138 FERC ¶ 62,007

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Hampshire Paper Company Project No. 2850-015

ORDER ISSUING NEW MAJOR LICENSE

(January 6, 2012)

INTRODUCTION

1. On June 17, 2010, Hampshire Paper Company (Hampshire Paper) filed pursuant to sections 4(e) and 15 of the Federal Power Act (FPA),[1] an application for a new license to continue operation and maintenance of the existing 3,449-kilowatt (kW) Emeryville Hydroelectric Project No. 2850 (Emeryville Project).[2] The project is located at river mile (RM) 70 on the Oswegatchie River in the town of Fowler, St. Lawrence County, New York.[3] The project does not occupy any federal lands.

[1] 16 U.S.C. §§ 797(e) and 808 (2006).

[2] Hampshire Paper was issued a major license for the project on June 17, 1982, for a term of 30 years, effective the first day of the month in which the order was issued. 19 FERC ¶ 62,491 (1982). Therefore, the license will expire on May 31, 2012, and the statutory deadline for filing a new license application was May 31, 2010. *See* § 15(c)(1), 16 U.S.C. § 808(c)(1). Since May 31 was a legal holiday, the deadline for filing a new license application was the first business day following that day, June 1, 2010. *See* 18 C.F.R. § 385.2007 (2009). On June 2, 2010, Hampshire Paper filed an application for a new license for the Emeryville Project. Because the application was untimely filed, on June 15, 2010, the Commission issued a notice rejecting the application filed on June 2, 2010, waiving 18 C.F.R. § 16.24(a) and 16.25(a), and soliciting applications to license the Emeryville Project. In response to the notice, Hampshire Paper filed an application for a new license for the Emeryville Project on June 17, 2010, and no competing applications or notices of intent were filed.

[3] The Oswegatchie River is navigable from its mouth on the St. Lawrence River at Ogdensburg, to Cranberry Lake (about river mile 110), including the reach of the river

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2. As discussed below, this order issues a new license for the project.

BACKGROUND

3. The Commission issued the original license for the project on June 17, 1982, and the license will expire on May 31, 2012.[4]

4. On November 15, 2010, the Commission published notice of the application for a new license, accepting the license application, soliciting motions to intervene and protests, and soliciting comments, final recommendations, terms and conditions, and prescriptions.[5] The U.S. Department of the Interior (Interior) filed a timely notice of intervention.[6] Hydro Development Group, Inc. and St. Lawrence County, New York (St. Lawrence Co.) filed timely motions to intervene.[7] A late motion to intervene was filed by the New York Department of Environmental Conservation (New York DEC).[8] Interior and New York DEC also filed timely comments, recommendations, and terms and conditions. It its motion to intervene filed on January 6, 2011, St. Lawrence Co. included comments regarding the condition and ownership of the bridge that spans the project's power flume (discussed below).

5. In its license application, Hampshire Paper proposed to implement a settlement agreement (Settlement), signed by multiple stakeholders and intended to resolve, among the signatories, all issues related to relicensing the Emeryville Project.[9] An

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where the project is located. *Groveton Paper Company*, 19 FERC ¶ 62,047 (1982). Therefore, section 23(b)(1) of the Federal Power Act, 16 U.S.C. § 817(1)(2006), requires Project No. 2850 to be licensed.

[4] 19 FERC ¶ 62,491.

[5] 75 Fed. Reg. 71103 (2010). Commission staff also held scoping meetings on August 28 and August 29, 2007, in Gouverneur, New York.

[6] Under Rule 214(a) of the Commission's Rules of Practice and Procedure, Interior became a party to the proceeding upon timely filing of its notice of intervention. 18 C.F.R. § 385.214(a) (2011).

[7] Timely, unopposed motions to intervene are granted by operation of Rule 214(c) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c) (2011).

[8] New York DEC's motion was granted on February 23, 2011.

[9] The Settlement was filed separately from Hampshire Paper's license application on May 18, 2010. Signatories include Hampshire Paper, New York Department of

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Environmental Assessment (EA) on the application and Settlement was prepared by Commission staff and issued on May 6, 2011. Hampshire Paper and New York DEC filed comments on the EA on May 25, 2011, and June 6, 2011, respectively. Substantive comments on the EA are discussed below. The interventions, comments, recommendations, and prescriptions have been fully considered in determining whether, and under what conditions, to issue this license.

PROJECT DESCRIPTION

A. Project Facilities

6. The Emeryville Project consists of: an existing 16.7-foot-high, 185-foot-long, concrete-capped timber and earth fill gravity dam with a 17-foot-long concrete spillway equipped with 2.4-foot-high flashboards and a 4-foot-wide, 0.5-foot-deep minimum flow weir with a crest elevation of 584.2 feet National Geodetic Vertical Datum (NGVD); an existing 35-acre impoundment with a normal water surface elevation of 586.6 feet NGVD; an existing 140-foot-long by 30-foot-wide reinforced concrete flume and intake structure equipped with four headgates and trashracks with 5-inch clear bar spacing; an existing 60-foot-long by 14-foot-diameter steel penstock leading to; an existing 67-foot-long by 32-foot wide concrete powerhouse containing a horizontal axial flow turbine with a rated capacity of 3,449 kilowatts (kW), a maximum hydraulic capacity of 1,470 cubic feet per second (cfs), and a net head of 32 feet, directly connected to a horizontal generator unit with a rated capacity of 3,481 kW; an existing tailrace; and an existing 80-foot-long, 23-kilovolt transmission line.

7. The project creates a 250-foot-long bypassed reach. The concrete flume and intake structure route water from the impoundment to the powerhouse and run parallel to the bypassed reach. Water in the impoundment can be released to the tailrace through the headgates, concrete flume, intake structure, and powerhouse or into the bypassed reach through the minimum flow weir or over the wooden flashboards.

8. Hampshire Paper operates and maintains several recreational facilities at the project, including two parking areas, two boat ramps, a portage trail, a picnic area, a boat barrier, and signage.

B. Project Boundary

Environmental Conservation, U.S. Department of the Interior, and the New York State Council of Trout Unlimited. An amendment to the Settlement correcting typographical errors in sections 3.1 and 3.2, was filed on June 22, 2011.

9. The existing project boundary encloses all of the facilities described above and generally follows the 584.2 foot impoundment contour, extending approximately 1-mile upstream of the dam. Downstream of the dam, the project boundary encloses the bypassed reach, tailrace, and the Oswegatchie River to a point approximately 360 feet downstream of the powerhouse. Hampshire Paper proposes to modify the project boundary to include the existing recreational facilities upstream and downstream of the dam and the proposed fish passage facility (described below). The project boundary is discussed further below.

C. Current Project Operation

10. The Emeryville Project operates in a run-of-river mode. The impoundment elevation is monitored with a headpond sensor and turbine discharge is automatically adjusted to maintain a normal impoundment elevation of 586.6 feet NGVD. At inflows up to approximately 166 cubic feet per second (cfs),[10] a required 16-cfs minimum flow is released into the bypassed reach from the minimum flow weir in the spillway and the remaining flows are spilled over the wooden flashboards into the bypassed reach. At inflows between 166 cfs and 1,486 cfs (the maximum hydraulic capacity of 1,470 cfs plus the minimum bypassed reach flow release of 16 cfs), approximately 16 cfs is released into the bypassed reach and the remainder is routed to the powerhouse for generation. At flows greater than 1,486 cfs, the project generally operates at its maximum capacity and all excess flows are spilled into the bypassed reach.

D. New Project Facilities

11. Hampshire Paper proposes no new capacity-related construction at the project. However, Hampshire Paper proposes to construct a weir across the bypassed reach approximately 50 feet downstream from the spillway to increase the depth and area of the plunge pool for a new downstream fish passage flume. Hampshire Paper also proposes to install overlays with 1-inch clear spacing on the trashracks from March 15 through November 30 of each year to reduce fish entrainment. These measures are discussed in more detail below.

E. Other Proposed Measures

12. Hampshire Paper proposes to operate the Emeryville Project according to the terms of the Settlement (the substantive portions are attached to this license as Appendix B), which contains measures for the protection, mitigation, and enhancement of aquatic,

[10] The minimum hydraulic capacity of 150 cfs plus a minimum bypassed reach flow of 16 cfs.

terrestrial, and recreational resources affected by the project. These measures are briefly noted below.

13. Hampshire Paper proposes to: 1) implement an Invasive Species Management Plan (filed on March 15, 2010) to prevent the introduction or spread of invasive species (Section 2.9 of the Settlement); 2) limit daily impoundment drawdowns to 0.3 foot below the top of flashboards (586.6 feet NGVD) during normal run-of-river operation; 3) limit impoundment drawdowns to elevation 582.2 feet NGVD during routine spillway maintenance and gradually refill the impoundment afterwards to maintain downstream flows (Section 3.1 of the Settlement); 4) increase the year-round minimum flow in the bypassed reach to 20 cfs to enhance aquatic habitat in the bypassed reach (Section 3.2 of the Settlement); 5) enhance downstream fish passage by closing the existing minimum flow weir and installing a new downstream fish passage flume, installing a new weir across the bypassed reach approximately 50 feet downstream of the existing spillway to increase the size and depth of the plunge pool, excavating the bypassed reach to enhance downstream fish movement, and installing overlays with 1-inch clear spacing on the trashracks from March 15 through November 30 of each year to reduce fish entrainment (Sections 3.2 and 3.3 of the Settlement); 6) install staff gages or concrete benchmarks in the impoundment, plunge pool, and the bypassed reach downstream of the plunge pool weir to monitor impoundment elevation, bypassed reach flow, and ensure run-of-river operation (Section 3.4 of the Settlement); and 7) implement a Recreation Management Plan (filed on March 15, 2010) to maintain the existing project recreational facilities, including the two parking areas, the two boat ramps, portage trail, picnic area, boat barrier, and signage (Section 3.5 of the Settlement).

SUMMARY OF LICENSE REQUIREMENTS

14. As summarized below, this license, which authorizes 3,449 kW of renewable energy, requires a number of measures to protect and enhance fisheries resources, water quality, terrestrial resources, recreation, and cultural resources at the project.

15. To protect water quality and aquatic habitat in the Oswegatchie River, this license requires Hampshire Paper to: operate the project in a run-of-river mode and maintain the impoundment between elevations 586.6 feet NGVD (top of flashboards) and 586.3 feet NGVD (0.3 foot below the top of flashboards); provide a year-round flow of 20 cfs or inflow, whichever is less, to the bypassed reach; and develop and implement an erosion and sediment control plan for construction-related ground-disturbing activities that may affect water quality.

16. To protect fisheries resources, this license requires Hampshire Paper to develop a plan to install new trashracks or overlays with a 1-inch clear spacing either permanently or from March 15 to November 30 of each year, and install a weir that will enhance the existing plunge pool downstream of the dam. To facilitate downstream fish passage and provide minimum flows, this license requires Hampshire Paper to close the existing

minimum flow weir and install a new flume that will convey fish and minimum flows into the bypassed reach. The license also requires Hampshire Paper to excavate the bypassed reach to facilitate downstream fish movement.

17. To minimize the potential for the introduction and spread of invasive plant species, this license requires Hampshire Paper to file an Invasive Species Management Plan that is consistent with the Settlement and includes measures to prevent the introduction and spread of invasive species.

18. To enhance recreational opportunities at the project, this license requires Hampshire Paper to file a Recreation Management Plan that is consistent with the Settlement and includes operation and maintenance of the existing project recreational facilities.

19. To protect cultural resources, this license requires Hampshire Paper to notify the Commission and the New York State Historic Preservation Officer (SHPO) immediately if historic resources are encountered or suspected during the course of constructing, maintaining, or developing project works or other facilities at the project and consult with the SHPO prior to implementing any project modifications not specifically authorized by this license that could affect cultural resources.

WATER QUALITY CERTIFICATION

20. Under section 401(a)(1) of the Clean Water Act (CWA),[11] the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.[12]

21. On May 20, 2010, Hampshire Paper applied to New York DEC for water quality certification for the Emeryville Project, which New York DEC received June 2, 2010. On June 2, 2011, New York DEC issued the water quality certification for the Emeryville Project. The certification contains 32 conditions, only 16 of which are discussed below. The other conditions are general or administrative and, as such, are not discussed further.

[11] 33 U.S.C. §1341(a)(1) (2006).

[12] 33 U.S.C. §1341(d) (2006).

22. Condition 7 includes general language that incorporates into the certification the provisions of the Settlement that pertain to Hampshire Paper's compliance with New York State Water Quality Standards.[13] Condition 8 requires the licensee to operate the project in run-of-river mode in accordance with section 3.1 of the Settlement. (Impoundment Operations). Condition 9 requires that the licensee maintain a minimum flow of 20 cfs in the bypassed reach in accordance with section 3.2 of the Settlement (Bypass Flow). Condition 10 requires the licensee to install staff gages or monuments to measure bypass flow and submit a stream flow and water level monitoring plan in accordance with section 3.4 of the Settlement (Flow and Water Level Monitoring).

23. Condition 11 requires the licensee to install trashracks with a 1-inch clear spacing, install downstream fish passage facilities, and modify the bypassed reach for downstream fish movement. Condition 11 also specifies that these measures be implemented in accordance with sections 3.2 and 3.3 of the Settlement (Bypass Flows and Fish Protection and Downstream Movement). Section 3.3 of the Settlement indicates that Hampshire Paper will install overlays with a 1-inch clear spacing on the existing trashracks from March 15 to November 30 each year but does not contemplate replacement of the existing trashracks as specified in Condition 11. In the EA,[14] staff concluded that installation of trashracks or seasonal overlays with 1-inch clear spacing would reduce fish entrainment at the project. However, because Condition 11 of New York DEC's water quality certification is inconsistent with language in section 3.3 of the Settlement, it is unclear whether the licensee is required to install new trashracks or overlays. Therefore, this license includes Article 402 which requires the licensee to develop an Entrainment Protection Plan, in consultation with New York DEC and Interior, and file the plan for final approval by the Commission. The plan will include functional design drawings of any new trashracks or overlays, procedures for inspection and maintenance of these facilities, procedures for notifying New York DEC and Interior of any problems with these facilities, and procedures for any annual installation and removal of these facilities, if appropriate.

24. Condition 12 requires the licensee to maintain existing recreational facilities and submit a Recreation Management Plan in accordance with section 3.5 of the Settlement (Recreation). Condition 13 requires the licensee to submit an Invasive Species Management Plan in accordance with section 2.9 of the Settlement (Invasive Species Management).

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[13] Sections 3.1, 3.2, 3.3, and 3.4 of the Settlement pertain to Hampshire Paper's compliance with New York State Water Quality Standards and are also required by certification conditions 8, 9, 10 and 11.

[14] *See* EA at 23.

25. Condition 15 requires that the licensee not perform in-water maintenance activities from March 15 to July 15 of each year in order to minimize the effects on spawning fish. Condition 16 requires that the licensee not draw down or dewater the impoundment from October 1 to July 15 to protect hibernating reptiles and spawning fish. Condition 17 requires the licensee to install and maintain appropriate turbidity control structures while conducting any dredging activities. Condition 18 requires the licensee to sample sediment for contaminants prior to disturbing it or removing it from project waters. Condition 19 requires the licensee to submit a design plan before installing any cofferdams, temporary access roads, ramps, or other structures that encroach on the banks of the Oswegatchie River to ensure compliance with water quality standards. Condition 20 requires the licensee to file an erosion and sediment control plan 60 days prior to commencing any major construction or maintenance activities within the project boundary that could adversely affect water quality. Condition 21 requires the licensee to implement erosion and sediment control measures during operation, construction, or maintenance activities that may result in sediments or contaminants entering any wetland or waterbody. Condition 22 requires the licensee to monitor turbidity during any maintenance or construction activities to ensure that turbidity levels upstream of the work area do not exceed turbidity levels 100 feet downstream of the work area. Condition 23 requires Hampshire Paper to continuously maintain adequate river flow immediately downstream of a work site. General certification condition 1 requires that the licensee provide access to the project and relevant records at reasonable hours and intervals by the New York DEC to determine compliance with the section 401 permit and Environmental Conservation Law.

26. In the EA,[15] staff recommended adopting all of the sections of the Settlement (i.e., sections 2.9, 3.1, 3.2, 3.3, 3.4 and 3.5) that are required by certification conditions 7, 8, 9, 10, 11, 12 and 13. All 32 conditions of the certification are set forth in Appendix A of this order and incorporated into the license by Ordering Paragraph D. Article 401 requires the licensee to file, for Commission approval, plans required by the certification conditions, notify the Commission of emergencies, and file amendment applications, as appropriate.

COASTAL ZONE MANAGEMENT ACT

27. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),[16] the Commission can not issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of

[15] *See* EA at 52 and 53.

[16] 16 U.S.C. §1456(c)(3)(A) (2006).

consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant's certification.

28. Because the Emeryville Project is located outside New York's coastal zone and it is not likely to affect resources within the state's coastal area, the New York Department of State, Division of Coastal Resources concluded that a consistency certification is not required.[17]

SECTION 18 FISHWAY PRESCRIPTIONS

29. Section 18 of the FPA[18] provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or Secretary of Commerce, as appropriate. By letter dated January 11, 2011, the Secretary of the Interior requested that the Commission reserve authority to prescribe fishways. Consistent with the Commission's policy, Article 403 of this license reserves the Commission's authority to require fishways that may be prescribed by Interior for the Emeryville Project.

THREATENED AND ENDANGERED SPECIES

30. Section 7(a)(2) of the Endangered Species Act of 1973,[19] requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of their designated critical habitat.

31. The endangered Indiana bat (*Myotis sodalis*) is the only federally listed species that could occur near the project. In the EA,[20] Commission staff concluded that continued project operation would have no effect on this species because the project is over 30 miles from known roosts and nesting areas. Therefore, no Endangered Species Act consultation is required.

NATIONAL HISTORIC PRESERVATION ACT

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[17] *See* Appendix 20 of the application for new license filed June 18, 2010. Summary of telephone conversation between Hampshire Paper and Matt Maraglio, New York State Division of Coastal Resources, May 3, 2010.

[18] 16 U.S.C. § 811 (2006).

[19] 16 U.S.C. § 1536(a) (2006).

[20] *See* EA at 32.

32. Under Section 106 of the National Historic Preservation Act (NHPA)[21] and its implementing regulations,[22] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing on the National Register of Historic Places (defined as historic properties) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This generally requires the Commission to consult with the SHPO to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize adverse effects.

33. On July 30, 2007, the Commission designated Hampshire Paper as its non-federal representative for informal section 106 consultation responsibilities under the NHPA. Pursuant to section 106, and as the Commission's designated non-federal representative, Hampshire Paper consulted the SHPO and affected Indian tribes to locate, determine National Register eligibility, and assess potential adverse effects to historic properties associated with the project.

34. In a letter dated February 7, 2007, the SHPO concluded that the project would have "no effect" upon properties in or eligible for inclusion in the National Register. In the EA,[23] staff concluded that although there are no known historic properties located within the project area, it is possible that previously unidentified cultural resources could be discovered during construction, operation, or maintenance of the project or facilities approved in this order. Therefore, Article 404 of this license requires the licensee to notify the Commission and SHPO immediately if previously undiscovered cultural resources are discovered during the course of construction, maintaining, or developing project works or other facilities at the project.

35. The history of the project site dates back to the 1800's when the original timber and earth-filled dam and mill building were constructed. In 1938, the original mill building was demolished and replaced with a powerhouse. In 1987, Hampshire Paper performed major renovations to the site and replaced the 1938 powerhouse, as well as the turbine-generator equipment, switchyard, and portions of the intake. Additionally, since its construction in the 1800's, the original timber and earth-filled dam has been resurfaced with concrete. While most of the project structures have experienced substantial modification since their original construction, it is possible that some or all of these structures could become eligible for listing on the National Register during the license term. Therefore, to protect these potentially historic properties, Article 405

[21] 16 U.S.C. § 470 *et seq*. (2006).

[22] 36 C.F.R. Part 800 (2011).

[23] *See* EA at 41.

requires Hampshire Paper to consult with the SHPO prior to starting any activities that would modify these or other project facilities, other than those activities specifically authorized in this license.

RECCOMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES PURSUANT TO SECTION 10(j) OF THE FPA

36. Section 10(j) of the FPA[24] requires the Commission, when issuing a license, to include conditions based on recommendations by federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,[25] to "adequately and equitable protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)" affected by the project.

37. In response to the November 15, 2010, public notice that the project was ready for environmental analysis, Interior filed seven recommendations under section 10(j).[26] This license includes conditions consistent with all seven of these recommendations including: (1) limit daily impoundment fluctuations to no more than 0.3 foot below the top of the flashboards (586.6 feet NGVD) during normal run-of-river operations (Ordering Paragraph D); (2) restore the impoundment gradually following incidents of non-compliance with run-of-river operation in a manner that does not adversely affect fish passage or water quality standards (Ordering Paragraph D); (3) develop a Flow and Water Level Water Monitoring Plan (Ordering Paragraph D); (4) release a minimum flow of 20 cfs or inflow, whichever is less, into the bypassed reach at all times (Ordering Paragraph D); (5) install permanent trashracks with 1-inch clear spacing over the entire depth and width of the intake or trashrack overlays with 1-inch clear spacing over the existing trashracks from March 15 through November 30 of each year (Ordering Paragraph D and Article 402); (6) provide a downstream fish passage facility and an adequate plunge pool (Ordering Paragraph D); and (7) excavate a channel in the bypassed reach to facilitate downstream fish movement (Ordering Paragraph D).

SECTION 10(a)(1) OF THE FPA

[24] 16 U.S.C. § 803(j)(1) (2006).

[25] 16 U.S.C. §§ 661 *et seq*. (2006).

[26] Interior filed the recommendations on January 11, 2011. The New York DEC did not file section 10(j) recommendations for the Emeryville Project.

38. Section (10)(a)(1) of the FPA[27] requires that any project for which the Commission issues a license shall be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce; for the improvement and utilization of waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses including irrigation, flood control, water supply, recreation, and other purposes.

A. Project Boundary

39. In its license application, Hampshire Paper proposes to modify the project boundary to include the existing recreational facilities upstream and downstream of the dam and the proposed fish passage facility, but its Exhibit G drawings do not include the recreation facilities (i.e. two parking areas, two boat ramps, portage trail, picnic area, boat barrier, and signage) or lands up to the impoundment's normal water surface elevation of 586.6 feet NGVD within the project boundary.[28] In the EA,[29] staff recommended that Hampshire Paper operate the project with a normal maximum impoundment elevation of 586.6 feet NGVD. Therefore, Article 204 requires the licensee to file revised Exhibit G drawings showing the project boundary enclosing all recreation facilities and lands up to the normal maximum water surface elevation of 586.6 feet NGVD.

B. Recreation Management Plan

40. Section 3.5 of the Settlement requires Hampshire Paper to prepare a Recreation Management Plan describing its responsibilities for maintaining the existing project recreational facilities. Hampshire Paper filed a Recreation Management Plan on March 15, 2010; however, the water quality certification issued by New York DEC includes a condition requiring Hampshire Paper to develop a Recreation Management Plan in consultation with New York DEC. Because New York DEC's review could result in changes to the Recreation Management Plan filed on March 15, 2010, Article 401 of this license requires Hampshire Paper to file a Recreation Management Plan for Commission approval within 6 months of the effective date of this license.

C. Invasive Species Management Plan

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[27] 16 U.S.C. § 803(a)(1) (2006).

[28] The existing project boundary maps approved under the original license for the project note that the project boundary follows the spillway elevation of [584.2] feet NGVD.

[29] *See* EA at page 52.

41. Section 2.9 of the Settlement requires Hampshire Paper to submit an Invasive Species Management Plan prior to any construction authorized by the Settlement. Hampshire Paper filed an Invasive Species Management Plan on March 15, 2010; however, the water quality certification issued by New York DEC includes a condition requiring Hampshire Paper to develop an Invasive Species Management Plan in consultation with New York DEC. Because New York DEC's review could result in changes to the Invasive Species Management Plan filed on March 15, 2010, Article 401 of this license requires Hampshire Paper to file an Invasive Species Management Plan for Commission approval within 6 months of the effective date of this license.

C. Maintenance of the South Bridge

42. The south bridge is a section of Emeryville Road that spans the project's power flume and provides public vehicular access between the north and south sides of the Oswegatchie River in the project area. The south bridge is within the proposed project boundary but was not included as a project facility in the previous license issued on June 17, 1982. In comments filed on January 6, 2011, St. Lawrence Co. recommended that the south bridge be included as a project facility and that Hampshire Paper assume ownership and maintenance responsibilities for the bridge. In the EA,[30] staff did not recommend adopting St. Lawrence Co.'s recommendation because, while the south bridge provides convenient access between the north and south sides of the Oswegatchie River in the project area, project facilities on either side of the power flume can be accessed by crossing the Oswegatchie River at several locations in nearby Hailesboro, New York.[31] Further, staff concluded that because the south bridge is not primarily used to access project facilities, but rather serves a much broader range of public uses,[32] the south bridge should not be included as a project facility and staff did not recommend requiring Hampshire Paper to maintain or repair this bridge. Consistent with the staff recommendation, this license does not adopt St. Lawrence Co.'s recommendation.

COMMENTS ON THE EA

43. In its comments on the EA, New York DEC stated that while drawdowns below 586.6 feet NGVD are allowed under Section 3.1 of the Settlement, the 0.3-foot drawdown range is not intended for deliberate or regular impoundment fluctuations.

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[30] *See* EA at 38-39, and 55.

[31] Hailesboro, New York is approximately 5 miles downstream of the Emeryville dam and power flume.

[32] See *Policy Statement on Hydropower Licensing Statements*, 116 FERC ¶61,270 (September 21, 2006)

Neither the Settlement nor water quality certification issued by New York DEC includes any conditions limiting the frequency of 0.3 foot drawdowns. In the EA,[33] staff concluded that Hampshire Paper's proposal to operate the project as described in Section 3.1 of the Settlement would protect aquatic resources at the project. Therefore, this license requires Hampshire Paper to operate the project as proposed in Section 3.1 of the Settlement and required by New York DEC's water quality certification (Ordering Paragraph D) and Hampshire Paper will be in compliance with this license as long as the impoundment elevation is at or above elevation 586.3 feet NGVD during normal operation.

ADMINISTRATIVE PROVISIONS

A. Annual Charges

44. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of funds for administration of the FPA.

B. Exhibit F Drawings

45. The Exhibit F drawings filed with the license application are approved and made part of this license (Ordering Paragraph C). The Commission requires licensees to file sets of approved project drawings on microfilm and in electronic file format. Article 202 requires filing of these drawings. However, Article 203 requires Hampshire Paper to file additional Exhibit F drawings showing the proposed modifications to the spillway (i.e., closure of the existing minimum flow weir and installation of downstream fish passage flume) that comply with sections 4.39 and 4.41 of the Commission's regulations.[34]

C. Amortization Reserve

46. The Commission requires that for new major licenses, non-municipal licensees must set up and maintain an amortization reserve account upon license issuance. Article 205 requires the establishment of the account.

D. Headwater Benefits

47. Some projects directly benefit from headwater improvements that were constructed by other licensees, the United States, or permittees. Article 206 requires the licensee to reimburse such entities for these benefits if they were not previously assessed and reimbursed.

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[33] *See* EA at 21.

[34] 18 C.F.R. §§ 4.39, 4.41 (2011)

E. Use and Occupancy of Project Lands and Waters

48. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 406 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

F. Review of Final Plans and Specifications

49. Article 301 requires the licensee to provide the Commission's Division of Dam Safety and Inspection (D2SI) New York Regional Engineer with final contract drawings and specifications prior to the start of any construction. The submittal must include a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan.

50. Article 302 requires the licensee to provide the Commission's D2SI New York Regional Engineer with the approved cofferdam construction drawings and specifications and the letters of approval.

51. Article 303 requires that the planning and design of project modifications shall be coordinated with the Commission's D2SI New York Regional Engineer.

52. Where new construction or modifications to the project are involved, the Commission requires licensees to file revised drawings of project features as-built. Article 304 provides for the filing of these drawings.

STATE AND FEDERAL COMPREHENSIVE PLANS

53. Section 10(a)(2)(A) of the FPA[35] requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.[36] Under section (10)(a)(2)(A), staff identified and reviewed seven comprehensive plans that are relevant to this project.[37] No conflicts were found.

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[35] 16 U.S.C § 803(a)(2)(A) (2006).

[36] Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2011).

[37] The list of applicable plans can be found in section 5.5 of the EA.

APPLICANT'S PLANS AND CAPABILITIES

54. In accordance with sections 10(a)(2)(C) and 15(a) of the FPA,[38] Commission staff evaluated Hampshire Paper's record as a licensee with respect to the following: (A) conservation efforts; (B) compliance history and ability to comply with the new license; (C) safe management, operation, and maintenance of the project; (D) ability to provide efficient and reliable electric service; (E) need for power; (F) transmission services; (G) cost effectiveness of plans; and (H) actions affecting the public. I accept the staff's finding in each of the following areas.

A. Conservation Efforts

55. Section 10(a)(2)(C) of the FPA requires the Commission to consider the electricity consumption 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. Hampshire Paper sells the project's energy to Niagara Mohawk Power Corporation (Niagara Power), a utility that promotes conservation of electricity use by its customers.

56. Staff concludes that, given the limits of its ability to influence users of the electricity generated by the project, Hampshire Paper complies with section 10(a)(2)(C) of the FPA.

B. Compliance History and Ability to Comply with the New License

57. Based on a review of Hampshire Paper's compliance with the terms and conditions of the existing license, we find that Hampshire Paper's overall record of making timely filings and compliance with its license is satisfactory. Therefore, staff believes that Hampshire Paper can satisfy the conditions of a new license.

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

58. Staff reviewed Hampshire Paper's record of management, operation, and maintenance of the project pursuant to the requirements of 18 C.F.R. Part 12 and the Commission's Engineering Guidelines and periodic Independent Consultant's Safety Inspection Reports. Staff concludes that the dam and other project works meet the Commission's Engineering Guidelines and criteria and that there is no reason to believe that Hampshire Paper cannot continue to safely manage, operate, and maintain these facilities under a new license.

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[38] 16 U.S.C. §§ 803(a)(2)(C) and 808 (a) (2006).

D. Ability to Provide Efficient and Reliable Electric Service

59. Staff reviewed Hampshire Paper's plans and its ability to operate and maintain the project in a manner most likely to provide efficient and reliable electric service. Our review indicates that Hampshire Paper regularly inspects the project turbine and generator to ensure they continue to perform in an optimal manner, schedules maintenance to minimize effects on energy production, and since the project has been in operation, has undertaken several initiatives to ensure the project is able to operate reliably into the future. Staff concludes that Hampshire Paper is capable of operating the project to provide efficient and reliable electric service in the future.

E. Need for Power

60. To assess the need for power, we looked at the needs in the operating region in which the project is located. The project is located in the New York Control Area of the Northeast Power Coordinating Council, Inc. region of the North American Electric Reliability Council (NERC). NERC annually forecasts electrical supply and demand in the nation and the region for a ten-year period. NERC's most recent report on annual supply and demand projections indicates that, for the period 2011–2021, total summer demand is projected to increase from 32,712 megawatt (MW) to 35,192 MW, and winter demand from 24,533 MW to 26,210 MW. The project, as licensed, has the potential to supply about 3.449 MW of this demand. Staff conclude that the project's power, low cost, and contribution to the region's diversified generation mix will help meet a need for power in the region.

F. Transmission Services

61. The project includes 80 feet of transmission line which connects the project generator to Niagara Power's transmission grid. Hampshire Paper is proposing no changes that would affect its own or other transmission services in the region. The project and project transmission line are important elements in providing power and voltage control to local St. Lawrence County communities and the region.

G. Cost Effectiveness of Plans

62. Hampshire Paper plans to make a number of facility and operational modifications to enhance environmental resources affected by the project. Based on Hampshire Paper's record as an existing licensee, staff concludes that these plans are likely to be carried out in a cost-effective manner.

H. Actions Affecting the Public

63. Hampshire Paper provided extensive opportunity for public involvement in the development of its application for a new license for the Emeryville Project. During the previous license period Hampshire Paper provided facilities to enhance the public use of

project lands and facilities, and operated the project with consideration for the protection of downstream uses of the Oswegatchie River. Hampshire Paper uses the project to help meet local power needs.

PROJECT ECONOMICS

64. In determining whether to issue a new license for an existing hydroelectric project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,[39] the Commission 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 the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

65. In applying this analysis to the Emeryville Project, staff have considered two options: Hampshire Paper's proposal and the project as licensed herein. As proposed by Hampshire Paper, the levelized annual cost of operating the Emeryville Project is $871,900, or $47.92/MWh. The proposed project would generate an estimated average of 18,193 MWh of energy annually. When the estimate of average generation is multiplied by the alternative power cost of $54.14/MWh,[40] the total value of the project's power is $985,000 in 2010 dollars. To determine whether the proposed project is currently economically beneficial, staff subtracts the project's cost from the value of the project's power.[41] Therefore, in the first year of operation, the project will cost $113,100, or $6.22/MWh, less than the likely alternative cost of power.

66. As licensed herein with the mandatory conditions and staff measures, the levelized annual cost of operating the project would be about $872,400, or $47.95/MWh. Based on an estimated average generation of 18,193 MWh as licensed, the project would produce power valued at $985,000, when multiplied by the $54.14/MWh value of the project's power. Therefore in the first year of operation, project power will cost $112,600, or $6.19/MWh, less than the cost of alternative power.

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[39] 72 FERC ¶ 61,027 (1995).

[40] The alternative power cost of $54.14 per MWh is based on information obtained from the Energy Information Administration fuel cost data for natural gas.

[41] Details of staff's economic analysis for the project as licensed herein and for various alternatives are included in the EA issued on May 6, 2011.

COMPREHENSIVE DEVELOPMENT

67. Sections 4(e) and 10(a)(1) of the FPA[42] require the Commission to give equal consideration to the power 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 all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

68. The EA for the Emeryville Project contains background information, analysis of effects, and support for related license articles. Based on the record of this proceeding, including the EA and the comments thereon, licensing the Emeryville Project as described in this order would not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of this license.

69. Based on staff's independent review and evaluation of the project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, the proposed Emeryville Project, with the staff-recommended measures, is best adapted to a comprehensive plan for improving or developing the Oswegatchie River.

70. This alternative was selected because: (1) issuance of a new license will serve to maintain a beneficial, dependable, and inexpensive source of electric energy; (2) the required environmental measures will protect and enhance fish and wildlife resources, water quality, and recreational resources affected by the project; and (3) the 3,449 kW of electric capacity available comes from a renewable resource which does not contribute to atmospheric pollution.

LICENSE TERM

71. Section 15(e) of the FPA,[43] provides that any new license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years or more than 50 years. The Commission's general policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigation and enhancement measures; 40-year terms for projects with a

[42] 16 U.S.C. §§ 797(e) and 803(a)(1) (2006).

[43] 16 U.S.C. § 808(e) (2006).

moderate amount of such activities; and 50-year terms for projects with extensive measures.[44] This license requires a moderate amount of new construction, including: (1) constructing a new downstream fish passage facility; (2) excavating the bypassed reach and installing a weir across the bypassed reach to enhance the plunge pool depth and area; and (3) installing trashracks or overlays with 1-inch clear spacing. Because this license requires a moderate amount of new construction, this license is for a term of 40 years. Furthermore, because the term of the current license does not expire until May 31, 2012, this license order is not effective until June 1, 2012.[45]

The Director Orders:

(A) This license is issued to Hampshire Paper Company (licensee), for a period of 40 years, effective June 1, 2012, to operate and maintain the Emeryville Hydroelectric 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 provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (1) an existing 16.7-foot-high, 185-foot-long, concrete-capped timber and earth fill gravity dam with a 17-foot-long concrete spillway equipped with 2.4-foot-high flashboards and a 4-foot-wide, 0.5-foot-deep minimum flow weir with a crest elevation of 584.2 feet National Geodetic Vertical Datum (NGVD); (2) an existing 35-acre impoundment with a normal water surface elevation of 586.6 feet NGVD; (3) an existing 140-foot-long by 30-foot-wide reinforced concrete headgate flume and intake structure equipped with four headgates and trashracks with 5-inch clear bar spacing; (4) an existing 60-foot-long by 14-foot-diameter steel penstock leading to; (5) an existing 67-foot-long by 32-foot wide concrete powerhouse containing a horizontal axial flow turbine with a rated capacity of 3,449 kilowatts (kW), a maximum hydraulic capacity of 1,470 cubic feet per second (cfs), and a net head of 32 feet, directly connected to a horizontal generator unit with a rated capacity of 3,481 kW; (6) an existing tailrace (7) an existing 80-foot-long, 23-kilovolt transmission line; and (8) appurtenant facilities.

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[44] *See* Consumers Power Co., 68 FERC ¶ 61,077 at 61,383-84 (1994).

[45] For this reason, the various deadlines in the license articles are measured from the June 1, 2012, effective date of this license rather than from the order issuance date.

The project works generally described above are more specifically shown and described by those portions of Exhibit A and F listed below:

Exhibit A: The following sections of Exhibit A filed on June 17, 2010:

Pages 3.1 through 3.4 of Exhibit A, entitled "Project Description", describing the structural, mechanical, electrical, and transmission equipment within the application for license.

Exhibit F: The following Exhibit F drawings filed on June 17, 2010:

Exhibit F Drawing	FERC No. 2850-	Description
Sheet F-1	1001	Site Plan
Sheet F-2	1002	Dam Sections and Profile
Sheet F-3	1003	Intake Plan and Sections
Sheet F-4	1004	Powerhouse Plan and Sections
Sheet F-5	1005	Powerhouse Plan and Profile
Sheet F-6	1006	Flashboard Replacement
Sheet F-7	1007	Flashboard Replacement

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

(C) The Exhibits A and F described above are approved and made part of this license. The Exhibit G drawings filed on June 17, 2010, as part of the application for license, do not conform to Commission's regulations and are not approved.

(D) This license is subject to the conditions submitted by New York Department of Environmental Conservation under section 401(a)(1) of the Clean Water Act, 33 U.S.C. §1341(a)(1) (2006), as those conditions are set forth in Appendix A to this order.

(E) This license is also subject to the articles set forth in Form L-3 (Oct. 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters of the United States" (*see* 54 F.P.C. 1799 et seq.), as reproduced at the end of this order, including the following additional articles:

Article 201. *Administrative Annual Charges*. The licensee shall pay the United States annual charges, effective the first day of the month in which the license becomes effective, and as determined in accordance with provisions of the Commission's regulations in effect from time to time, for the purposes of reimbursing the United States for the cost of administration of Part I of the Federal Power Act. The authorized installed capacity for that purpose is 3,449 kilowatts

Article 202. *Exhibit F Drawings*. Within 45 days of the effective date of this license, the licensee shall file the approved exhibit drawings in aperture card and electronic file formats.

(a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Project-Drawing Number (i.e., P-2850-1001 through P-2850-1007) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (i.e., F-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office.

(b) The licensee shall file two separate sets of exhibit drawings in electronic raster format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections New York Regional Office. Exhibit F drawings must be identified as Critical Energy Infrastructure Information (CEII) material under 18 C.F.R. § 388.113(c)(2011). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license, and file extension in the following format [P-2850-1001, F-1, Description, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file
FILE TYPE – Tagged Image File Format (TIFF), CCITT Group 4
RESOLUTION – 300 dpi desired (200 dpi min)
DRAWING SIZE FORMAT – 24" X 36" (min), 28" X 40" (max)
FILE SIZE – less than 1 MB desired.

Article 203. *Additional Exhibit F Drawings*. Within 90 days of the effective date of the license, the licensee shall file, for Commission approval, additional Exhibit F drawings showing plans, profiles, and sections of the modifications to the spillway,

including the closure of the existing minimum flow weir and installation of the downstream fish passage flume. The Exhibit F drawings must comply with sections 4.39 and 4.41 of the Commission's regulation.

Article 204. *Exhibit G Drawings*. Within 90 days of the effective date of the license, the licensee shall file, for Commission approval, revised Exhibit G drawings enclosing within the project boundary all principal project works necessary for operation and maintenance of the project, including all recreation features (i.e., the two parking areas, two boat ramps, portage trail, picnic area, boat barrier, and signage) and the project's impoundment up to the proposed normal maximum water surface elevation of 586.6 feet National Geodetic Vertical Datum. The Exhibit G drawings must comply with sections 4.39 and 4.41 of the Commission's regulations.

Article 205. *Amortization Reserve*. 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 included 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 206. *Headwater Benefits.* If the licensee's project was directly benefited 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. The benefits will be assessed in accordance with Part 11, Subpart B, of the Commission's regulations.

Article 301. *Contract Plans and Specifications.* At least 60 days prior to the start of any construction, the licensee shall submit one copy of the final contract plans and specifications and supporting design document to the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The submittal must also include as part of preconstruction requirements: a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the D2SI New York Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

Article 302. *Cofferdam Construction Drawings and Deep Excavations.* Before starting construction, the licensee, in consultation with New York DEC, shall review and approve the design of contractor-designed cofferdams and deep excavations and shall make sure construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of the cofferdam, the licensee shall submit one copy of the approved cofferdam construction drawings and specifications and the letters of approval to the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Commission's Director, D2SI).

Article 303. *Project Modification Resulting From Environmental Requirements*. The planning and design of any permanent or temporary modification which affects the project works or operation resulting from environmental requirements, such as a downstream fish passage facility, shall be coordinated as early as feasible with the Commission’s Division of Dam Safety and Inspections (D2SI) New York Regional Engineer. Within 90 days of the effective date of the license, a letter is to be sent to the D2SI New York Regional Engineer providing a plan and schedule of any proposed modifications to the project operations or to the water retaining and/or conveyance features of the project in the planning and design phase resulting from environmental requirements of the license. The schedule is to allow sufficient review time for the Commission to ensure that the proposed work does not adversely affect the project works, dam safety, or project operation.

Article 304. *As-built Drawings.* Within 90 days of completion of construction of the facilities authorized by this license, the licensee shall file for Commission approval, revised Exhibits A, F, and G, as applicable, to describe and show those project facilities as built, including any new permanent trashracks and the downstream fish passage

facility. A courtesy copy shall be filed with the Commission's Division of Dam Safety and Inspections (D2SI)-New York Regional Engineer, the Director, D2SI, and the Director, Division of Hydropower Administration and Compliance.

Article 401. *Commission Approval, Notification, and Filing of Amendments*.

a) Requirement to File Plans for Commission Approval

Certain conditions of this license found in the New York State Department of Environmental Conservation (New York DEC) Water Quality Certification (Appendix A) require the licensee to prepare plans for approval by the New York DEC but without submittal to or approval by the Commission. Each such plan shall be developed in consultation with the U.S. Department of the Interior and New York DEC and also be submitted to the Commission for approval. These plans are listed below.

New York DEC Certification Condition No. (Appendix A of this license order)	Plan Name	Date Due to Commission
10	Stream Flow and Water Level Monitoring Plan	Within 6 months of the effective date of the license
11	Downstream Fish Passage and Channel Modification Construction Plan	At least 60 days prior to commencing construction
12	Recreation Management Plan	Within 6 months of the effective date of the license.
13	Invasive Species Management Plan	At least 6 months prior to the start of any new construction or long-term maintenance activities.
20	Soil Erosion and Sediment Control Plan	At least 60 days prior to commencing any ground-disturbing activities

The licensee shall submit to the Commission documentation of its consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information. The licensee shall also include with each plan filed with the Commission documentation that the plan has been approved by New York DEC. The Commission reserves the right to make changes to any plan submitted. Upon Commission approval, the plan becomes a requirement of the license, and the licensee shall implement the plan or changes in project operations or facilities, including any changes required by the Commission.

(b) Requirement to Notify the Commission of Emergencies

Condition 6 allows the licensee to respond to emergencies and requires that it notify the New York DEC within 24 hours of an emergency incident. The Commission also shall be notified, in the event of an emergency, as soon as possible, but no later than 10 days after each incident.

(c) Requirement to File Amendment Applications

Condition 8 of the New York DEC Water Quality Certification (Appendix A) contemplates changes to project operations, including impoundment drawdown and refill. These changes to project operations may not be implemented without prior Commission authorization granted after the filing of an application to amend the license.

Article 402. *Entrainment Protection Plan.* At least 6 months before replacing or modifying the project trashracks, as required by Ordering Paragraph D, the licensee shall file for Commission approval a plan for either permanent or seasonal installation of new trashracks with a 1-inch clear spacing or permanent or seasonal installation of new overlays with a 1-inch clear spacing over the existing trashracks. If the trashracks or overlays are installed seasonally, they shall be installed from March 15 to November 30 each year.

Any plan for permanent installation of trashracks or overlays with a 1-inch clear spacing shall include, but not be limited to, the following:

(a) functional design drawings of the trashracks or overlays;

(b) a description of procedures for inspecting and maintaining the trashracks or overlays;

(c) a protocol for notifying the New York Department of Environmental Conservation (New York DEC) and the U.S. Department of the Interior (Interior) of any problems with the operation and maintenance of the trashracks or overlays; and

(d) an implementation schedule.

Any plan for seasonally installing trashracks or overlays from March 15 to November 30 each year shall include, but not be limited to, the following:

(a) functional design drawings of the trashracks or overlays;

(b) a description of procedures for annually installing and removing the trashracks or overlays;

(c) a description of procedures for inspecting and maintaining the trashracks or overlays;

(d) a protocol for notifying the New York DEC and Interior of any problems with the installation, operation, maintenance, or removal of the trashracks or overlays; and

(e) an implementation schedule.

The plan shall be developed in consultation with the New York DEC and Interior. 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 resource agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. 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 plan. Installation of the trashracks or overlays shall not begin until the plan is approved by the Commission. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 403. *Reservation of Authority to Prescribe Fishways*. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior pursuant to section 18 of the Federal Power Act.

Article 404. *Protection of Undiscovered Cultural Resources*. If the licensee discovers previously unidentified cultural resources during the course of constructing, maintaining, or developing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the resource

and consult with the SHPO to determine the need for any cultural resource studies or measures. If no studies or measures are needed, the licensee shall file with the Commission documentation of its consultation with the SHPO.

If a discovered cultural resource is determined to be eligible for the National Register of Historic Places (National Register), the licensee shall file for Commission approval an historic properties management plan (HPMP) prepared by a qualified cultural resource specialist after consultation with the SHPO. In developing the HPMP, the licensee shall use the Advisory Council on Historic Preservation and the Commission's *Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects*, dated May 20, 2002. The HPMP shall include the following items: (1) a description of each discovered property, indicating whether it is listed in or eligible for listing in the National Register; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating adverse effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for implementing mitigation and conducting additional studies. The Commission reserves the right to require changes to the HPMP.

The licensee shall not resume land-clearing or land-disturbing activities in the vicinity of a cultural resource discovered during construction, until informed by the Commission that the requirements of this article have been fulfilled.

Article 405. *Protection of Cultural Resources*. Prior to implementing any project modifications not specifically authorized by this exemption, including but not limited to maintenance activities, land-clearing or land-disturbing activities, or changes to project operation or facilities, the licensee shall consult with the New York State Historic Preservation Office (SHPO) to determine the effects of the activities and the need for any cultural resource studies or measures. If no studies or measures are needed, the licensee shall file with the Commission documentation of its consultation with the New York SHPO.

If a project modification is determined to affect an historic property, the licensee shall file for Commission approval an historic properties management plan (HPMP) prepared by a qualified cultural resource specialist after consultation with the New York SHPO. In developing the HPMP, the licensee shall use the Advisory Council on Historic Preservation and the Commission's *Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects*, dated May 20, 2002. The HPMP shall include the following items: (1) a description of each historic property; (2) a description of the potential effect on each historic property; (3) proposed measures for avoiding or mitigating adverse effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for implementing mitigation and conducting additional studies. The Commission reserves the right to require changes to the HPMP.

The licensee shall not implement any project modifications, other than those specifically authorized in this license, until informed by the Commission that the requirements of this article have been fulfilled.

Article 406. *Use and Occupancy*. (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 of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters 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 water craft 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 impoundment 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 impoundment. 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 water craft 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 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 Energy Projects, 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 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 that 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 report on recreational resources of an Exhibit E; or, if the project does not have an 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 ensure 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 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 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.

(F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in the order to be consulted on manners relating to that

filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 8251 (2006), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2011). The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Jeff C. Wright
Director
Office of Energy Projects

Form L-3

(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MAJOR PROJECT AFFECTING NAVIGABLE WATERS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the

region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a nonpower licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall

make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission any direct in the

interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail

to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable

modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 22. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and rights-of-way and such rights of

passage through its dams or other structures, and shall permit such control of its pools, as may be required to complete and maintain such navigation facilities.

Article 23. The operation of any navigation facilities which may be constructed as a part of, or in connection with, any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including control of the level of the pool caused by such dam or diversion structure, as may be made from time to time by the Secretary of the Army.

Article 24. The Licensee shall furnish power free of cost to the United States for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto, whether said facilities are constructed by the Licensee or by the United States.

Article 25. The Licensee shall construct, maintain, and operate at its own expense such lights and other signals for the protection of navigation as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 26. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 27. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 28. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

APPENDIX A

Water quality certification conditions for the Emeryville Hydroelectric Project issued by the New York Department of Environmental Conservation on June 2, 2011.

1. Conformance with Plans: All activities authorized by this permit shall be in strict conformance with the approved plans submitted by the applicant or his agent as part of the permit application and licensing Settlement.

2. State Not Liable for Damage: The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

3. Precautions Against Contamination of Waters: All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

4. No Interference with Navigation: There shall be no unreasonable interference with navigation by the work herein authorized.

5. State May Require Site Restoration: If any work authorized by this certificate has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the New York State Department of Environmental Conservation (the Department) may with appropriate authority require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

6. Notification Requirements for Emergencies: Except for the emergency provisions described in the Settlement (see subsections 3.2.3, and 3.3.2.2), the following procedures shall apply to all activities conducted at the project in response to an emergency:

Prior to commencement of emergency activities, Certificate Holder shall notify the Department and receive approval in advance of the work commencing. If circumstances require that emergency activities be taken immediately such that prior notice to the Department is not possible, then the Department shall be notified by the Certificate Holder within 24 hours of commencement of the emergency activities. In either case, notification shall be by certified mail or other written form of communication, including

fax and electronic mail. This notification shall be followed within 24 hours by submission of the following information:

a. a description of the action;
b. location map and plan of the proposed action;
c. reasons why the situation is an emergency.

All notifications, requests for emergency authorizations and information submitted to support such requests shall be sent to the contacts listed in Special Condition 25.

7. Offer of Settlement: This Certificate includes and incorporates the Emeryville Hydroelectric Project's Offer of Settlement ("Settlement") dated March 2010, to the extent that the Settlement provides for or requires the certificate holder's compliance with New York State water quality standards and the conditions of this certificate.

OPERATING CONDITIONS

8. Project Operations and Impoundment Fluctuations: Project reservoir shall be operated in a run-of-river mode in accordance with the Settlement (see Section 3.1). Prior to being implemented, all alternate impoundment operation plans (including, but not limited to impoundment drawdown, refilling rates and procedures) shall be reviewed and approved by the Department in writing. Emergencies shall be dealt with in accordance with Natural Resource Permit Condition #6 of this Certificate.

9. Bypassed Flows: The certificate holder shall maintain a bypassed flow of 20 cubic feet per second (or inflow to the Emeryville impoundment, whichever is less) in accordance with the Settlement (see Section 3.2). The Certificate Holder will consult with and obtain the written approval of the Department prior to conducting any routine maintenance or construction activities that cause the bypass flow to be suspended or modified. Emergencies shall be addressed pursuant to Natural Resource Permit Condition #6 of this Certificate.

10. Flow and Water Level Monitoring: Section 3.4 of the Settlement requires that the certificate holder agrees to install, within 18 months of issuance of the FERC license, bypass flow monitoring gages/monuments. Section 3.4 requirements are incorporated as a condition of this certificate. Prior to and as a condition for installation, the certificate holder shall develop and submit to the Department an approvable stream flow and water level monitoring plan. Upon receiving the Department's written approval of that plan the certificate holder shall install, maintain and operate all water level and flow monitoring equipment consistent with the Settlement and this Certificate.

11. Fish Protection and Downstream Fish Movement: Within 18 months of license issuance and acceptance, the certificate holder shall install fish protection measures (e.g.

1" clear spaced trashracks), downstream fish passage facilities, and appropriate channel excavation (modifications) to facilitate downstream fish passage in accordance with the Settlement (see Sections 3.2 and 3.3). At least 6 months prior to commencing installation of the downstream fish passage structures and performing bypassed reach channel modifications, the licensee shall submit for the Department's approval a construction plan that includes an erosion and sediment control plan consistent with Conditions #20 and #21 of this water quality certificate. The certificate holder shall obtain the Department's written approval of the construction plan before commencing work.

12. Public Access and Recreation: Public access and recreational opportunities shall be provided in conformance with the Settlement, (see Section 3.5). The Licensee shall draft a Recreation Management Plan (RMP) that is consistent with the Settlement and submit it to the Department for its review and approval. Once the RMP is approved by the Department, it will become part of this certificate.

13. Invasive Species Management: In conformance with the Settlement (see Section 2.9), the Certificate Holder shall submit an Invasive Species Management Plan (ISMP) to the Department for review and approval. The ISMP shall include provisions to prevent the introduction and spread of both aquatic and terrestrial invasive species that may be introduced as a result of activities authorized under the operation, maintenance and construction of the project and include monitoring and reporting provisions. Once the ISMP has been accepted by the Department it shall be incorporated into this certificate.

PROJECT MAINTENANCE AND CONSTRUCTION

14. NOTE: All matters pertaining to "Project Maintenance and Construction" work affecting water quality, compliance with water quality standards, and this certificate shall be addressed to:

Regional Natural Resources Supervisor
New York State Department of Environmental Conservation
317 Washington Street
Watertown, NY 13601

15. In-Water Work Restriction: In-water maintenance activities (including but not limited to dredging, cofferdam construction or removal, etc.) involving the potential disturbance of the bed and/or banks of the Oswegatchie River, shall not occur from March 15 to July 15, in order to minimize impacts to fish spawning activities.

16. Impoundment Drawdowns/dewatering activities: Impoundment drawdowns (the operation of drawing down the impoundment) for maintenance or construction purposes shall be allowed between July 16 to September 30. Impoundment drawdowns shall not occur from October 1 to July 15, to protect hibernating amphibians and reptiles and to

protect fish spawning activities in the impoundment. However impoundment drawdowns may be allowed for flashboard installation or dam safety inspections during the October 1 to July 15 period, provided the certificate holder consults with and receives the Department's written approval to commence with a drawdown within this restricted timeframe. Consultation shall include, but not be limited to, establishing acceptable timing of drawdown and refilling rates.

Prior to any drawdown or dewatering activities, the certificate holder shall provide the Department with a written proposal including engineering and design details (if applicable) for the Department's review. Impoundment drawdowns or dewatering activities shall not commence until the certificate holder consults with and receive the Department's written approval regarding timing of drawdown and refilling rates as well as acceptance of any submitted designs. The certificate holder shall also provide proper prior notification to the Department as per Condition #25 before any work commences.

Drawdown elevations for routine spillway maintenance activities shall be consistent with provisions identified in Section 3.1 and Table 3.1 of the Settlement. Emergencies shall be addressed pursuant to Natural Resource Permit Condition #6 of this Certificate.

Impoundment drawdown and refilling operations shall occur at a gradual rate (pursuant to the foresaid consultation and approval) in order not to strand aquatic species. The certificate holder shall monitor areas affected by the drawdown, refilling operations or dewatering activities and return any stranded fish back to adequate water conditions.

17. <u>Maintenance Dredging</u>: The certificate holder shall install and maintain appropriate turbidity control structures while conducting any maintenance dredging activities in associated with the Project. Refer to Condition #15 for in-water work restrictions.

Appropriate turbidity control structures (such as, but not limited to filter fabric (turbidity) curtains weighted across the bottom and suspended at the top by floats) shall be positioned to enclose the work site before commencing dredging. The containment method shall remain in place and in functional condition during all phases of dredging operations and remain in place until after dredging has terminated and turbidity inside the containment area no longer exceeds ambient levels. During any portion of the dredging operation or prior to containment removal, if noticeable turbidity occurs outside the containment area, work shall cease until the containment method is repaired or reinforced and is functioning properly.

18. <u>Sediment Analysis and Disposal:</u> The certificate holder shall sample any sediment which will be disturbed by the work or removed from the project's waters and test them for contaminants. Sampling and testing shall be accomplished according to a protocol that is consistent with the Department's Technical and Operations Guidance 5.1.9 or

applicable guidelines/regulations. The sampling protocol shall include a disposal protocol based on analytical sediment sampling results and current applicable regulations/guidelines. The sampling results are required to be submitted to the Department at least 60 days prior to the commencement of dredging or work that will disturb sediment in the project waters. Dredging or other excavation cannot commence until the certificate holder also secures the Department's approval for the disposal or interim holding locations for any sediments to be removed from the project waters.

19. Placement of cofferdams, construction of temporary access roads or ramps, or other temporary structures which encroach upon the bed or banks of the Oswegatchie River or project reservoir: At least 60 days prior commencing work on the installation of cofferdam or other temporary structures which encroaches on the bed or banks of the Oswegatchie River, the Certificate holder shall submit NY State certified engineered designs to the Department for review. The certificate holder shall not commence work until the Department grants written approval of the proposed design of all such structures as they pertain to water quality, and to compliance with water quality standards and this certificate . The Department will conduct its review of the proposed design within 60 days after receipt of all materials it determines are necessary for completing such review.

20. Erosion and Sediment Control Plan: At least 60 days prior to commencing any major construction or maintenance activities within the project boundary which could adversely affect water quality, the certificate holder shall submit to the Department for review and approval, an erosion and sediment control plan (the Plan). The Plan and work proposed therein shall meet the erosion and sediment control goals and performance standards set forth in Condition #21. Work shall not commence until the certificate holder receives the Department’s written approval of the Plan.

21. Erosion and Sediment Control Goals and Performance Standards: At a minimum, the certificate holder shall ensure that the following erosion and sediment/contaminant control measures, are adhered to during operation, construction and/or maintenance that may result in sediments/contaminants entering any wetland or waterbody:

a) All erosion and sediment controls measures shall be properly installed prior to work. Site preparation work shall not be undertaken until all required erosion control measures have been installed and are functioning properly. Siltation prevention measures (e.g. silt fencing, sediment traps or settling basins) shall be installed and maintained during the project to prevent movement of silt and turbid waters from the project site and into any watercourse, stream, water body or wetland.

b) Install effective erosion control measures on the downslope of all disturbed

areas (including, but not limited to construction/maintenance equipment staging areas, driveways, roads ramps or other areas where runoff would reach a waterbody) to prevent eroded material from entering any waterbody or wetland. Erosion control measures shall be maintained in fully functional condition until the disturbed areas are fully stabilized. These erosion control measures are to be installed before commencing any other activities involving soil disturbance, equipment staging or major construction/maintenance activities commence.

c) Isolate in-stream work from the flow of water and prevent discolored (turbid) discharges and sedimentation caused by excavation, dewatering and construction/maintenance activities from entering any waterbody or wetland.

d) Exclude the use of heavy construction equipment below the mean high water line until the work area is protected by an approved structure and dewatered.

e) Stabilize any disturbed banks by grading to an appropriate slope, followed by armoring or vegetating as appropriate, to prevent erosion and sedimentation into any waterbody or wetland.

f) Minimize soil disturbance, provide appropriate grading and temporary and permanent re-vegetation of stockpiles and other disturbed areas to minimize erosion/sedimentation potential.

g) All areas of soil disturbance resulting from project operation, construction or maintenance shall be seeded with an appropriate perennial grass, and mulched with straw immediately upon completion of the activity. Mulch shall be maintained until suitable vegetation cover is established to the Department's satisfaction.

h) Protect all waters from contamination by deleterious materials such as wet concrete, gasoline, solvents, epoxy resins or other materials used in the construction, maintenance and operation of the project.

i) Ensure the immediate and complete removal of all dredged and excavated material, debris or excess materials from operation, construction, or maintenance from the bed and banks of all water areas to a Department approved upland disposal site.

j) Ensure that all temporary fill and other materials placed in the waters of the river are completely removed, immediately upon completion of construction, unless otherwise directed by the Department.

22. <u>Turbidity Monitoring</u>: During maintenance or construction related activities in or

near the Oswegatchie River or project reservoir, the certificate holder will monitor the waters of the river at a point immediately upstream of project activities and at a second point no more than 100 feet downstream from any discharge point or other potential source of turbidity. The certificate holder specifically agrees that if, at any time, turbidity measurements from the downstream locations exceed the measurements from the locations upstream of the work areas, all related construction on the project will cease until the source of the turbidity is discovered and the situation is corrected. The certificate holder is required to report any events where turbidity measurements for the downstream locations exceed the measurements from the upstream locations to the Department's Region 6 Natural Resources contact person (as specified in Condition #25), within 24 hours of the incident.

23. Maintenance of River Flows: During all periods of maintenance and construction activities, the certificate holder shall continuously maintain adequate flows immediately downstream of the work site consistent with the provisions of this certificate. If adequate river flows are not maintained, the certificate holder is required to notify the Department's Region 6 office in Watertown, within 24 hours of the incident.

24. Stormwater SPDES: All activities at the project requiring the disturbance of greater than one acre shall obtain coverage under the SPDES General Permit for Stormwater Discharges from Construction Activities (GP-02-01).

25. Notifications and Department Authorizations: The Regional Natural Resources Supervisor, or other appointed Natural Resources staff shall be notified in writing at least 60 days prior to commencing any project maintenance or construction work pertaining to water quality, compliance with water quality standards or to this certificate. Additionally, the certificate holder shall contact the assigned Region 6 Natural Resources staff within 7 days prior to the activity commencing (including but not limited to all drawdowns, flashboard replacements requiring drawdowns or disruptions of flows, and all construction or maintenance activities pertaining to water quality, compliance with water quality standards or this certificate) and within 7 days after it is finished (start notification/end notification). The Department will provide the certificate holder with the Region 6 Natural Resources contact information.

The Department reserves the authority to temporarily prohibit the project operator from commencing impoundment releases or drawdowns, or conducting in-water maintenance work (including dredging) due to the Department's determination that such actions will cause the project or facility to be out of compliance with applicable water quality standards or the Water Quality Certificate issued for the hydropower license. The project operator shall contact the Department Natural Resources staff contact person as soon as the project operator finds that water quality conditions permit the release, drawdown or in-water work to be conducted without being out of compliance with water quality standards or the Water Quality Certificate. The Department Natural Resources

staff person will then advise the project operator if conditions permit commencing releases or drawdowns.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. Water Quality Certification: The New York State Department of Environmental Conservation ("Department" or "NYS DEC") hereby certifies:

- the Department has reviewed the certificate holder's Application for Federal Hydroelectric License (hereafter referred to as "the Application") and all other available pertinent information, including the Settlement;

- the project will comply with Sections 301, 302, 303, 306 and 307 of the Federal Water Pollution Control Act as amended and as implemented by the limitations, standards and criteria of the state statutory and regulatory requirements set forth in 6NYCRR Section 608.9(a); and

- the project will comply with applicable New York State effluent limitations, water quality standards and thermal discharge criteria set forth in 6NYCRR Parts 700-706.

This Water Quality Certification is issued pursuant to Section 401 of the Federal Water Pollution Control Act (33 USC 1341).

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by the Department: The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the Certificate Holder is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

The Certificate Holder shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this certification, including the Settlement Agreement, as well as the FERC license and all pertinent maps, drawings and special conditions shall be available for inspection by Department staff at all times during such inspections at the project site or facility. Failure to produce a copy of the certification upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations: Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications for Permit Renewals or Modifications: The Certificate Holder shall submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application shall include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department shall be in writing.

4. Department Contacts: All contacts with the concerning this certificate, including submission of the information required by the above Natural Resource Permit Conditions and all applications for permit modification or renewal are to be submitted to:

Regional Permit Administrator
New York State Department of Environmental Conservation
317 Washington Street
Watertown, NY 13601

5. Permit Modifications, Suspensions and Revocations by the Department: The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the Certificate Holder to comply with any terms or conditions of the certificate;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing certificate;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. Permit Transfers: Permits are transferrable unless specifically prohibited by statute,

regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

APPENDIX B

Provisions of the Emeryville Hydroelectric Project Settlement Agreement, filed on May 18, 2010, addressing new license terms and conditions.

2.9 Invasive Species Management

Before the start of activities authorized under this agreement, the Licensee shall submit an Invasive Species Management Plan to the parties for review and approval. The plan shall include measures to prevent the introduction and/or spread of invasive species, and to eradicate any invasive species that may be introduced as a result of activities authorized under this agreement. The plan shall also include monitoring and reporting requirements. Work shall not commence unless/until the appropriate agency(s) has approved the plan.

3.1 Impoundment Operations

3.1.1 Normal Run of River (ROR) Operations

For the protection of aquatic resources, the Licensee shall operate the impoundment at the Emeryville Hydroelectric Project in a ROR mode. To maintain a ROR mode, the normal impoundment water level shall be regularly maintained at or above the impoundment elevation target set point (target set point). The target set point shall be equal to the elevation of the top of flashboards or at 586.6 (USGS). The goal is to keep the impoundment elevation at or above the target set point at all times, with a 0.30 foot tolerance allowed under normal operating conditions.

3.1.2 Return to ROR Operations Following Deviations

The Parties agree that both naturally occurring and operational situations beyond the Licensee's control may occasionally and temporarily cause the project to deviate from true ROR operations; for these cases it is desirable to allow some relatively small changes in reservoir elevation in order to maintain a relatively steady flow in the downstream river reaches while returning the project to ROR operations after deviations have occurred, and for routine spillway maintenance activities. The tolerances are not considered to be an allowance for pulsed operations, nor are they intended to become the routine range in impoundment fluctuations. Drawdowns to supplement outflow during long-term low flow events such as droughts are not authorized. The process of restoring the impoundment elevation to the target set point should be done with gradual changes to maintain a minimum outflow as determined by consultation with the NYDEC.

Table 3.1 Emeryville Hydroelectric Project Impoundment Elevation Criteria

Permanent Spillway Crest Elevation and Associated Impoundment Elevation Target Set Point (Feet, MSL)	Top of Flashboards Elevation and Associated Impoundment Elevation Target Set Point [1] (Feet, MSL)	Maximum Elevation Tolerance Below Top of Flashboards or Spillway Crest[2] (Feet)	
		Run-of-River (ROR) Operation[3]	Routine Spillway Maintenance[4]
Spillway Crest – 584.2	Top of Boards – 586.6	0.3	2.0
Target Set Point – 584.2	Target Set Point – 586.6		

Notes:

(1) Maximum flashboard elevation (boards at full upright position). Actual elevation may vary between maximum and spillway crest per the operating status of the flashboards (i.e., ice impact). The impoundment elevation target set point corresponds to the actual operating status/operating range of the flashboards.

(2) The goal is to keep the impoundment at or above target set point at all times with a 0.30 foot tolerance allowed under normal operations.

(3) Elevation changes greater than the criteria specified in this table shall be reportable incidents. Elevation change is measured from the top of flashboards.

(4) Routine spillway maintenance defined as flashboard replacement, dam safety inspection (i.e., FERC Part 12D Safety inspections) and dam repair. Flashboard replacement requires elevation change to provide worker access to spillway. Elevation change is measured from the spillway crest.

3.2 Bypass Flow

3.2.1 Bypass Flow Magnitude

The Licensee shall continuously release a minimum flow of 20 cfs or inflow, whichever is less, into the bypassed reach. This flow shall be released over the existing spillway at a location approximately 25-feet left (looking downstream) from the existing bypass flow weir. Compliance shall be determined by the use of a staff gage and/or monument, and by visual observation of flow depths through a proposed monitoring weir in the bypass channel immediately downstream from the spillway (See Sections 3.2.2 and 3.4.2).

3.2.2 Bypassed Reach Modifications

Within 18 months of FERC license issuance, the Licensee shall construct modifications to the bypassed reach to accommodate the proposed minimum bypass flow.

The proposed modifications will be made in conjunction with downstream fish passage improvements outlined in Section 3.3. A conceptual sketch and supporting documentation of the proposed modifications is included in Attachment A of this Settlement Agreement.

The modifications consist of:

1. Replacement of the existing spillway minimum flow bypass weir with a new bypass weir/flume conducive to downstream fish passage. The new flume shall be located near an existing plunge pool approximately 25-feet left (looking downstream) from the existing bypass weir. The flume will be designed to provide a nappe trajectory into the proposed enhanced plunge pool. A flow control mechanism will be incorporated into the flume design for calibration of the bypass flow.

2. The existing plunge pool will be enhanced by construction of a weir wall across the bypassed reach approximately 50-feet downstream from the existing spillway. The weir wall will be designed to:
   a. Provide sufficient plunge pool depth for protection of downstream fish passage (minimum 1-foot depth per 4-foot vertical drop).
   b. Increase plunge pool size [wetted surface area will be increased by 2,500 square feet (0.06 acres) to improve aquatic habitat conditions].
   c. Provide a trapezoidal monitoring weir at the plunge pool outlet to the bypassed reach minimum flow channel. For flow confirmation purposes, a concrete bench will be constructed within the plunge pool at the appropriate weir flow depth for ease of visual observation. In addition a staff gage or monument will be placed in the downstream minimum flow channel to verify flow measurements.
   d. The bypassed reach minimum flow channel will be excavated as needed to provide a smooth flow condition to minimize potential fish injury. Rock protrusions in the chute at the downstream end of the bypassed reach will be removed to reduce the potential for strike and/or impingement of downstream passing fish. Existing rock protrusions along the thalweg of the chute will be removed or their height reduced to no more than 1/3 of the water depth at the facility minimum flow of 20 cfs.

3.2.3 Emergency Exceptions

The Licensee may curtail or suspend the bypass flow requirement for Section 3.2 if required by operating emergencies beyond the control of the Licensee, and for short periods, upon prior mutual agreement between the Licensee and the NYSDEC. If the flows are modified in the event of an emergency, the Licensee shall notify FERC and the NYSDEC as soon as possible, but no later than ten (10) days after such an incident.

3.3 Fish Protection and Downstream Fish Passage

3.3.1 Fish Movement

3.3.1.1 Bypassed Reach Enhancements

Within 18 months from the date of FERC license issuance, the Licensee agrees to complete improvements to the bypassed reach to accommodate downstream fish passage. The improvements shall be made in conjunction with the minimum bypass flow enhancements (Section 3.2). The proposed improvements are described in detail in Section 3.2 as well as Attachment A.

3.3.1.3 Fish Passage and Section 18

The new FERC license for this project shall include the standard license article in which the Secretary of the Interior exercises Section 18 authority by reserving the Secretary's authority to prescribe the construction, operation and maintenance of such fisheries as deemed necessary.

3.3.2 Fish Protection

3.3.2.1 Seasonal Overlay Trashracks

Within 18 months from the date of FERC license issuance, the Licensee agrees to commence seasonal installation of overlay trashracks with 1.0 inch clear spacing over the full length and height and over the upstream face of the existing trashracks. The seasonal overlay trashracks shall be maintained in place for the period March 15 through November 30 of each year. Details of the proposed seasonal overlay trashracks are shown in Attachment B. The actual dates of placement and removal of the trashrack overlays will be recorded and reported annually to the NYSDEC and the FWS. Such notification shall be made a week (minimum) prior to placement and removal, or immediately if the deadline is not met. After every five years, the issue will be revisited to determine whether the overlays have been regularly installed in a timely fashion. Failure to regularly meet the required installation date may result in the need for permanent overlays.

3.3.2.3 Emergency Exceptions

A waiver or time extension for annual installation may be issued on a case-by-case basis should weather conditions prohibit installation in a timely manner. This request shall be made by the Licensee to the NYSDEC and the FWS allowing proper lead time for consideration and approval. If the commitment is not met, for whatever reason, the

Licensee shall notify FERC as soon as possible, but no later than ten (10) days after each such incident.

3.4 Flow and Water Level Monitoring

3.4.1 Bypass Flow Monitoring

As part of the Bypass Flow enhancements the Licensee agrees to install a visual observation feature to allow for efficient visual confirmation of the minimum bypass flow magnitude. The Licensee agrees to install a concrete benchmark within the plunge pool at an elevation coincidental with the flow depth required to maintain the minimum bypass flow through the bypass monitoring weir as well as a staff gage/monument within the downstream minimum flow channel.

3.4.2 Flow and Water Level Monitoring

The Licensee agrees to install, within 18 months from the date of FERC license issuance, all binary staff gages/monuments. These staff gages/monuments include a binary staff gage at an appropriate location within the project impoundment to permit independent verification of headpond water levels and staff gage/monument in the bypassed reach as indicated in §3.4.1 All binary staff gages/monuments shall be visible to the public and access to the staff gages/monuments shall be provided without notice to NYSDEC, FWS, and/or their authorized representatives at all times.

The Licensee shall keep accurate and sufficient records of the impoundment elevations to the satisfaction of the NYSDEC and shall provide such data in a format and at intervals as required by the NYSDEC. The NYSDEC will provide the Licensee with a contact person to receive such information. All records will be made available for inspection at the Licensee's principal business office within New York State within five (5) business days or will be provided in written form within 30 days of the Licensee's receipt of written request for such records by the NYSDEC. Furthermore, the Licensee will provide to the NYSDEC a seven-day-per-week contact person(s) to provide immediate verification of monitored water levels and responses to questions about abnormal or emergency conditions.

3.5 Recreation

3.5.1 Existing Recreational Facilities

The Licensee agrees to maintain the existing recreational facilities including impoundment access and boat launch, parking, canoe portage and signing, picnic area and downstream boat launch for the duration of the new license. The Licensee will prepare a Recreation Management Plan prior to the filing of its application for license

outlining its operations management responsibilities with regard to the recreational facilities. Such Recreation Management Plan shall provide for both impoundment access and downstream access with the exception of periods of ice cover.

EMVERYVILLE HYDROELECTRICT PROJECT
SETTLEMENT AGREEMENT

ATTACHMENT A

Bypass Flow and Downstream Fish Passage Facility Enhancements Details

Memo

Stantec

To:	Dana Dougherty Ann Arbor, MI Office	From:	Michael Chelminski Topsham ME Office
File:	2075099900	Date:	June 9, 2009

The memo presents a brief discussion of methods used for the development of a proposed structure intended to provide downstream fish passage and minimum bypassed channel (bypass channel) flows at the Emeryville Hydroelectric facility (FERC Project No. 2850) Oswegatchie River in Emeryville, New York. The objective of the proposed structure is to provide improved downstream fish passage and minimum bypass channel flows of 20 cubic-feet-per-second.

Minimum bypass channel flows at the project are currently released using a stoplog bay along the crest of the dam. This stoplog bay functions as a weir, and flows over the weir impinge on the sloped, downstream face of the dam and on a bedrock outcrop along the lower, downstream face of the dam. While this structure is capable of providing minimum bypass channel flows, it is not ideal for downstream fish passage due to potential impingement of downstream-passing fish on the face of the dam and/or the bedrock outcrop.

The proposed structure ("flume") would be located along the crest of the dam immediately upstream of the deepest portion of the downstream plunge pool where there are currently no bedrock outcroppings above the normal plunge pool water surface elevation. The design of the structure is intended to provide smooth acceleration of flows from the headpond to the point of discharge adjacent to the crest of the dam, with the objective of creating a free nappe with a trajectory that clears the face of the dam.

Site Geometry

The horizontal distance between the downstream crest of the dam and the point along the downstream face of the dam where it transitions from a sloped to a vertical face is approximately 7.5 feet (ft). The normal headpond water surface elevation is 586.6 ft, which is 2.8 ft above the crest of the dam (elevation 583.8 ft). The proposed plunge pool normal water surface elevation is 564.6 ft, resulting in a hydraulic height of 23 ft.

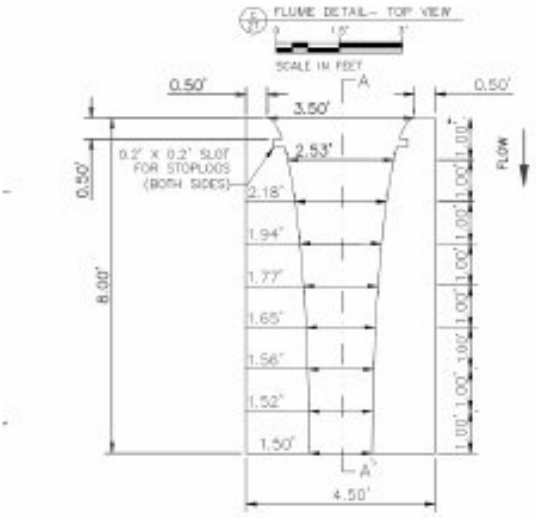
Flume Design

The general feasibility of the flume was initially evaluated using a simple energy-balance equating potential and kinetic energy and a parabolic trajectory based on a horizontal discharge trajectory at the crest of the dam. The required minimum flow speed at the point-of-discharge from the flume to clear the downstream face of the dam based on a parabolic trajectory was calculated to be approximately 7 feet-per-second

(fps). A simple energy balance (e.g., assuming no energy losses) was then used to determine an approximate equivalence of potential energy (e.g., change in water surface elevation between the headpond and discharge point of the flume) to kinetic energy (e.g., flow speed). This analysis indicated that a suitable trajectory could be achieved.

The basis of the flume design was that a smooth transition of flows would minimize energy losses and maximize flow speeds at the point-of-discharge from the flume. The sidewalls of the proposed flume are parabolic in plan, with a 3.5-ft wide opening that contracts to a width of 1.5-ft at the point of discharge (this "final" configuration was arrived at based on multiple design iterations). The plan geometry of the proposed flume is shown on Detail C/27 on Sheet 28 ("Proposed Weir and Flume Details") of the project submittal, and is shown here as Figure 1.

Figure 1: Proposed Flume Geometry



A one-dimensional, numerical hydraulic model using the US Army Corps of Engineers HEC-RAS software system (Version 4) was used to perform preliminary analyses of the proposed flume geometry. This model confirmed that flow speeds at the point of discharge from the flume would be sufficient to provide a parabolic trajectory that would clear the downstream face of the dam.

Validation of this design was performed using a three-dimensional, computational fluid dynamics (CFD) model. The Flow3D © CFD model was used for this analysis. The development of this model was initiated with the development of a three-dimensional solid of the proposed flume and underlying portion of the dam. This solid was developed using CAD software, and exported as a stereolithography file for importing into the CFD software. An isometric view of this solid is shown in Figure 2.

Figure 2: Isometric View of Solid for CFD Analysis

A specified inflow boundary condition of 20 cfs was used for the CFD model analysis, with the headpond water surface elevation calculated based on the calculated discharge capacity of the flume. The calculated upstream water surface elevation was therefore used as confirmation of flume capacity. The CFD model was initially run with a relatively coarse mesh to develop a preliminary flow solution and subsequently run with a refined orthogonal Cartesian mesh with 0.25-ft square cell volumes, resulting in a total of 840,951 mesh volumes.

The calculated headpond elevation for the refined-mesh solution at 20 cfs was 0.2 ft below the minimum headpond elevation, indicating that the proposed flume has the hydraulic capacity to discharge in excess of 20 cfs at the normal headpond water surface elevation. Calculated flow speeds at the point-of-discharge of the flume exceeded 6.5 fps on the surface of the discharge volume at the discharge from the flume and were greater in the center of the volume. Figure 3 shows calculated flow speeds along the center of the discharge profile with the contour-coloring fixed at 10 fps for clarity. Figure 4 shows an isometric view of the discharge nappe with the solid model of the flume and adjacent section of the dam, and shows the nappe clearing the downstream face of the dam.

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Dana Dougherty
Page 4 of 5

Figure 3: Flow Speed (fps) Along CFD Model Centerline

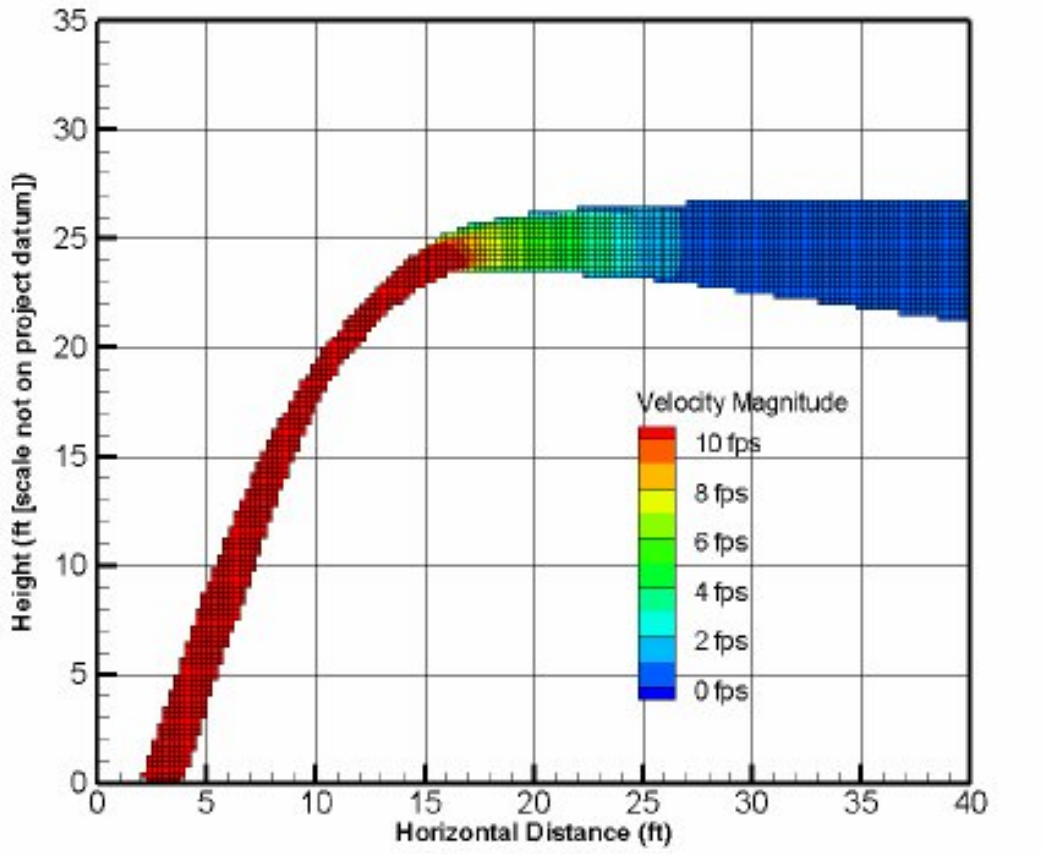

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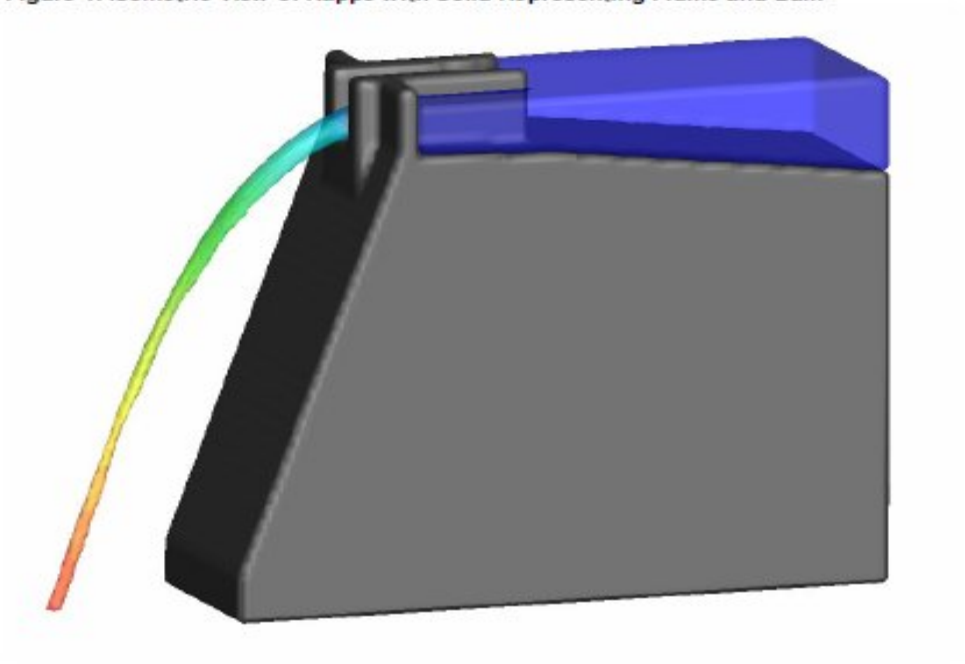
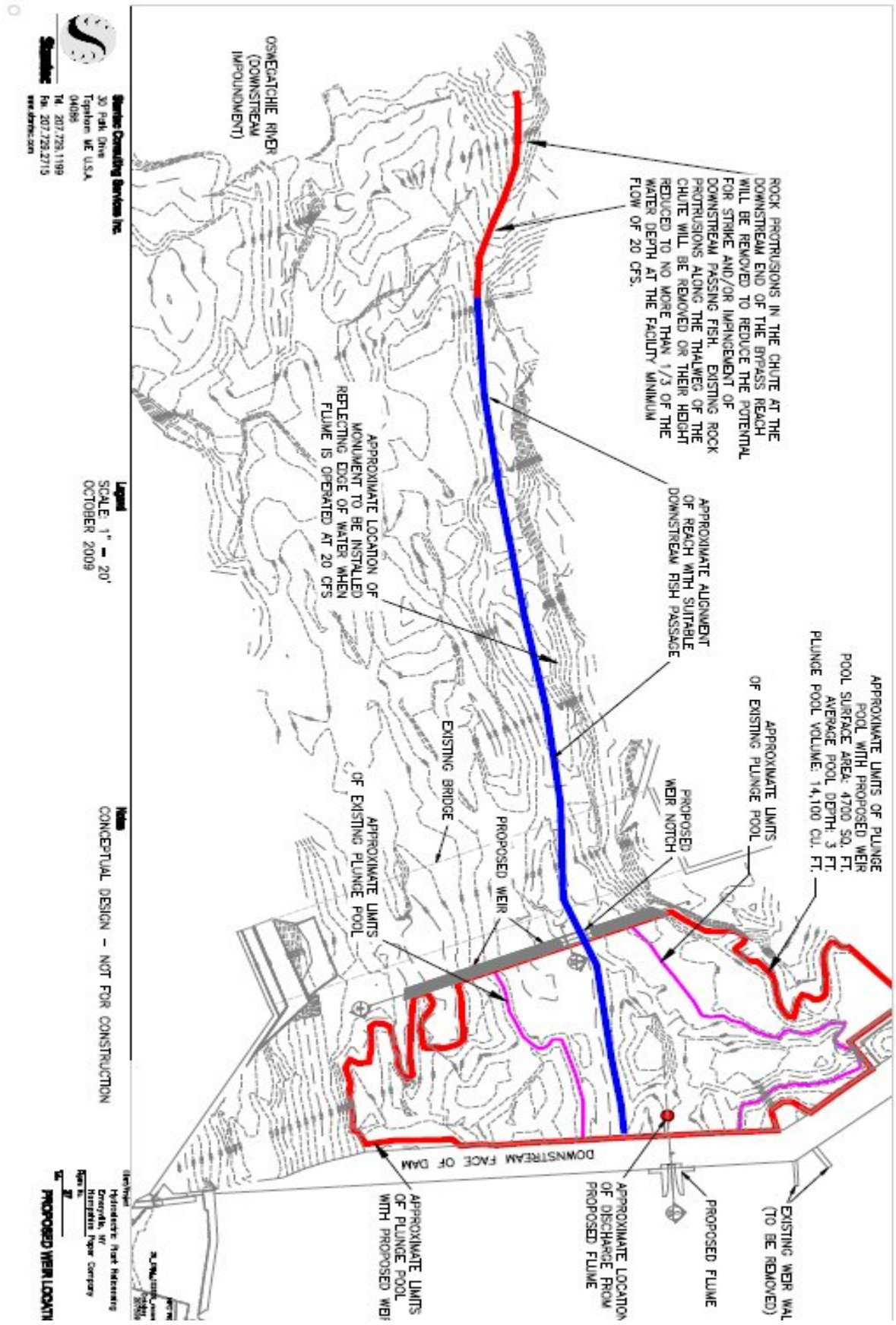
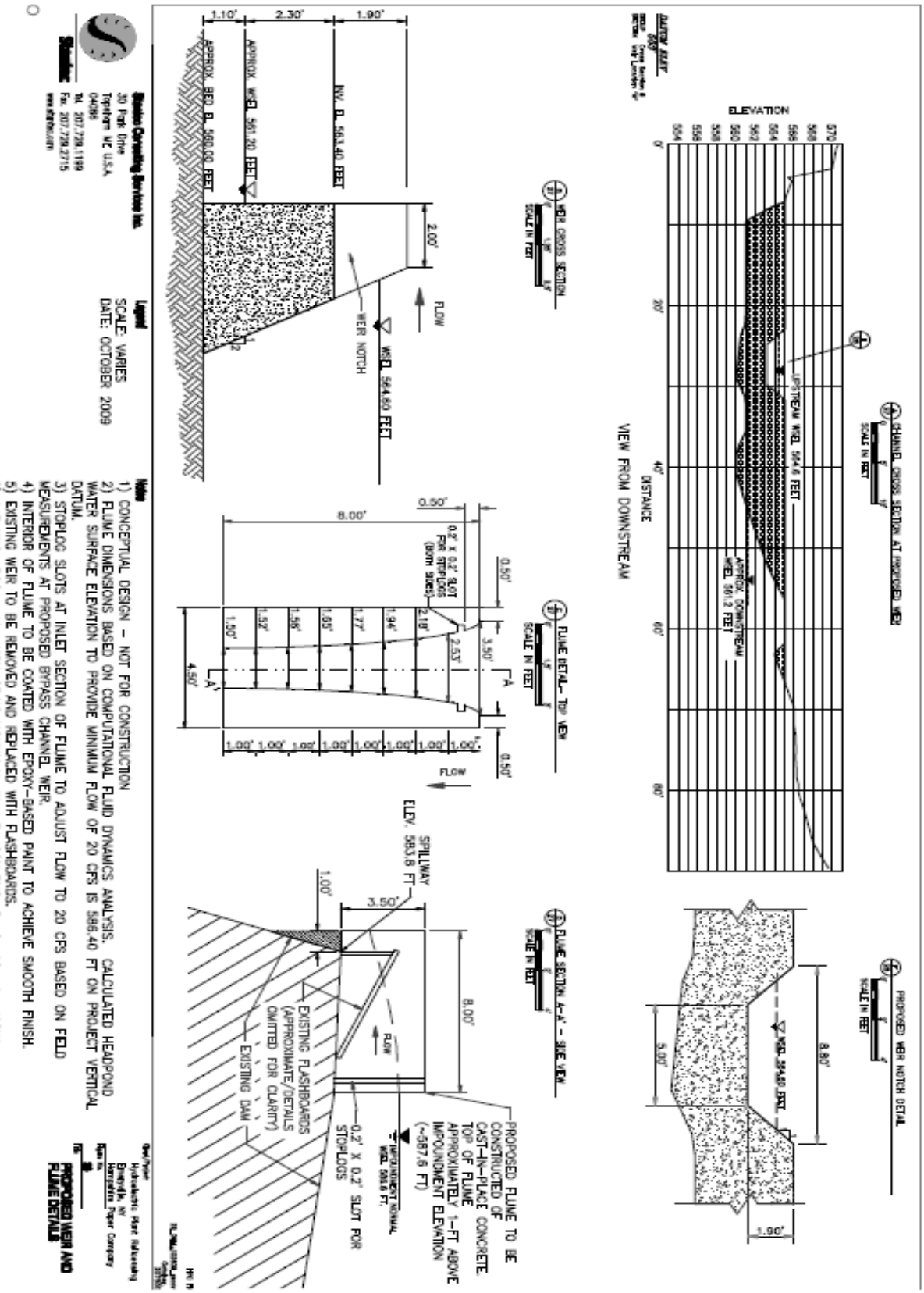
Figure 4: Isometric View of Nappe with Solid Representing Flume and Dam

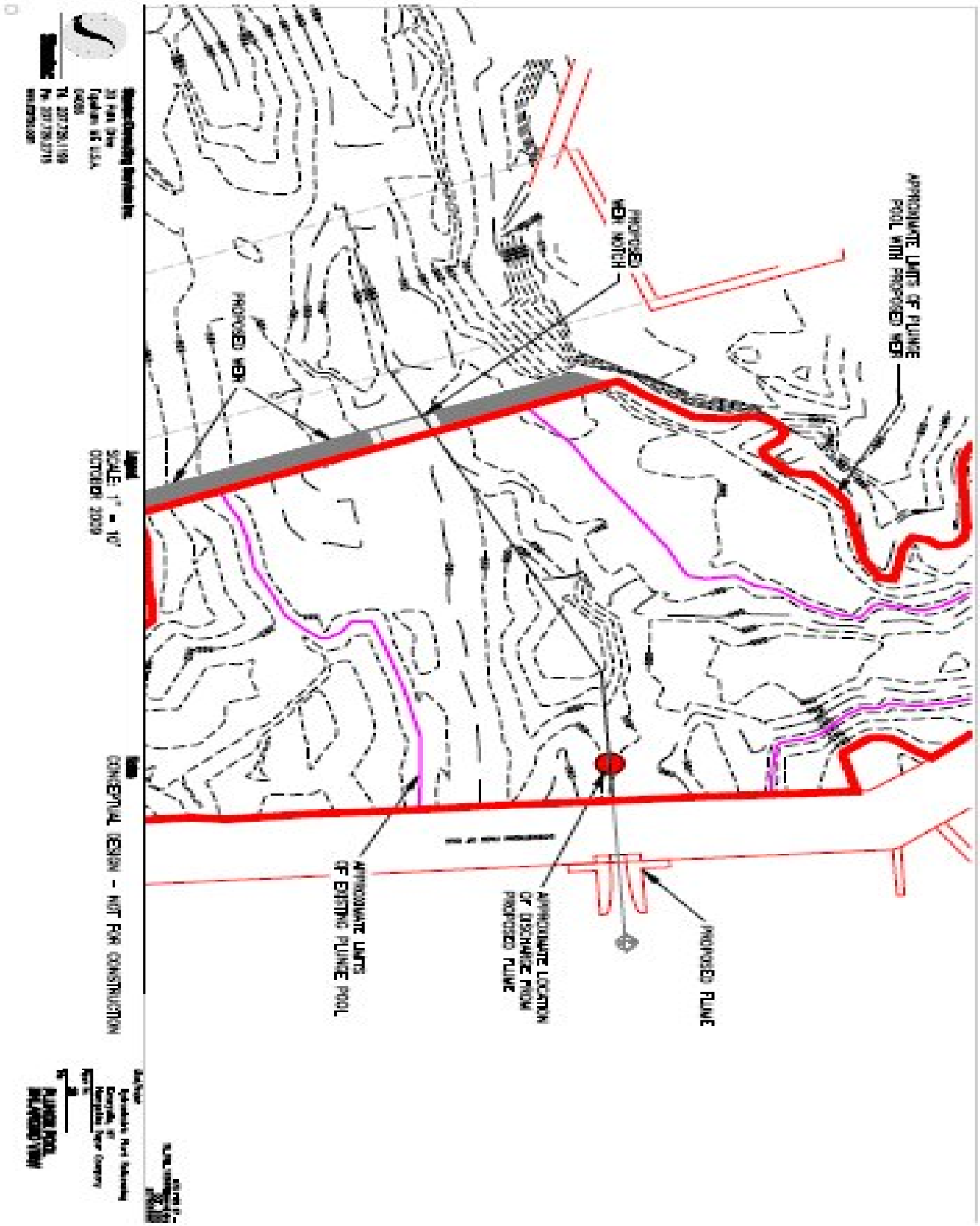


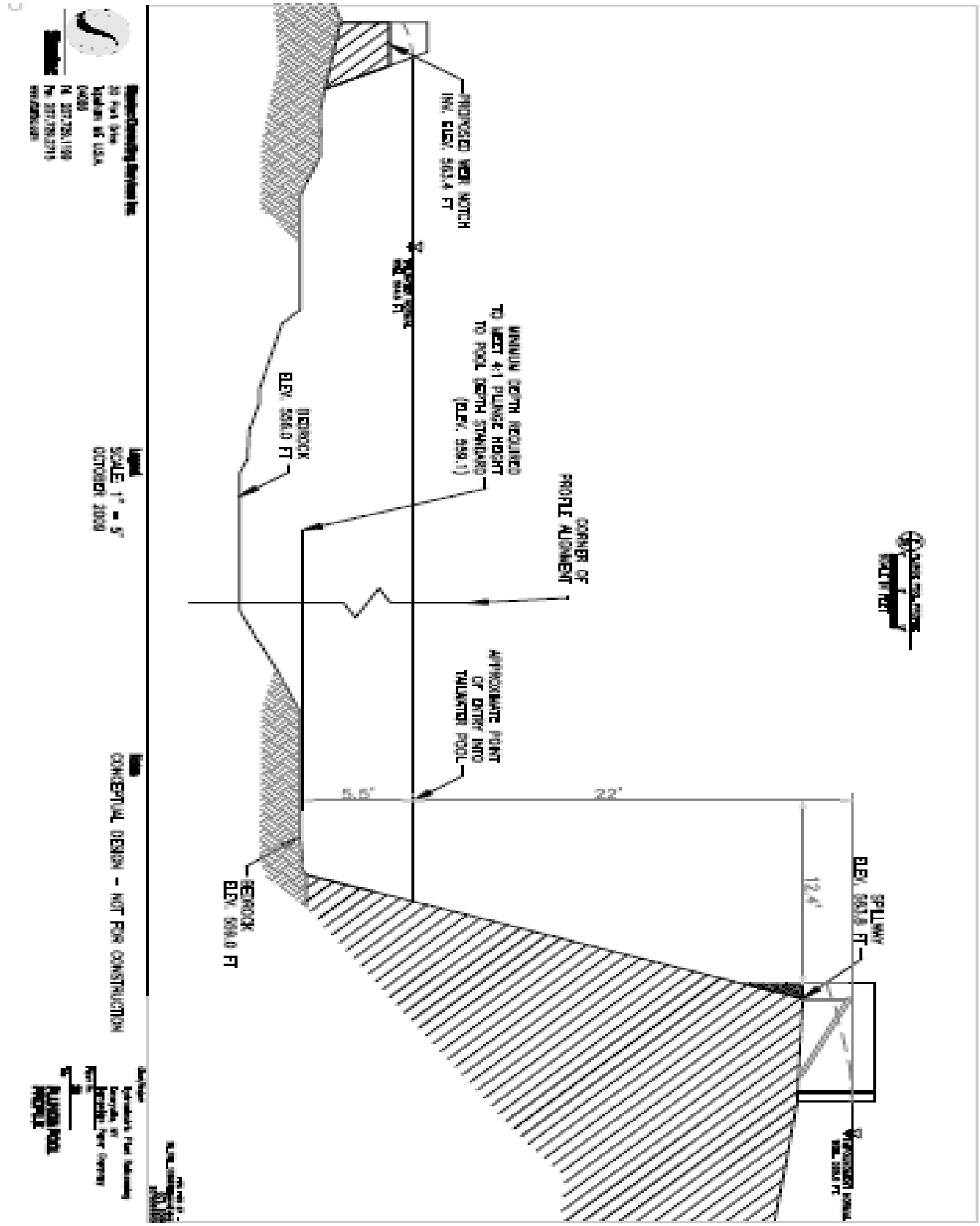
STANTEC CONSULTING SERVICES INC.

Michael Chelminski, P.E.
Senior Associate, Environmental Management
michael.chelminski@stantec.com



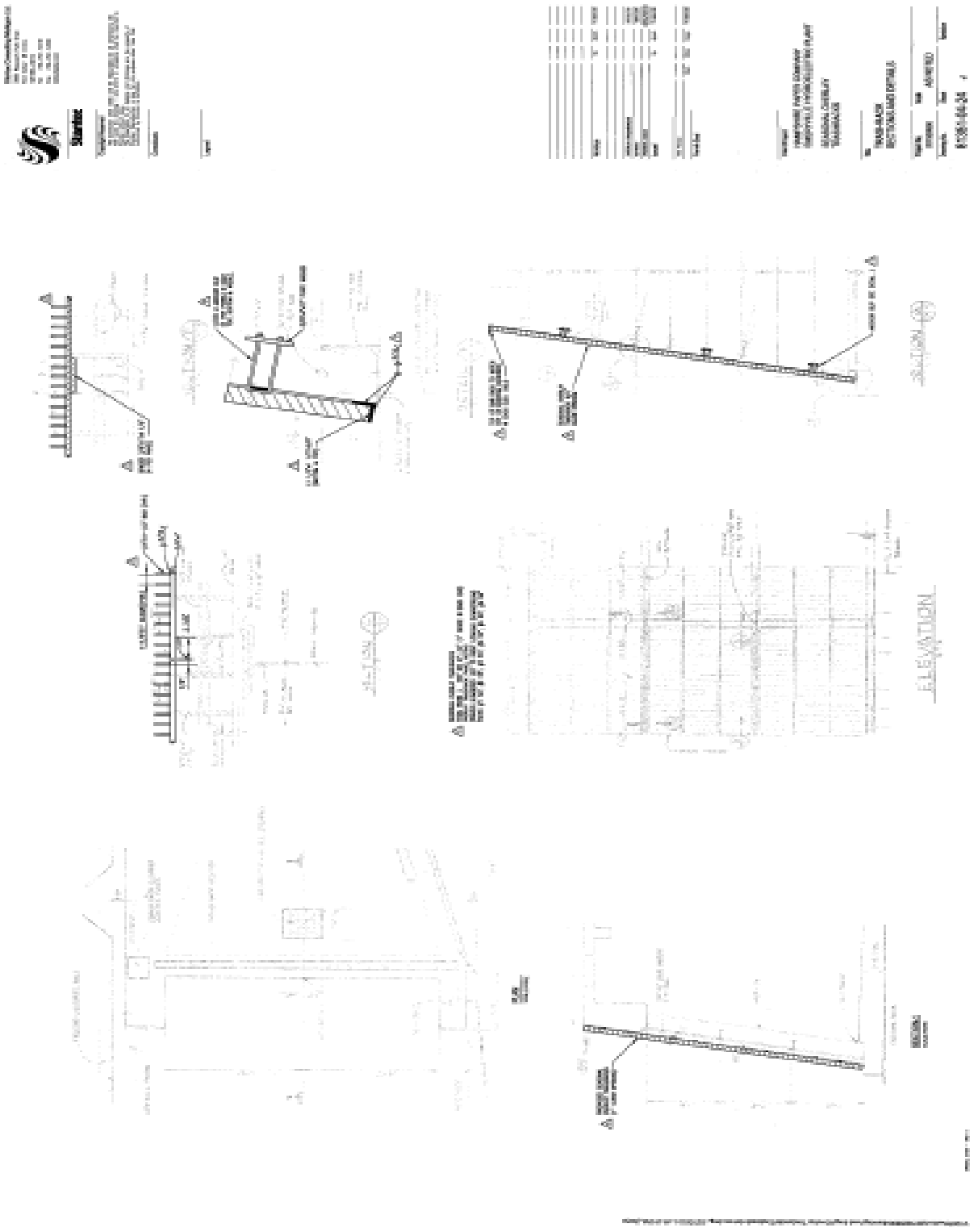





PROPOSED WEIR NOTCH
INV. ELEV. 593.4 FT
MINIMUM DEPTH REQUIRED
TO MEET 4:1 PLUNGE HEIGHT
TO POOL DEPTH STANDARD
(ELEV. 598.1)
BEDROCK
ELEV. 596.0 FT
CORNER OF
PROFILE ALIGNMENT
APPROXIMATE POINT
OF ENTRY INTO
TAILWATER POOL
5.6'
22'
12.4'
BEDROCK
ELEV. 596.0 FT
SPILLWAY
ELEV. 598.0 FT
SCALE 1" = 5'
OCTOBER 2009
CONCEPTUAL DESIGN - NOT FOR CONSTRUCTION

ATTACHMENT B

Details – Season Overlay Trashracks



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