MAHONING CREEK HYDROELECTRIC COMPANY, LLC

FAIRLAWN, OHIO

MAHONING HYDROELECTRIC PROJECT

FERC NO. 12555

RECREATION AND AESTHETICS PLAN

JANUARY 2012

Prepared by:

Kleinschmidt
Energy & Water Resource Consultants

MAHONING CREEK HYDROELECTRIC COMPANY, LLC
FAIRLAWN, OHIO

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ARTICLE 405

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ARTICLE 405

RECREATION AND AESTHETICS PLAN

1.0 INTRODUCTION

The following Recreation and Aesthetics Plan (Plan) has been prepared to comply with the requirements of License Article 405 of the Federal Energy Regulatory Commission's (FERC) Order Issuing New License dated March 4, 2011, for the Mahoning Creek Hydroelectric Project (FERC No. 12555) (Project). The Project is to be constructed, owned and operated by Mahoning Creek Hydroelectric Company (MCHC) at the existing US Army Corps of Engineers (USACE) Mahoning Creek Dam in Wayne and Redbank Townships in Armstrong County, Pennsylvania.

The existing Mahoning dam and reservoir were constructed by the USACE beginning in 1939 and became operational in 1941. The USACE project consists of a 162-ft (ft)-high, 926-ft-long dam with a 192-ft-long spillway section equipped with five 29-ft-high, 30-ft-long vertical lift gates (i.e., sluice gates), impounding a 5-mile-long, 280-acre reservoir with a normal pool elevation of 1,077 ft mean sea level (msl); and a 192-ft-wide, 950-ft-long stilling basin[1] regulated by a 180-ft-long flat-crested stilling basin weir and located downstream of the dam. Flow through the dam is controlled by three 5 ft 8 inch (in) by 10 ft sluices with service and emergency gates and one 36 in ball valve emergency gate and one 24 in ball valve with emergency gate. The proposed Project will consist of a new powerhouse, with appurtenant water conveyances, approximately 1,200 ft downstream from Mahoning Creek Dam to

[1] The stilling basin is a concrete structure that dissipates the energy of water released from the dam and protects the riverbed from erosion.

accommodate a turbine generating system with a gross head which varies from 64 to 87 ft, an estimated hydraulic capacity of 875 cfs, and an installed capacity of 6.0 MW.

An Order Issuing New License for the Project was issued by the FERC on March 4, 2011. Article 405 of the License requires a Recreation and Aesthetics Plan be filed for the Project within 6 months of the date of license issuance (September 4, 2011). The specific measures identified in Article 405 and addressed in this Plan are summarized as follows:

(1) drawings showing the proposed design and locations of a new fishing pier and access ramp adjacent to the stilling basin, including any appropriate signage and lighting (Appendix A);

(2) a discussion of ownership, operation, and management responsibilities for all project recreational facilities (Section 5.0);

(3) a description of and design drawings of the powerhouse and any associated features used to minimize visual impacts (Section 1.0 and Appendix B); and

(4) an implementation schedule (Section 4.0).

Article 405 also stipulates that this Plan shall be developed in consultation with the USACE and the Pennsylvania Fish and Boat Commission (PFBC). In addition, Article 405 specified that MCHC shall include with the Plan "documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the entities above, and specific descriptions of how the entities' comments are accommodated by the plan and shall allow for a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission" (FERC, 2011).

Pursuant to Article 405 of the Project license, this Recreation and Aesthetics Plan describes the new recreational amenities and facilities that are to be developed at the Project and how they will be managed into the future, specifically the construction and operation of a new public, ADA[1] compliant fishing pier at the stilling basin. In addition, the Recreation and Aesthetics Plan addresses efforts to minimize the effects on visual resources by designing and constructing the powerhouse and appurtenant facilities to blend into the existing environment.

2.0 RECREATION FACILITIES

2.1 Existing Recreation Facilities

Within the project vicinity of Armstrong County, there are over 4,200 acres of neighborhood and community parks (NRFP, 1978 as cited in Armstrong County, 2005). Parks including Crooked Creek Lake Park, Ford City Community Park, Kittanning Community Park, Belmont Complex, Freeport Community Park, and Leechburg Area Parks (Armstrong County, 2005).

Within close proximity of the Project, there are two USACE operated public recreation sites located on Mahoning Creek, immediately downstream from the dam and across from the Project (Figure 2-1): Outflow Fishing Area and the Dam Site Picnic Area. While neither of these sites are within the project boundary, they are located across the river from the Project and will be affected by project structures and operations, including enhancement proposals.

[1] Americans with Disabilities Act

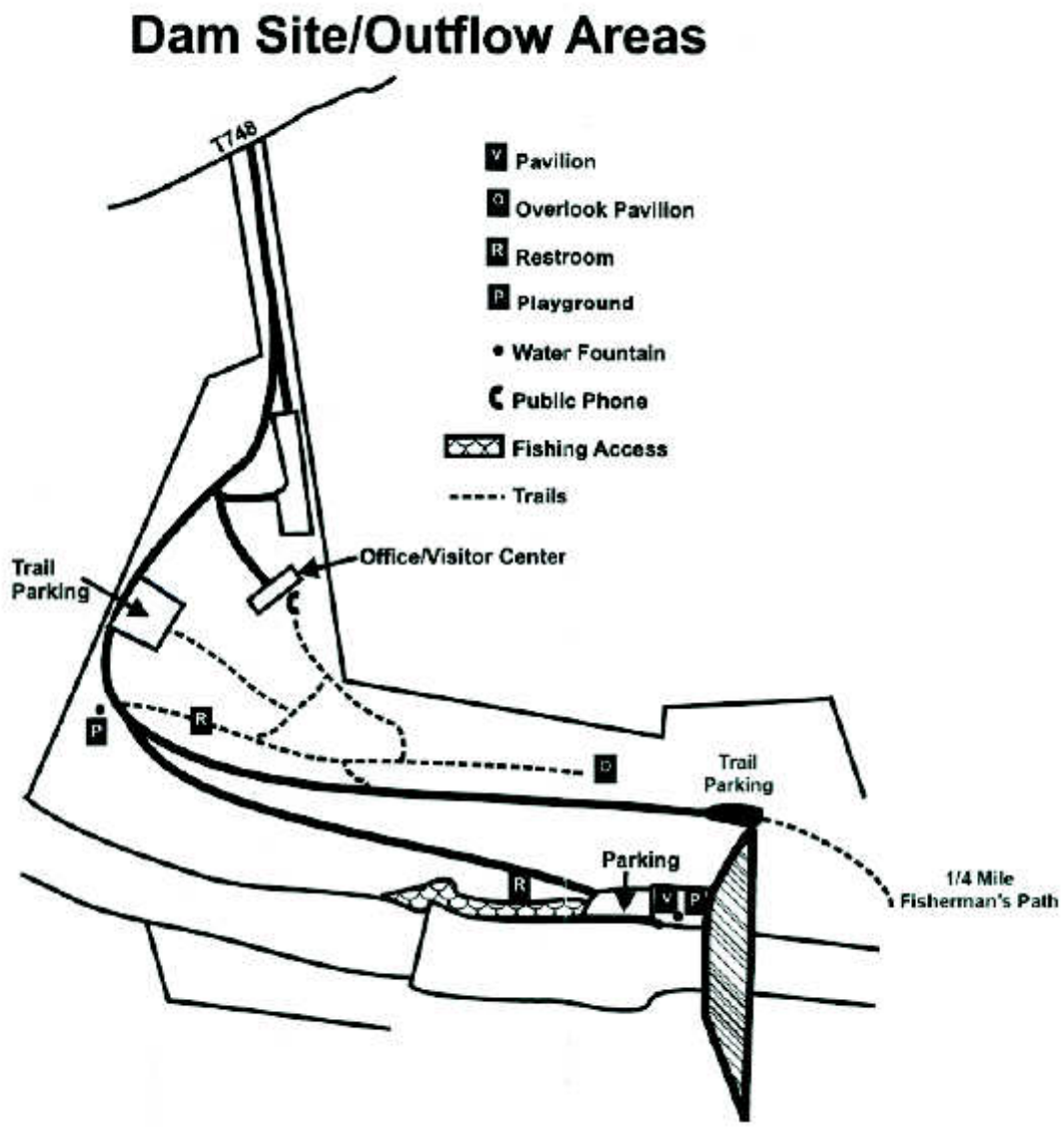


Figure 2-1. Dam Site Picnic Area and Outflow Fishing Area

The Outflow Fishing Area is an USACE-operated fishing access to the stilling basin below the Dam, located on the northern shore of Mahoning Creek immediate downstream of the Dam. This site provides a playground, ADA compliant restroom facilities, potable water, a picnic shelter and 17 picnic tables, and bank fishing access (USACE, 2009; TRC, 2008). As noted by the USACE, there was a fishing pier in this area in the past, but it has since been removed (FERC, 2010). In addition, the site also has "a foot trail leading from the pavement downstream

of the parking area, up the slope to the abutment of the stilling weir training wall and back down again, leading to a set of steps to the shore" (James Fisher, USACE, September 15, 2011).

The Dam Site Picnic Area is adjacent to the Outflow Fishing Area and is an USACE-operated picnic area. This site is located adjacent to the Dam and provides a picnic area with tables and grills, a playground, potable water, walking trails and an overlook pavilion, and a visitor's center. An additional parking area serves an angler trail that provides shoreline access to the impoundment (USACE, 2009).

2.2 Proposed Recreation Facilities

Although the proposed Project will have some temporary effects on fishing access in some limited areas downstream of the dam during project construction activities, it will not have significant long-term effects on recreational facilities at the USACE Project or use of those facilities.

After consultation with USACE on site, the Licensee will construct and install a floating fishing pier in the stilling basin (Appendix A). The pier will be compliant with ADA guidelines for fishing piers (US Access Board, 2002), is planned as a permanent installation (i.e. not requiring removal in the winter), and will be constructed to withstand high flow forces.

In addition, the Licensee will install fish attraction structures and an interpretive display. In consultation with the PFBC and the USACE, the recommended fish attraction structure to be installed will consist of several submerged boulders measuring generally 4 ft high by 4 ft long by 4 ft wide. These boulders will be placed approximately 15 to 20 feet from the southern shoreline, approximately 40 ft apart, in the mid-section of the stilling basin and will be at sufficient depth such that the boulders are submerged under normal full pool conditions.

3.0 AESTHETICS

3.1 Existing Aesthetic Conditions and Effects of Proposed Project

In 2008, a study of the effects of the proposed Project on aesthetics was conducted with respect to construction, land disturbance activities, and project operations. The study provided graphics depicting the existing visual environment at the project site and the expected change in scenery from various vantage points resulting from the construction of the proposed Project (MCHC, 2008). Photo 3-1 provides a depiction of the proposed penstock area and powerhouse location pre- and post-construction as seen from the top of Mahoning Creek Dam.

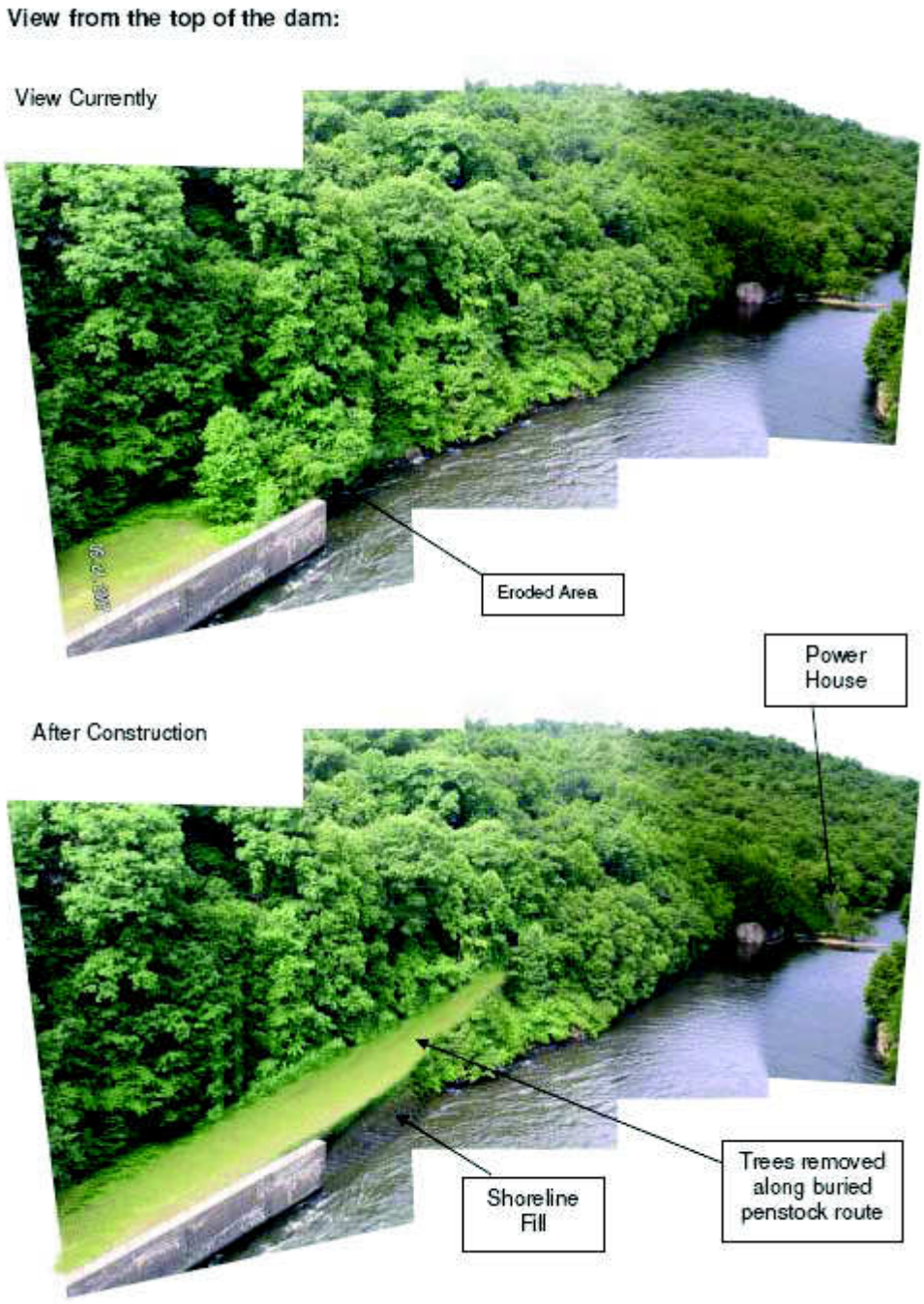


Photo 3-1. View of the Southern Shore Before and Proposed After Construction

Source: MCHC, 2008

As discussed above, the powerhouse will be a 20-ft-tall, reinforced concrete 50 by 30-ft structure. The powerhouse will be relatively non-descript and blend with the developed structures of the Dam and outlet channel (Photo 3-2).

View from North Bank fishing area on the Weir Abutment:

View Today

After Construction

4.3

Photo 3-2. View of the Proposed Powerhouse Location Before and After Construction

Source: MCHC, 2008

3.2 Proposed Aesthetic Enhancements

To limit the visual impact from project structures, the penstock will be buried and vegetated with native plantings, as shown in Photo 3-1. The powerhouse will be designed and constructed to blend in with the existing environment, in particular in keeping with the existing USACE structures and architecture, as shown in Photo 3-2. Powerhouse walls that are visible from the north bank will be contoured using a concrete form (Duraform # 12003 New England Drystack has been selected) and the stained in a color (TBD) to complement the natural rock in the vicinity. Plantings around the power house will be of native species. MCHC will propose adding visual buffers, such as rock piles as appropriate to the USACE for any structures still deemed to be not in keeping with the existing visual environment.

4.0 SCHEDULE

The Licensee will construct the fishing pier and access ramp once the Plan is approved by the Commission, expected in summer of 2012, assuming timely FERC approval. Design features of the proposed fishing pier are shown in Appendix A. Construction and installation of the fishing pier is expected to take approximately 2 weeks. This measure has a capital cost of $45,000 and annual maintenance costs of $5,000. Aesthetic enhancements and mitigation will be implemented as the Project is constructed. The proposed schedule for construction is as follows:

Table 4-1. Implementation Schedule for Project Recreation and Aesthetics Plan

Schedule	Task
July 26, 2011	Agency review of plan
August 26, 2011	End of agency comment period and incorporate comments into final Plan
November 3, 2011	File final Plan with FERC for approval
January, 2012	File revised final Plan with FERC for approval
May 2012	All required construction permits secured
First week of May 2012	Start construction and installation

5.0 OPERATIONS AND MAINTENANCE

Upon construction and installation, MCHC will work with USACE to delegate operations and maintenance of the fishing pier to USACE staff responsible for operation and maintenance of the Outflow Fishing Area. USACE and MCHC will inspect the pier annually concurrent with the opening of open-water fishing in the spring to identify the need for general repairs. MCHC will be responsible for annual repairs and USACE will be responsible for periodic maintenance of the pier floats.

6.0 ANNUAL CONSULTATION AND PROCESS

6.1 Annual Consultation and Reporting

MCHC will consult with the USACE and PFBC on an annual basis regarding the state of the fishing pier and ramp. In addition, the Licensee will conduct periodic monitoring of the use of the fishing access site to facilitate that preparation of the Commission's Form 80 reports.

6.2 Updating the Recreation and Aesthetic Plan

Should there be any future changes to the fishing pier, the Plan will be updated accordingly. In addition, if the USACE and PFBC propose any changes in consultation with FERC that the licensee agrees are necessary, they will be included in an updated version of the Plan.

7.0 AGENCY CONSULTATION

In accordance with Article 405 of the project license, a draft of this proposed Recreation and Aesthetic Monitoring Plan was distributed to the USACE, PFBC, and SHPO for review and comment on July 20, 2011. Comments were received from the USACE on September 15, 2011 and from the PFBC on September 23, 2011. Additional comments were received from the USACE via email on November 14, 2011 and from the PFBC via letter on December 24, 2011. These documents are provided for reference in Appendix C, pursuant to the requirements of Article 405.

In addition, Article 405 of the project license requires that the plan include "specific descriptions of how the entities" comments are accommodated by the plan", as well as discussion of the project specific reasons why MCHC does not adopt a recommendation (FERC, 2011). Responses to agency comments and recommendations on the Plan are provided in the agency comment matrix included in Appendix C, pursuant to the requirements of Article 405.

8.0 REFERENCES

US Access Board. 2002. Accessible Fishing Piers and Platforms. [Online] URL: http://access-board.gov/recreation/guides/fishing.htm. Accessed October 5, 2011.

Armstrong County Comprehensive Plan (ACCP). 2005. [Online] URL: http://co.armstrong.pa.us/files/pd/accp_2005.pdf. Accessed February 18,2009.

Federal Energy Regulatory Commission (FERC). 2011. Order Issuing Original License for Major Project for the Mahoning Creek Hydroelectric Project (FERC No. 12555). Issued March 4, 2011.

Federal Energy Regulatory Commission (FERC). 2010. Supplemental Environmental Assessment issued for the Mahoning Creek Power Project on October 20, 2010.

Mahoning Creek Hydroelectric Company, LLC (MCHC). 2008. Fish Entrainment and Impingement Technical Memorandum. May 2008. pp. 1-7.

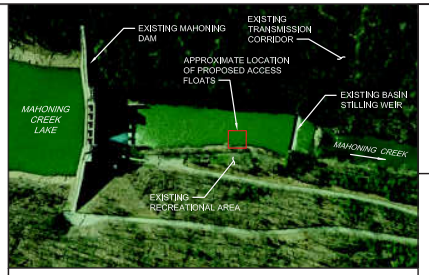
TRC. 2008. 2008 Recreation Study Report for the Proposed Mahoning Creek Power Project.

U.S. Army Corps of Engineers (USACE). 2009. Comments on the Mahoning Creek Draft License Application. Accession No.: 20090624-5124. Filed June 24, 2009.

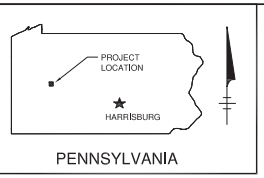
APPENDIX A

FISHING PIER PLAN SET

22x34 = FULL SCALE / 11x17 = HALF SCALE



SITE LOCATION MAP



PENNSYLVANIA

PROPERTY LINE

SOUTH ABUTMENT

NPDES PERMIT BOUNDARY

ACCESS ROAD

SHOTCRETE WALL

PENSTOCK ALIGNMENT

SHOTCRETE WALL

3' HIGH GABION WALL

TRASHRACK AND INTAKE STRUCTURE

TURBIDITY BARRIER

DRAIN TILE OUTLET

RIPRAP APRON AT PIPE OUTLET

SOLDIER PILE WALL

4'x 4' ROCKS

100 YEAR FLOOD EL. 1026.9' UPSTREAM OF EXISTING STILLING WEIR

DRAIN TILE OUTLET

EXISTING MAIN SLUICE GATE TRASHRACKS

EXISTING STILLING BASIN WEIR

POWERHOUSE

EXISTING STILLING BASIN

MAHONING CREEK

APPROXIMATE LOCATION OF PROPOSED ACCESS FLOATS

EXISTING LOW FLOW VALVE TRASHRACKS

TAILRACE

MAHONING CREEK

EXISTING ACCESS ROAD

EXISTING RECREATION FACILITY

EXISTING USACE MAHONING CREEK DAM

NORTH ABUTMENT

EXISTING ACCESS ROAD

SITE PLAN

1"= 50'

50 0 50 100

SCALE IN FEET

PRELIMINARY
DO NOT USE FOR CONSTRUCTION
15 DEC 2011

No.	Revision	Date	Drawn	Checked
-	-	-	-	-

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Designed	Drawn	Checked
RJD	HWF	LLC

Project No.	Date Revised	Drawing No.	Rev.
1361-004	12-15-11	1	-

MAHONING CREEK HYDROELECTRIC COMPANY, LLC
PURETY, PENNSYLVANIA

MAHONING CREEK DAM
RECREATION PROJECT

SITE PLAN

Kleinschmidt
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Telephone: (207) 487-3328
Fax: (207) 487-3124
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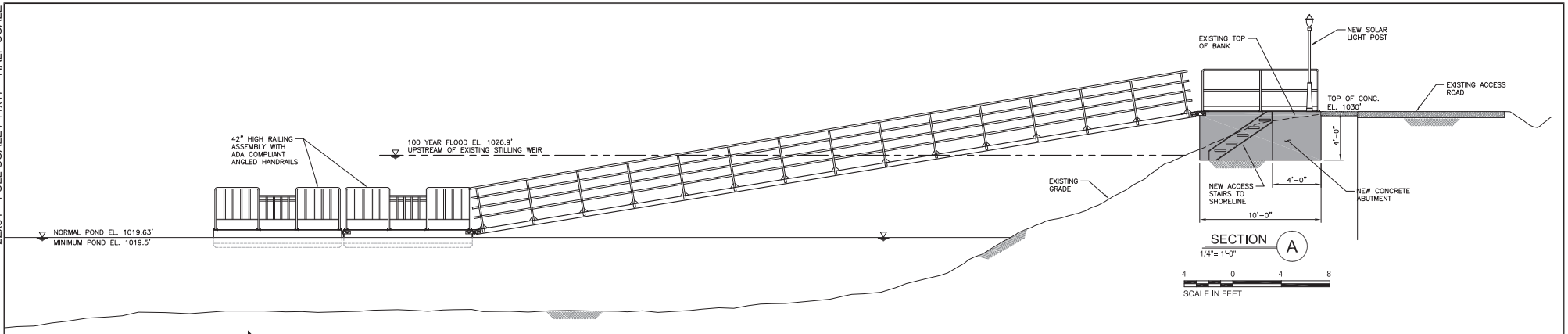
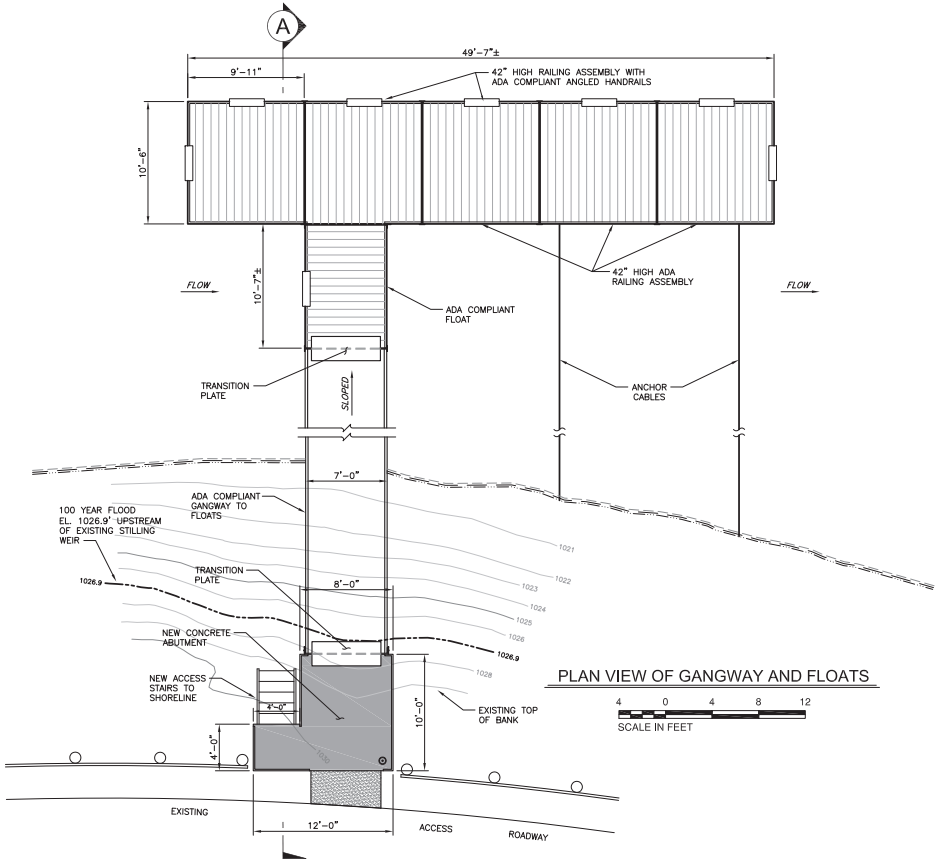
Dec. 15, 2011 - 4:22 PM J:\1361\004\Drawings\Working Drawings\1361-004 Sheets 1 and 2.dwg

22x34 = FULL SCALE / 11x17 = HALF SCALE



SECTION A
1/4" = 1'-0"

4 0 4 8
SCALE IN FEET



PLAN VIEW OF GANGWAY AND FLOATS

4 0 4 8 12
SCALE IN FEET

PRELIMINARY
DO NOT USE FOR CONSTRUCTION
15 DEC 2011

MAHONING CREEK HYDROELECTRIC COMPANY, LLC
PURETY, PENNSYLVANIA

MAHONING CREEK DAM
RECREATION PROJECT

LOCATION AND LAYOUT OF
PROPOSED WHEEL CHAIR ACCESSIBLE FLOATS

No.	Revision	Date	Drawn	Checked
-	-	-	-	-

Designed	Drawn	Checked
RJD	HWF	LLC

Project No.	Date Revised	Drawing No.	Rev.
1361-004	12-15-11	2	-

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APPENDIX B

DESIGN PLANS FOR VISUAL ENAHNCEMENTS OF PRJECT FEATURES

Contains Critical Energy Infrastructure Information

Filed under separate cover

MAHONING HYDROELECTRIC PROJECT (FERC NO. 12555)
RECREATION AND AESTHETICS PLAN

APPENDIX C
CONSULTATION DOCUMENTATION

	Agency	Comment	Response
1	USACE	The crest gates at the dam are described in the second paragraph on Page 1, but not the five low level outlets. There are three 5'8" x 10' sluices with service and emergency gates, a 36" ring jet with a 36" ball valve emergency gate, and a 24" ball valve with a 24" ball valve emergency gate exiting through a 6' diameter penstock and surge chamber in the north training wall.	The Recreation and Aesthetics Plan has been updated to provide this additional information.
2	USACE	Our overall preference would be for the fishing facility to be constructed on the left bank in the vicinity of the hydropower tailrace since that is where the fishing will likely be the best once the plant is operational. We understand that the access road from the public highway will need to cross private property before entering Corps property on the left bank, which complicates the situation. However, we would appreciate including a discussion of that option as part of the Recreation Plan, including details as to why a left bank facility constructed near the proposed powerhouse is not feasible if that is the case.	MCHC considered the merits of various provisions for angling access to Mahoning Creek. The provision of an ADA compliant fishing pier on the southern shoreline would necessitate a significantly upgraded access road, new parking area, and other potential support facilities such as trash receptacles and restrooms that would require additional construction activities and significantly increase the footprint of built environment on that side of the river. Furthermore, approximately 0.6 mile of the access road is on privately owned lands. Securing easements and permissions for the periodic use of this road for access to the powerhouse has been challenging. It is not expected that MCHC would be able to secure an easement for permanent public access along this roadway. As existing paved access and parking and other support facilities are already provided on the northern shore of Mahoning Creek by the USACE recreation access site, placement of the ADA compliant fishing pier at this location is the most environmentally de minimus and cost effective option.

	Agency	Comment	Response
3	USACE	Another potential access area that should be addressed in the report is the area downstream of the stilling weir on the right bank. There is currently a foot trail leading from the pavement downstream of the parking area, up the slope to the abutment of the stilling weir training wall and back down again, leading to a set of steps to the shore. There are obvious challenges to creating an accessible fishing site given the topography, but the fishing downstream of the weir is better than in the stilling pool and we feel that this option is worthy of evaluation and discussion.	Provision of a fishing pier below the stilling basin on the northern shore to take advantage of the USACE access road, parking and other support facilities was also considered. The precipitous nature of the shoreline in this location would preclude the provision of an ADA compliant fishing pier, as constructed accessible route slopes would be at too high a slope for ADA compliance (maximum of 1:12 or 8.33% grade). As a primary goal of MCHC's recreational enhancement is ADA compliance, it would not be practical to improve this access. In addition, as the stilling basin is currently stocked with trout, the proposed ADA compliant pier would directly support a targeted recreational fishery.
4	USACE	We recommend that the discussion of the Outflow Fishing Area be expanded to include mention of the aforementioned trail and stairs connecting the recreation area with shoreline fishing downstream of the stilling weir.	The description of the angling access trail to the area below the stilling basin weir has been added to the discussion of the Outflow Fishing Area.

	Agency	Comment	Response
5	USACE	What is the range of motion for the floating pier and walkway? What maximum water surface will they accommodate? Have you determined an estimated discharge at which point the pier would be damaged? As stated in previous correspondence, the US Army Corps of Engineers will not be held responsible for any damages occurring as a result of the normal operation of Mahoning Dam.	The range of motion for the fishing pier and length of the walkway were calculated using elevation data from the access road where the concrete abutment begins. As shown on Sheet 2 in Appendix A, the top of the gangway would be at EL 1030 ft, at the elevation of the existing access road. The impoundment of the stilling basin by the weir creates a normal pool elevation of EL 1019.63 ft (under min flow conditions of 30 cfs) and a minimum pool elevation of EL 1019.5 ft. Under extreme high flow conditions of 6,000 cfs (max flow since 1981 is 6,800 cfs), the stilling basin would reach a maximum elevation of EL 1024 ft. As such, the gangway has been designed to accommodate a maximum range of motion between minimum pool and maximum pool conditions of 4.5 ft (range of 9.2% and 16.9% gangway slope). Based on the calculated average velocity and force of water on the pier for a flow of 6800 cfs, the resulting force is 107 pounds against the full side of the pier. No damage would be expected under these conditions, particularly considering velocity would be less near the shore.
6	USACE	The narrative includes a reference to “steps leading from the pier access ramp to the shore for improved shoreline access” but this feature is not shown on Drawing 1. As has been mentioned in previous meetings, we encourage the construction of additional steps or grouted walkways through the riprap along the banks of the stilling pool to enhance angler access.	This feature is shown on updated drawings provided in the Plan in Appendix A.

	Agency	Comment	Response
7	USACE	The narrative also mentions the installation of fish attraction structures, but again these are not indicated on Drawing 1. We support this concept but will need to review details to assure that they will not affect the hydraulic characteristics of the stilling pool.	These features are shown on updated drawings provided in the Plan in Appendix A and consist of 4 ft by 4 ft by 4 ft boulders placed approximately 15 to 20 ft from the southern shore, approximately 40 ft apart, as preferred by PFBC and USACE.
8	USACE	Installation of solar lighting in the middle of the pier has been discussed in the past. This would be a nice amenity for the fishermen, but it is not shown on the drawing or mentioned in the narrative. Is this still part of the plan?	This feature is shown on updated drawings provided in the Plan.
9	USACE	Installation of a few angled arm rests on the railings in locations that would be of use to anglers seated in wheelchairs would be a benefit.	This feature has been added and is shown on updated drawings provided in the Plan.
10	USACE	The installation of a combined audible/visible warning system to alert anglers downstream of the stilling weir to rising water levels caused by increased flow through the hydropower plant will be required. Would you like to address that issue as part of the recreation plan or as part of another submittal, such as the Operations Memorandum of Agreement?	MCHC will work with the USACE within the Operations MOA to determine the best audible/visible warning system protocol for the Project.
11	USACE	The Plan includes the statement that USACE will be responsible for seasonal installation, removal and storage of the pier floats. Please be advised that the Mahoning Creek Lake project does not have the typed of equipment necessary to install or remove the pier nor a place to store it. In addition, the need for seasonal removal is not clear; please explain why annual removal is considered necessary.	The pier will be a fixed in place, floating pier and will not be removed. The Plan has been updated to reflect this.

	Agency	Comment	Response
12	USACE	We appreciate the attempt to illustrate what the completed powerhouse will look like and how it will fit in with its surroundings. It appears, however, that Photo 3-2 is a depiction of the powerhouse as if it was parallel to the shoreline, rather than at the planned 45 degree angle. In addition, we have to assume that construction of the powerhouse will require more clearing than is indicated by Photo 3-2 and that some of the mature vegetation closest to the powerhouse will have to be removed, thus changing the appearance more than Photo 3-2 implies.	The depiction in Photo 3-2 is conceptual only and represents the settled environment.
13	USACE	The plan states that the powerhouse will be a reinforced concrete structure, but that it will be designed and constructed to blend in with the existing environment. Are any specific surface treatments or the use of pre-cast panels on the exterior surfaces anticipated?	Powerhouse walls that are visible from the north bank will be contoured using a concrete form (Duraform # 12003 New England Drystack has been selected) and stained in a color to be determined to complement the natural rock in the vicinity, as specified in the Plan.
14	USACE	The Plan calls for the installation of a natural boulder break in the downstream ogee portion of the stilling basin weir. The boulder break as depicted in the drawing will not impact weir performance for low flows. However, an analysis of the weir performance when the tailwater submerges the boulders, when the weir submerges and during higher flows is needed.	The boulder break previously proposed has been determined, through consultation with the USACE, to not be the most effective mechanism by which to enhance DO, given concerns about the hydraulics. As agreed to with USACE, MCHC will monitor DO levels post-construction and should USACE determine that enhancement is necessary, will coordinate with the USACE on the best enhancement to accomplish this.

	Agency	Comment	Response
15	PFBC	Discharge of water from the powerhouse increases the importance of providing fishing access below the bypassed stilling basin. This is area is currently important for fishing and will increase in importance as released water will attract fish to this area. We recommend that trail access to the north side of Mahoning Creek be enhanced to provide a safer angling experience for users. We suggest enhancement of access over the bank at selected points in the 100 meter reach downstream of the stilling basin The area is currently rather difficult to access.	Based on comments received during a December 23, 2011 site visit with PFBC and as detailed in PFBC's December 24, 2011 letter (Appendix B), MCHC will work directly with the USACE and the PFBC on an appropriate strategy for addressing trail improvements along the existing angler access foot trail that extends from the access road to Mahoning Creek downstream of the stilling basin weir. As this trail is outside of the project boundary and FERC jurisdiction and is on USACE property, this consultation is being pursued outside of the FERC Recreation Plan.
16	PFBC	In our experience, ADA access to a floating pier via a sloped ramp does not provide an extremely stable fishing platform for some disabled individuals, particularly under wet or windy conditions. We accept the design and suggest an adjacent small shore-based ADA accessible fishing platform for those individuals who may find use of the proposed ramp challenging. We believe that this additional feature can be incorporated into the proposed design. Location to allow casting around the proposed pier would be important. Lighting would be helpful in this area.	The floating pier and ramp have been designed in full compliance with the ADA guidelines adhering to standards for gangway slope, accessible routes, transitions, and railings. Given that the access ramp under normal pool conditions is well within these guidelines, we believe our design accomplishes the goals of providing ADA compliant angling access to the stilling basin. We have included lighting in our updated design drawings.
17	USACE	The description of the various gates and valves in Section 1 needs to be revised to be accurate. Please see paragraph 1 of our 15 September comments.	This discussion has been revised in the Plan accordingly.

	Agency	Comment	Response
18	USACE	Section 5, Operations and Maintenance, still states that "USACE will be responsible for periodic maintenance and seasonal installation, removal and storage of the pier floats". However, in Section 2.2, the report states that the pier is now intended as a permanent one not requiring removal in the winter. Section 5 should be revised to reflect the permanent installation.	This correction has been made in the Plan to reflect permanent installation of the pier.
19	USACE	Appendix B is not included in the public information due to Critical Energy Infrastructure Information constraints. If any changes were made to what was contained in the draft copy sent for review, we would appreciate receiving copies of the updated version.	The revised Recreation Plan design drawings have been provided to the USACE and the PFBC upon filing of this revised Plan with FERC.
20	USACE	Section 7, Agency Consultation, states that the comment letters received by the Corps and PFBC are included in Appendix C, along with a description of how agency comments are addressed in the plan. However, the letters are not actually included, only the comment response matrix, in the version FERC supplied.	This has been corrected in the revised Plan.
21	PFBC	Field examination of the outflow fishing area indicated modification of our September 23 suggestions was necessary. The North bank is too steep to allow additional access over the bank from the existing playground/parking area and access road.	The stairs previously proposed for installation adjacent to the concrete fishing pier abutment have been removed from the revised Plan and design drawings.

	Agency	Comment	Response
22	PFBC	An economical and common sense approach for better angler access is to improve the existing informal access path for a distance of approximately 100 to 150 meters downstream of the existing steps to a point where the Corps property line intersects the north stream bank. Our intent is to allow easier, safer travel for able bodied anglers along the path. Moving upstream to downstream, improvements we recommend are: 1. Definition of a path in one of three locations downstream of the steps (Photo 2) to eliminate or improve a portion of the path that contains a steep four foot bank. 2. General path improvement by moving rocks and sections of fallen trees that impede travel, including pruning interfering vegetation in an approximate four foot width. We envision use of manual labor and hand tools for this work, including chain saws for removing sections of downed trees to improve ease of travel. In general, the path travels above the high water mark where herbaceous vegetation and shrubs transition to upland vegetation (Photo 3). 3. Enhancing the path around a large slanted boulder that reaches to the water's edge under high flow conditions (Photo 4). The rock was slippery on the date of the visit. We envision maintenance being simple annual pruning and removal of fallen material that impede use of the path.	See response to Comment #15.

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
WILLIAM S. MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE
PITTSBURGH, PA 15222-4186

REPLY TO
ATTENTION OF

September 15, 2011

John/rlj/7177

Operations Division
Natural Resources Management Branch

Mr. Randall Dorman
Kleinschmidt Energy and Water Resource Consultants
141 Main Street
P.O. Box 650
Pittsfield, Maine 04967

Dear Mr. Dorman:

I am writing in response to the Proposed Recreation and Aesthetics Plan for the Mahoning Hydroelectric Project (FERC No. 12550), submitted by Kleinschmidt Consultants on behalf of the licensee for that project, Mahoning Creek Hydroelectric Company, LLC. We have the following comments on the plan.

1. Section 1.0 – Introduction. The crest gates at the dam are described in the second paragraph on Page 1, but not the five low level outlets. There are three 5'8" x 10' sluices with service and emergency gates, a 36" ring jet with a 36" ball valve emergency gate, and a 24" ball valve with a 24" ball valve emergency gate exiting through a 6' diameter penstock and surge chamber in the north training wall.

2. Section 2.0 – Recreation Facilities, and Section 5.0 – Operations and Maintenance.

a. General Comments.

1. Our overall preference would be for the fishing facility to be constructed on the left bank in the vicinity of the hydropower tailrace since that is where the fishing will likely be the best once the plant is operational. We understand that the access road from the public highway will need to cross private property before entering Corps property on the left bank, which complicates the situation. However, we would appreciate including a discussion of that option as part of the Recreation Plan, including details as to why a left bank facility constructed near the proposed powerhouse is not feasible if that is the case.

2. Another potential access area that should be addressed in the report is the area downstream of the stilling weir on the right bank. There is currently a foot trail leading from the pavement downstream of the parking area, up the slope to the abutment of the stilling weir training wall and back down again, leading to a set of steps to the shore. There are obvious challenges to creating an accessible fishing site given the topography, but the fishing downstream of the weir is better than in the stilling pool and we feel that this option is worthy of evaluation and discussion.

b. Section 2.1, Existing Recreation Facilities. We recommend that the discussion of the Outflow Fishing Area be expanded to include mention of the aforementioned trail and stairs connecting the recreation area with shoreline fishing downstream of the stilling weir.

c. Section 2.2, Proposed Recreation Facilities and Drawing 1. Assuming that providing left bank fishing access or access on the right bank below the stilling weir can be shown to be impossible, we concur with the concept of installing a floating fishing pier adjacent to the existing Outflow Fishing Area at the location shown on the drawing. We have the following comments on the proposal as described in the draft Plan.

1. What is the range of motion for the floating pier and walkway? What maximum water surface will they accommodate? Have you determined an estimated discharge at which point the pier would be damaged? As stated in previous correspondence, the US Army Corps of Engineers will not be held responsible for any damages occurring as a result of the normal operation of Mahoning Dam.

2. The narrative includes a reference to "steps leading from the pier access ramp to the shore for improved shoreline access" but this feature is not shown on Drawing 1. As has been mentioned in previous meetings, we encourage the construction of additional steps or grouted walkways through the riprap along the banks of the stilling pool to enhance angler access.

3. The narrative also mentions the installation of fish attraction structures, but again these are not indicated on Drawing 1. We support this concept but will need to review details to assure that they will not affect the hydraulic characteristics of the stilling pool.

4. Installation of solar lighting in the middle of the pier has been discussed in the past. This would be a nice amenity for the fishermen, but it is not shown on the drawing or mentioned in the narrative. Is this still part of the plan?

5. Installation of a few angled arm rests on the railings in locations that would be of use to anglers seated in wheelchairs would be a benefit.

6. The installation of a combined audible/visible warning system to alert anglers downstream of the stilling weir to rising water levels caused by increased flow through the hydropower plant will be required. Would you like to address that issue as part of the recreation plan or as part of another submittal, such as the Operations Memorandum of Agreement?

d. Section 5.0 – Operations and Maintenance. The Plan includes the statement that USACE will be responsible for seasonal installation, removal and storage of the pier floats. Please be advised that the Mahoning Creek Lake project does not have the typed of equipment necessary to

install or remove the pier nor a place to store it. In addition, the need for seasonal removal is not clear; please explain why annual removal is considered necessary.

3. Section 3.0 – Aesthetics.

a. Photo 3-2, page 8. We appreciate the attempt to illustrate what the completed powerhouse will look like and how it will fit in with its surroundings. It appears, however, that Photo 3-2 is a depiction of the powerhouse as if it was parallel to the shoreline, rather than at the planned 45 degree angle. In addition, we have to assume that construction of the powerhouse will require more clearing than is indicated by Photo 3-2 and that some of the mature vegetation closest to the powerhouse will have to be removed, thus changing the appearance more than Photo 3-2 implies.

b. Section 3.1 – Existing Aesthetic Conditions and Effects of Proposed Project. The plan states that the powerhouse will be a reinforced concrete structure, but that it will be designed and constructed to blend in with the existing environment. Are any specific surface treatments or the use of pre-cast panels on the exterior surfaces anticipated?

c. Section 3.2 – Proposed Aesthetic Enhancements and Drawing on back inside cover, Detail 4. The Plan calls for the installation of a natural boulder break in the downstream ogee portion of the stilling basin weir. The boulder break as depicted in the drawing will not impact weir performance for low flows. However, an analysis of the weir performance when the tailwater submerges the boulders, when the weir submerges and during higher flows is needed.

4. We appreciate the opportunity to review this draft Plan. We were unable to coordinate with the Pennsylvania Fish and Boat Commission prior to compiling this response, but would be happy to participate in a conference call or meeting if you arrange one. My point of contact for this plan is Bob John in the Natural Resources Management Branch and he can be reached at 412-395-7177 or at robert.l.john@usace.army.mil.

Sincerely,

/s/

James R. Fisher
Acting Chief, Operations Division

CF (via email):

Mr. Mark Hartle, Pennsylvania Fish and Boat Commission

Mr. David Sinclair, Advanced Hydro Solutions

FERC – Docket P-12555

Pennsylvania Fish & Boat Commission

Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823
Phone: 814-359-5133
Fax: 814-359-5175

September 23, 2011

Mr. Randall J. Dorman, Licensing Coordinator
Kleinschmidt Associates
P. O. Box 650
Pittsfield, ME 04967

Re: Comments on the July 2011 Recreation and Aesthetic Monitoring Plan
Mahoning Hydroelectric Project Article 405 Compliance – FERC Project No. 12555

Dear Mr. Dorman:

The Pennsylvania Fish and Boat Commission has reviewed the subject plan and we would like to offer two recommendations.

Section 2.1 Outflow fishing area
Discharge of water from the powerhouse increases the importance of providing fishing access below the bypassed stilling basin. This is area is currently important for fishing and will increase in importance as released water will attract fish to this area. We recommend that trail access to the north side of Mahoning Creek be enhanced to provide a safer angling experience for users. We suggest enhancement of access over the bank at selected points in the 100 meter reach downstream of the stilling basin The area is currently rather difficult to access.

Section 2.2 and Appendix A Proposed Recreation Facilities
In our experience, ADA access to a floating pier via a sloped ramp does not provide an extremely stable fishing platform for some disabled individuals, particularly under wet or windy conditions. We accept the design and suggest an adjacent small shore-based ADA accessible fishing platform for those individuals who may find use of the proposed ramp challenging. We believe that this additional feature can be incorporated into the proposed design. Location to allow casting around the proposed pier would be important. Lighting would be helpful in this area.

Thank you for your consideration of our comments. We believe positive action to address the issues we have raised will enhance the recreational fishing use of the project waters. I may be reached at (814) 359-5133 or mhartle@state.pa.us if you have comments or questions.

Sincerely,

Mark A. Hartle

Mark A. Hartle, Chief
Aquatic Resources Section
Division of Environmental Services

c: PFBC – A. Woomer
FERC (via electronic filing)
Brandon Kulik – Kleinschmidt Associates
David Sinclair, Advanced Hydro Solutions
Col. William Graham, District Engineer, U. S. Army Corps of Engineers, Pittsburgh District
Joseph Snyder, PA DEP SW Region

Kelly Maloney

From: John, Robert L LRP [Robert.L.John@usace.army.mil]
Sent: Wednesday, November 16, 2011 3:07 PM
To: Kelly Maloney; Randy Dorman
Cc: Benedict, Jeffrey M LRP
Subject: Mahoning Hydro - Rec Plan comments (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Kelly and Randy -
Just to summarize what I mentioned at the end of the meeting yesterday:

1. The description of the various gates and valves in Section 1 needs to be revised to be accurate. Please see paragraph 1 of our 15 September comments.
2. Section 5, Operations and Maintenance, still states that "USACE will be responsible for periodic maintenance and seasonal installation, removal and storage of the pier floats". However, in Section 2.2, the report states that the pier is now intended as a permanent one not requiring removal in the winter. Section 5 should be revised to reflect the permanent installation.
3. Appendix B is not included in the public information due to Critical Energy Infrastructure Information constraints. If any changes were made to what was contained in the draft copy sent for review, we would appreciate receiving copies of the updated version.
4. Section 7, Agency Consultation, states that the comment letters received by the Corps and PFBC are included in Appendix C, along with a description of how agency comments are addressed in the plan. However, the letters are not actually included, only the comment response matrix, in the version FERC supplied.

As we discussed, I think it would be beneficial to include Bob Hoskin in the conference call to discuss stilling basin fishery issues. I sent him a "heads up" email, so he should be aware. His email address is Robert.H.Hoskin@usace.army.mil and his phone number is listed as 814-726-0661 (which is the number at Kinzua Dam, his duty station).

Good seeing you yesterday and I hope the trip back was better than the trip to get here. If you could forward any PFBC information you have about the fish attractor conifer strings and rubble piles, I can get that to Mark Zaitsoff for his hydraulics review.

Thanks,

Bob John, Natural Resources Management Branch, Pittsburgh District
412-395-7177

Classification: UNCLASSIFIED
Caveats: NONE

Pennsylvania Fish & Boat Commission

Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823
Phone: 814-359-5133
Fax: 814-359-5175

December 24, 2011

Mr. David Sinclair
Mahoning Creek Hydroelectric Company, LLC
150 North Miller Road, Suite 450C
Fairlawn, OH 44333

Re: Mahoning Hydroelectric Project Recreation and Aesthetic Monitoring Plan angler access follow up
Mahoning Creek Dam, Armstrong Co, PA, FERC Project No. 12555

Dear Mr. Sinclair:

This letter documents points that I outlined when we met at the Mahoning Creek Dam on December 23, 2011. The purpose of the field visit was to clarify the scope of outflow fishing area improvements suggested in the Pennsylvania Fish and Boat Commission (PFBC) letter of September 23, 2011. PFBC had suggested "enhancement of access over the bank at selected points in the 100 meter reach downstream of the stilling basin" for the purpose of providing "a safer angling experience for users."

Field examination of the outflow fishing area indicated modification of our September 23 suggestions was necessary. The North bank is too steep to allow additional access over the bank from the existing playground/parking area and access road. Access to the area immediately downstream of the stilling basin is provided by a Corps of Engineers path and sets of steps immediately downstream of the stilling basin headwall (Photo 1).

An economical and common sense approach for better angler access is to improve the existing informal access path for a distance of approximately 100 to 150 meters downstream of the existing steps to a point where the Corps property line intersects the north stream bank. Our intent is to allow easier, safer travel for able bodied anglers along the path. Moving upstream to downstream, improvements we recommend are:

1. Definition of a path in one of three locations downstream of the steps (Photo 2) to eliminate or improve a portion of the path that contains a steep four foot bank.
2. General path improvement by moving rocks and sections of fallen trees that impede travel, including pruning interfering vegetation in an approximate four foot width. We envision use of manual labor and hand tools for this work, including chain saws for removing sections of downed trees to improve ease of travel. In general, the path travels above the high water mark where herbaceous vegetation and shrubs transition to upland vegetation (Photo 3).
3. Enhancing the path around a large slanted boulder that reaches to the water's edge under high flow conditions (Photo 4). The rock was slippery on the date of the visit.

We envision maintenance being simple annual pruning and removal of fallen material that impede use of the path. I encountered Pat Kline, U. S. Army Corps of Engineers, in the parking area at the dam before departing. Mr. Kline indicated improving the access path was a low cost sensible approach. The Corps can provide comments to you following receipt of this summary letter.

Thank you for meeting me on site yesterday morning. I may be reached at (814) 359-5133 or mhartle@pa.gov if you have comments or questions.

Sincerely,

Mark A. Hartle

Mark A. Hartle, Chief
Aquatic Resources Section
Division of Environmental Services

c: Jeff Benedict, U. S. Army Corps of Engineers (via e-mail)
Joseph Snyder, PA DEP, SW Region (via e-mail)
Randy Dorman, Kleinschmidt (via e-mail)
A. Woomer, Area 2 Fisheries Manager

Photo 1. U. S. Army Corps of Engineers stairway just downstream of stilling basin headwall.

Photo 2. Undefined path with four foot high bank downstream of Stilling basin headwall and stairway.

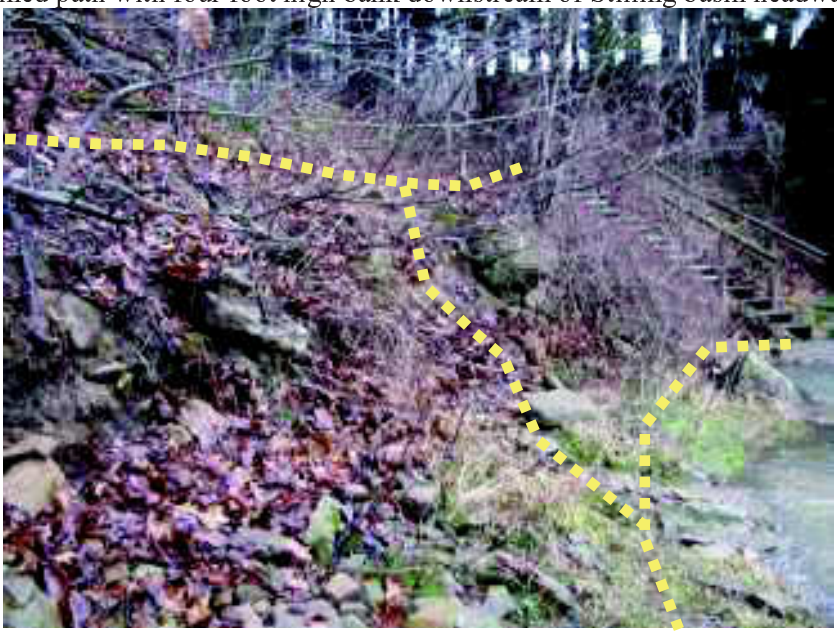

Photo 3. Example of path that could be improved by definition through removal of log section and pruning.

Photo 4. Slanted boulder approximately 100 meters downstream of stilling basin where trail definition around boulder could improve safety.