US Army Corps of Engineers ®
Fort Worth District

Public Notice

Subject: Announce a proposed adverse effect to historic properties associated with the modification of the Lake Dunlap Dam
Date: November 25, 2020

SUBJECT: The U.S. Army Corps of Engineers, Fort Worth District (USACE) Regulatory Division is issuing this Public Notice to announce a proposed adverse effect to historic properties for USACE project number SWF-2015-00168, GVHS Erosion Protection / Lake Dunlap. The Guadalupe-Blanco River Authority proposes to modify the National Register of Historic Properties (NRHP) eligible Lake Dunlap Dam (Dam). The modification of the NRHP eligible Dam would result in the discharge of dredged or fill material into waters of the United States which requires authorization under Section 404 of the Clean Water Act.

USACE is identifying organizations and individuals who may have an interest in the project and its proposed effect on the Dam. The enclosed adverse effect determination letter and draft Memorandum of Agreement for treatment of adverse effects to the NRHP eligible Dam are being provided for potential Consulting Parties in the Section 106 process. Your views will be actively sought and considered during the process.

If you have questions or interest to participate as a Consulting Party in the Section 106 process for this project please contact Jimmy Barrera at (817) 886.1838 or james.e.barrera@usace.army.mil.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

November 24, 2020

Regulatory Division

Subject: Project Number: SWF-2015-00168, GVHS Erosion Protection / Lake Dunlap

Mr. Mark Wolfe
State Historic Preservation Officer
Texas Historical Commission
Submitted via eTRAC

Dear Mr. Wolfe:

This letter addresses cultural resource concerns with Section 404 of the Clean Water Act for a permit application associated with a proposal by Guadalupe-Blanco River Authority (Applicant) to stabilize banks, replace all spill gates, and concrete armor the Lake Dunlap Dam located along the Guadalupe River in Guadalupe County, Texas (Project). This project has been assigned number SWF-2015-00168. Please include this number in all future correspondence concerning this project. The U.S. Army Corps of Engineers, Fort Worth District (USACE) reviewed the Project in accordance with 33 CFR 325, Appendix C (Processing Department of Army Permits: Procedures for the Protection of Historic Properties; Final Rule 1990; with current Interim Guidance documents dated April 25, 2005, and January 31, 2007) and 36 CFR 800 to ensure compliance with Section 106 of the National Historic Preservation Act.

In June of 2019 USACE met with the Applicant and their consultant team and provided clear guidance on avoidance and minimization considerations for the Section 106 process including time frames if an adverse effect to a historic property would result from the proposed Project. On September 28, 2020, the USACE received a preliminary draft cultural resource scope of work (SOW) titled “Section 106 Scope of Work for Lake Dunlap Spillgate Replacement and Dam Armoring, Guadalupe Blanco River Authority, Guadalupe County, Texas”, from Baer Engineering and Environmental Consulting, Inc. The USACE provided comments on the preliminary draft SOW on October 1, 2020, that importantly required clarification from the Applicant about their National Register of Historic Places (NRHP) eligibility recommendation. The Texas Historical Commission (THC) provided comments on October 22, 2020, that included comments of eligible for listing to the NRHP and adverse effect to a historic property, along with requesting additional information. On November 3, 2020, USACE received a revised draft cultural resource SOW. The Texas Historical Commission provided concurrence with the revised draft SOW on November 9, 2020, including a comment of eligible for listing to the NRHP and that a Memorandum of Agreement (MOA) is needed. In this letter USACE is providing the official NRHP eligibility and effects determination, and enclosing a draft MOA to guide the resolution of adverse effects to the Lake Dunlap Dam.

USACE must conclude the Section 106 process before issuance of a permit for the proposed Project. The proposed activity in waters and associated uplands requiring a USACE permit are the undertaking under Section 106 of the National Historic Preservation Act.

The Area of Potential Effect (APE) of the undertaking is the project area including all temporary and permanent workspaces required for the Lake Dunlap Dam spill gate replacements, concrete armoring, and bank stabilization. The only known historic property within the APE is the Lake Dunlap Dam.

Based on information USACE received on November 3, 2020, from Baer Engineering and Environmental Consulting, LLC in the enclosed revised draft SOW, USACE is providing the determination of NRHP eligibility and effects. The USACE has determined that the Lake Dunlap Dam is eligible for listing to the NRHP per Criterion A and C. And USACE has determined that the proposed effects from the Project are an ***adverse effect*** to a historic property as defined by 36 CFR 800.5(1).

USACE will invite consulting parties to seek ways to avoid, minimize or mitigate adverse effects as the result of this undertaking. Thank you for providing a list of suggested consulting parties in the THC's November 19, 2020, email. USACE plans to involve the public including a public notice on the Fort Worth District website that will solicit feedback to be shared with the consulting parties. Enclosed is a draft Memorandum of Agreement that provides a framework for consultation with your office and other consulting parties to develop stipulations that will minimize or mitigate the adverse effect.

Please direct any questions you may have about this determination to Mr. Jimmy Barrera at (817) 886-1838 or james.e.barrera@usace.army.mil.

Sincerely,

BARRERA.JAMES.EDWARD.1514007302

Digitally signed by BARRERA.JAMES.EDWARD.1514007302
Date: 2020.11.24 13:20:17 -06'00'

For: Brandon W. Mobley
Chief, Regulatory Division

Enclosures

Copy Furnished:

Dr. John Eddins
Advisory Council on Historic Preservation
e106@achp.gov

Mr. Charles Hickman
Guadalupe-Blanco River Authority
chickman@gbra.org

Ms. Caitlin Brashear
Texas Historical Commission
Caitlin.Brashear@thc.texas.gov

Mr. Hansel Hernandez
Texas Historical Commission
Hansel.Hernandez@thc.texas.gov

November 2, 2020

Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Attention: **Hansel Hernandez, Caitlyn Brashear, and Jeff Durst (THC); James Barrera (USACE)**

Reference: **Revised Section 106 Scope of Work for Lake Dunlap Spillgate Replacement and Dam Armoring, Guadalupe Blanco River Authority, Guadalupe County**
Baer Engineering Document No. 182047-8b.022; THC Tracking No. 202100942; USACE Project No. SWF-2015-00168

Dear Mr. Hernandez, Ms. Brashear, and Mr. Durst:

This revised Scope of Work Package has been prepared in response to U.S. Army Corps of Engineers (USACE) review comments received on October 1, 2020 as well as comments received on October 22, 2020 from the Texas Historical Commission (THC), whose Executive Director serves as the Texas State Historic Preservation Officer (TxSHPO) for purposes of reviewing Section 106 of the National Historic Preservation Act (Section 106) undertakings. The archeological resources component of the original Scope of Work Package, which also requires a state-level antiquities survey permit, has been approved by both the USACE and THC/TxSHPO and all further archeological consultation will be coordinated separately from non-archeological historic resources review requirements addressed in this revised scope of work.

As requested by the USACE and TxSHPO, this revised Scope of Work Package provides supplemental information supporting a final determination of the affected property's eligibility for National Register of Historic Places (NRHP) listing under Criterion C for engineering design significance. This revised Scope of Work package also recommends a historic engineering documentation approach to mitigate the proposed project's adverse effects to the subject property, as defined in the TxSHPO's review comments dated October 22, 2020.

Further review by the USACE and THC/TxSHPO is hereby requested under Section 106 as a federally permitted undertaking and under the Antiquities Code of Texas as it applies to the subject project and to non-archeological antiquities located on state-owned or controlled lands. U.S. Army Corps of Engineers, Fort Worth District (USACE) regulatory review archeologist, James Barrera, is copied on this correspondence to facilitate his agency's continued leadership in the Section 106 review process.

National Register Eligibility Assessment

Among the earliest and historically most significant dams and canals constructed in Texas are those associated with San Antonio's Spanish Colonial missions. Relatively small in scale and typically built of earth and stone, the Spanish Colonial-era dams in San Antonio were used to divert river flow into earthen canals or *acequias* for purposes of agricultural irrigation. In the post-colonial period, small scale dams were also built by private individuals along Texas rivers and streams for purposes of operating mechanical milling and ginning machinery. A local example of this type is the National Register of Historic Places (NRHP)-listed Saffold Dam in Seguin

which was used to power a local mill and gin in the mid-nineteenth century.[1] By 1890 a new type of turbine wheel had begun to replace older styles of water wheels, and electric power was being generated by small hydroelectric plants, such as the Saffold Dam in Seguin and another on the San Marcos River near Prairie Lea.[2] Two Official Texas Historical Markers located at the Saffold Dam site describe the benefits of Henry Troell's expansion of the Saffold Dam in the 1890s as it was adapted to serve the city's first water and electric utility systems.[3] Perhaps the largest of Texas' early hydroelectric plants was a dam built across the Colorado River in 1891–92 to serve the city of Austin, however it was soon destroyed by a flood in 1900. [4]

As demand for electricity increased within Texas' rural communities during the late-19th to early-20th century period, widespread development of community-scale hydropower projects was limited by fluctuating and unreliable water levels in many of Texas' rivers and streams.[5] However, the Guadalupe River, one of Texas' most reliable rivers, became a focal point for hydropower development by several private hydroelectric energy production companies, including the Texas Power Corporation and the Texas Hydro Electric Corporation, which were organized in the early decades of the 20th century to develop commercial hydroelectric dam projects, like Lake Dunlap Dam on the Guadalupe River. Built between 1927 to1928, the Lake Dunlap Dam hydropower project was originally designated TP-1 and was one of three concurrent projects Texas Power Corporation constructed along the Guadalupe River. Shortly thereafter the Texas Hydro Electric Corporation constructed three additional hydro-electric dam projects along the Guadalupe, including Dam TP-4 (Lake Placid), the H-4 Dam and Reservoir, and the H-5 Dam and Reservoir, between 1929 and 1931.

All six of these projects were authorized by Permit No. 1096 (Application No. 1163) dated June 12, 1929 from the State Board of Water Engineers, allowing impoundment of 33,550 acre-feet of water in six reservoirs, and the annual use of 941,200 acre-feet of water for generation of hydroelectric power to serve the local area and the City of San Antonio. The permit includes the water right granted by Permit No. 21 (Application No. 21) dated July 25, 1914 from the State Board of Water Engineers to the Guadalupe Water Power Company.[6] Companies like the Guadalupe Water Power Company, organized and chartered in 1912 under the leadership of

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[1] Joe L. Bruns, Chairman and Linda C. Flory, Historian, *Saffold Dam*, National Register of Historic Places Nomination Form, July 1, 1979. Published by the Texas Historical Commission, https://atlas.thc.texas.gov/NR/pdfs/79002950/79002950.pdf, accessed October 26, 2020.
[2] Anonymous, "Water Power," Handbook of Texas Online, https://www.tshaonline.org/handbook/entries/water-power, published by the Texas State Historical Association, accessed October 26, 2020.
[3] *Saffold Dam* Historical Marker (Atlas Number 5187004436) and *Henry Troell* Historical Marker (Atlas Number 5187002452), published by the Texas Historical Commission, https://atlas.thc.texas.gov, accessed October 26, 2020.
[4] Anonymous, "Electrical Power," *Handbook of Texas Online*, https://www.tshaonline.org/handbook/entries/electrical-power, published by the Texas State Historical Association, accessed October 26, 2020.
[5] Anonymous, "Water Power," *Handbook of Texas Online*, https://www.tshaonline.org/handbook/entries/water-power., published by the Texas State Historical Association, accessed October 26, 2020.
[6] C. L. Dowell, Engineer, Dams and Reservoirs in Texas: Historical and Descriptive Information, Texas Water Commission Bulletin 6408, July 1964. The two additional hydropower dam projects built by Texas Power Corporation included Dam TP-3 (Lake McQueeney) and TP-5 (Lake Noltes), also built 1927-1928.

W.B. Dunlap[7] reflected an integrated model of water conservation and hydroelectric power generation for private and public use that was developed at the national scale by the U.S. Bureau of Reclamation. To balance the growing public and private interests regarding water conservation and hydroelectric power generation within the Guadalupe River Valley, the Texas legislature established the Guadalupe River Authority in 1933 as a public corporation for purposes of water conservation and reclamation. In 1935, the Guadalupe River Authority was reauthorized by an act of the Texas legislature as the Guadalupe-Blanco River Authority (GBRA). By 1963, the GBRA consolidated hydroelectric power production along the Guadalupe River Valley by acquiring six dams and reservoirs from New Braunfels to Seguin, including the original TP-1 Dam at Lake Dunlap.

At the federal level, the U.S. Bureau of Reclamation not only served as the nation's leading public agency for regional water conservation but also as a leader in engineering and design of large hydroelectric dams.[8] According to the Bureau of Reclamation's history of large dams in the United States,[9] dam building technology in the United States prior to the 20th century relied largely on massive earthen embankments or gravity dams whose inherent weight enabled them to remain stable and fulfill their function of impounding large volumes of water - until two developments occurred. With the advent of large-scale earth-moving machinery, dam construction could be feasibly undertaken at a larger scale. Additionally, the emerging science of soil mechanics enabled dam engineers to design larger scale dams, still in the massive gravity dam tradition, but with greater confidence in the earthen dam's ability to resist forces that tended to undermine and erode the dam' stability over time. Through the efforts of the U.S. Bureau of Reclamation, and later the USACE, these two factors contributed to the federal government's design and construction of some of the largest earthen embankment dams ever built, including landmark examples such as the Roosevelt Dam project in Arizona. As dam engineering practices evolved in the 20thcentury, alternative designs relying on structural forms built of concrete were developed in part for the economic benefits afforded by the rapid construction of much lighter-weight structures. The new structural dams were also considered to be more reliable than the older earthen embankment dams that had problems with erosion and failure over time. Despite extensive testing of alternative, light-weight, and very tall structural designs, the Bureau of Reclamation, and the USACE continued to rely on the safety and stability factors inherent in massive gravity dams, even in more modern structural designs that incorporated steel-reinforced concrete.

Lake Dunlap Dam, as described by C.L. Dowell in 1964, is an earthfill structure with a concrete core wall 2,000 feet long, including a concrete spillway section. It is 41 feet high with the top of the dam at an elevation of 588.0 feet above mean sea level (msl). The impounded lake has a capacity of 5,900 acre-feet and a surface area of 406 acres at elevation 575.0 feet above msl. The water is diverted by a canal to the powerhouse about two miles downstream from the dam. The power plant for the Lake Dunlap Dam contains two generating units with all auxiliaries and has a total capacity of 3,600 kilowatts (kw). Water release is controlled by operation of the turbines while generating power, and by three automatic, roof-weir-type gates, each 85 feet wide

[7] "Corporations Chartered", Houston Post, Volume 27, Edition 1, Wednesday, March 6, 1912, published online by the Portal to Texas History, https://texashistory.unt.edu/ark:/67531/metapth605132, accessed October 26, 2020.
[8] U.S. Bureau of Reclamation, *Hydropower Program; The History of Hydropower Development in the United States,* https://www.usbr.gov/power/edu/history.html, accessed 10/26/2020.
[9] David P. Billington, Donald C. Jackson, and Martin V. Melosi, The History of Large Federal Dams: Planning, Design, and Construction in The Era of Big Dams, U.S. Department of the Interior, Bureau of Reclamation, Denver Colorado, 2005.

by 12 feet high. Water released from Lake Dunlap flows downstream through a series of five similar run-of-river plants and reservoirs with only a small amount of regulating storage in each reservoir. [10] As a coordinated system of hydroelectric dams and reservoirs, Lake Dunlap and its five counterparts currently comprise the Guadalupe Valley Hydroelectric System (GVHS).

While the Lake Dunlap Dam features a hybrid earth and concrete design that incorporates elements of both massive earthen gravity dams and structural concrete reinforcing elements, the dam is especially distinctive in its early use of three large Huber and Lutz Roof-Weir spillgates across the main flow channel of the Guadalupe River (Figure 1). Among the 138 dams and reservoirs documented by C.L. Dowell in 1964, Lake Dunlap Dam and its contemporary TP-3 (Abbott) Dam at Lake McQueeney were the earliest to incorporate this type of spillgate mechanism. Smaller versions of the roof-weir type gates were later installed in the Brazos River Authority's Morris Shephard Dam at Possum Kingdom Reservoir (1938-1941) and at Max Starcke Dam (1949-1951) on the Colorado River. The gates at Max Starcke Dam have since been replaced with hydraulically controlled units.[11]

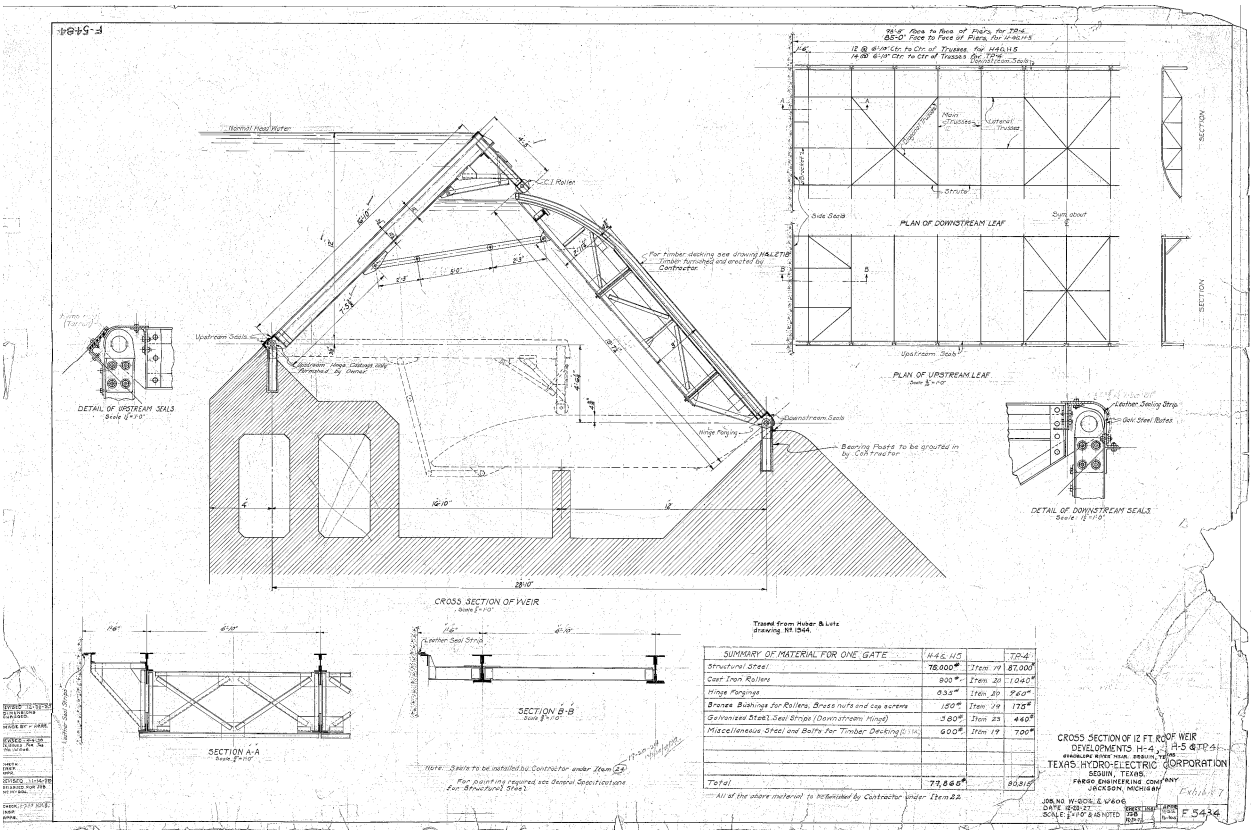

Figure 1. Lake Dunlap Dam Spillgate Sectional Drawing, Fargo Engineering, 1925.

Also known as bear-trap gates due to their distinctive design, the roof-weir type spillgates installed at Lake Dunlap Dam, unlike newer gate designs which can use a remotely operated computer to move the gates, are operated manually using pressure from lake water to help them

[10] C. L. Dowell, Engineer, Dams and Reservoirs in Texas: Historical and Descriptive Information, Texas Water Commission Bulletin 6408, July 1964

[11] Hydro Review, "Replacing Spillway Gates," Issue 2 and Volume 26.April 1, 2007, https://www.hydroreview.com/2007/04/01/replacing-spillway-gates, accessed 10/28/2020.

open and close. Since acquiring Lake Dunlap in 1963, GBRA has performed regular maintenance and repairs on all hydroelectric dam, spillgate, and associated system components. Recent repairs on the Lake Dunlap Dam were completed in 2012 and involved replacement of structural tie bars and locking bars, associated structural brackets, and miscellaneous structural steel replacements identified as needing replacement during inspection. Similar maintenance and repairs have been ongoing throughout the GVHS hydro lakes system right up to the spillgate failure at Lake Dunlap. At present Lake Dunlap Dam and its related hydropower facilities retain a remarkably high degree of historical integrity, without major modifications or alterations since originally constructed and put into service in 1928.

Based on the additional information presented above, Baer Engineering's recommends that the Lake Dunlap Dam is eligible for NRHP eligibility under Criterion C at the local level of significance for the following reasons:

- GBRA's Lake Dunlap Dam is the first of a series of hydroelectric power production dams that were constructed by Texas Power Corporation and the Texas Hydro Electric Corporation along the Guadalupe River from New Braunfels to Seguin, Texas, and which continue to operate as originally designed;
- GBRA's Lake Dunlap Dam design reflects a high level of hydroelectric dam design as it had evolved under the leadership of the U.S. Bureau of Reclamation and the USACE in the early decades of the 20th century, including the first recorded use of roof-weir type spillway gates in the Texas Water Commission's 1964 inventory of hydropower dams in Texas;
- The Huber & Lutz roof-weir gates used in the Lake Dunlap Dam and its contemporary Texas Power Corporation dams on the Guadalupe are the largest of their kind installed in Texas hydropower dams, and the oldest known examples of their type that remain in service at present;
- GBRA's Lake Dunlap Dam retains sufficient integrity of location, design, materials, setting, feeling, and association to represent historically significant trends in water conservation and hydroelectric dam engineering as they were developed by the U.S. Bureau of Reclamation and the U.S. Army Corps of Engineers and adapted for smaller-scale regional needs; and
- GBRA's Lake Dunlap Dam exhibits historically distinctive dam design qualities and engineering components that are not represented by other NRHP-listed or eligible dams in Guadalupe County or in the Guadalupe River Valley.

Section 106 Effects Mitigation Approach

THC review comments issued on October 22, 2020 for the subject project confirmed that Lake Dunlap Dam hydroelectric power generation complex is eligible under Criterion A for its influence on local community development following its construction in 1928. After requesting additional photographs of existing condition photos of the dam, the THC further commented that the proposed work does not meet Secretary of the Interior Standards for Rehabilitation of historic buildings and structures and that the proposed work will adversely affect five of the dam's seven aspects of integrity, which characterize its significance: its design, workmanship, materials, feeling, and associations.

Based on the local level of significance attributed to Lake Dunlap Dam under NRHP Criterion A, as acknowledged by the THC, and under NRHP Criterion C, as justified through the additional information provided above, Baer Engineering recommends that the adverse effects caused by the project on this historic property can be effectively mitigated through Level II Historic American Engineering Record (HAER) documentation that will preserve a record of the existing Lake Dunlap Dam as it was designed, built, and operated throughout its period of historical significance from 1928 to 1970. With the

proposed repairs and improvements, GBRA's Lake Dunlap Dam complex will, through its continued operation and service to the local community, maintain the property's NRHP Criterion A significance for the foreseeable future.

HAER Level II documentation is recommended as the most appropriate form of mitigation because it is a nationally recognized standard that will specifically address those historic qualities that are adversely affected by the proposed project. Information needed for HAER Level II documentation is readily available through GBRA's archive of original as-built engineering drawings, construction photos, and other documentary records. When assembled, the proposed HAER Level II report will create a permanent record of the property's historic design, materials, and workmanship qualities. With existing condition photos and narrative historical discussions of the dam's history and significance, the HAER Level II documentation will be preserved in GBRA's archive of records for this and other GBRA hydroelectric facilities.

As required by Section 106, Baer Engineering recommends that the Guadalupe County Historical Commission Chair is notified of the project, provided with the 100% engineering plans and designs, and requested to concur with the proposed historical engineering documentation approach to mitigate the project-specific effects to the historical engineering characteristics of the dam. Exhibition of selected portions of the HAER documentation report on GBRA's public access website and distribution of the final approved mitigation package to the same archival repositories that receive final archeological reports will also serve to make the final mitigation package accessible to the interested public.

Conclusion

The revised scope of work outlined above provides additional information requested by the USACE and the THC, and proposes a historic documentation approach designed to mitigate specific adverse effects caused by the proposed project. On behalf of the project sponsor, GBRA, Baer Engineering respectfully requests your concurrence with this revised scope of work package for purposes of Section 106 and Antiquities Code of Texas compliance.

Respectfully submitted,
BAER ENGINEERING AND ENVIRONMENTAL CONSULTING, INC.

Eugene Foster
Senior Project Manager and
Historic Engineering Documentation Specialist

Copies to:
James Barrera, U.S. Army Corps of Engineers, Fort Worth District
Charles M. Hickman, P.E., Executive Manager of Engineering, GBRA
Matthew Richart, P.E. and Kumar Samant, P.E., Black & Veatch Corporation

MEMORANDUM OF AGREEMENT
AMONG
THE UNITED STATES ARMY, CORPS OF ENGINEERS, FORT WORTH DISTRICT,
THE TEXAS STATE HISTORIC PRESERVATION OFFICER,
AND GUADALUPE-BLANCO RIVER AUTHORITY,
REGARDING THE LAKE DUNLAP DAM
LOCATED IN GUADALUPE COUNTY, TEXAS

Permit Number: SWF-2015-00168

WHEREAS, the United States Army Corps of Engineers, Fort Worth District (USACE), the lead Federal agency, is reviewing a permit application under Section 404 of the Clean Water Act to authorize dredge and fill activities for modification of the Lake Dunlap Dam (Dam) by Guadalupe-Blanco River Authority (GBRA); and

WHEREAS, GBRA proposes to modify the Dam (Project) located in Guadalupe County, Texas (see attached map); and

WHEREAS, the Project requires a USACE permit in compliance with Section 404 of the Clean Water Act; and

WHEREAS, the activity requiring a USACE permit pursuant to Section 404 of the Clean Water Act constitutes an undertaking (Undertaking) under Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended); and

WHEREAS, the USACE, in consultation with the Texas State Historic Preservation Officer (SHPO), considered the potential effects of the Project as provided in 33 CFR 325, Appendix C and 36 CFR 800 and established an Area of Potential Effects (APE) for direct effects to include the Dam, associated temporary and permanent workspace, and impacts to waters of the U.S.; and

WHEREAS, GBRA has completed a cultural resource scope of work titled *Revised Section 106 Scope of Work for Lake Dunlap Spillgate Replacement and Dam Armoring, Guadalupe Blanco River Authority, Guadalupe County*, dated November 2, 2020, which recommended the Dam as eligible for the National Register of Historic Places (NRHP), and recommended the Project as an adverse effect to a historic property; and,

WHEREAS, the USACE and the SHPO have concurred that the proposed Project effects to the Dam as a result of the Undertaking is an adverse effect, and the USACE consulted with the Advisory Council on Historic Preservation (ACHP) regarding this adverse effect; and,

WHEREAS, USACE and the SHPO invited GBRA to participate in the consultation and to join this Memorandum of Agreements (MOA) as an Invited Signatory; and

WHEREAS, the USACE has consulted with the Guadalupe County Historical Commission, Comal County Historical Commission, and the New Braunfels Historic Preservation Office, and invited them to sign this MOA as concurring parties; and

WHEREAS, USACE, in accordance with 33 CFR 325, Appendix C(2) and 36 CFR 800.2(c), the USACE has identified consulting parties, sought their views on the proposed effects to the Dam, and provided them with documentation of the adverse effects and the proposed mitigation measures (as well as the public outreach component), including review of this Memorandum of Agreement; and

WHEREAS, USACE, in accordance with 33 CFR 325, Appendix C(7)(d) and 36 CFR 800.6(a)(1), notified the ACHP of its adverse effect determination with specified documentation, and the ACHP chose not to participate in the consultation pursuant to 36 CFR 800.6(a)(1)(iii); and,

WHEREAS, the USACE, the SHPO, and GBRA agreed to accomplish compliance with Section 106 through the development and execution of this MOA, and to ensure that GBRA provides mitigation for the adverse effects to the Dam as outlined in the stipulations of this MOA, and this MOA will be a permit condition for any USACE permit issued for the Project; and

NOW, THEREFORE; the USACE, the SHPO, and GBRA agree that the Project shall be implemented in accordance with the following stipulations in order to take into account the adverse effect of the Project on the Dam to satisfy the USACE's Section 106 responsibilities for this Project.

STIPULATIONS

The USACE will ensure that the following stipulations are carried out by GBRA to minimize and mitigate adverse effects to the Dam resultant from the Undertaking.

I. RESOLUTION OF THE ADVERSE EFFECT

TO BE DETERMINED IN CONSULTATION

A. Mitigation

a. GBRA shall procure documentation of the dam complex to the written and photographic standards of the Historic American Building Survey/Historic American Engineering Record (HABS/HAER) Level II.
    i. Large-format photography shall be coordinated with the SHPO for appropriateness of number of images required to document the resource. Scans of images shall be submitted to the USACE and SHPO for a 30-day review.
    ii. The Undertaking may proceed upon USACE and SHPO acceptance of the appropriateness of the large-format images distributed to all parties of this agreement.
    iii. The documentation package shall be submitted to the Library of Congress for potential inclusion in the HABS/HAER collection.

b. Electronic copies of the documentation shall be made available in the Adobe Acrobat PDF file format to all signatories upon submission to the Library of Congress.

c. The documentation shall be permanently exhibited on GBRA's website and made available for download.

II. CURATION AND DISPOSITION OF MATERIALS, RECORDS AND REPORTS

A. *Curation.* GBRA shall ensure that materials and associated records as required for mitigation in this MOA, are accessioned into a curatorial facility that has been certified, or granted provisional status, by the SHPO in accordance with Chapter 29.6 of the Texas Historical Commission rules (Rules of Management and Care of Artifacts and Collections).

B. *Reports.* GBRA shall provide copies of final documentation as required for mitigation to the signatories and consulting parties. The signatories and consulting parties shall withhold from the public all site location information and other data that may be of a confidential or sensitive nature pursuant to 33 CFR 325, Appendix C(4)(c) and 36 CFR 800.11(c).

III. PROFESSIONAL QUALIFICATIONS

All historic preservation-related investigations and mitigation requirements specified in this Agreement shall be performed by personnel meeting professional qualifications of the Secretary of the Interior's *Professional Qualification Standards (*36 CFR 61) in historic architecture and archeology.

IV. DISPUTE RESOLUTION

Should any Signatory to this MOA object within thirty (30) calendar days upon receipt of any plans or other documents, pursuant to this MOA, provided by USACE, the SHPO, GBRA, or others for review, or object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the objector is encouraged to consult the other signatories in resolving the objection. If the USACE determines that such objection cannot be resolved, USACE shall perform the following tasks.

A. CONSULT ACHP. Forward all documentation relevant to the dispute, including the USACE's proposed resolution, to the ACHP. The ACHP shall provide the USACE with its advice on the resolution of the objection within 30 days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the USACE shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and shall provide them with a copy of this written response. The USACE will then proceed according to its final decision.

B. FINAL DECISION. If the ACHP does not provide its advice regarding the dispute within the 30-day time period, the USACE may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the USACE shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and shall provide the signatories, concurring parties, and the ACHP with a copy of such written response.

C. The parties shall carry out all other actions subject to the terms of this MOA that are not the subject of the dispute.

D. At any time during the implementation of the measures stipulated in this MOA is raised by interested persons, then USACE shall consider the objection and consult, as appropriate, with the objecting party and the consulting parties to attempt to resolve the objection.

V. DURATION, AMENDMENT, AND TERMINATION:

A. DURATION. Unless terminated or amended as outlined below, this Agreement shall remain in effect for a period of five (5) years from the date the MOA goes into effect and may be extended for an additional 5-year term with the written consent of all the signatories.

B. AMENDMENT. This Agreement may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

C. TERMINATION. Any Signatory to this agreement may terminate this MOA by providing thirty (30) calendar days written notice to the other Signatories, pursuant to 36 CFR 800.6(c)(8). During the period after notification and prior to termination, the Signatories shall consult to seek agreement on amendments or other actions that would avoid termination. Termination of this MOA will require compliance with 36 CFR 800. This MOA may be terminated by the execution of a subsequent MOA that explicitly terminates or supersedes its terms.

VI. REPORTING AND MONITORING:

Each year following the execution of the MOA until it expires or it is terminated, GBRA shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in GBRA's efforts to carry out the terms of the MOA.

VII. EXECUTION:

Signature of this Programmatic Agreement by the USACE, the SHPO, GBRA, and implementation of its terms evidence that the USACE has taken into account the effects of this Project on historic properties and afforded the ACHP an opportunity to comment. Pursuant to 36 CFR 800.6(b)(1)(iv) this Agreement will go into effect when a fully executed version is received by the ACHP.

MEMORANDUM OF AGREEMENT
AMONG
THE UNITED STATES ARMY, CORPS OF ENGINEERS, FORT WORTH DISTRICT,
THE TEXAS STATE HISTORIC PRESERVATION OFFICER,
AND GUADALUPE-BLANCO RIVER AUTHORITY,
REGARDING THE LAKE DUNLAP DAM
LOCATED IN GUADALUPE COUNTY, TEXAS

Permit Number: SWF-2015-00168

SIGNATORY:

United States Army, Corps of Engineers, Fort Worth District

_____ Date _____
Brandon W. Mobley, Chief, Regulatory Division

MEMORANDUM OF AGREEMENT
AMONG
THE UNITED STATES ARMY, CORPS OF ENGINEERS, FORT WORTH DISTRICT,
THE TEXAS STATE HISTORIC PRESERVATION OFFICER,
AND GUADALUPE-BLANCO RIVER AUTHORITY,
REGARDING THE LAKE DUNLAP DAM
LOCATED IN GUADALUPE COUNTY, TEXAS

Permit Number: SWF-2015-00168

SIGNATORY:

Texas State Historic Preservation Office

_____ Date _____
Mark Wolfe, State Historic Preservation Officer

MEMORANDUM OF AGREEMENT
AMONG
THE UNITED STATES ARMY, CORPS OF ENGINEERS, FORT WORTH DISTRICT,
THE TEXAS STATE HISTORIC PRESERVATION OFFICER,
AND GUADALUPE-BLANCO RIVER AUTHORITY,
REGARDING THE LAKE DUNLAP DAM
LOCATED IN GUADALUPE COUNTY, TEXAS

Permit Number: SWF-2015-00168

INVITED SIGNATORY:

Guadalupe-Blanco River Authority

_____ Date _____
Charles Hickman, Executive Manager of Engineering

MEMORANDUM OF AGREEMENT
AMONG
THE UNITED STATES ARMY, CORPS OF ENGINEERS, FORT WORTH DISTRICT,
THE TEXAS STATE HISTORIC PRESERVATION OFFICER,
AND GUADALUPE-BLANCO RIVER AUTHORITY,
REGARDING THE LAKE DUNLAP DAM
LOCATED IN GUADALUPE COUNTY, TEXAS

Permit Number: SWF-2015-00168

CONCURRING PARTY:

_____ Date _____