk is proposing this approach because the existing stoplogged ice chute is frequently used to pass debris and ice as river conditions dictate. The time of year required for most debris and ice passage generally coincides with the seasonal requirement for downstream fish passage. The remaining area of the ice chute (6.0 feet minus the width of the vertical beam) will be used to pass debris and ice. The original concept called for a flume to be constructed in the center of the ice chute with annual installation and removal. This structure could restrict passage of debris and ice and could be more vulnerable to damage. The predominantly timber structure proposed herein would be more durable and less costly to repair/replace if needed, and will not require annual installation and removal.

#### SCHEDULE FOR BLACK RIVER PROJECT & BEEBEE ISLAND PROJECT

<u>License Article</u>	<u>Flow Release Structure Construction Period</u>
Article 406 (Black River Project) (Herrings, Kamargo, Black River and Sewalls)	September 21, 1998 through December 17, 1998 <sup>1</sup>
Deferiet (Beebee Island)	June 1, 1999 through July 1, 1999 October 1, 1998 through September 30, 1999
<u>License Article</u>	<u>Fish Conveyance Structure Construction Period</u>
Article 411 (Beebee Island)	September 14, 1998 through September 30, 1999

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<sup>1</sup>Dependent on flow and weather conditions, this work may be delayed until 1999 after spring run-off

After installation of the minimum flow release structures, Niagara Mohawk will assess the need for any fish protection and conveyance measures in accordance with the field meeting inspection minutes of June 12, 1997.

### **DISCHARGE CURVES AND TABLES FOR MINIMUM FLOW RELEASE STRUCTURES**

Niagara Mohawk has developed discharge curves and tables using weir equations and orifice equations for the minimum flow release structures, based upon maximum fluctuations as allowed by License Articles 401. These discharge curves and tables for the above noted developments can be found under Attachment 1. The weir crest elevations noted in the tables differ from the elevations shown on the drawings for Kamargo and Black River. These two developments are to be equipped with stoplogs having a weir crest elevation as noted on the tables. These stoplogs can be removed to provide additional flow if necessary.

The facilities for releasing the minimum flow are simple, not relying on mechanical equipment or manual operation which provides for reliable operation. The measures proposed herein would result in the minimum flow requirement being equaled or exceeded at all times.

**ATTACHMENT 1**

**Discharge Curves and Tables for Minimum Flow Release Structures and  
Black River Hydro Sluice Gates for the Black River Project (LP 2569NY).  
Discharge Curve and Table for Beebee Island Fish Conveyance Structure.**

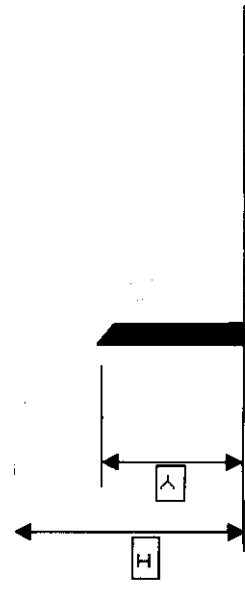
# Herrings Hydro Development Minimum Flow Discharge Weir

Pond Elevation (ft)	Discharge (cfs)
677.50	0.00
677.60	0.22
677.70	0.62
677.80	1.14
677.90	1.75
678.00	2.44
678.02	2.59
678.10	3.20
678.15	3.61
678.20	4.03
678.25	4.46
678.26	4.55
678.27	4.64
678.28	4.73
678.29	4.82
678.30	4.91
678.35	5.37
678.40	5.84
678.50	6.83
678.60	7.85
678.70	8.92
678.80	10.03
678.85	10.60
678.90	11.18
679.00	12.36
679.10	13.57
679.20	14.80
679.25	15.43
679.30	16.07
679.35	16.71
679.40	17.36
679.50	18.67
679.60	20.00
679.70	21.35
679.80	22.71
679.85	23.40
679.90	24.09
680.00	25.48
680.10	26.89

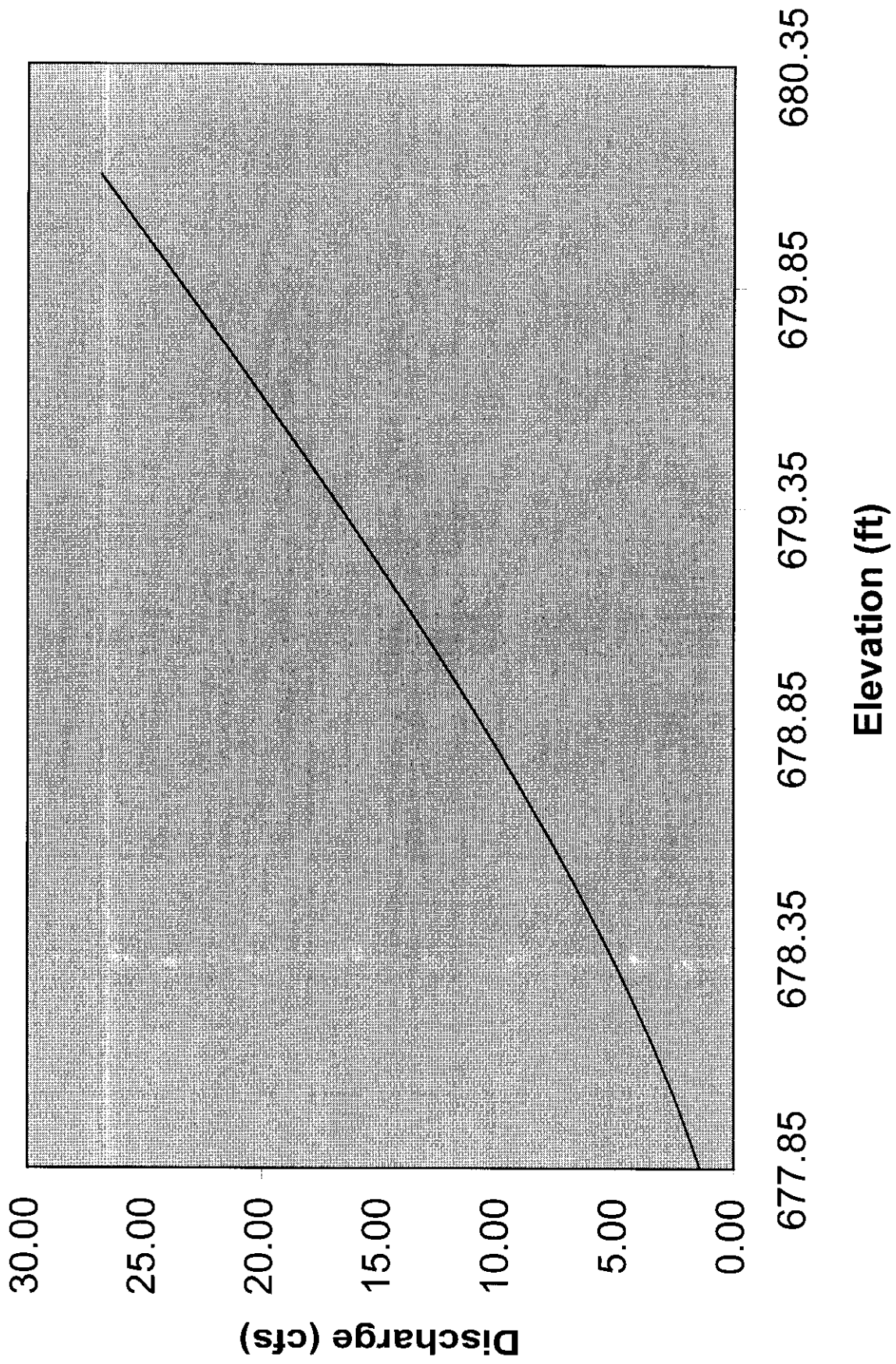
- Rectangular Weir Design
- Top of flashboards 680.10 ft
  - Crest elevation 679.10 ft
  - Maximum allowable pond fluctuation 0.50 ft
  - Normal elevation for design 679.60 ft
  - Weir Crest Elevation 677.50 ft
  - Design head (h) 2.10 ft
  - Crest Elevation Sluice 675.90 ft
  - Weir height (y) 1.60 ft
  - Acceleration due to gravity (g) 32.20 ft/sec<sup>2</sup>
  - Number of end contractions (n) 2.00
  - Required Minimum Flow (Q) 20.00 ft<sup>3</sup>/sec
  - Determine the Rehbock Coefficient (C<sub>1</sub>) 0.710
  - Determine Discharge Coefficient (K) 3.801
  - Weir length (l) 2.15 ft
  - Length of weir g'

Equations used:  
 Taken from Civil Engineering Reference Manual 6<sup>th</sup> Edition  
 Rehbock coefficient  $C_1 = [0.6035 + 0.0813(h/y) + 0.000295/y]$

Discharge coefficient  $K = 2/3 * C_1 * (2 * g)^{0.5}$   
 Effective weir length  $(l_e) = l - (0.1 * n * h)$   
 Discharge Q (cfs)  $Q = K * l_e * h^{1.5}$



Herrings Hydro Development  
Minimum Flow Discharge

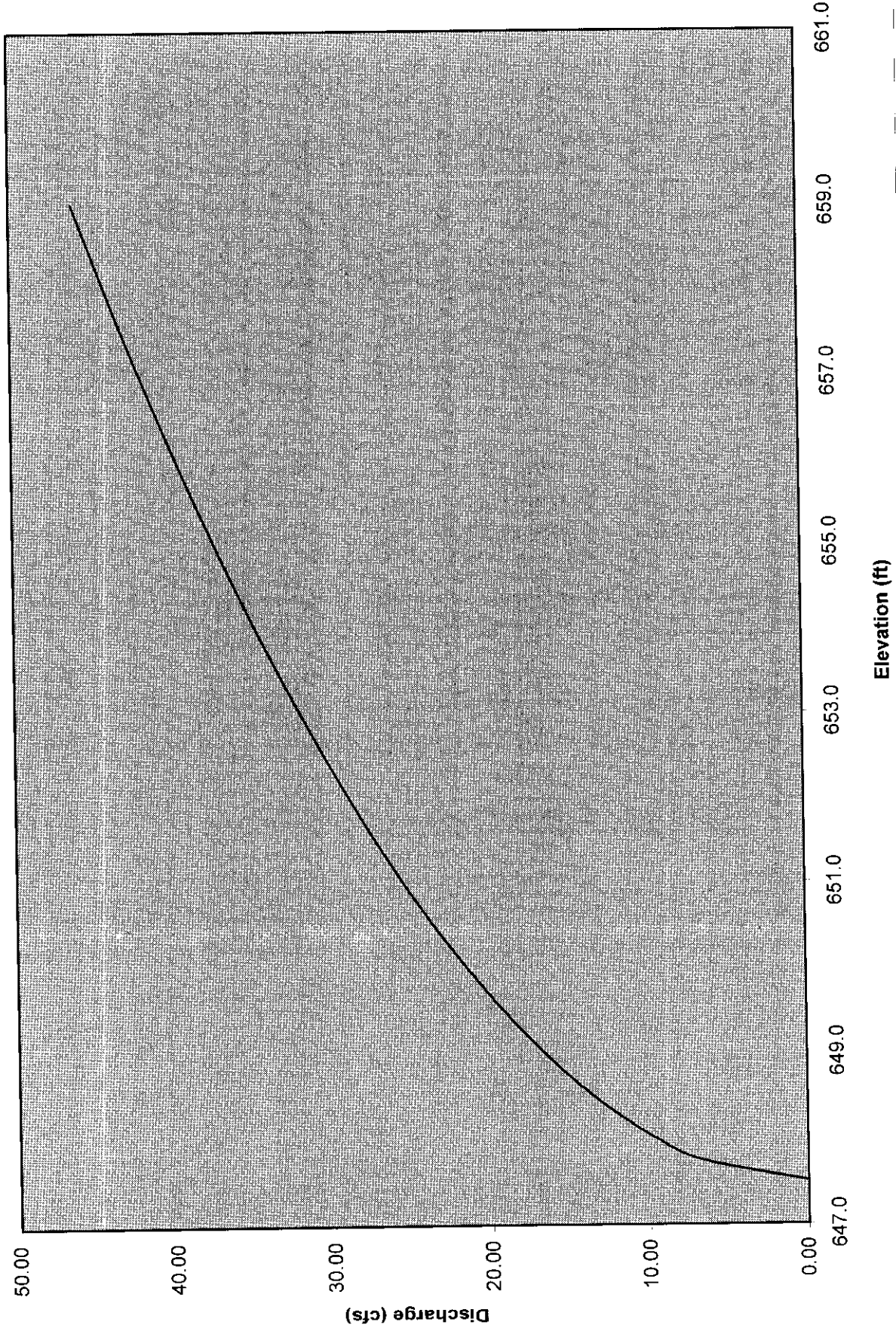


## Deferiet Hydro Development Minimum Flow Discharge

COEFF. OF DISCHARGE (c)*	0.65
* Taken from Table 3.10 pg 3-24 Civil Engineering Reference Manual 6th Edition By Lindeburg 1992	
Discharge area (A)	2.17 ft <sup>2</sup>
Gravity (g)	32.2 ft/sec <sup>2</sup>
Required Minimum Flow	45 ft <sup>3</sup> /sec
Top of Flashboards	659
Dam Crest Elevation	656.0 ft
Centerline of Gate Opening Elevation	647.5 ft
Invert Elevation of Gate Opening	647.0 ft
Maximum draw down below crest	0.5 ft

<u>Pond Elevation</u>	<u>Discharge</u>
647.5	0.00
647.8	6.78
648.0	9.59
648.3	11.75
648.5	13.57
648.8	15.17
649.0	16.62
649.3	17.95
649.5	19.19
649.8	20.35
650.0	21.45
650.3	22.50
650.5	23.50
650.8	24.46
651.0	25.38
651.3	26.27
651.5	27.14
651.8	27.97
652.0	28.78
652.3	29.57
652.5	30.34
652.8	31.09
653.0	31.82
653.3	32.53
653.5	33.23
653.8	33.92
654.0	34.59
654.3	35.25
654.5	35.90
654.8	36.53
655.0	37.16
655.3	37.77
655.5	38.38
655.8	38.97
656.0	39.56
656.3	40.13
656.5	40.70
656.8	41.27
657.0	41.82
657.3	42.37
657.5	42.91
657.8	43.44
658.0	43.97
658.3	44.49
658.5	45.00
658.8	45.51
659.0	46.01

# Deferiet Hydro Development Minimum Flow Discharge



# Kamargo Hydro Development Minimum Flow Discharge Weir

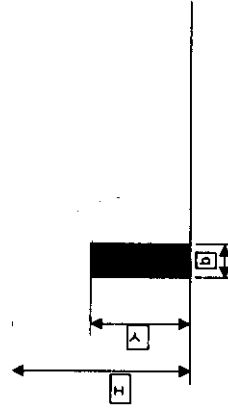
## Rectangular Broad Crested Weir Design

Crest Elevation	561.80 ft
Top of flashboards	563.80 ft
Maximum allowable pond fluctuation	0.50 ft
Normal elevation for design	563.30 ft
Weir crest elevation	558.80 ft
Design head (h)	4.50 ft
Toe of dam	550.00 ft
Dam height (y)	8.80 ft
Acceleration due to gravity (g)	32.20 ft/sec <sup>2</sup>
Number of end contractions (n)	2.00
Required minimum flow (Q)	120.00 ft <sup>3</sup> /sec
Determine Discharge Coefficient (K)	2.65
Weir length (l)	5.64 ft
Breadth of Crest Weir (b)	7.00 ft

## Equations Used:

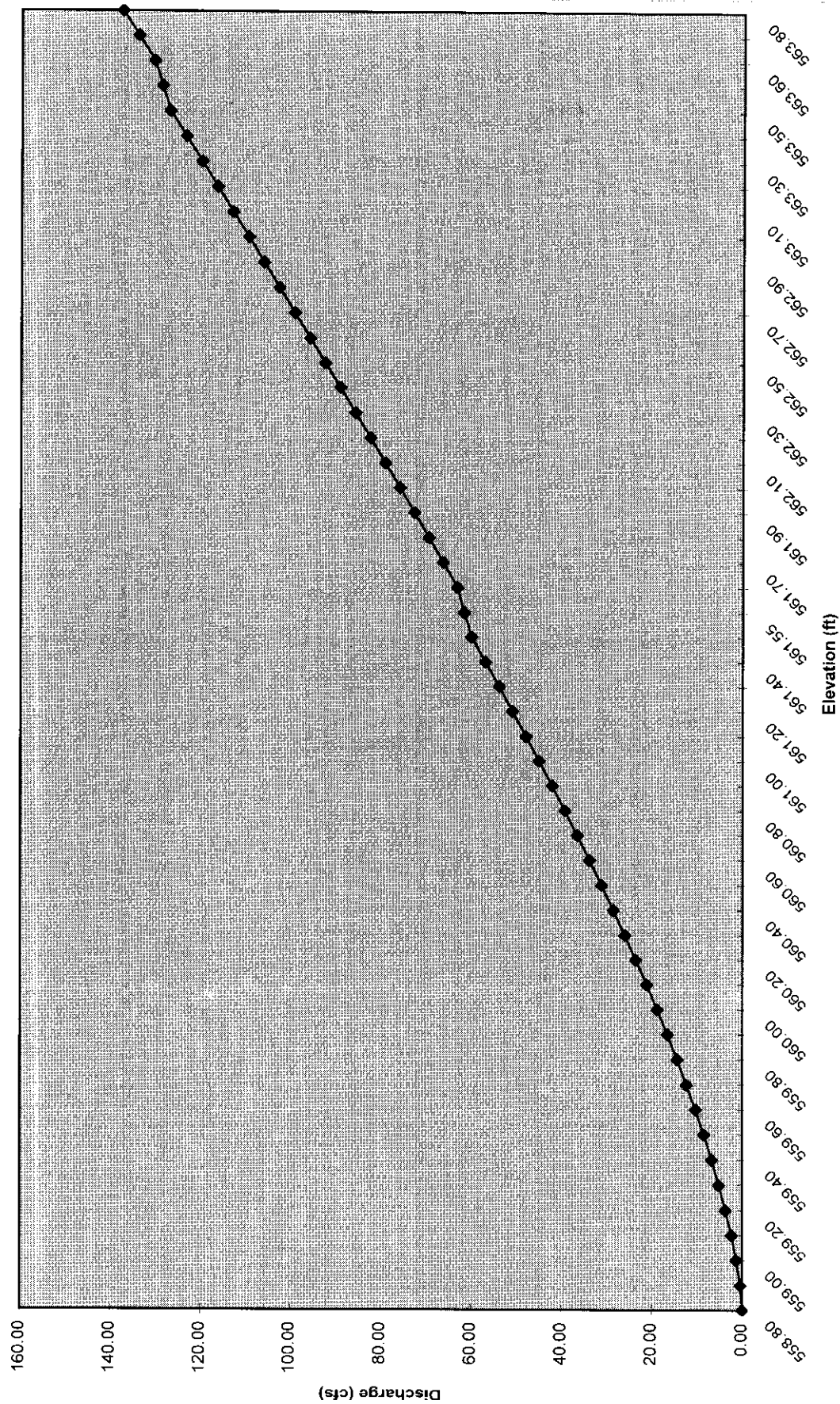
Taken from Civil Engineering Reference Manual  
 Weir length  $l = [Q / (K(h^{3/2})] + (0.1n^2h)$   
 Standard Handbook for Civil Engineers 3rd Edition (pg 21-79)  
 Discharge coefficient  $K=2.65$  taken from Table 21-15

Elevation (ft)	Discharge (cfs)
558.80	0.00
558.90	0.47
559.00	1.33
559.10	2.43
559.20	3.73
559.30	5.19
559.40	6.80
559.50	8.54
559.60	10.40
559.70	12.36
559.80	14.43
559.90	16.58
560.00	18.82
560.10	21.15
560.20	23.55
560.30	26.02
560.40	28.55
560.50	31.15
560.60	33.81
560.70	36.53
560.80	39.30
560.90	42.13
561.00	45.00
561.10	47.92
561.20	50.88
561.30	53.88
561.40	56.92
561.50	60.00
561.55	61.56
561.60	63.12
561.70	66.27
561.80	69.45
561.90	72.66
562.00	75.90
562.10	78.17
562.20	82.46
562.30	85.78
562.40	88.12
562.50	92.49
562.60	95.87
562.70	99.27
562.80	102.69
562.90	106.12
563.00	109.57
563.10	113.03
563.20	116.51
563.30	120.00
563.40	123.50
563.50	127.01
563.55	128.77
563.60	130.53
563.70	134.05
563.80	137.58





# Kamargo Hydro Development Minimum Flow Discharge Weir



## Black River Hydro Development Minimum Flow Discharge Weir

	Pond Elevation (ft)	Discharge (cfs)
534.00 ft	532.00	0.00
536.00 ft	532.10	0.45
0.50 ft	532.20	1.26
535.50 ft	532.30	2.31
532.00 ft	532.40	3.54
3.50 ft	532.50	4.93
512.20 ft	532.60	6.45
19.80 ft	532.70	8.10
32.20 ft/sec <sup>2</sup>	532.80	9.85
2.00	532.90	11.71
80.00 ft <sup>3</sup> /sec	533.00	13.66
0.618	533.10	15.69
3.306	533.20	17.80
4.40 ft	533.30	19.99
	533.40	22.25
	533.50	24.57
	533.60	26.95
	533.70	29.40
	533.80	31.89
	533.90	34.44
	534.00	37.03
	534.10	39.67
	534.20	42.35
	534.30	45.07
	534.40	47.83
	534.50	50.62
	534.60	53.45
	534.70	56.31
	534.80	59.20
	534.89	61.82
	534.90	62.12
	535.00	65.06
	535.10	68.02
	535.14	69.22
	535.20	71.01
	535.30	74.02
	535.40	77.05
	<b>535.50</b>	<b>80.09</b>
	535.60	83.15
	535.70	86.23
	535.80	89.31
	535.90	92.41
	<b>536.00</b>	<b>95.52</b>

### Rectangular Weir Design

- Crest Elevation
- Top of flashboards
- Maximum allowable pond fluctuation
- Normal elevation for design
- Weir Crest Elevation
- Design head (h)
- Toe of dam
- Dam height (y)
- Acceleration due to gravity (g)
- Number of end contractions (n)
- Required Minimum Flow (Q)
- Determine the Rehbock Coefficient (C<sub>r</sub>)
- Determine Discharge Coefficient (K)
- Weir length (l)

### Equations used:

Taken from Civil Engineering Reference Manual 6<sup>th</sup> Edition

Rehbock coefficient  $C_r = [0.6035 + 0.0813(h/y) + 0.000295/y]$

Discharge coefficient  $K = 2/3 * C_r * (2 * g)^{0.5}$

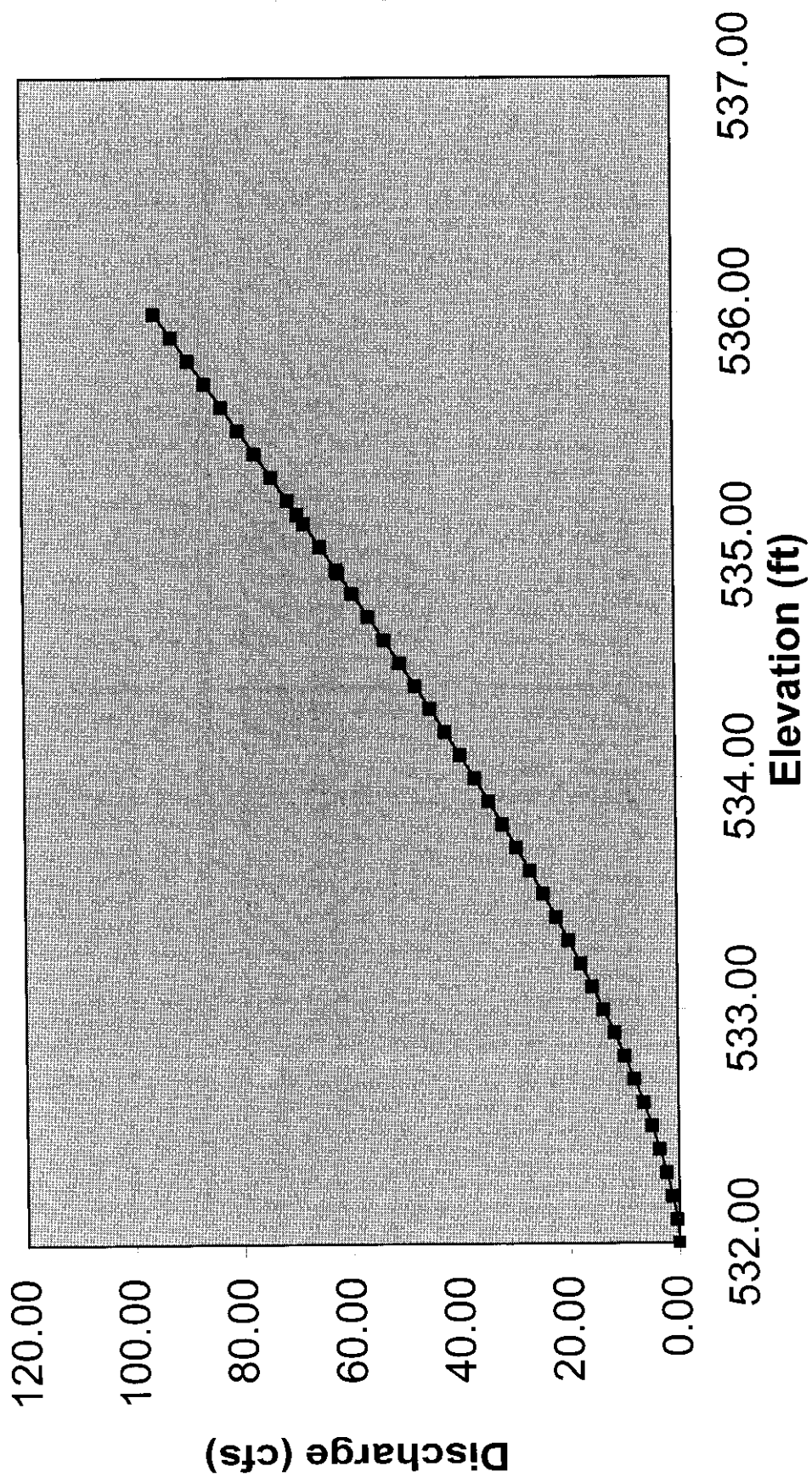
Effective weir length  $(l_e) = l - (0.1 * n * h)$

Discharge Q (cfs)  $Q = K * l_e * h^{1.5}$



**Black River Hydro Development  
Minimum Flow Discharge Weir**

**Discharge (cfs)**



## Black River Hydro Development Spawning Flows

### ORIFICE DISCHARGE

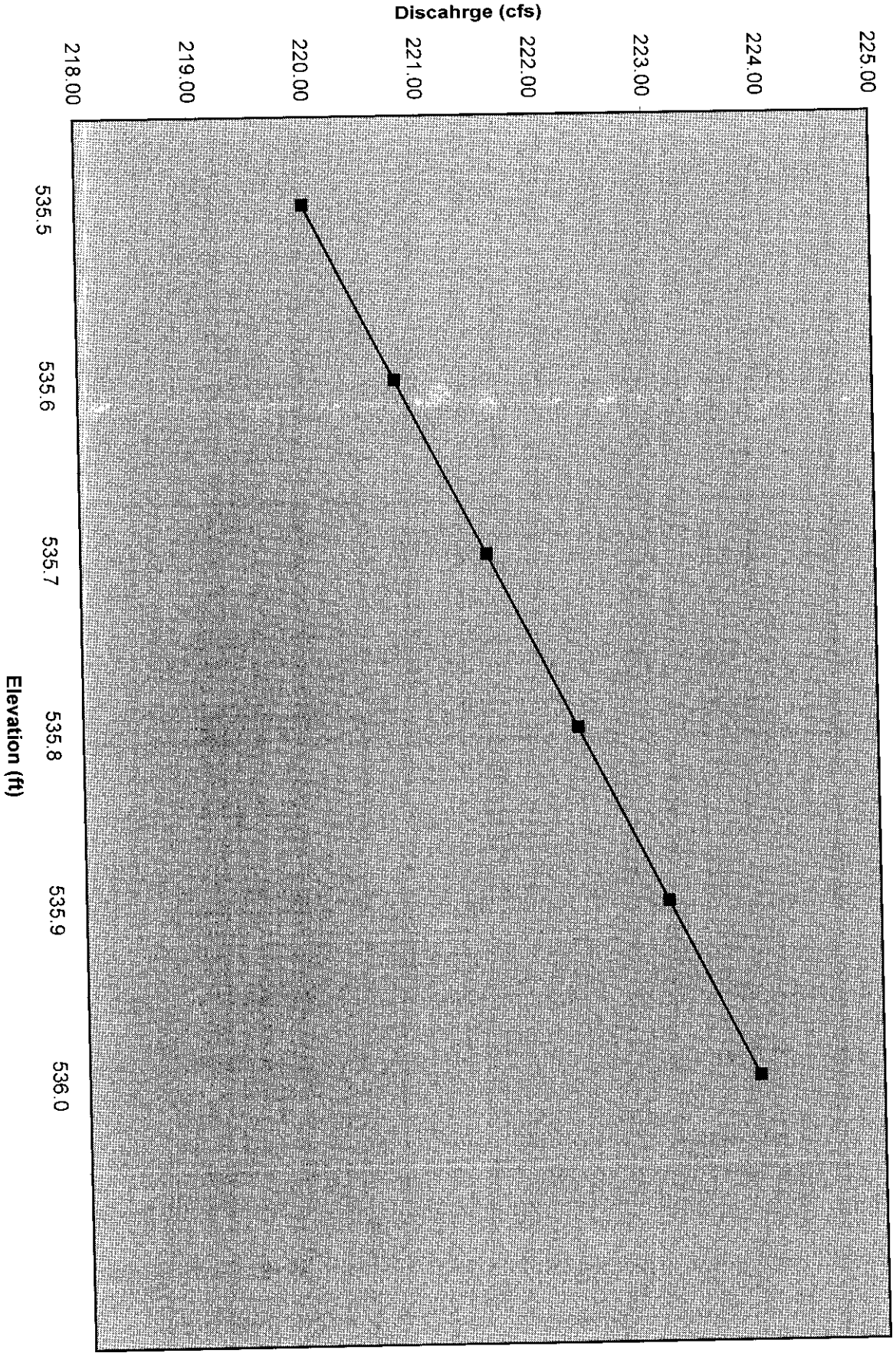
COEFF. OF DISCHAR      0.72

\* Taken from United States Department of the Interior Desing of Gavity Dams

Discharge area (A)	9.621 ft <sup>2</sup>	1.069 high by 9 wide
Gravity (g)	32.2 ft/sec <sup>2</sup>	
Top of Flashboards	536.0 ft	
Invert Elevation of Gat	521.0 ft	
Centerline of Gate Ope	521.5 ft	
Maximum draw down b	0.5 ft	
Head (Z) to centerline	13.966 ft	
Velocity	$V = ((2gZ)/(1+c))^{0.5}$	
Discharge	Q=VA	

<u>Elevation</u>	<u>Discharge</u>
535.5	220.00
535.6	220.79
535.7	221.57
535.8	222.35
535.9	223.13
536.0	223.91

# Black River Hydro Development Spawning Flow Discharge



# Sewalls Hydro Development

## Minimum Flow Discharge Weir

Rectangular Broad Crested Weir Design

	Elevation (ft)	Discharge (cfs)
Crest Elevation	461.65	0.00
Top of flashboards	461.75	0.30
Maximum allowable pond fluctuation	461.85	0.85
Normal elevation for design	461.95	1.55
Weir crest elevation	462.05	2.37
Design head (h)	462.15	3.29
Toe of dam	462.25	4.30
Dam height (y)	462.35	5.39
Acceleration due to gravity (g)	462.45	6.54
Number of end contractions (n)	462.55	7.76
Required minimum flow (Q)	462.65	9.04
Breadth of Crest Weir (b)	462.75	10.36
Determine discharge coefficient ( K)	462.85	11.74
Determine the required weir length (l)	462.95	13.16
Determine the effective weir length (le)	463.05	14.62
	463.15	16.11
	463.25	17.65
	463.35	19.21
	<b>463.40</b>	<b>20.00</b>
	463.45	20.80
	463.55	22.42
	463.65	24.06
	463.75	25.73
	463.85	27.41
	<b>463.90</b>	<b>28.26</b>

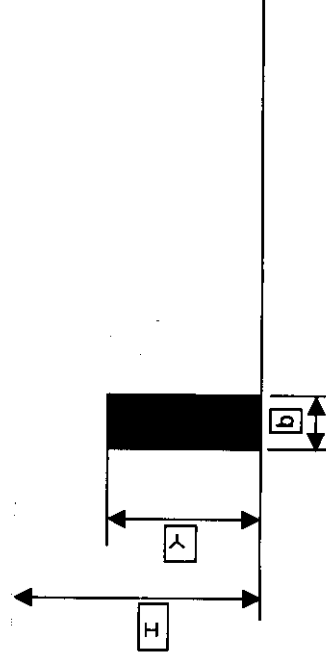
Equations used:

Taken from Civil Engineering Reference Manual

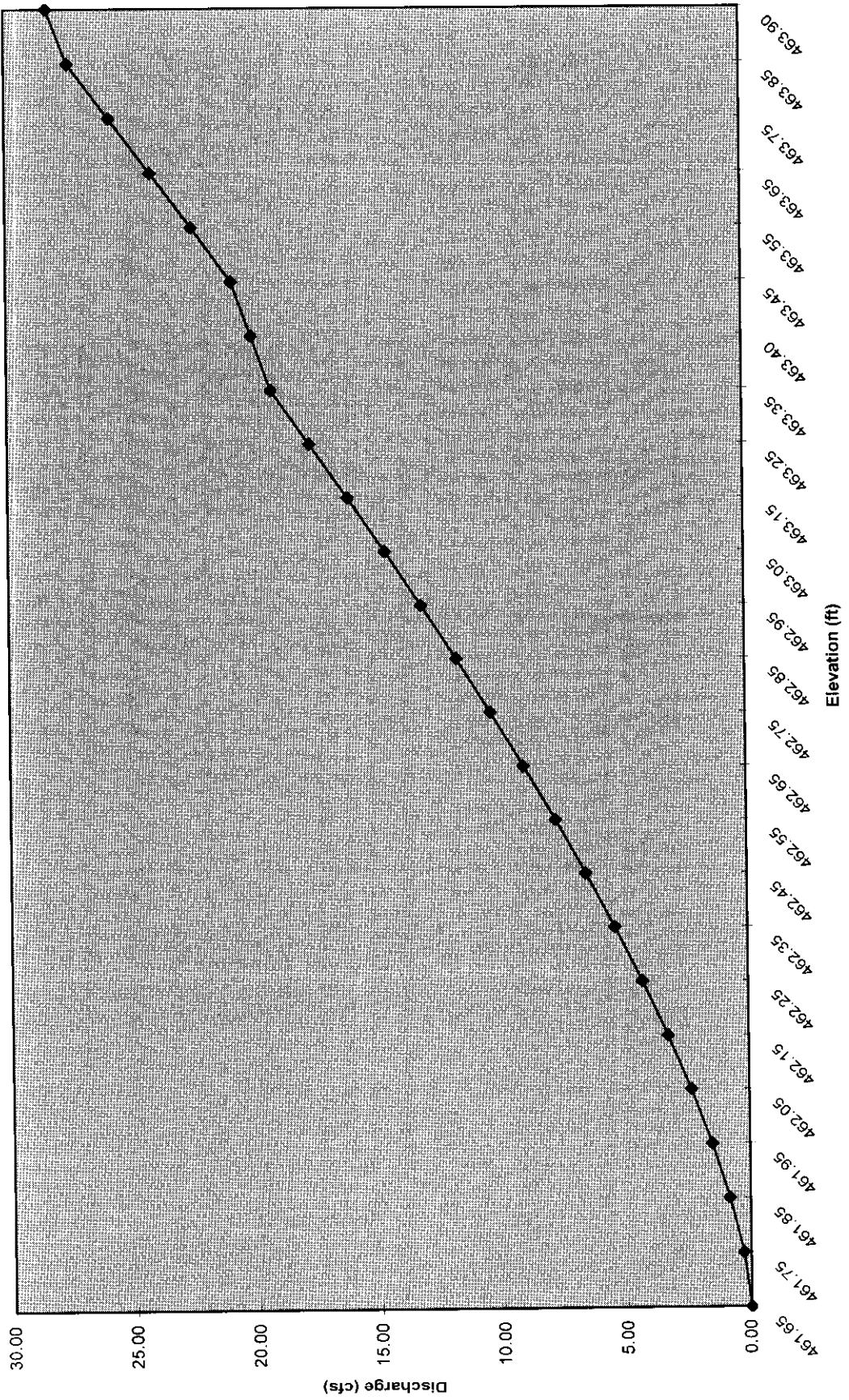
Weir length  $l = [Q / (Kh^{1.5})] + (0.1 * n * h)$

Standard Handbook for Civil Engineers 3rd Edition (pg 21-79)

Discharge coefficient  $K=2.65$  taken from Table 21-15



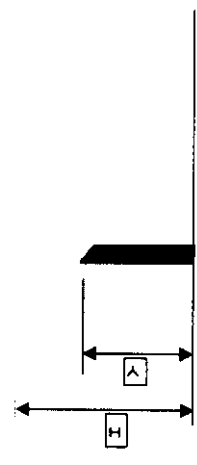
**Sewalls Hydro Development  
Minimum Flow Discharge Weir**



**Beebee Island Hydro Development  
Fish Attractant Flow Discharge**

<b>Rectangular Weir Design</b>	
Crest Elevation	428.00 ft
Top of flashboards	431.00 ft
Maximum allowable pond fluctuation	0.50 ft
Normal elevation for design	430.50 ft
Weir Crest Elevation	426.00 ft
Design head (h)	4.50 ft
Toe of dam	11.00 ft
Dam height (y)	32.20 ft/sec <sup>2</sup>
Acceleration due to gravity (g)	2.00
Number of end contractions (n)	37.00 ft <sup>3</sup> /sec
Required Fish Attractant Flow (Q)	0.64
Determine the Rehbock Coefficient (C <sub>1</sub> )	3.41
Determine Discharge Coefficient (K)	2.04 ft
Weir length (l)	

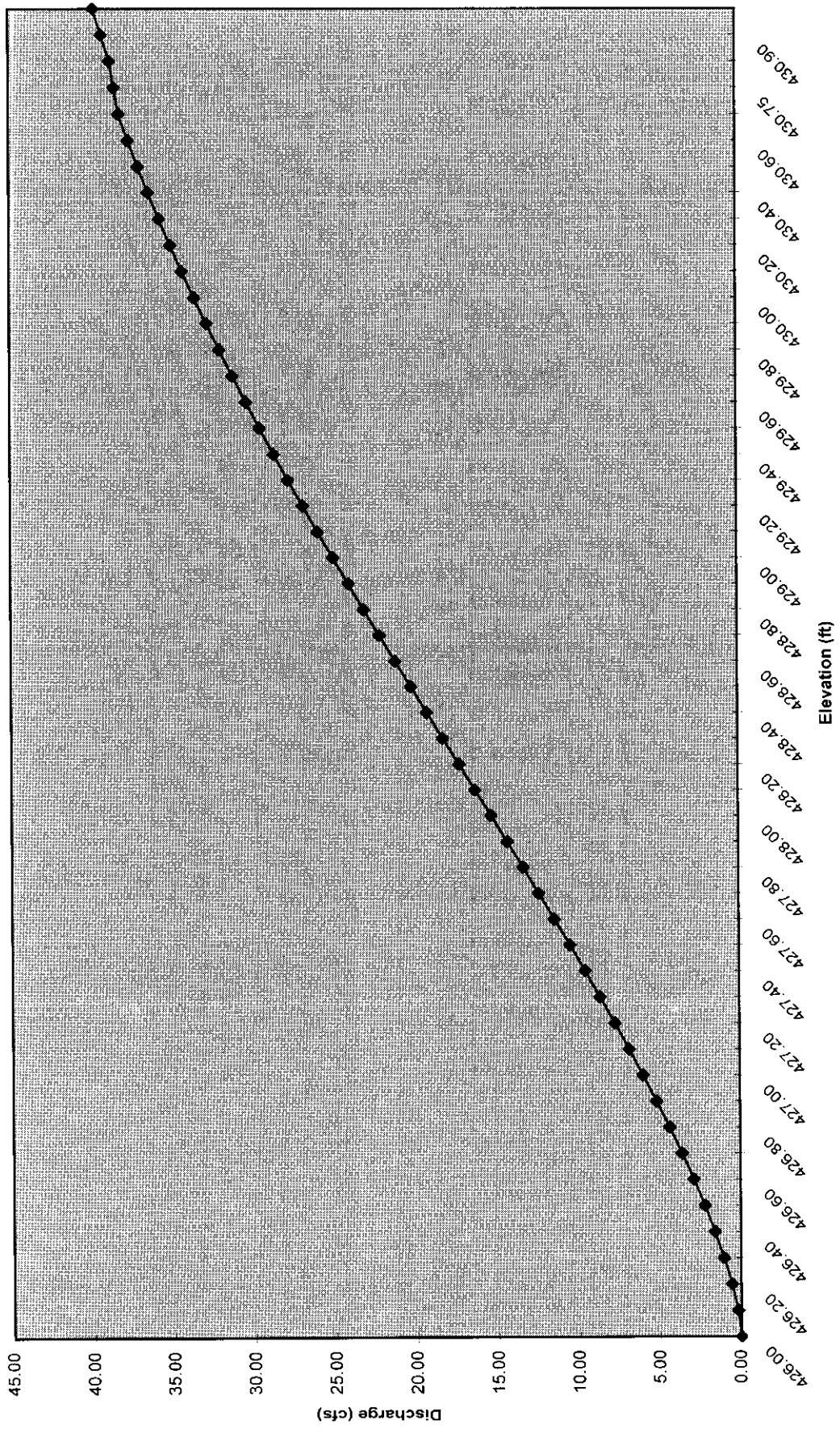
**Equations used:**  
 Taken from Civil Engineering Reference Manual 6<sup>th</sup> Edition  
 Rehbock coefficient  $C_1 = [0.6035 + 0.0813(n/y) + 0.000295/y]$   
 Discharge coefficient  $K = 2/3 * C_1 * (2g)^{0.5}$   
 Effective weir length (L)  $L_e = l - (0.1 * n * h)$   
 Discharge Q (cfs)  $Q = K * L_e * h^{1.5}$



Pond Elevation (ft)	Discharge (cfs)
426.00	0.00
426.10	0.21
426.20	0.58
426.30	1.05
426.40	1.61
426.50	2.23
426.60	2.90
426.70	3.62
426.80	4.38
426.90	5.18
427.00	6.01
427.10	6.86
427.20	7.74
427.30	8.64
427.40	9.56
427.50	10.50
427.60	11.45
427.70	12.40
427.80	13.37
427.90	14.35
428.00	15.32
428.10	16.31
428.20	17.29
428.30	18.27
428.40	19.25
428.50	20.23
428.60	21.20
428.70	22.16
428.80	23.12
428.90	24.07
429.00	25.01
429.10	25.93
429.20	26.85
429.30	27.75
429.40	28.63
429.50	29.50
429.60	30.34
429.70	31.17
429.80	31.96
429.90	32.77
430.00	33.54
430.10	34.28
430.20	35.00
430.30	35.69
430.40	36.36
<b>430.50</b>	<b>37.00</b>
430.60	37.61
430.70	38.19
430.75	38.47
430.80	38.75
430.90	39.27
<b>431.00</b>	<b>39.76</b>



# Beebee Island Hydro Development Fish Attractant Flow Discharge



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SHEET  
NUMBER  
DRAWING  
NUMBER  
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# BLACK RIVER MINIMUM FLOW

## HYDRO DEVELOPMENTS

BEEBEE ISLAND HYDRO DEVELOPMENT  
 SEWALLS HYDRO DEVELOPMENT  
 KAMARGO HYDRO DEVELOPMENT  
 BLACK RIVER HYDRO DEVELOPMENT  
 DEFERIET HYDRO DEVELOPMENT  
 HERRINGS HYDRO DEVELOPMENT

LOCATED ON THE BLACK RIVER  
 COUNTY OF JEFFERSON

REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION

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# BLACK RIVER PROJECT FLOW STRUCTURES

## DRAWING INDEX

DRAWING NUMBER	TITLE
D-54114-C	BEEBEE ISLAND DEVELOPMENT - NEW MINIMUM FLOW WEIR SITE PLAN, & ELEVATION
D-54115-C	BEEBEE ISLAND DEVELOPMENT - NEW MINIMUM FLOW WEIR ENLARGED PLAN, SECTIONS & DETAILS
D-54116-C	SEWALLS HYDRO DEVELOPMENT - NEW MINIMUM FLOW WEIR GENERAL SITE PLAN
D-54117-C	SEWALLS HYDRO DEVELOPMENT - NEW MINIMUM FLOW WEIR PLAN, SECTIONS & DETAILS
D-54118-C	KAMARGO HYDRO DEVELOPMENT - NEW MINIMUM FLOW WEIR SITE PLAN AND DETAIL
D-54119-C	KAMARGO HYDRO DEVELOPMENT - NEW MINIMUM FLOW WEIR PLAN, SECTIONS & DETAILS
D-54120-C	BLACK RIVER HYDRO DEVELOPMENT - NEW MINIMUM FLOW WEIR PLAN, SECTIONS & DETAILS
D-54121-C	DEFERIET HYDRO DEVELOPMENT - NEW MINIMUM FLOW WEIR AT FLOODGATE STRUCTURE - PLAN, & SECTIONS
D-54122-C	HERRINGS HYDRO DEVELOPMENT - NEW MINIMUM FLOW WEIR SITE PLAN
D-54123-C	HERRINGS HYDRO DEVELOPMENT - NEW MINIMUM FLOW WEIR PLAN, SECTIONS & DETAILS

DES. APPROVED	<b>NIAGARA MOHAWK</b>	BLACK RIVER PROJECTS	DATE
DR. APPROVED		NEW MINIMUM FLOW WEIRS	DATE
CK. APPROVED			DATE
APP. APPROVED		ACCOUNT NUMBER	DATE

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0-PT119-D

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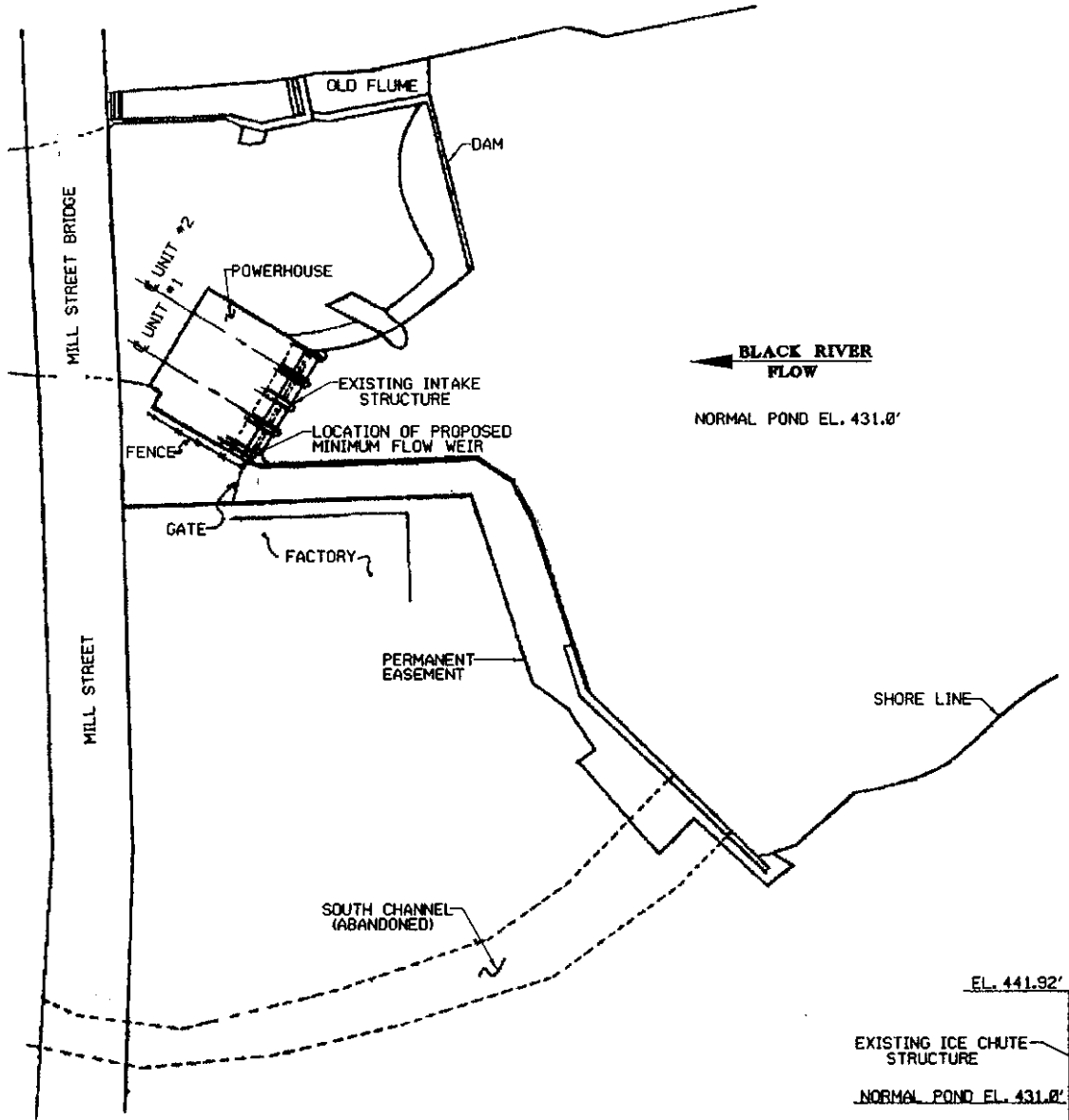
3

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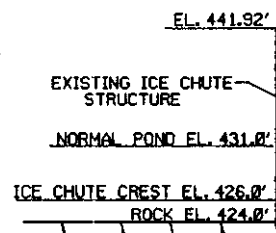
LEGEND  
DRAWING



BLACK RIVER FLOW

NORMAL POND EL. 431.0'

GENERAL PLAN  
SCALE 1" = 50'



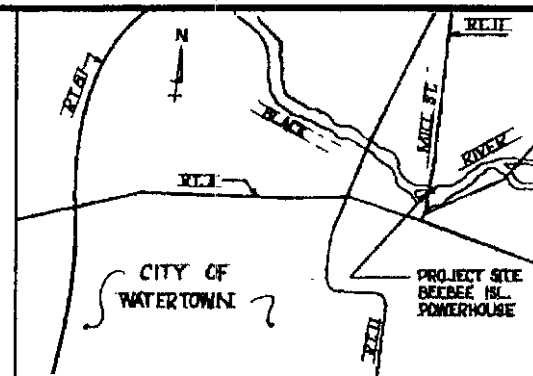
POWERHOUSE SECTIONS	10568												
POWERHOUSE-FLOOR PLAN ABOVE EL. 428.0'	10567												
REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION			

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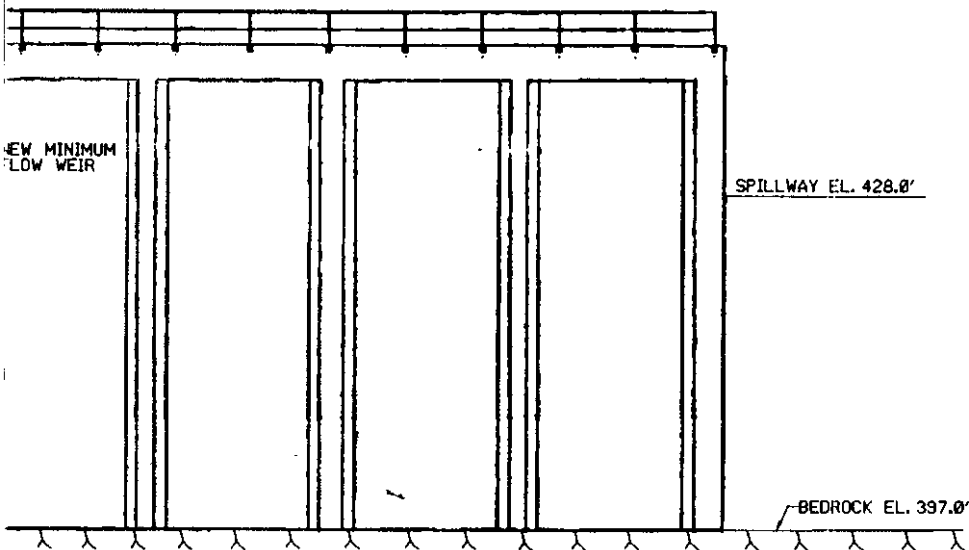


**PROJECT LOCATION MAP**  
**U.S.G.S. WATERTOWN QUAD.**  
 SCALE 1"=1000'

**GENERAL NOTES**

ALL WORK AND MATERIALS SHALL CONFORM TO NMPC SPECIFICATION NO. 98-012 AND THE FOLLOWING:

- 1.) THE VENDOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS, AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO ANY FABRICATION AND/OR CONSTRUCTION.
- 2.) ALL STRUCTURAL STEEL SHAPES SHALL BE ASTM-A36 STEEL. ALL FABRICATION SHALL BE DONE IN ACCORDANCE WITH AISC (LATEST EDITION EDITION). ALL WELDING OF STRUCTURAL STEEL SHALL CONFORM TO AWS D1.1 (LATEST EDITION).
- 3.) BOLTS, NUTS, AND WASHERS SHALL CONFORM TO ASTM A325 GRADE B, AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 (UNLESS OTHERWISE NOTED).
- 4.) THE VENDOR SHALL FURNISH AND INSTALL TREATED 6"x6" STOPLOGS UPON COMPLETION OF THE WORK. ALL LUMBER SHALL BE "WOLMANIZED" PRESSURE TREATED LUMBER, WITH AN AWPA C2 CLASSIFICATION. THE LUMBER SHALL BE TREATED WITH WOLMAN CCA CHEMICALS WITH A RETENSION OF 0.60 LBS/CF PER AWPA STANDARD AND BUILDING CODE RETENTION REQUIREMENTS.



**ELEVATION OF INTAKE LOOKING UPSTREAM**

SCALE: 1/8" = 1'-0"

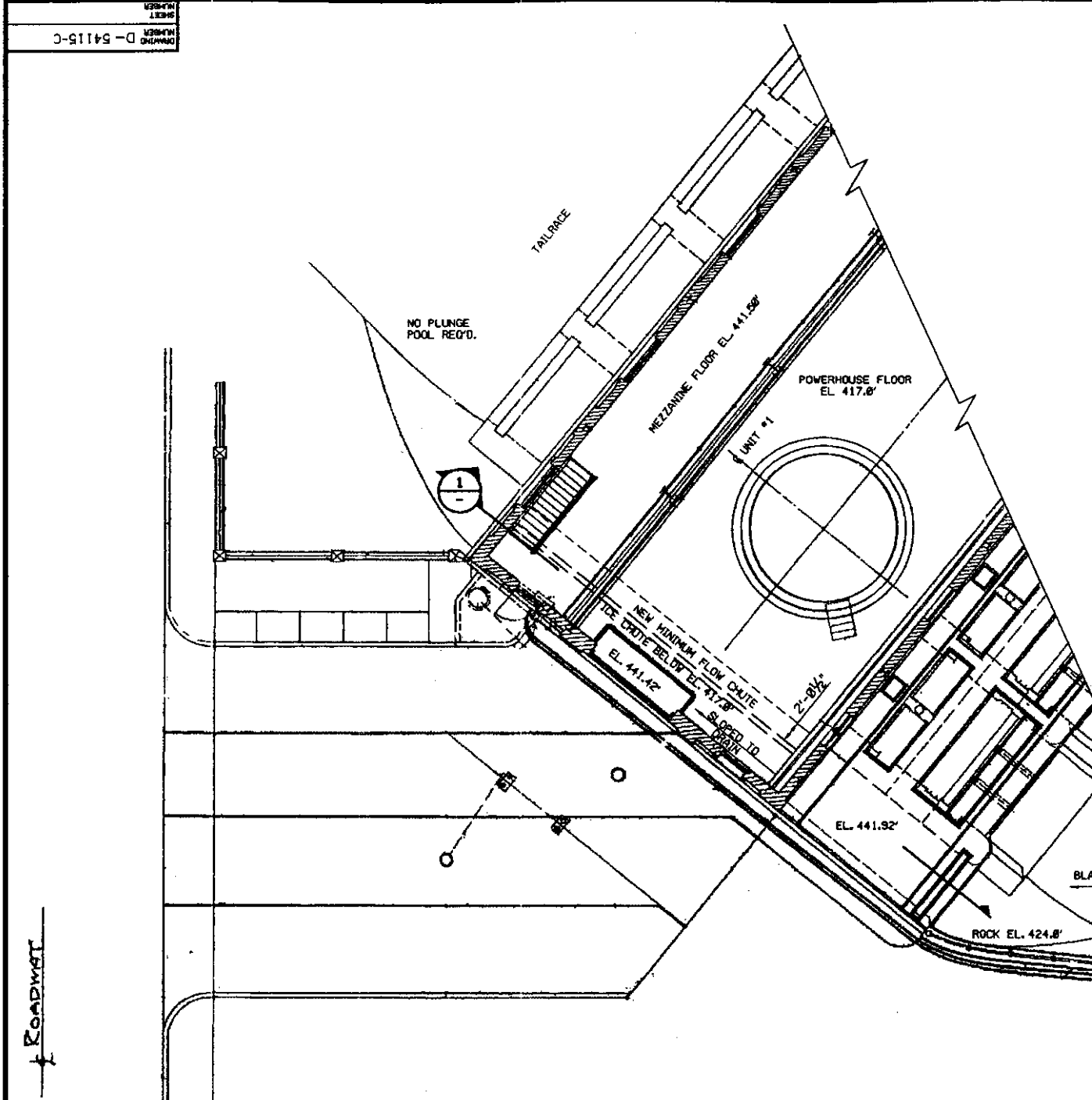
PR \*1499

DES/DR R.P.C. APPROVED		BEEBEE ISLAND HYDRO DEVELOPMENT		DES/DR DR. 2-0-B18-H3
		NEW MINIMUM FLOW WEIR		DES/DR D-54114-C
DR. C.L. APPROVED	ACCOUNT NUMBER 145.18-71237-908888-2208	SITE PLAN & ELEVATION		DES/DR

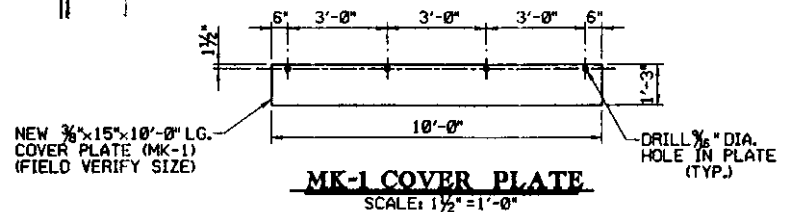
A B C D

DRAWING NO. D-54115-C  
 SHEET 1

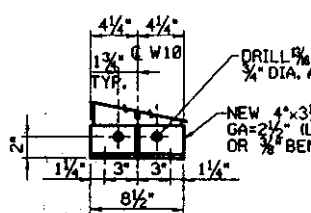
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**PLAN ABOVE 441.50'**  
 SCALE: 1/8" = 1'-0"



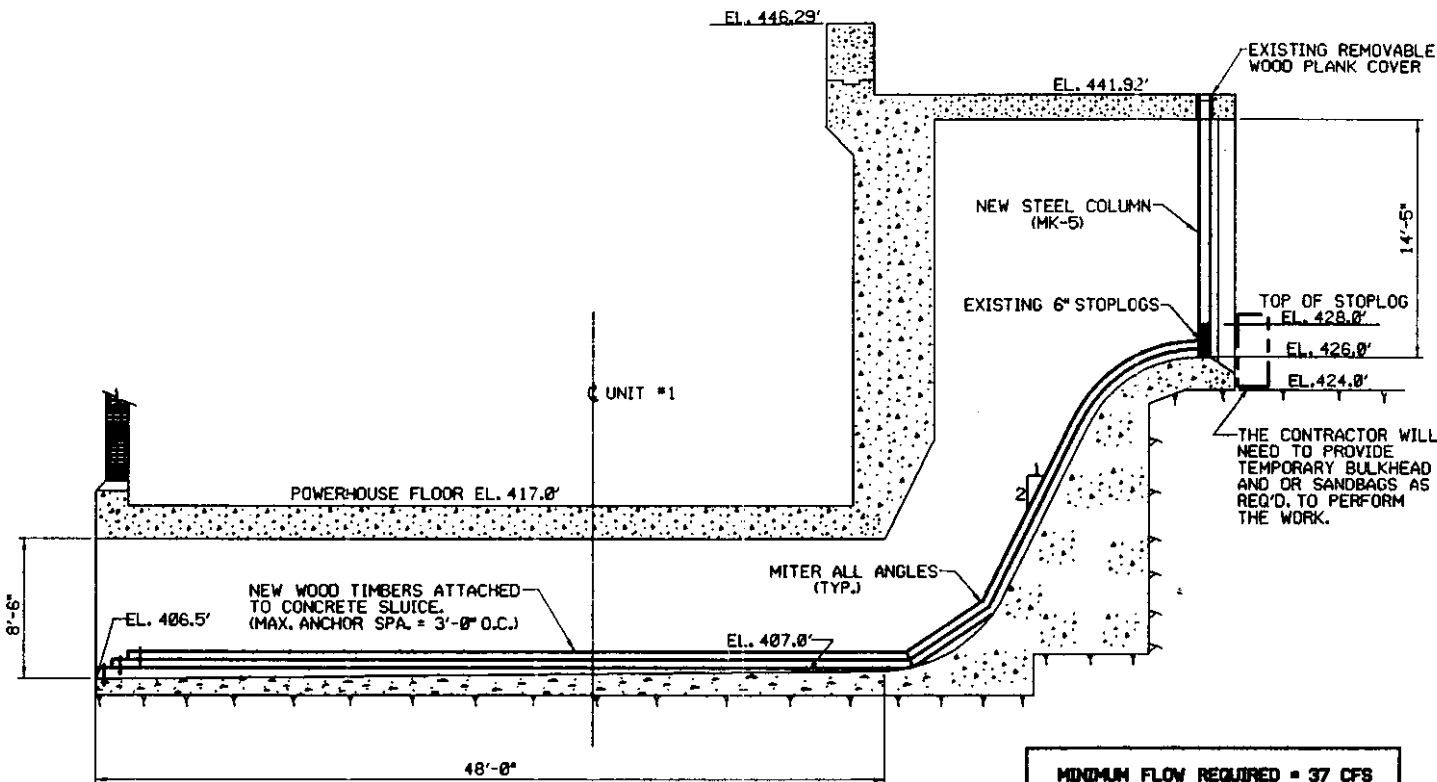
**MK-1 COVER PLATE**  
 SCALE: 1 1/2" = 1'-0"



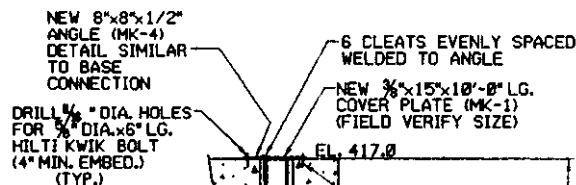
**MK-2 COLUMN TO ANGLE I**  
 SCALE: 1 1/2" = 1'-0"

POWERHOUSE- FLOOR PLAN ABOVE EL. 428.0	10567																		
POWERHOUSE SECTIONS	10568																		
REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION									

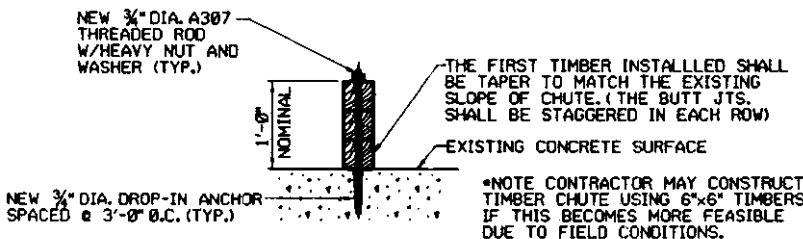
A B C D



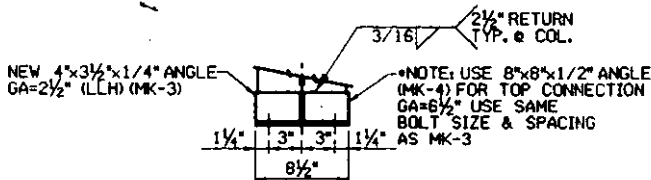
**1 SECTION THRU ICE CHUTE**  
SCALE: 1/8" = 1'-0"



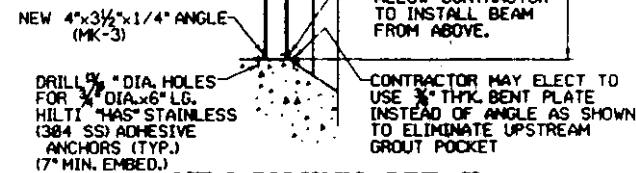
**MK-5 COLUMN DETAIL**  
SCALE: 1/8" = 1'-0"



**TYPICAL CHUTE ANCHORING DETAIL**  
SCALE: 1" = 1'-0"



**MK-3 COLUMN TO ANGLE DETAIL (DOWNSTREAM)**  
SCALE: 1 1/2" = 1'-0"



DIA. FOR 125 BOLTS

1/4" ANGLE (MK-2) PLATE

DETAIL (UPSTREAM)

DESIGNED BY	APPROVED
DR. P. C.	APPROVED
CL.	APPROVED
BL.	APPROVED
CL.	APPROVED
MP.	APPROVED

**NIAGARA MOHAWK**

ACCOUNT NUMBER 145.18-71237-00000-2200

BEBEE ISLAND HYDRO DEVELOPMENT	DATE
NEW MINIMUM FLOW WEIR	05-20-B18-H2
ENLARGED PLAN SECTIONS AND DETAILS	REV D-54115-C

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PROJECT LIST
DRAWING NUMBER
D-54116-C

1

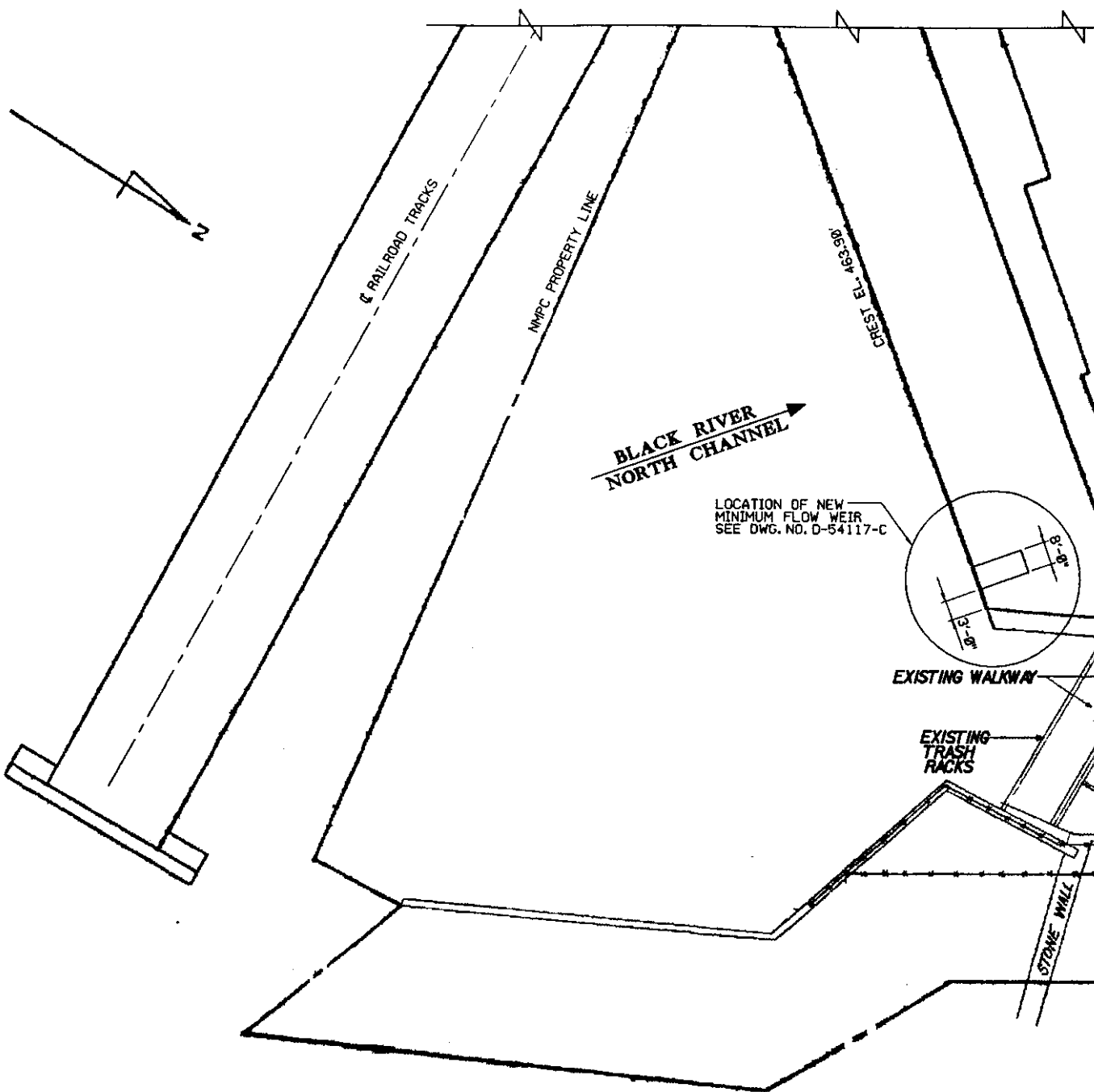
2

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NOTE: ELEVATION SHOWN ARE CITY DATUM  
TO OBTAIN U.S.G.S. ADD 0.6' BASED ON  
1978 N.M.P.C. SURVEY.

REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CL.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION

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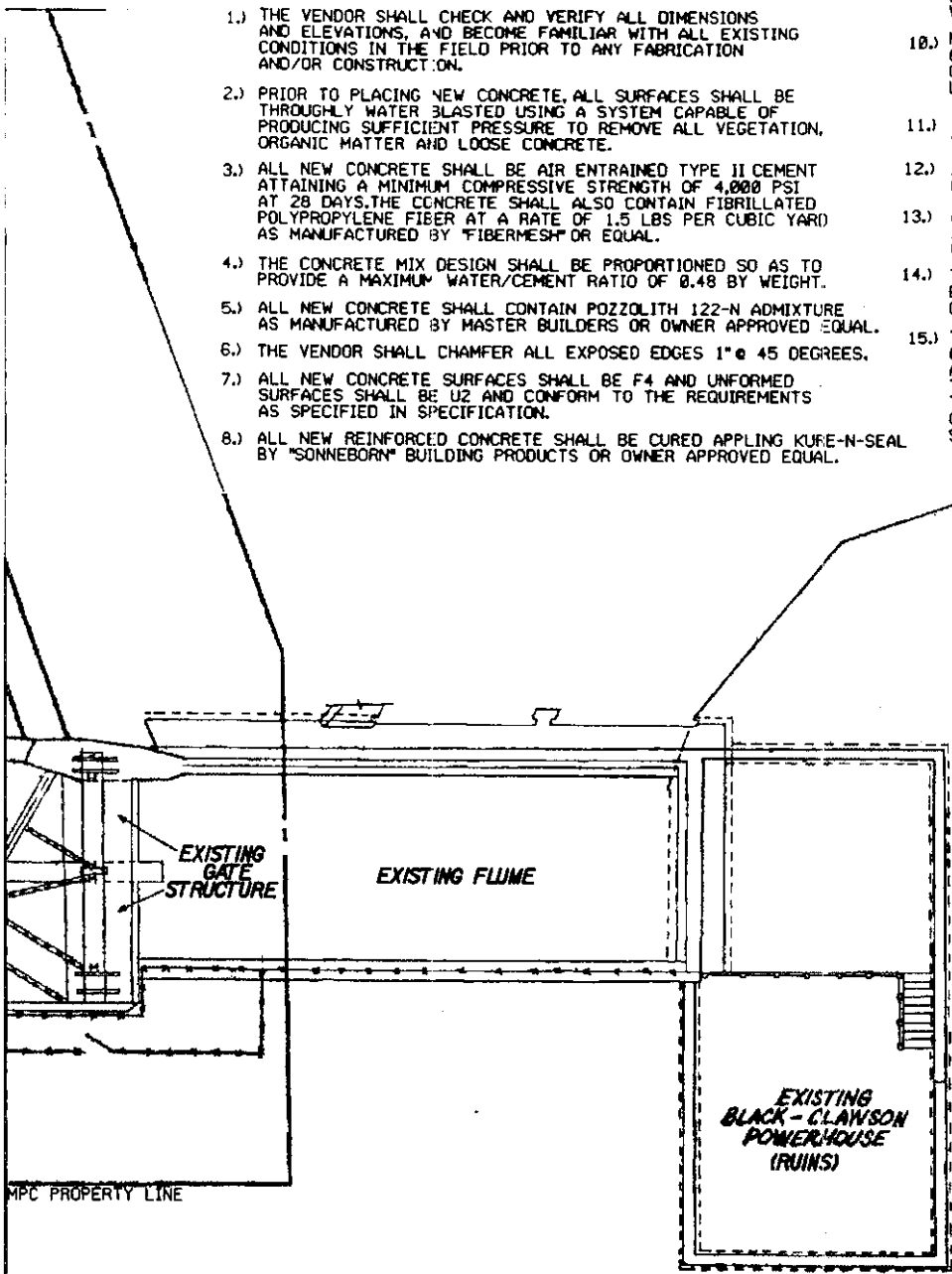


**GENERAL NOTES**

ALL WORK AND MATERIALS SHALL CONFORM TO NMPC SPECIFICATION NO. 38-812 AND THE FOLLOWING:

- 1.) THE VENDOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS, AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO ANY FABRICATION AND/OR CONSTRUCTION.
- 2.) PRIOR TO PLACING NEW CONCRETE, ALL SURFACES SHALL BE THOROUGHLY WATER BLASTED USING A SYSTEM CAPABLE OF PRODUCING SUFFICIENT PRESSURE TO REMOVE ALL VEGETATION, ORGANIC MATTER AND LOOSE CONCRETE.
- 3.) ALL NEW CONCRETE SHALL BE AIR ENTRAINED TYPE II CEMENT ATTAINING A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. THE CONCRETE SHALL ALSO CONTAIN FIBRILLATED POLYPROPYLENE FIBER AT A RATE OF 1.5 LBS PER CUBIC YARD AS MANUFACTURED BY "FIBERMESH" OR EQUAL.
- 4.) THE CONCRETE MIX DESIGN SHALL BE PROPORTIONED SO AS TO PROVIDE A MAXIMUM WATER/CEMENT RATIO OF 0.48 BY WEIGHT.
- 5.) ALL NEW CONCRETE SHALL CONTAIN POZZOLITH 122-N ADMIXTURE AS MANUFACTURED BY MASTER BUILDERS OR OWNER APPROVED EQUAL.
- 6.) THE VENDOR SHALL CHAMFER ALL EXPOSED EDGES 1" @ 45 DEGREES.
- 7.) ALL NEW CONCRETE SURFACES SHALL BE F4 AND UNFORMED SURFACES SHALL BE U2 AND CONFORM TO THE REQUIREMENTS AS SPECIFIED IN SPECIFICATION.
- 8.) ALL NEW REINFORCED CONCRETE SHALL BE CURED APPLYING KURE-N-SEAL BY "SONNEBORN" BUILDING PRODUCTS OR OWNER APPROVED EQUAL.

- 9.) ALL DOWELS TO BE GROUTED USING 1:1 SAND/TYPE II CEMENT MIX BY VOLUME. WATER CONTENT SHALL BE VARIED TO ASSURE MIN. SHRINKAGE AND PROPER ADHESION.
- 10.) MINIMUM YIELD STRENGTH OF REINFORCING STEEL SHALL BE 60,000 PSI CONFORMING TO ASTM A-615 GRADE 60. ALL BENDING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI STANDARDS.
- 11.) ALL REINFORCING BAR SPLICES AND EMBEDMENTS TO BE (4Ø) BAR DIAMETERS UNLESS OTHERWISE NOTED.
- 12.) ALL STEEL REINFORCING SHALL HAVE A MINIMUM OF 4" COVER UNLESS NOTED OTHERWISE.
- 13.) ALL MATERIALS AND OR DEBRIS SHALL BE DISPOSED OF IN AN ORDERLY, ENVIRONMENTALLY SOUND MANNER UPLAND OFF THE OWNERS PROPERTY, UNLESS OTHERWISE NOTED.
- 14.) THE VENDOR SHALL USE "ECOSLIP" AS MANUFACTURED BY EUCLID CHEMICAL OR OWNER APPROVED EQUAL FOR CONCRETE FORM RELEASE.
- 15.) THE VENDOR SHALL FURNISH AND INSTALL TREATED 6"x6" STOPLOGS UPON COMPLETION OF THE WORK. ALL LUMBER SHALL BE "WOLMANIZED" PRESSURE TREATED LUMBER, WITH AN AWPA C2 CLASSIFICATION. THE LUMBER SHALL BE TREATED WITH WOLMAM CCA CHEMICALS WITH A RETENSION OF 0.60 LBS/CF PER AWPA STANDARD AND BUILDING CODE RETENSION REQUIREMENTS



PLAN  
SCALE 1/32" = 1'-0"

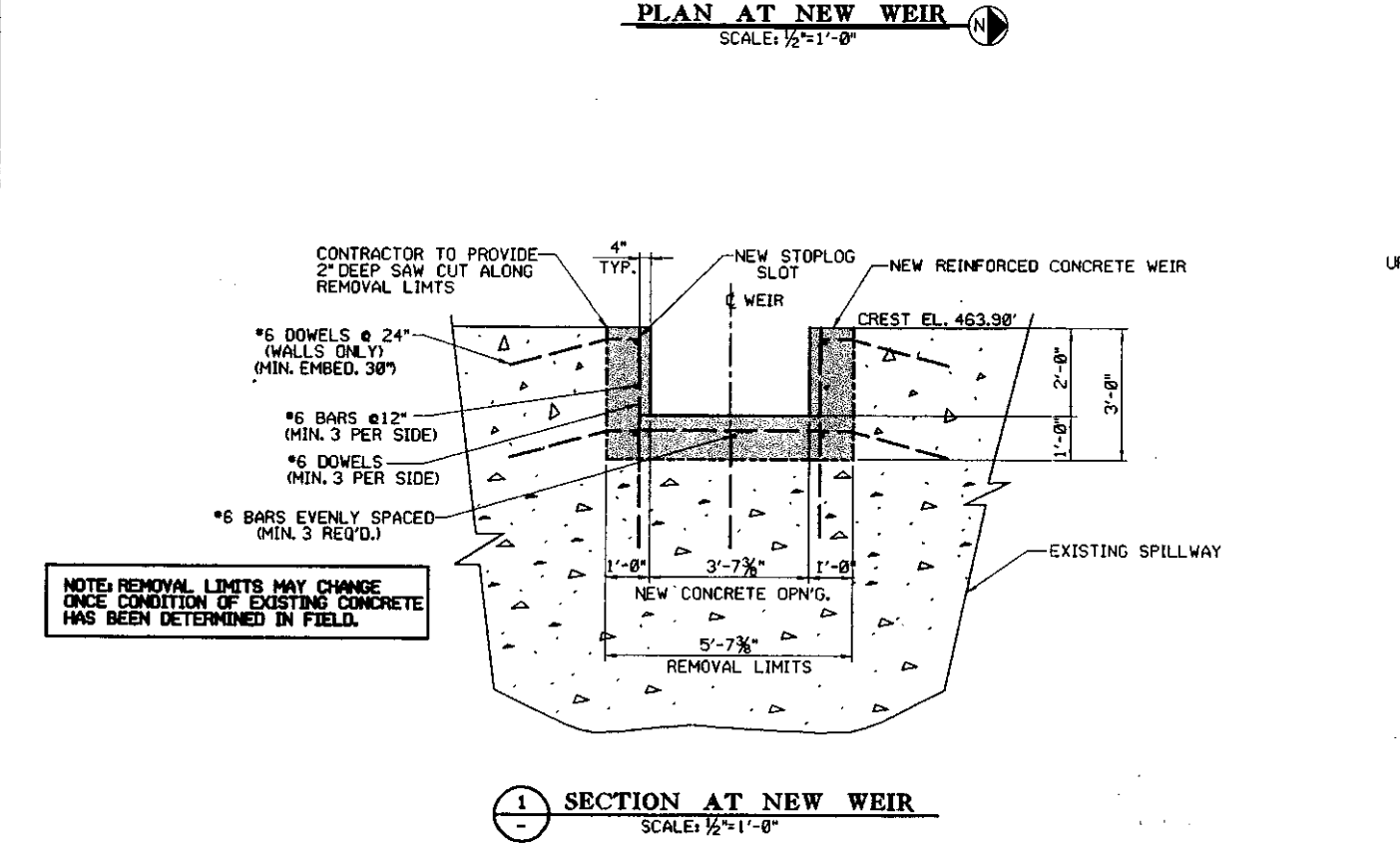
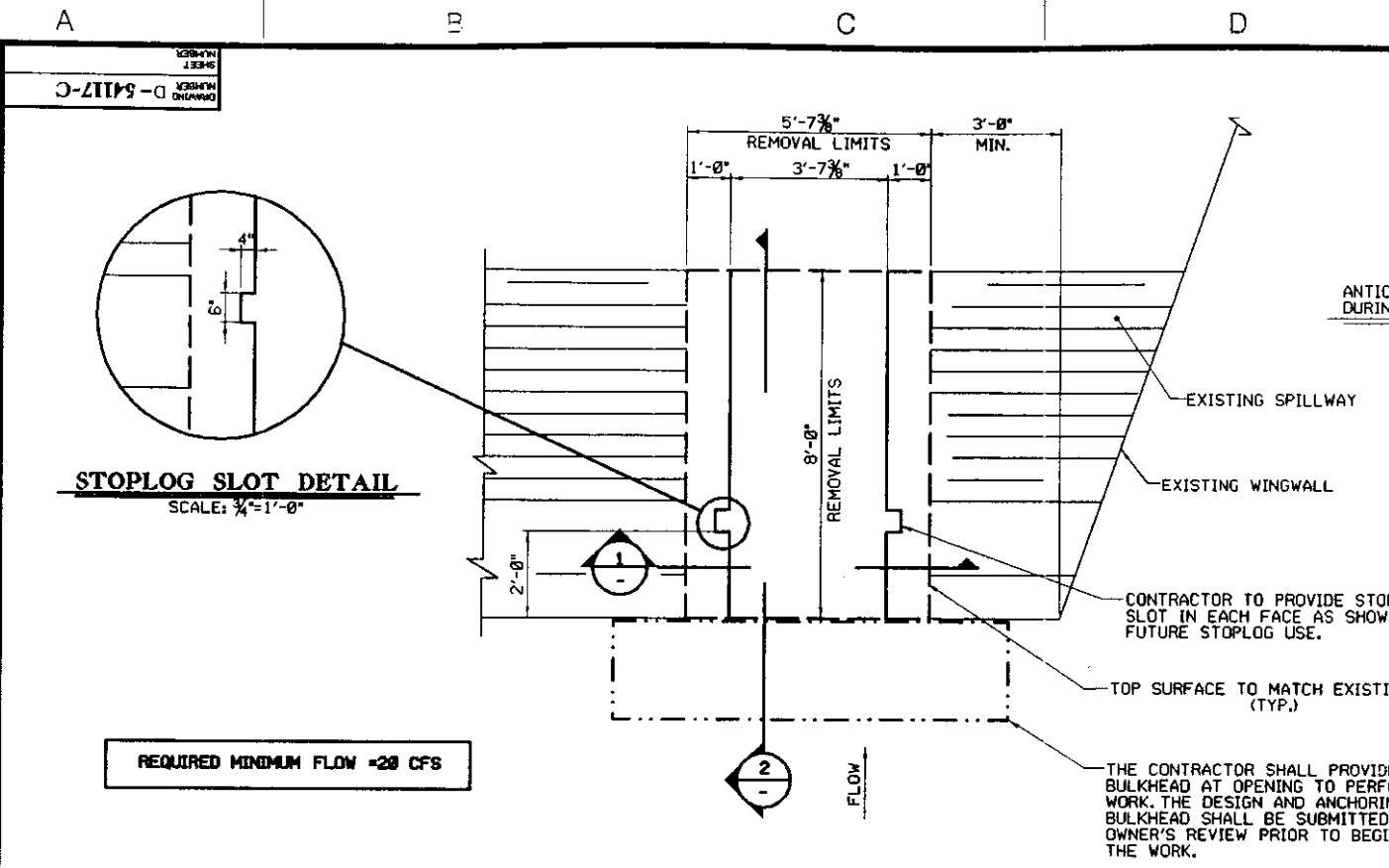
PR# 435

DESIGNED BY	APPROVED
CHECKED BY	APPROVED
DRAWN BY	APPROVED
DATE	APPROVED

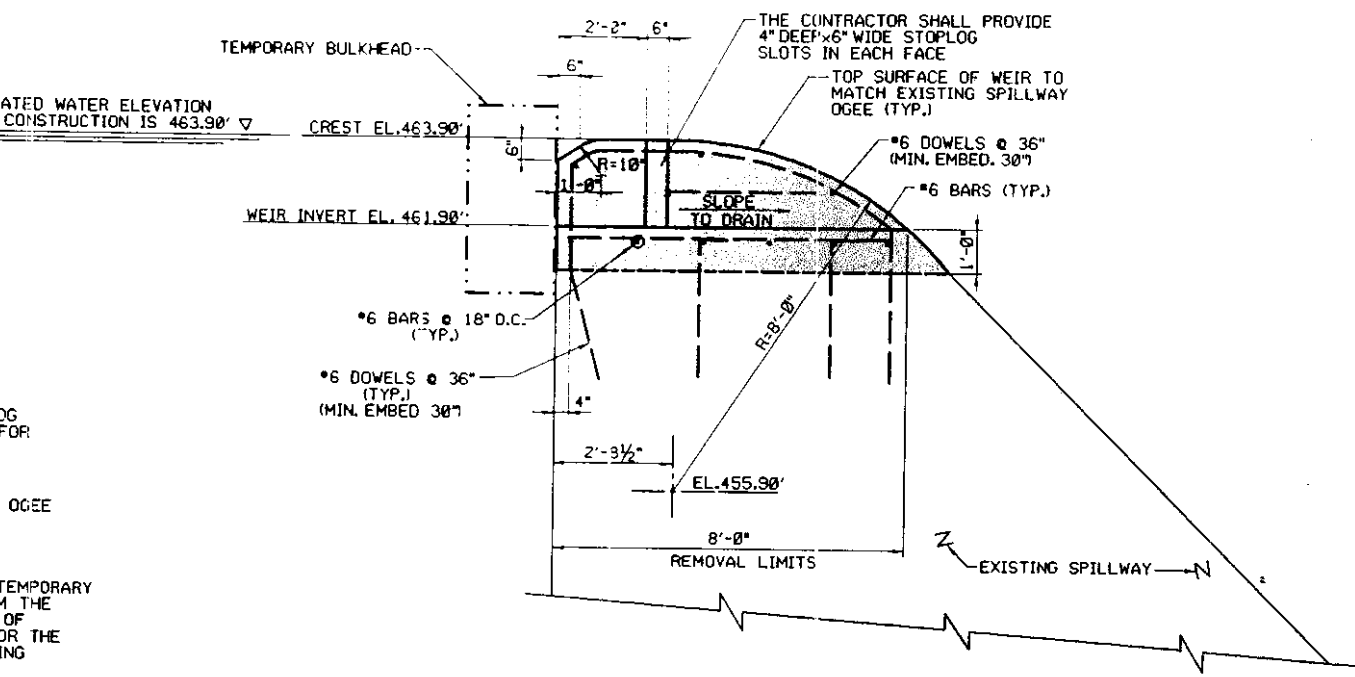
**NM NIAGARA MOHAWK**

ACCOUNT NUMBER 322.00-780872-578080-8012

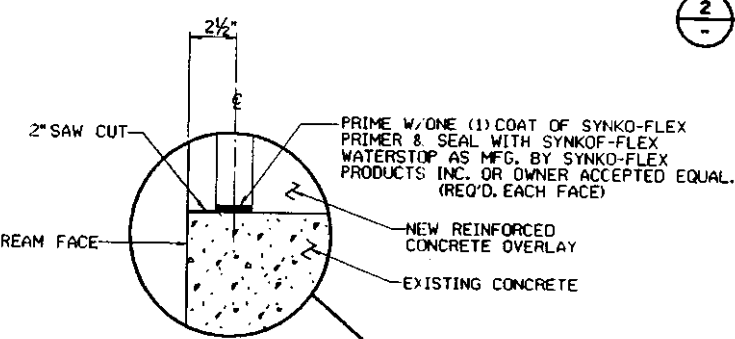
SEWALLS HYDRO DEVELOPMENT	DATE
NORTH CHANNEL	2.0-87-H2
NEW MINIMUM FLOW WEIR	STEP D-54116-C
GENERAL SITE PLAN	REV.



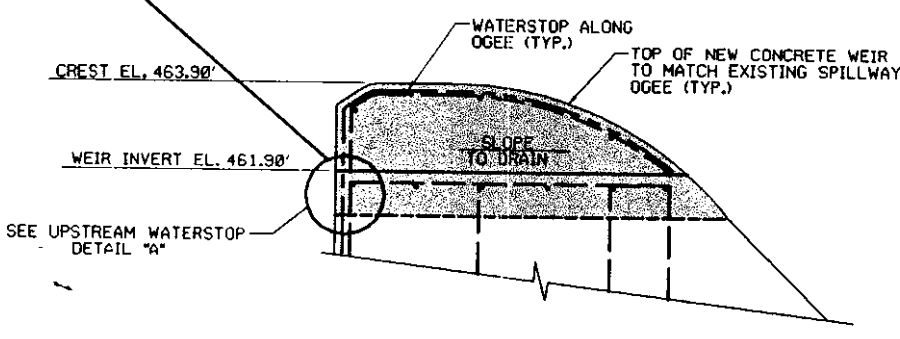
NEW DAM-PLAN, ELEVATION & SECTIONS		C-31581-C											
REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DPL.	CHK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION			



**2 SECTION THRU WEIR**  
SCALE: 1/2" = 1'-0"



**DETAIL A**  
SCALE: 3" = 1'-0"



**WATERSTOP DETAIL**  
SCALE: 1/2" = 1'-0"

SEE DRAWING NO. D-54116-C FOR GENERAL LOCATION PLAN

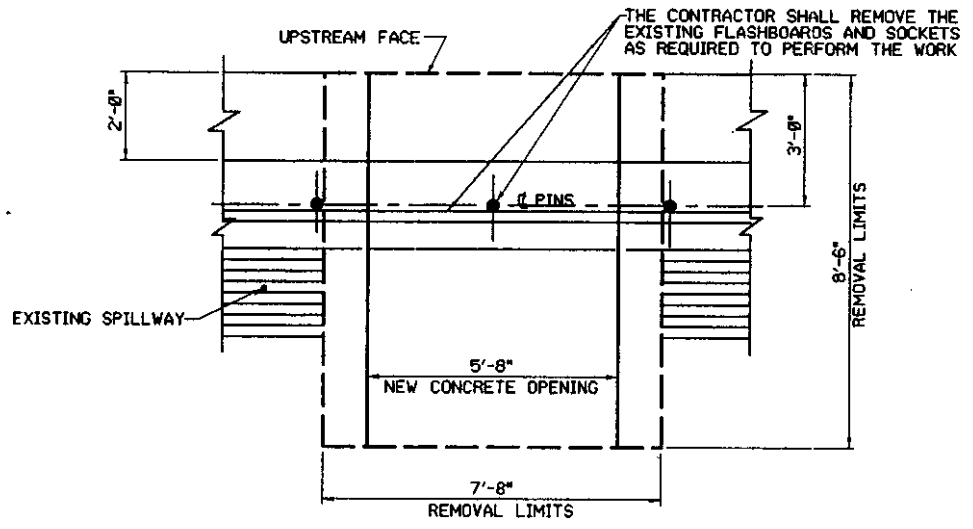
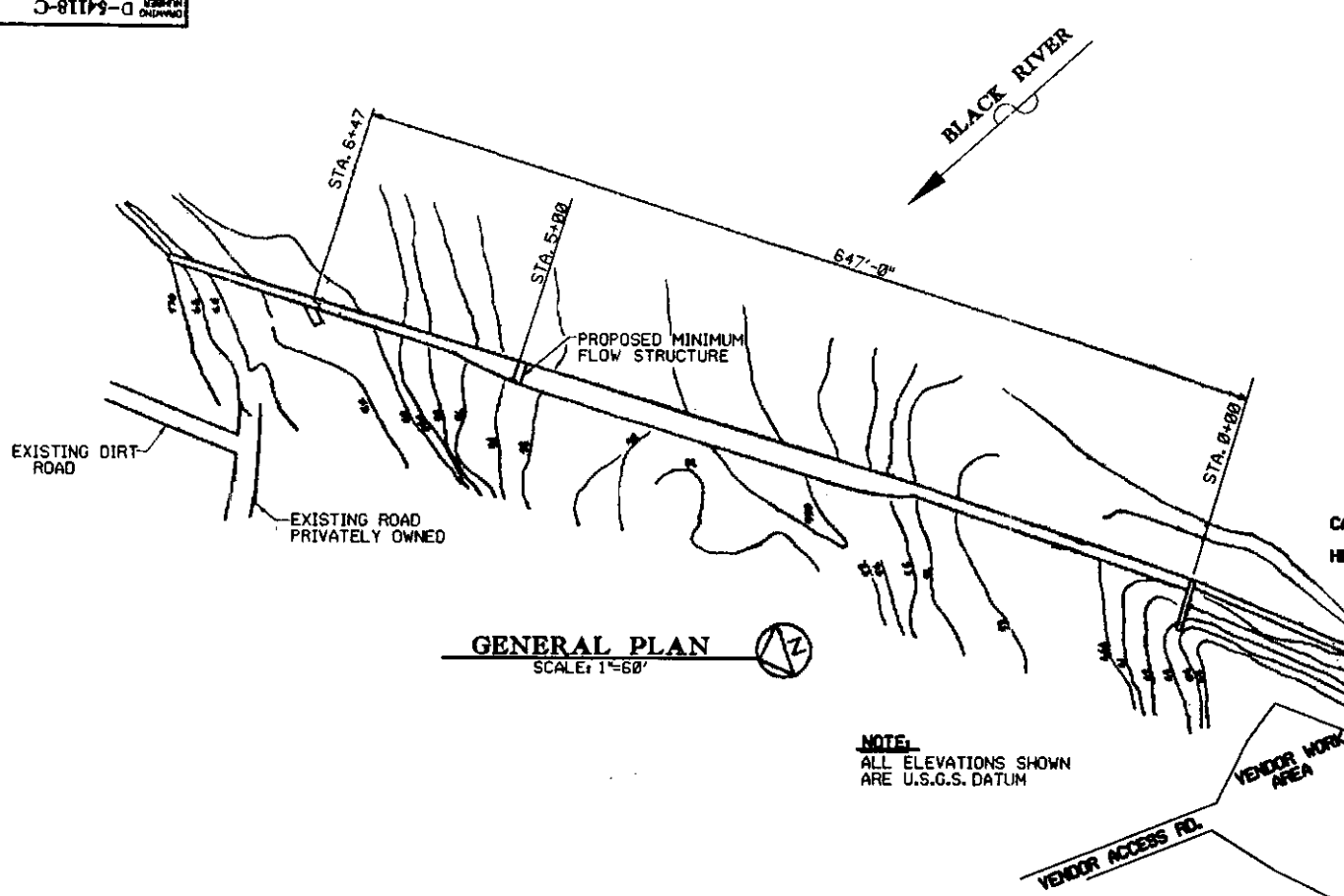
P.R. #435

RHS/DEL/PC APPROVED	<b>NIAGARA MOHAWK</b>	SEWALLS HYDRO DEVELOPMENT	DATE
DL RPC APPROVED		NEW MINIMUM FLOW WEIR	EL. 2.0-S7-H2
DL APPROVED		PLAN, ELEVATION, AND SECTIONS	DRAWING NO. D-54117-C
DL APPROVED		ACCOUNT NUMBER 322.00-69910-570000-8012	REV. DATE

A B C D

0-8119-D  
 D-6418-C  
 NORTH  
 DRAWING

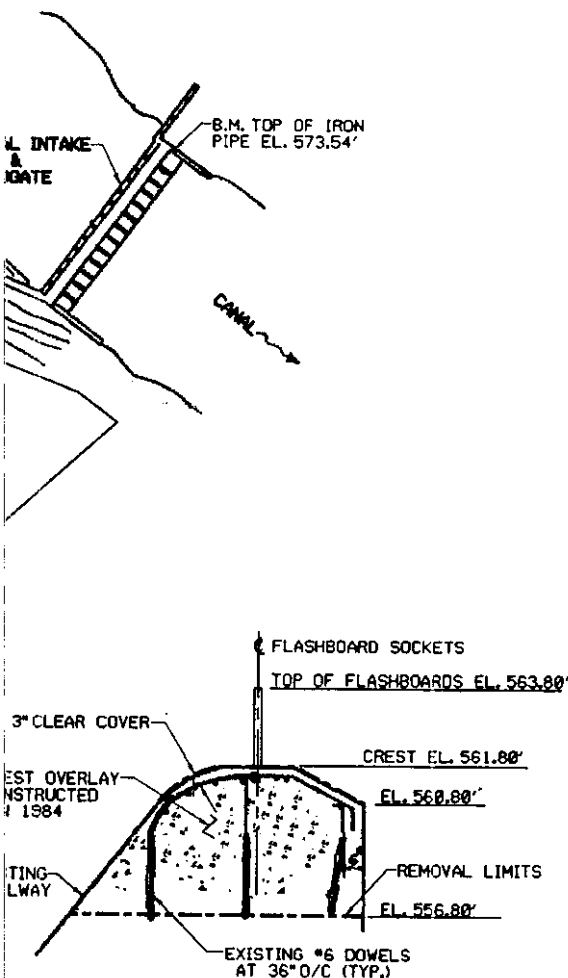
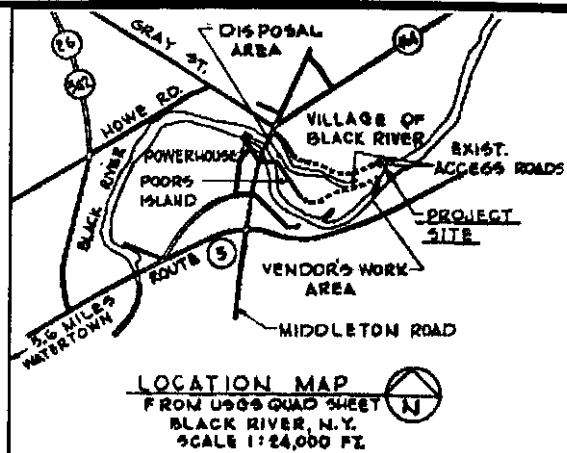
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**NOTE:** THE OWNER MAY DIRECT THE CONTRACTOR TO CHANGE THE LOCATION OF NEW WEIR AS SHOWN BECAUSE OF ACTUAL ROCK EL. DETERMINED IN FIELD.

DAM MODIFICATION & CANAL INTAKE MODIF.		C-48372-C									
REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	OR.	EX.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	

A B C D



**EXISTING CREST DETAIL**  
SCALE: 3/8" = 1'-0"

**GENERAL NOTES**

- ALL WORK AND MATERIALS SHALL CONFORM TO NMPC SPECIFICATION NO. 98-012 AND THE FOLLOWING:
- 1.) THE VENDOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS, AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO ANY FABRICATION AND/OR CONSTRUCTION.
  - 2.) PRIOR TO PLACING NEW CONCRETE, ALL SURFACES SHALL BE THOROUGHLY WATER BLASTED USING A SYSTEM CAPABLE OF PRODUCING SUFFICIENT PRESSURE TO REMOVE ALL VEGETATION, ORGANIC MATTER AND LOOSE CONCRETE.
  - 3.) ALL NEW CONCRETE SHALL BE AIR ENTRAINED TYPE II CEMENT ATTAINING A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI @ 28 DAYS. THE CONCRETE SHALL ALSO CONTAIN FIBRILLATED POLYPROPYLENE FIBER AT THE RATE OF 1.5 LBS. PER CUBIC YARD AS MANUFACTURED BY "FIBERMESH" OR OWNER APPROVED EQUAL.
  - 4.) THE CONCRETE MIX DESIGN SHALL BE PROPORTIONED SO AS TO PROVIDE A MAXIMUM WATER/CEMENT RATIO OF 0.48 BY WEIGHT.
  - 5.) ALL NEW CONCRETE SHALL CONTAIN POZZOLITH 122-N ADMIXTURE AS MANUFACTURED BY MASTER BUILDERS OR OWNER APPROVED EQUAL.
  - 6.) THE VENDOR SHALL CHAMFER ALL EXPOSED EDGES 1" @ 45 DEGREES.
  - 7.) ALL NEW CONCRETE SURFACES SHALL BE F4 AND UNFORMED SURFACES SHALL BE U2 AND CONFORM TO THE REQUIREMENTS AS SPECIFIED IN SPECIFICATION.
  - 8.) ALL NEW REINFORCED CONCRETE SHALL BE CURED APPLYING KURE-N-SEAL BY "SONNEBORN" BUILDING PRODUCTS OR OWNER APPROVED EQUAL.
  - 9.) ALL DOWELS TO BE GROUTED USING 1:1 SAND/TYPE II CEMENT MIX BY VOLUME. WATER CONTENT SHALL BE VARIED TO ASSURE MIN. SHRINKAGE AND PROPER ADHESION.
  - 10.) MINIMUM YIELD STRENGTH OF REINFORCING STEEL SHALL BE 60,000 PSI CONFORMING TO ASTM A-615 GRADE 60. ALL BENDING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI STANDARDS.
  - 11.) ALL REINFORCING BAR SPLICES AND EMBEDMENTS TO BE (4D) BAR DIAMETERS UNLESS OTHERWISE NOTED.
  - 12.) ALL STEEL REINFORCING SHALL HAVE A MINIMUM OF 4" COVER UNLESS NOTED OTHERWISE.
  - 13.) ALL MATERIALS AND OR DEBRIS SHALL BE DISPOSED OF IN AN ORDERLY, ENVIRONMENTALLY SOUND MANNER UPLAND OFF THE OWNERS PROPERTY, UNLESS OTHERWISE NOTED.
  - 14.) THE VENDOR SHALL USE "ECOSLIP" AS MANUFACTURED BY EUCLID CHEMICAL OR OWNER APPROVED EQUAL FOR CONCRETE FORM RELEASE.
  - 15.) THE VENDOR SHALL FURNISH AND INSTALL TREATED 6"x6" STOPLOGS UPON COMPLETION OF THE WORK. ALL LUMBER SHALL BE "WOLMANIZED" PRESSURE TREATED LUMBER, WITH AN AWPA C2 CLASSIFICATION. THE LUMBER SHALL BE TREATED WITH WOLMAM CCA CHEMICALS WITH A RETENSION OF 0.60 LBS/CF PER AWPA STANDARD AND BUILDING CODE RETENSION REQUIREMENTS

PR #1432

DESIGNER	DATE	APP. DATE
REVISIONS	APPROVED	
BY	DATE	BY

**NM NIAGARA MOHAWK**

ACCOUNT NUMBER 322.06-78872-570000-0012

<b>KAMARGO HYDRO DEVELOPMENT</b>	DATE
<b>NEW MINIMUM FLOW WEIR</b>	DATE: 2.0-B8-H2
<b>SITE PLAN AND DETAIL</b>	NO. D-54118-C

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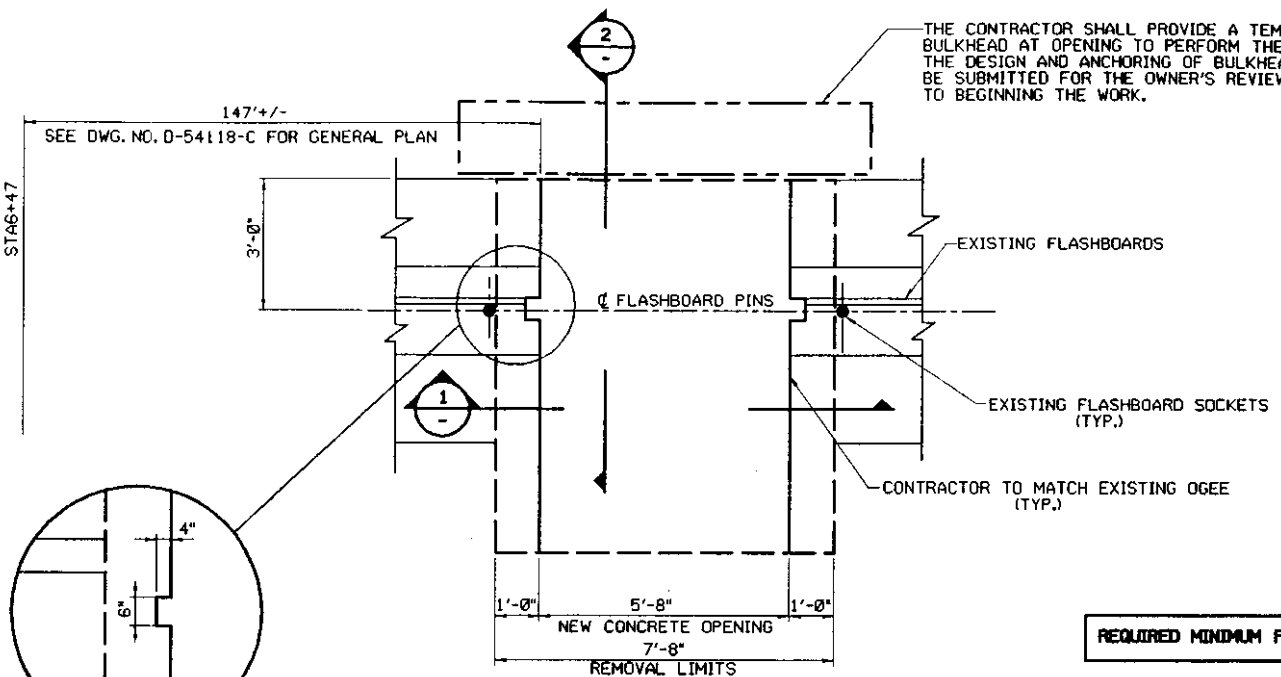
D

0-6118-C  
DRAWING NUMBER  
138000  
SHEET NUMBER

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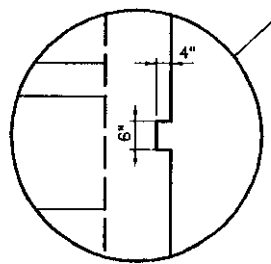
3



REQUIRED MINIMUM FL

### STOPLOG SLOT DETAIL

SCALE: 3/4"=1'-0"

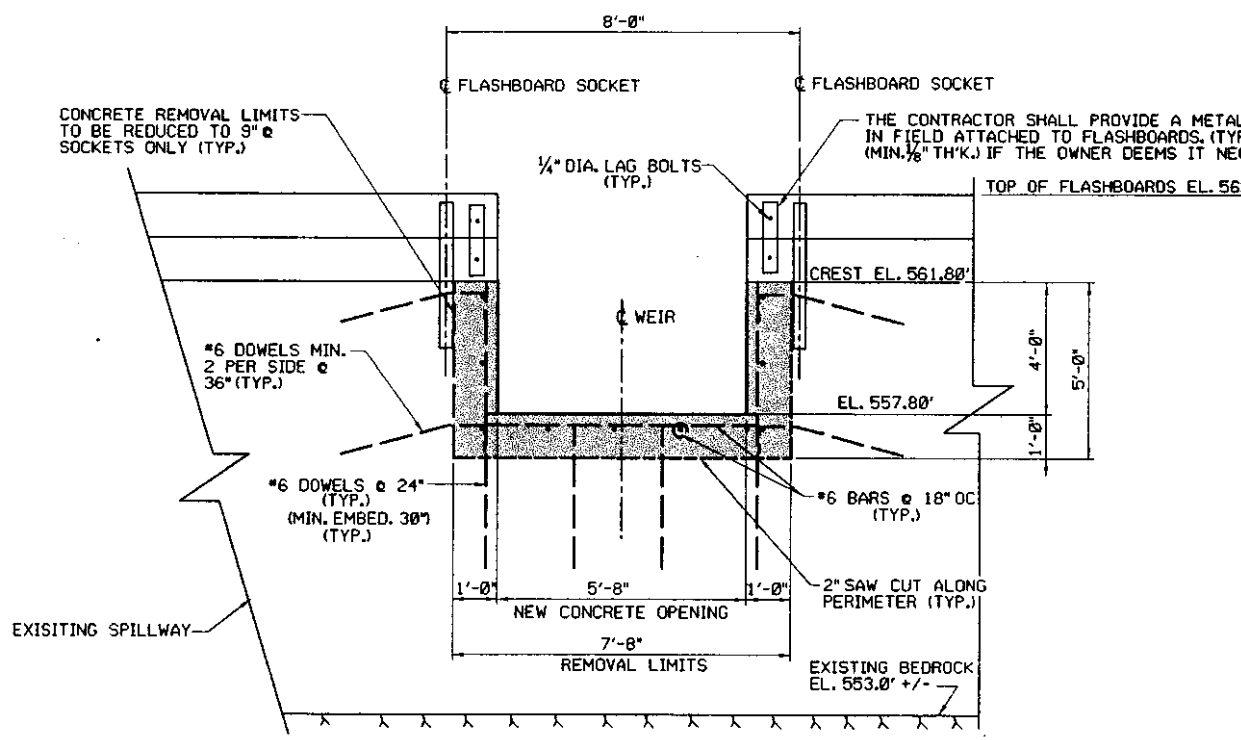


### PLAN AT NEW WEIR

SCALE: 1/2"=1'-0"

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NOTE: REMOVAL LIMITS MAY CHANGE ONCE CONDITION OF EXISTING CONCRETE HAS BEEN DETERMINED IN FIELD



### SECTION AT NEW WEIR

SCALE: 1/2"=1'-0"

6

REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION

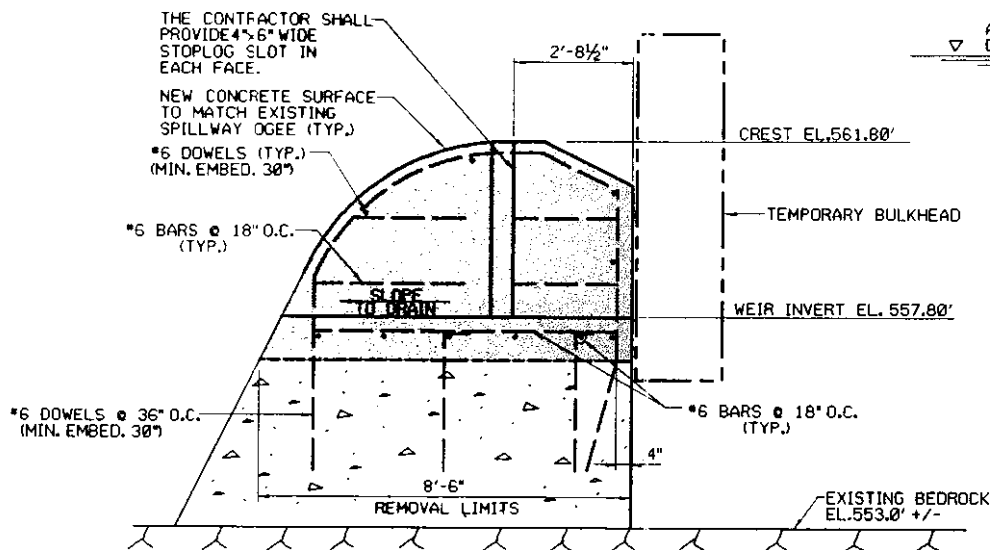
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PRIMARY WORK SHALL BE COMPLETED PRIOR

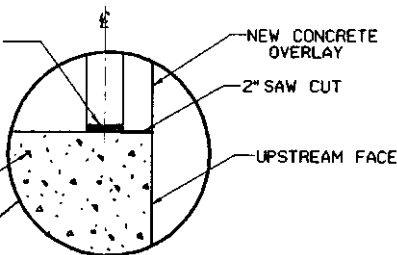


ANTICIPATED WATER ELEVATION DURING CONSTRUCTION IS 563.8'

Q = 120 CFS

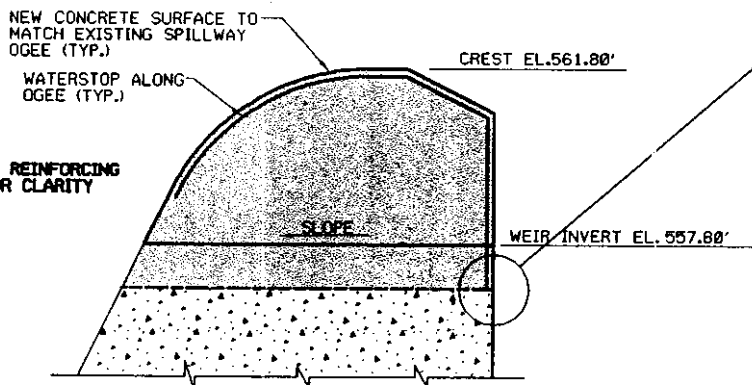
2 SECTION THRU WEIR SCALE: 1/2" = 1'-0"

PRIME W/ ONE (1) COAT OF SYNKO-FLEX PRIMER & SEAL WITH SYNKO-FLEX WATERSTOP AS MFG. BY SYNKO-FLEX PRODUCTS INC. OR OWNER ACCEPTED EQUAL. (TYP. EACH FACE)



DETAIL A SCALE: 3" = 1'-0"

LATE ISSUED BY



WATERSTOP DETAIL

SCALE: 1/2" = 1'-0"

PR #1432

DRS/	APPROVED
DES/	
REP/	
DR/	APPROVED
C/	
CK/	APPROVED
	APPROVED

**NIAGARA MOHAWK**

ACCOUNT NUMBER 322,00-70072-570000-8012

KAMARGO HYDRO DEVELOPMENT  
NEW MINIMUM FLOW WEIR  
PLAN, SECTIONS & DETAILS

ISSUE DATE	
REV. 2.0-B8-H2	
PROJECT D-54119-C	
DATE	

A

B

C

D

SHEET  
 NUMBER  
**D-54120-C**  
 DRAWING  
 NUMBER

1

2

3

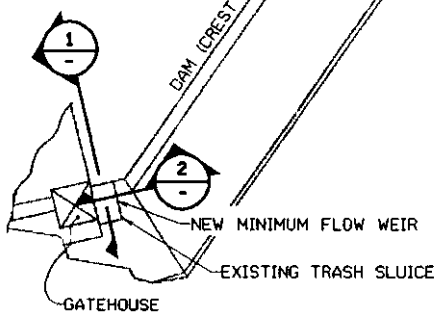
4

5

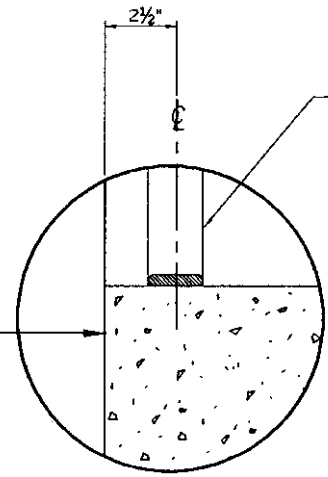
6

**BLACK RIVER**  
**FLOW**

DAM CREST LENGTH = 261'-0"



**PLAN OF SPILLWAY**  
 SCALE: 20' = 1" - 0"



PRIME W/ONE (1) COAT OF SYNKO-FLEX  
 PRIMER & SEAL WITH SYNKOF-FLEX  
 WATERSTOP AS MFG. BY SYNKO-FLEX  
 PRODUCTS INC. OR OWNER ACCEPTED EQUAL.  
 (REQ'D. EACH FACE)

UPSTREAM FACE

**DETAIL A**  
 SCALE: N.T.S.

ALL NEW CONC  
 CEMENT ATTAIN  
 OF 4,000 PSI  
 CONTAIN FIBRE  
 RATE OF 1.5 L  
 BY FIBERMESH

SEE DRAWING NO. D-54041-C FOR

REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION
DAM & CANAL-SPILLWAY SECTIONS & DET'S.	C-32964-C								8/3/98	REVISED FOR CONSTRUCTION

A

B

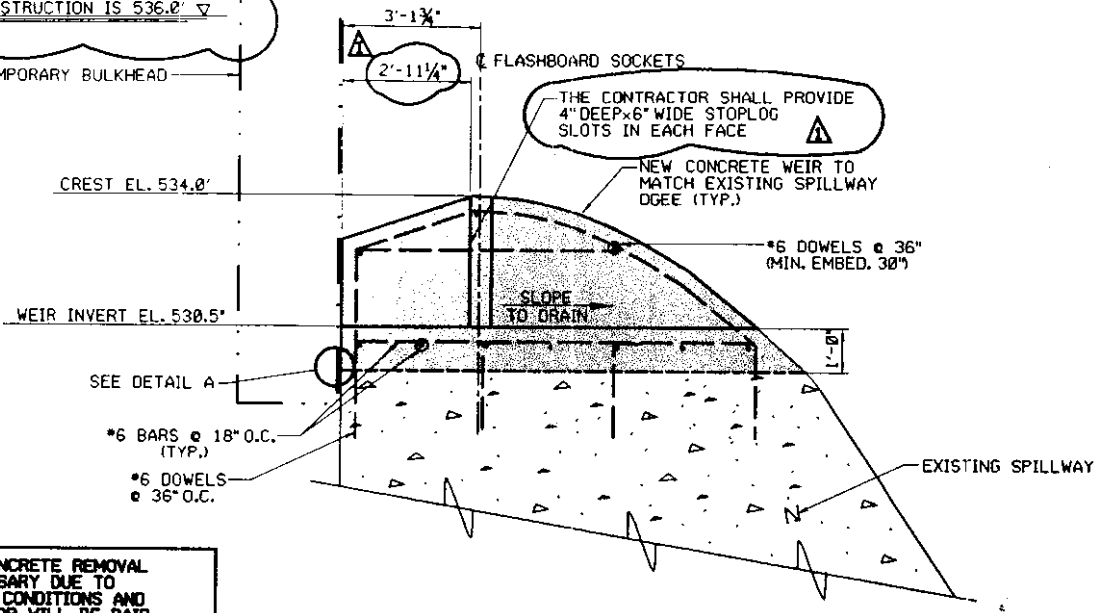
C

D



ANTICIPATED WATER ELEVATION DURING CONSTRUCTION IS 536.0' ▽

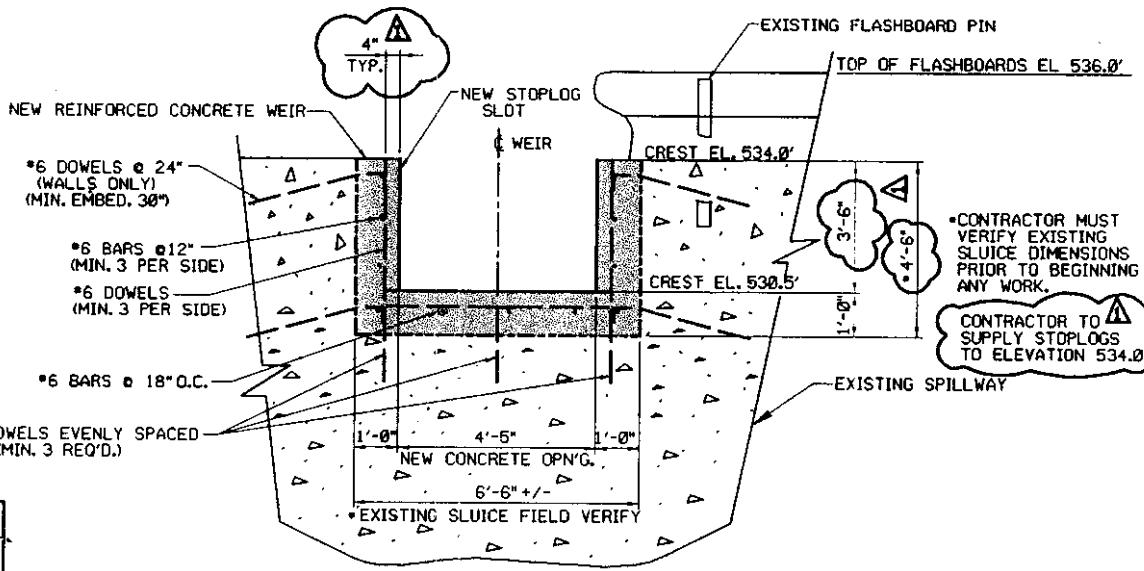
TEMPORARY BULKHEAD



1 SECTION THRU WEIR  
SCALE: 1/2"=1'-0"

REQUIRED MINIMUM FLOW= 80 CFS

NOTE: SOME CONCRETE REMOVAL MAY BE NECESSARY DUE TO ACTUAL FIELD CONDITIONS AND THE CONTRACTOR WILL BE PAID FOR THIS ITEM PER PROPOSAL UNIT PRICE FOR CONCRETE REMOVAL.



2 SECTION AT NEW WEIR  
SCALE: 1/2"=1'-0"

TE SHALL BE AIR ENTRAINED TYPE II CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. THE CONCRETE SHALL ALSO BE ENHANCED WITH 1.5% POLYPROPYLENE FIBER AT A RATE OF 1.5 PER CUBIC YARD AS MANUFACTURED BY THE OWNER APPROVED EQUAL.

GENERAL NOTES

DESIGNED BY	APPROVED
DR. R.P.C.	
DR. R.P.C.	
DR. R.P.C.	
DR. R.P.C.	
DR. R.P.C.	

PR #431

**NIAGARA MOHAWK**

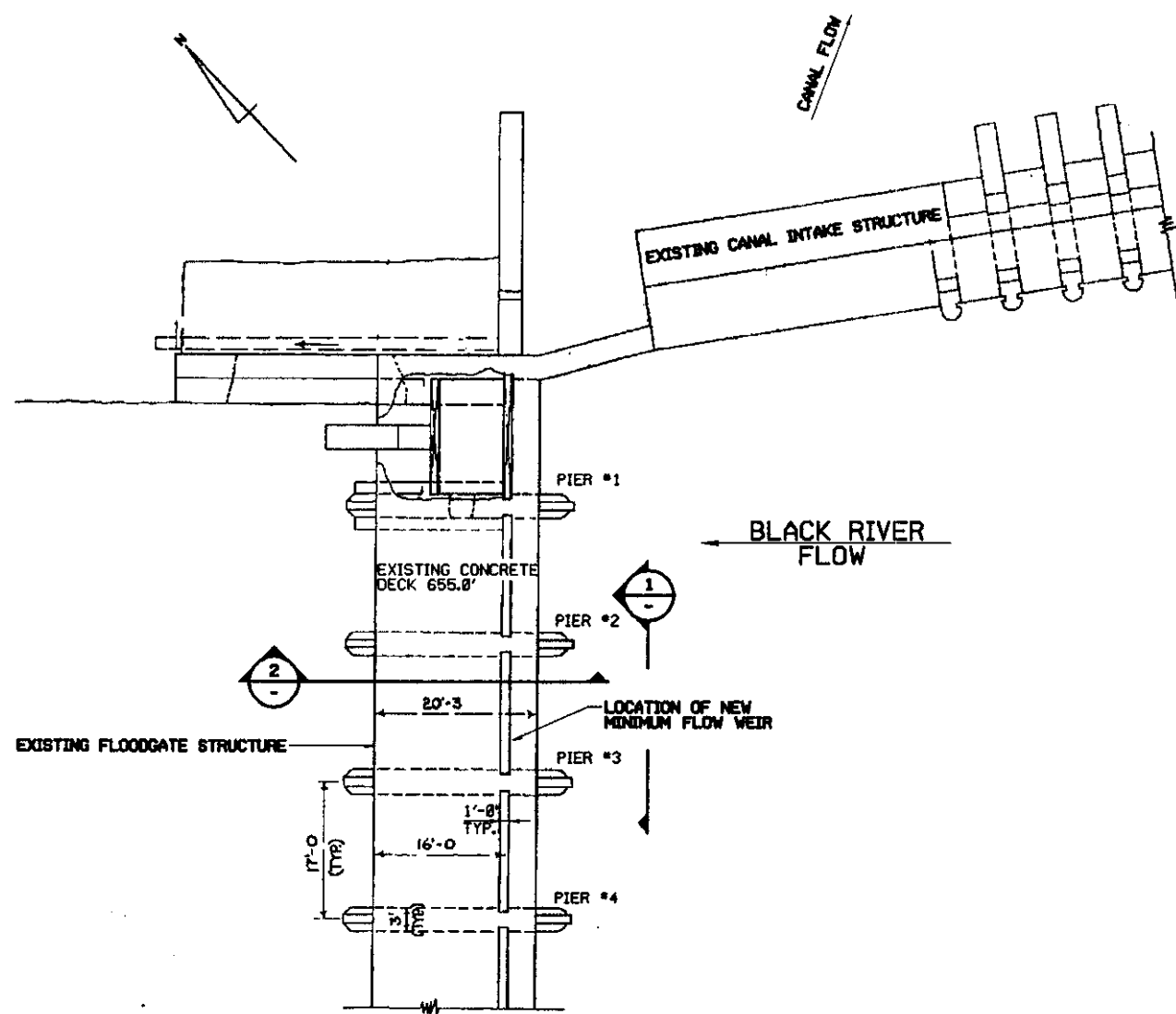
ACCOUNT NUMBER 321.00

BLACK RIVER HYDRO DEVELOPMENT	PROJECT DATE
NEW MINIMUM FLOW WEIR	DATE 10-07-02
PLAN, SECTIONS & DETAILS	DRAWING D-54120-C
	SHEET NUMBER

A B C D

DESIGN NUMBER  
**C-3119-C**

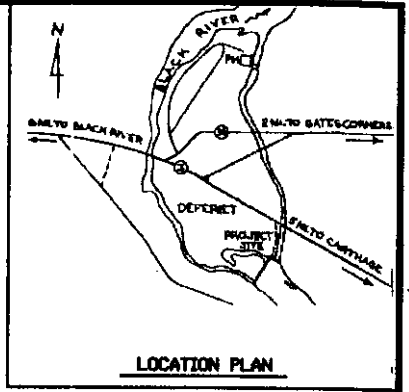
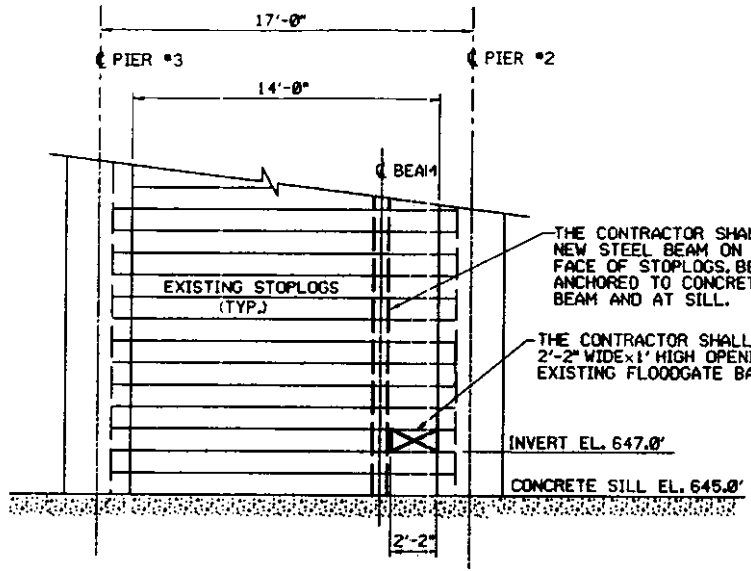
1  
 2  
 3  
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 5  
 6



**PLAN - FLOODGATE STRUCTURE**  
 SCALE: 1"=10'-0"

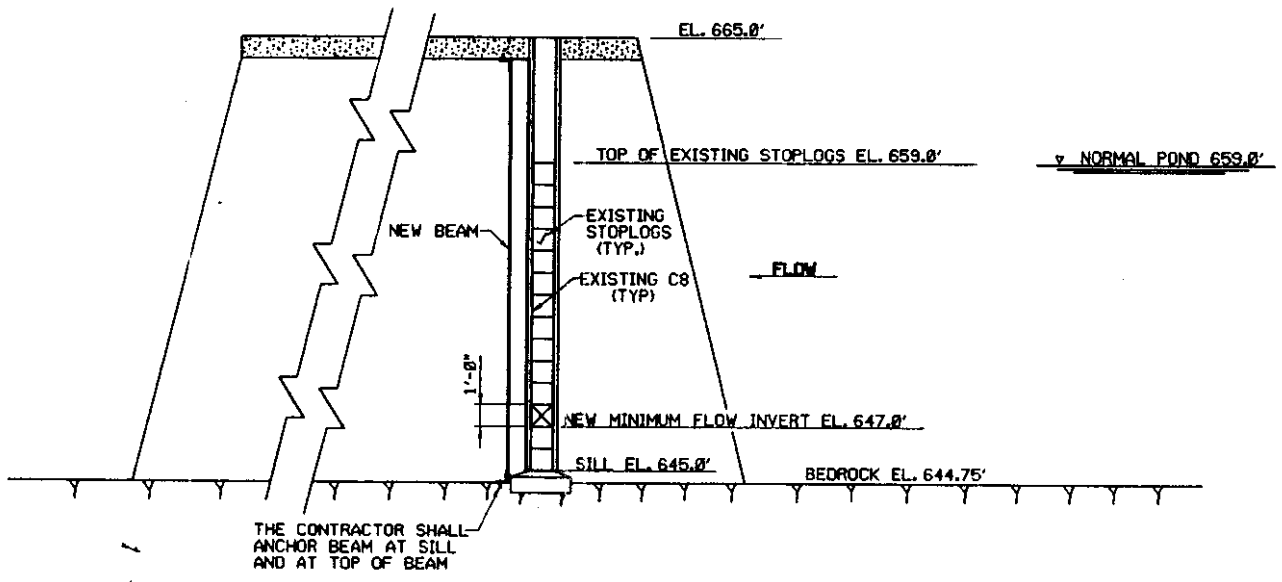
CONCRETE REINTEGRATION OF FLOOD GATE		C-3119-C											
REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION			

A B C D



1 PARTIAL ELEVATION AT SILL LOOKING DOWNSTREAM  
SCALE: 1/4" = 1'-0"

REQUIRED MINIMUM FLOW = 45 CFS



2 SECTION THRU STOPLOGS  
SCALE: 1/4" = 1'-0"

PR # 1433

DESIGNED	APPROVED
DR. R.P.C.	APPROVED
CL.	APPROVED
APP.	APPROVED

**NIAGARA MOHAWK**

ACCOUNT NUMBER 321.00-

DEFERIET HYDRO DEVELOPMENT	SET 3 OF 4
NEW MINIMUM FLOW WEIR	SCALE 2.0-D2-H2
AT FLOODGATE STRUCTURE	PROJECT D-54121-C
PLAN, AND SECTIONS	DATE

A

B

C

D

DRAWING NUMBER	D-54123-C
SHEET NUMBER	

1

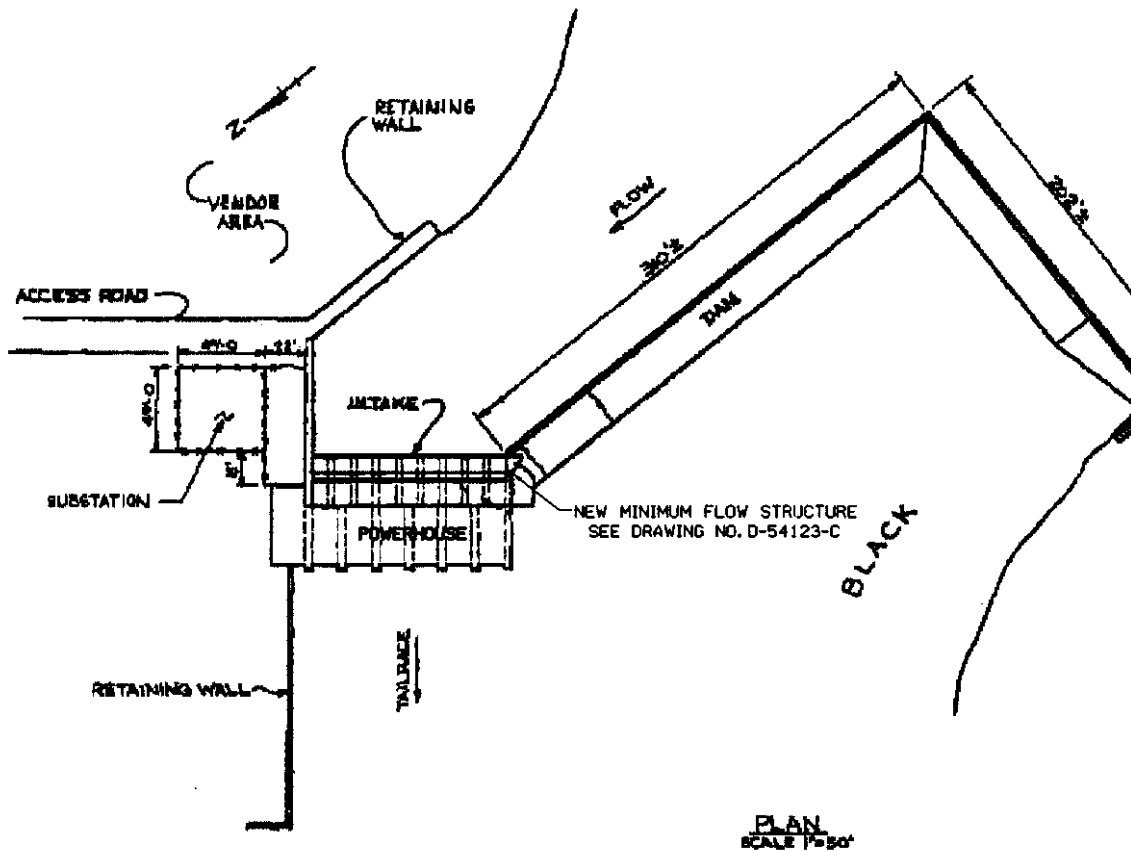
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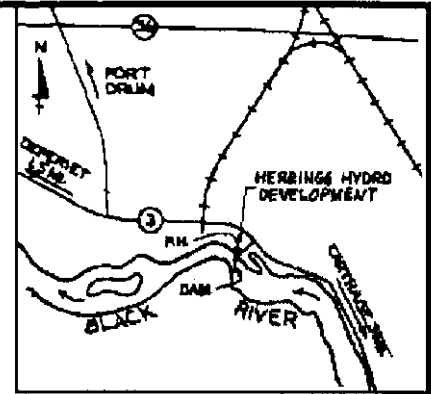
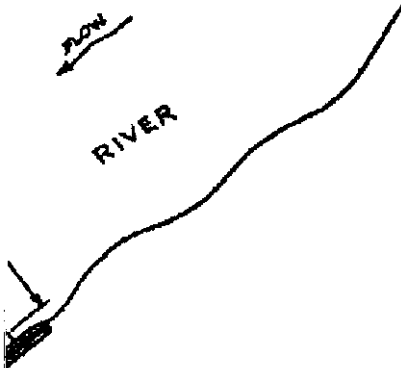
SKIMMER SECTIONS	2206-1037										
PLAN OF POWERHOUSE	2206-1012										
REFERENCE DESCRIPTION	DRAWING NUMBER	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	DC.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	

A

B

C

D



**LOCATION MAP**  
 FROM U.S.G.S. QUAD. DEERHEAT N.Y.  
 SCALE IN FEET  
 0 1000 2000 3000

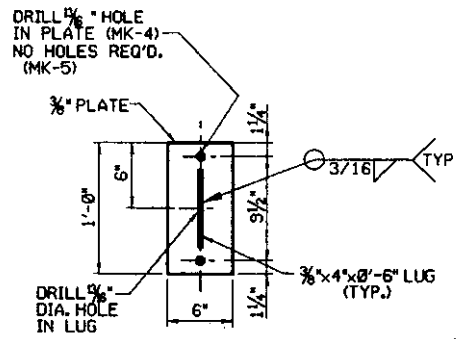
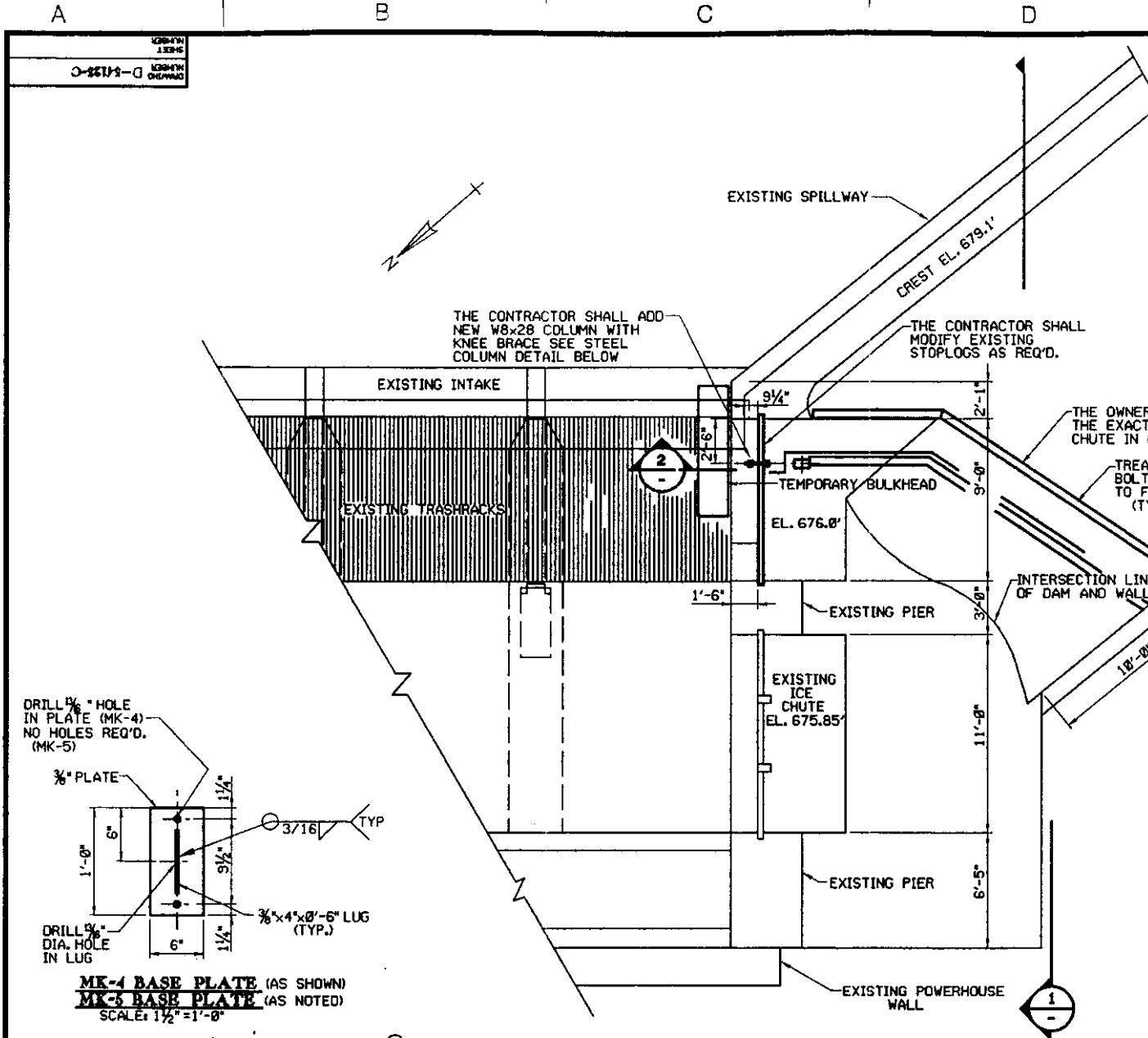
**GENERAL NOTES**

ALL WORK AND MATERIALS SHALL CONFORM TO NMPC SPECIFICATION NO. 98-012 AND THE FOLLOWING:

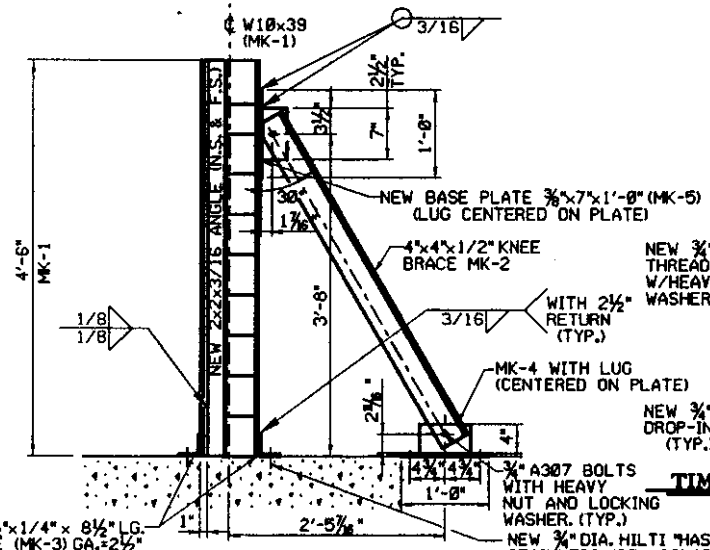
- 1.) THE VENDOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS, AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO ANY FABRICATION AND/OR CONSTRUCTION.
- 2.) ALL STRUCTURAL STEEL SHAPES SHALL BE ASTM-A36 STEEL. ALL FABRICATION SHALL BE DONE IN ACCORDANCE WITH AISC (LATEST EDITION EDITION). ALL WELDING OF STRUCTURAL STEEL SHALL CONFORM TO AWS D1.1 (LATEST EDITION).
- 3.) BOLTS, NUTS, AND WASHERS SHALL CONFORM TO ASTM A325 GRADE B, AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 (UNLESS OTHERWISE NOTED).
- 4.) THE VENDOR SHALL FURNISH AND INSTALL TREATED 4"x6" STOPLOGS UPON COMPLETION OF THE WORK. ALL LUMBER SHALL BE "WOLMANIZED" PRESSURE TREATED LUMBER, WITH AN AWPA C2 CLASSIFICATION. THE LUMBER SHALL BE TREATED WITH WOLMAN CCA CHEMICALS WITH A RETENSION OF 0.60 LBS/CF PER AWPA STANDARD AND BUILDING CODE RETENTION REQUIREMENTS.

PR \*1434

				RNS/ ES/SPC APPROVED Rp C APPROVED EX. APPROVED APPROVED		<b>HERRING HYDRO DEVELOPMENT</b> <b>NEW MINIMUM FLOW WEIR</b> <b>SITE PLAN</b>	2007 2.0-H2-H2 D-54122-C 2007
BL	CL	APP.	APPROVED	ACCOUNT NUMBER 321,00-			

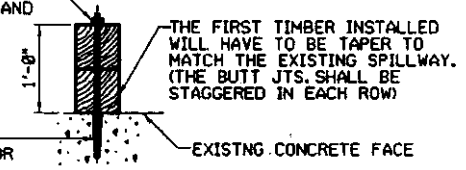


**MK-4 BASE PLATE** (AS SHOWN)  
**MK-5 BASE PLATE** (AS NOTED)  
 SCALE: 1 1/2" = 1'-0"



**STEEL COLUMN DETAIL**  
 SCALE: 1" = 1'-0"

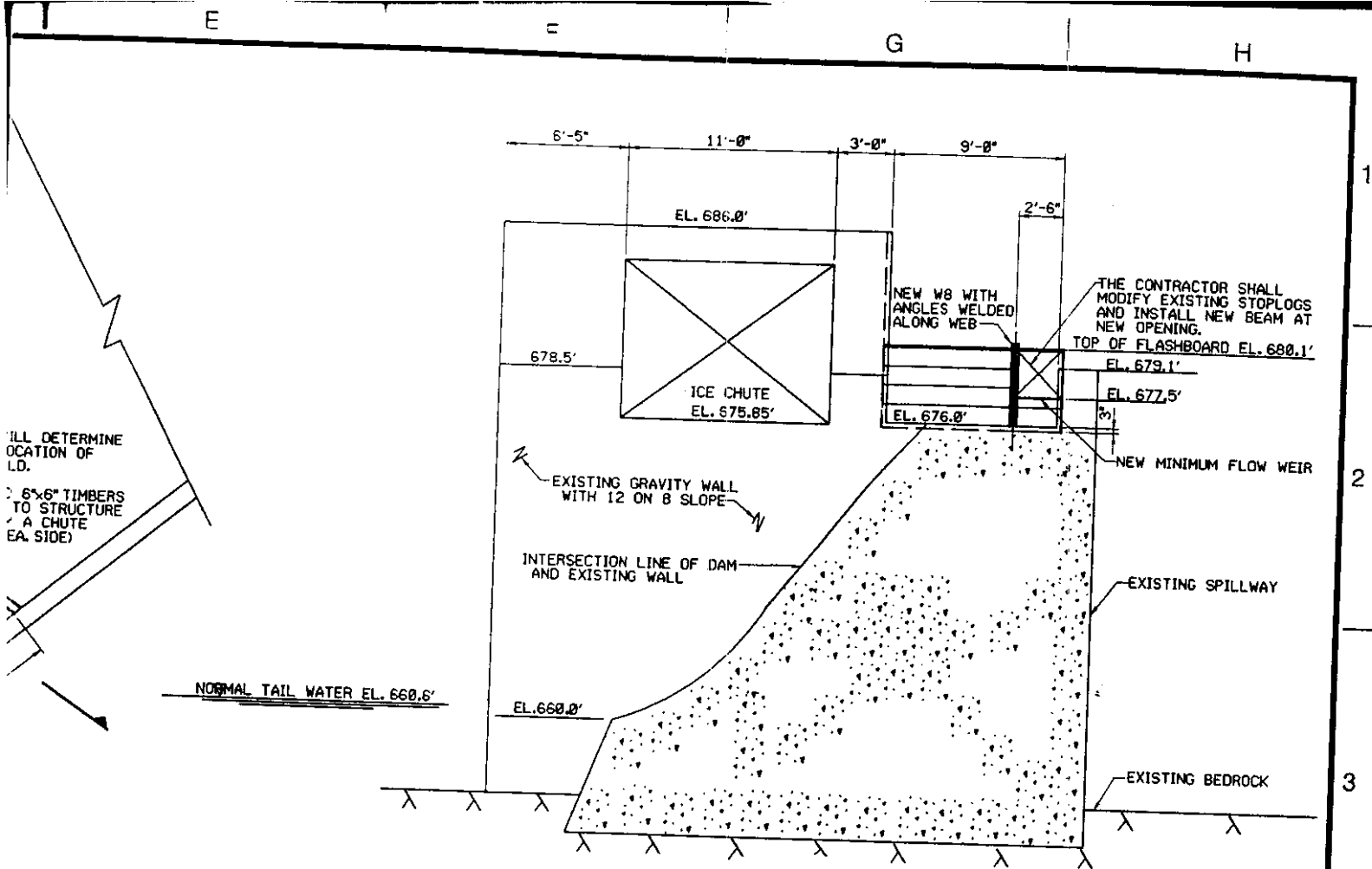
**PLAN AT ICE CHUTE EL. 686.0'**  
 SCALE: 1/4" = 1'-0"



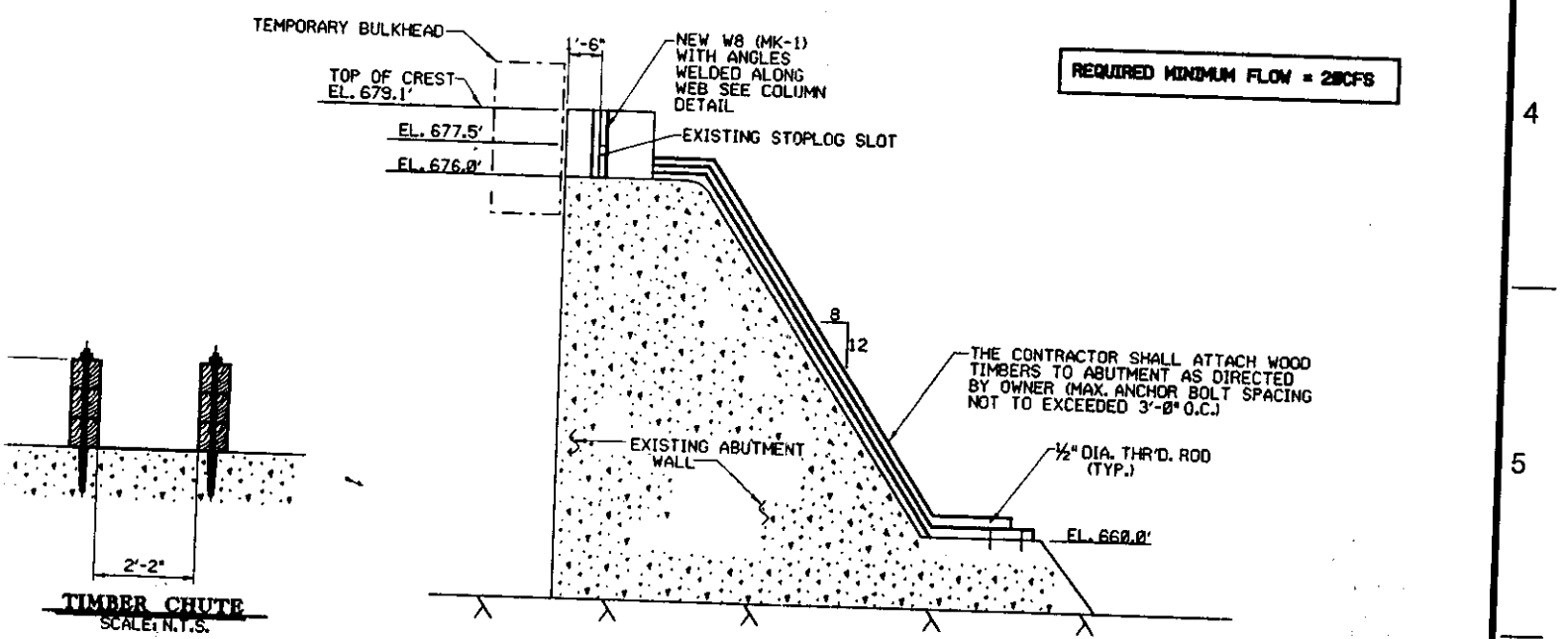
**TIMBER CHUTE ANCHORING DETAIL**  
 SCALE: 1" = 1'-0"

FOR GENERAL NOTES AND PLAN SEE D

NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION
1		SKIMMER SECTIONS						
2		PLAN OF POWERHOUSE						



1 SECTION AT ICE CHUTE  
SCALE: 1/4"=1'-0"



2 SECTION AT SKIMMER  
SCALE: 1/4"=1'-0"

No. D- 54122-C

<table border="1"> <tr><td>DRS/</td><td>APPROVED</td></tr> <tr><td>DR/PC</td><td>APPROVED</td></tr> <tr><td>DC</td><td>APPROVED</td></tr> <tr><td>APP.</td><td>APPROVED</td></tr> </table>	DRS/	APPROVED	DR/PC	APPROVED	DC	APPROVED	APP.	APPROVED		HERRINGS HYDRO DEVELOPMENT NEW MINIMUM FLOW WEIR EXISTING ICE CHUTE MODIFICATIONS PLAN/SECTIONS & DETAILS	PR #1434 DATE 2.0-12-12 D-54122-C
DRS/	APPROVED										
DR/PC	APPROVED										
DC	APPROVED										
APP.	APPROVED										
ACCOUNT NUMBER 321.00-											

**DRAFT PLAN  
FOR  
BLACK RIVER PROJECT #2569  
ARTICLE 406 - FLOW RELEASE STRUCTURES  
&  
BEEBEE ISLAND PROJECT #2538  
ARTICLE 411 - FISH CONVEYANCE STRUCTURE**





**NIAGARA MOHAWK**

**GENERATION  
BUSINESS GROUP**

FOSSIL AND HYDRO GENERATION/300 ERIE BOULEVARD WEST, SYRACUSE, NEW 13202/TELEPHONE (315) 474-1511

January 13, 1998

Mr. Len Ollivett  
New York State Department of Environmental Conservation  
Division of Fish & Wildlife & Marine Services  
State Office Building  
317 Washington Street  
Watertown, NY 13601

**SUBJECT: Black River Project & Beebee Island Project  
FERC Project Nos. 2569 & 2538 Respectively  
License Articles 406 - Black River and Beebee Island,  
Flow Release Structures  
License Article 411 - Beebee Island, Fish Conveyance Structure**

Dear Mr. Ollivett:

In accordance with the Order Approving Settlement Agreement and Issuing New License, issued on December 24, 1996 for Niagara Mohawk's Black River Project and the Beebee Island Project, enclosed are Niagara Mohawk's draft drawings for the flow release structures and fish conveyance structure required by License Articles 406 for the Black River Project and Beebee Island Project and License Article 411 for the Beebee Island Project.

The design approach used for the minimum flow release structures is similar to the design approach used for the Beaver River (FERC Project No. 2645) sites, and was discussed during the minimum flow release structure locations site visit on June 12, 1997. The June 12, 1997 field inspection minutes were distributed on July 11, 1997 and included an attachment entitled "Design Criteria for Minimum Flow Release Structures".

The enclosed draft drawings have been marked up to denote the proposed locations of the flow release structures and fish conveyance structure.

Following are brief descriptions of the flow release structures at each of the developments and the fish conveyance structure at Beebee Island.

## **BLACK RIVER PROJECT**

### **Herrings Development**

License Article 405 requires 20 cubic feet per second (cfs) at all times to be released through the stop-log section located between the dam and the trashracks.

The existing stoplog structure will be modified by installing a weir having a width of 2.3 feet and a weir crest elevation of 677.85 feet to provide the nominal 20 cfs minimum flow release. The minimum flow release through the weir will vary from 16.54 cfs to 23.60 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 680.10 feet). During the time period of May 1 through September 30, when Black River flows are between 1400 cfs and 1900 cfs, the reservoir fluctuation is limited to 0.2 feet by License Article 401. During this time period, a weir 3.5 feet wide with a crest elevation of 678.50 feet will be installed to provide the nominal 20 cfs minimum flow release. The minimum flow release through the weir will vary from approximately 18.48 cfs to 22.51 cfs.

### **Deferiet Development**

License Article 405 requires 45 cfs at all times to be released through the stop-log structure located north of the dam.

The nominal 45 cfs minimum flow release will be provided through the existing stoplog ice sluice structure. A weir opening, 2 feet 7 inches wide having a crest elevation of 655.0 feet, will be constructed within the stoplogs located in the third bay from the canal intake. The minimum flow release through the weir will vary from 41.58 cfs to 48.34 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 659.00 feet).

License Article 405 also requires a minimum flow of 245 cfs downstream of the dam, which will consist of 45 cfs through the weir and 200 cfs from leakage. During walleye spawning season, a total flow of 800 cfs is required downstream of the dam by License Article 405. Niagara Mohawk is planning on installing a pneumatic crest device consisting of two or more sections in 1998; one or more sections of the pneumatic crest device will be deflated to provide the remainder of the 800 cfs flow (555 cfs).

### **Kamargo Development**

License Article 405 requires 120 cfs at all times to be released through a notched section of the dam.

A weir having a width of 10.21 feet and a crest elevation of 560.80 feet will be constructed in the northern end of the dam and will provide the nominal 120 cfs minimum flow release. The minimum flow release through the weir will vary from 104.28 cfs to

136.39 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 563.8 feet).

#### Black River Development

License Article 405 requires 80 cfs at all times to be released through a notch in the dam.

A weir having a width of 5.0 feet and a crest elevation of 532.61 feet will be constructed in the southern end of the dam and will provide the nominal 80 cfs minimum flow release. The minimum flow release through the weir will vary from 71.33 cfs to 88.86 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 536.0 feet).

Flows required for the walleye spawning season, 300 cfs total flow, also required by License Article 405, will consist of 80 cfs through the weir and the remaining 220 cfs to be released through the one of the two existing sluice gates. The flow release through one sluice gate will vary from 217.92 cfs to 221.28 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 536.0 feet).

#### Sewalls Development

License Article 405 requires 32 cfs at all times to be released into the north channel bypassed reach; 20 cfs to be provided through a notched section of the dam and 12 cfs from leakage or other mechanisms.

A weir having a width of 2.69 feet and a crest elevation of 461.40 feet will be constructed in the north channel dam and will provide the nominal 20 cfs minimum flow release. The minimum flow release will vary from 17.14 cfs to 22.90 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (dam crest elevation 463.9 feet). The remaining 12 cfs will be provided from leakage.

### **BEEBEE ISLAND PROJECT**

#### Beebee Island Development

License Article 404 requires a year round minimum flow of 14 cfs to be released into the south channel. License Article 406 requires the 14 cfs to be released through a pipe in the dam.

Niagara Mohawk is currently negotiating with Knowlton Brothers on utilizing an existing intake to the manufacturing facility, having an existing piping and valve arrangement, to provide the 14 cfs minimum flow release into the south channel. Details of the minimum flow release mechanism will be provided at a later date.

The fish attractant flow of 37 cfs required to be provided seasonally (April 1 through November 30) by License Article 411 will be provided through the existing stoplogged ice chute located along the western side of the powerhouse. A weir having a width of 2.0 feet and a crest elevation of 426.00 feet will be constructed within the existing stoplogs and will provide the nominal 37 cfs fish attractant flow. The fish attractant flow will vary from 35.65 cfs to 38.16 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 431.0 feet).

The fish conveyance structure proposed herein, differs from the conveyance structure concept developed previously by Niagara Mohawk and Curt Orvis of the United States Fish & Wildlife Service (Service). The proposed structure will use 2 feet of the existing stoplogged 8 foot wide ice chute. A vertical beam will be installed which will provide support for the remaining stoplogs. The crest elevation of the fish conveyance structure will be the same as the crest elevation of the ogee spillway or elevation 426.00 feet. Curbing, either concrete or timber of sufficient depth to pass approximately 37 cfs, will be installed along the surface of the ogee spillway and extend to the downstream end of the powerhouse, to provide a chute for safe downstream fish passage.

Niagara Mohawk is proposing this approach because the existing stoplogged ice chute is frequently used to pass debris and ice as river conditions dictate. The time of year required for most debris and ice passage generally coincides with the seasonal requirement for downstream fish passage. The remaining area of the ice chute (6.0 feet minus the width of the vertical beam) will be used to pass debris and ice. The original concept called for a flume to be constructed in the center of the ice chute with annual installation and removal. This structure could restrict passage of debris and ice and could be more vulnerable to damage. The predominantly timber structure proposed herein would be more durable and less costly to repair/replace if needed, and will not require annual installation and removal.

**SCHEDULE FOR BLACK RIVER PROJECT & BEEBEE ISLAND PROJECT**

<u>License Article</u>	<u>Flow Release Structure</u> <u>Construction Period</u>
Article 406 1998 (All five Black River sites and Beebee Island)	June 1, 1998 through December 17,

<u>License Article</u>	<u>Fish Conveyance Structure</u> <u>Construction Period</u>
Article 411 1999 (Beebee Island)	June 1, 1998 through September 30,

After installation of the minimum flow release structures, Niagara Mohawk will assess the need for any fish protection and conveyance measures in accordance with the field meeting inspection minutes of June 12, 1997.

DISCHARGE CURVES AND TABLES FOR MINIMUM FLOW RELEASE STRUCTURES

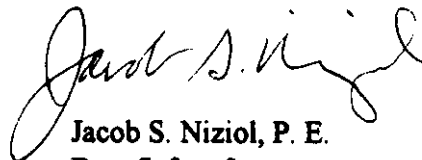
Niagara Mohawk has developed discharge curves and tables using weir equations for the minimum flow release structures, based upon varying pond elevations and with maximum fluctuations as allowed by License Articles 401. These discharge curves and tables for the above noted developments can be found under Attachment 1. The discharge curve and table for the pneumatic crest device at Deferiet will be provided at a later date.

The facilities for releasing the minimum flow are simple, not relying on mechanical equipment or manual operation which provides for reliable operation, with the exception being the pneumatic crest device at Deferiet. The measures proposed herein would result in the average flow passed, meeting or exceeding the minimum flow requirements. Typically, the higher range of flows will be experienced at the time of year when fish movement is more prevalent.

Niagara Mohawk would appreciate receiving your comments in 30 days from the date of this letter. Upon receipt of agency comments, Niagara Mohawk will incorporate agency comments as appropriate in the detailed design drawings, and submit to FERC.

If you have any questions, please contact me at (315) 428-5556 or Tom Skutnik at (315) 428-5564.

Sincerely,



Jacob S. Nizioł, P. E.  
Dam Safety &  
Regulatory Compliance Coordinator

Enclosure:

xc: Ms. Lenore Kuwik, NYSDEC - Albany  
Ms. Sherry Morgan, USFWS - Cortland  
Mr. Curt Orvis, USFWS - Hadley, Ma.  
Mr. Kevin Madden, FERC, Washington  
Ms. Janet Audunson, Beebee Island Corporation  
Mr. Sam Hirschey  
Mr. Tom Skutnik



**NIAGARA MOHAWK**

**GENERATION  
BUSINESS GROUP**

FOSSIL AND HYDRO GENERATION/300 ERIE BOULEVARD WEST, SYRACUSE, NEW 13202/TELEPHONE (315) 474-1511

January 13, 1998

Ms. Sherry Morgan  
Field Supervisor  
U.S. Fish & Wildlife Service  
3817 Luker Road  
Cortland, New York 13045

**SUBJECT: Black River Project & Beebee Island Project  
FERC Project Nos. 2569 & 2538 Respectively  
License Articles 406 - Black River and Beebee Island,  
Flow Release Structures  
License Article 411 - Beebee Island, Fish Conveyance Structure**

Dear Mr. Ollivett:

In accordance with the Order Approving Settlement Agreement and Issuing New License, issued on December 24, 1996 for Niagara Mohawk's Black River Project and the Beebee Island Project, enclosed are Niagara Mohawk's draft drawings for the flow release structures and fish conveyance structure required by License Articles 406 for the Black River Project and Beebee Island Project and License Article 411 for the Beebee Island Project.

The design approach used for the minimum flow release structures is similar to the design approach used for the Beaver River (FERC Project No. 2645) sites, and was discussed during the minimum flow release structure locations site visit on June 12, 1997. The June 12, 1997 field inspection minutes were distributed on July 11, 1997 and included an attachment entitled "Design Criteria for Minimum Flow Release Structures".

The enclosed draft drawings have been marked up to denote the proposed locations of the flow release structures and fish conveyance structure.

Following are brief descriptions of the flow release structures at each of the developments and the fish conveyance structure at Beebee Island.

## **BLACK RIVER PROJECT**

### **Herrings Development**

License Article 405 requires 20 cubic feet per second (cfs) at all times to be released through the stop-log section located between the dam and the trashracks.

The existing stoplog structure will be modified by installing a weir having a width of 2.3 feet and a weir crest elevation of 677.85 feet to provide the nominal 20 cfs minimum flow release. The minimum flow release through the weir will vary from 16.54 cfs to 23.60 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 680.10 feet). During the time period of May 1 through September 30, when Black River flows are between 1400 cfs and 1900 cfs, the reservoir fluctuation is limited to 0.2 feet by License Article 401. During this time period, a weir 3.5 feet wide with a crest elevation of 678.50 feet will be installed to provide the nominal 20 cfs minimum flow release. The minimum flow release through the weir will vary from approximately 18.48 cfs to 22.51 cfs.

### **Deferiet Development**

License Article 405 requires 45 cfs at all times to be released through the stop-log structure located north of the dam.

The nominal 45 cfs minimum flow release will be provided through the existing stoplog ice sluice structure. A weir opening, 2 feet 7 inches wide having a crest elevation of 655.0 feet, will be constructed within the stoplogs located in the third bay from the canal intake. The minimum flow release through the weir will vary from 41.58 cfs to 48.34 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 659.00 feet).

License Article 405 also requires a minimum flow of 245 cfs downstream of the dam, which will consist of 45 cfs through the weir and 200 cfs from leakage. During walleye spawning season, a total flow of 800 cfs is required downstream of the dam by License Article 405. Niagara Mohawk is planning on installing a pneumatic crest device consisting of two or more sections in 1998; one or more sections of the pneumatic crest device will be deflated to provide the remainder of the 800 cfs flow (555 cfs).

### **Kamargo Development**

License Article 405 requires 120 cfs at all times to be released through a notched section of the dam.

A weir having a width of 10.21 feet and a crest elevation of 560.80 feet will be constructed in the northern end of the dam and will provide the nominal 120 cfs minimum flow release. The minimum flow release through the weir will vary from 104.28 cfs to

136.39 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 563.8 feet).

### Black River Development

License Article 405 requires 80 cfs at all times to be released through a notch in the dam.

A weir having a width of 5.0 feet and a crest elevation of 532.61 feet will be constructed in the southern end of the dam and will provide the nominal 80 cfs minimum flow release. The minimum flow release through the weir will vary from 71.33 cfs to 88.86 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 536.0 feet).

Flows required for the walleye spawning season, 300 cfs total flow, also required by License Article 405, will consist of 80 cfs through the weir and the remaining 220 cfs to be released through the one of the two existing sluice gates. The flow release through one sluice gate will vary from 217.92 cfs to 221.28 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 536.0 feet).

### Sewalls Development

License Article 405 requires 32 cfs at all times to be released into the north channel bypassed reach; 20 cfs to be provided through a notched section of the dam and 12 cfs from leakage or other mechanisms.

A weir having a width of 2.69 feet and a crest elevation of 461.40 feet will be constructed in the north channel dam and will provide the nominal 20 cfs minimum flow release. The minimum flow release will vary from 17.14 cfs to 22.90 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (dam crest elevation 463.9 feet). The remaining 12 cfs will be provided from leakage.

## **BEEBEE ISLAND PROJECT**

### Beebee Island Development

License Article 404 requires a year round minimum flow of 14 cfs to be released into the south channel. License Article 406 requires the 14 cfs to be released through a pipe in the dam.

Niagara Mohawk is currently negotiating with Knowlton Brothers on utilizing an existing intake to the manufacturing facility, having an existing piping and valve arrangement, to provide the 14 cfs minimum flow release into the south channel. Details of the minimum flow release mechanism will be provided at a later date.



The fish attractant flow of 37 cfs required to be provided seasonally (April 1 through November 30) by License Article 411 will be provided through the existing stoplogged ice chute located along the western side of the powerhouse. A weir having a width of 2.0 feet and a crest elevation of 426.00 feet will be constructed within the existing stoplogs and will provide the nominal 37 cfs fish attractant flow. The fish attractant flow will vary from 35.65 cfs to 38.16 cfs over the reservoir fluctuation range of 0.5 feet as measured from the normal maximum headwater elevation (top of flashboard elevation 431.0 feet).

The fish conveyance structure proposed herein, differs from the conveyance structure concept developed previously by Niagara Mohawk and Curt Orvis of the United States Fish & Wildlife Service (Service). The proposed structure will use 2 feet of the existing stoplogged 8 foot wide ice chute. A vertical beam will be installed which will provide support for the remaining stoplogs. The crest elevation of the fish conveyance structure will be the same as the crest elevation of the ogee spillway or elevation 426.00 feet. Curbing, either concrete or timber of sufficient depth to pass approximately 37 cfs, will be installed along the surface of the ogee spillway and extend to the downstream end of the powerhouse, to provide a chute for safe downstream fish passage.

Niagara Mohawk is proposing this approach because the existing stoplogged ice chute is frequently used to pass debris and ice as river conditions dictate. The time of year required for most debris and ice passage generally coincides with the seasonal requirement for downstream fish passage. The remaining area of the ice chute (6.0 feet minus the width of the vertical beam) will be used to pass debris and ice. The original concept called for a flume to be constructed in the center of the ice chute with annual installation and removal. This structure could restrict passage of debris and ice and could be more vulnerable to damage. The predominantly timber structure proposed herein would be more durable and less costly to repair/replace if needed, and will not require annual installation and removal.

**SCHEDULE FOR BLACK RIVER PROJECT & BEEBEE ISLAND PROJECT**

<u>License Article</u>	<u>Flow Release Structure Construction Period</u>
Article 406 1998 (All five Black River sites and Beebee Island)	June 1, 1998 through December 17,

<u>License Article</u>	<u>Fish Conveyance Structure Construction Period</u>
Article 411 1999 (Beebee Island)	June 1, 1998 through September 30,

After installation of the minimum flow release structures, Niagara Mohawk will assess the need for any fish protection and conveyance measures in accordance with the field meeting inspection minutes of June 12, 1997.

DISCHARGE CURVES AND TABLES FOR MINIMUM FLOW RELEASE STRUCTURES

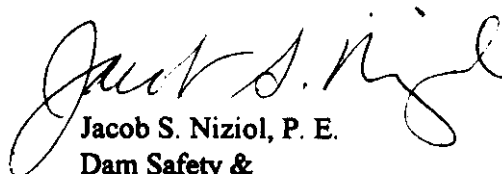
Niagara Mohawk has developed discharge curves and tables using weir equations for the minimum flow release structures, based upon varying pond elevations and with maximum fluctuations as allowed by License Articles 401. These discharge curves and tables for the above noted developments can be found under Attachment 1. The discharge curve and table for the pneumatic crest device at Deferiet will be provided at a later date.

The facilities for releasing the minimum flow are simple, not relying on mechanical equipment or manual operation which provides for reliable operation, with the exception being the pneumatic crest device at Deferiet. The measures proposed herein would result in the average flow passed, meeting or exceeding the minimum flow requirements. Typically, the higher range of flows will be experienced at the time of year when fish movement is more prevalent.

Niagara Mohawk would appreciate receiving your comments in 30 days from the date of this letter. Upon receipt of agency comments, Niagara Mohawk will incorporate agency comments as appropriate in the detailed design drawings, and submit to FERC.

If you have any questions, please contact me at (315) 428-5556 or Tom Skutnik at (315) 428-5564.

Sincerely,



Jacob S. Niziol, P. E.

Dam Safety &

Regulatory Compliance Coordinator

Enclosure:

xc: Ms. Lenore Kuwik, NYSDEC - Albany  
Mr. Len Ollivett, NYSDEC - Watertown  
Mr. Curt Orvis, USFWS - Hadley, Ma.  
Mr. Kevin Madden, FERC, Washington  
Ms. Janet Audunson, Beebee Island Corporation  
Mr. Sam Hirschey  
Mr. Tom Skutnik

**ATTACHMENT 1**

**DISCHARGE CURVES AND TABLES FOR MINIMUM FLOW RELEASE  
STRUCTURES AND BLACK RIVER HYDRO SLUICE GATES**

# Herrings Hydro Development Minimum Flow Discharge Weir

## Rectangular Weir Design

Top of flashboards	680.10 ft
Crest elevation	679.10 ft
Maximum allowable pond fluctuation	0.50 ft
Normal elevation for design	679.85 ft
Weir Crest Elevation	677.85 ft
Design head (h)	2.00 ft
Crest Elevation Sluice	675.90 ft
Weir height (y)	1.95 ft
Acceleration due to gravity (g)	32.20 ft/sec <sup>2</sup>
Number of end contractions (n)	2.00
Required Minimum Flow (Q)	20.00 ft <sup>3</sup> /sec
Determine the Rehbock Coefficient (C <sub>1</sub> )	0.687
Determine Discharge Coefficient (K)	3.676
Weir length (l)	2.3 ft

## Equations used:

Taken from Civil Engineering Reference Manual 6<sup>th</sup> Edition

Rehbock coefficient  $C_1 = [0.6035 + 0.0813(n/y)] + 0.000295/y$

Discharge coefficient  $K = 2/3 * C_1 * (2 * g)^{0.5}$

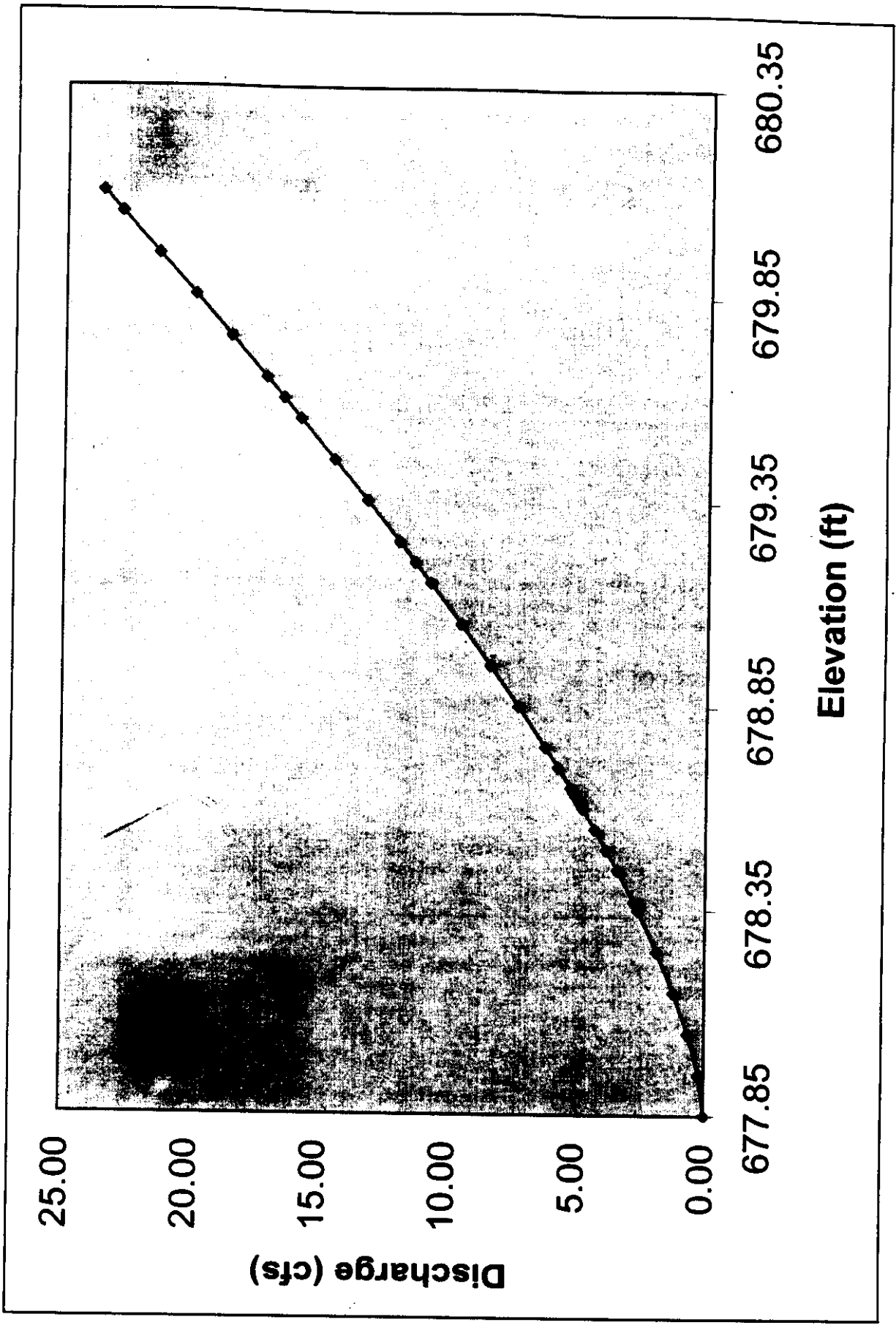
Effective weir length (L)  $L_e = l - (0.1 * n * h)$

Discharge Q (cfs)  $Q = K * l_e * h^{1.5}$

Pond Elevation (ft)	Head (ft)	Rehbock Coefficient	Discharge Coefficient	Effective Length (ft)	Discharge (cfs)
677.85	0.00	0.000	0.000	2.324	0.00
677.95	0.10	0.612	3.274	2.304	0.24
678.05	0.20	0.613	3.282	2.284	0.67
678.15	0.30	0.617	3.301	2.264	1.23
678.25	0.40	0.621	3.322	2.244	1.89
678.35	0.50	0.625	3.343	2.224	2.63
678.37	0.52	0.626	3.347	2.220	2.79
678.45	0.60	0.629	3.365	2.204	3.45
678.50	0.65	0.631	3.376	2.194	3.88
678.55	0.70	0.633	3.387	2.184	4.33
678.60	0.75	0.635	3.398	2.174	4.80
678.61	0.76	0.636	3.400	2.172	4.89
678.62	0.77	0.636	3.402	2.170	4.99
678.63	0.78	0.636	3.405	2.168	5.08
678.64	0.79	0.637	3.407	2.166	5.18
678.65	0.80	0.637	3.409	2.164	5.28
678.70	0.85	0.639	3.420	2.154	5.77
678.75	0.90	0.641	3.431	2.144	6.28
678.85	1.00	0.645	3.453	2.124	7.33
678.95	1.10	0.650	3.476	2.104	8.44
679.05	1.20	0.654	3.498	2.084	9.58
679.15	1.30	0.658	3.520	2.064	10.77
679.20	1.35	0.660	3.531	2.054	11.38
679.25	1.40	0.662	3.542	2.044	11.99
679.35	1.50	0.666	3.565	2.024	13.25
679.45	1.60	0.670	3.587	2.004	14.55
679.55	1.70	0.675	3.609	1.984	15.87
679.60	1.75	0.677	3.620	1.974	16.54
679.65	1.80	0.679	3.631	1.964	17.22
679.75	1.90	0.683	3.654	1.944	18.60
679.85	2.00	0.687	3.676	1.924	20.00
679.95	2.10	0.691	3.698	1.904	21.43
680.05	2.20	0.695	3.720	1.884	22.87
680.10	2.25	0.698	3.732	1.874	23.60



**Herrings Hydro Development  
Minimum Flow Discharge**



## Harrings Hydro Development Minimum Flow Discharge Weir

### Rectangular Weir Design

Top of flashboards	680.10 ft
Crest elevation	679.10 ft
Maximum allowable pond fluctuation	0.20 ft
Normal elevation for design	680.00 ft
Weir Crest Elevation	678.50 ft
Design head (h)	1.50 ft
Crest Elevation Sluice	675.90 ft
Weir height (y)	2.60 ft
Acceleration due to gravity (g)	32.20 ft/sec <sup>2</sup>
Number of end contractions (n)	2.00
Required Minimum Flow (Q)	20.00 ft <sup>3</sup> /sec
Determine the Rehbock Coefficient (C <sub>1</sub> )	0.651
Determine Discharge Coefficient (K)	3.481
Weir length (l)	3.5 ft
Length of weir 9'	

### Equations used:

Taken from Civil Engineering Reference Manual 6<sup>th</sup> Edition

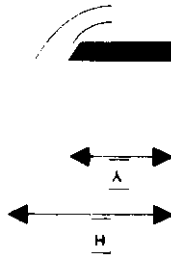
Rehbock coefficient  $C_1 = (0.6035 + 0.0813(h/y) + 0.000295/y)$

Discharge coefficient  $K = 2/3 \cdot C_1 \cdot (2 \cdot g)^{0.5}$

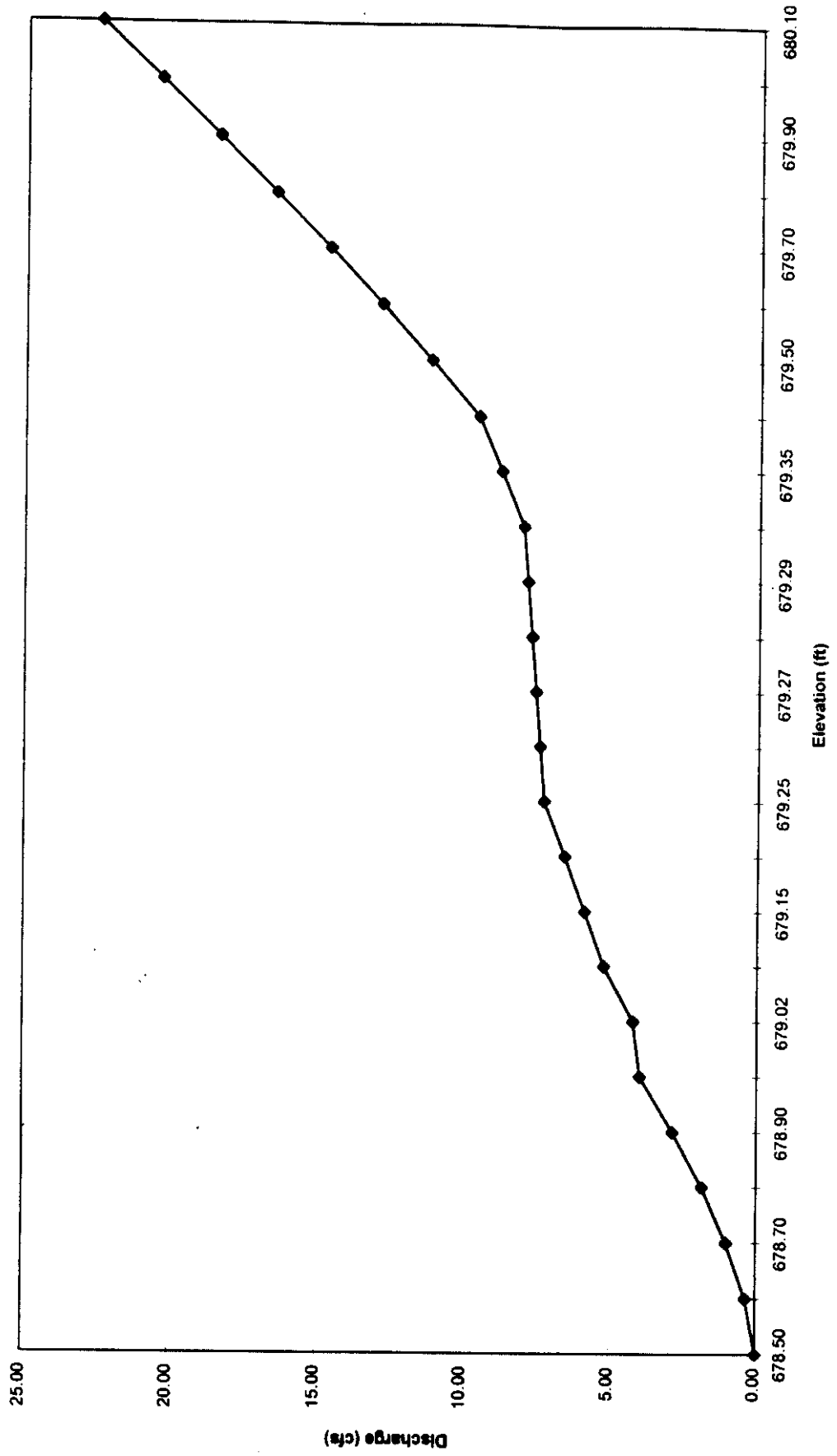
Effective weir length  $(L_e) = l - (0.1 \cdot n \cdot h)$

Discharge Q (cfs)  $Q = K \cdot L_e \cdot h^{1.5}$

Pond Elevation (ft)	Head (ft)	Rehbock Coefficient	Discharge Coefficient	Effective Length (ft)	Discharge (cfs)
678.50	0.00	0.000	0.000	3.500	0.00
678.60	0.10	0.611	3.268	3.480	0.36
678.70	0.20	0.611	3.271	3.460	1.01
678.80	0.30	0.614	3.284	3.440	1.86
678.90	0.40	0.617	3.299	3.420	2.85
679.00	0.50	0.620	3.315	3.400	3.98
679.02	0.52	0.620	3.318	3.396	4.23
679.10	0.60	0.623	3.331	3.380	5.23
679.15	0.65	0.624	3.339	3.370	5.90
679.20	0.70	0.626	3.348	3.360	6.59
679.25	0.75	0.627	3.356	3.350	7.30
679.26	0.76	0.628	3.358	3.348	7.45
679.27	0.77	0.628	3.359	3.346	7.59
679.28	0.78	0.628	3.361	3.344	7.74
679.29	0.79	0.629	3.363	3.342	7.89
679.30	0.80	0.629	3.364	3.340	8.04
679.35	0.85	0.630	3.372	3.330	8.80
679.40	0.90	0.632	3.381	3.320	9.58
679.50	1.00	0.635	3.397	3.300	11.21
679.60	1.10	0.638	3.414	3.280	12.92
679.70	1.20	0.641	3.431	3.260	14.70
679.80	1.30	0.644	3.447	3.240	16.56
679.90	1.40	0.647	3.464	3.220	18.48
680.00	1.50	0.651	3.481	3.200	20.46
680.10	1.60	0.654	3.497	3.180	22.51



Herrings Hydro Development  
Minimum Flow Discharge Weir (0.2')

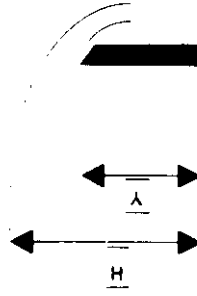


## Deferiet Hydro Development Minimum Flow Discharge Weir

	Head (ft)	Elevation (ft)	Rehbock Coefficient	Discharge Coefficient	Effective Length (ft)	Discharge (cfs)
Rectangular Weir Design						
Crest Elevation	0.00	655.00	0.000	0.000	2.607	0.00
Top of flashboards	0.10	655.10	0.608	3.254	2.587	0.27
Maximum allowable pond fluctuation	0.20	655.20	0.606	3.242	2.567	0.74
Normal elevation for design	0.30	655.30	0.606	3.242	2.547	1.36
Weir crest elevation	0.40	655.40	0.606	3.243	2.527	2.07
Design head (h)	0.50	655.50	0.607	3.245	2.507	2.88
Toe of dam	0.60	655.60	0.607	3.248	2.487	3.75
Dam height (y)	0.70	655.70	0.608	3.250	2.467	4.70
Acceleration due to gravity (g)	0.80	655.80	0.608	3.253	2.447	5.69
Number of end contractions (n)	0.90	655.90	0.609	3.256	2.427	6.75
Required minimum flow (Q)	1.00	656.00	0.609	3.259	2.407	7.84
Determine the Rehbock coefficient (C <sub>1</sub> )	1.10	656.10	0.610	3.261	2.387	8.98
Determine discharge coefficient (K)	1.20	656.20	0.610	3.264	2.367	10.15
Determine the required weir length (l)	1.30	656.30	0.611	3.267	2.347	11.36
Determine the effective weir length (l <sub>e</sub> )	1.40	656.40	0.611	3.270	2.327	12.60
	1.50	656.50	0.612	3.273	2.307	13.87
	1.60	656.60	0.612	3.276	2.287	15.16
	1.70	656.70	0.613	3.278	2.267	16.47
	1.80	656.80	0.613	3.281	2.247	17.80
	1.90	656.90	0.614	3.284	2.227	19.15
	2.00	657.00	0.614	3.287	2.207	20.52
	2.10	657.10	0.615	3.290	2.187	21.89
	2.20	657.20	0.615	3.293	2.167	23.28
	2.30	657.30	0.616	3.296	2.147	24.68
	2.40	657.40	0.617	3.299	2.127	26.08
	2.50	657.50	0.617	3.301	2.107	27.49
	2.60	657.60	0.618	3.304	2.087	28.91
	2.70	657.70	0.618	3.307	2.067	30.32
	2.80	657.80	0.619	3.310	2.047	31.74
	2.90	657.90	0.619	3.313	2.027	33.16
	3.00	658.00	0.620	3.316	2.007	34.57
	3.10	658.10	0.620	3.319	1.987	35.99
	3.20	658.20	0.621	3.322	1.967	37.39
	3.30	658.30	0.621	3.325	1.947	38.80
	3.40	658.40	0.622	3.328	1.927	40.19
	3.50	658.50	0.623	3.330	1.907	41.58
	3.60	658.60	0.623	3.333	1.887	42.96
	3.70	658.70	0.624	3.336	1.867	44.32
	3.75	658.75	0.624	3.338	1.857	45.00
	3.80	658.80	0.624	3.339	1.847	45.68
	3.90	658.90	0.625	3.342	1.827	47.02
	4.00	659.00	0.625	3.345	1.807	48.34

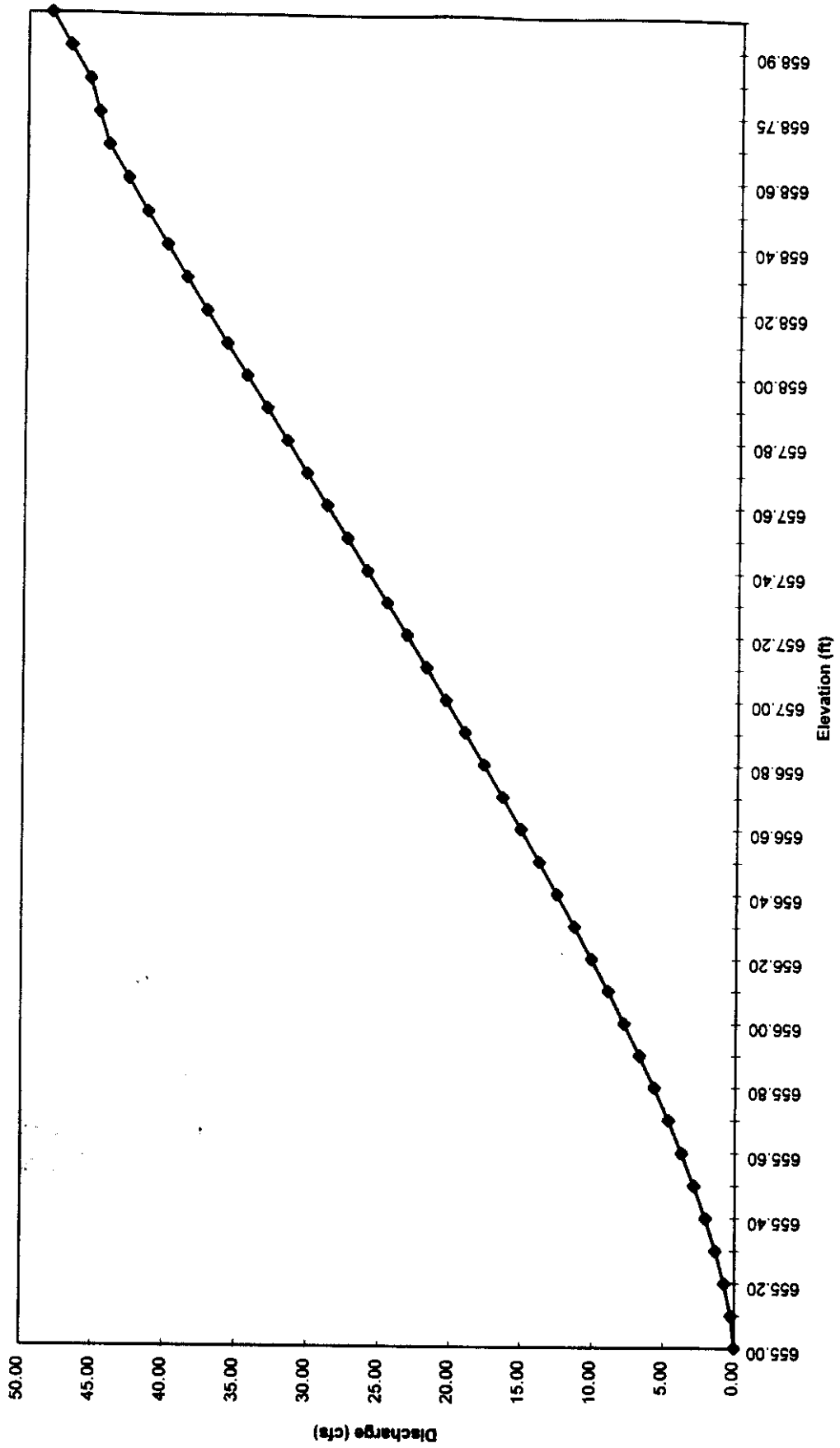
- 656.00 ft
- 659.00 ft
- 0.50 ft
- 658.75 ft
- 655.00 ft
- 3.75 ft
- 640.00 ft
- 15.00 ft
- 32.20 ft/sec<sup>2</sup>
- 2.00
- 45.00 ft<sup>3</sup>/sec
- 0.62
- 3.34
- 2.61 ft
- 1.86

Equations used:  
 Taken from Civil Engineering Reference Manual  
 Rehbock coefficient  $C_1 = 10.6035 + 0.0813(h/y) + 0.000295/y$   
 Discharge coefficient  $K = 2/3 * C_1 * (2 * g)^{0.5}$   
 Weir length  $l = [Q / (K h^{1.5})] + (0.1 * n * h)$





**Deferiet Hydro Development  
Minimum Flow Discharge Weir**



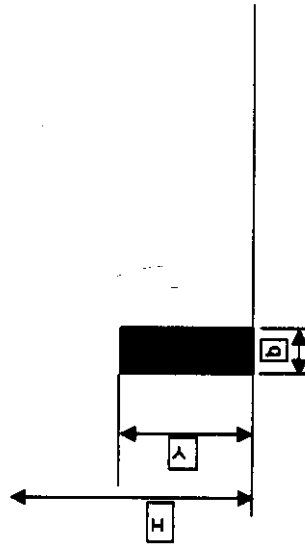
## Kamargo Hydro Development Minimum Flow Discharge Weir

### Rectangular Broad Crested Weir Design

Crest Elevation	561.80 ft
Top of flashboards	563.80 ft
Maximum allowable pond fluctuation	0.50 ft
Normal elevation for design	563.55 ft
Weir crest elevation	560.80 ft
Design head (h)	2.75 ft
Toe of dam	559.30 ft
Dam height (y)	1.50 ft
Acceleration due to gravity (g)	32.20 ft/sec <sup>2</sup>
Number of end contractions (n)	1.00
Required minimum flow (Q)	120.00 ft <sup>3</sup> /sec
Determine Discharge Coefficient (K)	2.65
Weir length (l)	10.21 ft
Breadth of Crest Weir (b)	7.00 ft

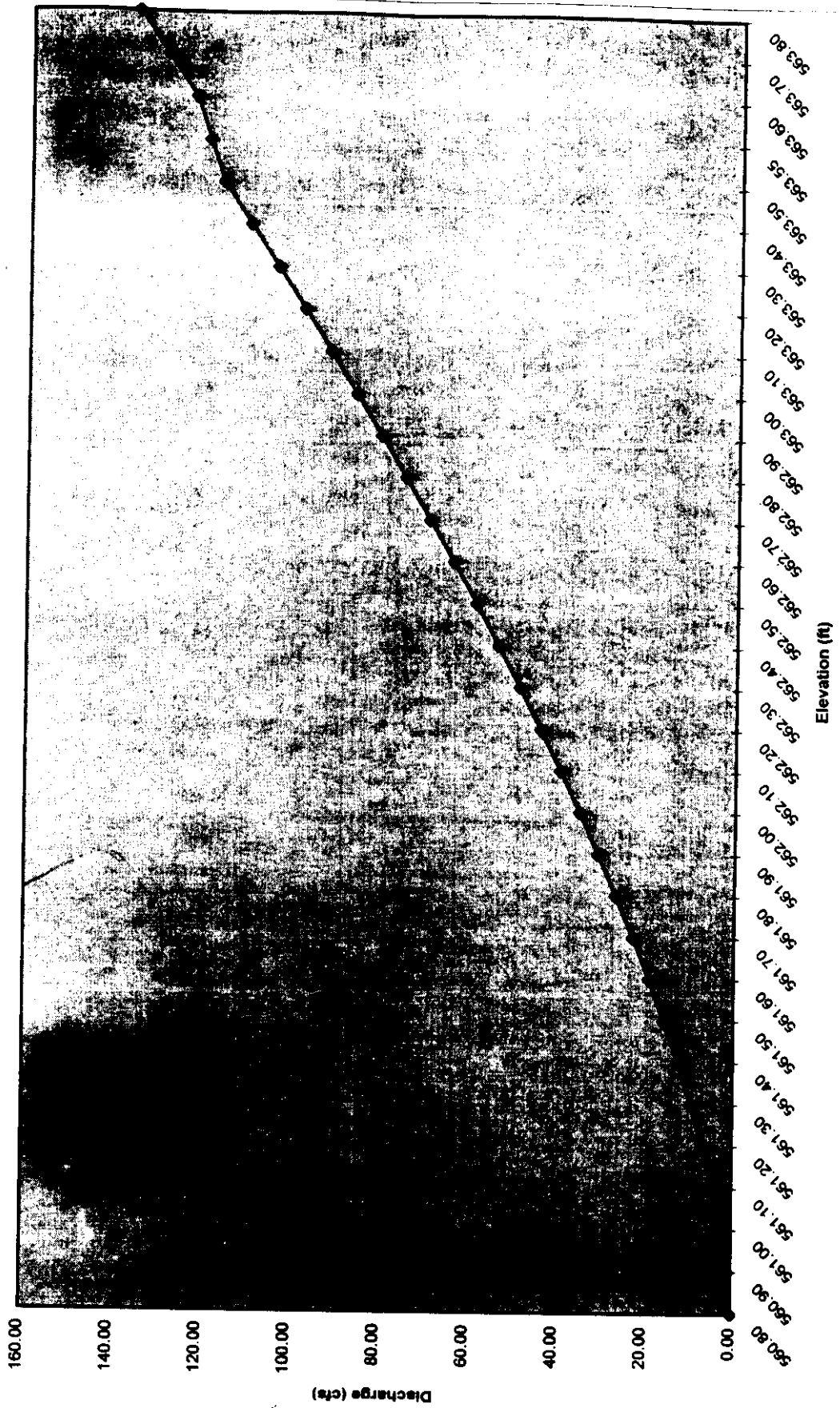
### Equations Used:

Taken from Civil Engineering Reference Manual  
 Weir length  $l = [Q / (Kh^{1.5}) + (0.1 * n * h)]$   
 Standard Handbook for Civil Engineers 3rd Edition (pg 21-79)  
 Discharge coefficient  $K=2.65$  taken from Table 21-15



Head (ft)	Elevation (ft)	Discharge Coefficient	Effective Length (ft)	Discharge (cfs)
0.00	560.80	2.650	10.205	0.00
0.10	560.90	2.650	10.195	0.85
0.20	561.00	2.650	10.185	2.41
0.30	561.10	2.650	10.175	4.43
0.40	561.20	2.650	10.165	6.81
0.50	561.30	2.650	10.155	9.51
0.60	561.40	2.650	10.145	12.49
0.70	561.50	2.650	10.135	15.73
0.80	561.60	2.650	10.125	19.20
0.90	561.70	2.650	10.115	22.89
1.00	561.80	2.650	10.105	26.78
1.10	561.90	2.650	10.095	30.86
1.20	562.00	2.650	10.085	35.13
1.30	562.10	2.650	10.075	39.57
1.40	562.20	2.650	10.065	44.18
1.50	562.30	2.650	10.055	48.95
1.60	562.40	2.650	10.045	53.87
1.70	562.50	2.650	10.035	58.94
1.80	562.60	2.650	10.025	64.16
1.90	562.70	2.650	10.015	69.51
2.00	562.80	2.650	10.005	74.99
2.10	562.90	2.650	9.995	80.60
2.20	563.00	2.650	9.985	86.34
2.30	563.10	2.650	9.975	92.20
2.40	563.20	2.650	9.965	98.18
2.50	563.30	2.650	9.955	104.28
2.60	563.40	2.650	9.945	110.49
2.70	563.50	2.650	9.935	116.80
2.75	563.55	2.650	9.930	120.00
2.80	563.60	2.650	9.925	123.23
2.90	563.70	2.650	9.915	129.76
3.00	563.80	2.650	9.905	136.39

**Kamargo Hydro Development  
Minimum Flow Discharge Weir**



## Black River Hydro Development Minimum Flow Discharge Weir

### Rectangular Weir Design

Crest Elevation	534.00 ft
Top of flashboards	536.00 ft
Maximum allowable pond fluctuation	0.50 ft
Normal elevation for design	535.75 ft
Weir Crest Elevation	532.61 ft
Design head (h)	3.14 ft
Toe of dam	512.20 ft
Dam height (y)	20.41 ft
Acceleration due to gravity (g)	32.20 ft/sec <sup>2</sup>
Number of end contractions (n)	2.00
Required Minimum Flow (Q)	80.00 ft <sup>3</sup> /sec
Determine the Rehbock Coefficient (C <sub>r</sub> )	0.616
Determine Discharge Coefficient (K)	3.296
Weir length (l)	5.0 ft

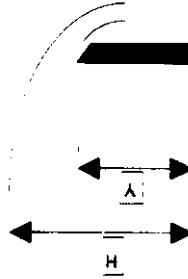
### Equations used:

Taken from Civil Engineering Reference Manual 6<sup>th</sup> Edition  
 Rehbock coefficient  $C_r = [0.6036 + 0.0813(h/y) + 0.000295/y]$

Discharge coefficient  $K = 2/3 * C_r * (2 * g)^{0.5}$

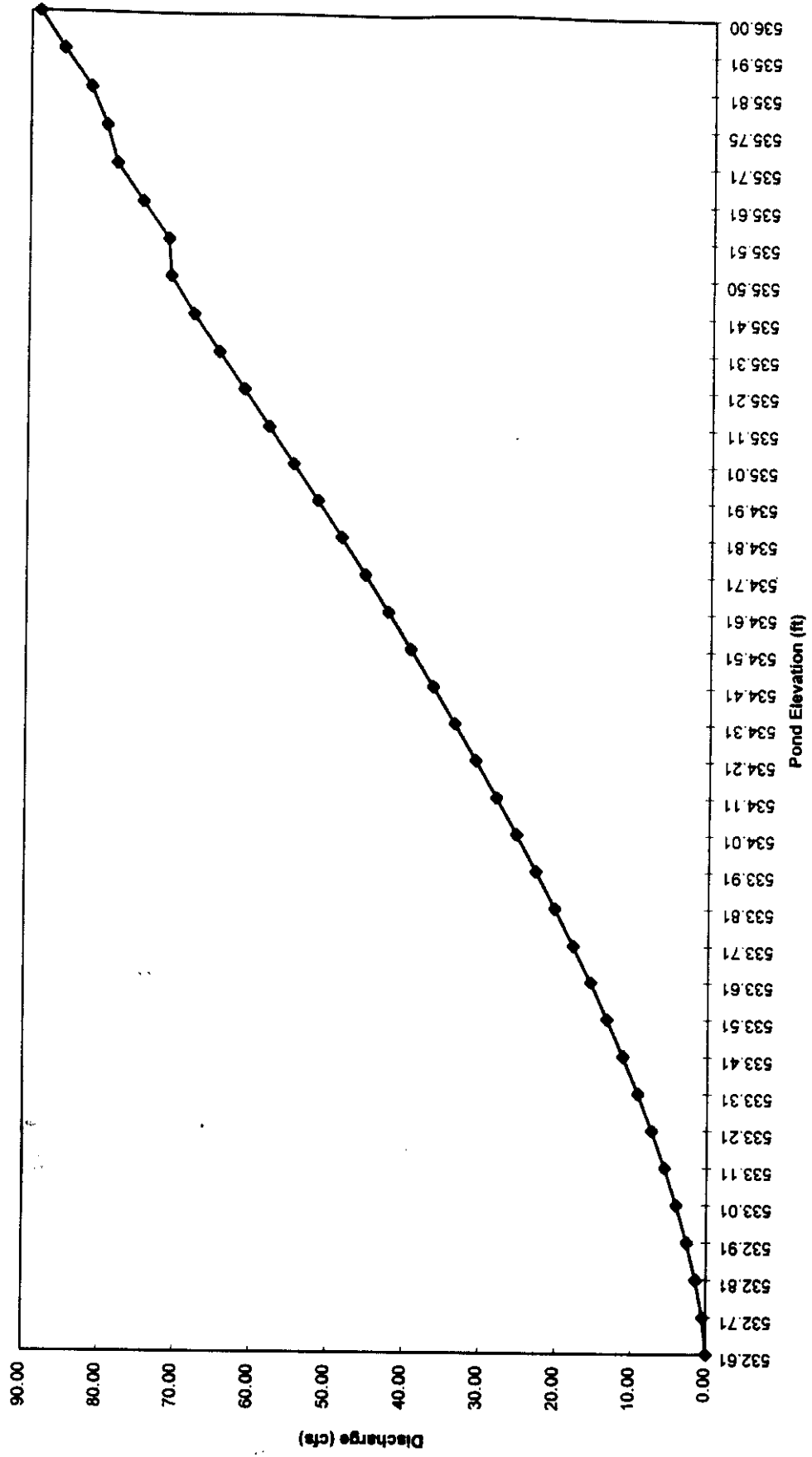
Effective weir length  $(L) L_e = l - (0.1 * n * h)$

Discharge Q (cfs)  $Q = K * L_e * h^{1.5}$



Pond Elevation (ft)	Head (ft)	Rehbock Coefficient	Discharge Coefficient	Effective Length (ft)	Discharge (cfs)
532.61	0.00	0.000	0.000	4.990	0.00
532.71	0.10	0.608	3.253	4.970	0.51
532.81	0.20	0.606	3.241	4.950	1.44
532.91	0.30	0.606	3.239	4.930	2.62
533.01	0.40	0.606	3.240	4.910	4.03
533.11	0.50	0.606	3.241	4.890	5.60
533.21	0.60	0.606	3.243	4.870	7.34
533.31	0.70	0.607	3.245	4.850	9.22
533.41	0.80	0.607	3.247	4.830	11.22
533.51	0.90	0.607	3.249	4.810	13.34
533.61	1.00	0.608	3.251	4.790	15.57
533.71	1.10	0.608	3.253	4.770	17.90
533.81	1.20	0.608	3.255	4.750	20.33
533.91	1.30	0.609	3.257	4.730	22.84
534.01	1.40	0.609	3.259	4.710	25.43
534.11	1.50	0.610	3.261	4.690	28.10
534.21	1.60	0.610	3.263	4.670	30.85
534.31	1.70	0.610	3.265	4.650	33.66
534.41	1.80	0.611	3.267	4.630	36.54
534.51	1.90	0.611	3.270	4.610	39.48
534.61	2.00	0.612	3.272	4.590	42.48
534.71	2.10	0.612	3.274	4.570	45.53
534.81	2.20	0.612	3.276	4.550	48.64
534.91	2.30	0.613	3.278	4.530	51.80
535.01	2.40	0.613	3.280	4.510	55.01
535.11	2.50	0.614	3.282	4.490	58.26
535.21	2.60	0.614	3.284	4.470	61.55
535.31	2.70	0.614	3.286	4.450	64.89
535.41	2.80	0.615	3.289	4.430	68.26
535.50	2.89	0.615	3.291	4.412	71.33
535.51	2.90	0.615	3.291	4.410	71.68
535.61	3.00	0.615	3.293	4.390	75.12
535.71	3.10	0.616	3.295	4.370	78.60
535.75	3.14	0.616	3.296	4.362	80.00
535.81	3.20	0.616	3.297	4.350	82.11
535.91	3.30	0.617	3.299	4.330	85.65
536.00	3.39	0.617	3.301	4.312	88.86

**Black River Hydro Development  
Minimum Flow Discharge Weir**



## Black River Hydro Development Seasonal Discharge thru Sluice Gate

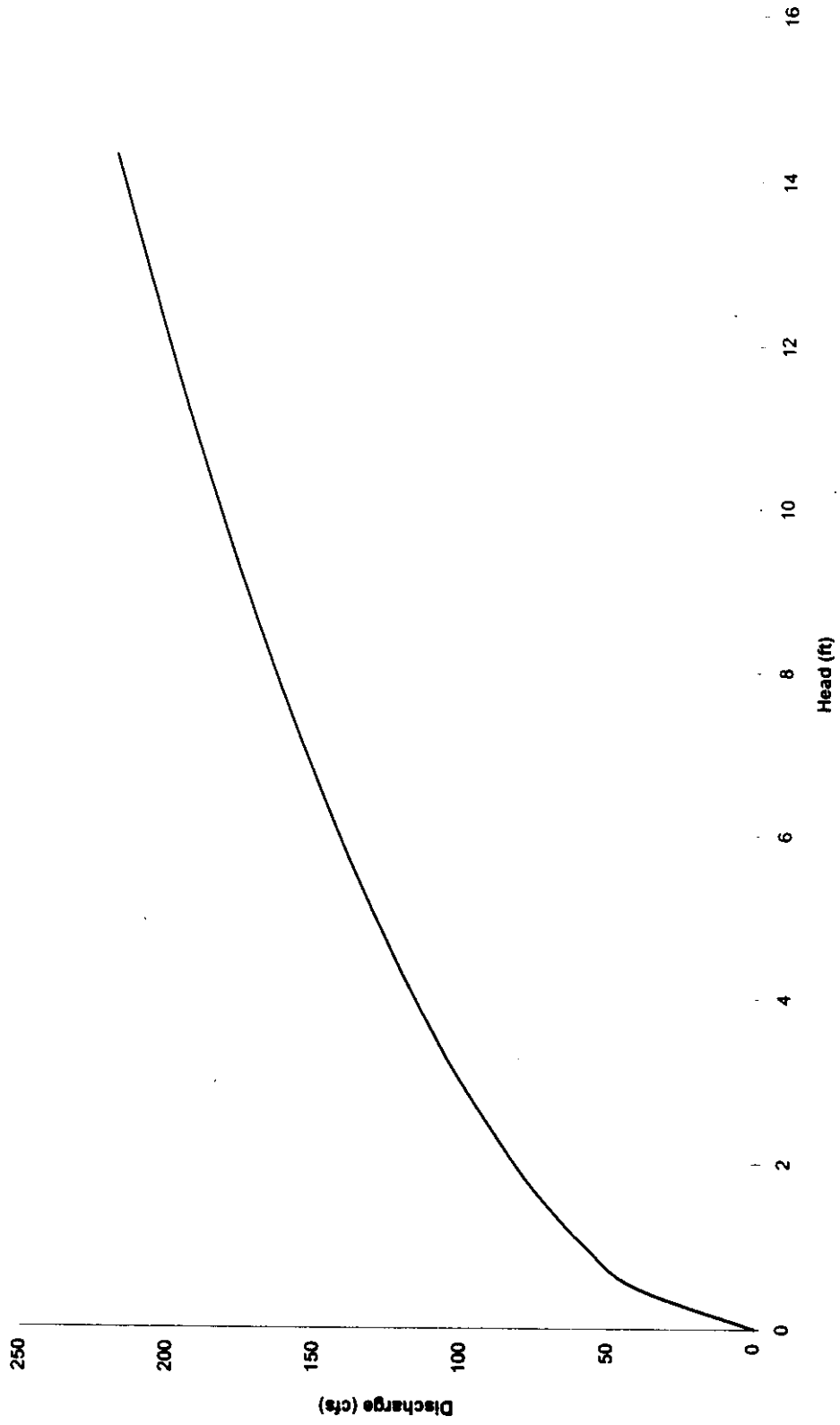
### \*Thru One Gate Only

Crest Elevation	534.00 ft
Top of flashboards	536.00 ft
Maximum allowable pond fluctuation	0.50 ft
Normal elevation for design	535.75 ft
Weir Crest Elevation	532.61 ft
Required Minimum Flow (Q)	220.00 ft <sup>3</sup> /sec
Weir length (l)	9.0 ft
Centerline Opening Elevation	521.50 ft
Gate Opening	0.996 ft
Discharge Coefficient (c)	0.81
Discharge Area (A)	8.96 ft <sup>2</sup>
Gravity Constant (g)	32.2 ft/sec <sup>2</sup>
*Discharge Equation:	$Q = cA(2gh)^{0.5}$

\* Equation taken from  
"Handbook of Applied Hydraulics, 2nd edition"

Head (ft)	Discharge (cfs)
0.00	0.00
0.50	41.18
1.00	58.24
1.50	71.33
2.00	82.37
3.00	100.88
3.50	108.96
4.00	116.48
4.50	123.55
5.00	130.23
5.50	136.59
6.00	142.66
7.00	154.09
8.00	164.73
9.50	179.51
11.00	193.17
12.00	201.76
13.50	213.99
14.00	217.92
14.25	220.00
14.50	221.78

**Black River Hydro Development  
Seasonal Discharge thru Sluice Gate**



## Sewalls Hydro Development Minimum Flow Discharge Weir

### Rectangular Broad Crested Weir Design

Crest Elevation	463.90 ft	Elevation (ft)	461.40	Head (ft)	0.00	Discharge Coefficient	2.650	Effective Length (ft)	2.686	Discharge (cfs)	0.00
Top of flashboards	463.90 ft		461.50	0.10		2.650		2.666		0.22	
Maximum allowable pond fluctuation	0.50 ft		461.60	0.20		2.650		2.646		0.63	
Normal elevation for design	463.65 ft		461.70	0.30		2.650		2.626		1.14	
Weir crest elevation	461.40 ft		461.80	0.40		2.650		2.606		1.75	
Design head (h)	2.25 ft		461.90	0.50		2.650		2.586		2.42	
Toe of dam	445.40 ft		462.00	0.60		2.650		2.566		3.16	
Dam height (y)	16.00 ft		462.10	0.70		2.650		2.546		3.95	
Acceleration due to gravity (g)	32.20 ft/sec <sup>2</sup>		462.20	0.80		2.650		2.526		4.79	
Number of end contractions (n)	2.00		462.30	0.90		2.650		2.506		5.67	
Required minimum flow (Q)	20.00 ft <sup>3</sup> /sec		462.40	1.00		2.650		2.486		6.59	
Breadth of Crest Weir (b)	7.75 ft		462.50	1.10		2.650		2.466		7.54	
Determine discharge coefficient (K)	2.65		462.60	1.20		2.650		2.446		8.52	
Determine the required weir length (l)	2.69 ft		462.70	1.30		2.650		2.426		9.53	
Determine the effective weir length (L <sub>e</sub> )	2.24		462.80	1.40		2.650		2.406		10.56	
			462.90	1.50		2.650		2.386		11.62	
			463.00	1.60		2.650		2.366		12.69	
			463.10	1.70		2.650		2.346		13.78	
			463.15	1.75		2.650		2.336		14.33	
			463.20	1.80		2.650		2.326		14.89	
			463.30	1.90		2.650		2.306		16.01	
			463.40	2.00		2.650		2.286		17.14	
			463.50	2.10		2.650		2.266		18.28	
			463.60	2.20		2.650		2.246		19.42	
			463.65	2.25		2.650		2.236		20.00	
			463.70	2.30		2.650		2.226		20.58	
			463.80	2.40		2.650		2.206		21.74	
			463.90	2.50		2.650		2.186		22.90	

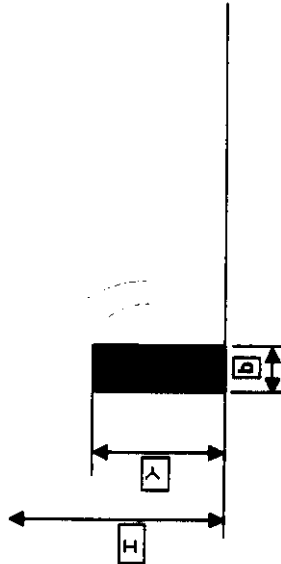
Equations used:

Taken from Civil Engineering Reference Manual

$$\text{Weir length } l = [Q / (K h^{1.5})] + (0.1 n h)$$

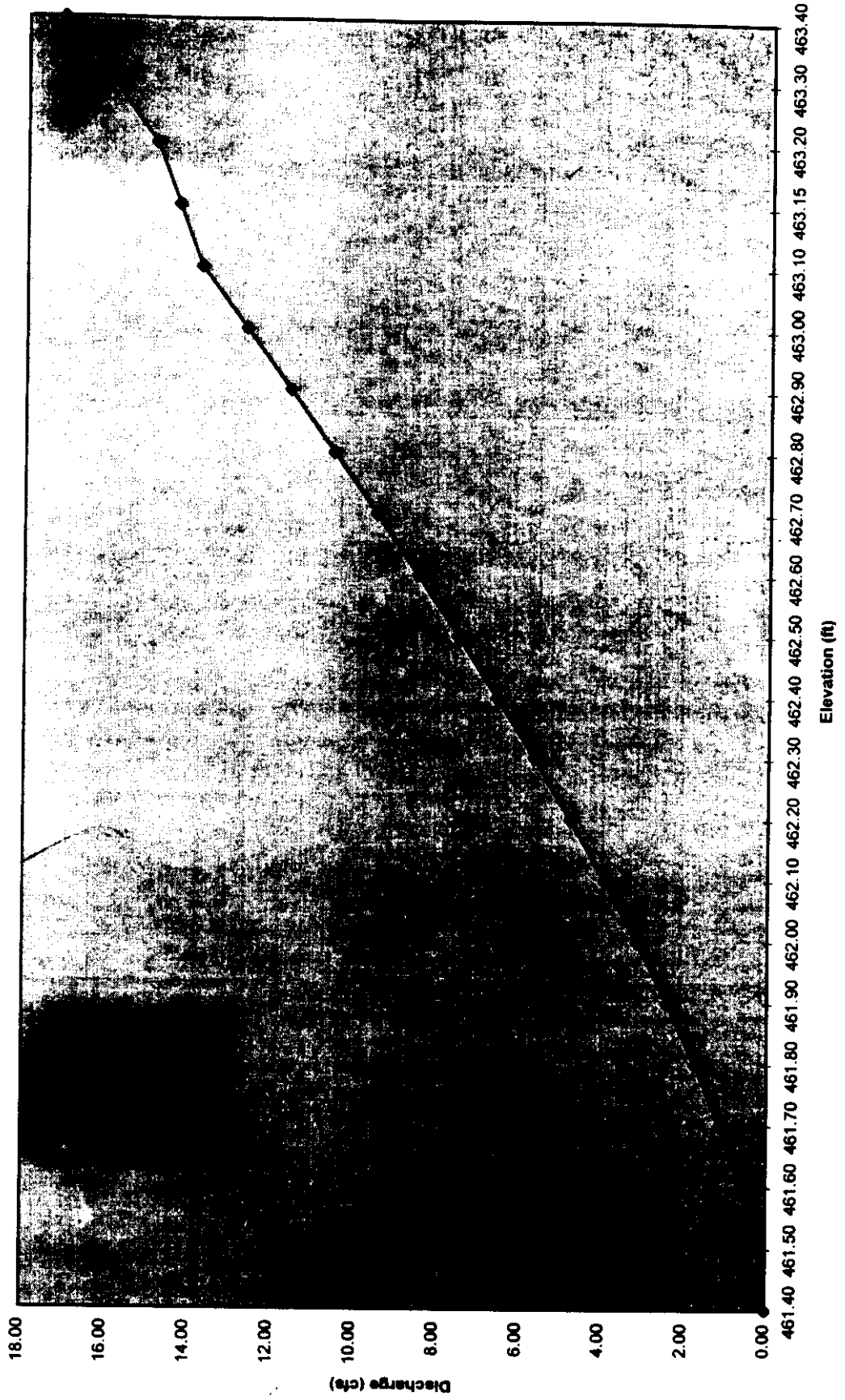
Standard Handbook for Civil Engineers 3rd Edition (pg 21-79)

Discharge coefficient K=2.65 taken from Table 21-15





**Sewalls Hydro Development  
Minimum Flow Discharge Weir**



**Beebe Island Hydro Development  
Fish Attractant Flow Discharge**

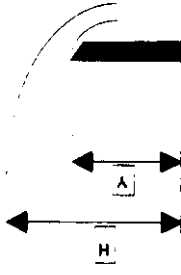
**Rectangular Weir Design**

- Crest Elevation
- Top of fishboards
- Maximum allowable pond fluctuation
- Normal elevation for design
- Weir Crest Elevation
- Design head (h)
- Toe of dam
- Dam height (y)
- Acceleration due to gravity (g)
- Number of end contractions (n)
- Required Fish Attractant Flow (Q)
- Determine the Rehbock Coefficient (C<sub>r</sub>)
- Determine Discharge Coefficient (C<sub>d</sub>)
- Weir length (l)

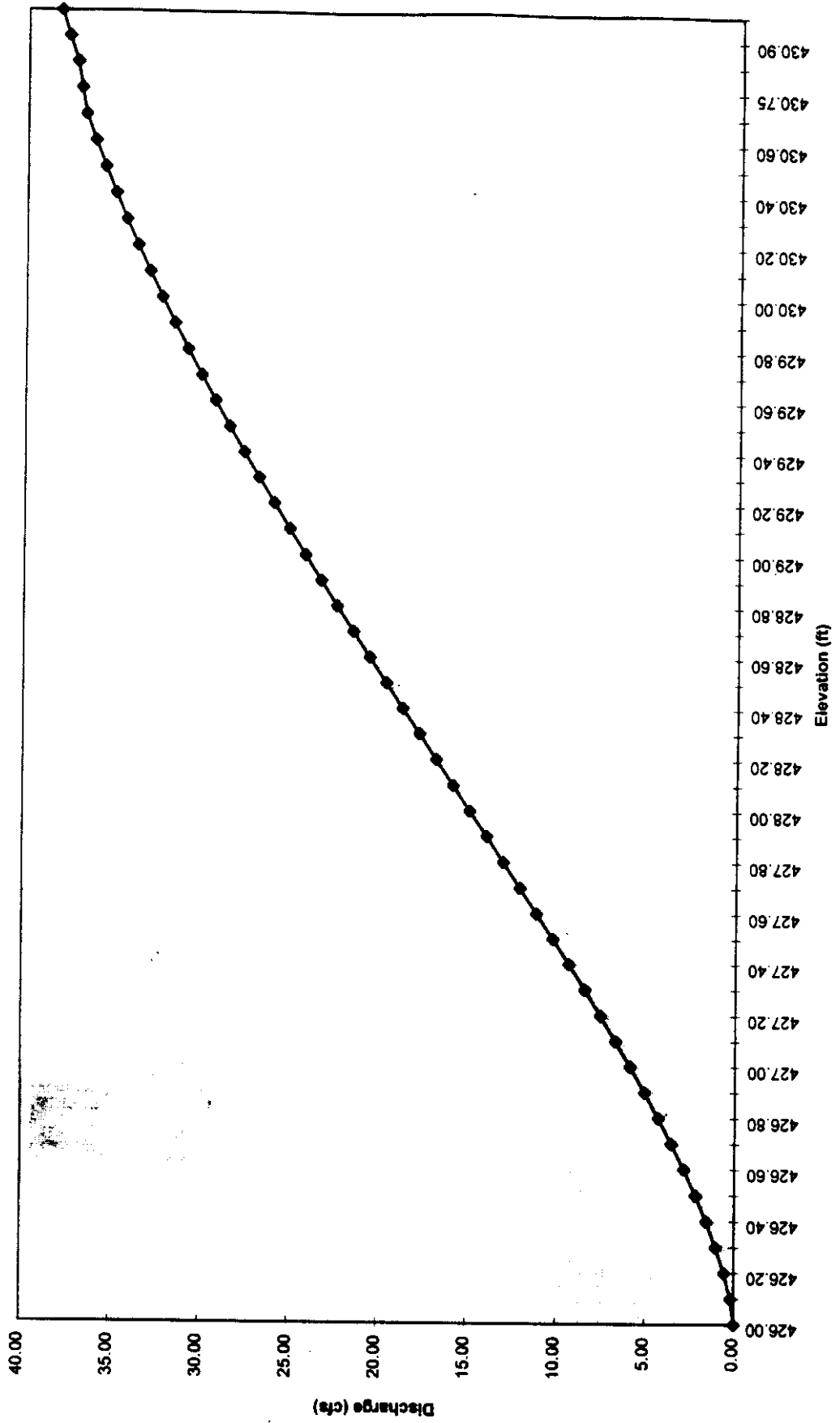
	Pond Elevation (ft)	Head (ft)	Rehbock Coefficient	Discharge Coefficient	Effective Length (ft)	Discharge (cfs)
428.00 ft	426.00	0.00	0.000	0.000	1.996	0.00
431.00 ft	426.10	0.10	0.608	3.255	1.976	0.20
0.50 ft	426.20	0.20	0.606	3.245	1.956	0.57
430.75 ft	426.30	0.30	0.607	3.245	1.936	1.03
426.00 ft	426.40	0.40	0.607	3.247	1.916	1.57
4.75 ft	426.50	0.50	0.608	3.251	1.896	2.18
415.00 ft	426.60	0.60	0.608	3.254	1.876	2.84
11.00 ft	426.70	0.70	0.609	3.258	1.856	3.54
32.20 ft/sec <sup>2</sup>	426.80	0.80	0.610	3.261	1.836	4.28
2.00	426.90	0.90	0.610	3.265	1.816	5.06
37.00 ft <sup>3</sup> /sec	427.00	1.00	0.611	3.269	1.796	5.87
0.64	427.10	1.10	0.612	3.273	1.776	6.71
3.42	427.20	1.20	0.612	3.277	1.756	7.56
2.00 ft	427.30	1.30	0.613	3.281	1.736	8.44
	427.40	1.40	0.614	3.285	1.716	9.34
	427.50	1.50	0.615	3.289	1.696	10.25
	427.60	1.60	0.615	3.292	1.676	11.17
	427.70	1.70	0.616	3.296	1.656	12.10
	427.80	1.80	0.617	3.300	1.636	13.04
	427.90	1.90	0.618	3.304	1.616	13.98
	428.00	2.00	0.618	3.308	1.596	14.93
	428.10	2.10	0.619	3.312	1.576	15.89
	428.20	2.20	0.620	3.316	1.556	16.84
	428.30	2.30	0.621	3.320	1.536	17.79
	428.40	2.40	0.621	3.324	1.516	18.74
	428.50	2.50	0.622	3.328	1.496	19.68
	428.60	2.60	0.623	3.332	1.476	20.62
	428.70	2.70	0.624	3.336	1.456	21.55
	428.80	2.80	0.624	3.340	1.436	22.47
	428.90	2.90	0.625	3.344	1.416	23.38
	429.00	3.00	0.626	3.348	1.396	24.28
	429.10	3.10	0.626	3.352	1.376	25.17
	429.20	3.20	0.627	3.356	1.356	26.05
	429.30	3.30	0.628	3.359	1.336	26.91
	429.40	3.40	0.629	3.363	1.316	27.75
	429.50	3.50	0.629	3.367	1.296	28.58
	429.60	3.60	0.630	3.371	1.276	29.38
	429.70	3.70	0.631	3.375	1.256	30.17
	429.80	3.80	0.632	3.379	1.236	30.94
	429.90	3.90	0.632	3.383	1.216	31.69
	430.00	4.00	0.633	3.387	1.196	32.41
	430.10	4.10	0.634	3.391	1.176	33.11
	430.20	4.20	0.635	3.395	1.156	33.78
	430.30	4.30	0.635	3.399	1.136	34.43
	430.40	4.40	0.636	3.403	1.116	35.05
	430.50	4.50	0.637	3.407	1.096	35.65
	430.60	4.60	0.638	3.411	1.076	36.21
	430.70	4.70	0.638	3.415	1.056	36.74
	430.75	4.75	0.639	3.417	1.046	37.00
	430.80	4.80	0.639	3.419	1.036	37.25
	430.90	4.90	0.640	3.423	1.016	37.72
	431.00	5.00	0.640	3.427	0.996	38.16

**Equations Used:**

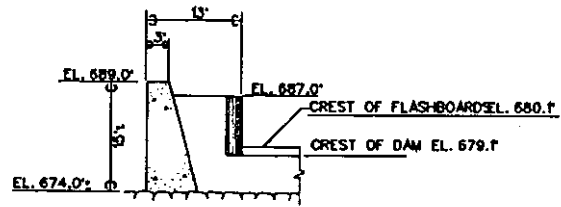
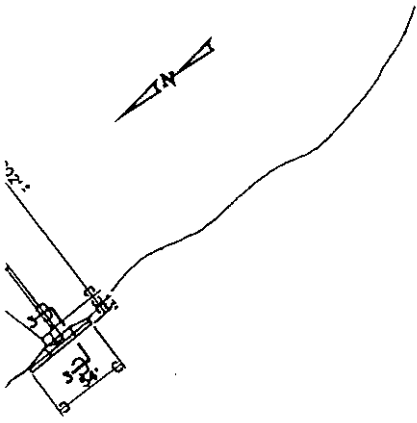
- Taken from Civil Engineering Reference Manual 6<sup>th</sup> Edition
- Rehbock coefficient  $C_r = [0.6035 + 0.0813/(h/y)] + 0.000295/(y)$
- Discharge coefficient  $K = 2/3 * C_r * (2 * g)^{0.5}$
- Effective weir length (l<sub>e</sub>)  $l_e = l - (0.1 * n * h)$
- Discharge Q (cfs)  $Q = K * l_e * h^{1.5}$



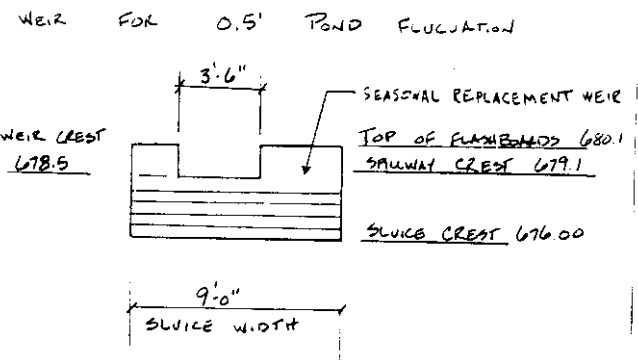
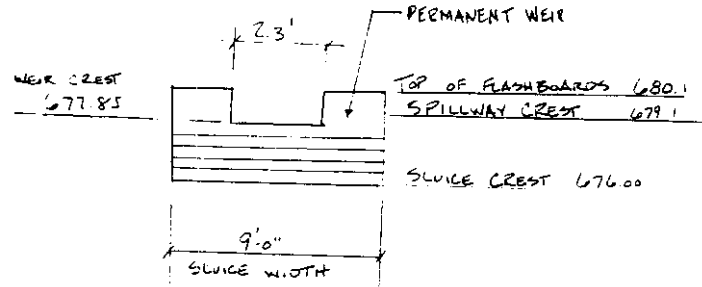
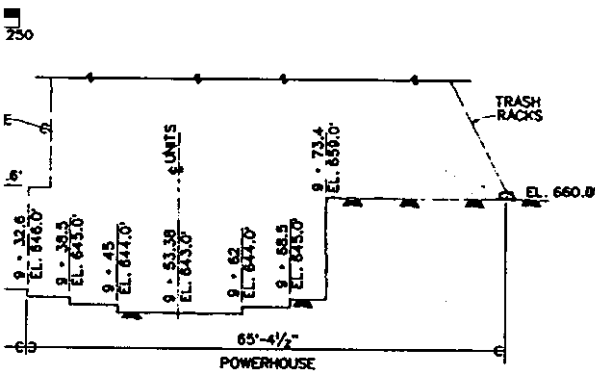
Beebee Island Hydro Development  
Fish Attractant Flow Discharge







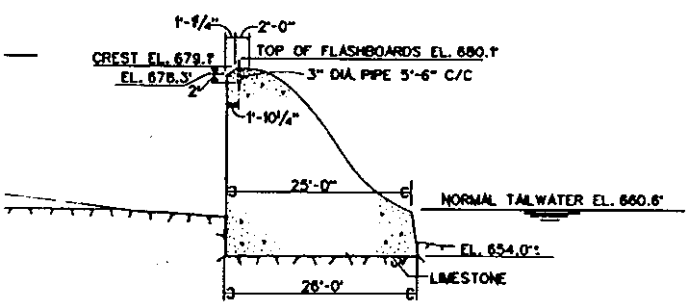
SECTION 3-3  
SCALE 1" = 10'



WEIR FOR 0.5' POND FLUCTUATION

WEIR FOR 0.2' POND FLUCTUATION

THIS IS A CADD DRAWING.  
DO NOT MAKE MANUAL CHANGES



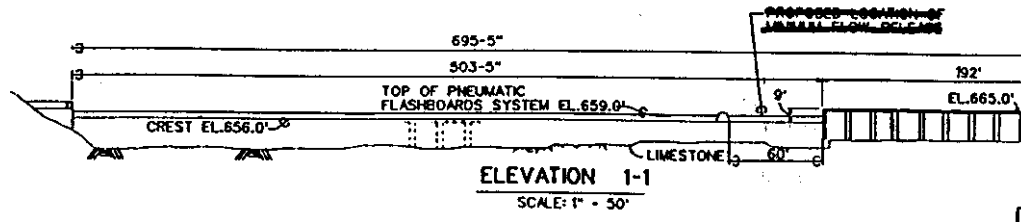
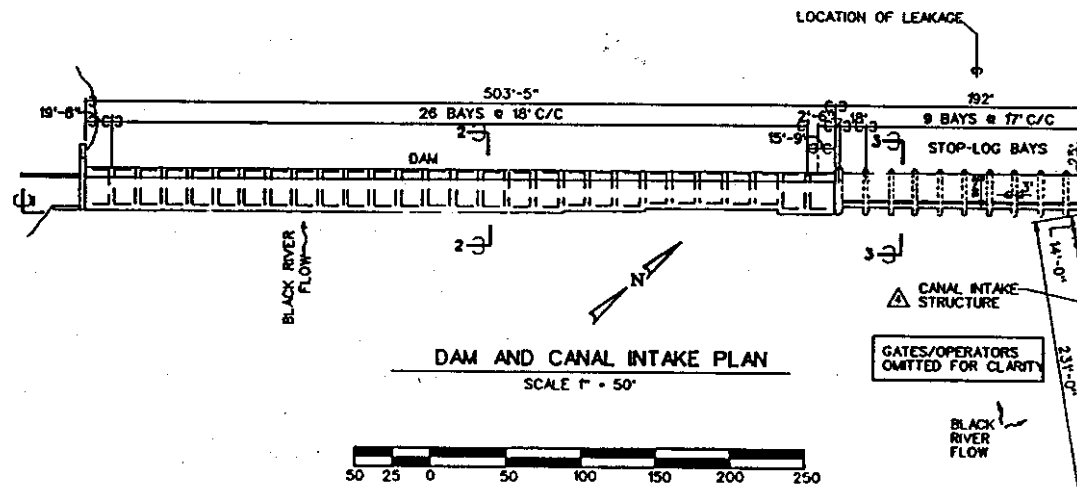
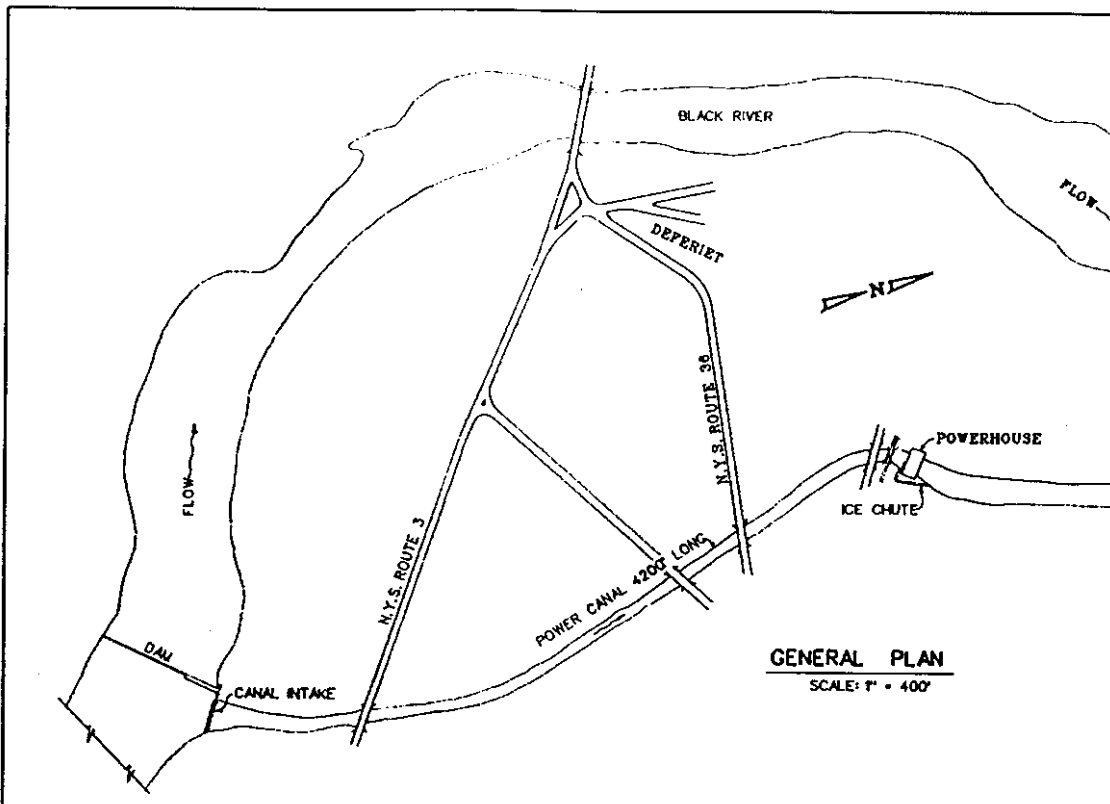
2-2  
1" = 10'

**NY NIAGARA**  
**NIMOHAWK**  
BLACK RIVER PROJECT  
HERRINGS DEVELOPMENT  
GENERAL PLAN  
AND DETAILS OF DAM

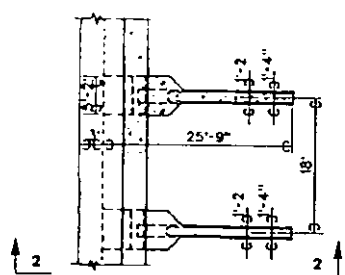
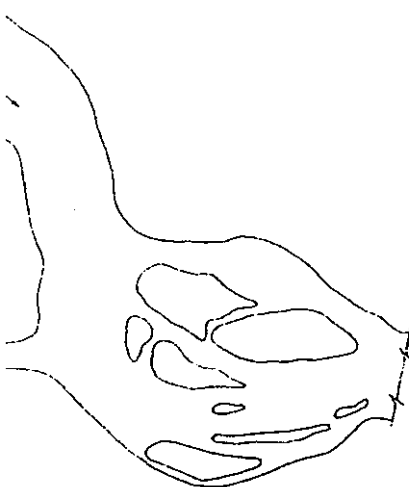
EXHIBIT F SCALE: 1" = 10' SHEET NO. 1

NO.	OR REVISION	DR.	CL.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CL.	APP.
4						12/24/96	ORDER APPROVING SETTLEMENT OFFER ISSUING NEW LICENSE	DMW	TYS	
3						6/14/93	L.C. APP. ACCEPTED FOR FLAW	DMW		
2						12/27/92	LICENSE APPLICATION	DMW	QCC	ALM
1						8/5/90	DRAFT LICENSE APPLICATION	DMW	QCC	JLS

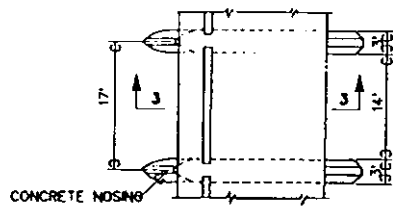
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FILE INDEX	F12589.DGN F12589.CPJ
DRAWING NUMBER	2569-1007



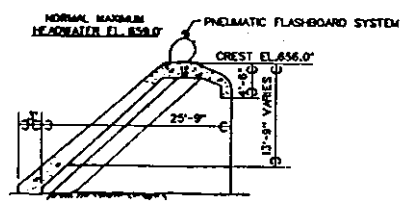
NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.	NO.	DATE	DESCRIPTION OF ISSUE OR REVISION
													12/14/99	ORDER APPROVING OFFER & ISSUING M...



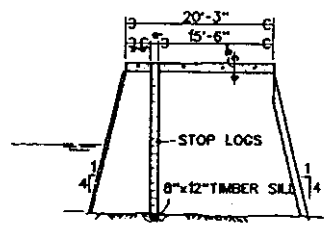
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SCALE 1" = 10'



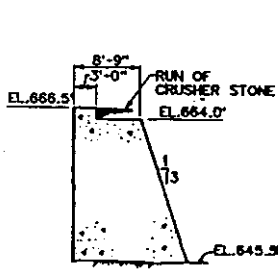
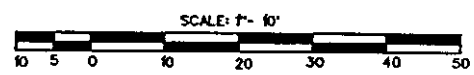
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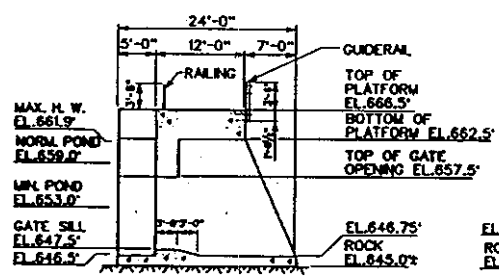
**SECTION 2-2**  
TYPICAL FOR BUTTRESSES  
12 THRU 39 INCL.  
SCALE 1" = 10'



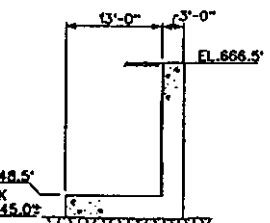
**SECTION 3-3**  
TYPICAL FOR PERS 1 THRU 10 INCL.  
SCALE 1" = 10'



**SECTION 5-5**  
SCALE 1" = 10'

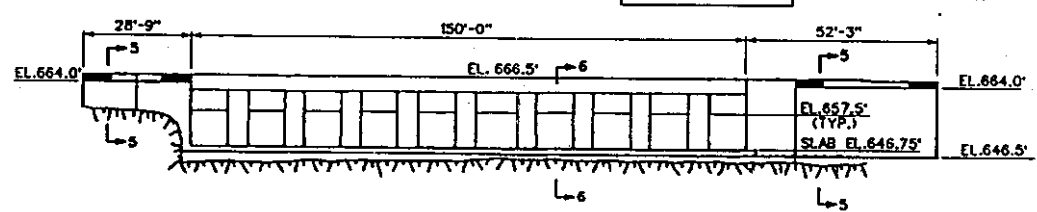


**SECTION 6-6**  
SCALE 1" = 10'

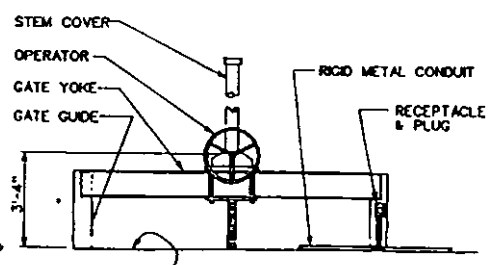
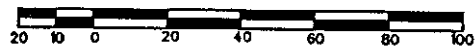


**SECTION 7-7**  
SCALE 1" = 10'

GATES/OPERATORS  
OMITTED FOR CLARITY  
(SEE SECTION (8-8))



**ELEVATION 4-4**  
SCALE 1" = 20'



**SECTION 8-8**  
NO SCALE

LOCATION OF 45 CFS  
MINIMUM FLOW  
WEIR  
THIS IS A CADD DRAWING.  
NOT MAKE MANUAL CHANGES

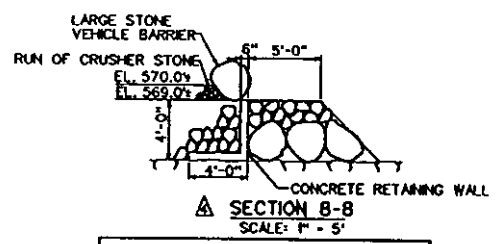
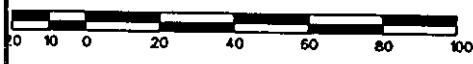
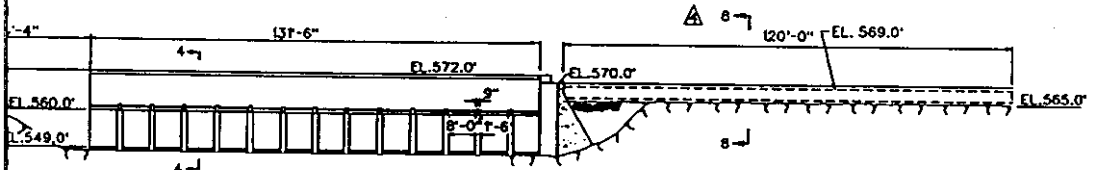
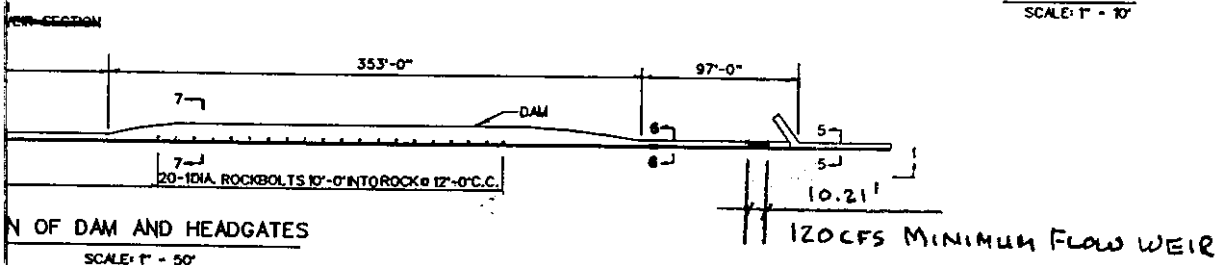
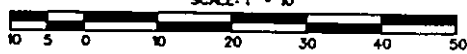
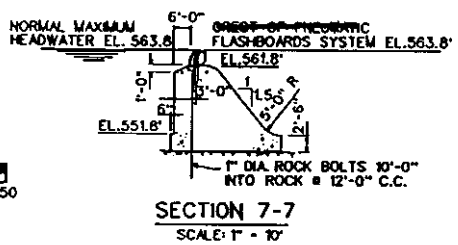
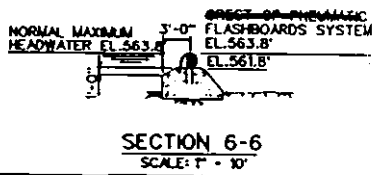
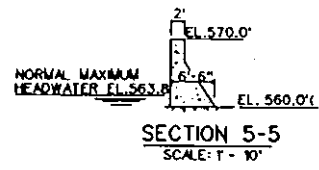
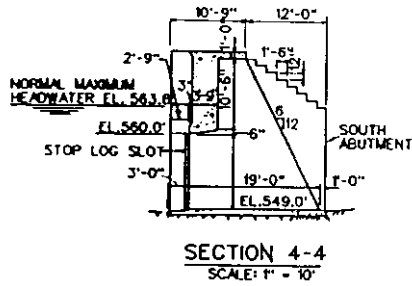
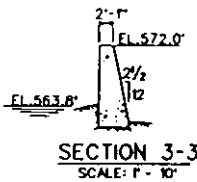
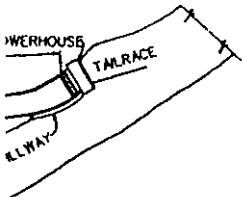
**NY NIAGARA**  
**LI MOHAWK**  
BLACK RIVER PROJECT  
**DEFERIET DEVELOPMENT**  
GENERAL PLAN AND DETAILS OF DAM

EXHIBIT SCALE AS NOTED SHEET NO. 3  
400 200 0 400 800 1200 1600 2000

5	8/11/84	ORDER APPROVED AS-BUILT EL. SILL ISSUED	LWB	DWM	DWC	ORIGINAL ISSUE DATE 12/24/96	
3	8/11/83	CANAL INTAKE REPLACEMENT AS-BUILT (SAL)	PRW	DWM	DWC	FILE F3A2569.DGN INDEX F3A2569.GP4	
2	8/23/79	LICENSE APPLICATION ACCEPTED FOR FURNISH	NON	DEC	DEC		
1	8-3-90	DRAFT LICENSE APPLICATION	JPC	DEC	A.S	DRAWING NUMBER 2569-1009	
DR.	CK.	APP.	NO.	DATE	DR.	CK.	APP.

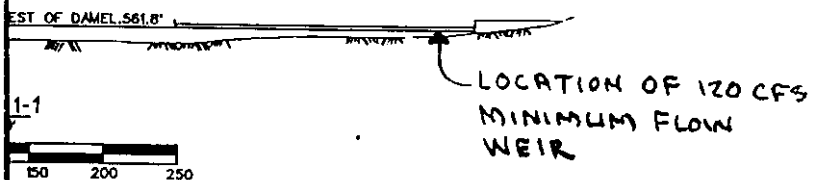




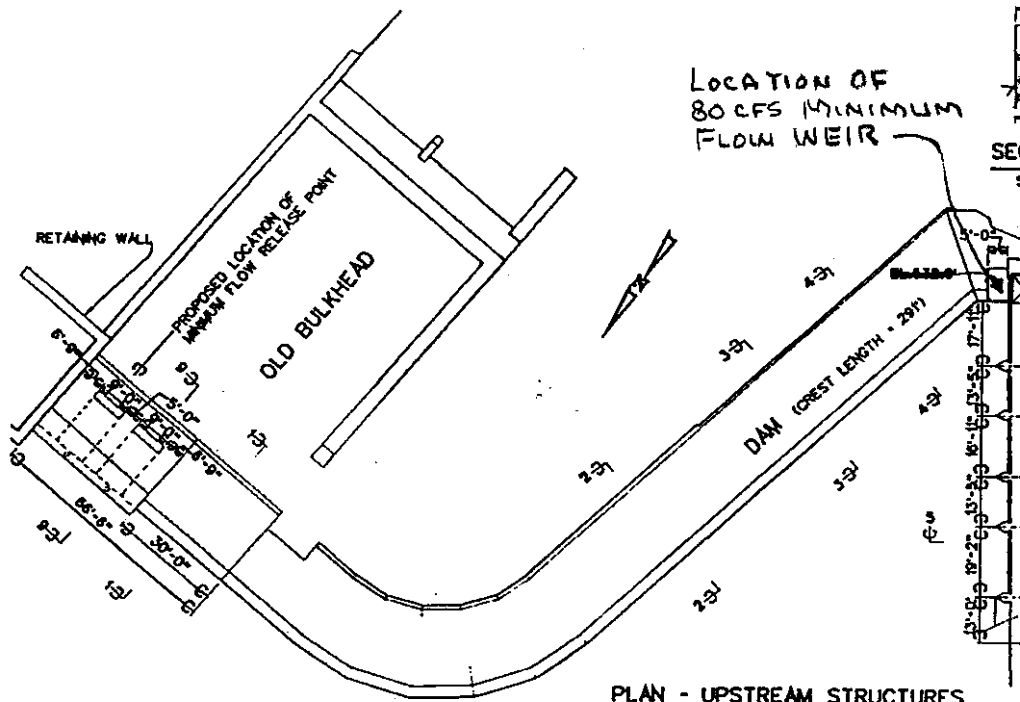
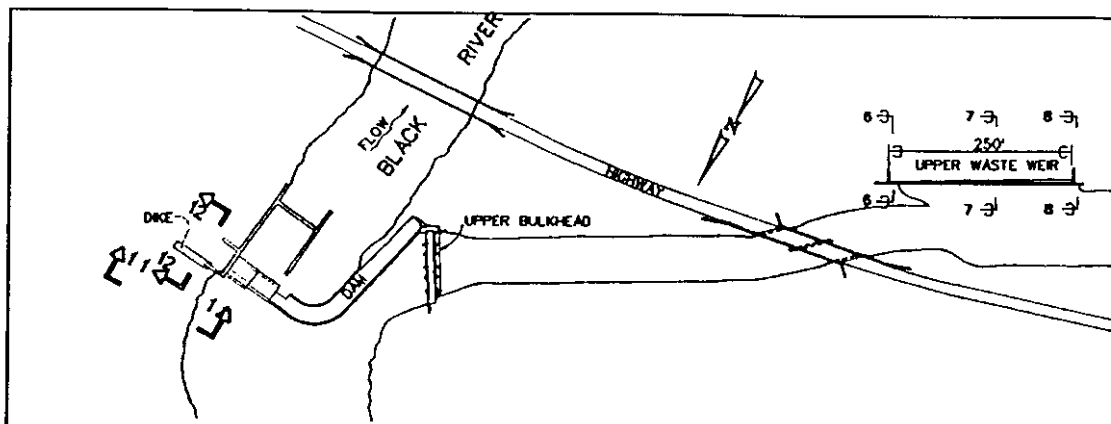


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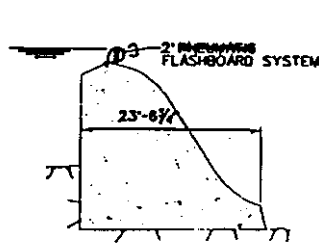
**N Y NIAGARA**  
**M MOCHANIK**  
BLACK RIVER PROJECT  
KAMARGO DEVELOPMENT  
GENERAL PLAN AND  
DETAILS OF DAM AND HEADGATES  
EXHIBIT F SCALE: 1" = 20' SHEET NO. 5



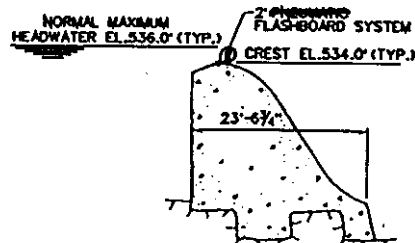
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1	10/5/96	DRAFT LICENSE APPLICATION	PRW	CEC	A.S.
2	10/28/96	LICENSE APPLICATION	PRW	CEC	A.S.
3	1/14/98	LICENSE APP. ACCEPTED FOR FILING	PRW	CEC	A.S.
4	5/11/98	ADDED CANAL INTAKE PARKING AREA CONCRETE RETAINING WALL AS-BUILTS (S.A.)	PRW	CEC	A.S.



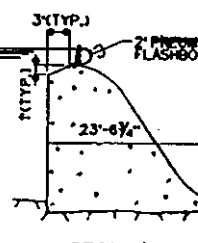
PLAN - UPSTREAM STRUCTURES  
SCALE: 1" = 20'



SECTION 1-1  
SCALE: 1" = 10'



SECTION 2-2  
SCALE: 1" = 10'

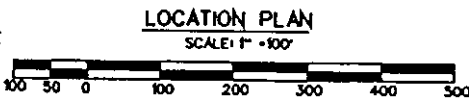


SECTION 3-3  
SCALE: 1" = 10'

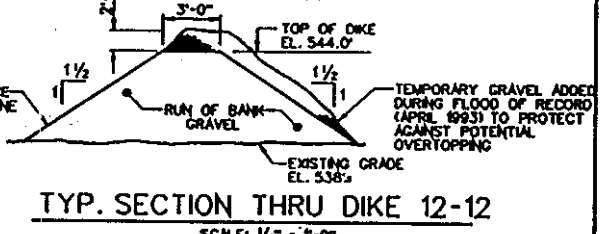
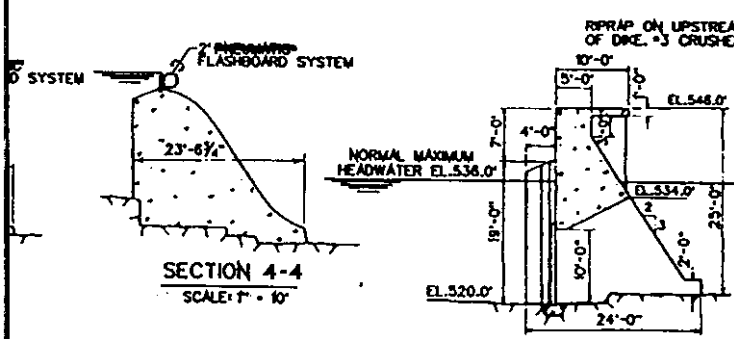
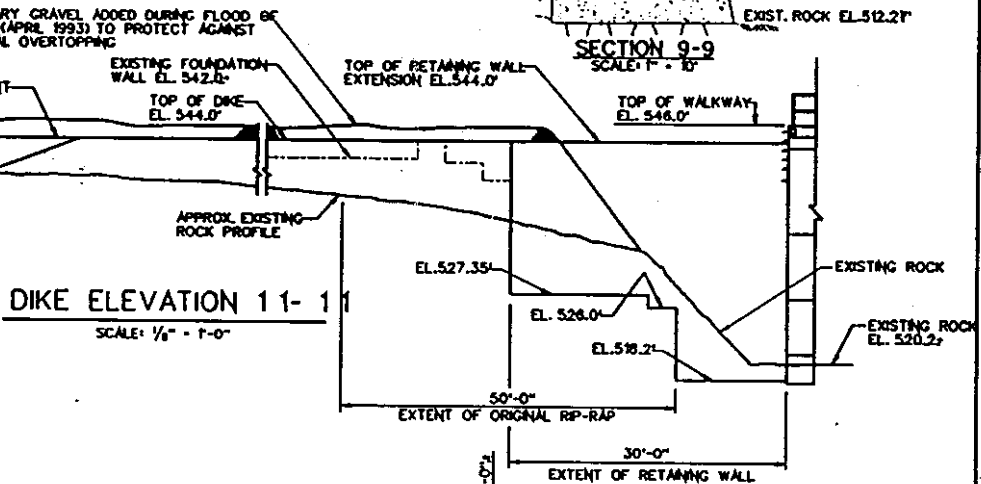
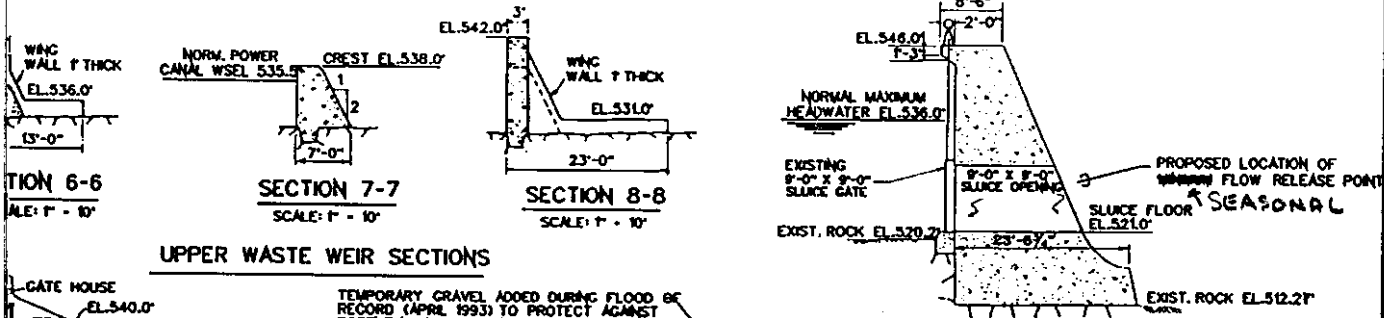
NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CR.	APP. NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CR.	APP. NO.	DATE	DESCRIPTION OF ISSUE OR REVISION

ORDER APPROVING  
OFTER 6 ISSUANCE

POWER CANAL (22501)



TYP. SECTION THRU LINED CANAL  
SCALE: 1" = 100'



**NY NIAGARA**  
**N.M.M.H.A.R.C.**  
BLACK RIVER PROJECT  
BLACK RIVER DEVELOPMENT  
GENERAL PLAN  
DETAILS OF DAM AND UPPER FOREBAY  
EXHIBIT SCALE: 1" = 20' SHEET NO. 8

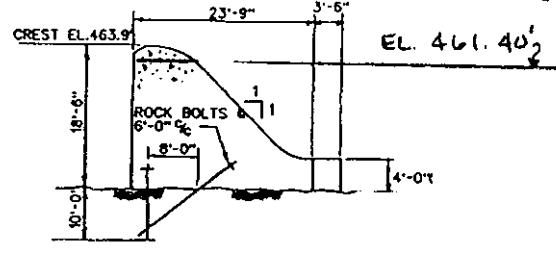
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4/22/87	ADDED DIKE DETAILS	VB	DWH	DWC
3/14/83	LICENSE APP. ACCEPTED FOR FILING		DWH	
2/10/80	LICENSE APPLICATION	KW	DEC	J.S.
1/3/80	DRAFT LICENSE APPLICATION	PRV	DEC	J.S.

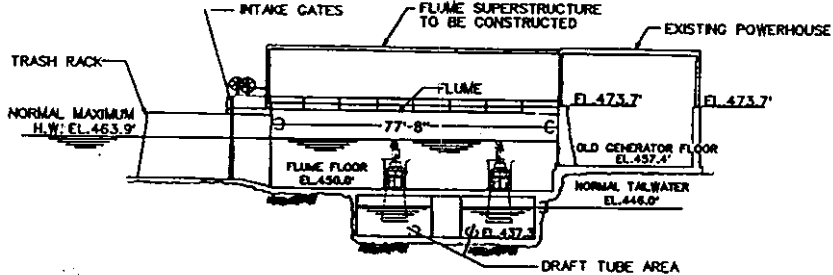
ORIGINAL ISSUE DATE 12/24/87  
FILE NAME F8A2569.DGN  
F8A2569.CP4  
DRAWING NUMBER 2569-1014



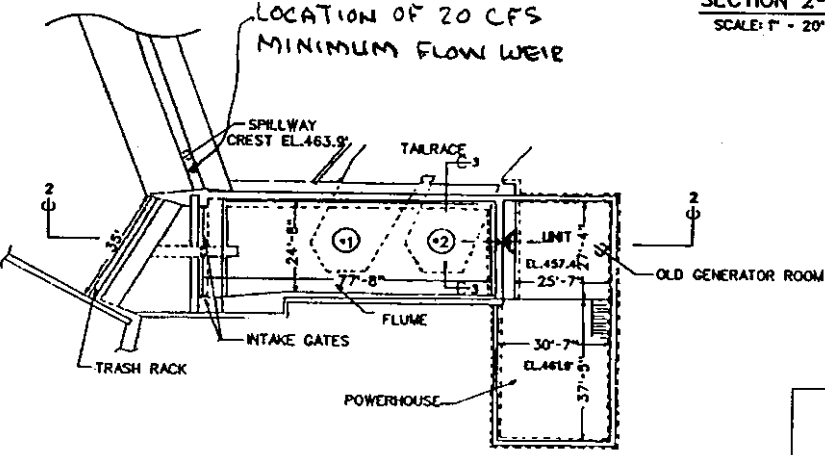
20 CFS MINIMUM  
FLOW WEIR



SECTION 1-1  
SCALE: 1" = 10'



SECTION 2-2  
SCALE: 1" = 20'



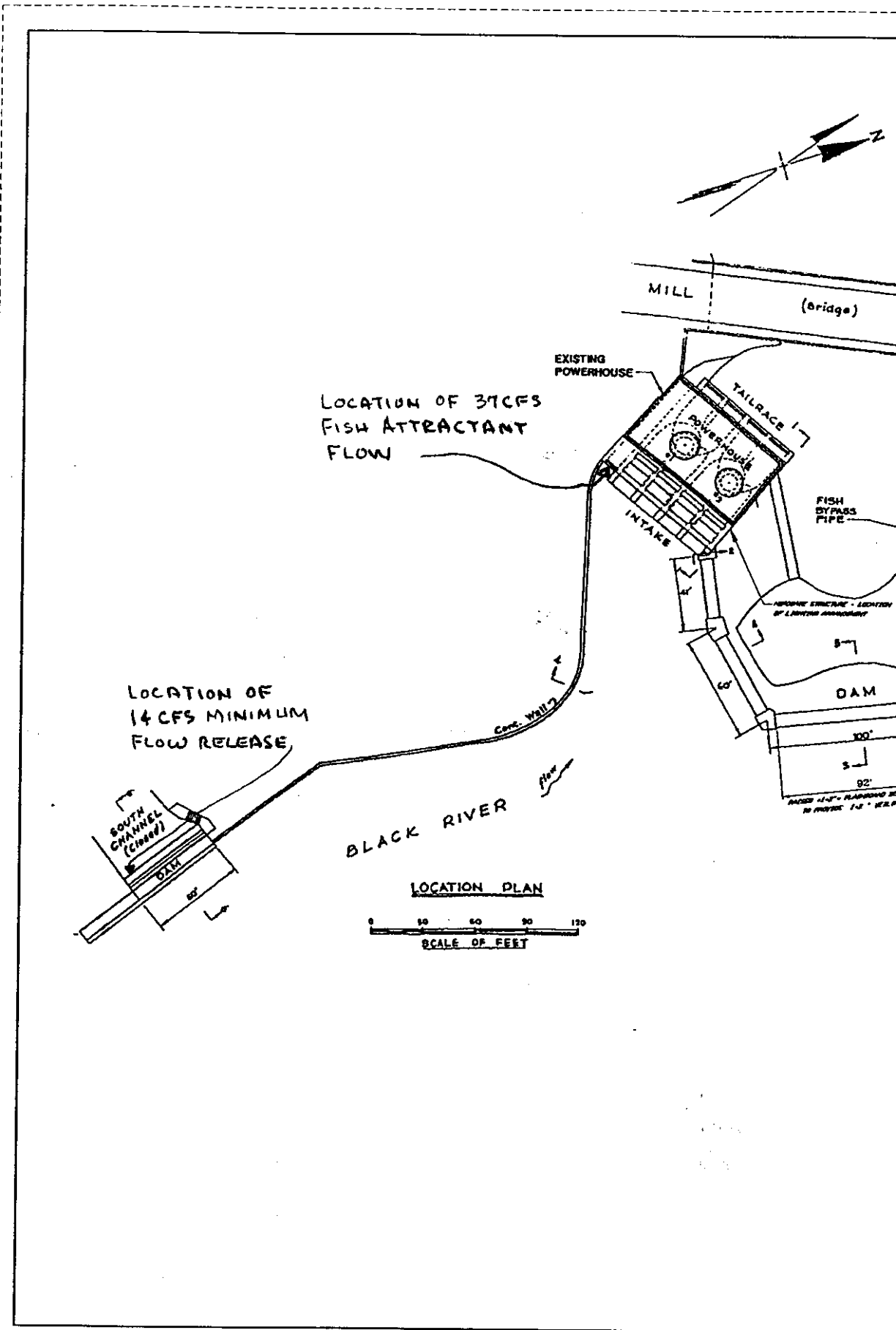
SEWALLS DEVELOPMENT  
NORTH CHANNEL  
EXISTING POWERHOUSE  
AND FLUME PLAN  
SCALE: 1" = 20'

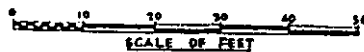
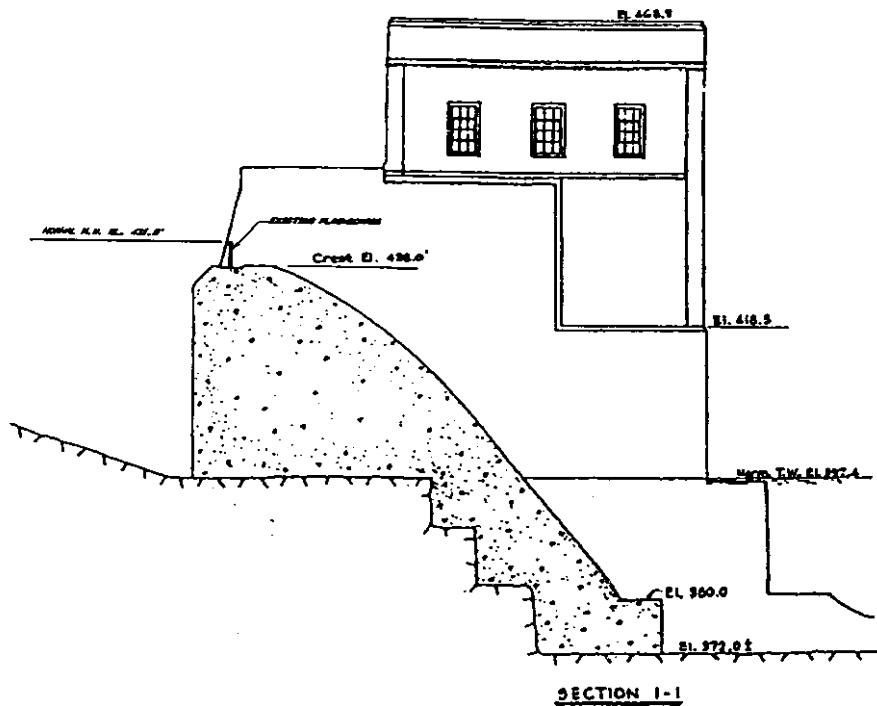
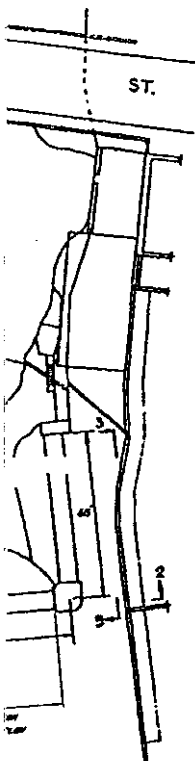
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**NY NIAGARA**  
**MOHAWK**  
BLACK RIVER PROJECT  
**SEWALLS DEVELOPMENT**  
NORTH CHANNEL GENERAL PLAN  
AND DETAILS OF DAM, HEADWORKS, AND FLUME

EXHIBIT F SCALE: 1" = 20' SHEET NO. 12

REV.	DR.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	DATE	DESCRIPTION OF ISSUE OR REVISION
4		12/24/94	ORDER APPROVING SETTLEMENT OFFER & ISSUING NEW LICENSE	RPC	DWM	TMS
3		1/16/94	LIC. APP. ACCEPTED FOR FILING		DWM	
2		10/25/93	LICENSE APPLICATION	PRW	GEC	JLS
1		11/5/93	DRAFT LICENSE APPLICATION	PRW	GEC	JLS



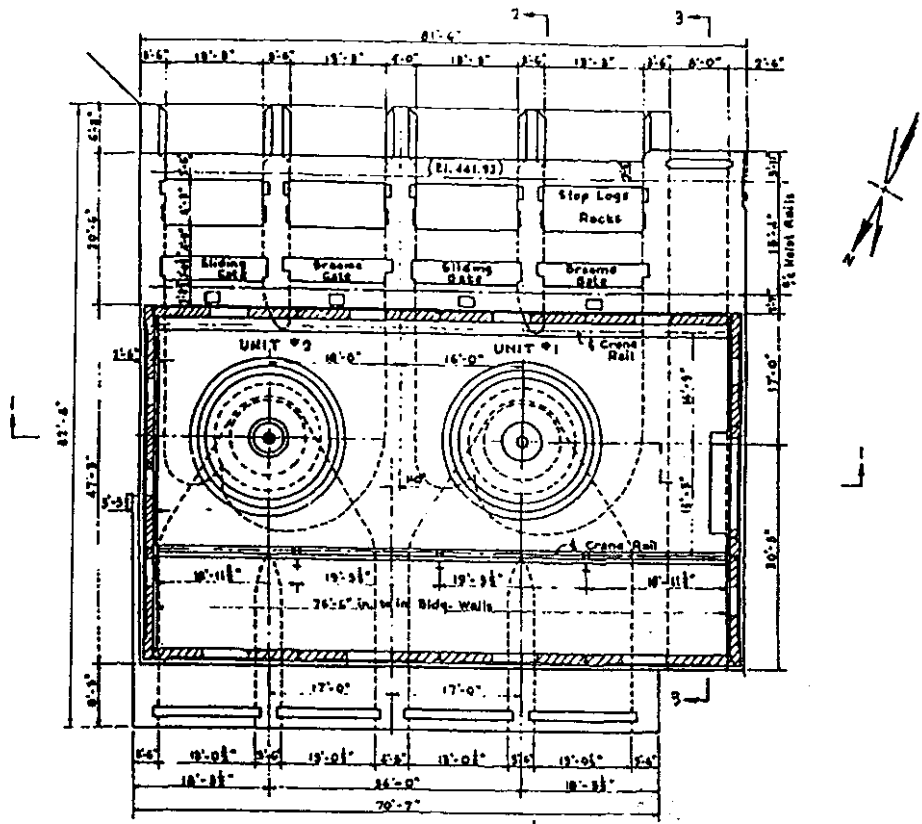


**BEBEE ISLAND CORPORATION**  
SYRACUSE, NY

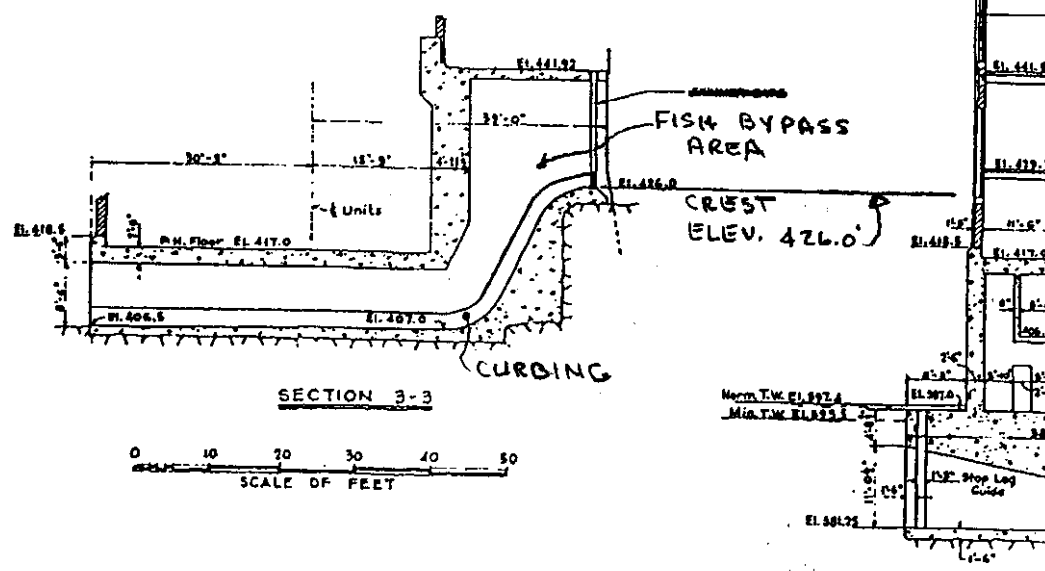
**BEBEE ISLAND PROJECT**  
**DAM PLAN & SECTIONS**

EXHIBIT F      SCALE AS NOTED      SHEET NO. 1

				ORIGINAL ISSUE DATE 12/24/00
2	2/24/00	ORDER APPROVING SETTLEMENT OFFER & ISSUING NEW LICENSES	DWM TMS	FILE F12538.DGN INDEX F12636.CIT
1	12/6/01	LICENSE APPLICATION	BEBEE ISLAND CORPORATION	DRAWING NUMBER 2638-1003
NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	DR. APP.	



EXISTING POWERHOUSE PLAN



SECTION 3-3

0 10 20 30 40 50  
SCALE OF FEET





## **AGENCY CORRESPONDENCE**

**NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DIVISION OF FISH & WILDLIFE & MARINE RESOURCES**  
317 Washington Street, Watertown, NY 13601  
315-785-2267



**John P. Cahill  
Commissioner**

Mr. Jacob S. Nizio. P.E.  
Niagara Mohawk Power Corporation  
300 Erie Boulevard West  
Syracuse, New York 13202

February 5, 1998

Dear Mr. Nizio:

The Department of Environmental Conservation offers the following comments on draft drawings for the minimum flow release structures concerning license articles 406 (FERC Project #2569 and FERC Project #2538) and 411 (FERC Project # 2538) for the Black River Project and Beebee Island Projects.

We have one general comment which applies to all sites, namely that the minimum flow release values in the licenses and in the settlement agreements were set up as bottom lines. Language in these documents, such as "licensee will provide a flow of *not less than*" and "XX cfs *at all times*", do not seem to provide the latitude to use "nominal" values for minimum flow releases as were used in the Beaver River Project. Thus to meet the intent of both the settlement and the license, it appears that the notches should be sized to provide the required flow when the pond elevation is at the low point of the fluctuation range. Given this constraint, it may be appropriate to consider other release methods and/or locations and size to meet the required minimum flow. Some possible options are listed below:

- Herrings, Deferiet- release via orifice at bottom of stoplog section
  - siphon
  - utilize a deeper but narrower slot configuration
- Kamargo, Black River and Sewalls - utilize a deeper but narrower slot configuration

Additional refinement of the release designs aimed at producing a more stable flow under anticipated operating conditions may also be worthwhile.

We appreciate the opportunity to comment on these structures, if you have any questions, please do not hesitate to contact me at (315) 785-2267.

Sincerely,

Len Ollivett

Conservation Biologist 2  
Region 6

cc: Ms. Sherry Morgan, USFWS -Cortland  
Mr. J. Mark Robinson, FERC DL&C - Washington  
Mr. Randy Vaas, NYSDEC - Watertown



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
3817 Luker Road  
Cortland, New York 13045

March 4, 1998

Mr. Jacob S. Niziol, P.E.  
Niagara Mohawk Generation Business Group  
Fossil and Hydro Generation  
300 Erie Boulevard West  
Syracuse, NY 13202

**RE: Black River Project & Beebee Island Project (FERC Project Nos.2569 & 2538)**

Dear Mr. Niziol:

The U.S. Fish and Wildlife Service (Service) has reviewed Niagara Mohawk Power Corporation's (NMPC) January 13, 1998, proposed minimum flow release structures for the Black River Project which are to be designed to safely pass fish downstream (Articles 405 and 406). Design drawings for the proposed fish conveyance structure for the Beebee Island Project (Article 410) were also reviewed. Service representatives attended a field review on June 12, 1997. Niagara Mohawk Power Corporation followed this visit with a July 11, 1997, letter transmitting its minutes from the meeting. On August 21, 1997, the Service's Engineering Department faxed comments and recommendations regarding the flow release structures to NMPC.

The materials provided on January 13, 1998, do not meet the requirements of the project licenses or the Settlement Agreement since they were designed for a "nominal flow" which, at times, would release less water than the required "not less than" flow. The New York State Department of Environmental Conservation's February 5, 1998, letter to NMPC also identifies this shortcoming. In addition, many of the mechanisms necessary to provide a safe fish passage route have not been incorporated into the design drawings. The following provides the Service's comments on the proposed designs and makes recommendations for improvements.

The Service has determined that the discharges from the release structures are correctly formulated with provisions included for flow suppression on the weirs. Calibration of the discharge coefficients or verifying the actual discharge in the channels downstream from the release points will be needed. Once the structures are installed, downstream gaging and verification of the required releases should be undertaken (see Article 408).

## **Herrings Development**

The discharge curves for the 20 cfs spillway release structure, located to the left of the trashracks, are correctly generated. A check on the flow using the Francis weir formula provided a range from about 19 to 24 cfs for the two different weir widths and invert elevations. To avoid the seasonal change of the weir structure and provide the required

minimum release of 20 cfs release at the minimum impoundment elevation of 679.6, the invert on the 3-foot wide weir could be lowered to elevation 678.0 or the width increased to 3.25 feet (for a coefficient of 3.32). Structures also necessary at the site include constructing a side-wall down the face of the spillway to contain the flow (i.e. keep it from spreading out to a thin sheet on the spillway face) and a plunge pool at the downstream end. The increased depth at the downstream end could be created by a "speed-bump" type of weir or by excavating a pool.

### **Deferiet Development**

Constructing a release structure within the third bay from the right abutment was determined by field review to be the preferred location for the downstream release. However, a plunge pool and water conveyance channel may be needed if the released flow does not provide adequate depth. The calculated discharge from the outlet weir was verified (by other weir formulas) to range from 42 to 48 cfs. To obtain a 45 cfs release at all times, the invert could be lowered by 0.2 feet to elevation 654.8. Although the minimum flow release is 45 cfs and the total river release is 245 cfs, during dry conditions, the release mechanism needed to be modified or the project operations adjusted (i.e. spillage) in order to meet the required in-river release; a flow of 177 cfs was reported in this river reach during the settlement discussion site visit.

**The proposal to construct the pneumatic flashboards directly conflicts with the signed Settlement Offer on page 5, Section O. Proposals Withdrawn, which states that the, "Licensees' proposals to erect pneumatic flashboards at [the] Deferiet ...Development...[is] withdrawn."** Such a proposal would require an amendment of the license. At this time the Service does not concur with this proposal which has not been discussed in detail. The Service reserves the right to provide the Federal Energy Regulatory Commission with specific comments and recommendations pursuant to a public notice of this amendment.

### **Kamargo Development**

The discharge coefficient of 2.65 should be conservative for the proposed outlet structure. To provide 120 cfs at the minimum headpond, lengthening or widening the weir to about 11 feet should be considered. A major concern with the present design is the lack of a proposed flow conveyance route. A structural design or rock excavation may be needed to convey the flow from the proposed release point back to the natural river channel.

### **Black River Development**

The estimated flow from the proposed notch would range from 72 to 88 cfs. Lowering the invert about 0.2 feet or widening the opening will allow the required minimum of 80 cfs to be supplied to the downstream channel during the maximum drawdown periods. In addition, intermediate plunge pools are recommended to safely convey fish to the tailwater at the base of the dam.

The Service does not concur with the coefficient of 0.81 used for the sluice gate release calculations. Our engineers utilize a conservative coefficient of 0.70 for a sluice (orifice) gate structure, whereas the U.S. Bureau of Reclamation's Water Measurement Manual gives a maximum coefficient of 0.72 for constant head orifices at turn-out structures on

canals. Given these coefficients, an opening of 1.16 feet would be needed to pass the 220 cfs at a minimum head of 14 feet. To insure that the required release is provided (regardless of the coefficient used), instream flow measurements and verification will be necessary.

### **Sewalls Development**

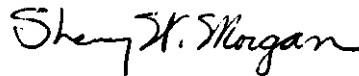
The rating curve for the weir with a discharge coefficient of 2.65 is conservative. To meet the minimum flow release of 20 cfs, then a slightly wider notch at 3 feet is suggested to decrease the risk of plugging. Depending upon the tailwater conditions, plunge pool and conveyance structures may be needed.

### **Beebee Island Project**

The flow calculation of 37 cfs for the fish attraction structure was checked and found to be correct. The full depth slot is expected to be better to convey fish without an immediate or intermediate drop. Plugging remains a concern. A resurfacing of the sluice is suggested and an extension of the ice flume to the tailwater at the tailrace has been previously discussed.

The Service appreciates the opportunity to provide you with our comments. If you have further questions, please contact Dave Bryson at (607) 753-9334.

Sincerely,



Sherry W. Morgan  
Field Supervisor

cc: NYSDEC, Watertown, NY (L. Ollivett)  
FERC, Washington, DC (D. Boergers, C. Sampson, J. Robinson)  
USFWS, Hadley, MA (C. Orvis)

# 84 FERC ¶ 62,260

## UNITED STATES OF AMERICA FEDERAL ENERGY REGULATORY COMMISSION

Niagara Mohawk Power Corporation

Project No. 2569-032

### ORDER MODIFYING AND APPROVING MINIMUM FLOW RELEASE STRUCTURES

**SEP 22 1998**

On September 11, 1998, Niagara Mohawk Power Corporation (licensee) filed final design drawings of flow release structures to provide minimum flows and enable downstream fish passage. The drawings were filed pursuant to article 406 for the Black River Project located on Black River in Jefferson County, New York. 1/

#### BACKGROUND

The Black River Project consists of five developments: Herrings, Deferiet, Kamargo, Black River and Sewalls Island, spanning approximately 17 miles. On October 13, 1995, the licensee amended its new license application by filing a Settlement Offer that was negotiated with entities interested in the Black River relicense proceeding. 2/

Article 406 requires, in part, that the minimum flow release structures, for each development, conform to the conditions specified on page three of the Settlement Offer. Article 406 also required that the licensee file detailed design drawings of flow release structures and fish conveyance measures that would provide the release of the required minimum flows and enable downstream fish passage. Additionally, the licensee was required to provide a schedule for installing the structures at the project's five developments and complete installation within two years of Commission approval of the design drawings. The licensee was required to prepare the drawings and schedule after consulting with the U.S. Fish and Wildlife Service (FWS) and the New York State Department of Environmental Conservation (NYSDEC).

#### THE LICENSEE'S FILING

At the Herrings, Kamargo, Black River and Sewalls developments, the licensee proposed to install weirs at the top of the dams to release the required minimum flows. For each

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1/ 77 FERC ¶ 61,306 (1996).

2/ Settlement Offer for Black River and Beebee Island, FERC No. 2538, Projects, dated September 14, 1995.

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SEP 22 1998

Project No. 2569-032

-2-

weir, the licensee proposed specific dimensions in order to meet the minimum flow requirement at the minimum reservoir elevation (for that development) required by article 401. <sup>3/</sup> At the Deferiet development, the licensee proposed to release the required minimum flow through an orifice in the third bay from the right abutment of the existing stoplog structure. For those developments that require additional discharges during the walleye spawning season, the licensee proposed to spill or release flows through stoplog sections or sluice gates to meet the requirements.

The licensee stated that the measures required to provide safe downstream fish passage are not known at this time and, therefore, could not be included in the final design drawings. The licensee added that following installation of the release structures and observation of the releases, a better understanding of the mechanisms required for safe fish passage would be known. The licensee proposed to assess the need for plunge pools or channel modifications after the flow release structures are installed.

In addition to design drawings, the licensee's filing contained discharge curves and tables for the minimum flow release structures and sluice gates for the five developments. The licensee proposed to complete the installation of the structures by December 17, 1998 for the Herrings, Kamargo, Black River and Sewalls developments, and by July 1, 1999 for the Deferiet development. <sup>4/</sup> The licensee's filing also included a draft plan sent to the resource agencies and agency comments.

#### RESOURCE AGENCY COMMENTS

By letters dated February 5 and March 4, 1998, the NYSDEC and FWS, respectively, provided comments regarding the licensee's proposed design drawings and schedule. Both agencies noted that, for all the developments, the licensee's weir discharge equations (on which the design of the structures are based) were calculated using nominal flow elevations. If implemented, the agencies stated, less than the minimum flow requirement would be released when the reservoir elevation is at its lowest required level.

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<sup>3/</sup> Article 401 states, in part, that the licensee shall operate the project so that the water levels at each development's impoundment are maintained no lower than 0.5 foot below the permanent crest of the dam or below the top of the flashboards when the dam is so equipped.

<sup>4/</sup> The licensee noted that the proposed schedule was dependent on weather and flow conditions.



Project No. 2569-032

-3-

In the licensee's final design drawings, the licensee recalculated the weir equations and redesigned the minimum flow release structures to provide the required minimum flow releases at the lowest point of the required fluctuation range for each development's impoundment.

The FWS commented that the sluice gate release calculation for the Black River development used an inappropriate coefficient. Based on the gate structure the FWS recommended a coefficient of 0.70 to 0.72. The licensee recalculated the sluice gate discharges using a coefficient of 0.72.

The FWS also noted that the mechanisms to provide safe fish passage were not incorporated into the design drawings and that verification of the actual discharge in the channels should be performed after installation of the release structures. These two points are discussed below.

## DISCUSSION

### I. Verification Measurements

The licensee indicated that the formulas used to design the release structures utilized conservative assumptions for calculating the minimum flow releases. Consequently, the licensee stated verifying the actual discharges in each channel should not be necessary. Indeed, the equations used by the licensee employed coefficients that are standard for the types of release structures the licensee proposes to install.

The basic equation for flow over a dam or weir is  $Q = CbH^{3/2}$  where:

$Q$  equals discharge;

$C$  equals a coefficient of discharge having the dimensions of the square root of the acceleration of gravity ( $g$ );

$b$  equals the width of the dam or weir normal to flow; and

$H$  equals total energy head ( $h + V_s^2/2g$ ) referred to the crest of the dam, where  $h$  equals static head and  $V_s$  equals mean velocity at the approach section to the dam.

From the equation, it is apparent that the reliability of discharge is dependent on using the correct coefficient,  $C$ . Values for  $C$  vary based on the geometry of the structure, material from which it is constructed, and the degree of submergence by the tailwater. Manuals are available that provide

Project No. 2569-032

-4-

ranges for coefficients based on the types of variables. The licensee's selection of coefficients for the various discharge equations appears appropriate to provide the release of the required minimum flows provided the constructed dimensions are accurate and flow through the structures remains unimpeded.

Therefore, at this time, the licensee should not be required to perform verify measurements of the discharge flows in the channels below the respective developments. However, if it is determined at a later date that flows below the project are less than the theoretical calculations provided in the licensee's discharge curves and tables, the licensee may be required to conduct field measurements of the minimum flow releases below each development.

## II. Fish Conveyance Measures

The licensee indicated that the need to install plunge pools or make modifications to the channel areas below the release structures was not evident at the time of drafting the designs of the discharge structures and may not be necessary until an evaluation of the minimum flow releases can be made after constructing the devices. The licensee proposed to determine the necessary measures for safe downstream fish passage after the structures become operational.

Some of the physical features of the developments (such as the headwater of one development backing up to the toe of an upstream dam) may provide sufficient receiving areas for conveying fish downstream. The physical features of the downstream areas and the discharge through the release structures should be evaluated on a case by case basis.

Therefore, the licensee should evaluate, at each development, the need to install plunge pools or modify the release structures (or other project features) to ensure safe downstream fish passage through the minimum flow structures. The licensee should consult with the FWS and NYSDEC in developing the appropriate conveyance measures.

Prior to filing the report with the Commission, the licensee should submit a draft report to the resource agencies for their review and comment. The report should contain detailed design drawings and maintenance procedures for the fish conveyance measures at each development. The licensee should provide the agencies at least 30 days to review and comment on the report. The licensee should file a final report with the Commission, for approval, that includes any proposed modifications (with drawings), a schedule for implementing any conveyance measures, documentation of consultation with the resource agencies, copies of agency comments and recommendations on the report and schedule, and specific descriptions of how the agencies' comments

Project No. 2569-032

-5-

are accommodated in the licensee's report. If the licensee does not adopt a recommendation, the filing should include the licensee's reasons for excluding the recommendation based on project specific information.

The Commission should reserve the right to require changes to the proposed structures, schedule and to project features and operation to ensure safe downstream fish passage. Based on the licensee's proposed schedule for installing the minimum flow release structures (completion by December 17, 1998 for four of the developments and July 1, 1999 for the remaining development) the licensee should file the final report on the conveyance measures by August 1, 1999. This should provide sufficient time after the winter icing period and spring runoff period to coordinate the study with the resource agencies, operate at the minimum required reservoir elevation and revise the draft report based on agency comments.

#### CONCLUSION

The licensee's September 11, 1998 filing, contained detailed design drawings for minimum flow release structures along with resource agency comments and a proposed implementation schedule. Installation of the discharge structures should provide sufficient means to discharge the required minimum flows at each development and, as modified above, should be approved.

Within 90 days following installation of the new minimum flow release structures, at each development, the licensee should file, for Commission approval, revised exhibit F drawings that show the discharge structures as-built.

#### The Director orders:

(A) The design drawings and schedule for installing minimum flow release structures, filed September 11, 1998 by the Niagara Mohawk Power Corporation (licensee), for the five developments of the Black River Project, located on the Black River in Jefferson County, New York, as modified in paragraphs (B) and (C), are approved.

(B) The licensee shall evaluate the need to install plunge pools or modify the release structures (or other project features) to ensure safe downstream fish passage at the Herrings, Deferiet, Kamargo, Black River and Sewalls Island developments. The licensee shall consult with the U.S. Fish and Wildlife Service and the New York State Department of Environmental Conservation in developing the appropriate conveyance measures.

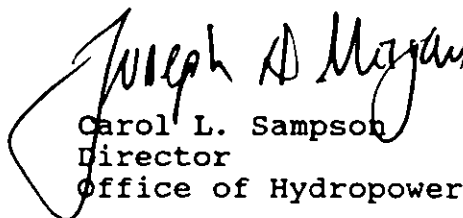
Project No. 2569-032

-6-

Prior to filing the report with the Commission for approval, the licensee shall submit a draft report to the resource agencies for agency review and comment. The draft report shall contain detailed design drawings of any proposed fish conveyance measures and maintenance procedures for the features. The licensee shall provide the agencies at least 30 days to review and comment on the report. The licensee shall file a final report with the Commission that includes any proposed modifications (with drawings), a schedule for implementing any conveyance measures, documentation of consultation with the resource agencies, copies of agency comments and recommendations on the report and schedule, and specific descriptions of how the agencies' comments are accommodated in the licensee's report. If the licensee does not adopt an agency recommendation, the final report shall include the licensee's reasons for excluding the recommendation, based on project specific information. The licensee shall file the final report on the fish passage conveyance measures at each development by August 1, 1999. The Commission reserves the right to require changes to the proposed structures, schedule, and to project features and operation to ensure safe downstream fish passage.

(C) Within 90 days following installation of the new minimum flow release structures, at each development, the licensee shall file, for Commission approval, revised exhibit F drawings that show the discharge structures as-built.

(D) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.



Carol L. Sampson  
Director  
Office of Hydropower Licensing

**ATTACHMENT H**

**QUESTION D – WATERSHED PROTECTION:**

**1995 SETTLEMENT AGREEMENT – ATTACHMENT I**

**1997 BLACK RIVER FUND MANAGEMENT PLAN**

**2012 BLACK RIVER FUND ANNUAL CONTRIBUTION LETTER**

**1999 VEGETATION BUFFER PLAN**

**2000 FERC ORDER APPROVING VEGETATION BUFFER PLAN**

ATTACHMENT 1

**BLACK RIVER FUND AND ADVISORY COUNCIL**

September 14, 1995

THE BLACK RIVER FUND AND ADVISORY COUNCIL

1. Beginning with the year the FERC License is accepted, NMPC will contribute annually \$3,000 to the Black River Fund ("Fund") for 15 years and \$4,000 annually for the following 15 years.

The fund may be used to facilitate acquisition or options, for the public benefit, of some or a combination of parcels described in Attachment 2, consisting of the following from NMPC:

- (a) permanent conservation easement(s);
  - (b) reserved right(s); or
  - (c) fee title(s);  
    all with appropriate reservations for NMPC access, operation and maintenance purposes;
- and, additionally,
- (d) any other NMPC lands, easements and mineral rights not essential to project operation or maintenance and not otherwise identified herein.

Any money not used for such acquisitions will remain will remain in the fund for other uses.

Financing and requisition will be arranged through NMPC's Land Management & Development subsidiary. NMPC agrees not to alter, encumber or convey rights to the above-referenced parcels for 18 months following license issuance for the Black River Project, FERC No. 2569.

NYSDEC shall be responsible for facilitating the purchase agreement. The State will prepare the title documents, appraisal, surveys and all other documents necessary to transfer title of the property to be acquired at no cost to the Black River Fund or NMPC.

2. The Black River Fund will be administratively managed by NMPC and distributed according to the recommendation of a Black River Advisory Council ("Advisory Council"). The NYSDEC will chair the Advisory Council. At a minimum the following entities shall be invited to serve on the Advisory Council, with service being conditioned, save for Jefferson County, on those entities listed below being signatories to the Settlement:

- New York State Department of Environmental Conservation
- Niagara Mohawk Power Corporation
- United States Fish & Wildlife Service
- New York Rivers United
- New York State Conservation Council
- Adirondack Mountain Club
- Jefferson County
- New York Council, Trout Unlimited
- American Whitewater Affiliation
- National Park Service

Each member will have one vote, with distribution of funds and other Advisory Council decisions to be based on majority vote.

The Advisory Council will also make recommendations for consideration by the regulatory agencies and licensees regarding management of the Black River and hydropower project operations, in accordance with other provisions of this Settlement Offer. The Council shall designate one of the Watertown whitewater outfitters to serve as the liaison with licensees in cases of abnormal river conditions.

The Black River Fund will be used within the Black River basin for projects and services designated by majority vote of the Advisory Council for purposes of ecosystem restoration and protection, natural resource stewardship, public education, facility maintenance, applied research necessary to accomplish these projects and provide these services and additional public access to outdoor recreational resources not currently agreed to by licensees. The Fund is not intended for any of the signatories to carry out any obligations under the new FERC licenses or any amendment thereto. Furthermore, the Fund is not intended for any signatory to discharge any legal or statutory obligations. Unspent money shall accumulate with interest in a Federal Deposit Insurance Corporation (FDIC) insured account or instrument managed pursuant to prevailing trust standards. Within one year following surrender or expiration without annual renewal of the new FERC license for NMPC, available funds accumulated and not otherwise obligated shall revert to NMPC. .



ORIGINAL 0



NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

OVERNIGHT COURIER

April 8, 1997

FILED  
97 APR -9 PM 12:19  
COMMUNICATIONS

Ms. Lois D. Cashell, Secretary  
FEDERAL ENERGY REGULATORY COMMISSION  
888 First Street, N. E.  
Washington, DC 20426

SUBJECT: Black River Project *013*  
FERC Project No. 2569-004  
License Article 412 - Black River Fund

Dear Ms. Cashell:

On March 21, 1997, Niagara Mohawk filed a detailed plan for our participation in and management of the Black River Fund as required by License Article 412. Upon receipt of said plan, Commission staff reviewed the plan and provided verbal comments to Niagara Mohawk.

Specifically, the comments addressed calendar year reporting for the October 1 (reporting for the following calendar year) and April 1 (reporting for the previous calendar year) filing dates and deletion of any references to "FERC approval", for consistency with the March 14, 1997 Order on Rehearing.

Niagara Mohawk herein submits an original and eight copies of the revised detailed plan for Niagara Mohawk's participation in and management of the Black River Fund.

If you have any questions, please contact Mr. Jacob S. Nizioł at (315) 428-5556.

Sincerely,

Sam S. Hirschey, P. E.

Manager,

Hydro Licensing & Regulatory Compliance

Enclosures

xc: J. S. Nizioł  
M. W. Murphy  
J. Mark Robinson, FERC DL&C - Washington

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FERC-DOCKETED

APR 9 1997

RECEIVED FILED  
97 APR -9 PM 12:19  
REGULATORY  
COMMISSION

**NIAGARA MOHAWK POWER CORPORATION**

**BLACK RIVER PROJECT** 013  
**FERC PROJECT NO. 2569-004**

**LICENSE ARTICLE 412 COMPLIANCE SUBMITTAL;**  
**PLAN FOR LICENSEE'S PARTICIPATION IN**  
**AND MANAGEMENT OF THE BLACK RIVER FUND**

April 8, 1997

**BLACK RIVER PROJECT  
FERC PROJECT NO. 2569-004**

**LICENSE ARTICLE 412 COMPLIANCE SUBMITTAL;  
PLAN FOR LICENSEE'S PARTICIPATION IN  
AND MANAGEMENT OF THE BLACK RIVER FUND**

**I. INTRODUCTION**

Niagara Mohawk submitted to the Federal Energy Regulatory Commission ("FERC") an Application For A New License for Black River Project No. 2569 on November 25, 1991. Following this submittal, Niagara Mohawk entered into negotiations with resource agencies and non-governmental organizations (NGO's), which negotiations culminated with a Settlement Offer, dated September 14, 1995. The Settlement Offer was eventually adopted as part of the FERC's Order Issuing License, issued on December 24, 1996 ("License"). As part of the Settlement Offer, a river fund was established with annual contributions by Niagara Mohawk (c.f. attached Settlement Offer's Attachment 1 - Black River Fund and Advisory Council). As part of the License, FERC included Article 412 , which is as follows:

**Article 412.** Within 90 days from the date of issuance of this license, the licensee shall file for Commission approval a detailed plan for the licensee's participation in and management of the Black River Fund, as set forth at pages A1-1 and A1-2 of the Settlement Offer filed October 13, 1995. On or before October 1 of each year, in accordance with the articles of this license and the Commission's Uniform System of Accounts, the licensee shall file for Commission approval a plan which shows the amount of money that the licensee will spend or contribute to the Black River Fund for the following year, pursuant to the funding provisions set forth in the Settlement Offer. The Commission reserves the right to require changes in the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. The Commission also reserves the right, after notice and opportunity for hearing, to modify the funding arrangement, including ordering a suspension or cessation of contributions and expenditures, should it be necessary or appropriate.

The licensee shall also file, on or before April 1 of each year, a statement for the previous calendar year, in accordance with the articles of this license and the Commission's Uniform System of Accounts, showing the amounts of money the licensee has spent or contributed to the Black River Fund, and the purposes for which these amounts have been spent or contributed. The statement shall be sufficiently detailed to show whether the money has been spent on the purposes approved in the license.

By correspondence dated January 22, 1997, Niagara Mohawk sought rehearing (but not a stay) of certain aspects of the license, inclusive of Article 412. As regards Article 412, Niagara Mohawk's rehearing petition sought modification of Article 412 such that FERC receives reports

on Black River Fund expenditures but does not approve or administer same. FERC's ORDER ON REHEARING, issued on March 14, 1997 (2569-012), revised Article 412 to read as follows:

Article 412. On or before October 1 of each year, the licensee shall file, in accordance with the Commission's Uniform System of Accounts, a statement of the amount of money the licensee will contribute to the Black River Fund for the following year, pursuant to the provisions of the October 13, 1995 Settlement Offer, at pages A1-1 and A1-2. On or before April 1 of each year, the licensee shall file, in accordance with the Commission's Uniform System of Accounts, a statement of the amount of money the licensee has contributed to the Black River Fund.

## II. FUND OBJECTIVES

The Black River Fund ("Fund") and the managing entity envisioned by the Settlement Offer, the Black River Advisory Council ("BRAC"), were created for use within the Black River basin for projects and services designated by the BRAC for purposes of ecosystem restoration and protection, natural resource stewardship, public education, facility maintenance, and applied research necessary to accomplish these projects and provide these services and additional public access to outdoor recreational resources not currently covered by Niagara Mohawk as part of its Black River Project No. 2569 or the Settlement Offer executed for that project.

## III. FUND EXPENDITURE(S)

Niagara Mohawk is to contribute no less than \$3,000 (fixed contribution) annually to the Black River Fund for the years 1 - 15 following acceptance of the FERC license and \$4,000 annually for the remaining years of the new license.<sup>1</sup>

The Black River Fund may be used to facilitate acquisition or options, for the public benefit, of some or a combination of parcels described in Attachment 2, via the following mechanisms: (a) permanent conservation easement(s); (b) reserved rights; or (c) fee title(s), all with appropriate reservations for Niagara Mohawk access, operation and maintenance purposes. Additionally, the Black River Fund may be used to facilitate acquisition or option of any other Niagara Mohawk lands, easements and mineral rights not essential to project operation or maintenance and not otherwise identified herein. Any money not used for such acquisitions will remain in the fund for other uses. NYSDEC will be responsible for facilitating the purchase agreement. The State will prepare the title documents, appraisal, surveys and all other documents necessary to transfer title of the property at no cost to the Black River Fund or Niagara Mohawk.

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<sup>1</sup> Note that the Settlement Offer sets up a schedule that is initiated by Niagara Mohawk acceptance of the License (an event that will occur on April 13, 1997, at the earliest, by virtue of the March 14, 1997 Order on Rehearing by FERC). Article 412, as interpreted by Niagara Mohawk with input from Commission Staff, keys annual FERC reporting to April 1st for preceeding calendar year(s). The annual FERC filing of October 1st will be interpreted to cover the following calendar year.

Unspent money will accumulate with interest in a Federal Deposit Insurance Corporation (FDIC) insured account or instrument managed pursuant to prevailing trust standards. Within one year following surrender or expiration without annual renewal of the new FERC license for Niagara Mohawk, available funds accumulated and not otherwise obligated shall revert to Niagara Mohawk.

#### IV. FUND ADMINISTRATION

The Black River Fund will be administratively managed by Niagara Mohawk and disbursements of the Fund will be made according to the recommendations of the BRAC. The BRAC will be chaired by a representative of the New York State Department of Environmental Conservation (NYSDEC). At a minimum, one BRAC meeting will be scheduled annually and other special meetings will be at the discretion of the NYSDEC and/or Niagara Mohawk. As a minimum, the following entities will be invited to serve on the BRAC, with service being conditioned, save for Jefferson County, on those entities listed below being signatories to the Settlement:

- New York State Department of Environmental Conservation (NYSDEC)
- Niagara Mohawk Power Corporation (NMPC)
- United States Fish & Wildlife Service (USFWS)
- New York Rivers United (NYRU)
- New York State Conservation Council (NYSCC)
- Adirondack Mountain Club (ADK)
- Jefferson County
- New York Council, Trout Unlimited (TU)
- American Whitewater Affiliation (AWA)
- National Park Service (NPS)

Other entities, not part of the original BRAC, will be invited to serve on the BRAC as deemed necessary or appropriate by the BRAC.

Distribution of funds by the BRAC will be based on majority vote of a quorum of the BRAC. The BRAC will also make recommendations which must be considered by the regulatory agencies and Niagara Mohawk regarding management of the Black River and hydropower project operations, in accordance with other provisions of the Settlement Offer. The Council shall designate one of the Watertown whitewater outfitters to serve as the liaison with licensees in cases of abnormal river conditions.

#### V. FUND REPORTING

On or before October 1 of each year, in accordance with revised Article 412 of the License and the Commission's Uniform System of Accounts, Niagara Mohawk will file a statement which shows the amount of money that Niagara Mohawk will contribute to the Black River Fund for the following calendar year, pursuant to the funding provisions set forth in the Settlement Offer and identified above under III. Fund Expenditure(s) (c.f. p. 6 Sample).

Niagara Mohawk will also file, on or before April 1 of each year, a statement for the previous calendar year, in accordance with revised Article 412 of the License and the Commission's Uniform System of Accounts, showing the amounts of money Niagara Mohawk has spent or contributed to the Black River Fund, and the purposes for which these amounts have been spent or contributed. The statement will be sufficiently detailed to show whether the money has been spent on the purposes approved in the License (c.f. p. 5 Sample)

**VI. FUND SCHEDULE OF EVENTS**

	<u>Due Date</u>
<b>A. Events/Activities Required by Article 412</b>	
1. Annually by October 1st, the licensee is to file a statement which shows the amount of money that the licensee will contribute to the Black River Fund in the following calendar year.	October 1, 1997
2. Annually by April 1st, the licensee is to file a statement for the previous calendar year, which statement shows the amounts of money licensee has spent or contributed to the Black River Fund and the purposes for which these amounts have been spent or contributed.	April 1, 1999
<b>B. Events/Activities Required To Activate the Black River Advisory Council and the Black River Fund</b>	
1. FERC issuance of "Order on Rehearing"	March 14, 1997
2. Niagara Mohawk license acceptance determination	By April 14, 1997
3. Initial meeting of Black River Advisory Council Participants	By August 1, 1997
a. Designating a representative for each member	
b. Adopting rules for decision making and conduct of meetings	
c. Considering receipts from NMPC and plan/schedule for expenditures thereof	
d. Determine procedures for receipt, retention and expenditure of moneys	
4. NMPC initial annual contribution of \$3,000 to Black River Fund	By April 13, 1998*

\* "Order on Rehearing" was issued on March 14, 1997. The starting of the Settlement Offer's one year clock (from license acceptance, i.e. 30 days past rehearing determination with no further rehearing petitions or court appeals) would then commence on April 13, 1997 and result in an initial \$3,000 Niagara Mohawk funding obligation within one year thereafter, assuming no further rehearing(s) are pending or sought.

NIAGARA MOHAWK POWER CORPORATION'S

BLACK RIVER PROJECT  
FERC PROJECT NO. 2569-004

LICENSE ARTICLE 412 COMPLIANCE SUBMITTAL:  
PLAN FOR LICENSEE'S PARTICIPATION IN  
AND MANAGEMENT OF THE BLACK RIVER FUND

- DATES: (1) October 1, 1997  
(2) October 1, 2013  
(3) October 1, 2024

SUBMITTAL:

- X A. By October 1st Annually, Licensee Filing, of a Plan Which Shows the Amount of Money That Licensee Will Contribute To The Black River Fund in the Following Calendar Year ("A" Filing).
- \_\_\_ B. By April 1st Annually, Statement Filing By Licensee Showing the Amounts of Money licensee Has Spent or Contributed to the Black River Fund and the Purposes For Which These Amounts Have Been Spent or Contributed ("B" Filing) for the Previous Calendar Year.

A FILING CONTENTS: Columns A and B

B FILING CONTENTS: Columns A, B and C

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<u>COLUMN A</u>	<u>COLUMN B</u>	<u>COLUMN C</u>
<u>Timeframe</u>	<u>LICENSEE's Monetary Contribution To Black River Fund</u>	<u>Purpose(s) for Which Licensee Contributed Money Has Been Spent</u>
(1) By April 13, 1998	\$3,000.00/yr.	Acquisition by the State of New York, or its assignee, of those Attachment 1 lands/rights detailed in "III. Fund Expenditures"
(2) By April 13, 2013	\$4,000.00/yr.	As determined by the BRAC
(3) By April 13, 2026	\$4,000.00/yr.	As determined by the BRAC

(Last contribution to the Black River Fund)

**SAMPLE**



New York West Operations  
Erie Boulevard Hydropower, LP  
33 West 1<sup>st</sup> Street South  
Fulton, NY 13069

Tel. (315) 593-3118  
Fax (315) 598-4831  
www.brookfieldpower.com

*Electronically Filed*

April 2, 2012

Hon. Kimberly D. Bose  
Secretary  
**Federal Energy Regulatory Commission**  
888 First Street NE  
Washington, DC 20426

Subject: Black River Project P-2569 NY  
License Article 412 – Black River Fund

Dear Secretary Bose:

Pursuant to Order On Rehearing issued March 14, 1997, on or before April 1 of each year, the licensee is required to file in accordance with the Commission's Uniform System of Accounts, a statement of the amount of money the licensee has contributed to the Black River Fund.

The Licensee has made the following contributions to the Black River Fund:

April 1998	\$ 3,000
April 1999	\$ 3,000
April 2000	\$ 3,000
April 2001	\$ 3,000
April 2002	\$ 3,000
April 2003	\$ 3,000
April 2004	\$ 3,000
April 2005	\$ 3,000
April 2006	\$ 3,000
April 2007	\$ 3,000
April 2008	\$ 3,000
April 2009	\$ 3,000
April 2010	\$ 3,000
April 2011	\$ 3,000
<u>April 2012</u>	<u>\$ 3,000</u>
Total Contributions	\$45,000

Should you have any questions, please contact me at (315) 598-6130.

Sincerely,

Steven P. Murphy  
New York West Operations

xc: Alice Richardson, NYSDEC-Watertown



Document Content(s)

Black River Fund letter - April 2012.PDF.....1-1



POWER NEW YORK

225 GREENFIELD PARKWAY, SUITE 201 • LIVERPOOL, NY 13088  
PHONE: (315) 413-2700 • FAX: (315) 461-8577

ORIGINAL

OFFICE OF THE SECRETARY

99 OCT 25 AM 11:00

FEDERAL ENERGY  
REGULATORY  
COMMISSION

EXPRESS MAIL

October 22, 1999

Honorable David Boergers  
Secretary  
FEDERAL ENERGY REGULATORY COMMISSION  
888 First Street, N.E.  
Washington, DC 20426

SUBJECT: Black River Project LP 2569-048 NY  
Final Plan for License Article 415

Dear Secretary Boergers:

In accordance with the ORDER APPROVING SETTLEMENT OFFER AND ISSUING NEW LICENSE for the referenced project issued on December 24, 1996, Erie Boulevard Hydropower, LP (Erie) is herein filing an original and eight copies of the final plan for the above referenced license article. Erie submitted a draft plan for consultation with the New York State Department of Environmental Conservation (DEC), United States Fish & Wildlife Service (Service), Jefferson County USDA and Jefferson County Soil & Water Conservation District as required by License Article 415 on August 10, 1999. Agency correspondence addressing License Article 415 is included herein. Following is a list of entities in receipt of the draft plan, entities providing comments, and Erie's position on the comments received.

**ARTICLE 415  
MAINTAINING WOODLAND BUFFER AREAS ALONG THE PROJECTS  
SHORELINES AND VISUAL SCREENS AT DEFERRET**

Entities in receipt of draft plan:

New York State Department of Environmental Conservation (DEC)  
U.S. Fish and Wildlife Service (Service)  
Jefferson County USDA  
Jefferson County Soil & Water Conservation District

Entities providing comments:

U.S. Fish and Wildlife Service (Service)

FERC DOCKETED

OCT 25 1999

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Erie's position on entities comments:

**United States Fish & Wildlife Service comment letter of October 7, 1999**

**Service comments:** The Service comments that the draft plan generally satisfies the requirements for license article 415. The Service comments that on one site visit, an adjacent landowner downstream of the existing recreational area had cut down vegetation along the shoreline, possibly on licensed property, and that Erie was going to look into the situation.

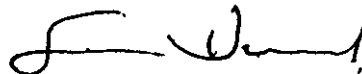
The Service requested what actions, if any, were initiated to restore or replant the shoreline vegetation referenced above.

**Licensee Response:** The licensee has discussed the removal of the shoreline vegetation with the adjacent landowner. A field check determined that a majority of the vegetation removed was on the landowner's property. Vegetation removed on the licensee's property was to be replaced with in-kind vegetation.

Absent comments from other consulted entities, the licensee is filing this final plan with the Commission to fulfill the requirements of license article 415.

Please address all written correspondence to the undersigned. In the interim, if you have any questions regarding this matter, please call Tom Skutnik at (315) 413-2789.

Very truly yours,



Sam S. Hirschey, P.E.  
Manager,  
Licensing, Compliance & Project Properties  
Erie Boulevard Hydropower, LP

Enclosure:

xc: Ms. Carol Sampson, FERC - Washington, DC  
Ms. Lenore Kuwik, DEC - Albany  
Mr. Anton Sidoti, FERC - NYRO  
Mr. Jon Elmer  
Mr. Tom Skutnik  
Attached Distribution List

**DISTRIBUTION LIST**

**BLACK RIVER PROJECT LP 2569-048 NY  
LICENSE ARTICLE 415**

Mr. Len Ollivett  
**NYS Department of Environmental Conservation**  
317 Washington Street  
Watertown, New York 13601

Mr. David Stilwell  
**U. S. Fish and Wildlife Service**  
3817 Luker Road  
Cortland, New York 13045

Mr. Ed Moffitt  
**Jefferson County USDA Service Center**  
21168 Route 232  
Watertown, New York 13601

Mr. Jay Matteson  
**Jefferson County Soil & Water Conservation District**  
21168 Route 232  
Watertown, New York 13601

**FINAL PLAN AND DRAFT PLAN  
FOR  
BLACK RIVER PROJECT #2569  
ARTICLE 415**

**MAINTAINING WOODLAND BUFFER AREAS  
ALONG THE PROJECT'S SHORELINES  
AND  
VISUAL SCREENS AT DEFERIET**



FEDERAL ENERGY  
REGULATORY  
COMMISSION  
OFFICE OF THE SECRETARY

99 OCT 25 AM 11:00

ORION POWER NEW YORK/225 GREENFIELD PARKWAY, SUITE 201, LIVERPOOL, N.Y. 13088

FEDERAL ENERGY  
REGULATORY  
COMMISSION

August 10, 1999

TO: Attached Distribution List

SUBJECT: Black River Project LP 2569 NY  
License Article 415 - Maintaining Woodland Buffer Areas along the  
Projects Shorelines and Visual Screens at Deferiet Development

Dear Mr / Ms:

In accordance with the Order Approving Settlement Agreement and Issuing New License, issued on December 24, 1996 for the Black River Project, ORION Power New York's (ORION) plan for Article 415, Maintaining Existing Woodland Buffers along the five developments shorelines and Visual Screens at Deferiet is presented herein.

ORION intends to maintain the woodland buffer areas along the five developments shorelines in their natural state. ORION has no intentions of clearing any of these woodland areas but would selectively remove dead trees or blowdown if presenting a safety hazard to recreationists.

License Article 415 also required preparation of design drawings of the visual screens or buffers for the new access road and parking area to be constructed at the Deferiet Development and a description of the materials to be used in constructing the access road and parking area. The purpose for the visual screens was to screen the access road and parking area from motorists and other users traveling along Route 3.

Niagara Mohawk, the former owner of the project, made improvements to the access road and parking area at Deferiet prior to the Commission's issuance of the project license on December 24, 1996. The access road was widened to accommodate construction vehicles and the parking area was constructed as a lay down area in 1993 for rehabilitation work performed on the canal headgate structure.

Since the access road and parking area were constructed prior to license issuance, to satisfy the requirements of this article for Deferiet, photographs were taken of the

existing woody, vegetative growth to portray the existing natural visual screen and the surface conditions of the access road and parking area.

Photos #1, #2 and #3 portray the entrance area to the access road as seen along Route 3. Photos #4, #5 and #6 depict the vegetative growth and surface condition of the access road as one proceeds to the parking area. The access road and parking area were constructed with a granular base and a run-of-crusher topping and photos #7 and #8 depict the current condition of the parking area. Photo #9 presents an observer's view upon leaving the parking area and proceeding along the access road to Route 3.

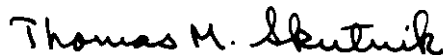
The vegetative growth was minimally disturbed during improvements to the access road and construction of the parking area. The photos indicate a significant regrowth and over time this existing visual screen will continue to improve. ORION does not have any intentions of clearing this natural visual screen for the Deferiet access road and parking area. However, periodic mowing and trimming along each side of the access road and around the perimeter of the parking area will be part of ORION's maintenance program to prevent these areas from becoming too overgrown.

ORION concludes that the existing natural visual screening in place for the access road and parking area at Deferiet is sufficient to satisfy the requirements of article 415. However, ORION is amenable to suggestions from the agencies, if any, for possible consideration and implementation.

The licensee requests your review and comments on this plan for visual screens at the Deferiet Development within 30 days from the date of this letter.

Please address any written correspondence to Sam S. Hirschey, Manager, Licensing, Compliance and Project Properties. In the meantime, if you have any questions, please contact the undersigned at 315-413-2789.

Very truly yours,



Thomas M. Skutnik  
Licensing, Compliance and Project Properties

Enclosure:

xc: S. S. Hirschey  
J. D. Elmer  
Ms. Carol Sampson, FERC - Washington, DC  
Ms. Lenore Kuwik, NYSDEC - Albany  
Attached Distribution List

**DISTRIBUTION LIST**

**BLACK RIVER PROJECT LP 2569 NY  
LICENSE ARTICLE 415**

Mr. Len Ollivett  
**NYS Department of Environmental Conservation**  
317 Washington Street  
Watertown, New York 13601

Mr. David Stilwell  
**U. S. Fish and Wildlife Service**  
3817 Luker Road  
Cortland, New York 13045

Mr. Ed Moffitt  
**Jefferson County USDA Service Center**  
21168 Route 232  
Watertown, New York 13601

Mr. Jay Matteson  
**Jefferson County Soil & Water Conservation District**  
21168 Route 232  
Watertown, New York 13601



**BLACK RIVER PROJECT  
FERC PROJECT NO. 2569-NY, DEFERIET DEVELOPMENT**



Photo #1 - Proceeding east on Rt. 3, entrance to access road just beyond highway bridge.

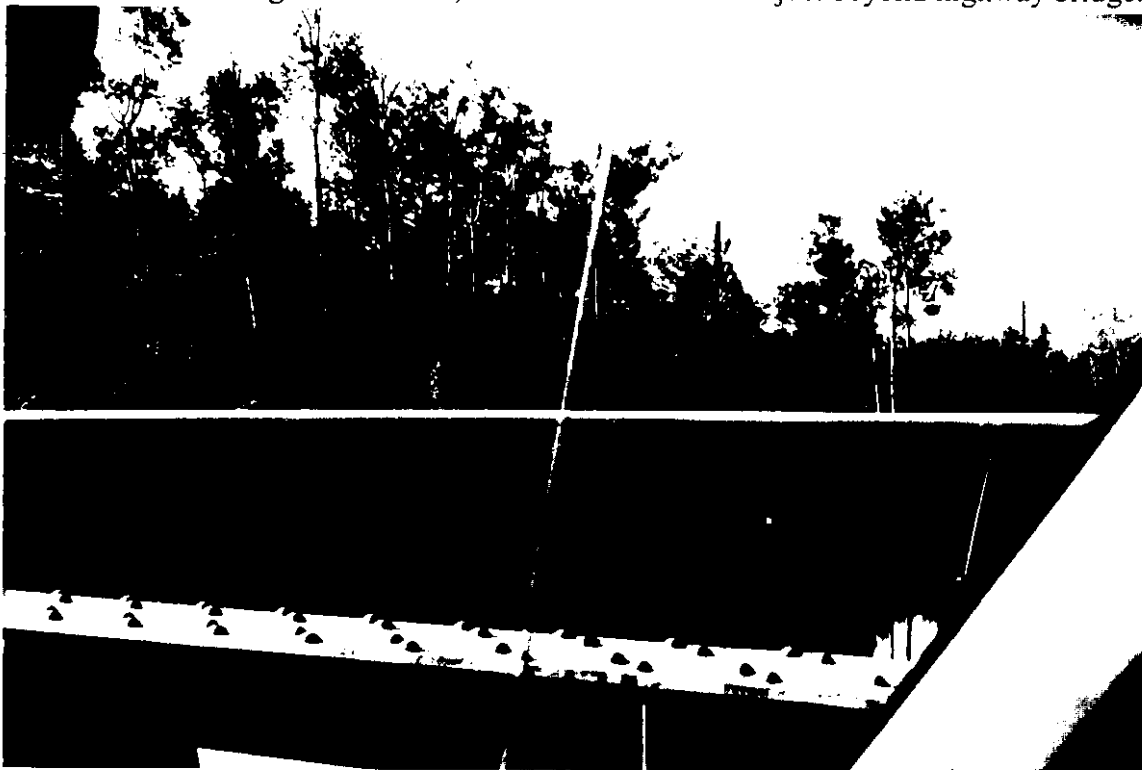


Photo #2 - Proceeding east on Rt. 3, view from highway bridge looking at access road.

**BLACK RIVER PROJECT  
FERC PROJECT NO. 2569-NY, DEFERRET DEVELOPMENT**



Photo #3 - View from Rt. 3, east side of access road, parking area in background.



Photo #4 - View from access road entrance.

**BLACK RIVER PROJECT  
FERC PROJECT NO. 2569-NY, DEFERIET DEVELOPMENT**



Photo #5 - Proceeding along access road to parking area.



Photo #6 - Proceeding along access road to parking area located beyond trees on left.

**BLACK RIVER PROJECT  
FERC PROJECT NO. 2569-NY, DEFERRET DEVELOPMENT**



Photo #7 - Parking area.



Photo #8 - Parking area.

**BLACK RIVER PROJECT  
FERC PROJECT NO. 2569-NY, DEFERIET DEVELOPMENT**



Photo #9- View from parking area looking towards Rt. 3.

**AGENCY CORRESPONDENCE**



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

3817 Luker Road  
Cortland, NY 13045



October 7, 1999

Mr. Thomas M. Skutnik  
Licensing, Compliance and Project Properties  
Orion Power New York  
225 Greenfield Parkway  
Suite 201  
Liverpool, NY 13088

**RE: Black River Project, FERC No. 2569**  
**License Article 415: Shoreline buffers and visual screening for new access area at the Deferiet development.**

Dear Mr. Skutnik:

The U.S. Fish and Wildlife Service (Service) has received and reviewed Orion Power's proposed plan for maintaining existing woodland buffers along the Black River Project's five reservoir shorelines and visual screens at the Deferiet development. The filing generally satisfies the requirements for License Article 415. However, during one of the inter-agency site visits, it was observed that a landowner adjacent to and immediately downstream of the existing Deferiet Recreational Access Site had cut down the vegetation along the shoreline. At that time a Niagara Mohawk Power Corporation (NMPC) representative indicated that the observed cutting likely occurred on the licensed property. The NMPC representative indicated that he would look into the situation.

In order to preserve the shoreline buffers, it is important that vegetative removal for non-project required uses be minimized. Please inform the Service of what actions, if any, were initiated to restore or replant the shoreline vegetation on the property referenced in the above paragraph. The Service appreciates the opportunity to provide Orion Power with our comments and recommendations. If you have further questions, please contact Dave Bryson at (607) 753-9334.

Sincerely,

*Annexed Second*  
for David A. Stilwell  
Field Supervisor

cc: NYSDEC, Watertown, NY (L. Ollivett)  
FERC, Washington, DC (D. Boergers)

91 FERC ¶ 62,014

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Eire Boulevard Hydropower, LP

Project No. 2569-048  
New York

ORDER APPROVING VEGETATIVE BUFFER PLAN

(Issued April 07, 2000)

On October 25, 1999, Eire Boulevard Hydropower, LP, licensee for the Black River Project FERC No. 2569, filed a Vegetative Screening Plan as required by article 415 of the project license.<sup>1</sup> The Black River Project, consisting of five hydropower developments (spanning approximately 17 miles), is located on the Black River in Jefferson County, New York.

THE FILED PLAN

The licensee intends to maintain the woodland buffer areas along the five development shorelines in their natural state, and has no intentions of clearing any of these woodland areas but would selectively remove dead trees or blow-downs if presenting a safety hazard to recreationists.

The plan shows the access road and parking area for the Deferiet development to be screened from Route 3 by existing vegetative growth.<sup>2</sup> Photographs submitted with the plan show the parking lot is not visible from either the highway or the Black River,

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<sup>1</sup> See: Order Approving Settlement Offer and Issuing New License, 77 FERC ¶61,306 (December 24, 1996). Article 415 requires the licensee to maintain the existing woodland buffer areas along the five developments' shorelines, and provide visual screens or buffers for access road widening and parking area construction at the Deferiet development. At least 90 days before the start of any land disturbing or land clearing activities for the Deferiet Development's new access road and parking area, the licensee shall file, for Commission approval, detailed design drawings of the screens or buffers and the parking area...and a schedule for their construction. The licensee shall consult with the appropriate federal, state and local agencies before preparing the plan.

<sup>2</sup> In the filing, the licensee states the access road and parking area was constructed by the former licensee, Niagra Mohawk Power Company, prior to the 1997 license issuance. The former licensee did not file drawings for Commission approval prior to the road and parking lot improvements; however, an appropriate vegetative buffer was retained and the intent of article 415, in that regard, was attained.

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000410-0349-3



which passes under the highway near the development's entrance. The licensee states it will retain the vegetative screen except for periodic mowing and trimming along the edge of the road and parking area to keep them from being overgrown.

#### AGENCY CONSULTATION

The licensee consulted with the appropriate agencies, which include the New York State Department of Environmental Conservation, U.S. Fish and Wildlife Service (FWS), Jefferson County USDA Service Center, and the Jefferson County Soil & Water Conservation District. In a letter dated October 7, 1999, the FWS approved the plan, stating it generally satisfies the requirements of article 415. None of the other agencies commented on the plan.

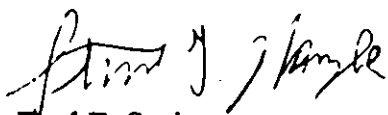
#### DISCUSSION

The licensee filed a plan that maintains the woodland buffer along the five development shorelines in its natural state. The licensee will not clear any of the buffer areas except to remove dead trees or blow-downs if presenting a safety hazard to recreationists. The licensee also showed how vegetative screening has been provided along the entrance drive and parking lot for the Deferiet Development. The licensee will retain the vegetative screen except for periodic mowing and trimming along the edge of the road and parking area to keep them from being overgrown. The FWS approved of the licensee's Vegetative Buffer Plan; none of the consulted agencies opposed the Plan. The filed plan fulfills the intent of article 415 and should be approved.

#### The Director orders:

(A) The licensee's October 25, 1999, Vegetative Buffer Plan fulfills the intent of article 415 and is approved.

(B) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

  
for Fred E. Springer  
Director  
Division of Hydropower Administration  
and Compliance

**ATTACHMENT I**

**QUESTION E – THREATENED & ENDANGERED  
SPECIES PROTECTION:**

**CONSULTATION RECORD**

March 27, 2012

Ms. Jean Pietrusiak  
New York State Department of Environmental Conservation  
New York Natural Heritage Program  
625 Broadway, 5<sup>th</sup> Floor  
Albany, NY 12233-4757

Subject: **Black River Hydroelectric Projects (FERC Nos. 2569 & 2538)  
Threatened and Endangered Species Consultation**

Dear Ms. Pietrusiak:

Erie Boulevard Hydropower, L.P. (Erie) is the owner, operator, and licensee of the Black River (FERC No. 2569) and Beebee Island (FERC No. 2538) projects. These projects are comprised of six hydroelectric developments located at six dams along the Black River in Jefferson County. From upstream to downstream, these are the Herrings (River Mile [RM] 27.5), Deferiet (RM 26.0), Kamargo (RM 17.0), Black River (RM 15.0), Sewalls (RM 10.0), and Beebee Island (RM 9.0) developments.

As a matter of background, licenses from the Federal Energy Regulatory Commission (FERC) were issued for these two projects on December 24, 1996. Project operations and environmental protection measures at these projects have been largely determined by a comprehensive Offer of Settlement that Erie developed in conjunction with the New York State Department of Environmental Conservation and other entities in 1995. The licensing processes for these projects included consultation with resource agencies regarding threatened and endangered species.

Erie is presently working with the Low Impact Hydropower Institute (LIHI) to recertify the Black River and Beebee Island projects as low impact projects. In preparing the application for LIHI certification, Erie must update or confirm consultation with resource agencies with respect to the presence of threatened or endangered species within the vicinity of these six hydroelectric developments.


Per the request from LIHI, Erie respectfully requests information on the presence of threatened or endangered species within the vicinity of the above-listed projects. The project location coordinates have been provided below, as well as on the enclosed aerial maps.

- Herrings.....Latitude: 44.0205; Longitude: -75.6508
- Deferiet .....Latitude: 44.0277; Longitude: -75.6772
- Kamargo.....Latitude: 44.0080; Longitude: -75.7852
- Black River .....Latitude: 44.0038; Longitude: -75.8066
- Sewalls .....Latitude: 43.9772; Longitude: -75.8933
- Beebee Island .....Latitude: 43.9767; Longitude: -75.9069

Ms. Jean Pietrusiak  
March 27, 2012  
Page 2 of 2

Erie would appreciate a response within 30 days of the date of this letter. Thank you in advance for your assistance, and if you have any questions, please do not hesitate to contact me at (315) 598-6130.

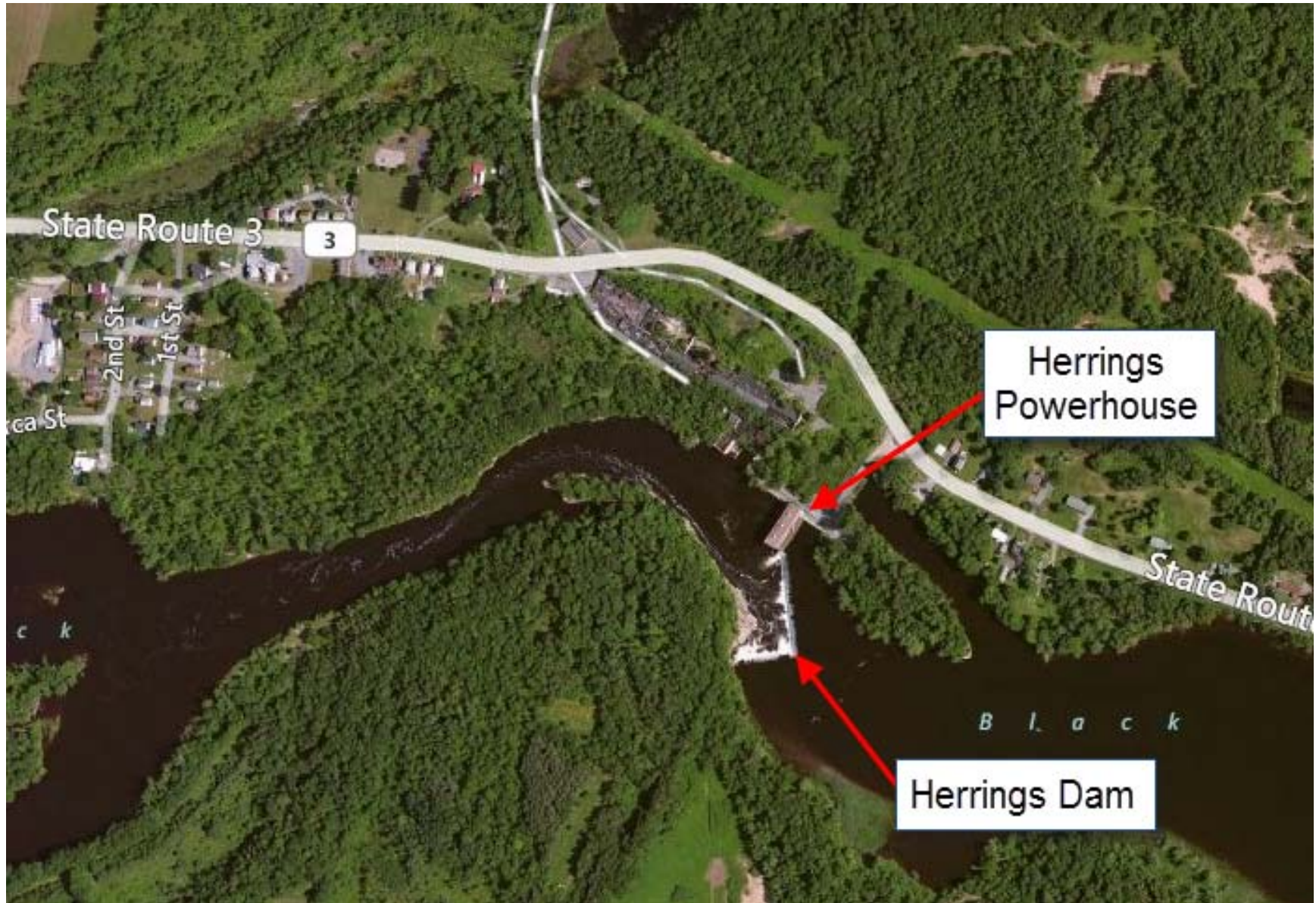
Sincerely,

A handwritten signature in black ink, appearing to read "S.P. Murphy". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

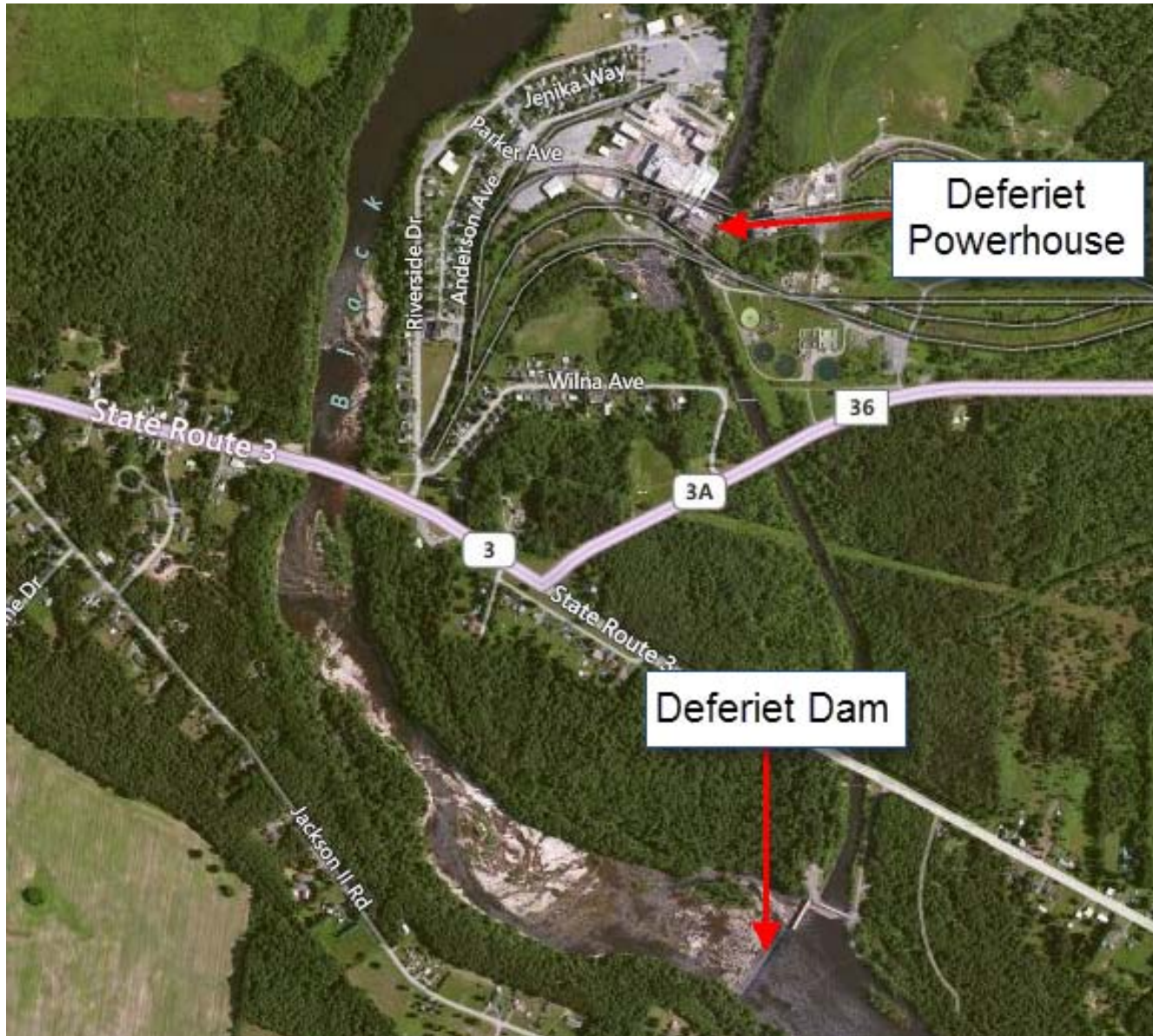
Steven P. Murphy  
New York West Operations

Enclosure

# HERRINGS DEVELOPMENT



## DEFERIET DEVELOPMENT



# KAMARGO DEVELOPMENT



# BLACK RIVER DEVELOPMENT

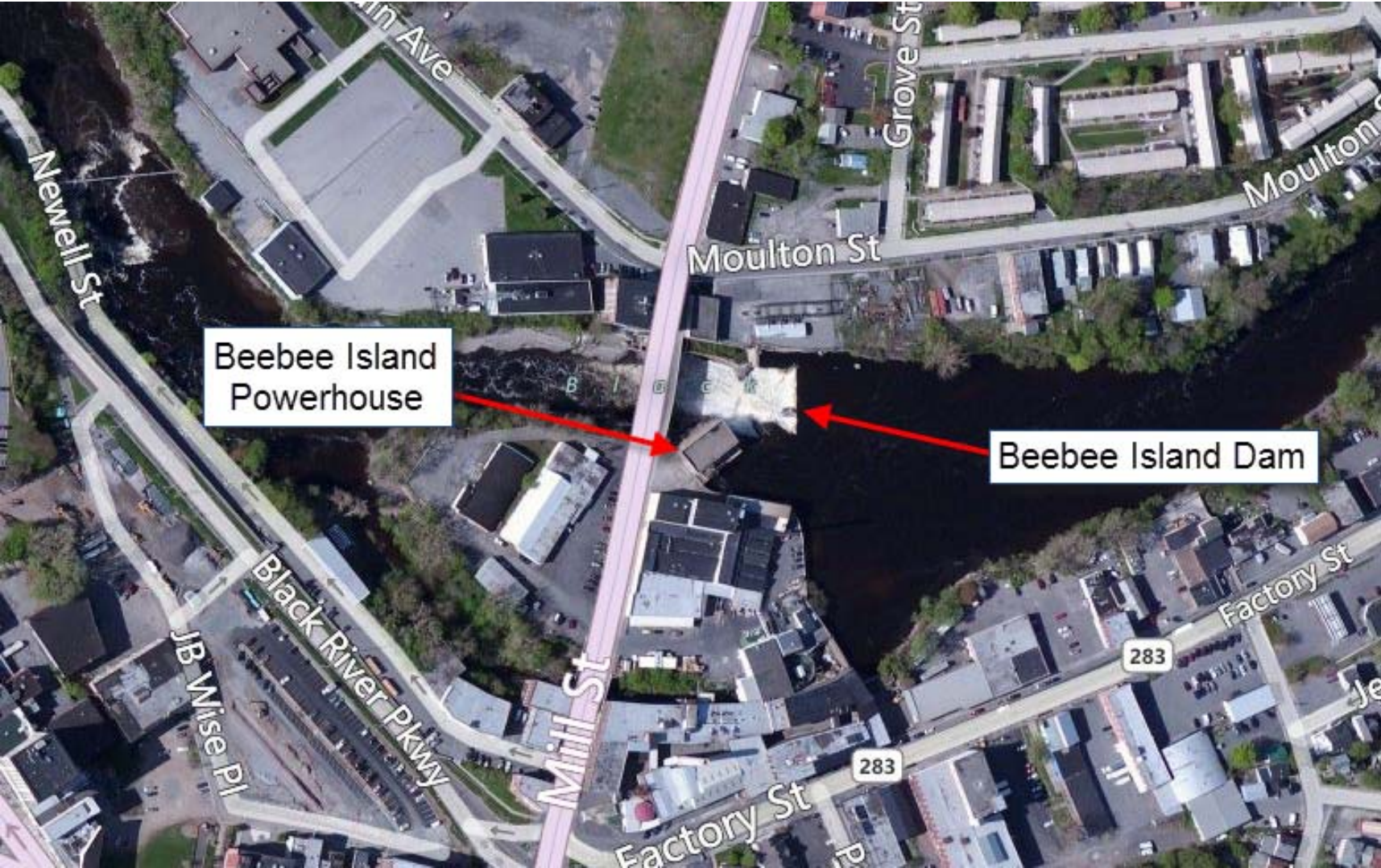




**SEWALLS DEVELOPMENT**



**BEEBEE ISLAND PROJECT**



March 27, 2012

Ms. Jean Pietrusiak  
New York State Department of Environmental Conservation  
New York Natural Heritage Program  
625 Broadway, 5<sup>th</sup> Floor  
Albany, NY 12233-4757

Subject: **Black River Hydroelectric Projects (FERC Nos. 2569 & 2538)  
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Ms. Jean Pietrusiak  
March 27, 2012  
Page 2 of 2

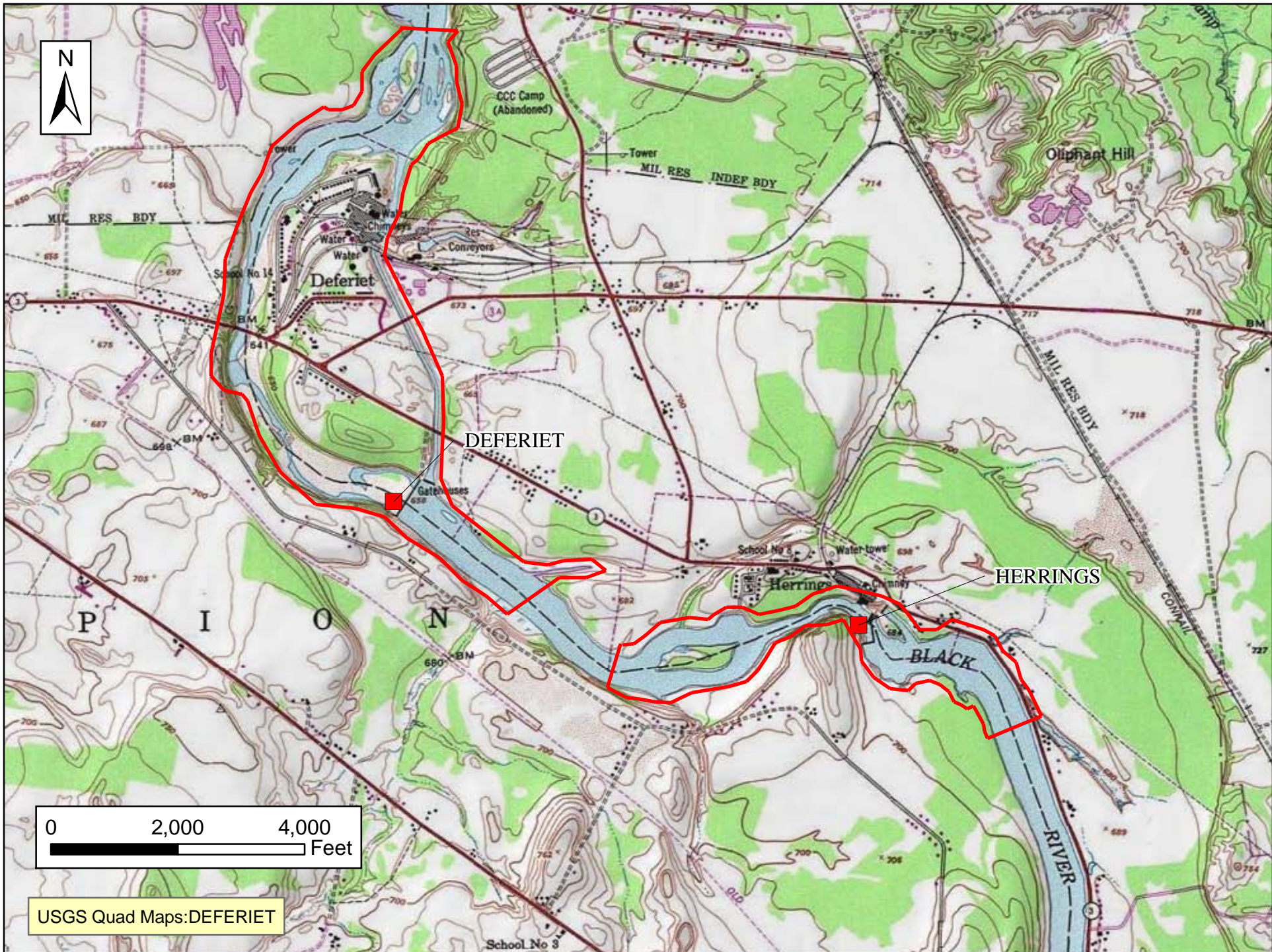
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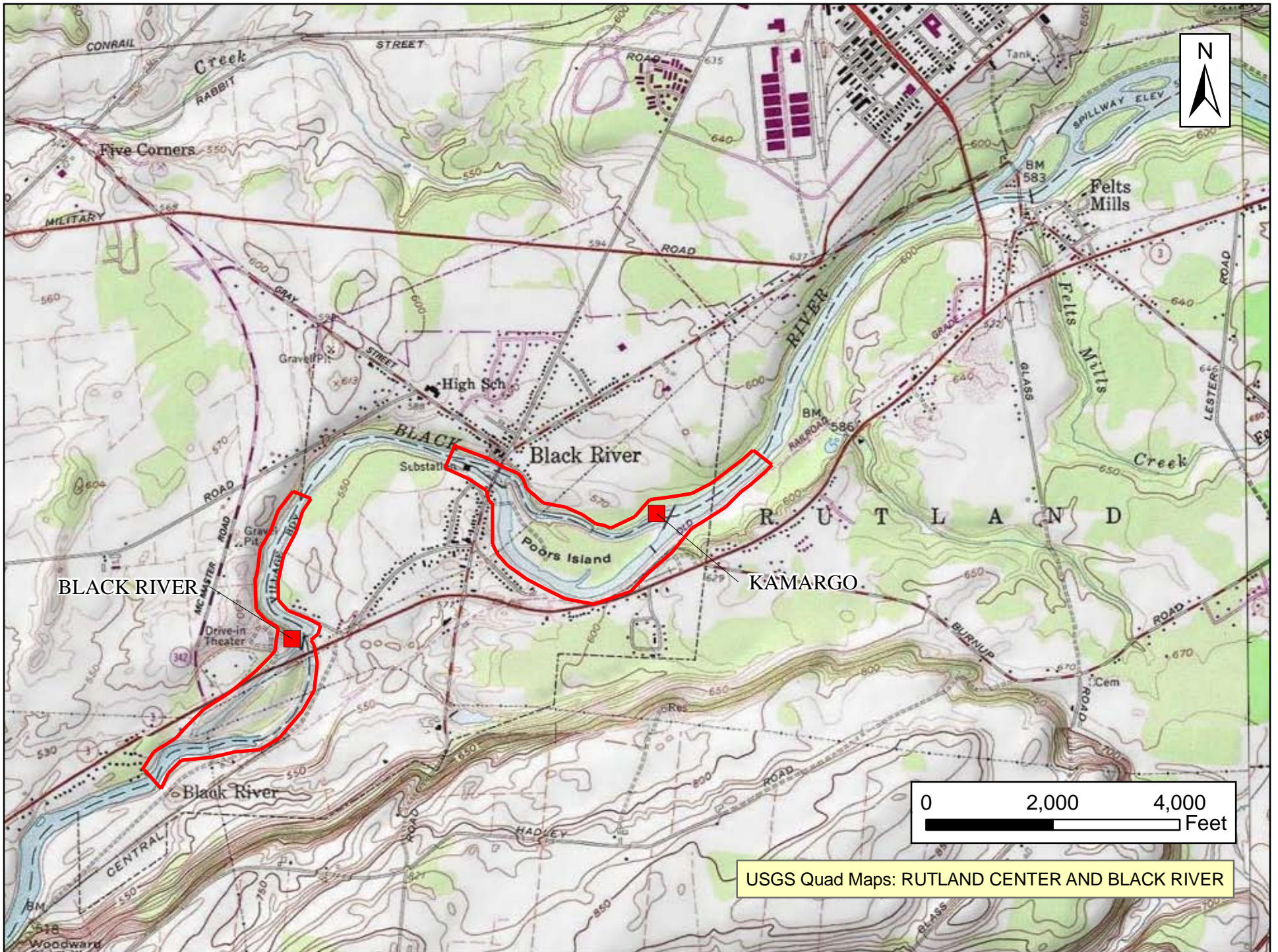
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Steven P. Murphy  
New York West Operations

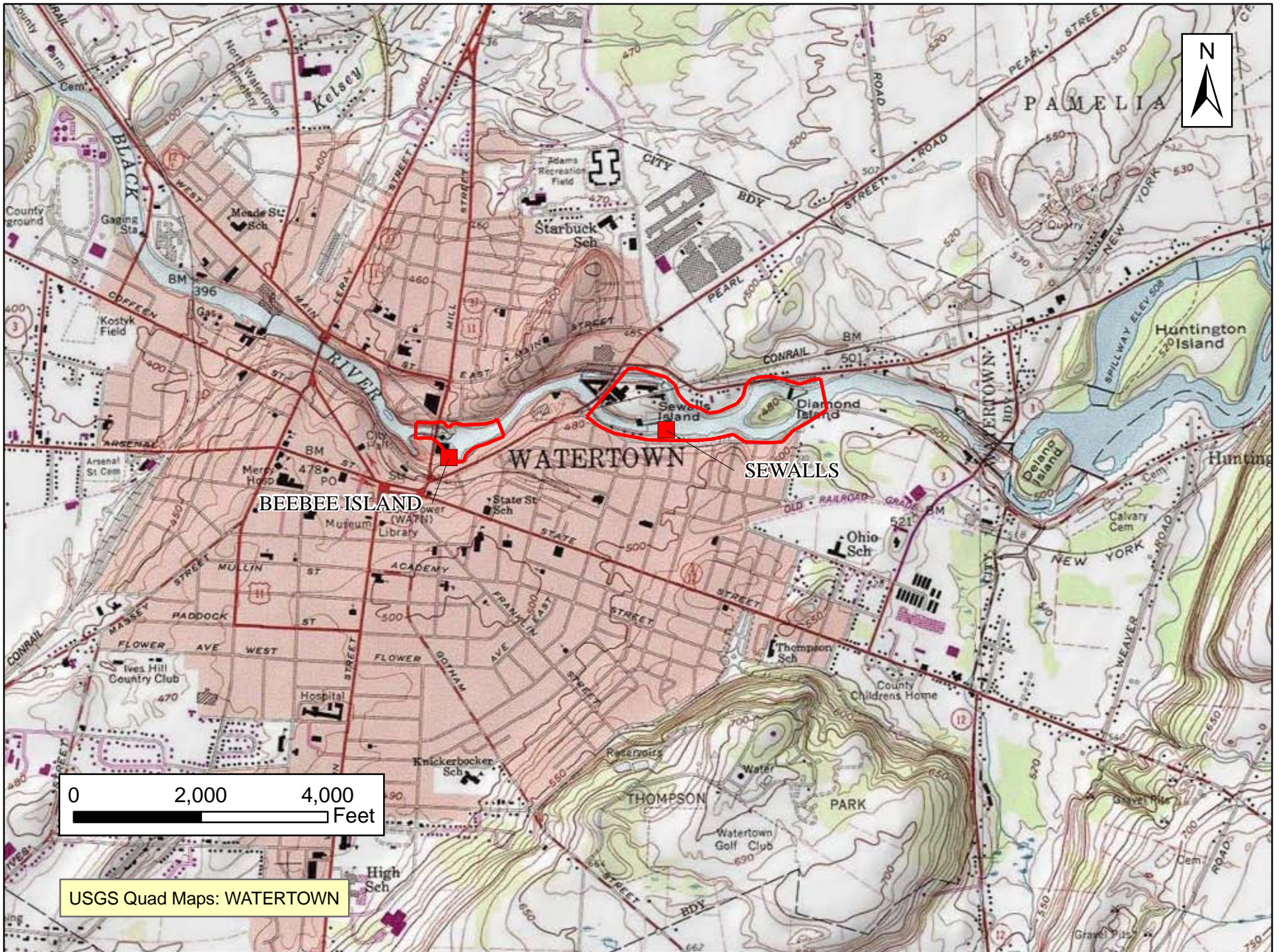
Enclosure



HERRINGS AND DEFERIET PROJECT BOUNDARIES

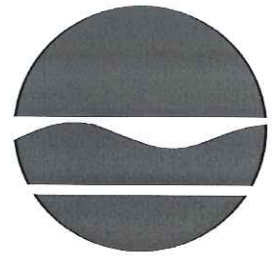


KAMARGO AND BLACK RIVER PROJECT BOUNDARIES



SEWALLS AND BEEBEE ISLAND PROJECT BOUNDARIES

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**Division of Fish, Wildlife & Marine Resources**  
625 Broadway, 5<sup>th</sup> Floor, Albany, New York 12233-4757  
Phone: (518) 402-8935 • Fax: (518) 402-8925  
Website: [www.dec.ny.gov](http://www.dec.ny.gov)



Joe Martens  
Commissioner

April 27, 2012

Steven Murphy  
Brookfield  
Erie Blvd Hydropower  
33 West First Street South  
Fulton, NY 13069

Dear Mr. Murphy:

In response to your recent request, we have reviewed the New York Natural Heritage Program database, with respect to an Environmental Assessment for the proposed Black River Hydroelectric Project - FERC 2569 and 2538 located at six dams - this response applies to SITE 1, HERRINGS, - area as indicated on the map you provided, located in Jefferson County.

We have no records of rare or state listed animals or plants, significant natural communities or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at [www.dec.ny.gov/about/39381.html](http://www.dec.ny.gov/about/39381.html).

Sincerely,

Jean Pietrusiak, Information Services  
NYS Department Environmental Conservation

Enc.  
cc: Reg. 6

# 348 A



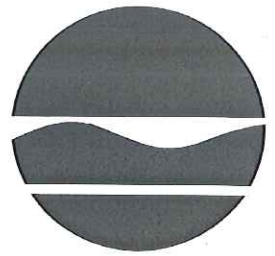
**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

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Joe Martens  
Commissioner

April 27, 2012

Steven Murphy  
Brookfield  
Erie Blvd Hydropower  
33 West First Street South  
Fulton, NY 13069

Dear Mr. Murphy:


In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Black River Hydroelectric Project - FERC 2569 and 2538 located at six dams – this response applies to SITE 2, Deferiet, area as indicated on the map you provided, located in Jefferson County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at [www.dec.ny.gov/about/39381.ht ml](http://www.dec.ny.gov/about/39381.ht ml).

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Sincerely,  
  
Jean Pietrusiak, Information Services  
NYS Department Environmental Conservation

Enc.  
cc: Reg. 6

# 348 B

Defenest

## Natural Heritage Report on Rare Species and Ecological Communities



NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,  
Albany, NY 12233-4757  
(518) 402-8935

- ~The information in this report includes only records entered into the NY Natural Heritage databases as of the date of the report. This report is not a definitive statement on the presence or absence of all rare species or significant natural communities at or in the vicinity of this site.
- ~Refer to the User's Guide for explanations of codes, ranks and fields.
- ~Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

## Natural Heritage Report on Rare Species and Ecological Communities



### COMMUNITIES

#### Successional northern sandplain grassland

This occurrence of Successional Northern Sandplain Grassland is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

<b>NY Legal Status:</b> Unlisted	<b>NYS Rank:</b> S3	3397
<b>Federal Listing:</b>	<b>Global Rank:</b> G4?	
<b>Last Report:</b> 1992-09-09	<b>EO Rank:</b>	
<b>County:</b> Jefferson		S
<b>Town:</b> Leray, Wilna		
<b>Location:</b> Fort Drum Training Area 4/5 Wheeler Airfield Grassland		

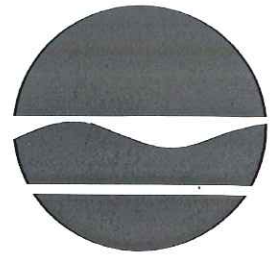
**General Quality and Habitat:** This is a large area. Exotics are only found along roadside and stream channel banks. Sandy terraces dissected by steep ravines cut by small streams, with extensive areas of dry grasslands. The grasslands grade into open glade-like oak woods with a continuous herb layer of grasses and sedges. The airport is on the southwest corner of the grassland. In summer the grasslands are a silvery green when the hairgrass starts to flower, and in the late summer they turn to a nice copper color. A number of sedges and panic grasses are also common, mixed with small showy flowers. Oaks grow singly or in small groves, with blueberries and sweet-fern underneath.

1 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at [www.acris.nynhp.org](http://www.acris.nynhp.org), from NatureServe Explorer at <http://www.natureserve.org/explorer>, from NYSDEC at <http://www.dec.ny.gov/animals/7494.html> (for animals), and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).

More detailed information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at [www.acris.nynhp.org](http://www.acris.nynhp.org). For descriptions of all community types, go to <http://www.dec.ny.gov/animals/29384.html> and click on Draft Ecological Communities of New York State.

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**Division of Fish, Wildlife & Marine Resources**  
625 Broadway, 5<sup>th</sup> Floor, Albany, New York 12233-4757  
**Phone:** (518) 402-8935 • **Fax:** (518) 402-8925  
**Website:** [www.dec.ny.gov](http://www.dec.ny.gov)



Joe Martens  
Commissioner

April 27, 2012

Steven Murphy  
Brookfield  
Erie Blvd Hydropower  
33 West First Street South  
Fulton, NY 13069

Dear Mr. Murphy:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Black River Hydroelectric Project - FERC 2569 and 2538 located at six dams – this response applies to SITE 3, KAMARGO, area as indicated on the map you provided, located in Jefferson County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at [www.dec.ny.gov/about/39381.ht](http://www.dec.ny.gov/about/39381.ht) ml.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,  
  
Jean Pietrusiak, Information Services  
NYS Department Environmental Conservation

Enc.  
cc: Reg. 6

# 349 A

Site 3 - Kamargo

Natural Heritage Report on Rare Species

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,  
Albany, NY 12233-4757  
(518) 402-8935



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~Refer to the User's Guide for explanations of codes, ranks and fields.  
~We do not provide maps for species most vulnerable to disturbance.

Natural Heritage Report on Rare Species and Ecological Communities



REPTILES

*Emydoidea blandingii*

Blanding's Turtle

NY Legal Status: Threatened

NYS Rank: S2S3 - Imperiled

Office Use

142

Federal Listing:

Global Rank: G4 - Apparently secure

ESU

County: Jefferson

Town: Rutland

Location: Documented within .6 mile of project site. Animals can move .6 mile or more from documented locations. For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located.

1 Records Processed

More detailed information about many of the rare and listed animals in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at [www.acris.nynhp.org](http://www.acris.nynhp.org), from NatureServe Explorer at <http://www.natureserve.org/explorer>, and from NYSDEC at <http://www.dec.ny.gov/animals/7494.html>.

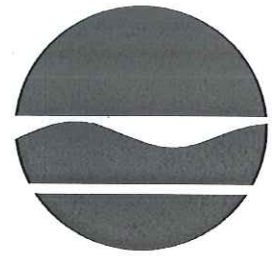
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish, Wildlife & Marine Resources

625 Broadway, 5<sup>th</sup> Floor, Albany, New York 12233-4757

Phone: (518) 402-8935 • Fax: (518) 402-8925

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Joe Martens  
Commissioner

April 27, 2012

Steven Murphy  
Brookfield  
Erie Blvd Hydropower  
33 West First Street South  
Fulton, NY 13069

Dear Mr. Murphy:

In response to your recent request, we have reviewed the New York Natural Heritage Program database, with respect to an Environmental Assessment for the proposed Black River Hydroelectric Project - FERC 2569 and 2538 located at six dams - this response applies to SITE 4, BLACK RIVER - area as indicated on the map you provided, located in Jefferson County.

We have no records of rare or state listed animals or plants, significant natural communities or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

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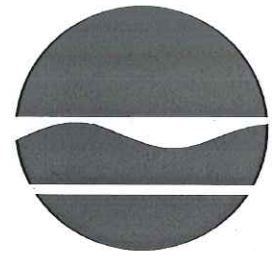
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# 349 B

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
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Joe Martens  
Commissioner

April 27, 2012

Steven Murphy  
Brookfield  
Erie Blvd Hydropower  
33 West First Street South  
Fulton, NY 13069

Dear Mr. Murphy:

In response to your recent request, we have reviewed the New York Natural Heritage Program database, with respect to an Environmental Assessment for the proposed Black River Hydroelectric Project - FERC 2569 and 2538 located at six dams - this response applies to SITE 5 SEWALLS - area as indicated on the map you provided, located in Jefferson County.

We have no records of rare or state listed animals or plants, significant natural communities or other significant habitats, on or in the immediate vicinity of your site.

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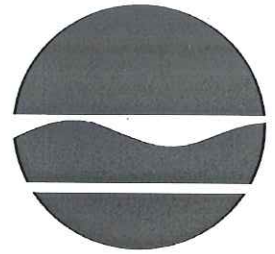
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Enc.  
cc: Reg. 6

# 350 A

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**  
**Division of Fish, Wildlife & Marine Resources**  
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Joe Martens  
Commissioner

April 27, 2012

Steven Murphy  
Brookfield  
Erie Blvd Hydropower  
33 West First Street South  
Fulton, NY 13069

Dear Mr. Murphy:

In response to your recent request, we have reviewed the New York Natural Heritage Program database, with respect to an Environmental Assessment for the proposed Black River Hydroelectric Project - FERC 2569 and 2538 located at six dams - this response applies to SITE 6 BEEBEE ISLAND - area as indicated on the map you provided, located in Jefferson County.

We have no records of rare or state listed animals or plants, significant natural communities or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at [www.dec.ny.gov/about/39381.html](http://www.dec.ny.gov/about/39381.html).

Sincerely,  
  
Jean Pietrusiak, Information Services  
NYS Department Environmental Conservation

Enc:  
cc: Reg. 6

# 350 B

March 27, 2012

Mr. David Stillwell  
U.S. Fish and Wildlife Service  
3817 Luker Road  
Cortland, NY 13045

Subject: **Black River Hydroelectric Projects (FERC Nos. 2569 & 2538)  
Threatened and Endangered Species Consultation**

Dear Mr. Stillwell:

Erie Boulevard Hydropower, L.P. (Erie) is the owner, operator, and licensee of the Black River (FERC No. 2569) and Beebee Island (FERC No. 2538) projects. These projects are comprised of six hydroelectric developments located at six dams along the Black River in Jefferson County. From upstream to downstream, these are the Herrings (River Mile [RM] 27.5), Deferiet (RM 26.0), Kamargo (RM 17.0), Black River (RM 15.0), Sewalls (RM 10.0), and Beebee Island (RM 9.0) developments.

As a matter of background, licenses from the Federal Energy Regulatory Commission (FERC) were issued for these two projects on December 24, 1996. Project operations and environmental protection measures at these projects have been largely determined by a comprehensive Offer of Settlement that Erie developed in conjunction with the U.S. Fish and Wildlife Service and other entities in 1995. The licensing processes for these projects included consultation with resource agencies regarding threatened and endangered species.

Erie is presently working with the Low Impact Hydropower Institute (LIHI) to recertify the Black River and Beebee Island projects as low impact projects. In preparing the application for LIHI certification, Erie must update or confirm consultation with resource agencies with respect to the presence of threatened or endangered species within the vicinity of these six hydroelectric developments.

Per the request from LIHI, Erie respectfully requests information on the presence of threatened or endangered species within the vicinity of the above-listed projects. The project location coordinates have been provided below, as well as on the enclosed aerial maps.

- Herrings.....Latitude: 44.0205; Longitude: -75.6508
- Deferiet .....Latitude: 44.0277; Longitude: -75.6772
- Kamargo.....Latitude: 44.0080; Longitude: -75.7852
- Black River .....Latitude: 44.0038; Longitude: -75.8066
- Sewalls .....Latitude: 43.9772; Longitude: -75.8933
- Beebee Island.....Latitude: 43.9767; Longitude: -75.9069



Mr. David Stillwell  
March 27, 2012  
Page 2 of 2

Erie would appreciate a response within 30 days of the date of this letter. Thank you in advance for your assistance, and if you have any questions, please do not hesitate to contact me at (315) 598-6130.

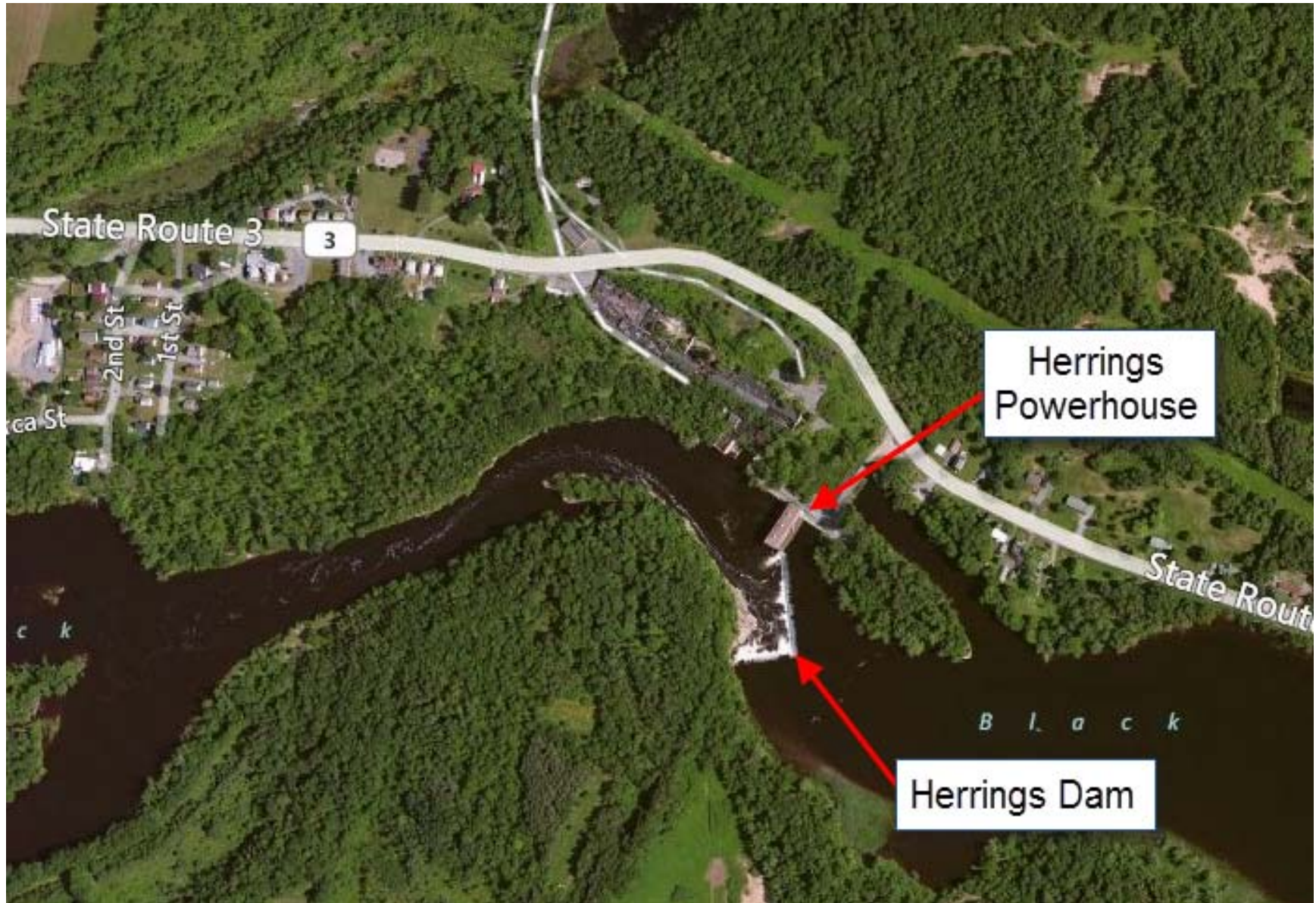
Sincerely,

A handwritten signature in black ink that reads "Steven P. Murphy". The signature is written in a cursive style with a large, stylized initial "S".

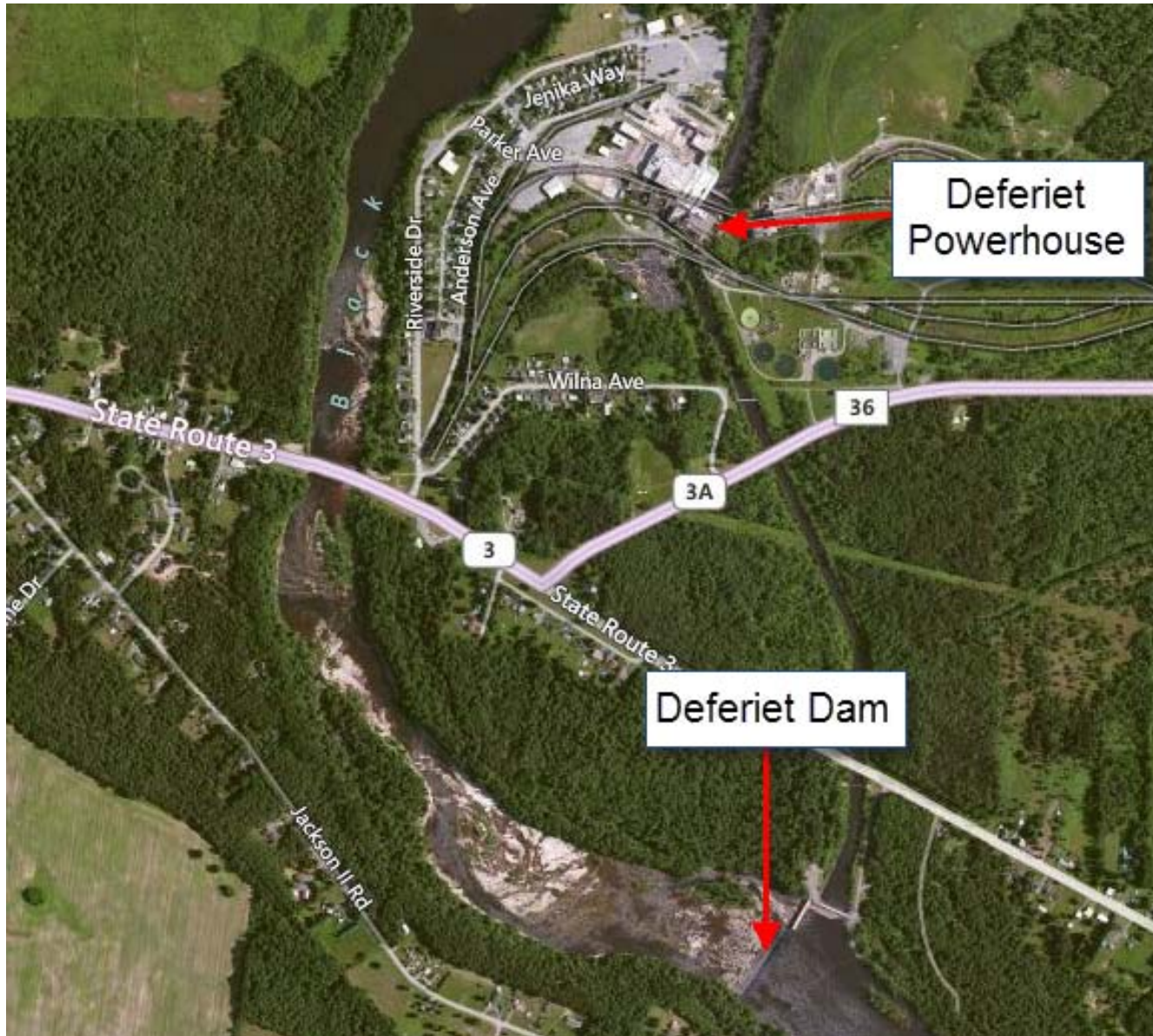
Steven P. Murphy  
New York West Operations

Enclosure

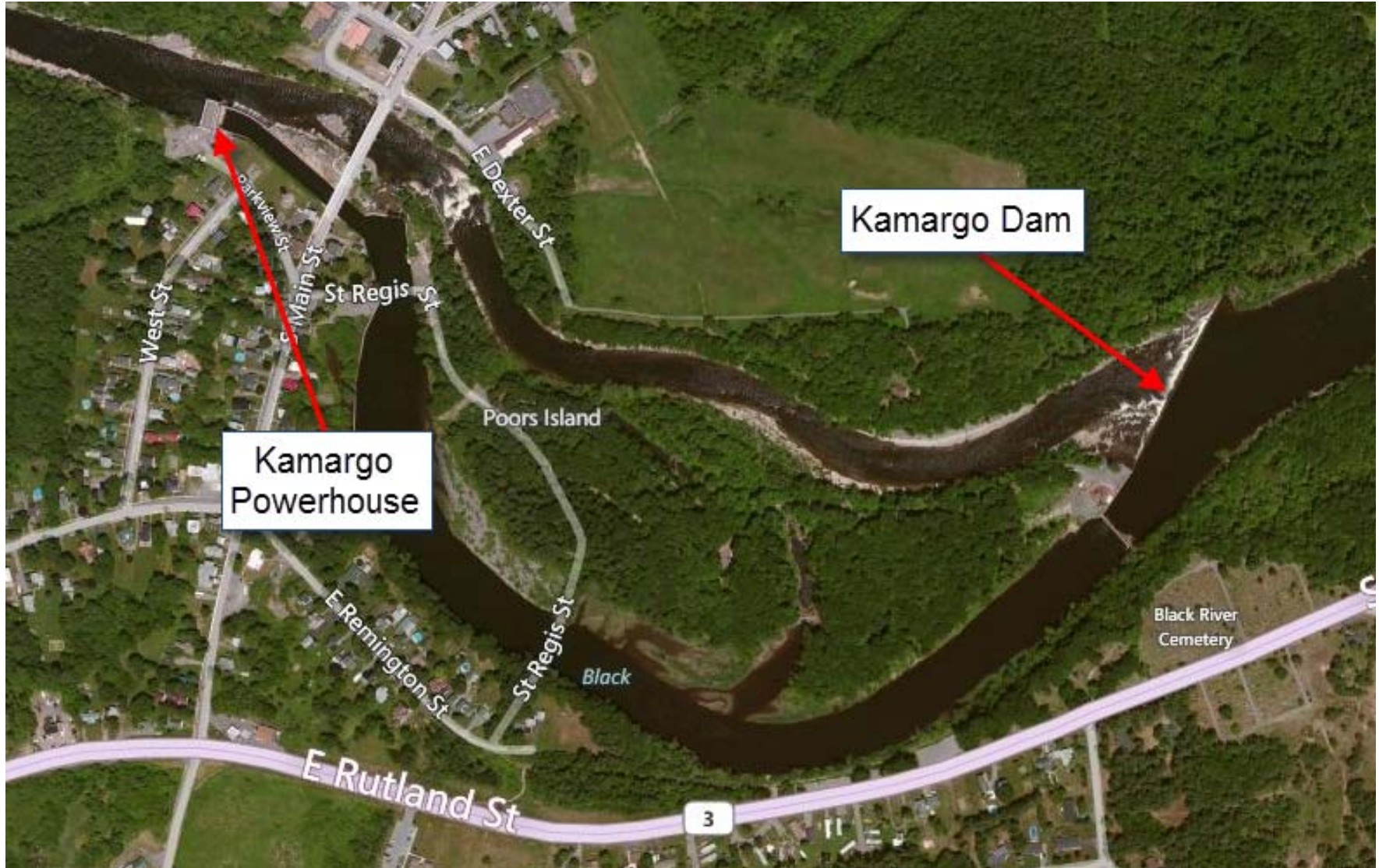
# HERRINGS DEVELOPMENT



## DEFERIET DEVELOPMENT



# KAMARGO DEVELOPMENT



# BLACK RIVER DEVELOPMENT



**SEWALLS DEVELOPMENT**



**BEEBEE ISLAND PROJECT**





## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

New York Field Office

3817 Laker Road

Cortland, NY 13043

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo>



Project Number: 120284

To: Steven Murphy

Date: Mar 30, 2012

Regarding: Black River Hydroelectric Projects (FERC Nos. 2569 and 2538)

Town/County: Jefferson County

The U.S. Fish and Wildlife Service (Service) New York Field Office has received your request for information regarding occurrences of Federally-listed or proposed threatened and endangered species within the vicinity of the above-referenced project/property. In an effort to streamline project reviews, we have shifted our species list request responses to our website at <http://www.fws.gov/northeast/nyfo/es/section7.htm>. Please go to our website and print the appropriate portions of our county list of endangered, threatened, proposed, and candidate species, and the official list request response for your files. Step-by-step instructions are also found on our website.

As a reminder, Section 9 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) prohibits unauthorized taking\* of listed species and applies to Federal and non-Federal activities. Additionally, Section 7(a)(2) of the ESA requires Federal agencies, in consultation with the Service, to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. An assessment of the potential direct, indirect, and cumulative impacts is required for all Federal actions that may affect listed species. For projects not authorized, funded, or carried out by a Federal agency, consultation with the Service pursuant to Section 7(a)(2) of the ESA is not required. However, no person is authorized to "take"\* any listed species without appropriate authorizations from the Service. Therefore, we provide technical assistance to individuals and agencies to assist with project planning to avoid the potential for "take," or when appropriate, to provide assistance with their application for an incidental take permit pursuant to Section 10(a)(1)(B) of the ESA.

Project construction or implementation should not commence until all requirements of the ESA have been fulfilled. If you have any questions or require further assistance regarding threatened or endangered species, please contact the Endangered Species Program at (607) 753-9334. Please refer to the above project number in any future correspondence.

Endangered Species Biologist: Robyn A. Niver

*Robyn A. Niver*

\*Under the Act and regulations, it is illegal for any person subject to the jurisdiction of the United States to *take* (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered fish or wildlife species and most threatened fish and wildlife species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. "Harm" includes any act which actually kills or injures fish or wildlife, and case law has clarified that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.



**ATTACHMENT J**

**QUESTION F – CULTURAL RESOURCES PROTECTION:**

**1996 MULTI-PROJECT PROGRAMMATIC AGREEMENT**

**1998 CULTURAL RESOURCES MANAGEMENT PLAN FOR P-2538**

**1999 FERC ORDER APPROVING CRMP FOR P-2538 & P-2569**

## II. BLACK RIVER PROJECT, PROJECT NO. 2569

NMPC applied to the Commission on November 25, 1991, for a new license for the Black River Project (FERC No. 2569), proposing to continue operating and maintaining existing facilities according to an established operating regime, and to improve recreational facilities. NMPC revised the application on October 13, 1995, by filing a Settlement Offer (Settlement Agreement) dated September 14, 1995.

The Black River Project consists of five developments located on a reach of the Black River extending upstream from the city of Watertown, in Jefferson County, New York. The five developments progressing downstream towards Lake Ontario are: Herrings, located at river mile (RM) 27.5; Deferiet at RM 26.0; Kamargo at RM 17.0; Black River at RM 15.0; and Sewalls at RM 10.0.

### A. Project Facilities:

1. Herrings Development, located in the Village of Herrings has a total installed capacity of 5.4 MW, and consists of: a 512-foot-wide by 25-foot-high "L"-shaped concrete gravity dam with a crest elevation of 679.1 feet (USGS), topped with 1-foot-high wooden flashboards; a 140-acre reservoir at normal maximum surface elevation of 680.1 feet with a gross storage capacity of 669.4 acre-feet (ac-ft); an intake structure, integral with the powerhouse, consisting of (a) a stop-log waste sluice upstream of the existing perpendicular trashracks which measure 101 feet wide by 31 feet high and have 3.5 inches of clear bar spacing, (b) an 11-foot-wide stop-log waste sluice downstream of the trashracks, and (c) nine, 9-foot-wide, 12.5-foot-high motor operated slide gates; a 137-foot-wide, 33-foot-long brick-masonry powerhouse containing three vertical Allis-Chalmers generating units, each rated at 1,800 kilowatts (kW), with design head of 19.5 feet and hydraulic capacity of 1,203 cubic foot per second (cfs); a short excavated rock tailrace discharging directly into the Black River; transmission lines consisting of 30, 70, and 108-foot-long leads connecting to a 2.4 kilovolt (kV) powerhouse bus, and three 97-foot-long 2.4-kV lines connected to a 2.4/23-kV step-up transformer; and associated appurtenant equipment.

2. Deferiet Development, located in the Village of Deferiet, has a total installed capacity of 10.8 MW, and consists of: a 503-foot-long by 18-foot-high ambursen dam section, with a permanent crest elevation of 656 feet, topped with existing

9612160070

3-foot-high wooden flashboards and a 192-foot-long sluice gate section that houses eleven 14-foot-wide stop-log bays; a 70-ac reservoir, at normal maximum surface elevation of 659.0 feet (USGS) and gross storage capacity of 405 ac-ft; headworks structure consisting of a 180-foot-wide concrete power canal headworks section housing twenty 5-foot-wide by 12.5-foot-high hand operated timber slide gates; a 4,200-foot-long canal which connects the power canal headworks and existing powerhouse, an intake structure consisting of a 108-foot-wide by 27-foot-high trashrack, three steel slide gates, and an 11-foot-wide ice sluice controlled by stop logs; a 145.5-foot-wide by 92.5-foot-long brick/masonry powerhouse equipped with three vertical Francis generating units, each rated at 3,600 kW, with design head of 46 feet, and hydraulic capacity of 1,147 cfs; a 1,400-foot-long excavated rock tailrace; transmission lines consisting of 65-, 45-, and 65-foot-long leads connecting to a 2.4 kV powerhouse bus, and 67-, 69-, and 73-foot-long 2.4-kV underground lines connecting to 2.4/23-kV step-up transformer; and associated appurtenant equipment.

3. Kamargo Development, located in the Village of Black River, has a total installed capacity of 5.4 MW, and consists of: a 647-foot-long by 12-foot-high concrete gravity spillway dam, with permanent crest elevation of 561.8 feet (USGS), a 150-foot-long overflow section, and topped with existing 2-foot-high wooden flashboards; a 40-ac reservoir, at normal maximum surface elevation of 563.8 feet, with a gross storage capacity of 359.5 ac-ft; a 131-foot-long power canal headworks structure, with 14 8-foot-wide by 11-foot-high wooden headgates, leading to a 3,850-foot-long unlined power canal, and a 143-foot-long bulkhead section; a 580-foot-long concrete forebay channel consisting of a 190-foot-long concrete gravity overflow section, a 230-foot-long concrete gravity section topped with 1-foot-high flashboards, and a 160-foot-long side channel spillway section equipped with twelve stop-log-bays; an intake structure consisting of a 66-foot-wide by 28.5-foot-high trashrack, a waste sluice, and nine timber gates with stop-log slots; a 97.5-foot-wide by 37-foot-long brick/masonry powerhouse equipped with three vertical Francis generating units, each rated at 1,800 kW, a design head of 25 feet, and a hydraulic capacity of 1,100 cfs; a short excavated rock tailrace discharging directly into the Black River; transmission lines consisting of three 25-foot-long leads connecting to a 2.4-kV powerhouse bus, and three 89-foot-long, 2.4-kV underground lines connecting to 2.4/23-kV step-up transformer; and associated appurtenant equipment.

4. Black River Development, located in the town of LeRay, has a total installed capacity of 6.0 MW, and consists of: a dam consisting of a 327-foot-long by 16-foot-high horseshoe-shaped concrete retaining wall, a 36.5-foot-long gated section housing two sluice gates, an abandoned substructure powerhouse, and a 291-foot-long by 25-foot-high concrete gravity spillway with a permanent crest of 534 feet (USGS), topped with 2-foot high wooden flashboards; a 25-ac reservoir, at normal maximum surface elevation of 536 feet, with a gross storage capacity of 128 ac-ft; a headworks structure consisting of 80-foot-long concrete power canal upper bulkhead structure, housing twelve 6-foot-wide by 11-foot-high timber slide gates and one 3.5-foot-wide by 11.0-foot-high gate, and a 2,250-foot-long power canal composed of a 1,270-foot-long unlined section containing a 250-foot-long side concrete waste weir, and a 980-foot-long concrete-lined section containing a 134-foot-long side concrete waste weir and low-level sluice gate; an intake structure consisting of 80-foot-wide by 29-foot-high trashrack, and nine timber slide gates; a 118-foot-wide by 66-foot-long powerhouse equipped with three vertical Francis generating units, each rated at 2,000 kW with a design head of 33 feet, and a hydraulic capacity of 1,067 cfs; short excavated rock tailrace discharging directly into the Black River; transmission lines consisting of 36-, 65-, and 95-foot-long leads connecting to a 2.4-kV powerhouse bus, and three 88-foot-long, 2.4-kV underground lines connecting to 2.4/23-kV step-up transformer; and associated appurtenant equipment.

5. Sewalls Development, located in the city of Watertown, and consists of one facility on the south channel and one on the north channel of Sewalls Island.

The South Channel facility has an installed capacity of 2.0 MW, and consists of: a 243-foot-long by 15.5-foot-high concrete gravity dam with a permanent crest elevation of 463.9 feet (USGS); a 4-ac reservoir, at normal maximum surface elevation of 463.9 feet, with a gross storage capacity of 48 ac-ft; a headworks structure consisting of 65.5-foot-long power canal headworks structure housing two stop-log bays and two 15-foot-wide by 12-foot-high automated steel slide gates, leading to a 400-foot-long by 33 to 35-foot-wide concrete-lined power canal, with a wall adjacent to the Black River with a permanent crest elevation of 463 feet and equipped with 2-foot-high flashboards for its entire length; an intake structure consisting of a 69-foot-wide by 21-foot-high trashrack, a waste sluice and low-level drain, and four gate openings for steel slide gates; a 81-foot-wide by 32-foot-long powerhouse equipped with two

vertical Allis-Chalmers propeller-type generating units, each rated at 1,000 kW, a design head of 15.5 feet, and a hydraulic capacity of 900 cfs; a short excavated rock tailrace discharging directly into the Black River; transmission lines consisting of 12- and 47-foot-long leads connecting to a 2.4-kV powerhouse bus, and two 180-foot-long, 2.4-kV underground lines connecting to a 2.4/23-kV step-up transformer; and associated appurtenant equipment.

Presently, the North Channel facility is abandoned and not used for power generation. The facility includes: a 90-foot-long by 18.5-foot-high concrete dam with a permanent crest elevation of 463.9 feet; an abandoned 37-foot-long forebay canal headworks structure housing two steel slide gates; a 78-foot-long by 25-foot-wide concrete forebay canal with two draft-tubes encased in the floor; and an abandoned 68-foot-wide by 34-foot-long masonry/concrete block powerhouse.

B. Operating Regime:

The Black River is regulated by the Hudson River-Black River Regulating District (HRBRRD) at the Stillwater Reservoir, which is primarily operated for flood control of the Black River. The five developments of the Black River Project operate in conjunction with the daily releases from Stillwater Reservoir. As detailed in the Settlement Agreement, NMPC would continue to operate each of the Black River Project developments in a run-of-river (ROR) with pondage mode.

C. Proposed Project Modifications and Recreational Developments:

The proposed measures, as stated in the Final Environmental Assessment (FEA) dated September 27, 1996, under the preferred alternative, include: plan and implement an effective streamflow monitoring system; establish and maintain a continuous flow of 1,000 cfs or inflow, whichever is less, throughout all developments; install flashboards at each development by May 1 or as soon thereafter as safely possible; maintain minimum flows in all bypassed reaches; accommodate, install, or modify flow release measures at all developments; replace trashracks at all developments; accommodate or install fish passage measures at all developments; institute reservoir fluctuation limits at all developments; enhance recreational facilities at all developments within two years of license issuance; and finish all fencing, including support structures, and future architectural improvements with dark brown-green coloration.

In addition to enhancements at individual developments, NMPC would establish a Black River Fund and Advisory Council to facilitate acquisition or other protection for key land parcels and to make recommendations regarding management of the Black River and hydropower project operations. The proposed recreational enhancements are summarized below by development.

1. Herrings Development: expansion of existing launch area to add fishing, picnicking, and river viewing; portage trail from existing car-top boat launch on north shore to put-in at tailrace; and overland access to a new car-top boat launch at the downstream end of the new portage trail.

2. Deferiet Development: new car-top boat put-in/take-out on north shore with access from NYS Route 3 and 6-8 car parking area; portage across the headgate structure to a new put-in 200 feet below the dam where there would be signage warning of downstream whitewater; removal of exposed rods below the stop-log structure; maintain and improve existing access to the south shore of the impoundment, with addition of bird watching in the wetland area; recreational access to the Black River about 8,000 feet downstream of the dam, to be developed cooperatively with the village of Deferiet; riverside recreation trail system with shoreline fishing access and river overlook; and secure access to waterfront.

3. Kamargo Development: a car-top boat take-out from the impoundment at the upstream end of Poors Island between the Kamargo dam and canal headgate structure; a new car-top boat put-in at the power canal immediately downstream of the canal headgate structure; car-top boat passage down a portion of the power canal where water velocities are slow; a new boat barrier and car-top boat take-out on the Poors Island side about 1,600 feet down the power canal from the canal head-gate structure in the vicinity of the 23-kV transmission line crossing; a foot trail from the power canal take-out connecting to the proposed Poors Island Recreation Area trail system; parking for 4 to 6 cars near the Poors Island access bridge approximately 300 feet from the canal take-out; a sign near the power canal take-out directing boaters to the car-top put-in near the Village of Black River Overlook; a new car-top boat put-in upstream of the Main Street bridge adjacent to the Village of Black River Overlook, and modified area to allow safe access; vehicular access to Poors Island would be during daylight hours only via a single-lane bridge from South Main Street; Poors Island forested habitat preserve with interpretive center and planned environmental program; Poors Island hiking trail system with stone dust trail,

scenic riverview and overlooks, and bicycle storage for day hikes; Poors Island day-use picnic area with picnic tables and shelter, river overlook, and primitive restroom facilities; interconnection with the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) Jefferson County bike/hike trail, via trail utilizing village streets and signage; and shoreline fishing on Poors Island, and on the south side of the power canal upstream of the boat barrier.

4. Black River Development: a car-top boat launch and take-out upstream of the Route 3 bridge, to include a picnic area, shoreline fishing, and at least four parking spaces along Huntington Street on NMPC's land; car-top boat put-in as far upstream in the bypassed reach as possible; a portage trail using Huntington Road and an existing dirt road close to the bypassed reach; additional parking South of NYS Route 3 and east of the Route 3 bridge; maintain parking at the existing picnic area along the bypassed reach south of NYS Route 3; relocate existing picnic area and maintain under expanded site maintenance program; expanded existing picnic area; secure waterfront access; riverfront walking trail with overlook points; interconnection with NYSOPRHP Jefferson County bike/hike trail; maintain forested island preserve with shoreline visual buffer; and protective railing in-lieu of the present security fencing at the existing picnic area and at other necessary locations.

5. Sewalls Development: pedestrian path from Huntington Street to a river overlook with shoreline fishing safety rail, and interpretive signage; car-top boat take-out at the river overlook on the south shore, with signage to potential downstream put-in locations; and flow stabilization to facilitate whitewater recreation by maintaining ROR between May 1 and September 30 when flow is less than 2000 cfs.

D. Historic Properties:

The project facilities at hydroelectric facilities in New York State, including the five developments of the Black River Project, were surveyed by an historian retained for this purpose by NMPC. The results of this survey are documented in the following report:

A History of Hydroelectric Power in New York State.  
Prepared by Duncan Hay. New York State Museum. 1991.

1. Historic Structures: No historic structures listed in or eligible for listing in the National Register of Historic Places (NRHP) have been recorded within the areas of potential effect (APE) of the five developments that comprise the Black River Project.

2. Archeological Sites: No prehistoric or historic archeological sites listed in or eligible for listing in the NRHP have been recorded within the APE of the five developments that comprise the Black River Project.

E. Anticipated Effects:

The proposed issuing of a new license to NMPC for the Black River Project could have both beneficial and adverse effects.

1. Historic Structures: No specific historic resources potentially eligible for inclusion in the NRHP were identified within the Black River project boundaries.

2. Archeological Sites: No sites have been recorded that are listed in or are eligible for listing in the NRHP; however, as yet unknown archeological sites could be encountered during the construction of enhancement measures at any of the five developments. Project operation, maintenance, or enhancement activities might adversely affect eligible archeological sites, if any are determined to be present. The Cultural Resources Management Plan (CRMP), however, would define and implement procedures that would diminish the likelihood that archeological sites would be inadvertently discovered during operation and maintenance of the project or implementation of any enhancement measures. In addition, the CRMP would be designed to provide for the identification and evaluation of Historic Properties and the assessment of effects well prior to the initiation of the proposed action so that avoidance or mitigation measures could be implemented.



### III. BEEBEE ISLAND PROJECT, PROJECT NO. 2538

The Beebee Island Corporation (BIC) applied to the Commission on December 20, 1991, for a new license for the Beebee Island Project (FERC No. 2538), proposing to continue operating and maintaining existing facilities according to an established operating regime, and to improve recreational facilities. BIC revised the application on October 13, 1995, by filing a Settlement Offer (Settlement Agreement) dated September 14, 1995. The Beebee Island Project, which is owned by and licensed to BIC but operated and maintained by NMPC, consists of one development located on the Black River at River Mile (RM) 9.0 in the city of Watertown.

#### A. Project Facilities:

1. Beebee Island Development, has a total installed capacity of 8.0 MW, and consists of: an 18-foot-high by 266-foot-long, U-shaped concrete gravity main dam with permanent crest elevation of 428.0 feet (USGS), topped with a 3-foot-high wooden flashboard; a 20-ac reservoir, at normal maximum surface elevation of 431.0 feet with a gross storage capacity of 60 ac-ft; a 50-foot-long by 15-foot-high, concrete-capped stone auxiliary non-overflow dam, equipped with a skimmer gate; a 47-foot-wide by 82-foot-long powerhouse equipped with two vertical generating units, each rated at 4,000 kW, a design head of 32.0 feet, and a hydraulic capacity of 1,800 cfs; a tailrace with a normal surface elevation of 397.4 feet; six 300-foot-long, 4.8-kV primary transmission lines; and associated appurtenant equipment.

#### B. Operating Regime:

The Black River is regulated by the Hudson River-Black River Regulating District (HRBRRD) at the Stillwater Reservoir, which is primarily operated for flood control of the Black River. The Beebee Island Project operates in conjunction with the daily releases from Stillwater Reservoir. As detailed in the Settlement Agreement, NMPC, pursuant to an agreement with BIC, would operate the Beebee Island Project in a run-of-river (ROR) mode.

C. Proposed Project Modifications and Recreational Developments:

The proposed measures, as stated in the Final Environmental Assessment (FEA) under the preferred alternative, include: plan and implement an effective streamflow monitoring system; establish and maintain a continuous flow of 1,000 cfs or inflow, whichever is less; install flashboards by May 1 or as soon thereafter as safely possible; maintain a year-round minimum flow of 14 cfs in the bypassed reach; modify flow release structures; replace trashracks; modify fish passage measures; and finish all fencing, including support structures, and future architectural improvements with dark brown-green coloration.

Recreational enhancements would be provided within two years of license issuance and would include: pedestrian access to the impoundment for fishing; up to four scenic overlook facilities and a fishing platform immediately downstream of the Pearl Street bridge, in conjunction with the city of Watertown's proposed Heritage Trail, and to be constructed only if the City actually constructs the Heritage Trail; boat barrier upstream of Beebee Island dam; selective site cleanup; car-top boat take-out on the south bank of the impoundment above a boat barrier with signage to potential downstream put-in locations; and veiling flows.

In addition, NMPC would establish a Black River Fund and Advisory Council to facilitate acquisition or other protection for key land parcels and to make recommendations regarding management of the Black River and hydropower project operations.

D. Historic Properties:

The project facilities at hydroelectric facilities in New York State, including the Beebee Island Project, were surveyed by an historian retained for this purpose by NMPC. The results of this survey are documented in the following report:

A History of Hydroelectric Power in New York State.  
Prepared by Duncan Hay. New York State Museum. 1991.

1. Historic Structures: The Beebee Island Hydroelectric Plant, constructed in 1931, meets Criteria A and C of the National Register of Historic Places (NRHP) as one of the earliest operating facilities of its type and period in the Black River Basin. The Beebee Island Hydroelectric Plant is

architecturally and historically significant as a highly intact and representative example of localized small hydroelectric generating industries in the early 20th century.

2. Archeological Sites: No prehistoric or historic archeological sites listed in or eligible for listing in the NRHP have been recorded within the areas of potential effect (APE). However, if archeological sites are found to be present within the APE, one or more could well be determined to be eligible for inclusion in the NRHP.

E. Anticipated Effects:

The proposed issuing of a new license to BIC for the Beebee Island Project could have both beneficial and adverse effects.

1. Historic Structures: Inasmuch as the Beebee Island Hydroelectric Plant is an Historic Property, issuing BIC a new license to continue operating and maintaining the project under the protection afforded by Section 106 is generally to be considered a beneficial effect. In itself, however, continuing to operate the project under the protection afforded by Section 106 does not ensure that no adverse effects would ensue. Adverse effects could inadvertently occur during routine daily activities in the absence of an operation and maintenance plan designed to hold intact the property's historic integrity. Issuing BIC a new license to continue operating the project without such a plan would overall adversely affect the Historic Property.

2. Archeological Sites: No sites have been recorded that are listed in or are eligible for listing in the NRHP. However, as yet unknown archeological sites could be encountered during the construction of enhancement measures at the Beebee Island Project. Project operation, maintenance, or enhancement activities might adversely affect eligible archeological sites, if any are determined to be present. The Cultural Resources Management Plan (CRMP), however, would define and implement procedures that would diminish the likelihood that archeological sites would be inadvertently discovered during operation and maintenance of the project or implementation of any enhancement measures. In addition, the CRMP would be designed to provide for the identification and evaluation of Historic Properties and the assessment of effects well prior to the initiation of the proposed action so that avoidance or mitigation measures could be implemented.

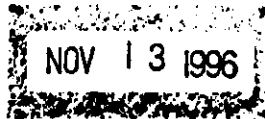
FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D. C. 20426

Project No. 11502-000--Iowa  
Red Rock Project  
Town of Ely

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mr. Thomas J. Wilkinson, Jr.  
101 Second Street, S.E.  
American Building, Suite 300  
Cedar Rapids, IA 52401



Dear Mr. Wilkinson:

Article 8 of the preliminary permit for this project requires you to submit a progress report every 6 months on the feasibility studies conducted under the permit. The progress report due October 31, 1996, has not been received.

This certified letter constitutes notice under section 5 of the Federal Power Act that your preliminary permit will be canceled if you do not submit the progress report within 30 days from the date of this letter. If you have any questions, please call Mary Golato at (202) 219-2804.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. Mark Robinson", written over a horizontal line.

J. Mark Robinson  
Director, Division of  
Licensing and Compliance

FERC - DOCKETED  
NOV 13 1996



NIAGARA MOHAWK

GENERATION  
BUSINESS GROUP

FOSSIL AND HYDRO GENERATION/300 ERIE BOULEVARD WEST, SYRACUSE, NY 13202 TELEPHONE (315) 474-1311

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ORIGINAL

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OFFICE OF THE SECRETARY

FEDERAL ENERGY  
REGULATORY  
COMMISSION

February 2, 1998

Hon. David Boergers  
Acting Secretary  
FEDERAL ENERGY REGULATORY COMMISSION  
Mail Code: DLC, HL-11.2  
888 First Street, N.E.  
Washington, DC 20426

N

021  
Subject: ~~Black River Project~~  
LP 2569 NY  
Cultural Resources Management Plan - Article 416  
OPRHP # 90PR2693

Dear Acting Secretary Boergers:

In accordance with the Order Approving Settlement Agreement and Issuing New License dated December 24, 1996, Niagara Mohawk is herein filing an original and eight copies of the final plan for the above referenced license article. On December 19, 1997, Niagara Mohawk submitted the draft Cultural Resources Management Plan (CRMP) for consultation purposes to the NYS Office of Parks, Recreation and Historic Preservation (SHPO) as required by the license article. Agency correspondence addressing the draft filing is included in Appendix A, Consultation Correspondence.

There are no identified National Register Eligible cultural resources requiring specific protection measures within the project boundary. The primary purpose of this CRMP is therefore to address procedures for treating yet undiscovered cultural resources. Since there are no historic structures listed or eligible for listing in the National Register of Historic Places, the Compendium of Compatible Operation and Maintenance Activities - Categorical Exclusions, February 1997 is not pertinent and does not apply to this CRMP.

In its response dated January 28, 1998, a copy of which is contained in Appendix A, the SHPO found the Black River CRMP acceptable.

If you have any questions regarding this submittal, please contact Mr. Jacob S. Niziol at (315) 428-5556.

Very truly yours,

Sam S. Hirschey, P.E.  
Manager, Hydro Licensing & Regulatory Compliance

BATCH CONTAINS  
POOR QUALITY ORIGINAL

Enclosures:

xc: Mr. Robert D. Kuhn, PH.D., SHPO  
Mr. G.R. Schoonmaker  
Mr. J.S. Niziol

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COMMISSION

**CULTURAL RESOURCES MANAGEMENT PLAN**  
**BLACK RIVER PROJECT**  
**Federal Energy Regulatory Commission**  
**Project No. 2569 NY**  
**OPRHP #90PR2693**

021

**Submitted by**  
**Niagara Mohawk Power Corporation**  
**January 1998**

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**CULTURAL RESOURCES MANAGEMENT PLAN**  
**BLACK RIVER PROJECT**  
Federal Energy Regulatory Commission Project No. 2569 NY

FEDERAL ENERGY  
REGULATORY  
COMMISSION

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## FIGURES

Figure 1      Project Location

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A      Consultation Correspondence



## 1. SUMMARY

The new Federal Energy Regulatory Commission (FERC) license for the Black River Project issued on December 24, 1996, required under Article 416 the formulation of a Cultural Resources Management Plan (CRMP). In the development of the Programmatic Agreement, July 1996, a resource evaluation of the five hydro developments of the Black River by the New York State Office of Parks, Recreation and Historic Preservation (NYS SHPO) was performed. Findings of the evaluation indicated that there are no historic structures listed in or eligible for listing in the National Register of Historic Places (NRHP) within the areas of potential effect (APE) of the five developments that comprise the Black River Project. Also, no prehistoric or archaeological sites are found to be listed or eligible for listing in the NRHP, and none have been recorded within the APE of the five developments that comprise the Black River Project.

As indicated above, the five reservoirs, riverine sections, and related lands that comprise the Black River Project have not been found to be of historic or archaeological significance requiring specific protection. However, protection is afforded, in these instances, under the provisions of this CRMP pertaining to presently unknown cultural resources that may subsequently be discovered.

## 2. INTRODUCTION

### 2.1 Background

The Black River Project consists of five hydroelectric power developments located in the lower Black River valley upstream of Watertown, New York, as depicted on Figure 1. The Black River has its beginnings in the Adirondack Mountains and flows west into Lake Ontario. Each hydro development, the year of its construction and its distance from Lake Ontario are as follows:

<u>HYDRO DEVELOPMENT</u>	<u>YEAR BUILT</u>	<u>DISTANCE UPSTREAM, MILES</u>
Herrings	1924	27.5
Deferiet	1925	26.0
Kamargo	1921	17.0
Black River	1920	15.0
Sewalls	1925	10.0

The developments of the Black River Project are respectively located in the Village of Herrings, Village of Deferiet, Village of Black River, Town of LeRay and City of Watertown, all in Jefferson County, New York.

The new Federal Energy Regulatory Commission (FERC) license for the Black River Project was issued on December 24, 1996, and required the development of this Cultural Resource Management Plan (CRMP) under Article 416 of the license.

### 2.2 Purpose

The purpose of the CRMP is to provide a management plan that would establish procedures for avoiding, minimizing or mitigating effects on historic properties of the Black River Project. There are no identified National Register Eligible (NRE) cultural resources requiring specific protection measures within the project boundary. The primary purpose of the plan is therefore to address procedures for treating yet undiscovered historic resources.

### 2.3 Guidelines and Source Documents

This report has been prepared in accordance with the following:

*Programmatic Agreement ... for Managing Historic Properties that may be affected by Licenses issued to Niagara Mohawk Power Corporation, ... for the Continued Operation of Fourteen Hydroelectric Power Projects in Upstate New York, with Appendix A . Dated July 1996.*

*Archeology and Historic Preservation: Secretary of the Interior=s Standards and Guidelines, (in Federal Register, September 29, 1983, vol. 48, No. 190, Part IV, pp. 44716-44740).*

*Black River Project FERC No. 2569, Settlement Offer, dated September 14, 1995.*

*FERC Order Approving Settlement Agreement and Issuing New License, August 2, 1996.*

*Final Environmental Assessment, dated December 24, 1996.*

*FERC License Application for the Black River Hydroelectric Project, November 1991, as altered by Order Approving Settlement Agreement and Issuing New License.*

### 2.4 Preparers

This CRMP was prepared by Mr. Jacob S. Niziol, P.E. of Niagara Mohawk under the direction of Mr. Gary R. Schoonmaker, L.A. who also contributed to its formulation.

### 3. CULTURAL RESOURCES

#### 3.1 General Context of Historic Hydro Resources

##### 3.1 a. Periods of Hydro Development

The history of hydroelectric development in New York and the nation can be divided into several broad periods. The first, referred to as the pioneering age, ran from 1880, when DC arc light dynamos were first connected to water turbines, through 1895 when the Niagara Falls Power Company project first demonstrated the commercial potential of hydroelectric generation and transmission. The key inventions which made large scale generation and long distance transmission practical occurred during this period, primarily in the 1890's. In 1891 an experimental 112 mile transmission of three-phase alternating current was made in Germany. With this experiment it was shown that alternating current was superior to direct current for transmission purpose as it considerably reduced power loss in the line over long distances. Three-phase alternating current was adopted over single-phase as it produced a steadier current and was able to be transmitted further. Another of the advantages of three-phase current was that it could be used to operate three-phase, alternating current induction motors. Another milestone during this period was development of the electric transformer, which permitted power to be stepped up to high voltages for transmission and stepped down for application. High transmission voltages further reduced the loss of power in the line, and thus permitted much longer transmission distances. The culmination of the developing hydroelectric technology in North America came in 1895 with the construction of the Niagara Falls Power Company's Adams plant in Niagara Falls, New York.

The dramatic demonstration of long distance power transmission through polyphase AC current at Niagara Falls inspired more than two decades of aggressive and creative attempts to expand both generation and application electricity and hydropower. This second period of hydroelectric development, characterized by innovation and experimentation in hydroelectric technology, ran from 1895 through approximately 1915. During this period, a wide variety of solutions to the problems of harnessing waterpower and converting it into electricity were tried. Waterpower technology had reached a high level of sophistication during the 19th century, and alternating current was rapidly becoming a standardized and readily converted commodity. The combination and expansion of these two technologies inspired further innovations. Drives for efficiency and cost savings led to creative practices in mechanical, electrical and civil engineering that had wide ramifications, not only in hydroelectricity, but throughout the electrical and construction industries. Hydro plants built during the first decades of the 20th century incorporated an array of horizontal shaft multiple runner turbines, vertical shaft multiple runner turbines, cylinder gates, wicket gates, open flume settings, scroll cases, stone, brick, tile, wood-frame, and cast concrete powerhouses, and all manner of electrical equipment. During this period of innovation and experimentation, hydraulic, electrical, mechanical, structural, and architectural systems came together in ways that made each plant unique.

The period of innovation and experimentation gave way, in the years during and after World War I, to a third period characterized by marked standardization in the design and equipment of hydroelectric facilities. By the 1920s, most new hydro plants in the East were driven by single runner vertical Francis turbines supported by a Kingsbury type thrust bearing that also carried the weight of the alternator's rotating parts. Speed was controlled by hydraulic governors (usually Woodward) that actuated wicket gates. Some low head plants had open flume settings, but most turbines received water through some sort of scroll case. Powerhouses were generally steel frame structures, clad in brick and capped with a flat roof that allowed maximum clearance for the overhead crane with a minimum expense for wall height and roofing materials. Steel framed windows, either rectangular or arch topped, provided natural light and ventilation. Standardization in hydroelectric plant design was the product of several factors including cumulative experience, national and regional technical periodicals, the growing influence of consulting engineering and management firms, holding companies, and corporate consolidation. A larger number of hydroelectric plants came on line or were significantly upgraded between 1920 and 1930 than during any decade before or since. The decade of the 1920s also represented the final period of hydro development's "coming of age".

Waterpower development came to a near standstill during the Great Depression. Demand for electricity declined, and there was little incentive for companies to incur the expenses required for new powerplant construction. The effect of the depression was also compounded by the increasing cost competitiveness of fossil fuel powered thermal plants. While investor owned utilities suspended powerplant construction through the 1930s, hydroelectric development by federal agencies, local governments, and public authorities rose dramatically. During this period, public power developments came to provide a significant share of U.S. electrical output. The appearance, scale, multiple use features, and social agenda of the "New Deal" era federal hydro projects set them very much apart from previous patterns in American hydroelectric development.

World War II placed extraordinary demands on America's electric power systems. Consequently, some companies reactivated hydroelectric plants that had been retired or relegated to stand-by service during the depression. Some stations were also upgraded during the war. However, at the end of World War II, many aging plants were retired for the last time. While the number of plants in operation declined, the nations total hydro generating capacity showed a renewed growth. The 1950s and early 1960s saw construction of several very large mixed use projects by public agencies, including the Power Authority of the State of New York's 900 megawatt St. Lawrence and Niagara Falls projects. In the 1960s, public and Canadian hydro projects, large thermal plants and dreams of affordable nuclear energy made the costs of operating and maintaining small hydro plants appear prohibitively high to many utility managers. At least 344 hydroelectric plants were retired during this decade. By the mid-1970s, increasingly stringent air pollution regulations, financial disappointments in the nuclear field, and an oil embargo contributed to a reevaluation of hydro's role. Federal laws designed to encourage independent energy production, initiated a hydro boom during

the late 1970s and 1980s. Subsequently, utilities, municipalities and an increasing number of independent power producers have reactivated retired sites and made capacity additions to operating plants.

### 3.1.b. Surviving Historic Hydro Sites in New York State

Niagara Mohawk recently funded completion of a comprehensive historical inventory of active and retired hydroelectric facilities in New York State (Hay, 1990). Phase I of that study, conducted by the Historical Survey of the New York State Museum, built upon an earlier, uncompleted, survey started by the Environmental Planning Office of the New York State Public Service Commission. Fieldwork involved visiting, photographing, and recording data on over 270 sites. The Phase I study resulted in a 13 volume report documenting all pre-1940 hydroelectric facilities to at least Historic American Engineering Record (HAER) level 4. Each Niagara Mohawk facility was further documented to HAER level 3.

Phase II of the study involved preparation of a statewide context statement (Hay, 1991). This report addresses the historical development of hydroelectric power in New York State, and includes a textual history, with figures and an annotated bibliography. A summary of pertinent findings from this project is presented below.

In 1939, the Federal Power Commission (FPC) listed 1500 commercial hydroelectric plants rated at over 100 horsepower in operation throughout the country. New York accounted for 270 of those; more than any other state in the union. Lists of active and retired hydroelectric plants, published in 1983, by the FERC (successor to the FPC), indicate that throughout the country, 756 of the sites identified in 1939 were still being used to generate electricity. About 100 of New York's pre-1940 sites remained in operation.

Niagara Mohawk, and affiliated companies, own and/or operate 74 hydroelectric plants in New York State. Sixty-four of Niagara Mohawk's operating plants were built before 1940. Four other utilities, New York State Electric & Gas, Rochester Gas & Electric, Orange & Rockland Utilities, and Central Hudson Gas & Electric, together operate 24 hydro plants, 17 of which went on line before 1940. Two plants operated by the New York Power Authority were built in the 1920s, as were five municipal hydroelectric plants scattered throughout Upstate New York. There is less information available regarding non-utility facilities. Consequently it is more difficult to assign precise start-up dates. However, approximately half of the 22 industrial hydro plants and 21 independents utilize sites, and at least some structures and equipment, that were in place prior to 1940.

No plants remain in operation, and almost no physical evidence survives from hydroelectricity's pioneering age. The Fulton plant, started in 1884 on the Oswego River, is listed as the oldest hydroelectric plant in the Niagara Mohawk System, but the powerhouse was completely re-equipped during the 1920s, and extensively remodeled in the 1980s. The two Adams Powerhouses at Niagara Falls were demolished during the 1960s to make way

for the city's new water treatment plant. Only the smaller transformer house survives, along with a section of the entry portal, laid out as lawn sculpture beside the Robert Moses Parkway.

Innovation and experimentation, characteristic of the second period of hydro development, may be seen in the surviving structures and equipment of 33 operating plants in New York State. Twenty-seven of those are owned by Niagara Mohawk. New York once had about 80 pre-standardized hydroelectric stations. Half of those have been removed from service. Ten of the remainder were completely re-equipped or had additions built with new generating machinery installed during and after the 1920s. In most cases, renovations obliterated evidence of the roles that these plants played in the period of innovation and experimentation. At least 10 of the retired sites were reactivated during the hydro boom of the 1970s and 1980s. Two Niagara Mohawk plants, Bakers Falls and Middle Falls, have been retired, but are being preserved with their equipment in place. In addition to retirements, many operating pre-1915 plants have had extensive replacement of original equipment. As less efficient equipment wore out, and repair and replacement parts became expensive and hard to find, economic pressures encouraged major redevelopment of early plants. That trend was aggravated throughout the 1970s and 1980s by FERC policies that gave preference to schemes that promised the greatest possible power production, in cases where there were competing license applications for the same site.

Schaghticoke, Inghams, and Diamond Island, built during the early teens, represent the transition from hydro's era of innovation and experimentation to the period of standardization. These facilities contain many features characteristic of the standardized plants built during the 1920s, but they went into operation more than half-a-decade before the norms were established.

By far the largest number of surviving hydroelectric plants in New York were built during the period of standardization that began around 1915 and lasted until construction came to a standstill during the Depression. Thirty-one of Niagara Mohawk's operating plants show the effects of standardization. Only nine standardized plants have been removed from service in New York since World War II. Part of the reason for this high survival rate is that standardization was a by-product of the high plateau that hydro technology reached during the late teens and twenties. There have been increases in turbine and generator efficiencies in the years since, but those gains have not been large enough to justify the expense of replacing functional equipment.

### 3.1.c. Archaeological Resources at Hydro Sites

Lands in the vicinity of hydroelectric developments generally have a higher than average probability of yielding archaeological data (historic and prehistoric). This is because these sites are adjacent to major water courses, and are typically located at the site of major waterfalls and rapids. Rivers in New York State were used by Indians as transportation corridors. Waterfalls and rapids represented obstruction that generally had to be bypassed. These areas thus often included portage trails and temporary camp sites. In addition to travel

on the rivers, well established Indian trails often paralleled water courses and valleys. Along these foot trails, waterfalls and rapids were points of interest that were probably used disproportionately as stopping points and for overnight and seasonal camps.

Early European settlers also used rivers as transportation corridors. Fur traders and loggers used these water courses to transport their products to market. Like the Indians, these early settlers had to bypass major waterfalls and rapids. Along with being used as portages, sites with waterfalls and steep drops were quickly recognized for their waterpower potential. These sites were thus developed for saw mills, gristmills and other early water-powered industries. Around these early mill sites, settlements, villages and (in some cases) eventually cities grew up. Early mills were gradually replaced with larger manufacturing operations, and starting at the end of the 19th century, hydroelectric developments. Thus, many existing hydro projects occupy sites with a long history of known (or potential) human use. It is not surprising therefore, that many hydro sites are considered archaeologically sensitive even if specific archaeological sites are not known.

### 3.2 Identification of Cultural Resource Properties: Black River Project

#### 3.2.a. Project Description

The Black River Project consists of five hydro developments and the respective impoundments that are generally described in Section 2.0. More detailed descriptions are provided in Appendix A to the Programmatic Agreement, July, 1996, which is provided in Appendix A, and the FERC Order Approving Settlement Agreement and Issuing New License, December 24, 1996.

#### 3.2.b. National Register Eligibility

Cultural resource evaluations in the area of potential effect (APE) for the Black River Project have determined that the project will have no effect upon districts, sites, buildings, structures, objects or archeological resources in or eligible for listing on the National Register of Historic Places. This conclusion is premised on the findings of the NYS SHPO letter dated June 20, 1986 and the Appendix A to the Programmatic Agreement dated July 1996 (ref. Appendix A).

#### 3.2.c. Modifications and Operational Changes per the FERC License

With the new license for the Black River Project, based on the Settlement Agreement, there are to be subtle changes to the physical nature of the Black River and Project operation. There will be an increase in recreational utilization of this water body and surrounding shoreline area with proposed recreational enhancements. Summarized below are specific areas of change for the Black River Project:



Provide recreational enhancements and public access improvements (FERC license Articles 413 and 415).

- Improved and expanded river access for fishing and general recreational use.
- Car top boat facilities and parking areas
- Portage trails and landings, foot trails, and bike trails
- Fishing areas, picnicking areas, bird watching areas, scenic overlooks and interpretive signage
- Access to Poors Island and establishing habitat reserve with interpretive center
- Maintain existing visual screens and provide visual barrier for Deferiet parking area

The new license also requires physical and operational changes to the five developments.

- Run of river operation and reduced impoundment fluctuations.
- Minimum flow releases and downstream fish passage at all developments.
- Reduced trash rack openings.
- Seasonal walleye spawning flows at Deferiet and Black River Developments.

The details for these activities were presented in the Settlement Offer and in both the Draft and Final Environmental Assessments.

While no archaeological or historic resources are known to exist in the areas to be affected by the construction of the recreational enhancements at the Black River Project, Niagara Mohawk will provide protection for unknown resources (if they exist) by adhering to the procedures prescribed in Section 4 of this CRMP.

### 3.3 Archaeological Resources

The NYS SHPO has determined there are no archeological resources in the area of potential effect. In any event, Section 4.4 AUnidentified Cultural Resource Properties@ makes provisions for situations where such resources are encountered.

## 4. MANAGEMENT PLAN FOR CULTURAL RESOURCES

### 4.1 Unidentified Cultural Resource Properties

There are no known historic resources or archaeological sites within the licensed project boundary of the Black River Project as discussed in Section 3, Archaeological Resources. However, in the course of maintenance, construction or excavation activities in the future, the prospect of a discovery does exist.

Upon discovery of a cultural resource of unknown significance, Niagara Mohawk's Operation and Maintenance Organization or Construction Services Representative, would take the following steps:

1. Work will be stopped in the area of concern and stabilization / protective measures will be taken.
2. Niagara Mohawk's Hydro Licensing and Regulatory Compliance group will be immediately notified.
3. SHPO will then immediately be notified.
4. Identification and confirmation of potential significance will be performed.
5. The planning for any subsequent survey would be made in accordance with *The Secretary of the Interior's Standards for Identification* and *The New York Archaeological Council's Standards for Cultural Resources Investigations and the Curation of Archaeological Collections in New York State*.
6. The survey would be conducted by a qualified professional and documented in a report.
7. Any artifacts that are collected would be treated in accordance with the New York Archaeological Council standards.

### 4.2 Interim Measures

There are no major maintenance or ground disturbing activities anticipated between the present time and adoption of this CRMP. Surficial ground disturbing activities will be involved in constructing the recreational enhancements, slated to start in 1998. Ongoing operation and maintenance activities will continue as they have in the past in order to maintain the facility.

### 4.3 Protection of Discovered Human Remains

Should human remains be unexpectedly unearthed in the conduct of work, construction activities will be halted in the immediate area. The requirements of Section 106 of the NHPA and the Native

American Graves Repatriation Act (NAGPRA) would be fully followed in that eventuality.

#### 4.4 Public Interaction

The environs of the Black River Project are moderately utilized for recreation. Canoeing and whitewater recreation are important recreational activities in the lower Black River. Recreational facilities and signage are provided by Niagara Mohawk and others to accommodate public access to the resources of the Project.

Since there are no identified historic resources at the Black River Project, there is no need for public interaction from a historic hydro perspective. The nearby Beebee Island Project which does possess historic attributes will provide opportunity for study by those having interests in historic hydro facilities, within the local area.

#### 4.5 Consultation

Preparation of the CRMP was initiated for the Black River Project several years ago as part of an effort to develop a system-wide CRMP. The consultation associated with that effort culminated in the development and subsequent execution of the Programmatic Agreement in 1996

This CRMP was submitted in draft form to the NY SHPO for review on December 19, 1997. Comments from SHPO dated January 28, 1998, finding this CRMP acceptable, are attached in Appendix A, Consultation Correspondence.

## 5. COMPLIANCE UNDER THE CRMP

### 5.1 Plan Revision and Continuing Consultation

Niagara Mohawk will amend this plan if a new site within the Project Boundary is discovered and determined to be National Register eligible, if requested by SHPO and required by the FERC. Section 4.4 Unidentified Cultural Resource Properties describes the steps to be taken in this regard.

In the case of an emergency affecting a NRE resource, Niagara Mohawk will advise SHPO as immediately as possible of the proposed actions and document to FERC and SHPO within 30 days, the actions taken, present conditions and mitigation that is proposed.

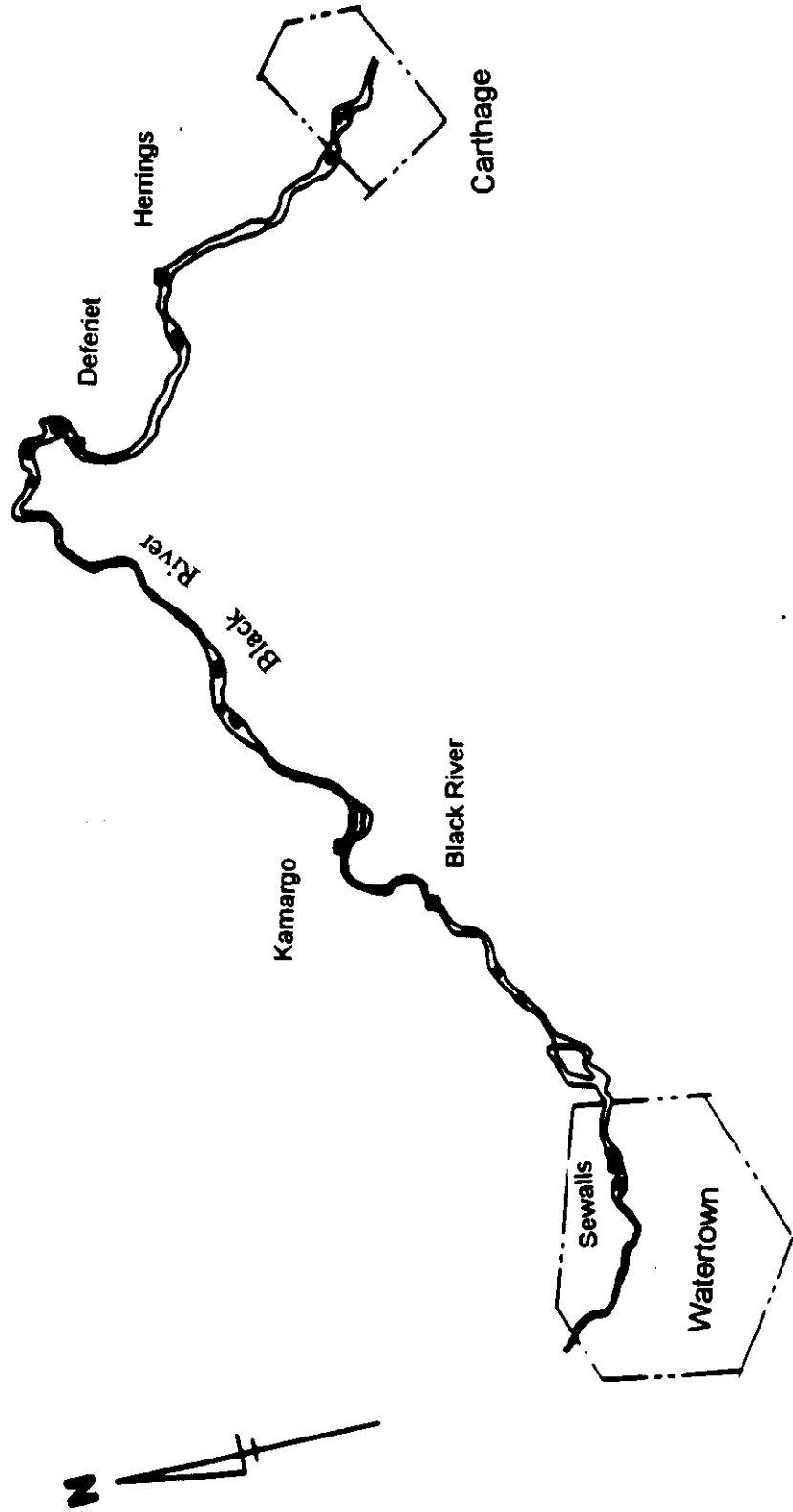
Should SHPO or Niagara Mohawk not agree on mitigation needs, or in general, resolution to the issue, the procedures outlined in Section IV. DISPUTE RESOLUTION of the Programmatic Agreement shall be followed.

### 5.2 Compliance Activities

Niagara Mohawk will file an annual report with the FERC and SHPO on the anniversary date of license issuance, describing the activities conducted under the implemented CRMP.

FIGURES

**Figure A-1**  
**General Location Map**



APPENDIX A  
CONSULTATION CORRESPONDENCE



Bernadette Castro  
Commissioner

New York State Office of Parks, Recreation and Historic Preservation  
Historic Preservation Field Services Bureau  
Pebbles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

January 28, 1998

Mr. Jacob S. Niziol, P.E.  
Dam Safety & Compliance Coordinator  
Niagara Mohawk Power Corporation  
300 Erie Boulevard West  
Syracuse, New York 13202

RE: FERC  
Black River Project LP2569NY  
Multiple Towns, Jefferson County  
90PR2693

Dear Mr. Niziol:

The State Historic Preservation Officer (SHPO) has reviewed the additional information in the Draft Cultural Resources Management Plan (CRMP) you provided in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

Based upon this review, it is the opinion of the SHPO that the CRMP is acceptable. In addition, the Compendium of Compatible Operation and Maintenance Activities is acceptable.

Please refer to the Project Review number (PR) in any future correspondence regarding this project. If you have any questions, please call me at (518) 237-8643 x278.

Sincerely yours,

Tony Opalka  
Historic Sites Restoration Coordinator



## II. BLACK RIVER PROJECT, PROJECT NO. 2569

NMPC applied to the Commission on November 25, 1991, for a new license for the Black River Project (FERC No. 2569), proposing to continue operating and maintaining existing facilities according to an established operating regime, and to improve recreational facilities. NMPC revised the application on October 13, 1995, by filing a Settlement Offer (Settlement Agreement) dated September 14, 1995.

The Black River Project consists of five developments located on a reach of the Black River extending upstream from the city of Watertown, in Jefferson County, New York. The five developments progressing downstream towards Lake Ontario are: Herrings, located at river mile (RM) 27.5; Deferiet at RM 26.0; Kamargo at RM 17.0; Black River at RM 15.0; and Sewalls at RM 10.0.

### A. Project Facilities:

1. Herrings Development, located in the Village of Herrings has a total installed capacity of 5.4 MW, and consists of: a 512-foot-wide by 25-foot-high "L"-shaped concrete gravity dam with a crest elevation of 679.1 feet (USGS), topped with 1-foot-high wooden flashboards; a 140-acre reservoir at normal maximum surface elevation of 680.1 feet with a gross storage capacity of 669.4 acre-feet (ac-ft); an intake structure, integral with the powerhouse, consisting of (a) a stop-log waste sluice upstream of the existing perpendicular trashracks which measure 101 feet wide by 31 feet high and have 3.5 inches of clear bar spacing, (b) an 11-foot-wide stop-log waste sluice downstream of the trashracks, and (c) nine, 9-foot-wide, 12.5-foot-high motor operated slide gates; a 137-foot-wide, 33-foot-long brick-masonry powerhouse containing three vertical Allis-Chalmers generating units, each rated at 1,800 kilowatts (kW), with design head of 19.5 feet and hydraulic capacity of 1,203 cubic foot per second (cfs); a short excavated rock tailrace discharging directly into the Black River; transmission lines consisting of 30, 70, and 108-foot-long leads connecting to a 2.4 kilovolt (kV) powerhouse bus, and three 97-foot-long 2.4-kV lines connected to a 2.4/23-kV step-up transformer; and associated appurtenant equipment.

2. Deferiet Development, located in the Village of Deferiet, has a total installed capacity of 10.8 MW, and consists of: a 503-foot-long by 18-foot-high ambursen dam section, with a permanent crest elevation of 656 feet, topped with existing

3-foot-high wooden flashboards and a 192-foot-long sluice gate section that houses eleven 14-foot-wide stop-log bays; a 70-ac reservoir, at normal maximum surface elevation of 659.0 feet (USGS) and gross storage capacity of 405 ac-ft; headworks structure consisting of a 180-foot-wide concrete power canal headworks section housing twenty 5-foot-wide by 12.5-foot-high hand operated timber slide gates; a 4,200-foot-long canal which connects the power canal headworks and existing powerhouse, an intake structure consisting of a 108-foot-wide by 27-foot-high trashrack, three steel slide gates, and an 11-foot-wide ice sluice controlled by stop logs; a 145.5-foot-wide by 92.5-foot-long brick/masonry powerhouse equipped with three vertical Francis generating units, each rated at 3,600 kW, with design head of 46 feet, and hydraulic capacity of 1,147 cfs; a 1,400-foot-long excavated rock tailrace; transmission lines consisting of 65-, 45-, and 65-foot-long leads connecting to a 2.4 kV powerhouse bus, and 67-, 69-, and 73-foot-long 2.4-kV underground lines connecting to 2.4/23-kV step-up transformer; and associated appurtenant equipment.

3. Kamargo Development, located in the Village of Black River, has a total installed capacity of 5.4 MW, and consists of: a 647-foot-long by 12-foot-high concrete gravity spillway dam, with permanent crest elevation of 561.8 feet (USGS), a 150-foot-long overflow section, and topped with existing 2-foot-high wooden flashboards; a 40-ac reservoir, at normal maximum surface elevation of 563.8 feet, with a gross storage capacity of 359.5 ac-ft; a 131-foot-long power canal headworks structure, with 14 8-foot-wide by 11-foot-high wooden headgates, leading to a 3,850-foot-long unlined power canal, and a 143-foot-long bulkhead section; a 580-foot-long concrete forebay channel consisting of a 190-foot-long concrete gravity overflow section, a 230-foot-long concrete gravity section topped with 1-foot-high flashboards, and a 160-foot-long side channel spillway section equipped with twelve stop-log-bays; an intake structure consisting of a 66-foot-wide by 28.5-foot-high trashrack, a waste sluice, and nine timber gates with stop-log slots; a 97.5-foot-wide by 37-foot-long brick/masonry powerhouse equipped with three vertical Francis generating units, each rated at 1,800 kW, a design head of 25 feet, and a hydraulic capacity of 1,100 cfs; a short excavated rock tailrace discharging directly into the Black River; transmission lines consisting of three 25-foot-long leads connecting to a 2.4-kV powerhouse bus, and three 89-foot-long, 2.4-kV underground lines connecting to 2.4/23-kV step-up transformer; and associated appurtenant equipment.

4. Black River Development, located in the town of LeRay, has a total installed capacity of 6.0 MW, and consists of: a dam consisting of a 327-foot-long by 16-foot-high horseshoe-shaped concrete retaining wall, a 36.5-foot-long gated section housing two sluice gates, an abandoned substructure powerhouse, and a 291-foot-long by 25-foot-high concrete gravity spillway with a permanent crest of 534 feet (USGS), topped with 2-foot high wooden flashboards; a 25-ac reservoir, at normal maximum surface elevation of 536 feet, with a gross storage capacity of 128 ac-ft; a headworks structure consisting of 80-foot-long concrete power canal upper bulkhead structure, housing twelve 6-foot-wide by 11-foot-high timber slide gates and one 3.5-foot-wide by 11.0-foot-high gate, and a 2,250-foot-long power canal composed of a 1,270-foot-long unlined section containing a 250-foot-long side concrete waste weir, and a 980-foot-long concrete-lined section containing a 134-foot-long side concrete waste weir and low-level sluice gate; an intake structure consisting of 80-foot-wide by 29-foot-high trashrack, and nine timber slide gates; a 118-foot-wide by 66-foot-long powerhouse equipped with three vertical Francis generating units, each rated at 2,000 kW with a design head of 33 feet, and a hydraulic capacity of 1,067 cfs; short excavated rock tailrace discharging directly into the Black River; transmission lines consisting of 36-, 65-, and 95-foot-long leads connecting to a 2.4-kV powerhouse bus, and three 88-foot-long, 2.4-kV underground lines connecting to 2.4/23-kV step-up transformer; and associated appurtenant equipment.

5. Sewalls Development, located in the city of Watertown, and consists of one facility on the south channel and one on the north channel of Sewalls Island.

The South Channel facility has an installed capacity of 2.0 MW, and consists of: a 243-foot-long by 15.5-foot-high concrete gravity dam with a permanent crest elevation of 463.9 feet (USGS); a 4-ac reservoir, at normal maximum surface elevation of 463.9 feet, with a gross storage capacity of 48 ac-ft; a headworks structure consisting of 65.5-foot-long power canal headworks structure housing two stop-log bays and two 15-foot-wide by 12-foot-high automated steel slide gates, leading to a 400-foot-long by 33 to 35-foot-wide concrete-lined power canal, with a wall adjacent to the Black River with a permanent crest elevation of 463 feet and equipped with 2-foot-high flashboards for its entire length; an intake structure consisting of a 69-foot-wide by 21-foot-high trashrack, a waste sluice and low-level drain, and four gate openings for steel slide gates; a 81-foot-wide by 32-foot-long powerhouse equipped with two

vertical Allis-Chalmers propeller-type generating units, each rated at 1,000 kW, a design head of 15.5 feet, and a hydraulic capacity of 900 cfs; a short excavated rock tailrace discharging directly into the Black River; transmission lines consisting of 12- and 47-foot-long leads connecting to a 2.4-kV powerhouse bus, and two 180-foot-long, 2.4-kV underground lines connecting to a 2.4/23-kV step-up transformer; and associated appurtenant equipment.

Presently, the North Channel facility is abandoned and not used for power generation. The facility includes: a 90-foot-long by 18.5-foot-high concrete dam with a permanent crest elevation of 463.9 feet; an abandoned 37-foot-long forebay canal headworks structure housing two steel slide gates; a 78-foot-long by 25-foot-wide concrete forebay canal with two draft-tubes encased in the floor; and an abandoned 68-foot-wide by 34-foot-long masonry/concrete block powerhouse.

#### B. Operating Regime:

The Black River is regulated by the Hudson River-Black River Regulating District (HRBRD) at the Stillwater Reservoir, which is primarily operated for flood control of the Black River. The five developments of the Black River Project operate in conjunction with the daily releases from Stillwater Reservoir. As detailed in the Settlement Agreement, NMPC would continue to operate each of the Black River Project developments in a run-of-river (ROR) with pondage mode.

#### C. Proposed Project Modifications and Recreational Developments:

The proposed measures, as stated in the Final Environmental Assessment (FEA) dated September 27, 1996, under the preferred alternative, include: plan and implement an effective streamflow monitoring system; establish and maintain a continuous flow of 1,000 cfs or inflow, whichever is less, throughout all developments; install flashboards at each development by May 1 or as soon thereafter as safely possible; maintain minimum flows in all bypassed reaches; accommodate, install, or modify flow release measures at all developments; replace trashracks at all developments; accommodate or install fish passage measures at all developments; institute reservoir fluctuation limits at all developments; enhance recreational facilities at all developments within two years of license issuance; and finish all fencing, including support structures, and future architectural improvements with dark brown-green coloration.

In addition to enhancements at individual developments, NMPC would establish a Black River Fund and Advisory Council to facilitate acquisition or other protection for key land parcels and to make recommendations regarding management of the Black River and hydropower project operations. The proposed recreational enhancements are summarized below by development.

1. Herrings Development: expansion of existing launch area to add fishing, picnicking, and river viewing; portage trail from existing car-top boat launch on north shore to put-in at tailrace; and overland access to a new car-top boat launch at the downstream end of the new portage trail.
2. Deferiet Development: new car-top boat put-in/take-out on north shore with access from NYS Route 3 and 6-8 car parking area; portage across the headgate structure to a new put-in 200 feet below the dam where there would be signage warning of downstream whitewater; removal of exposed rods below the stop-log structure; maintain and improve existing access to the south shore of the impoundment, with addition of bird watching in the wetland area; recreational access to the Black River about 8,000 feet downstream of the dam, to be developed cooperatively with the village of Deferiet; riverside recreation trail system with shoreline fishing access and river overlook; and secure access to waterfront.
3. Kamargo Development: a car-top boat take-out from the impoundment at the upstream end of Poors Island between the Kamargo dam and canal headgate structure; a new car-top boat put-in at the power canal immediately downstream of the canal headgate structure; car-top boat passage down a portion of the power canal where water velocities are slow; a new boat barrier and car-top boat take-out on the Poors Island side about 1,600 feet down the power canal from the canal head-gate structure in the vicinity of the 23-kV transmission line crossing; a foot trail from the power canal take-out connecting to the proposed Poors Island Recreation Area trail system; parking for 4 to 6 cars near the Poors Island access bridge approximately 300 feet from the canal take-out; a sign near the power canal take-out directing boaters to the car-top put-in near the Village of Black River Overlook; a new car-top boat put-in upstream of the Main Street bridge adjacent to the Village of Black River Overlook, and modified area to allow safe access; vehicular access to Poors Island would be during daylight hours only via a single-lane bridge from South Main Street; Poors Island forested habitat preserve with interpretive center and planned environmental program; Poors Island hiking trail system with stone dust trail,

scenic riverview and overlooks, and bicycle storage for day hikes; Poors Island day-use picnic area with picnic tables and shelter, river overlook, and primitive restroom facilities; interconnection with the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) Jefferson County bike/hike trail, via trail utilizing village streets and signage; and shoreline fishing on Poors Island, and on the south side of the power canal upstream of the boat barrier.

4. Black River Development: a car-top boat launch and take-out upstream of the Route 3 bridge, to include a picnic area, shoreline fishing, and at least four parking spaces along Huntington Street on NMPC's land; car-top boat put-in as far upstream in the bypassed reach as possible; a portage trail using Huntington Road and an existing dirt road close to the bypassed reach; additional parking South of NYS Route 3 and east of the Route 3 bridge; maintain parking at the existing picnic area along the bypassed reach south of NYS Route 3; relocate existing picnic area and maintain under expanded site maintenance program; expanded existing picnic area; secure waterfront access; riverfront walking trail with overlook points; interconnection with NYSOPRHP Jefferson County bike/hike trail; maintain forested island preserve with shoreline visual buffer; and protective railing in-lieu of the present security fencing at the existing picnic area and at other necessary locations.

5. Sewalls Development: pedestrian path from Huntington Street to a river overlook with shoreline fishing safety rail, and interpretive signage; car-top boat take-out at the river overlook on the south shore, with signage to potential downstream put-in locations; and flow stabilization to facilitate whitewater recreation by maintaining ROR between May 1 and September 30 when flow is less than 2000 cfs.

D. Historic Properties:

The project facilities at hydroelectric facilities in New York State, including the five developments of the Black River Project, were surveyed by an historian retained for this purpose by NMPC. The results of this survey are documented in the following report:

A History of Hydroelectric Power in New York State.  
Prepared by Duncan Hay. New York State Museum. 1991.

1. Historic Structures: No historic structures listed in or eligible for listing in the National Register of Historic Places (NRHP) have been recorded within the areas of potential effect (APE) of the five developments that comprise the Black River Project.

2. Archeological Sites: No prehistoric or historic archeological sites listed in or eligible for listing in the NRHP have been recorded within the APE of the five developments that comprise the Black River Project.

E. Anticipated Effects:

The proposed issuing of a new license to NMPC for the Black River Project could have both beneficial and adverse effects.

1. Historic Structures: No specific historic resources potentially eligible for inclusion in the NRHP were identified within the Black River project boundaries.

2. Archeological Sites: No sites have been recorded that are listed in or are eligible for listing in the NRHP; however, as yet unknown archeological sites could be encountered during the construction of enhancement measures at any of the five developments. Project operation, maintenance, or enhancement activities might adversely affect eligible archeological sites, if any are determined to be present. The Cultural Resources Management Plan (CRMP), however, would define and implement procedures that would diminish the likelihood that archeological sites would be inadvertently discovered during operation and maintenance of the project or implementation of any enhancement measures. In addition, the CRMP would be designed to provide for the identification and evaluation of Historic Properties and the assessment of effects well prior to the initiation of the proposed action so that avoidance or mitigation measures could be implemented.



New York State Office of Parks, Recreation and Historic Preservation  
The Governor Nelson A. Rockefeller Empire State Plaza  
Agency Building 1, Albany, New York 12238-0001

RECEIVED  
HYDRO LICENSING ENGINEERING  
DEPARTMENT

JAN 25 1991

NIAGARA MOHAWK POWER CORP.

January 18, 1991

Mr. Jerry L. Sabattis  
Relicensing Coordinator  
Niagara Mohawk Power Corporation  
300 Erie Boulevard West  
Syracuse, New York 13202

Dear Mr. Sabattis:

Re: FERC #2569  
Black River Project  
Towns of Champion, Wilna, Rutland,  
and LeRoy, Jefferson County  
90PR2693

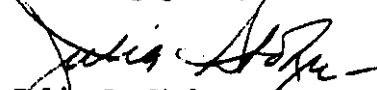
The State Historic Preservation Officer (SHPO) has reviewed the Draft License Application you provided for the above referenced project in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

Based upon this review, it is our understanding that the only area where work is scheduled for this project is at the existing north channel facility at the Sewalls Development. The SHPO has reviewed the property and found it does not meet the criteria for inclusion in the National Register of Historic Places.

Given this, it is the SHPO's opinion that this project will have No Effect upon cultural resources in or eligible for inclusion in the National Register of Historic Places.

If you have any questions, please call Linda Harvey-Opiteck of our Project Review Unit at (518) 474-0479.

Sincerely yours,

  
Julia S. Stokes  
Deputy Commissioner for  
Historic Preservation

JSS/LHO:tr

cc: FERC





New York State Office of Parks, Recreation and Historic Preservation  
The Governor Nelson A. Rockefeller Empire State Plaza  
Agency Building 1, Albany, New York 12238

518-474-0456

For further information  
contact Project Review Unit  
518-474-3176

June 20, 1986

G.R. Scott  
NIMO  
300 Erie Boulevard  
Syracuse, NY 13202

Re: FFRC # 2569  
Black River Project-Relicense  
Existing Facility  
Jefferson Co.

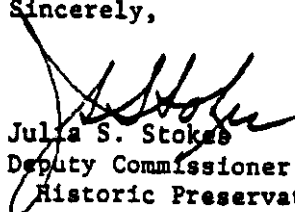
Dear Mr Scott:

The State Historic Preservation Officer (SHPO) has reviewed the above project in accordance with the Advisory Council on Historic Preservation's regulations, "Protection of Historic and Cultural Properties," 36 CFR 800.

Based upon this review, it is the opinion of the SHPO that this project will have no effect upon districts, sites, buildings, structures, objects or archeological resources in or eligible for inclusion in the National Register of Historic Places.

If you have any questions, please contact the project review staff at 518-474-3176.

Sincerely,

  
Julia S. Stokes  
Deputy Commissioner for  
Historic Preservation

CC: FERC - K. Plumb  
DEC - M. Mackenzie

SM  
#13  
9/84

An Equal Opportunity/Affirmative Action Agency

# 85 FERC ¶ 62,109

## UNITED STATES OF AMERICA FEDERAL ENERGY REGULATORY COMMISSION

Niagara Mohawk Power Corporation ) Project Nos. 2538-010 &  
2569-021

### ORDER APPROVING CULTURAL RESOURCES MANAGEMENT PLANS

**NOV 17 1998**

On February 5, 1998, Niagara Mohawk Power Corporation (licensee) filed Cultural Resources Management Plans (CRMPs) for the Beebee Island Project, FERC No. 2538, and the Black River Project, FERC No. 2569. The Beebee Island Project is located on the Black River, within the City of Watertown in Jefferson County, New York. The Black River Project is located on the Black River in Jefferson County, New York. The CRMPs are required by article 416 of both project licenses issued December 24, 1996. 1/ Subsequent to comments by Commission staff and the Advisory Council on Historic Preservation (ACHP), the licensee filed revised CRMPs on October 27, 1998.

#### BACKGROUND

On July 19, 1996, a Programmatic Agreement (PA) was executed between the Commission, the Advisory Council on Historic Preservation (ACHP), the Historic Preservation Field Services Bureau, New York's state historic preservation office (SHPO), and Niagara Mohawk and its associated or subsidiary companies. The PA covers fourteen hydropower projects, including both the Beebee Island and Black River projects. The PA requires the licensees to administer each project in accordance with the project's CRMP that specifies how historic properties will be protected. On December 1, 1996, the Commission's staff revised the appendices to the PA for the Beebee Island and Black River Projects, including changes proposed by ACHP, the SHPO, and Niagara Mohawk.2/

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1/ See Order Approving Settlement Offer and Issuing New License, 77 FERC ¶ 61,305, (1996).

See Order Approving Settlement Offer and Issuing New License, 77 FERC ¶ 61,306, (1996).

2/ December 1, 1996 letter from Director, Division of Licensing and Compliance, to the Advisory Council on Historic Preservation, the New York State Office of Parks, Recreation and Historic Preservation, and Niagara Mohawk.

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Project Nos. 2569-021 &  
2538-010

-2-

Article 416 requires the licensee to implement the PA, including the filing of a CRMP, to implement the provisions of an approved CRMP; and, should the PA be terminated prior to Commission approval of the CRMP, to obtain Commission approval before engaging in any ground disturbing activities or other activities that may affect historic properties.

#### THE CULTURAL RESOURCES MANAGEMENT PLANS

No historic structures listed in or eligible for listing in the National Register of Historic Places were found within the Area of Potential Effect (APE) of the five developments which comprise the Black River Project. Also, no known prehistoric or archaeological sites have been recorded within the APE of the five developments that comprise the Black River Project.

The SHPO notified the licensee, on April 23, 1993, that the Beebee Island Hydroelectric Plant met the criteria for inclusion in the National Register of Historic Places. <sup>3/</sup> The SHPO identified only the powerhouse as possessing historic significance.

The CRMP for the Beebee Island Project sets forth the guidelines the licensee will follow for operation and maintenance activities directed toward the powerhouse. The licensee and the SHPO prepared a separate document titled: "Compendium of Compatible Operation and Maintenance Activities, (Categorical Exclusions for Historic Hydro Facilities)." The licensee describes the document as a living, stand-alone document developed in consultation with the SHPO. This document contains activities which have been identified which will not affect the historic resources of the powerhouse and which the licensee can do without SHPO consultation. Activities not listed in the Compendium will require consultation with the SHPO.

The CRMPs for both projects set forth guidelines for dealing with new properties discovered during project operation, maintenance, or excavation, and identify when consultation with the SHPO is required. The plans discuss mitigation of unavoidable adverse effects and describe what procedures will be followed in the event that ground disturbing activities are conducted or there is a change in project operation. The CRMPs also contain procedures for emergency undertakings and public interpretation.

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<sup>3/</sup> April 23, 1993 letter to Kleinschmidt Associates (Beebee Island's consultant) from Deputy Commissioner for Historic Preservation, Historic Preservation Field Services Bureau, New York State Office of Parks, Recreation and Historic Preservation.

Project Nos. 2569-021 &  
2538-010

-3-

### CONCLUSIONS

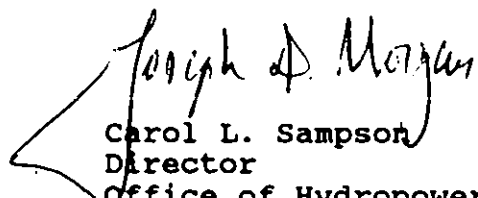
The licensee's plans are consistent with the PA, the Secretary of the Interior's Standards and Guidelines, and the project settlement. The CRMPs propose to follow the ACHP's policy statement and relevant state laws and guidelines for the treatment and disposition of human remains. The licensee's proposal also includes annual filings, due on the anniversary of the licenses to SHPO and the Commission, on activities conducted under the implemented CRMP.

Commission staff believes the final CRMPs set the appropriate standards and guidelines to protect the known and unknown properties of the Black River and Beebee Island projects. Commission staff also believes the plans are consistent with the requirements of article 416. Upon approval of this order, the licensee should implement the CRMPs.

### The Director orders:

(A) The Cultural Resources Management Plans for the Black River and Beebee Island Hydroelectric Projects, filed on October 27, 1998, are approved and made part of the licenses.

(B) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

  
Carol L. Sampson  
Director  
Office of Hydropower Licensing

**ATTACHMENT K**

**QUESTION G – RECREATION:**

**1998 RECREATION PLAN FOR P-2538 & P-2569**

**1999 FERC ORDER APPROVING RECREATION PLAN FOR P-2569**

## SERVICE LIST

### BLACK RIVER ADVISORY COUNCIL

Mr. Peter Skinner  
American Whitewater Association  
RR #2, Box 272  
West Sand Lake, New York 12196-9753

Mr. Bruce Carpenter  
New York Rivers United  
199 Liberty Plaza  
Rome, New York 13440

Mr. George Schmidt  
Trout Unlimited  
1528 Dorwaldt Blvd.  
Niskayuna, New York 12309

Mr. Henry Cosselman  
NYS Conservation Council  
RFD 1, North Road, Box 145  
Oswego, New York 13126

Ms. Nancy Weal  
American Whitewater Association  
21601 Floral Drive  
Watertown, New York 13601

Ms. Betty Lou Bailey  
Adirondack Mountain Club  
4029 Georgetown Square  
Schenectady, New York 12303-5300

Mr. Philip Ashwood  
Adirondack Mountain Club  
P.O. Box 4  
Calcium, New York 13616

Mr. Jon Elmer  
Niagara Mohawk Power Corporation  
137 Main Avenue  
Watertown, New York 13601

Mr. Irwin K. Stone  
Trout Unlimited  
1417 Sunset Ridge  
Watertown, New York 13601

Mr. David Stilwell  
U.S. Fish and Wildlife Service  
3817 Luker Road  
Cortland, New York 13045

Mr. Kevin Mendik  
National Park Service  
North Atlantic Region  
15 State Street  
Boston, Massachusetts 02109

Mr. Steve Fort  
Jefferson County Planning Office  
175 Arsenal Street  
Watertown, New York 13601

Mr. Ken Mix  
City of Watertown  
Municipal Building  
Watertown, New York 13601

Mr. Thomas Skutnik  
Hydro Licensing & Regulatory Compliance  
Niagara Mohawk Power Corporation  
300 Erie Blvd., West  
Syracuse, New York 13202

Mr. Samuel S. Hirschey  
Hydro Licensing & Regulatory Compliance  
Niagara Mohawk Power Corporation  
300 Erie Blvd., West  
Syracuse, New York 13202

Mr. Len Ollivett  
NYS Department of Environmental  
Conservation  
317 Washington Street  
Watertown, New York 13601

**FINAL PLAN  
FOR**

**BLACK RIVER PROJECT #2569  
&  
BEEBEE ISLAND PROJECT #2538**

**ARTICLE 413**

**RECREATION PLAN**

**BLACK RIVER PROJECT & BEEBEE ISLAND PROJECT  
FERC PROJECT NOS. 2569-004-NY & 2538-001-NY**

**ARTICLE 413**

**RECREATION PLAN**

**INTRODUCTION**

License Articles 413, Item 1, addresses recreational facilities for both the Black River Project and the Beebee Island Project in general. Specifics of the Recreation Plan can be found in Exhibit E of the license applications, Responses to Additional Information Requests, and the Settlement Offer filed on October 13, 1995. Additionally for the Black River Project, proposed recreational facilities are identified in the Environmental Assessment issued on September 27, 1996 and in a December 13, 1993 letter filed with the Federal Energy Regulatory Commission regarding the Beebee Island Project.

**(1) EXISTING AND PROPOSED RECREATIONAL FACILITIES**

**BLACK RIVER PROJECT**

License Article 413, Item 1 - "improved and expanded river access for fishing and for general recreational use; car-top boat facilities, put-ins and take-outs; parking areas; interpretive signage; portage trails; foot trails; bike trails; fishing areas, picnicking areas; bird-watching areas; scenic viewing areas and overlooks; protective railings, warning signs and boat barriers; access to Poors Island, bicycle storage there, and establishment there of a habitat reserve with interpretive center offering environmental programs;"

**Herrings Development**

The Licensee will continue to operate and maintain the existing parking area and path leading to the existing cartop boat launch on the north shore near the powerhouse. The shoreline adjacent to the cartop boat launch will be maintained to provide fishing access and river viewing.

The existing parking area and cartop boat launch are accessible to the disabled. River viewing from this location will also be accessible to the disabled. The Licensee will provide two picnic tables in this area, one of which will be accessible to the disabled. Additionally, a dedicated parking area with appropriate signage will be provided for the disabled near the existing site recreation sign. Shoreline fishing and the proposed canoe portage will not be accessible to the disabled because the steep, uneven terrain makes disabled access extremely difficult even after extensive modifications.

The existing cartop boat launch will serve as the starting point of the proposed canoe portage trail. The canoe portage trail will traverse across Niagara Mohawk lands to a proposed cartop boat



launch (put-in) at the downstream end of the portage trail below the tailrace. The Licensee will provide informational signage denoting disabled accessible fishing access facilities on the Herrings recreational sign.

### Deferiet Development

The Licensee will continue to operate and maintain the existing parking area and path leading to the existing cartop boat launch/wetland access area (bird watching area) on the south shore upstream of the dam. Disabled access to the cartop boat launch/wetland access area will not be possible due to terrain constraints.

The Licensee will provide a new cartop boat put-in/take-out on the north shore of the Deferiet impoundment upstream of the boat barrier. A parking area to accommodate 6-8 cars will be provided near the put-in/take-out with access from NYS Route 3. A canoe portage trail will commence at the put-in/take-out, cross over the canal headgate structure and terminate at a new put-in approximately 200 feet downstream of the dam. A sign warning of a downstream whitewater hazard will be posted near the put-in. Additionally, the Licensee will install a sign on the canal headgate structure fencing warning of the downstream whitewater hazard and a sign directing recreationists to the alternate canoe put-in.

An alternate canoe portage trail will be provided utilizing the existing access road from the take-out/parking area to NYS Route 3, thence north-westerly along NYS Route 3 to Riverside Drive, and then along Riverside Drive to the put-in, in the Village of Deferiet, near the tailrace. The Licensee will provide the necessary signage for this alternate put-in.

The Licensee will remove/cut off the exposed rods in the river bed downstream of the stoplog section of the dam to enhance the area's safety.

The Licensee, in cooperation with the Village of Deferiet, will support cooperative development of recreational access to the Black River on the Village of Deferiet and the Licensee's lands approximately 8,000 feet downstream of the dam. The Licensee will contact the Village of Deferiet to initiate discussion and planning for public access to this area of the Black River. The Licensee will provide two picnic tables in this area.

The Licensee will provide a riverside recreation trail on the east shoreline downstream of the dam to accommodate shoreline fishing access. This recreation trail will be provided on a 50' wide strip of land owned by the Licensee.

The Licensee has investigated a trail with river overlooks on the western shoreline, which would proceed south to southeast from NYS Route 3. The Licensee proposes to clear the downed timber in this area, and will continue to allow the informal access that currently exists for river overviews.

### Kamargo Development

The Licensee will provide a cartop boat take-out from the impoundment at the upstream end of Poors Island between the dam and the canal headgate structure. A portage trail will be provided to the new cartop boat put-in in the power canal immediately downstream of the headgate structure on the Poors Island side. Recreationists can enter the power canal at this put-in and take-out at a new take-out to be provided upstream of the boat barrier on the Poors Island side, approximately 1600 feet downstream from the canal headgate structure, in the vicinity of the 23-kV transmission line crossing. The Licensee will provide a sign at the take-out directing boaters to the put-in on the left shoreline downstream of the Main Street bridge. A foot trail from the power canal take-out connecting to the proposed Poors Island Recreation Area trail system will be provided.

Vehicular access to Poors Island will be during daylight hours only via a single-lane bridge reached from South Main Street. The Licensee will provide a parking area for 4-6 cars near the Poors Island access bridge approximately 300 feet from the power canal take-out.

The Licensee proposes a day-use recreational park/forested habitat preserve on Poors Island. This would include a forested habitat preserve area complete with an interpretive center and signage highlighting the islands diverse biota, an island hiking trail system with scenic river views, and a day-use picnic area. The Licensee will provide four picnic tables and grills in the day-use area. The Licensee will provide a bicycle storage rack for day hikes and primitive restroom facilities on Poors Island. Shoreline fishing on Poors Island along the power canal shoreline and the bypassed reach will be permitted by the Licensee.

Per the Settlement Offer, the Licensee was to allow shoreline fishing on the south shoreline of the power canal upstream of the boat barrier via lands owned or controlled by the Licensee. The Licensee owns approximately 1800 feet of land downstream of the Kamargo dam on the south shoreline of the power canal. This land is situated between the river edge and the abandoned New York Central Railroad line. This shoreline area will be available for shoreline fishing. Access to this area can be gained via East Remington Street and the abandoned railroad line.

Portions of the Poors Island day-use recreational area will be accessible to the disabled. However, complete access will not be possible due to terrain constraints.

The Licensee will not permit any overnight camping.

The Licensee is proposing the canoe put-in be located downstream of the Main Street bridge, on the opposite shore from the Black River overlook. This location would shorten the canoe portage distance from the Poors Island take-out to this put-in and also reduce the portage along South Main Street.

The license application noted that the Kamargo overlook in the Village of Black River would be provided via a co-operative venture between the Village and the Licensee. This overlook has already been constructed.

### Black River Development

The Licensee will provide a cartop boat launch/take-out upstream of the NYS Route 3 bridge to be located along Huntington Street. This area will be modified to accommodate a picnic area with four picnic tables and grills, shoreline fishing access and parking for four cars along Huntington Street, all on the Licensee's lands. This area will be accessible to the disabled.

A portage trail will be provided from the take-out utilizing Huntington Street, crossing NYS Route 3 and following an existing dirt road located along the bypassed reach to two put-ins. The first put-in will be located as determined in the field under conditions of no spillage. The second put-in will be located approximately 300 feet upstream of the powerhouse, but on the opposite or left shoreline (same side as first put-in). The steep, rugged terrain makes the put-ins virtually impossible for disabled access.

The Licensee will provide an additional parking area for 4 - 6 cars south of NYS Route 3 and east of the NYS Route 3 bridge along Woodard Hill Road, as close to NYS Route 3 as land ownership allows.

The Licensee will maintain the parking and picnicking at the existing picnic area along the bypassed reach south of NYS Route 3. The Licensee will remove the security fence along the bypassed reach at the existing picnic facilities and overlook. The security fencing will be replaced with a protective railing at this location.

### Sewalls Development

The Licensee will provide a cartop boat take-out on the south shore of the impoundment. Signage providing direction to potential downstream put-ins will be installed at the take-out. The Licensee will also provide a pedestrian path from Huntington Street to a river overlook, a shoreline fishing safety rail and a hydro interpretive sign at this location. The pedestrian path and shoreline fishing will be accessible to the disabled.

Prior to constructing the above recreational facilities, the Licensee will coordinate these facilities with the City of Watertown's plans for recreational opportunities at Sewalls Island.

The Licensee will put forth its best efforts to maintain run-of-river operation between May 1 and September 30 to facilitate whitewater recreation downstream, whenever river flow is below 2,000 cfs.

### BEEBEE ISLAND PROJECT

License Article 413, Item 1, - "pedestrian access to the impoundment for fishing; scenic overlook facilities and a fishing platform in conjunction with the City of Watertown (Watertown)'s proposed Heritage Trail, and to be constructed only if Watertown actually constructs the Heritage

Trail; a boat barrier upstream of the dam; a car-top boat take-out; and signage to downstream boat put-in locations;"

It appears that the Licensee owns lands for the take-out as shown in the draft recreation plan, but does not own lands for the Settlement location. At issue regarding the take-out, in either case, is access to the Licensee's lands where the take-out will be installed. Consequently, until the access issue is resolved, the Licensee is deferring installation of the Beebee Island put-in/take-out until access to Licensee's lands is obtained.

The Licensee, on behalf of Beebee Island Corporation, will provide a cartop boat put-in/take-out on the south shore of the impoundment, when the access issue is resolved, and install a boat barrier upstream of the dam. Signage providing direction to potential downstream put-ins will be installed at the cartop boat take-out.

The recreational facilities associated with the City of Watertown's Heritage Trail are not being constructed until such time when the City of Watertown actually constructs the Heritage Trail. At that time, the Licensee will consult with the City of Watertown so that these facilities will complement the City's plan.

FERC issued an ORDER APPROVING PLAN FOR VEILING FLOWS (ORDER) on August 19, 1997. The Licensee provided the veiling flows in 1998, per this ORDER, after installation of the flashboards. The schedule for release of the veiling flow is from May 1, or as soon thereafter as flashboards can safely be installed, through October 31 annually.

### HIKER/BIKER TRAIL

The Licensee is amenable to working with the New York State Office of Parks, Recreation & Historic Preservation (NYSOPRHP) and Jefferson County regarding the bike/hike trail along the Black River when or if such plans are developed. The Licensee will consider providing interconnections to this trail provided the necessary land ownership is in place and the need for extensive modifications is not required.

## **(2) FINAL SITE PLANS FOR THE FACILITIES**

The enclosed recreation drawings illustrate the Licensee's recreational improvements. The Licensee will provide as-built drawings after completion of the construction activities.

## **(3) ADDITIONAL LANDS REQUIRED FOR NEW RECREATIONAL FACILITIES**

It appears that no additional lands for new recreational facilities are required, with the exception being the Beebee Island Project. As discussed in Section (1), until access to Licensee's lands is resolved, it is unknown what changes to project lands will be required.

**(4) THE NAME OF THE ENTITY OR ENTITIES RESPONSIBLE FOR OPERATING AND MAINTAINING THE FACILITIES**

The Licensee is the responsible party for the operation and maintenance of the recreational facilities.

**(5) HOW THE DESIGN OF THE RECREATIONAL FACILITIES TAKES INTO CONSIDERATION THE GUIDELINES ESTABLISHED BY THE ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD (36 C.F.R. PART 1191)**

The following denotes how the design of the recreational facilities incorporates the Architectural and Transportation Barriers Compliance Board guidelines and designing the facilities using the US Forest Service's Design Guide for Universal Access to Outdoor Recreation guidelines.

**Parking areas**

The Licensee will provide parking spaces for the disabled at Herrings, Deferiet, Kamargo and Black River. These parking spaces will be reserved for persons with disabilities and a sign showing the International Symbol of Accessibility will be installed at each designated parking space. The size of the parking space and accompanying access aisle will be in accordance with the Architectural and Transportation Compliance Board (ATCB) recommendations, Section 4, Accessible Elements and Spaces, subsections 4.1 and 4.6.

**Picnic tables and grills**

The picnic tables and grills will conform to the Americans with Disabilities Act Accessibility Guidelines (ADAAG). The picnic tables will be a maximum of 32 inches from the ground to the top and will extend a minimum of 30 inches beyond the legs at each end. The grills will be 30 - 36 inches high.

**Trails for the Disabled**

The maximum grade for trails requiring disabled access, will have a maximum grade of 10% and will have a level rest area at every 900 feet maximum.

**(6) EROSION AND SEDIMENT CONTROL MEASURES AND MEASURES FOR REVEGETATION OF DISTURBED AREAS**

The attached erosion and sedimentation control standard details drawing, which includes revegetation of disturbed areas affected by site enhancements, is the Licensee's means of *implementing and controlling* erosion and revegetation.

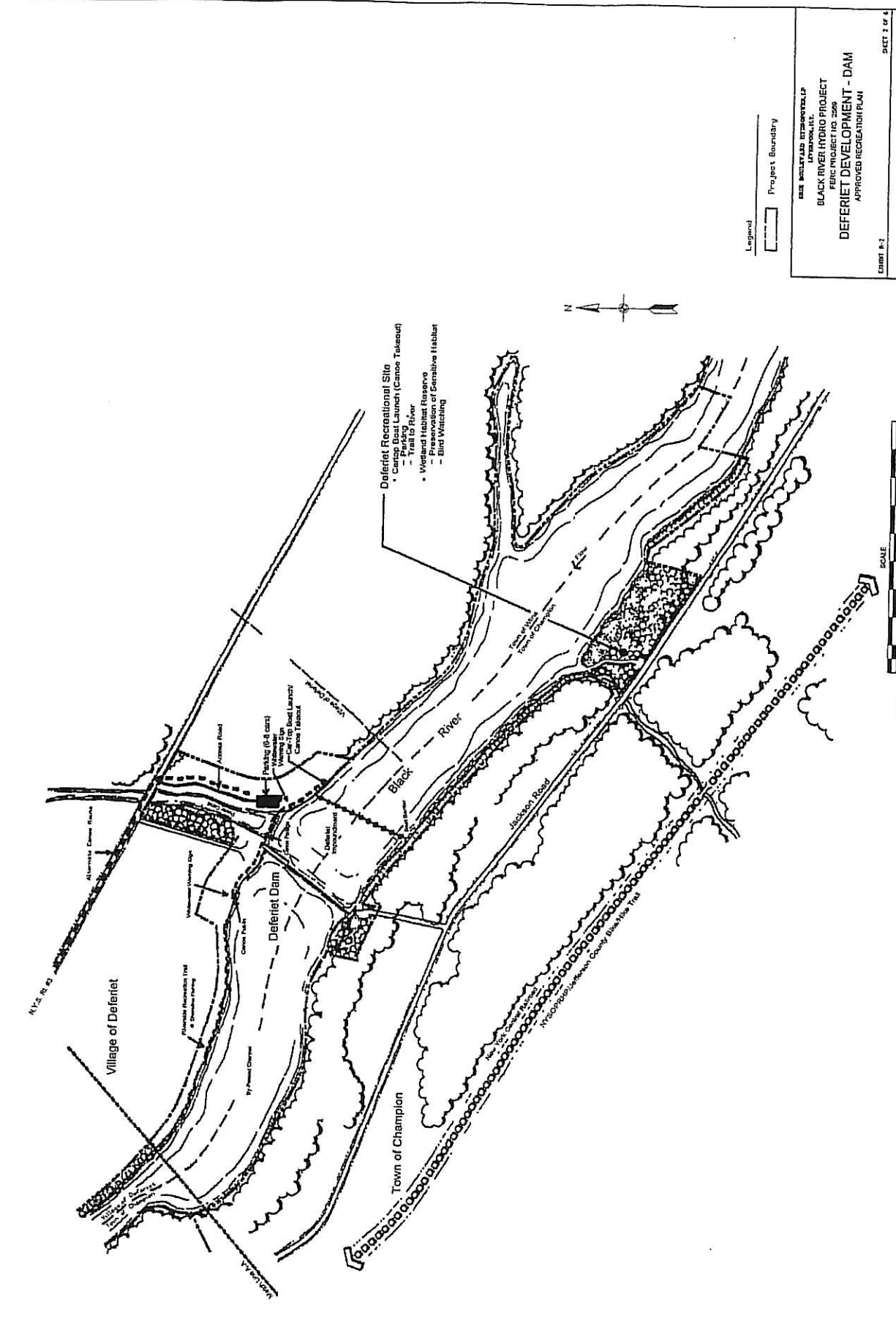
**(7) SCHEDULE FOR CONSTRUCTING THE FACILITIES WITHIN ONE YEAR OF PLAN APPROVAL**

The Licensee intends to construct the recreational facilities during the 1999 construction season. Construction activities will commence in early May 1999 anticipating early completion for use during the 1999 recreation season.

The Beebee Island take-out is being deferred until access to the impoundment is obtained.

The recreational facilities at Beebee Island, contingent upon construction of the Heritage Trail, will not be constructed until construction of the Heritage Trail is ensured.





- Deferiet Recreational Site**
- Canoe Launch (Canoe Takeout)
  - Parking
  - Trail to River
  - Wetland Habitat Reserve
  - Preservation of Sensitive Habitat
  - Bird Watching

Legend  
 [Symbol] Project Boundary

DEER BROTHERS ENGINEERS, P.C.  
 LYONSVILLE, VIRGINIA, VA  
 BLACK RIVER HYDRO PROJECT  
 FERC PROJECT NO. 2569  
**DEFERIET DEVELOPMENT - DAM**  
 APPROVED RECREATION PLAN

EXHIBIT B-2  
 SHEET 1 OF 4

NO.	DATE	DESCRIPTION OF ISSUE OR REVISION	BY	CS.	APR.	DES.	DATE	DESCRIPTION OF ISSUE OR REVISION	BY	CS.	APR.	DES.	DATE	DESCRIPTION OF ISSUE OR REVISION	BY	CS.	APR.	DES.	DATE	DESCRIPTION OF ISSUE OR REVISION	BY	CS.	APR.	DES.	
2	1/2/03	REVISED PER FERC DRAFT	DA	SPM	SPM	DA	1/2/03	REVISED PER FERC DRAFT	DA	SPM	SPM	DA	1/2/03	REVISED PER FERC DRAFT	DA	SPM	SPM	DA	1/2/03	REVISED PER FERC DRAFT	DA	SPM	SPM	DA	1/2/03
1	1/31/02	APPROVED RECREATION PLAN	DA	SPM	SPM	DA	1/31/02	APPROVED RECREATION PLAN	DA	SPM	SPM	DA	1/31/02	APPROVED RECREATION PLAN	DA	SPM	SPM	DA	1/31/02	APPROVED RECREATION PLAN	DA	SPM	SPM	DA	1/31/02











# 86 FERC 16,140

## UNITED STATES OF AMERICA FEDERAL ENERGY REGULATORY COMMISSION

Niagara Mohawk Power Corporation )

Project No. 2569-036

### ORDER APPROVING RECREATION PLAN

FEB 17 1999

On December 11, 1998, Niagara Mohawk Power Corporation (licensee), filed a recreation plan pursuant to article 413 of the license for the Black River Project.<sup>1/</sup> The Black River Project consists of five developments (Herrings, Deferiet, Kamargo, Black River, and Sewalls) located between river miles 10 and 27.5 on the Black River in Jefferson County, New York.

#### BACKGROUND

Article 413 principally requires the licensee to file a plan which improves and expands river access around the project's five developments for fishing and general recreational use. The plan is to include provisions for maintaining the existing recreational facilities identified in the license application. The plan is also to include provisions for implementing new facilities such as car-top boat launches, canoe portages, interpretive/informational signs, shorefishing areas, and scenic overlooks. While article 413 does not describe the specific facilities or enhancements to be provided at the project, proposals for new construction were identified in the Settlement Offer which was approved in conjunction with the license.<sup>2/</sup>

Article 413 requires that the recreation plan include a construction schedule, the names of the entity responsible for operating and maintaining each facility, as well as a site plan for each facility. The plan is also to identify how the needs of persons with disabilities are addressed by the plan, and the erosion and sediment control measures that will be implemented during and after construction.

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<sup>1/</sup> Order Approving Settlement Offer and Issuing New License, 77 FERC ¶ 61,306 (1996). The December 11 filing also included recreation plan material for the Beebee Island Project, FERC No. 2538. The Beebee Island recreation plan will be addressed separately by the Commission.

<sup>2/</sup> The Settlement Offer approved by the license was filed with the Commission on October 13, 1995.

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## FILED PLAN

The licensee's December 11 filing addresses each of the requirements of article 413. The licensee proposes to construct and continue to maintain car-top boat access and canoe portage facilities at each of the project's five developments. The licensee also proposes to provide the shorefishing access, interpretive/informational signs, viewing areas, and parking enhancements identified in the Settlement Offer. With regard to the needs of persons with disabilities, the licensee indicates accessible design standards will be followed at the parking and picnic areas, and designated trail segments. The licensee acknowledges that boating access for persons with disabilities will be limited because of the steep grade at most of put-in/take-out sites.

The licensee states it will be responsible for the operation and maintenance of the facilities provided under the plan, and that it will construct all facilities during the 1999 construction season. During construction the licensee will implement such erosion and sediment control measures as straw bales and silt fences. The licensee will also grade all sites for positive drainage and revegetate all disturbed areas. As-built drawings of the recreational facilities are proposed to be filed with the Commission after all construction is complete.

## AGENCY CONSULTATION AND COMMENT

As required by article 413 the licensee consulted on the plan with the U.S. Fish and Wildlife Service (FWS), National Park Service, New York State Department of Environmental Conservation (DEC), Jefferson County, and the members of the Black River Advisory Council (BRAC).<sup>3/</sup> FWS, DEC, and two members of the BRAC filed comments on the plan. The licensee addressed these comments in the final plan filed with the Commission.

## DISCUSSION

Commission staff concludes the filed material adequately addresses the requirements of article 413 and provides for recreational development consistent with the license and Settlement Offer. We also conclude the licensee has appropriately addressed the comments/concerns raised by the

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<sup>3/</sup> The Settlement Offer established the Black River Advisory Council. The Council includes the state and Federal agencies identified in this order along with non-governmental agencies with an interest in the area.

Project No. 2569-036

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consulted agencies. Overall, the filed plan will improve recreational access to the project's five developments and enhance the recreational opportunities available in the project area.

Since the licensee did not seek comments on the plan from the New York State Department of Parks, Recreation, and Historic Preservation, as required by article 413, Commission staff reminds the licensee of its responsibilities under article 416 of the license, and the project's approved Cultural Resources Management Plan.<sup>4/</sup> Under these provisions, the licensee should undertake the approved measures for protecting cultural resources if any resources are discovered during the construction of the approved recreational facilities.

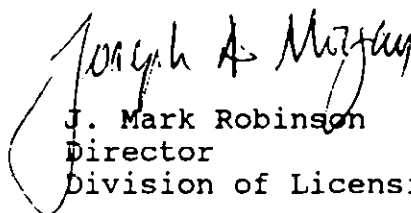
The provisions of the filed plan will improve and expand river access around the project's five developments for fishing and general recreational use. With this, the plan meets the requirements of article 413 and should be approved.

The Director orders:

(A) The recreation plan, filed on December 11, 1998, is approved and made part of the license for the project. Per this approval, the licensee shall complete construction of the approved recreational facilities by December 31, 1999.

(B) Within 90 days of completing construction, or by March 31, 2000, the licensee shall file, for Commission approval, as-built drawings of the recreational facilities approved in this order. The drawings should be similar to those included in the December 11 filing and be of an appropriate scale to show each approved amenity/facility. Where appropriate, the drawings should also show the location of the project boundary.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 CFR § 385.713.



J. Mark Robinson  
Director  
Division of Licensing and Compliance

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<sup>4/</sup> The Cultural Resources Management Plan, filed pursuant to article 416 of the project license, was approved by order issued on November 17, 1998.