

MEMORANDUM OF AGREEMENT BETWEEN
THE UNITED STATES OF AMERICA AND
THE
MAHONING CREEK HYDROELECTRIC COMPANY, LLC

SUBJECT: Memorandum of Agreement Addressing Access and Activities during Construction of Federal Energy Regulatory Commission Project No., 12555, Mahoning Creek Dam

1. PURPOSE.

A. This MEMORANDUM OF AGREEMENT (MOA) is between the United States of America (acting by and through the Department of the Army, Corps of Engineers), represented by its Pittsburgh District, and the Mahoning Creek Hydroelectric Company, LLC, (licensee hereinafter MCHC), a limited liability company organized and existing under the laws of the State of Ohio (Licensee) (the Parties). This MOA establishes the terms for access privileges to Federally-owned facilities, and related requirements including the required review and approval of design and construction criteria, plans, and specifications, and inspection of construction activities by the Pittsburgh District as they relate to the structural integrity or operation of the Mahoning Creek Dam in conjunction with the proposed hydroelectric power project (FERC Project No. 12555).

B. In general and except as specifically noted, the following definitions apply to this MOA.

(i) "Licensee" means the Mahoning Creek Hydroelectric Company, LLC, its officers, agents, servants, employees, contractors, contractor employees, or others who may be on the Project at its invitation or the invitation of any of them or for any reason.

(ii) "Project" means all FERC Project 12555 pre-construction and construction activities, and all facilities and structures associated with the development and completion of FERC Project 12555.

(iii) "Corps," except where specifically noted, means the US Army Corps of Engineers (USACE) and includes the Pittsburgh District, the Great Lakes and Ohio River Division, and/or Headquarters USACE.

(iv) "District" means the USACE Pittsburgh District.

(v) "Project Area" means any and all areas required for construction of the Project, as may be further delineated in the maps and legal descriptions required and approved by FERC and Paragraphs 3.B.(ii) & (v) below.

(vi) "Mahoning Creek Dam" includes the Mahoning Creek Dam, US Government areas, and/or Federally-Owned lands, including all public and non-public land areas and structures associated with or part of the Mahoning Creek Dam Facility.

2. REFERENCES:

A. The Pittsburgh District, under the authority of the Flood Control Act of June 22, 1936 (P.L. 738, 74th Congress) and its June 28, 1938 (P.L. 761, 75th Congress) amendments and the Flood Control Act of December 22, 1944 (P.L. 534, 78th Congress) has developed, operates, and maintains Mahoning Creek Dam in Armstrong, Indiana and Jefferson Counties, Pennsylvania.

B. The Pittsburgh District operates Mahoning Creek Dam for the authorized purposes of flood control (P.L. 74-738 and P.L. 75-761), recreation (P.L. 78-534), fish and wildlife conservation (P.L. 85-624) and giving consideration to downstream water quality. During normal operations, the District coordinates releases from Mahoning Creek Dam with releases from other Dams on tributary streams to minimize the effects of acidity (primarily from Conemaugh Dam releases) on the Allegheny River.

C. Order Issuing Original License (Major Project), Federal Energy Regulatory Commission (FERC) Project No. 12555, March 4, 2011.

D. Memorandum of Understanding, dated March 31, 2011, between the Department of the Army, Corps of Engineers (Corps) and the Federal Energy Regulatory Commission (FERC) regarding non-Federal Hydropower Development. The access privileges, and terms and conditions, of this MOA are consistent with those established under this MOU and with the provisions of the Commission-issued License for the hydroelectric project.

E. The Federal Power Act, 16 U.S.C. 791 et seq., authorizes the development of non-Federal hydroelectric generating facilities at eligible Federally-owned reservoirs and dams.

F. Fish and Wildlife Coordination Act of August 12, 1958 (P.L. 85—624).

G. Engineering Regulation 1110-2-1454, Corps Responsibilities for Non-Federal Hydroelectric Power Development Under The Federal Power Act, July 15, 1983.

H. Engineering Regulation 1110-2-1462, Water Quality and Water Control Considerations for Non-Federal Hydropower Development at Corps of Engineer Projects, February 20, 1991.

I. The Federal Water Pollution Control Act of 1972 as amended 1977 (The Clean Water Act), regulates discharges into the waters of the US.

J. Endangered Species Act of 1973. Authorizes action to preserve and conserve ecosystems upon which endangered and threatened species depend.

K. National Environmental Policy Act of 1969, as amended, established National Policy to encourage harmony between man and the environment.

L. Executive Order 13112 of February 3, 1999 – Invasive Species. To prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.

M. Engineering Regulation 200-1-5, Policy for Implementing and Integrated Application of the U.S. Army Corps of Engineers Environmental Operating Principles. Foster unity of purpose on

environmental issues and sustainability, and ensure consideration of conservation, environmental preservation and restoration in all Corps activities.

3. AGREEMENTS. In consideration of each party's responsibilities and mutual cooperation, and intending to be held legally bound hereby, the following items are hereby agreed upon.

A. Within fifteen (15) working days after the date of this MOA, the Licensee will provide written notice to the Corps specifying the authorized agent(s) who can act on the behalf of the Licensee to carry out the responsibilities and obligations under this MOA. The Licensee shall notify the Corps at least fifteen (15) working days in advance of any change of the authorized agent(s).

B. The District Engineer of the Pittsburgh District grants permission to the Licensee to enter the below-described portions of the Mahoning Creek Dam Facility in accordance with, and subject to, the following terms and agreements:

(i) Access to the Project Area for construction shall be permitted only upon prior written permission of the Corps. Such permission shall be predicated upon:

(a) Prior written approval (by letter, facsimile, or electronic mail) by the Corps of the final design, plans, drawings, and construction specifications for all critical facilities. This approval is required by License Article 303 of the License before construction of those facilities can commence, except as provided in Section 3.B.(i)(b) below with respect to cofferdams. Critical facilities of interest to the Corps shall be defined for the purpose of this MOA as all permanent and temporary facilities that would be an integral part of, or that could affect the structural integrity or operation of Mahoning Creek Dam Facility and which are subject to inspection by the Corps. The specific critical facilities for this Project include the following:

- a. Any and all features or components which become an integral part of the dam, including but not necessarily limited to: intake gate, trashrack structure, butterfly valve, valve vault, HPU & electrical enclosure, all operating equipment and controls for these components.
- b. Penstock, including plug removal, steel liner for existing conduit, couplings, vents, drains and the penetration through the stilling weir cut-off wall.
- c. Soldier Wall
- d. Excavations in the vicinity of the toe of the dam.

Detailed design documents (including all design criteria and calculations) , shop drawings and catalog cuts shall be prepared for the critical features listed above and shall be submitted to the District for approval. 60 days shall be allowed for this review and approval prior to the start of construction for

these features. Work cannot start until the actual approval has been issued by the Corps for the particular phase of work.

The Parties acknowledge, however, that as the Project progresses, additional approvals of critical facilities as identified by the Parties may be required. The submittal and approval provisions of this paragraph shall apply to such other critical facility approvals.

(b) In order to assure protection of water quality and aquatic resources, the Corps must approve the Regulating or Operating Plan and Operating Memorandum of Agreement, addressing pre- and post-construction conditions, in accordance with License Article 307. Flows from Mahoning Dam must be sufficient to maintain conditions as specified in the Adaptive Management Plan to be approved by the Corps prior to the initiation of construction.

(c) Prior to the initiation of construction, the licensee shall implement an approved real-time sampling plan that meets all conditions of the plan required by License Article 402.

(d) Prior to the initiation of construction, the Licensee shall submit a comprehensive program of inspection to the Corps for approval. The program will include an adequate and qualified inspection force for monitoring the construction of the Project and shall incorporate recommendations of the Corps in ensuring the structural integrity and compatibility with operation of Mahoning Creek Dam Facility. The Corps may develop and implement its own inspection program for those phases of Project construction where it is in the Corps' interest to do so. Provisions of the Department of the Army 404 permit, and/or Section 10 allow for any announced or unannounced inspection at any time during the duration of the permit. The Corps may provide a general framework of its proposed inspections to the Licensee within sixty (60) days of receipt of a schedule of construction activities (such as a Critical Path Method network) from the Licensee. This framework will primarily consist of estimates of the frequency of inspections during various phases of construction activities and will facilitate coordination of the inspections scheduled to be performed by the Licensee and the FERC. It is agreed that the specific features or construction activities of the proposed Project which may adversely affect the structural integrity, water quality & aquatic life, aesthetics, and/or operation of the Mahoning Creek Dam Facility are generally as follows:

- (1) Intake
- (2) Butterfly Valve/Vault
- (3) Penstock
- (4) Powerhouse

(e) Activities of the Licensee under this section of the MOA shall conform to those plans listed in Section 3.B.(xii) below developed by the Licensee, reviewed and approved by the Corps, and filed with the Commission.

(f) Disputes between the Licensee and the Corps will be settled at the Pittsburgh District in consultation with the New York Regional Office of the FERC, if at all possible. If, after 90 days from a written submission of a dispute to the Pittsburgh District, there are still unresolved

differences, they may be elevated to the Great Lakes and Ohio River Division Office and/or the Office of the Chief of Engineers in Washington, DC and to the Washington DC headquarters of the FERC to be reconciled.

(ii) Access to the Mahoning Creek Dam Facility shall be limited to the area required for the water quality monitoring, field testing, construction, operation, and maintenance of, and ingress to and from, the licensed Project as shown on the Project Area plan (Exhibit 1 and accompanying Table 1 [not attached, to be submitted]) prepared by the Licensee and those areas required for the operation, maintenance, and replacement of all FERC-licensed and non-licensed electric transmission and distribution facilities owned by the Licensee. If changes to the Project Area occur during the Licensee's preparation of plans and specifications, the Licensee shall provide a revised version of Exhibit 1 to the Corps for approval and incorporation into this MOA. The Licensee shall also prepare a legal description (Table 1) of the Project Area and shall furnish it to the Corps, at least sixty (60) days prior to the initiation of construction, for approval. The legal description shall be incorporated into this MOA. This MOA shall not have the effect of releasing, terminating, or otherwise modifying any easements of record. Any additional lands needed for support facilities, transmission lines, site access, etc., outside the area described in the FERC License will require a separate real estate document. Any proposed revisions to the Project boundary shall be first coordinated with the Corps. Following completion of the construction and any required mitigation, Federal lands not otherwise required for the operation of the Project will be removed from any final real estate instrument and returned to the jurisdiction of the Corps.

(iii) The Licensee shall submit to the Corps its proposed on-site design investigation program to include subsurface investigation(s) and all other preconstruction activity plans thirty (30) days prior to commencing the work. The Corps' comments on all submittals shall be addressed and resolved. The results of the subsurface investigations in the form of boring logs, interpretive cross sections, and laboratory test data shall be submitted for review of design stability calculations and for inclusion as part of the Corps' design review. Preconstruction activities may include, but are not limited to, drilling and other foundation investigations; underwater diving inspections;; hazardous and toxic waste investigations; site surveying and mapping including staking and bench mark identification; bathymetry; studies to document pre-project water quality, aquatic life, habitat conditions, and the presence of endangered and threatened species as indicated through an updated search of the Pennsylvania Natural Diversity Index database; and other similar type inspections. In addition, the Licensee may require access to the site vicinity for potential bidding contractors to view the area prior to submitting cost proposals. All proposed activities must be coordinated in advance and approved by the Corps.

(iv) Prior to the start of construction, the Licensee shall submit to the Corps, in writing, a detailed construction schedule of planned activities which shall include, but not be limited to, the date planned for mobilizing construction equipment, the dates planned for initiation and completion of construction, and the names of the authorized agents, general contractor(s), and/or project manager. Thereafter, the Licensee shall provide progress schedule updates to the Corps on a monthly basis. The Licensee and the Corps shall also agree on a system for identifying persons who are authorized to enter the Project Area. The Licensee shall submit his plan of access to the construction site to the Corps for review and approval prior to any on site construction activities. The Licensee shall not commence mobilizing construction equipment or commence construction until after receipt of the Corps' written

approval to do so. Such approval will be issued as soon as possible, after submittal of a plan satisfactory to the Corps.

(v) Prior to creating any surface disturbance, the Licensee shall coordinate with the Corps on various issues pertaining to the Corps' Environmental Operating Principles. Some of these are mentioned in license articles or elsewhere in this MOA. Specifically for this paragraph of the MOA, the following items shall be provided:

(a) A map(s) of sufficient detail and accuracy to identify within the Mahoning Creek Dam Facility the location of all construction activity associated with the construction of all facilities associated with the Project. The map(s) shall include details such as powerhouse, outlet works, access roads, parking areas, pipelines, power lines and towers, equipment, storage area, and any temporary or permanent improvements to recreational access or facilities required by the FERC License.

(b) The map shall also identify land resources on Federally-owned lands that are to be preserved, including riparian, threatened and endangered species (i.e., Indiana bat habitat), and aquatic resources (shallow water habitat, benches, wetlands, islands, riffles, etc.). The Licensee shall identify areas in the Project where land resources are of special ecological, environmental, cultural, or aesthetic importance.

(c) The Licensee shall limit removal, cutting, defacing, injury, and destruction of land resources (including trees, shrubs, vines, grasses, topsoil, trails, roads, and land forms) to that necessary and reasonably required for access to and construction of the powerhouse and appurtenant facilities. Revegetation will be with regional native species. This will be done with prior coordination and approval from the Corps and in compliance with License Articles and Corps' permitting procedures. In addition, associated wildlife resources shall not be unduly disturbed without permission from the Corps. When possible, vegetation shall be maintained to buffer visual impacts (as required under License Article 414) and noise, and to minimize erosion.

(d) In addition, if shoreline and/or instream modifications can not be avoided they should be minimized and mitigated as necessary.

(e) Temporary (during construction) and permanent (post-construction) recreation facilities and fisherman access shall provide for use by individuals with physical disabilities and also provide for the general health and safety of the visiting public. The Corps, in consultation with the Pennsylvania Fish and Boat Commission (PFBC) will approve the final fisherman access plan required by the License.

(f) A Soil Erosion and Sediment Control Plan, as required by License Article 302, covering all earthmoving activities such as site preparation and access road construction shall be prepared in accordance with legally enforceable local, state and Federal regulations and restrictions. The final plan, approved by FERC, shall be provided to the Corps prior to the initiation of construction.

(g) A Spill and Leak Prevention and Response Plan shall be prepared by the Licensee in conformance with guidance provided by the Pennsylvania Department of Environmental Protection, for the development of a Preparedness, Prevention, and Contingency (PPC) plan. This Spill and Leak Prevention and Response Plan shall discuss measures that will be taken to protect resources

including air, soils, in-river sediments, and project Area waters from spills or leaks of polluting substances (fuels, oils, etc.), including emergency and containment procedures and will be filed with the PADEP with a copy provided to the Corps prior to the initiation of construction. The PADEP will be contacted if a spill occurs on Mahoning Creek or Mahoning Lake.

(vi) An Emergency Operations Plan for use during construction only shall be prepared by the Licensee and approved in writing by the Corps at least sixty (60) days prior to construction. The Plan shall detail actions and notifications to the Corps by the Licensee, and/or contractor personnel, in the event of an emergency situation. The Plan shall include, but not be limited to:

(a) procedures to communicate with the Licensee and/or the contractors should river levels or water releases be required; and

(b) procedures for the Licensee's contractors or representatives to communicate with the Corps about conditions encountered during construction (increased seepage, excavation instability, etc.) that may endanger the Mahoning Creek Dam Facility or other persons or property, and adverse environmental conditions that violate the Section 401 Water Quality Certification, and

(c) procedures for the Licensee or his contractor to monitor river gages and/or the NOAA River Forecasting for sudden or unexpected changes in Mahoning Creek conditions during construction.

(vii) In accordance with the Section 404 permit, the Licensee will provide access by Corps personnel (with proper identification) to all Licensee structures and onsite facilities.

(viii) The Corps hereby grants the Licensee access to designated public areas of the Mahoning Creek Dam Facility for studies, measurements, observation, site visits, and other non-intrusive determinations (i.e., those which do not involve drilling, digging, taking physical samples, etc.).

(ix) The Licensee shall obtain prior written permission from the Corps for access to non-public areas of the Mahoning Creek Dam Facility. The Corps shall grant the Licensee access to non-public areas of the Mahoning Creek Dam Facility to obtain borings, take soil samples, or conduct other intrusive activities only in response to prior written requests by the Licensee. The Licensee shall submit requests for access to non-public areas at least thirty (30) calendar days prior to the date access is required, and at least (30) calendar days and detailed reason for access for permission for access by foreign employees according to Foreign Disclosure Officer guidance. If the Licensee requires access to a non-public area for an employee, agent, contractor, or other representative who is a foreign national, the Licensee shall submit the access request at least sixty (60) calendar days prior to the date access is required. The Corps shall respond to access requests within seven (7) calendar days (thirty (30) calendar days for foreign nationals) after receiving the request. The Corps shall provide the Licensee a list of the names, telephone numbers, and electronic mail addresses of persons to be contacted for access purposes.

(x) The time frames in paragraph 3.B.(ix) may not apply in emergency situations. Emergency situations include but are not limited to life threatening situations, events related to national security, and events where there is a risk of loss of the Mahoning Creek Dam pool.

(xi) For purposes of Sections 3.B.(vii) through 3.B.(x) of this MOA, written requests may include electronic mail, with the date of receipt being the date of receipt of the electronic mail.

(xii) The Licensee shall consult with the Corps and allow at least sixty (60) days for Corps' review and comment on all plans and permits (Section 404 and 408), and the Corps agrees to use its best efforts to review all submittals within sixty (60) days, and seek all necessary Corps' approvals and permits under 33 USC §§ 403, 408, 1344 et. seq. (Section 404 and 408) in developing and implementing the following documents, in accordance with the referenced License Articles:

<u>Plan Requirements</u>	<u>Reference License Article or Study Plan</u>
Schedule for Submission of Design Documents and Plans and Specifications and Review of Design Documents, and for Submission of All Plans Required either by the License or by this Agreement as specified below.	303
Cofferdams and Deep Excavations (if required)	303
Operations Memorandum of Agreement	307
Regulating Plan	307
Water Quality Monitoring Plan	402
Intake Structure Design Plan	403
Wetland Protection Plan	404
Recreation and Aesthetics Plan	405
Erosion and Dust Control and Slope Stability at Project and Disposal Areas	302*
Re-vegetation	302*
Invasive Species Management Plan	302*

Note: *Denotes that Corps not a specified reviewing office in license

The Revegetation Plan shall consider protection of instream habitat, riparian habitat, and shoreline wetlands, and protection of Federally listed endangered and threatened species, state-listed endangered and threatened species, and state Species of Concern. All revegetation shall consist of plant species beneficial to wildlife and native to the project Area. Natural stream bank protection techniques shall be utilized where practicable. The Revegetation Plan shall be consistent with relevant sections of the Invasive Species Management Plan and take into consideration low-flow and flood impacts. Stabilization shall be performed in accordance with all formerly approved permitting by local, state, and federal agencies.

(xiii) The Licensee shall test materials to be excavated during construction for contamination. The Licensee shall select an appropriate disposal site(s) for excavated material; and dispose of excavated material in accordance with applicable local, state and Federal laws. Licensee shall furnish the Corps with advance notification of the selected disposal site(s). Such disposal shall be at an upland location and not fill in any wetland or other waters without the Licensee receiving proper permitting. The Licensee shall furnish the Corps with copies of all test results pertaining to excavated material prior to disposal.

(xiv) The Licensee shall restore all landscape features on Federally-owned lands that are damaged or destroyed during construction, including filling of ruts, dressing of graded areas, and fertilizing and seeding of raw earth areas to the satisfaction of the Corps. The Corps will require revegetation with regionally native wetland / riparian plant species (trees, shrub, and forbs), and that exotic species be controlled in accordance with Executive Order 13112. In addition, immediately following preconstruction activities, including site investigation, the Licensee shall restore the site to its original or improved condition to include filling in holes, smoothing contours, and, in general, leaving the site free of hazardous conditions, except that the Licensee shall not be required to correct prior existing hazardous conditions.

(xv) The Licensee shall comply with all appropriate load limits when moving construction equipment on or across Federally-owned land, or take necessary measures and precautions to upgrade load limits to that required for the construction work. The Licensee shall be solely responsible for all costs of maintenance, upgrading, paving, repair, relocation, and/or adjustments to all Federally-owned access road(s) due to any construction activity associated with the Project, as appropriate, beginning on the date the Project commences. A description and schedule of all maintenance repair and/or relocation/adjustment work shall be submitted to the Corps prior to and upon completion of such work. The Corps may require repair work on access roads if it deems appropriate.

(xvi) The Licensee shall perform any construction work at, and operate, maintain, repair, replace, and rehabilitate the Mahoning Creek Dam Facility in compliance with and subject to all applicable state and Federal environmental laws including, but not limited to, the regulatory requirements under 33 USC §§ 403, 408, 1344 et. seq. (Section 404, and 408 permits). The Licensee recognizes that regulatory processes will be conducted in accordance with the review process mandated by the National Environmental Policy Act, 42 USC § 4331. The Corps makes no commitment, in this MOA or elsewhere, as to the ultimate outcome of any applicable regulatory and or review process. The Licensee recognizes that no construction may proceed unless and until the Corps issues approvals under applicable authorities.

(xvii) Any data (i.e., flow, water quality, air quality, subsurface borings, etc.) collected prior to or during construction must be furnished within thirty (30) days of collection to the Corps. In addition, real-time continuously recorded water quality must be provided on-line in accordance with ...

(xviii) The Operations Agreement required by License Article 307 will address issues, details, and requirements during Project operation of the Project, including but not limited to the compensation by the Licensee of electricity costs of Mahoning Creek Dam facilities.

(xix) Other requirements that may be deemed necessary to protect structure, operations or environment based on license.

C. When, in the judgment of an authorized representative of the Corps, a construction activity is at variance with previously approved plans or procedures, or may significantly affect the operation or safety of the Mahoning Creek Dam Facility, the Corps will have the authority to order immediate suspension of that portion of the work as described in FERC License Article 306 until such variance is corrected.

D. Except as provided in Section 3.B.(viii) or as otherwise provided in this MOA, the Licensee shall obtain the prior approval of the Corps before granting permission to third parties for the use and occupancy of the Project Area covered by this MOA. Any such approval shall be granted or denied within thirty (30) days after request.

E. The Corps is committed to maintaining acceptable operating schedules during all phases of construction, subject to flow conditions. The Corps will, to the fullest extent possible, take into consideration the requirements of project construction. However, during periods when gate operations place equipment and workers at risk, the Licensee shall promptly remove all construction equipment, construction material and/or other items if necessary so that gate flows can proceed safely downstream. If construction plans requiring that one or more gates will be out of operation at various times are approved, then the Licensee must submit a schedule when gates must be taken out of operation to the Corps for review and approval. Upon development of this schedule and approval by the Corps of the timing and duration of gate inoperability within 60 days, the Corps will develop a revised strategy for operating all other gates.

F. During construction of the Project, the Licensee shall not restrict access by the public to those portions of Mahoning Creek Dam Facility outside of the Licensee's Project Area as shown in Exhibit 1. Temporary facilities and/or access may be required to offset loss of public access to or use of recreational facilities.

4. PROJECT ABANDONMENT AND SITE RESTORATION

A. In the event that the Project is terminated prior to being fully constructed according to plans that have been reviewed and approved by Corps, the Licensee shall include in all construction contracts a requirement to restore Mahoning Creek Dam Facility to its pre-construction condition, including but not limited to:

- (i) resurfacing access roads damaged during construction;

- (ii) spoil area rehabilitation and restoration;
- (iii) erosion control where slopes are changed from existing conditions;
- (iv) repairs or damages to utilities; and
- (v) repair or replacement in a manner acceptable to the Corps of any Mahoning Creek Dam facilities, and/or equipment rendered useless or inoperable as a result of investigations for, or construction of, the Project.
- (vi) Reconstruction of the upstream concrete plug at the penstock inlet.

B. In the event that the Licensee abandons the Project prior to completing construction or prior to placing the Project in operation as provided in this MOA, and does not transfer the Project to another Licensee pursuant to Section 8 of the Federal Power Act, the Corps shall notify the Licensee that it is taking possession of the Project and will take any measures necessary to ensure the safety, structural integrity, and operability of the Mahoning Creek Dam Facility. In the event of abandonment, the Licensee shall not be relieved of its obligations to restore the site to original or pre-Project construction conditions.

C. Prior to commencement of any land clearing activities, the Licensee shall furnish a bond or Irrevocable Letter of Credit (LOC) in the sum of one hundred thousand dollars with sufficient surety or sureties acceptable to the Corps, as set forth and in accordance with FAR 52.228-14, to secure the performance of the restoration work required by Paragraph 4.D below. The Bond shall read substantially as shown in Appendix A of this MOA. The scope of the work covered under this bond or LOC shall be limited to cutting and removal of trees, erosion control measures, and appurtenant mobilization, demobilization, and signage in accordance with the land clearing specifications and drawings as approved by the Corps. No excavation or other land disturbing activities are included in this scope of work. Such bond or Irrevocable Letter of Credit shall remain outstanding until the establishment of other sureties as required under Paragraph 4.D herein, or until the restoration is substantially complete as deemed by the Corps. For the restoration to be deemed substantially complete, the Licensee shall have performed all site cleanup and installation of any required safety fencing to the satisfaction of the Corps.

D. Prior to commencement of land disturbing construction, the Licensee shall furnish a bond in the sum of five million dollars with sufficient surety or sureties acceptable to the Corps or an Irrevocable Letter of Credit as set forth and in accordance with FAR 52.228-14, to secure the performance of the restoration work required by Paragraphs 4.A through 4.E. The amount of the bond is based on the estimated costs of restoring Corps lands and structures to pre-Project condition or as built post-Project construction. The Bond shall read substantially as shown in Appendix A of this MOA. Such bond or Irrevocable Letter of Credit shall remain outstanding until the restoration is substantially complete as deemed by the Corps. For the restoration to be deemed substantially complete, the Licensee shall have performed all site cleanup and installation of any required safety fencing to the satisfaction of the Corps.

E. In the event that the Licensee abandons the project prior to completing construction, and/or in the event the Mahoning Creek Dam Facility or other property of the United States is damaged as a result of the construction or operation of the Project, and/or the Corps determines that the

structural integrity, safety, or operability of the Mahoning Creek Dam Facility is endangered, the Corps has immediate right of access to the Project to take any corrective measures necessary as stated in License Article TBD (Standard Form TBD, i.e. L-2). The Corps shall notify both the Licensee and FERC of its actions within 24 hours after taking such action. The Corps may seek payment from the Federal Treasury for costs incurred by the Corps to secure the structural integrity, safety, and operability of the Mahoning Creek Dam Facility and to compensate for any loss of aquatic resources. In the event that the Licensee fails to reimburse the Corps for such costs, the Corps will exercise its rights under Paragraph 4.C and 4.D of this MOA.

5. CORPS' ACTIVITIES AND FUNDING.

A. Corps' activities required to support this Project and ensure the structural integrity and operation of the Mahoning Creek Dam Facility may include but are not limited to:

(i) Development and preparation of this Access and Construction MOA as required by FERC License Article 305.

(ii) Review and coordination of the Licensee's operational proposals and the Licensee's preparation of the Operations MOA required by FERC License Article 307.

(iii) Review and approval of detailed design documents and plans and specifications in fulfillment of the requirements of Article 303 of the FERC License.

(iv) Review of design and construction criteria in conformance with applicable Corps' regulations.

(v) Preparation of schedule of proposed construction inspection, and the actual construction inspection in fulfillment of the requirements of Article 306 of the FERC License.

(vi) Meetings and travel associated with coordination between Corps' personnel and the Licensee pertaining to the performance of the above tasks.

(vii) Review and coordination associated with the study plans to be conducted by the Licensee as required by various FERC License Articles and any additional plans requiring Corps' review and/or coordination that may arise after the date of the License.

(viii) Technical studies, which will be conducted by, and in cooperation with, the Corps, that relate to the integrity or operability of the Mahoning Creek Dam Facility associated with the construction, operation, and maintenance of the proposed Project.

(ix) Special monitoring of river flow during construction.

(x) Reproduction of reports and drawings and other requested documents. The Licensee shall be required to sign a non-disclosure statement prior to taking plans and specifications from Government property. The non-disclosure statement will require the Licensee to return the documents when no longer required. The Corps may charge the Licensee for the cost of document investigation, research, and reproduction in accordance with the cost recovery provisions of the Freedom of Information Act.

- (xi) Modifying the Mahoning Creek Dam Facility Operations Manual.
- (xii) Restoration in the event any construction work at the Licensee's Project is not completed.
- (xiii) Associated administrative efforts associated with the review, inspection and coordination of the project.

B. Costs (including appropriate overhead charges) for the effort associated with undertaking the above items shall be paid, subject to availability, using appropriated funds. The Antideficiency Act, 31 USC § 1341, prohibits the Corps from incurring expenses or obligating funds in the absence of available appropriated funds.

C. The lack of appropriated funds may be considered sufficient cause to deny the Licensee, or its agents, access to the Project Area for the purposes of investigation and/or new construction. Both the Corps and the Licensee pledge their good faith efforts to avoid such denial of access. Accordingly, should the Corps believe access should be denied, it shall provide written notice to the Licensee. Such written notice may be by electronic mail. The Corps and the Licensee shall use their best efforts to resolve any funding issues before such issues would cause a denial of access to the site.

6. INDEMNIFICATION AND LIABILITY OF THE UNITED STATES

A. The Licensee agrees to indemnify the United States and hold the Federal Government harmless from all claims arising from any incidents with respect to bodily injuries or death resulting therefrom, or from damage to property suffered or alleged to have been suffered by any person(s) resulting from Project pre-construction and construction activities, including any claims arising from the handling, transport, or disposal of contaminated or hazardous sediments, soils, or materials; CERCLA; and Project operation and maintenance by the Licensee.

B. The United States shall not be responsible for damages to property or injuries to person(s) which may arise from or be incident to the exercise of the privileges authorized by the License or as granted herein, or for damages to property of the Licensee, or for injuries to the person(s) of the Licensee, or for damages to the property or injuries to the person(s) of the Licensee's officers, agents, servants, employees, contractors, contractor employees, or others who may be on the premises at its invitation or the invitation of any of them or for any reason.

C. The Licensee must provide a Certificate of Insurance to the Corps prior to the commencement of any preconstruction activities, including on-site investigations. This Certificate of Insurance shall be for not less than one million dollars per occurrence and three million million dollars in the aggregate for individual personal injury/death and property damage. The amounts of insurance required may be satisfied by primary coverage in the amounts specified or by an excess umbrella liability policy together with lower limit primary underlying coverage, at Licensee's option, so long as the total coverage (including excess), equals the amounts specified.

D. The United States shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the exercise of the privileges authorized by the aforementioned FERC License or granted herein, including damages to the property or injuries to the person(s) of the United States, its lessees, Licensees, grantees, or permittees, and damages to the

property or injuries to the person(s) of the Licensee or Licensee's officers, agents, servants, employees, contractors, contractor employees, or others who may be on the Project Area. In addition, the United States shall not be responsible for any claims associated with the handling, transport, or disposal of contaminated or hazardous sediments, soils, or materials associated with the construction and operation activities of the Licensee, its representatives or contractors, and the United States shall not be responsible for damages to the property or injuries to the person(s) of the Licensee or Licensee's officers, agents, servants, employees, contractors, contractor employees, or others who may be on the Project Area arising from or incident to the operation of the Mahoning Creek Dam Facility by the Corps, or arising from or incident to any other Governmental activities. The Licensee and/or its authorized representatives shall hold the United States harmless from any and all such claims, except for claims arising from or caused by the negligence, malfeasance, misfeasance, or nonfeasance of the Government, its officers, agents, servants, or employees.

7. SAFETY

A. For all work conducted on government property, the Licensee shall require that all officers, agents, servants, employees, contractors, contractor employees, or others shall adhere to the safety regulations as set forth in Occupational Safety and Health (OSHA) Standards, 29 CFR Part 1926, and the US Army Corps of Engineers Safety and Health Requirements (Engineer Manual 385-1-1, dated November 03, 2003 or most recent version) and all federal, state, and local requirements as applicable. Where requirements conflict, the more stringent requirements shall apply. A certified safety officer must be on-site at all times or otherwise overseeing construction to enforce these regulations.

B. Safety is the Licensee's primary responsibility. The Corps retains the right to conduct secondary reviews and inspections for the purpose of ensuring the safety of Corps' personnel, the facility and its operation, and overall public safety. Where acts or conditions are observed that do not comply with EM 385-1-1 or other known requirements, the Licensee or its authorized representative will be notified of such deficiencies both verbally and in written form. The Licensee shall respond by identifying measures that the Licensee and/or its authorized agents will take to correct these deficiencies and the timeframe required to take corrective actions. The Corps reserves the rights to stop project construction until corrective action is taken if the deficiency poses a significant threat to Corps' personnel, the facility and its operation, and overall public safety, and to take corrective action as necessary in emergency circumstances on when the Licensee or its authorized agents fails to act in a timely fashion. If such action by the Corps is required, the Corps will not be held responsible for damages to completed work or ramifications to construction schedule or cost as a result of such actions. As these reviews and inspections may not be full time, the Licensee agrees that the Corps shall not be liable for damages, injuries, or death resulting from injuries due to safety conditions which are the Licensee's primary responsibility to identify and correct.

C. Prior to commencement of construction, the Licensee shall submit to the Corps an Accident Prevention Plan incorporating the OSHA standards for the Construction Industry.

8. SECURITY

A. Prior to the start of construction, the Licensee shall submit a Security Plan to the Corps for review and approval. The Licensee shall provide, at its own expense, security systems such as guards, fences, gates, and padlocks for all features of the Project during and after construction. The

Licensee shall provide appropriate levels of security considering the scope of activity and conditions of the Project site, which shall be maintained by the Licensee throughout the 50-year term of the License or until such time as the Project ceases to be operated by the Licensee. All such security systems shall be maintained by the Licensee, or its successor in interest, throughout the term of the existing license and any annual licenses.

B. Authorized Corps employees shall be afforded free access to all parts of the licensed project Area in accordance with Section 3(B)(vii) of this MOA and the following:

(i) The Licensee shall provide three (3) sets of keys for all fence gate locks to the Park Manager, Mahoning Creek Dam Facility. The Licensee shall promptly supply replacement keys in the event any locks are replaced.

(ii) the Licensee shall provide access to all Licensee structures on the Mahoning Creek Dam Facility during Project construction, operation, and maintenance upon a written or verbal request from the Corps or any authorized representative of the Corps. Such access will be granted with no minimum requirements for advanced notice if requested (i.e., by verbal requests).

(iii) The Park Manager, Mahoning Creek Dam Facility, and the Project Supervisor will be defined in the Contact Information section of the Regulating Plan filed with the FERC pursuant to Article TBD of the License.

C. The Licensee must submit all necessary information for all persons to be authorized to enter the Project Area to the Corps' Office of Security and Law Enforcement, Pittsburgh not later than sixty (60) days prior to the start of construction. The required information is a typed written document which contains the full name, date of birth, place of birth, social security number, citizenship, and address (the address may be that of the firm). Failure to provide the required information will delay the security review and access authorization. The Licensee must provide a copy of the passport of any foreign nationals for whom they are requesting authorization to enter the Project Area.

9. EFFECTIVE DATE, TERM OF MOA, PERIODIC REVIEW, AND ASSIGNMENT

A. The effective date of this MOA is the date of its final execution by the Parties hereto.

B. This MOA shall extend for the duration of the Licensee's existing License, plus any annual (re)licenses for the Project at the Mahoning Creek Dam Facility.

C. Should the Licensee seek to transfer this License to another person or entity pursuant to 18 CFR Part 9, the Licensee shall advise such potential transferee of the existence of this MOA.

D. Should the FERC grant an application to transfer the license for the Project from the Licensee to another person or entity, then the transferee, i.e., the new Licensee, shall, as of the effective date of such granted transfer, be the successor in interest to rights and obligations under this MOA. The Licensee shall not submit a license transfer application to the FERC until the proposed transferee and the Corps shall first have agreed in writing to the assignment of this MOA to the proposed transferee, such agreement not to be unreasonably withheld.

E. This MOA may be periodically reviewed and may be modified by the mutual written agreement of both Parties.

10. DEFAULT BY THE LICENSEE OR TERMINATION. It is expressly understood by both Parties that in the event the Licensee fails substantially to comply with this MOA, and to remedy any such failure within a reasonable period of time, not to exceed six months after written notice of default from the Corps to the Licensee (Notice of Default), with copies to other notice parties identified to the Corps by the Licensee: (i) all improvements, structures, fixtures, or appurtenances thereto that are then included in a Commission License issued for the Project shall become the property of the United States Government, pursuant to applicable Federal law and regulations established for that purpose; and (ii) the United States Government shall have the right to recover from the Licensee any and all expenses required to remove from the site of the Mahoning Creek Dam Facility all improvements, structures, fixtures, or appurtenances thereto that are then included in a Commission License issued for the Project. The Corps acknowledges that the Licensee may pledge certain of its rights and agreements (including this MOA) related to the Project to lending institutions (or their agents and trustees) to secure financing for the project. The Corps agrees to (i) provide copies of any Notice of Default to those lenders that the Licensee, by written notice to the Corps, designates as notice parties, (ii) to allow such lenders to cure any default by the Licensee in accordance with this MOA, and (iii) upon written request by a lender, to provide to such lender an estoppel certificate or similar certificate confirming the then status of this MOA and whether any defaults exist hereunder. The Corps agrees to furnish copies of any Notice of Default to FERC and other notice parties identified by the Licensee, however, any failure to provide such notice to the other notice parties shall not extend the time for the Licensee to cure any deficiency identified in the Notice of Default. This MOA may be terminated only in writing, signed by both Parties hereto, or as set forth in this paragraph.

11. EFFECT OF LICENSE AMENDMENT. Insofar as any duty or right, as provided herein, relates to, is determined by, or otherwise incorporates a provision of the aforesaid License, as amended, the Parties acknowledge and agree that a modification, amendment, amplification or cancellation of a term of the said License by the Commission may necessarily have an impact upon, or otherwise work a change to a duty or right arising hereunder. The Parties further agree to be bound by any such change of duty or right herein.

12. SEVERABILITY. If any part, term, or provisions of this MOA shall be held illegal, unenforceable, or in conflict with any law of a Federal, state, or local government having jurisdiction over this MOA, the validity of the remaining portions or provisions shall not be affected thereby.

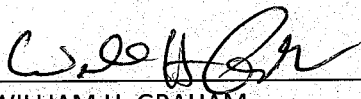
13. ENTIRE AGREEMENT. This agreement constitutes the entire understanding and MOA between the Parties hereto with regard to all matters herein and there are no other agreements, conditions or representations, oral or written, express or implied, with regard thereto. This MOA may be amended or terminated only in writing, signed by both Parties hereto, or as in Section 10 above.

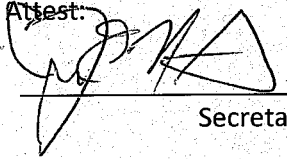
14. TRANSFER OF AGREEMENT. In the event that the FERC License is transferred to a third party, the Licensee shall provide notice to the Corps of the impending transfer. The new Licensee shall be required to agree to comply with all terms and conditions enumerated in this MOA upon transfer of the license by separate written agreement or supplement hereto.

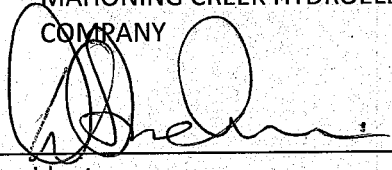
15. **SAVING CLAUSE.** Nothing in this MOA shall be deemed as a waiver of any requirement or obligation set forth in the FERC License, or any amendments to said License.

WITNESSETH the following signatures and seals as of the 1st day of September, 2011.

UNITED STATES OF AMERICA

By 
WILLIAM H. GRAHAM
Colonel, Corps of Engineers
District Engineer
9/1/11
Date

Attest: 
Secretary
Seal
by

MAHONING CREEK HYDROELECTRIC
COMPANY
By 
President
7/28/11
Date

APPENDIX A
PERFORMANCE BOND

Principal

Mahoning Creek Hydroelectric Company, LLC, a limited liability company

Surety(ies)

KNOW ALL MEN BY THESE PRESENTS, that we, the Principal and Surety(ies) hereto, are firmly bound to the United States of America (hereinafter called the Government) in the sum of x million dollars for the payment of which we bind ourselves, our heirs, executors, administrators and successors, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has secured a license from the Federal Energy Regulatory Commission for the construction, operation, and maintenance of a hydropower project at Mahoning Creek Dam, a facility owned and operated by the United States Army Corps of Engineers, Pittsburgh District, and in connection therewith has entered into a Memorandum of Agreement with said Pittsburgh District establishing conditions governing access to Government—owned lands and the terms and conditions by which the Principal shall reimburse the Pittsburgh District for costs in connection with the construction and operation of said hydropower project and whereas said Memorandum of Agreement provides, inter alia, that in the event the Principal is unable to complete the construction of the said hydropower project and is compelled to abandon the same, the Principal shall within a reasonable time, if required by the Pittsburgh District, remove all structures, equipment, and power lines installed by the Principal on Government lands and/or within the regulatory jurisdiction of the Government under Section 404 of the Clean Water Act and take such other action as is necessary to restore the Government lands and facilities to their original condition or to such condition as the Pittsburgh District shall prescribe;

NOW, THEREFORE, if the Principal shall perform and fulfill all of the terms and conditions of said Memorandum of Agreement providing for the removal of its facilities and the restoration of Government lands and facilities in the event of the abandonment of said

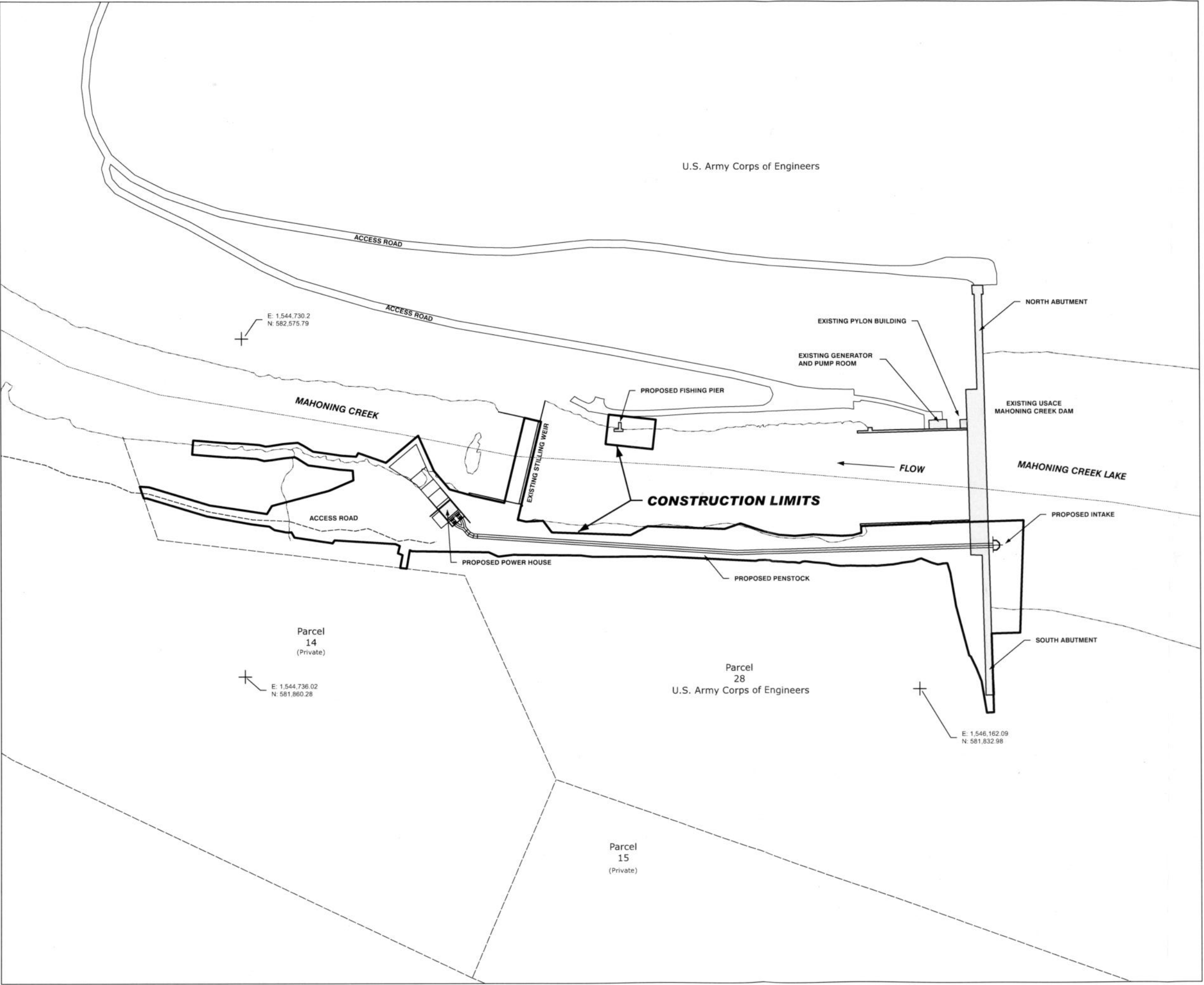
hydropower project, with respect to which this bond is furnished; the above obligation shall be void and of no effect

IN WITNESS WHEREOF, the Principal and surety(ies) have executed this performance bond and have affixed their seals this _____ day of _____, 2011.

By: _____
Principal

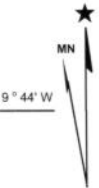
Surety

Surety



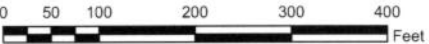
LEGEND

- | | |
|-----------------------------|--------------------------|
| Zone Boundary | Water |
| Construction Limits | Site Access Road |
| Parcel Line | Local Roads |
| Township boundary | Reference Point Location |
| Existing Project Structures | |



2009 Magnetic north declination at Mahoning Creek Dam

SCALE IN FEET



Reference coordinates are in Pennsylvania Stateplane South Zone FIPS 3702, NAD83.
Coordinate units are in U. S. Survey feet.

EXHIBIT 1
ADVANCED HYDRO SOLUTIONS, INC. MAHONING, PENNSYLVANIA
MAHONING CREEK HYDROELECTRIC PROJECT
F.E.R.C. PROJECT No. 12555
MAHONING CREEK
ARMSTRONG COUNTY, PENNSYLVANIA
CONSTRUCTION BOUNDARY

Mead
& Hunt

SCALE: AS SHOWN
DATE: JULY 2011