Yaleville Hydroelectric Project

Certification Application to the Low Impact Hydropower Institute

FERC Project No. 9222

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INTRODUCTION

Erie Boulevard Hydropower, L.P. (Erie), a wholly owned subsidiary of Brookfield Renewable, is providing this application to the Low Impact Hydropower Institute (LIHI) for certification of the Yaleville Hydroelectric Project. The Yaleville Hydroelectric Project is located on the Raquette River near the Town of Norwood in St. Lawrence County. This facility is licensed with the Federal Energy Regulatory Commission (FERC) as the Yaleville Hydroelectric Project (FERC No. 9222) (Yaleville Project).

PART I. FACILITY DESCRIPTION

The key features of the Yaleville Hydroelectric Project are described in Table 1.

Table I-1. Facility Description Information for the Yaleville Hydroelectric Project.

Item	*Information Requests*	*Response (and references to further details)*
Name of the Facility	Facility name (use FERC project name if possible)	Yaleville Hydroelectric Project (FERC No. 9222)
Location	River name (USGS proper name)	Raquette River
	Watershed name	Raquette River Basin HUC-04150305
	Nearest town(s), county(ies), and state(s) to dam	Town of Norfolk, St Lawrence County, New York
	River mile of dam above next major river	25.5
	Geographic latitude of dam	44.766
	Geographic longitude of dam	-74.998
Facility Owner	Application contact names	See Part V of LIHI certification application for more information
	Facility owner company and authorized owner representative name.	Erie Boulevard Hydropower, L.P. Daniel J. Maguire
	FERC licensee company name (if different from owner)	Same as above
Regulatory Status	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates, or date of exemption	FERC Project Number 9222 New license issued February 10, 1992 License expires on December 31, 2033
	FERC license type (major, minor, exemption) or special classification (e.g., "qualified conduit", "non-jurisdictional")	License for Minor Project
	Water Quality Certificate identifier, issuance date, and issuing agency name. Include information on amendments.	N/A
	Hyperlinks to key electronic records on FERC e-library website or other publicly accessible data repositories	October 11, 2017 Order Amending License Terms and Terminating Relicensing Proceeding: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14708633

		December 10, 1996 Order Amending License Article 404: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10764314 February 10, 1992 Order Issuing Minor License: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710137 August 20, 1991 Environmental Assessment (included in 1992 License Order): https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710137
Powerhouse	Date of initial operation (past or future for pre-operational applications)	1903 – former powerhouse 1922 – present powerhouse
	Total installed capacity (MW)	0.70 MW
	Average annual generation (MWh) and period of record used	The average generation from 1969 to 2016 is 3,800 MWh.
	Mode of operation (run-of-river, peaking, pulsing, seasonal storage, diversion, etc.)	The Yaleville Project is operated in a run-of-river mode.
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	Generating Units: 2 Type: vertical Francis turbines Description: • Units 1 - Design capacity of 740 HP at design head of 14 feet and a speed of 120 rpm • Unit 2 - Design capacity of 335 HP at design head of 14 feet and a speed of 180 rpm Maximum Capacity: • Units 1 - 705 cfs • Unit 2 – 359 cfs Minimum Capacity: • Units 1 – 659 cfs (efficient) • Unit 2 – 359 cfs (efficient)
	Trashrack clear spacing (inches), for each trashrack	1.0 inch clear spacing

	Dates and types of major equipment upgrades	The major upgrades are listed as follows: 1903 - A brick building was constructed which was used as a steam plant and generator room. 1916 - Two generators were removed and one General Electric generator was installed. 1921 - The use of the old water wheels was discontinued and the construction of the present hydro plant was started. 1922 - The new plant was completed including two Leffel vertical hydraulic turbines. 1940 - The two Francis generation units were rebuilt There are no current plans for equipment upgrades at the Project.
	Dates, purpose, and type of any recent operational changes	There have been no recent operational changes at the Project.
	Plans, authorization, and regulatory activities for any facility upgrades or license or exemption amendments	There are no plans for any facility upgrades at the Project.
Dam or Diversion	Date of original construction and description and dates of subsequent dam or diversion structure modifications	Prior to 1902 – original construction 1921 - The use of the old water wheels was discontinued and the construction of the present hydro plant was started. A concrete dam was built to replace the log dam which was used as a coffer dam during the construction. 1978 - The spillway and canal walls were reconstructed.
	Dam or diversion structure height including separately, the height of any flashboards, inflatable dams, etc.	Dam Height: 12 to 15 feet Flashboards: 2 feet

	Spillway elevation and hydraulic capacity	Spillway Elevation:303.2 feet Hydraulic Capacity: 20,000 cfs at 310.0 feet (top of left abutment retaining wall)
	Tailwater elevation (provide normal range if available)	293.0 feet (normal)
	Length and type of all penstocks and water conveyance structures between the impoundment and powerhouse	Water is conveyed to the intake via a forebay (canal) that is 60 feet wide and 275 feet long. The intake structure is integral to the upstream side of the powerhouse.
	Dates and types of major infrastructure changes	The major improvements are listed as follows: 1919 - A new concrete flume was constructed to replace the original wooden flume. 1977 - The floodway (forebay) was constructed to replace the abandoned Martin Paper Company flume headworks; turbine room floor overlayed. 1982 - Tailrace stop log structure and tailrace repaired. 1985-1986 - Other concrete repairs and improvements to dewatering facilities were completed. 1986-1987 - new headgates and a headgate lifting frame were installed at the intake.
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	The purpose of the Yaleville Project is for power production.
	Source water	Raquette River
	Receiving water and location of discharge	Raquette River at RM 25.45
Conduit	Date of conduit construction and primary purpose of conduit	Constructed in 1903 (rebuild in 1977) to convey water to the powerhouse
Impoundment and Watershed	Authorized maximum and minimum water surface elevations	305.2 ft maximum; 303.2 ft minimum
	Normal operating elevations and normal fluctuation range	305.2 ft maximum; 303.2 ft minimum
	Gross storage volume and surface area at full pool	Gross Volume: 720 acre-feet Surface Area: 95 acres
	Usable storage volume and surface area	Usable Volume: 720 acre-feet Surface Area: 21 acres

Describe requirements related to impoundment inflow, outflow, up/down ramping and refill rate restrictions.	The Yaleville Project operates with a run-of-river facility. In addition, 36 cfs are provided through a rectangular weir located at the downstream end of the forebay to flume to support downstream passage.
Upstream dams by name, ownership and river mile. If FERC licensed or exempt, please provide FERC Project number of these dams. Indicate which upstream dams have downstream fish passage.	Setting Pole Dam, Town of Tupper Lake, N/A, RM 90.4 Piercefield Project, Erie Boulevard Hydropower, LP, P-7387, RM 88.5 Carry Falls Project, Erie Boulevard Hydropower, LP, P-2060, RM 68 Stark Development, Erie Boulevard Hydropower, LP, P-2084, RM 66 Blake Development, Erie Boulevard Hydropower, LP, P-2084, RM 62 Rainbow Falls Development, Erie Boulevard Hydropower, LP, P-2084, RM 56 South Colton Development, Erie Boulevard Hydropower, LP, P-2084, RM 52 Higley Development, Erie Boulevard Hydropower, LP, P-2320, RM 47 Colton Development, Erie Boulevard Hydropower, LP, P-2320, RM 45 Hannawa Development, Erie Boulevard Hydropower, LP, P-2320, RM 39 Sugar Island Development, Erie Boulevard Hydropower, LP, P-2320, RM 38 Potsdam Project, P-2869, Village of Potsdam, RM 35 Sissonville Project, P-9260, Boralex Hydro Operations, Inc, RM 33

		Hewittville Project p-2460, Erie Boulevard Hydropower, LP, RM 33 Unionville Project, P-2499, Erie Boulevard Hydropower, LP, RM 31 Norwood Development, Erie Boulevard Hydropower, LP, P-2330, RM 28 * Downstream fish passage is provided at all the upstream facilities with the exception of Carry Falls, Hewittville, and Unionville. Downstream Passage is scheduled for future construction at Hewittville and Unionville in 2020.
	Downstream dams by name, ownership, river mile and FERC number if FERC licensed or exempt. Indicate which downstream dams have upstream fish passage	East Norfolk Development, Erie Boulevard Hydropower, LP, P-2330, RM 23.5 Norfolk Development, Erie Boulevard Hydropower, LP, P-2330, RM 22.5 Raymondville Department, Erie Boulevard Hydropower, LP, P-2330, RM 20 *Seasonal upstream eel passage is provided at all downstream dams.
	Operating agreements with upstream or downstream facilities that affect water availability and facility operation	Carry Falls Project serves as the primary means for seasonal and daily flow regulation on the Raquette River.
	Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control.	The FERC project boundary covers 111.2 acres (14.1 acres of land and 97.1 acres of water).
Hydrologic Setting	Average annual flow at the dam, and period of record used	The approximately average annual flow at the Yaleville Hydroelectric Project based on flow data through 1944 though 2018 at the USGS Gage 04267500 Raquette River at South Colton, NY is 1,843 cfs.
	Average monthly flows and period of record used	The approximate average monthly flows at the Yaleville Hydroelectric Project based on flow data through 1944 though 2018 at the USGS Gage 04267500 Raquette River at South Colton, NY are as follows:

		January –1,515cfs February – 1,529 cfs March – 2,194 cfs April – 3,700 cfs May – 3,220 cfs June – 1,761 cfs July – 1,188 cfs August – 958 cfs September – 968 cfs October – 1,196 cfs November – 1,334 cfs December – 1,522 cfs
	Location and name of closest stream gauging stations above and below the facility	USGS Gage 04267500 Raquette River at South Colton, NY (located downstream of the South Colton Development) USGS Gage No. 04268000 Raquette River at Raymondville, NY (located downstream of the Raymondville Development)
	Watershed area at the dam (in square miles). Identify if this value is prorated and provide the basis for proration.	1,046 square miles Daily mean flow data for the Yaleville Project was estimated by a linear proration of data from USGS Gage No. 04268000 Raquette River at Raymondville, NY. [1]
Designated Zones of Effect	Number of zones of effect	There are three zones of effect at the Yaleville Hydroelectric Project (See Appendix A).
	Upstream and downstream locations by river miles	Zone 1: 25.5 to 27.3 Zone 2: 25.42 to 25.5 Zone 3: 25.35 to 25.45
	Type of waterbody (river, impoundment, by-passed reach, etc.)	Zone 1: Impoundment Zone 2: Bypassed Reach Zone 3: River
	Delimiting structures or features	Zone 1: From the head of the impoundment, downstream approximately 1.8 miles to the dam. Zone 2: Dam, downstream bypassed reach approximately 0.08 miles. Zone 3: Powerhouse, downstream approximately 0.1 miles.

[1] Ries, K.G. and Friesz, P.J. 2000. Methods for Estimating Low-Flow Statistics for Massachusetts Streams. Water Resources Investigations Report 00-4135. U.S. Department of Interior. U.S. Geological Survey.

	Designated uses by state water quality agency	The NYSDEC has classified the portion of the Raquette River in the vicinity of the Yaleville Project as Class B waters. Link to NYSDEC Classification Codes: https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=I06849fe0b5a111dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default)

PART II. STANDARD MATRICES

The Yaleville Hydroelectric Project has three zones of effect that are defined as: (1) Zone one, which extends from the head of the impoundment downstream approximately 1.8 mile to the Yaleville dam, (2) Zone two, which extends from the Yaleville dam downstream along the bypassed reach approximately 0.08 miles, and (3) Zone three, which extends from the Yaleville powerhouse downstream approximately 0.1 miles.

The standards selected to satisfy the LIHI certification criteria in each of these zones are identified in the following tables.

Table II-1. LIHI Standards Selected for Zone of Effect No. 1

		Alternative Standards				
	Criterion	***1***	***2***	***3***	***4***	***Plus***
A	**Ecological Flow Regimes**	X				
B	**Water Quality**	X				
C	**Upstream Fish Passage**	X				
D	**Downstream Fish Passage**		X			
E	**Watershed and Shoreline Protection**		X			
F	**Threatened and Endangered Species Protection**			X		
G	**Cultural and Historic Resources Protection**	X				
H	**Recreational Resources**		X			

Table II-2. LIHI Standards Selected for Zone of Effect No. 2

		Alternative Standards				
	Criterion	***1***	***2***	***3***	***4***	***Plus***
A	**Ecological Flow Regimes**		X			
B	**Water Quality**	X				
C	**Upstream Fish Passage**		X			
D	**Downstream Fish Passage**		X			
E	**Watershed and Shoreline Protection**		X			
F	**Threatened and Endangered Species Protection**			X		
G	**Cultural and Historic Resources Protection**	X				
H	**Recreational Resources**		X			

Table II-3. LIHI Standards Selected for Zone of Effect No. 3

		Alternative Standards				
	Criterion	***1***	***2***	***3***	***4***	***Plus***
A	**Ecological Flow Regimes**	X				
B	**Water Quality**	X				
C	**Upstream Fish Passage**		X			
D	**Downstream Fish Passage**	X				
E	**Watershed and Shoreline Protection**		X			
F	**Threatened and Endangered Species Protection**			X		
G	**Cultural and Historic Resources Protection**	X				
H	**Recreational Resources**		X			

PART III. SUPPORTING INFORMATION

This section contains information that explains and justifies the standards selected to pass the LIHI certification criteria (see Part II for selections).

Information Required to Support Ecological Flows Standards.

III.A.1 Ecological Flows: Yaleville Project Zone 1

Criterion	*Standard*	*Instructions*
A	1	Not Applicable/De Minimis Effect: • Confirm the location of the powerhouse relative to dam/diversion structures and demonstrate that there are no bypassed reaches at the facility. • For run-of-river facilities, provide details on operations and demonstrate that flows, water levels, and operation are monitored to ensure such an operational mode is maintained. If deviations from required flows have occurred, discuss them and the measures taken to minimize reoccurrence. • In a conduit facility, identify the source waters, location of discharge points, and receiving waters for the conduit system within which the hydropower facility is located. This standard cannot be used for conduits that discharge to a natural waterbody. • For impoundment zones only, explain water management (e.g., fluctuations, ramping, refill rates) and how fish and wildlife habitat within the zone is evaluated and managed. NOTE: this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion.

Zone 1 of the Yaleville Project is the Yaleville impoundment. The Yaleville Project operates as a run-of-river facility. Article 402 of the License Order requires the licensee to operate the project in a run-of-river mode while minimizing the fluctuation of the reservoir surface elevations at all times for the protection of water quality and aquatic resources. The licensee maintains a headpond level sensor in the project forebay to monitor the elevation of the reservoir.

According to the FERC Environmental Assessment (EA), run-of-river operations would minimize fluctuations of the reservoir surface elevation and reduce the potential for erosion of the reservoir shoreline.

August 20, 1991 Environmental Assessment (included in 1992 License Order):
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710137

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Yaleville Project. Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at

the Project. In the event of a deviation from established run-of-river, Erie files documentation with FERC detailing the reasons for the deviation.

III.A.2 Ecological Flows: Yaleville Project Zone 2

Criterion	*Standard*	*Instructions*
A	2	Agency Recommendation: • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. • Explain how the recommendation relates to agency management goals and objectives for fish and wildlife. • Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations).

Zone 2 of the Yaleville Project is the bypassed reach downstream of the Yaleville dam. The bypassed reach is approximately 425 feet in length, 225 feet in width and flows in an east to west direction. It is located immediately north of the intake canal and tailrace and is bisected by an upland deciduous forested island. The FERC license includes the requirements for flow releases and water level control recommended by the USFWS. To facilitate downstream passage, Article 404 (amended December 10, 1996) requires the release of approximately 36 cubic feet per second (cfs) from the rectangular weir and into a 3-foot-deep plunge pool located below the existing forebay flume. The fishway operates and releases the minimum 36 cfs flow each year from on or about May 15 (after spring run-off and after flashboards have been reinstalled) until approximately November 1. This release provides flow largely to the southern side of the island. Flow in the northern channel forms a deeper run substrate dominated by bedrock and remnant concrete. A portion of the released water flows along the toe of the dam to the north channel where it meanders through scattered shallow pools among the bedrock and cobble substrates at a relatively low gradient before rejoining with the tailrace and the northern channel. Little to no submerged aquatic vegetation occurs in the bypass reach, however, this does not detract from the fisheries resources of the reach which are typical of the Raquette River in this area. The NYSDEC manages the Raquette River in the section between Raymondville and South Colton (including the Yaleville Project area) as a mixed warmwater/coolwater fisheries resource. The present fishery within the Raquette River comprises a diverse array of both game fish and pan fish.

According to the FERC Order, the prior licensee conducted effective studies to demonstrate the performance of the constructed fish passage facility and the USFWS submitted a letter of concurrence stating their support for this amendment.

Article 403 of the License required the installation of streamflow monitoring equipment in the project's reservoir and Raquette River to monitor compliance with run-of-river operations. This equipment comprises of a headpond level sensor and staff gage in the Project tailrace. Brookfield's North America System Control Center, located in Marlborough, MA, continuously monitors headwater levels, and upstream and downstream river flows.

December 10, 1996 Order Amending License Article 404:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10764314

August 20, 1991 Environmental Assessment (included in 1992 License Order):
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710137

III.A.3 Ecological Flows: Yaleville Project Zone 3

Criterion	***Standard***	***Instructions***
A	1	Not Applicable/De Minimis Effect: • Confirm the location of the powerhouse relative to dam/diversion structures and demonstrate that there are no bypassed reaches at the facility. • For run-of-river facilities, provide details on operations and demonstrate that flows, water levels, and operation are monitored to ensure such an operational mode is maintained. If deviations from required flows have occurred, discuss them and the measures taken to minimize reoccurrence. • In a conduit facility, identify the source waters, location of discharge points, and receiving waters for the conduit system within which the hydropower facility is located. This standard cannot be used for conduits that discharge to a natural waterbody. • For impoundment zones only, explain water management (e.g., fluctuations, ramping, refill rates) and how fish and wildlife habitat within the zone is evaluated and managed. NOTE: this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion

Zone three extends from the Yaleville powerhouse, downstream approximately 0.1 miles. The FERC license includes recommendations made by the USFWS and NYSDEC. Article 402 requires the licensee to operate the project in a run-of-river mode for the protection of water quality and aquatic resources. There is no minimum flow requirement for the project.

According to the FERC EA, operating the project in a run-of-river mode would maintain the natural volume and periodicity of streamflow below the project, thus protecting aquatic resources in the Raquette River downstream. Article 403 of the License required the installation of streamflow monitoring equipment in the project's reservoir and Raquette River to monitor compliance with run-of-river operations. This equipment comprises of a headpond level sensor and staff gage in the Project tailrace.

August 20, 1991 Environmental Assessment (included in 1992 License Order):
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710137

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Yaleville Project. Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established run-of-river, Erie files documentation with FERC detailing the reasons for the deviation.

Information Required to Support Water Quality Standards.

III.B.1 Water Quality: Yaleville Project Zone 1

Criterion	*Standard*	*Instructions*
B	1	Not Applicable / De Minimis Effect: • If facility is located on a Water Quality Limited river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, provide an agency letter stating that the facility is not a cause of such limitation. • Explain the rationale for why the facility does not alter water quality characteristics below, around, and above the facility.

The portion of the of the Raquette River from the St. Lawrence River to the Town of Potsdam, the Lower Raquette River and its minor tributaries, is listed as impaired in the November 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy for impaired by pathogens and other pollutants from failing and/or inadequate residential on-site septic systems as well as discharges from a poorly operating municipal wastewater treatment plant. A copy of the November 2016 Section 303(d) list for New York State can be viewed at https://www.dec.ny.gov/docs/water_pdf/303dListfinal2016.pdf.

Details of the impaired listing are available at:
https://www.dec.ny.gov/docs/water_pdf/wistlawlraquette.pdf

According to NYSDEC, the Raquette River is classified as B. The classification of B means that the best usage of the waters is primary and secondary contact recreation and fishing. For class B non-trout waters, the minimum allowed dissolved oxygen (DO) concentration is a daily average of 5.0 milligrams per liter (mg/l), and at no time should DO concentrations fall below 4.0 mg/l.

According to the EA, DO has improved since the 1940s. In 1940, the Project was constructed to its existing capacity and has operated as a classic run-of-river facility, due to its very small impoundment and limited storage capacity. The licensee maintains a headpond level sensor in the project forebay to monitor the elevation of the reservoir. The headpond is monitored by the licensee's North America System Control Center, located in Marlborough, Massachusetts. The system for recording headpond elevations includes measures that alert the licensee when pond levels are decreasing or increasing. These alerts initiate response measures by the licensee to make operational adjustments to control the pond level.

The downstream passage flows are provided into the bypassed reach at the downstream end of the forebay. Each year from mid-May to November 1, a continuous flow of 36 cfs is released through the downstream passage structure. The eel ladder operates from June 15 to September 15, and a siphon pipe provides the 120 gallons per minute (gpm) for attractant flow and 20 gpm is pumped into the ladder. Outside the eel passage season, the systems are lifted out of the water and the pumps turned off. Flow to the bypass reach, outside of the eel passage season, may be disrupted during low flow conditions when the flows in the Raquette River are less than the powerhouse capacity of 1,000 cfs. Based on flow data collected at the at the USGS Gage 04267500 Raquette River at South Colton, NY, the approximately average monthly flows exceed the powerhouse capacity all year except for August and September.

In addition, the prior licensee requested a water quality certification by letter dated October 24, 1988, and the certifying agency acknowledged the request was received on November 14, 1988. The certifying agency did not act within 12 month of receipt of request thereby waiving the section 401 certification. On October 11, 1991, NYSDEC filed a motion to intervene in the Yaleville relicensing, and on February 4, 1992, FERC issued an Order denying their request, holding that their request was untimely and that in effect, the State waived their authority to issue a water quality certification. Given its limited storage space and run-of-river operations, the Project has little to no effect on erosion or water quality.

Article 402 of the License Order requires the licensee to operate the project in a run-of-river mode at all times for the protection of water quality and aquatic resources. Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established run-of-river, Erie files documentation with FERC detailing the reasons for the deviation.

III.B.2 Water Quality: Yaleville Project Zone 2

Criterion	*Standard*	*Instructions*
B	1	Not Applicable / De Minimis Effect: • If facility is located on a Water Quality Limited river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, provide an agency letter stating that the facility is not a cause of such limitation.

		• Explain the rationale for why the facility does not alter water quality characteristics below, around, and above the facility.

See response above for Zone 1.

III.B.3 Water Quality: Yaleville Project Zone 3

Criterion	*Standard*	*Instructions*
B	1	Not Applicable / De Minimis Effect: • If facility is located on a Water Quality Limited river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, provide an agency letter stating that the facility is not a cause of such limitation. • Explain the rationale for why the facility does not alter water quality characteristics below, around, and above the facility.

See response above for Zone 1.

Information Required to Support Upstream Fish Passage Standards.

III.C.1 Upstream Fish Passage: Yaleville Project Zone 1

Criterion	*Standard*	*Instructions*
C	1	Not Applicable / De Minimis Effect: • Explain why the facility does not impose a barrier to upstream fish passage in the designated zone. Typically, impoundment zones will qualify for this standard since once above a dam and in an impoundment, there is no facility barrier to further upstream movement. • Document available fish distribution data and the lack of migratory fish species in the vicinity. • If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

There are no upstream fish passage issues in Zone 1. The NYSDEC manages the Raquette River in the section between Raymondville and South Colton (including the Yaleville Project area) as a mixed warmwater/coolwater fisheries resource. The present fishery within the Raquette River comprises a diverse array of both game fish and pan fish. The current species present within this section of the Raquette River include: walleye (*Sander vitreus*), smallmouth bass (*Micropterus dolomieui)*, northern pike (*Esox lucius*), American eel (*Anguilla rostrata*), yellow perch (*Perca flavescens*), rock bass (*Ambloplites rupestris*), pumpkinseed (*Lepomis gibbosus*), and brown bullhead (*Ameiurus nebulosus*).

III.C.2 Upstream Fish Passage Yaleville Project Zone 2

Criterion	*Standard*	*Instructions*
C	2	Agency Recommendation: • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. • Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

Zone 2 is the bypass reach below the dam. The FERC License includes recommendations by USFWS and NYSDEC for upstream passage. On December 17, 2007 Erie submitted its final Upstream Eel Passage Facilities Plan. The Project contains an upstream American eel passage facility (ladder) as described in the 2008 Order Approving Upstream Eel Passage Facilities. The facility is located on the right gate structure (looking downstream), and consists of an 18-inch-wide aluminum ladder, installed with a maximum slope of 45 degrees, one-foot-wide aluminum troughs to convey attraction flows, pumps and siphons to provide attraction and ladder flows, and removable cover plates. The ladder is required to be operational between June 15 and September 15 annually. The Final Upstream Eel Passage Facilities Plan incorporated recommendations from the USFWS based on their on-site field inspections at the Project. There are no provisions for effectiveness or monitoring of the eel passage facility.

December 14, 2007 Final Upstream Eel Passage Facilities Plan:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11566062

March 3, 2008 Order Approving Upstream Eel Passage Facilities:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11600045

III.C.3 Upstream Fish Passage: Yaleville Project Zone 3

Criterion	*Standard*	*Instructions*
C	2	Agency Recommendation: • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a

		Settlement Agreement. • Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

See response to Zone 2.

Information Required to Support Downstream Fish Passage Standards.

III.D.1 Downstream Fish Passage: Yaleville Project Zone 1

Criterion	*Standard*	*Instructions*
D	2	Agency Recommendation: • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not. • Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

To facilitate downstream passage, Article 404 (amended December 10, 1996) required the licensee to operate and maintain the existing fishway, including trashracks with 1-inch clear spacing at 90 degrees to the flow with a rectangular weir discharging approximately 36 cfs into a 3-foot deep plunge pool. On May 8, 1997 approved the license exhibits including the trashracks. The fishway and trashracks incorporate the specification of Article 404 requiring an approach velocity of 2 feet per second or less, as measured 1-foot in front of the trashrack, and a downstream fish bypass structure, with flows through the bypass structure of at least 20 cfs or 2 percent of the maximum hydraulic capacity of the powerhouse, whichever is greater, to reduce entrainment of fish into the project's intake and to provide efficient downstream fish passage. According to the Order Amending License Article 404, the USFWS and NYSEDEC approved the modified facilities and plan for operation that were filed with FERC on November 14, 1996. The licensee incorporated modifications to the facilities and plan for operation based on recommendations made by the USFWS following a demonstration of the constructed facilities.

October 29, 1996 USFWS Recommendations for Fishway Design and Plan of Operations
https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=8235033

November 14, 1996 Article 404 Compliance; Section 18 Fishway Agreements
https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=8232650

December 10, 1996 Order Amending License Article 404:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10764314

May 8, 1997 Order Approving Exhibits:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10780510

The fishway releases of approximately 36 cfs through the rectangular weir and into a 3-foot-deep plunge pool located below the existing forebay flume. The fishway operates each year from on or about May 15 (after spring run-off and after flashboards have been reinstalled) until approximately November 1. According to the FERC Order, the prior licensee conducted effective studies to demonstrate the performance of the constructed fish passage facility and the USFWS submitted a letter of concurrence stating their support for this amendment.

The FERC Order states the constructed facility will divert out migrating fish from the power canal intake to the fish passage flume where they will safely enter the Raquette River via the plunge pool.

August 20, 1991 Environmental Assessment (included in 1992 License Order):
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710137

III.D.2 Downstream Fish Passage: Yaleville Project Zone 2

Criterion	*Standard*	*Instructions*
D	2	Agency Recommendation: • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not. • Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

Zone 2 is the bypassed reach below the dam. To facilitate downstream passage, Article 404 (amended December 10, 1996) requires the release of approximately 36 cfs from the rectangular weir and into a 3-foot-deep plunge pool located below the existing forebay flume. The fishway operates each year from on or about May 15 (after spring run-off and after flashboards have been reinstalled) until approximately November 1. According to the FERC Order, the prior licensee conducted effective studies to demonstrate the performance of the constructed fish passage facility and the USFWS submitted a letter of concurrence stating their support for this amendment.

December 10, 1996 Order Amending License Article 404:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10764314

The FERC Order states the constructed facility will divert out migrating fish from the power canal intake to the fish passage flume where they will safely enter the Raquette River via the plunge pool.

August 20, 1991 Environmental Assessment (included in 1992 License Order):
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710137

III.D.3 Downstream Fish Passage: Yaleville Project Zone 3

Criterion	*Standard*	*Instructions*
D	1	Not Applicable / De Minimis Effect: • Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines). Typically, tailwater/downstream zones will qualify for this standard since below a dam and powerhouse there is no facility barrier to further downstream movement. Bypassed reach zones must demonstrate that flows in the reach are adequate to support safe, effective and timely downstream migration. • For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles. • Document available fish distribution data and the lack of migratory fish species in the vicinity. • If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

There are no downstream fish passage barriers or migratory fish management issues in Zone 3 because it is the tailwater/downstream zone. The NYSDEC manages the Raquette River in the section between Raymondville and South Colton (including the Yaleville Project area) as a mixed warmwater/coolwater fisheries resource. The present fishery within the Raquette River includes walleye, smallmouth bass, northern pike, American eel, yellow perch, rock bass, pumpkinseed, and brown bullhead.

Information Required to Support Shoreline and Watershed Protection Standards.

III.E.1 Shoreline and Watershed Protection Yaleville Project Zone 1

Criterion	*Standard*	*Instructions*
E	2	Agency Recommendation: • Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans). • Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect.

According to the FERC EA for the Project, the area around the proposed project is rural, agricultural, and forested. The predominant vegetation type along the proposed project's reservoir shoreline is shrubland. Approximately 88.5 percent of the Raquette River Watershed is forested or brushland, 2.9 percent is agricultural, and 8 percent is listed as "other." The Project is located in the North Country Dairy Region, which is one of the most significant forms of agricultural use within the Project vicinity. There is no evidence that Project operation has contributed to existing shoreline erosion. Run-of-river operations also minimize fluctuations of the reservoir surface elevation and reduce the potential for erosion of the reservoir shoreline. There is no shoreline management plan required for the Yaleville Project.

Article 401 of the License requires modifications to the July 26, 1990 Final Erosion and Sediment Control Plan, which required the Licensee to include installation of silt fences during construction, re-vegetation of disturbed areas, and disposal of the then-existing mill ruins.

August 20, 1991 Environmental Assessment (included in 1992 License Order):
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710137

III.E.2 Shoreline and Watershed Protection: Yaleville Project Zone 2

Criterion	*Standard*	*Instructions*
E	2	Agency Recommendation: • Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans). • Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect.

See response above for Zone 1.

III.E.3 Shoreline and Watershed Protection: Yaleville Project Zone 3

Criterion	*Standard*	*Instructions*
E	2	Agency Recommendation: • Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans). • Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect.

See response above for Zone 1.

Information Required to Support Threatened and Endangered Species Standards.

III.F.1 Threatened and Endangered Species: Yaleville Project Zone 1

Criterion	*Standard*	*Instructions*
F	3	Recovery Planning and Action: • The facility is in compliance with relevant conditions in a species recovery plan, with relevant conditions in an incidental take permit or statement, biological opinion, habitat conservation plan, or similar government document and the incidental take document and/or biological opinion issued relevant to the facility was designed to be a long-term solution for protection of the listed species.

Based on information received from the USFWS's New York Field Office on February 6, 2019, regarding a request for information on RTE species it appears that the northern long-eared bat (*Myotis septentrionalis*) may potentially occur within the Project area. There are no critical habitats located within the Yaleville Project area.

During preparation of this application, Erie also consulted with NYSDEC's Natural Heritage Program for a list of threatened and endangered species that may occur in the vicinity of the Yaleville Project. Pursuant to a letter dated February 7, 2019, NYSDEC indicated that Bridle Shiner (*Notropis bifrenatus*) has been documented in the vicinity of the project site. The Bridle Shiner is listed as an imperiled species by the NYSDEC. The NYSDEC has not adopted a formal recovery plan for the Bridle Shiner.

The USFWS has not adopted a formal recovery plan for the northern long-eared bat. On January 14, 2016, the USFWS published the final 4(d) rule identifying prohibitions for the protection of northern long-eared bats. Operations of the Yaleville Project, especially with regard to tree clearing from June 1 through July 31, adhere to the prohibitions outlined in the final 4(d) rule.

There are no specific requirements for threatened or endangered species protection in the FERC license or WQC for the Yaleville Project.

The record of RTE consultation is included in Appendix D.

III.F.2 Threatened and Endangered Species: Yaleville Project Zone 2

Criterion	*Standard*	*Instructions*
F	3	Recovery Planning and Action: • The facility is in compliance with relevant conditions in a species recovery plan, with relevant conditions in an incidental take permit or statement, biological opinion, habitat conservation plan, or similar government document and the incidental take document and/or biological opinion issued relevant to the facility was designed to be a long-term solution for protection of the listed species.

See response above for Zone 1.

III.F.3 Threatened and Endangered Species: Yaleville Project Zone 3

Criterion	*Standard*	*Instructions*
F	3	Recovery Planning and Action: • The facility is in compliance with relevant conditions in a species recovery plan, with relevant conditions in an incidental take permit or statement, biological opinion, habitat conservation plan, or similar government document and the incidental take document and/or biological opinion issued relevant to the facility was designed to be a long-term solution for protection of the listed species.

See response above for Zone 1.

Information Required to Support Cultural and Historic Resources Standards.

III.G.1 Cultural and Historic Resources: Yaleville Project Zone 1

Criterion	*Standard*	*Instructions*
G	1	Not Applicable / De Minimis Effect: • Document that there are no cultural or historic resources located on facility lands that can be affected by construction or operations of the facility. • Document that the facility construction and operation have not in the past, nor currently adversely affect any cultural or historic resources that are present on facility lands.

Article 405 requires the licensee to consult with the New York State Historic Preservation Officer (SHPO) and file a cultural resource management plan before starting any land-clearing or

ground-disturbing activities within the project boundaries other than those specifically outlined in the License Order. Development of a cultural resource management plan was not necessary over the term of the prior license.

Based on the results of the previous licensing effort and information to date, there are no known archaeological or historic sites within the Yaleville Project Boundary with the exception of a pin-connected lenticular metal truss bridge constructed in 1892 as the only National Register eligible property. The SHPO recommended a no-effect determination for this metal truss bridge and there are no specific requirements for its maintenance and/or protection. Erie does not own the metal truss bridge.

August 20, 1991 Environmental Assessment (included in 1992 License Order):
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13710137

III.G.2 Cultural and Historic Resources: Yaleville Project Zone 2

Criterion	***Standard***	***Instructions***
G	1	Not Applicable / De Minimis Effect: • Document that there are no cultural or historic resources located on facility lands that can be affected by construction or operations of the facility. • Document that the facility construction and operation have not in the past, nor currently adversely affect any cultural or historic resources that are present on facility lands.

See response above for Zone 1.

III.G.3 Cultural and Historic Resources: Yaleville Project Zone 3

Criterion	***Standard***	***Instructions***
G	1	Not Applicable / De Minimis Effect: • Document that there are no cultural or historic resources located on facility lands that can be affected by construction or operations of the facility. • Document that the facility construction and operation have not in the past, nor currently adversely affect any cultural or historic resources that are present on facility lands.

See response above for Zone 1.

Information Required to Support Recreational Resources Standards.

III.H.1 Recreational Resources: Yaleville Project Zone 1

Criterion	*Standard*	*Instructions*
H	2	Agency Recommendation: • Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations. • Document that the facility is in compliance with all such recommendations and plans.

As required by Article 406, Erie provides a portage route with a picnic area, parking, signage, markings, and upstream and downstream put-ins and take-outs at the Yaleville Project. According to the FERC 1991, the provision of recreation facilities where none existed would improve public access to the Raquette River. According to the September 11, 2007 Environmental Inspection Report, licensee provides facilities at the project consistent with its promotion of the Raquette River as a recreational waterway and appears to be in compliance with its requirements with regard to recreation resources.

September 11, 2008 Environmental Inspection Report:
https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11628523

III.H.2 Recreational Resources: Yaleville Project Zone 2

Criterion	*Standard*	*Instructions*
H	2	Agency Recommendation: • Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations. • Document that the facility is in compliance with all such recommendations and plans.

See response above for Zone 1.

III.H.3 Recreational Resources: Yaleville Project Zone 3

Criterion	*Standard*	*Instructions*
H	2	Agency Recommendation: • Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations. • Document that the facility is in compliance with all such recommendations and plans.

See response above for Zone 1.

PART IV. SWORN STATEMENT AND WAIVER

As an Authorized Representative of Erie Boulevard Hydropower, L.P., the Undersigned attests that the material presented in the application is true and complete.

The Undersigned acknowledges that the primary goal of the Low Impact Hydropower Institute's certification program is public benefit, and that the LIHI Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions.

The Undersigned further acknowledges that if LIHI Certification of the applying facility is granted, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified®.

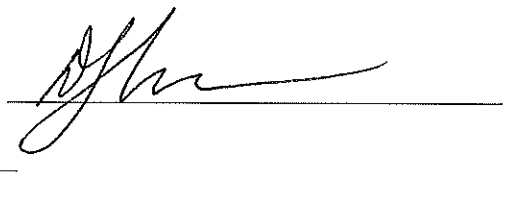
The Undersigned further agrees to hold the Low Impact Hydropower Institute, the Governing Board and its agents harmless for any decision rendered on this or other applications, from any consequences of disclosing or publishing any submitted certification application materials to the public, or on any other action pursuant to the Low Impact Hydropower Institute's certification program.

Company Name: Erie Boulevard Hydropower, L.P.

Authorized Representative

Name: Daniel J. Maguire

Title: Compliance Manager

Authorized Signature: 

Date: 4/18/19

PART V. CONTACTS

Table V-1. Complete contact information for Erie Boulevard Hydropower, L.P.

Project Owner:	
Name and Title	
Company	Erie Boulevard Hydropower, L.P., a subsidiary of Brookfield Renewable
Phone	
Email Address	
Mailing Address	399 Big Bay Road, Queensbury, NY 12804
Project Operator (if different from Owner):	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	Daniel J. Maguire, P.E., Compliance Manager
Company	Brookfield Renewable
Phone	315-267-1036
Email Address	Danny.Maguire@brookfieldrenewable.com
Mailing Address	184 Elm Street, Potsdam, NY 13676
Party responsible for accounts payable:	
Name and Title	
Company	Brookfield Renewable
Phone	
Email Address	AP@brookfieldrenewable.com
Mailing Address	41 Victoria, Gatineau, QC J8X 2A1
Name and Title	Sandeep Mascarenhas, Senior Analyst, Capacity & Ancillary Services Management
Company	Brookfield Renewable
Phone	819-561-2722 ext. 6743
Email Address	Sandeep.Mascarenhas@brookfieldrenewable.com
Mailing Address	41 Victoria, Gatineau, QC J8X 2A1

Table V-2. Complete contact information for current and relevant state, federal, provincial, and tribal resource agency contacts.

Agency Contact (Check area of responsibility: Flows _X_, Water Quality _X_, Fish/Wildlife Resources _X_, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation _X_):	
Agency Name	New York State Department of Environmental Conservation
Name and Title	Jessica Hart, Environmental Analyst
Phone	315-785-2246
Email address	Jessica.Hart@dec.ny.gov
Mailing Address	317 Washington Street, Watertown, NY 13601

Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. _X_, Cultural/Historic Resources __, Recreation __):	
Agency Name	New York State Department of Environmental Conservation
Name and Title	Nicholas Conrad, Information Resources Coordinator
Phone	518-402-8935
Email address	Nick.Conrad@dec.ny.gov
Mailing Address	625 Broadway, Albany, NY 12233-4757

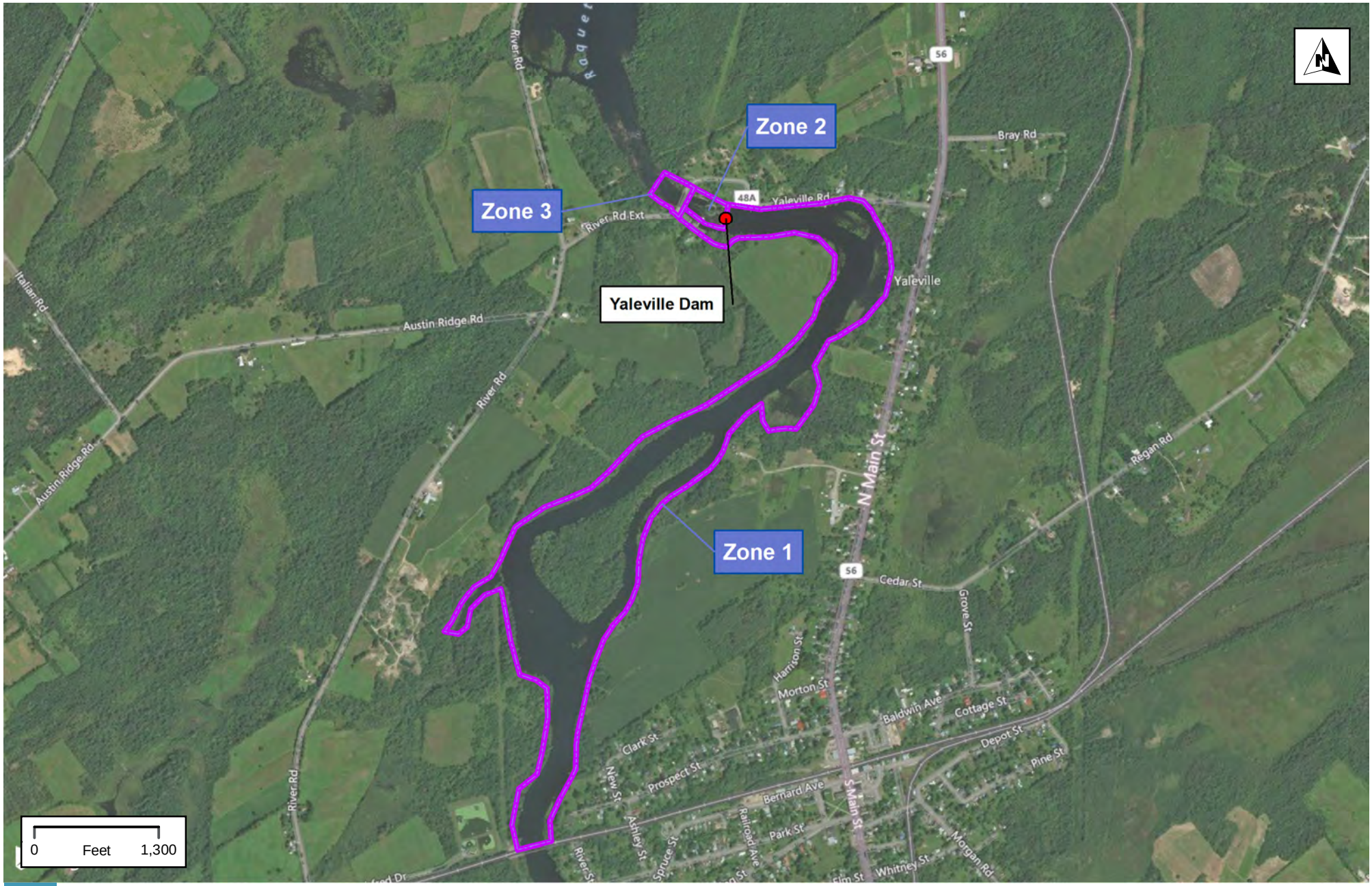
Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. _X_, Cultural/Historic Resources __, Recreation __):	
Agency Name	U.S. Fish and Wildlife Service
Name and Title	Robyn Niver, Endangered Species Biologist
Phone	607-753-9334
Email address	Robyn_Niver@fws.gov
Mailing Address	3817 Luker Road, Cortland, NY 13045

Agency Contact (Check area of responsibility: Flows_X_, Water Quality _X_, Fish/Wildlife Resources _X_, Watersheds __, T/E Spp. _X_, Cultural/Historic Resources __, Recreation __):	
Agency Name	U.S. Fish and Wildlife Service
Name and Title	Steve Patch
Phone	607-753-9334
Email address	Stephen_Patch@fws.gov
Mailing Address	3817 Luker Road, Cortland, NY 13045

Agency Contact (Check area of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources _X_, Recreation __):	
Agency Name	New York State Division for Historic Preservation
Name and Title	Michael Lynch, Division Director
Phone	518-237-8643
Email address	Michael.Lynch@parks.ny.gov
Mailing Address	Peebles Island State Park, P.O. Box 189, Waterford, NY 12188-0189

APPENDIX A

ZONES OF EFFECT



Brookfield

Project Location

LIHI Zone Boundary

ZONES OF EFFECT

YALEVILLE DEVELOPMENT

FIGURE 1

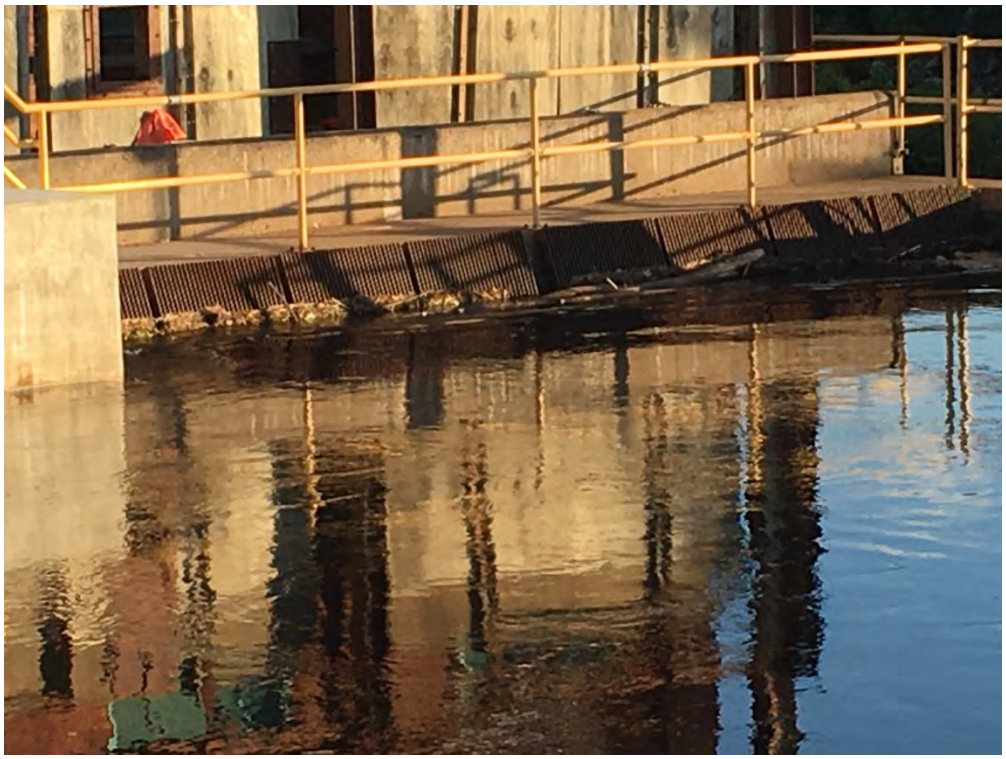
PATH: \\SYR-SRV01\GIS\PROJECTS\BROOKFIELD\LIHI\YALEVILLE_LIHI_UPDATES\MAP_LIHI_YALEVILLE_ZONEOFEFFECT.MXD - USER: KAUSTIN - DATE: 2/13/2019

APPENDIX B

PHOTOS OF KEY PROJECT FEATURES

APPENDIX B – PHOTOGRAPHS OF KEY PROJECT FEATURES

Intake Structure



1-Inch Trashracks

Ice Chute / Downstream Fish Passage

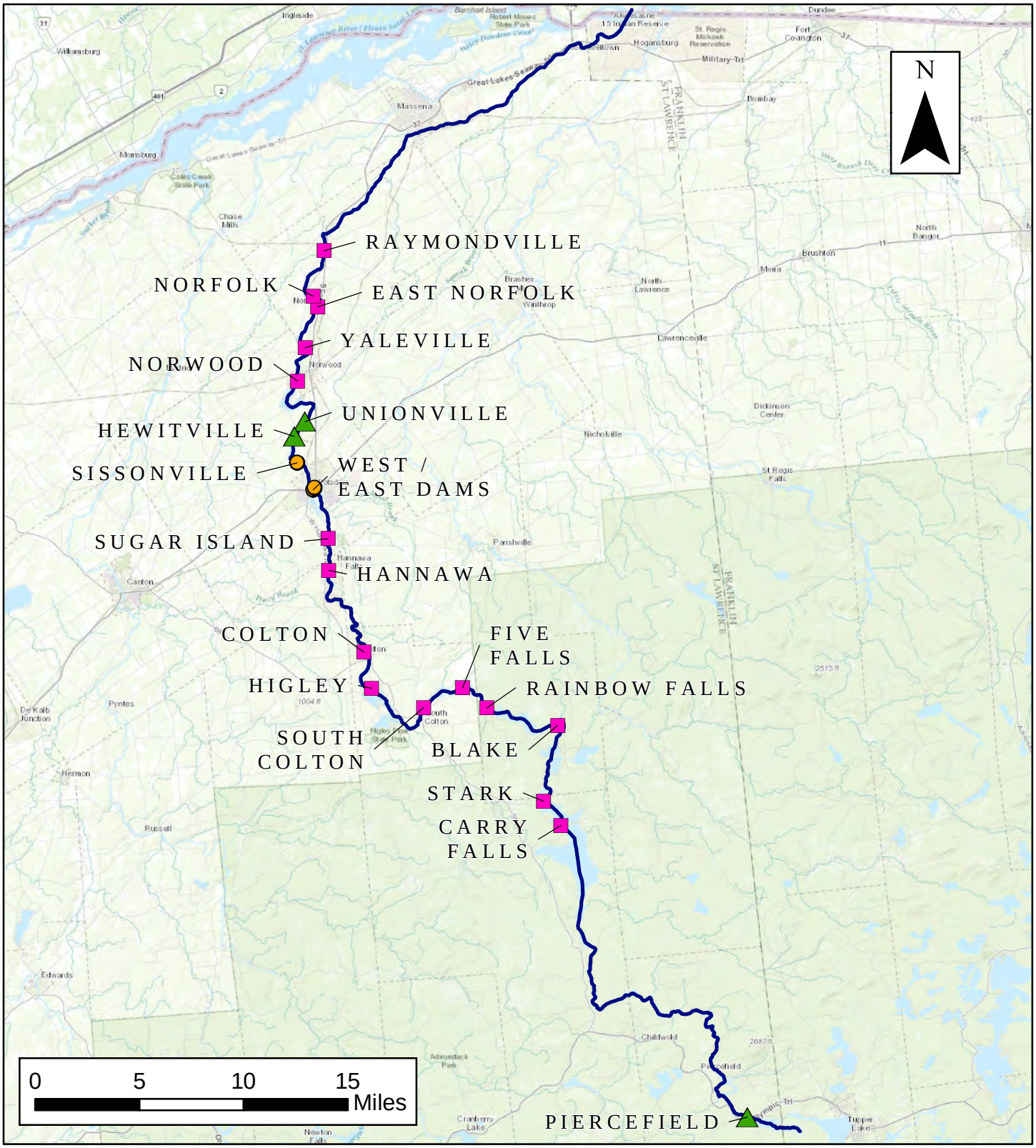
Plunge Pool

Spillway, Stoplog Structure and Upstream Eel Passage Structure

Tailrace

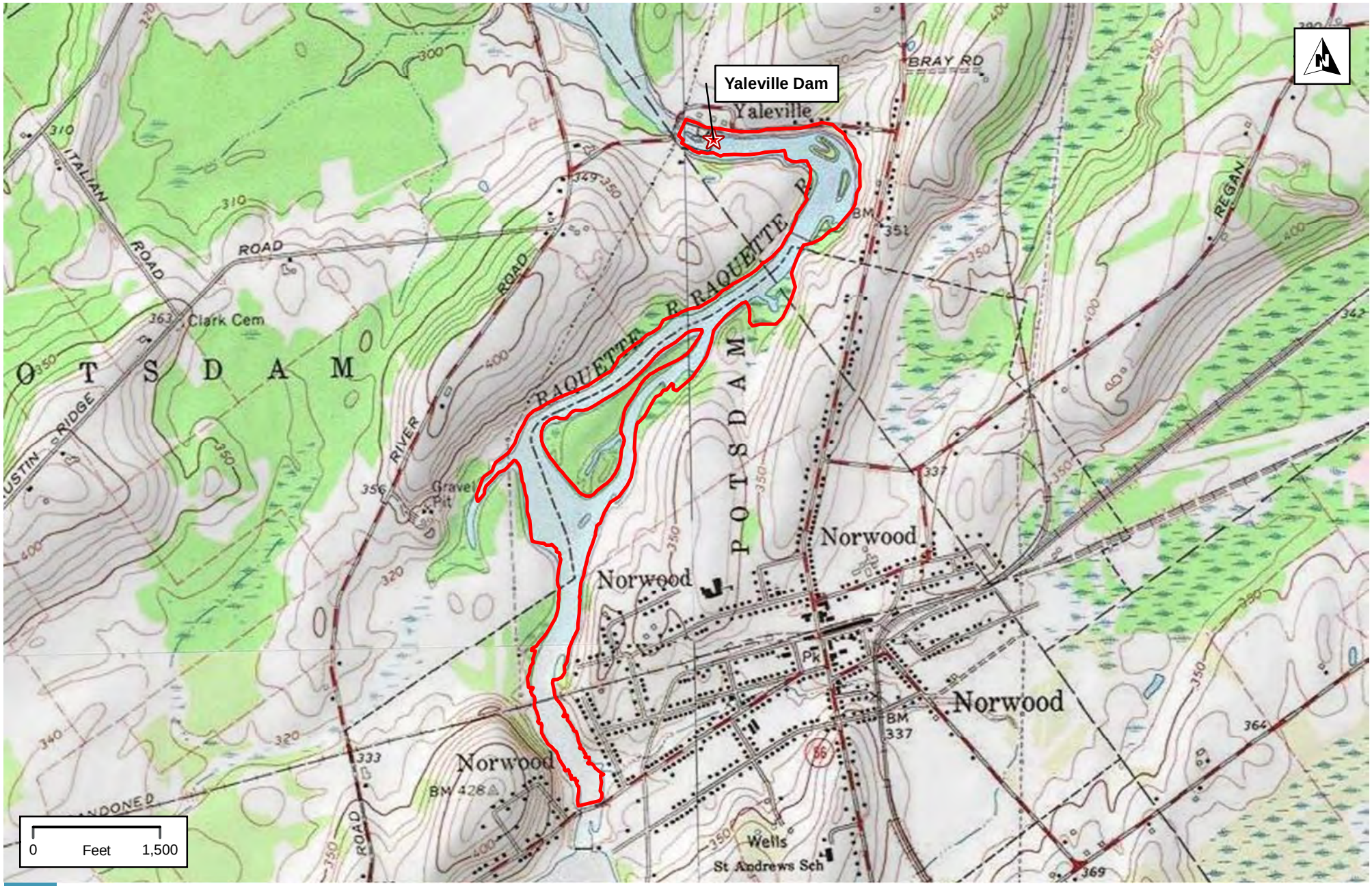
APPENDIX C

PROJECT MAPS AND AERIALS



Legend

Raquette River Dam Locations	Brookfield Dams Brookfield FERC Exempt Dams Other Raquette River Hydroelectric Dam Facilities Raquette River	FIGURE 1 Brookfield



Brookfield

Project Location Project Boundary

PROJECT BOUNDARY

YALEVILLE DEVELOPMENT

FIGURE 1

PATH: \\SYR-SRV01\GIS\PROJECTS\BROOKFIELD\LIHI\YALEVILLE_LIHI_UPDATES\MAP_LIHI_YALEVILLE_ZONEOFEFFECT.MXD - USER: KAUSTIN - DATE: 2/11/2019

APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN

YALEVILLE HYDROELECTRIC PROJECT

APPENDIX D

RARE, THREATENED AND ENDANGERED SPECIES CONSULTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To:
Consultation Code: 05E1NY00-2019-SLI-0893
Event Code: 05E1NY00-2019-E-02798
Project Name: Yaleville LIHI Application

February 06, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/

eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2019-SLI-0893

Event Code: 05E1NY00-2019-E-02798

Project Name: Yaleville LIHI Application

Project Type: ** OTHER **

Project Description: The Project is for the application to the Yaleville LIHI Institute.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.75973933887084N75.00047198709393W

Counties: St. Lawrence, NY

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

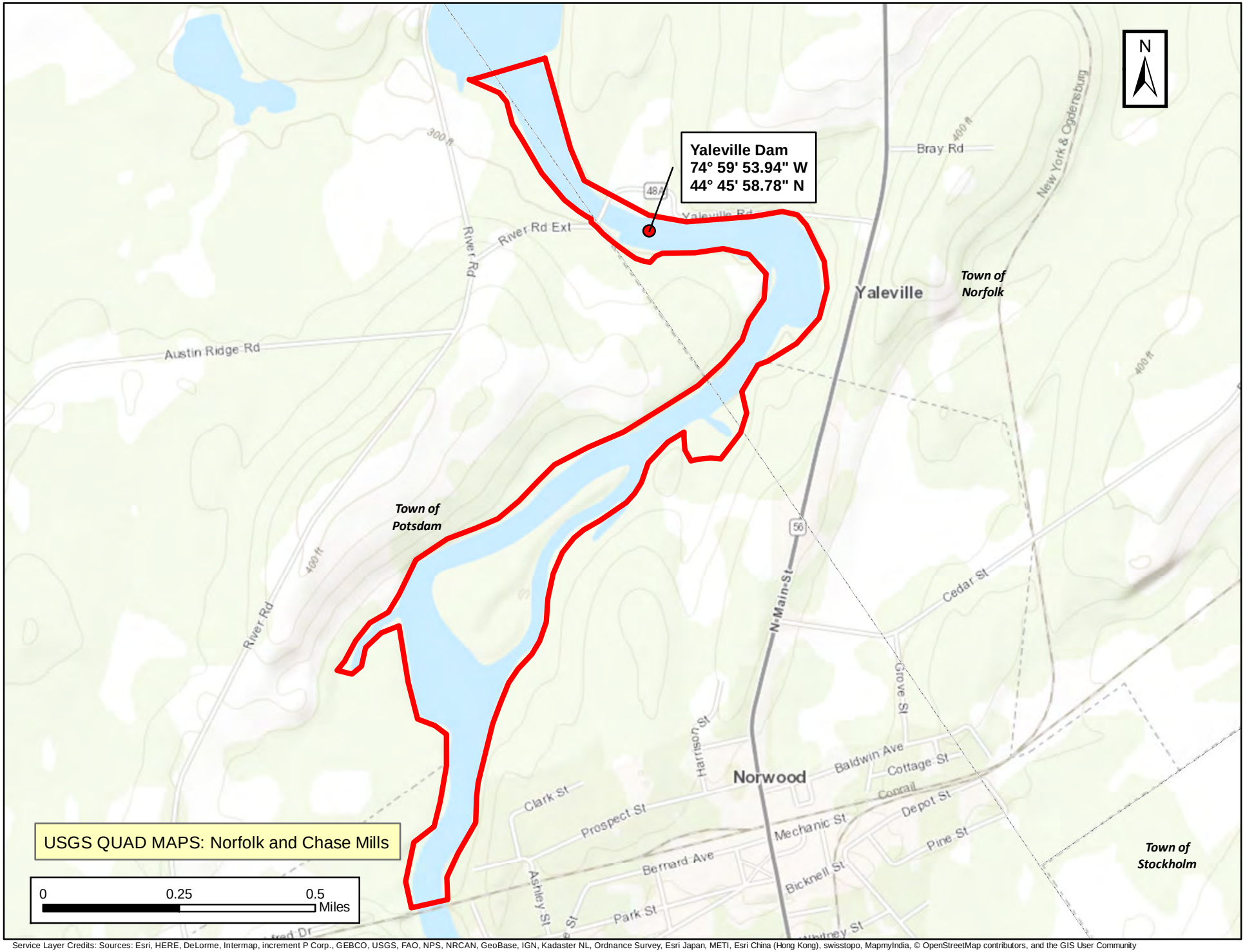
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Caley, Katherine

From: naturalheritage@nynhp.org
Sent: Wednesday, January 09, 2019 12:22 PM
To: Caley, Katherine
Subject: Confirmation of your submitted request to New York Natural Heritage

Submission ID: 2918
Submitted on Wednesday, January 9, 2019 - 12:21 Submitted values are:

Company, Organization, or Agency: HDR, Inc.
Requestor Name: Katherine Caley
Requestor Address (Street/PO Box): 1304 Buckley Road, Suite 202 Requestor City: Syracuse Requestor State: New York Requestor Zip Code: 13212 Requestor Telephone #: 315-414-2213 Requestor Email: Katherine.Caley@hdrinc.com Project Type: hydroelectric facility/project Project Name: Yaleville LIHI Consultation Project Applicant: Erie Boulevard Hydropower, LLC Project County: St Lawrence Town (St Lawrence County): Norfolk Project Summary: Erie is presently working with the Low Impact Hydropower Institute (LIHI) to certify the Yaleville Hydroelectric Project (FERC No.9222) as a low impact project. 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 the hydroelectric development. Per the request from LIHI, Erie respectfully requests information on the presence of threatened or endangered species within the vicinity of the project.
Current Land Use: The site is currently developed for the primary purpose of hydroelectric energy production on the Raquette River.
Tax parcel number:
Latitude: 44.766
Longitude: -74.998
Street Address of Project:
Project Notes:



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

February 7, 2019

Katherine Caley
HDR, Inc.
1304 Buckley Road, Suite 202
Syracuse, NY 13212

Re: Yaleville LIHI Consultation
County: St Lawrence Town/City: Norfolk

Dear Ms. Caley:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is 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.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review. 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 NYS DEC Region 6 Office, Division of Environmental Permits at dep.r6@dec.ny.gov, (315) 785-2245.

Sincerely,

Heidi Krahling
Environmental Review Specialist
New York Natural Heritage Program

The following rare animal has been documented in the vicinity of the project site.

We recommend that potential impacts of the proposed project on this species be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following animal, while not listed by New York State as Endangered or Threatened, is rare in New York and is of conservation concern.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Fish			
Bridle Shiner	*Notropis bifrenatus*	Unlisted	Imperiled in NYS and Globally Uncommon

Documented within two miles upstream of the Yaleville Dam. 2017-06-21. 15233

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If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).