

Hiram M. Chittenden Locks Large Lock Center Gate Project
Lake Washington Ship Canal, King County, Washington

Appendix B – Cultural and Historic Properties Documentation

April 2022



**US Army Corps
of Engineers®**
Seattle District



Allyson Brooks Ph.D., Director
State Historic Preservation Officer

June 22, 2021

Laura Boerner, LG, LHG
Chief, Planning, Environmental and Cultural Resources Branch
US Army Corps of Engineers - Seattle District

In future correspondence please refer to:
Project Tracking Code: 2021-04-02392
Property: Hiram M. Chittenden Locks -Large Lock Center Gate Replacement
Re: ADVERSE Effect

Dear Laura Boerner:

Thank you for contacting the State Historic Preservation Officer (SHPO) and Department of Archaeology and Historic Preservation (DAHP) regarding the above referenced proposal. We have reviewed the materials you provided for this project. As a result of our review, we concur with your determination that the project as proposed will have an Adverse Effect on Property ID: 724739, the Hiram M. Chittenden Large Lock, which is a contributing element of the Chittenden Locks and Lake Washington Ship Canal, which is listed in the National Register of Historic Places.

In view of our concurrence on the adverse effect determination, we look forward to further consultation and the development of a Memorandum of Agreement (MOA). The MOA shall identify specific measures that when implemented will serve to mitigate the adverse effect on the property.

Also, we appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36 CFR 800.4(a)(4). These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR 800.

Thank you for the opportunity to review and comment. Please ensure that the DAHP Project Number (a.k.a. Project Tracking Code) is shared with any hired cultural resource consultants and is attached to any communications or submitted reports. Should you have any questions, please feel free to contact me.

Sincerely,

Holly Borth
Project Compliance Reviewer
(360) 890-0174
holly.borth@dahp.wa.gov





DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

14 June 2021

Jennifer Meisner, Historic Preservation Officer
King County Historic Preservation Program
King Street Center
201 S. Jackson Street, Suite 700
Seattle, WA 98014

SUBJECT: Lake Washington Ship Canal Large Lock Center Gate Replacement, King County, Washington State, DAHP Log: 2021-04-02392

Dear Ms. Meisner:

The U.S. Army Corps of Engineers (Corps) is writing in regard to the proposed replacement of the large lock center gate (the Large Lock) (undertaking) located at the Lake Washington Ship Canal (LWSC), also known as the Chittenden Locks, in Seattle, King County, WA (Enclosures 1 and 2). The LWSC is listed in the National Register of Historic Places as a discontinuous historic district, and the Corps has determined that replacement of the Large Lock center gate will result in an adverse effect to the LWSC Historic District.

The undertaking is located in Section 11, Township 25 North, Range 3 East in Seattle, Washington. The undertaking will consist of the complete demolition and removal of the original Large Lock center gate and a portion of the concrete walkway at the rear of the Administration Building (Enclosures 3 and 4). The original center gate will be replaced with a horizontally framed, welded steel fabrication with the same dimensions as the existing gate. The miter gate leaves would be a single sided skin plate design and mounted into the concrete canal walls. This will require removal and disposal of the old gate and fabrication/delivery of two (2) new gate leaves. Gate leaves are the gates doors that make up the gate. Each gate leaf has its own set of machinery to operate it. The new contractor-fabricated miter gate leaves will be installed in the existing gate recesses with new gate anchors placed into the concrete. The new gates will be metal and painted black to match the existing original gate, the design will change from double skin (Enclosure 4), to single skin (Enclosures 5 and 6). The demolished concrete will be replaced with color matched concrete to match the surrounding concrete. The concrete formula developed for this project will be save for future work. The existing gate operating machinery and electrical equipment will be reused and connected to the new gates.

The Corps initiated consultation with the Department of Archaeology and Historic Preservation (DAHP) on 12 May 2021. The Corps informed the Advisory Council on Historic Preservation (ACHP) of the adverse effect and invited them to participate in the development of a Memorandum of Agreement (MOA). The Corps has identified the King County as a Certified Local Government; we are notifying you of the undertaking and finding of effect and inviting

you to participate in the development of a MOA for this project. In consultation with DAHP, the Corps is beginning the effort to identify appropriate mitigation actions.

Please let us know if you would like to participate as a concurring party in the development of a MOA. If you have any questions or concerns please contact Ms. Lys Opp-Beckman, Architectural Historian, at lys.opp-beckman@usace.mail.mil or (206) 764-3422, or the Project Archaeologist Ms. Kara Kanaby at Kara.M.Kanaby@usace.army.mil or (206) 764-6857. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Sincerely,

KANABY.KARA.

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Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch

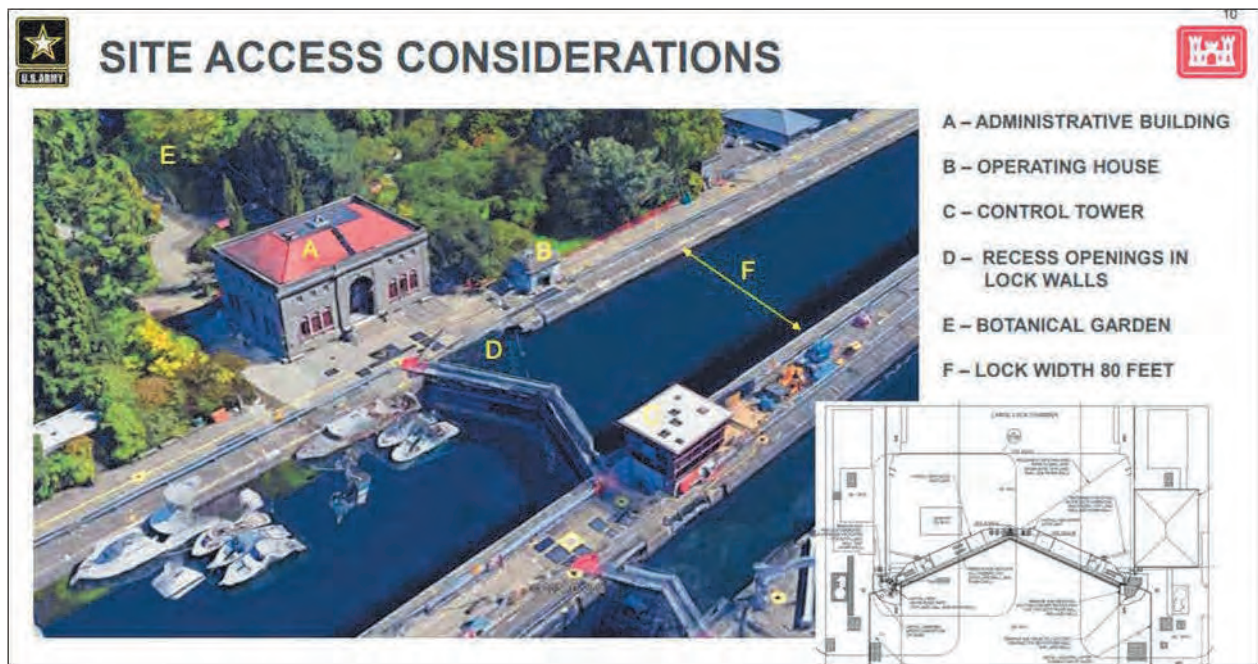
Enclosure/s



Enclosure 1: Area of Potential Effects



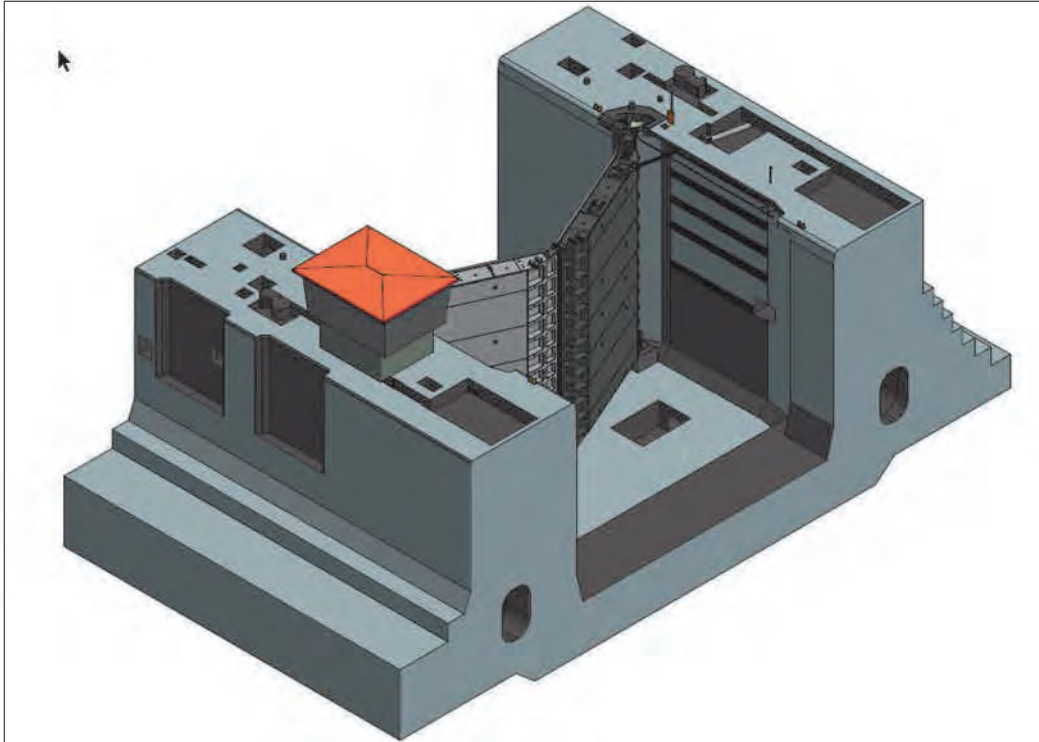
Enclosure 2. Yellow arrow points to the center gate



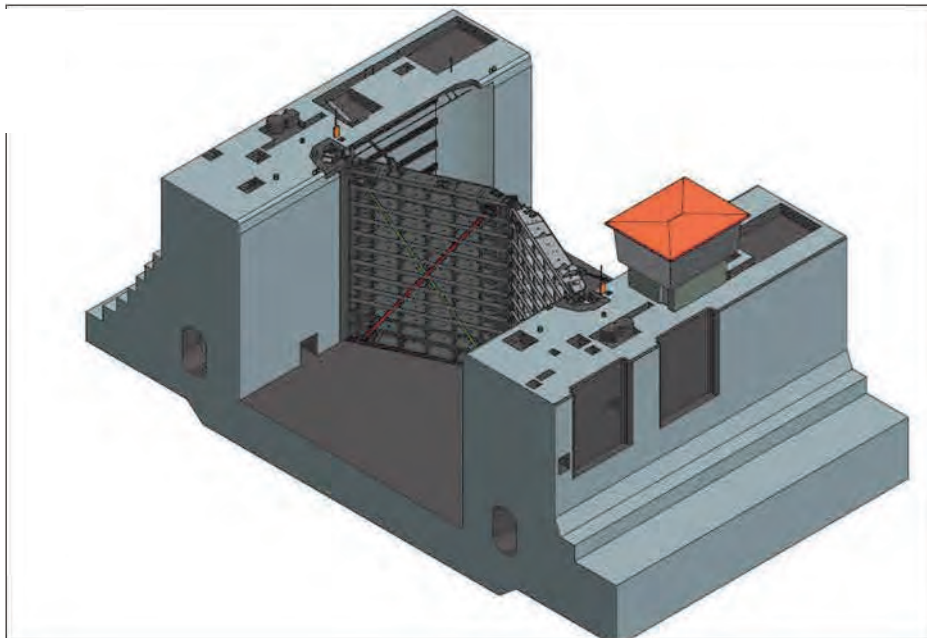
Enclosure 3. Close up of site, letter D shows the gate



Enclosure 4. De-watered, double skin, historic center gate, photo taken March 2021



Enclosure 5. Rendering of new single skin gate



Enclosure 6. Rendering of new single skin gate from another view



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

14 June 2021

Sarah Sodt, City Historic Preservation Officer
City of Seattle Historic Preservation Program
P.O. Box 94649
Seattle, WA 98124

SUBJECT: Lake Washington Ship Canal Large Lock Center Gate Replacement, King County, Washington State, DAHP Log: 2021-04-02392

Dear Ms. Sodt:

The U.S. Army Corps of Engineers (Corps) is writing in regard to the proposed replacement of the large lock center gate (undertaking) located at the Lake Washington Ship Canal (LWSC), also known as the Chittenden Locks, in Seattle, King County, WA (Enclosures 1 and 2). The LWSC is listed in the National Register of Historic Places as a discontinuous historic district, and the Corps has determined that replacement of the large lock center gate will result in an adverse effect to the LWSC Historic District.

The undertaking is located in Section 11, Township 25 North, Range 3 East in Seattle, WA. The undertaking will consist of the complete demolition and removal of the original Large Lock center gate and a portion of the concrete walkway at the rear of the Administration Building (Enclosures 3 and 4). The original center gate will be replaced with a horizontally framed, welded steel fabrication with the same dimensions as the existing gate. The miter gate leaves would be a single sided skin plate design and mounted into the concrete canal walls. This will require removal and disposal of the old gate and fabrication/delivery of two (2) new gate leaves. Gate leaves are the gates doors that make up the gate. Each gate leaf has its own set of machinery to operate it. The new contractor-fabricated miter gate leaves will be installed in the existing gate recesses with new gate anchors placed into the concrete. The new gates will be metal and painted black to match the existing historic gate, the design will change from double skin (Enclosure 4), to single skin (Enclosures 5 and 6). The demolished concrete will be replaced with color matched concrete to match the surrounding concrete. The concrete formula developed for this project will be save for future work. The existing gate operating machinery and electrical equipment will be reused and connected to the new gates.

The Corps initiated consultation with the Department of Archaeology and Historic Preservation (DAHP) on 12 May 2021. The Corps informed the Advisory Council on Historic Preservation (ACHP) of the adverse effect and invited them to participate in the development of a Memorandum of Agreement (MOA). The Corps has identified the City of Seattle as a Certified Local Government; we are notifying you of the undertaking and finding of effect and inviting

you to participate in the development of a MOA for this project. In consultation with DAHP, the Corps is beginning the effort to identify appropriate mitigation actions.

Please let us know if you would like to participate as a concurring party in the development of a MOA. If you have any questions or concerns please contact Ms. Lys Opp-Beckman, Architectural Historian, at lys.opp-beckman@usace.mail.mil or (206) 764-3422, or the Project Archaeologist Ms. Kara Kanaby at Kara.M.Kanaby@usace.army.mil or (206) 764-6857. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Sincerely,

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Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch

Enclosures



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

14 June 2021

Susan Connole
Friends of the Ballard Locks

SUBJECT: Lake Washington Ship Canal Large Lock Center Gate Replacement, King County, Washington State, DAHP Log: 2021-04-02392

Dear Ms. Connole:

The U.S. Army Corps of Engineers (Corps) is writing in regard to the proposed replacement of the large lock center gate (undertaking) located at the Lake Washington Ship Canal (LWSC), also known as the Chittenden Locks, in Seattle, King County, Washington State (Enclosures 1 and 2). The LWSC is listed in the National Register of Historic Places as a discontinuous historic district, and the Corps has determined that replacement of the large lock center gate will result in an adverse effect to the LWSC Historic District.

The undertaking is located in Section 11, Township 25 North, Range 3 East in Seattle, Washington. The undertaking will consist of the complete demolition and removal of the original Large Lock center gate and a portion of the concrete walkway at the rear of the Administration Building (Enclosures 3 and 4). The original center gate will be replaced with a horizontally framed, welded steel fabrication with the same dimensions as the existing gate. The miter gate leaves would be a single sided skin plate design and mounted into the concrete canal walls. This will require removal and disposal of the old gate and fabrication/delivery of two (2) new gate leaves. Gate leaves are the gates doors that make up the gate. Each gate leaf has its own set of machinery to operate it. The new contractor-fabricated miter gate leaves will be installed in the existing gate recesses with new gate anchors placed into the concrete. The new gates will be metal and painted black to match the existing historic gate, the design will change from double skin (Enclosure 4), to single skin (Enclosures 5 and 6). The demolished concrete will be replaced with color matched concrete to match the surrounding concrete. The concrete formula developed for this project will be save for future work. The existing gate operating machinery and electrical equipment will be reused and connected to the new gates.

The Corps initiated consultation with the Department of Archaeology and Historic Preservation (DAHP) on 12 May 2021. The Corps informed the Advisory Council on Historic Preservation (ACHP) of the adverse effect and invited them to participate in the development of a Memorandum of Agreement (MOA). The Corps Friends of the Ballard Locks as a possible consulting party; we are notifying you of the undertaking and finding of effect and inviting you to participate in the development of a MOA for this project. In consultation with DAHP, the Corps is beginning the effort to identify appropriate mitigation actions.

Please let us know if you would like to participate as a concurring party in the development of a MOA. If you have any questions or concerns please contact Ms. Lys Opp-Beckman, Architectural Historian, at lys.opp-beckman@usace.mail.mil or (206) 764-3422, or the Project Archaeologist Ms. Kara Kanaby at Kara.M.Kanaby@usace.army.mil or (206) 764-6857. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Sincerely,
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Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch

Enclosure/s



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

14 June 2021

Kji Kelly, Executive Director
Historic Seattle
1117 Minor Avenue
Seattle, Washington 98101

SUBJECT: Lake Washington Ship Canal Large Lock Center Gate Replacement, King County, Washington State, DAHP Log: 2021-04-02392

Dear Mr. Kelly:

The U.S. Army Corps of Engineers (Corps) is writing in regard to the proposed replacement of the large lock center gate (undertaking) located at the Lake Washington Ship Canal (LWSC), also known as the Chittenden Locks, in Seattle, King County, WA (Enclosures 1 and 2). The LWSC is listed in the National Register of Historic Places as a discontinuous historic district, and the Corps has determined that replacement of the large lock center gate will result in an adverse effect to the LWSC Historic District.

The undertaking is located in Section 11, Township 25 North, Range 3 East in Seattle, Washington. The undertaking will consist of the complete demolition and removal of the original Large Lock center gate and a portion of the concrete walkway at the rear of the Administration Building (Enclosures 3 and 4). The original center gate will be replaced with a horizontally framed, welded steel fabrication with the same dimensions as the existing gate. The miter gate leaves would be a single sided skin plate design and mounted into the concrete canal walls. This will require removal and disposal of the old gate and fabrication/delivery of two (2) new gate leaves. Gate leaves are the gates doors that make up the gate. Each gate leaf has its own set of machinery to operate it. The new contractor-fabricated miter gate leaves will be installed in the existing gate recesses with new gate anchors placed into the concrete. The new gates will be metal and painted black to match the existing original gate, the design will change from double skin (Enclosure 4), to single skin (Enclosures 5 and 6). The demolished concrete will be replaced with color matched concrete to match the surrounding concrete. The concrete formula developed for this project will be save for future work. The existing gate operating machinery and electrical equipment will be reused and connected to the new gates. .

The Corps initiated consultation with the Department of Archaeology and Historic Preservation (DAHP) on 12 May 2021. The Corps informed the Advisory Council on Historic Preservation of the adverse effect and invited them to participate in the development of a Memorandum of Agreement (MOA). The Corps has identified Historic Seattle as a possible consulting party; we are notifying you of the undertaking and finding of effect and inviting you

to participate in the development of a MOA for this project. In consultation with DAHP, the Corps is beginning the effort to identify appropriate mitigation actions.

Please let us know if you would like to participate as a concurring party in the development of a MOA. If you have any questions or concerns please contact Ms. Lys Opp-Beckman, Architectural Historian, at lys.opp-beckman@usace.mail.mil or (206) 764-3422, or the Project Archaeologist Ms. Kara Kanaby at Kara.M.Kanaby@usace.army.mil or (206) 764-6857. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Sincerely,

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Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch

Enclosure/s



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

June 15, 2021

Allyson Brooks, Ph.D.
State Historic Preservation Officer
Department of Archaeology and Historic Preservation
Post Office Box 48343
Olympia, Washington 98504-8343

SUBJECT: Large Lock Center Gate Replacement, King County, Washington State, DAHP Log:
2021-04-02392

Dear Dr. Brooks:

The U.S. Army Corps of Engineers (Corps) is responding to your office's request for additional information and to revise the area of potential effects (APE) for the proposed replacement of the large lock center gate (the Large Lock) located at the Lake Washington Ship Canal (LWSC), also known as the Chittenden Locks, in Seattle, King County, Washington (Enclosures 1 and 2). The Corps is also providing additional information including the location of the center gate in relation to the Large Lock, a definition of gate leaves and the demolition plan for the concrete.

The Corps has determined and documented the revised APE for the undertaking and is consulting with your office under Section 106 as provided at 36 C.F.R. § 800.4(a). The letter requests agreement with the Corps' revised APE determination and with our determination that the proposed undertaking will have an adverse effect to the Large Lock which is a contributing element to the LWSC Historic District. Removal of the original center gate and the installation of a new gate will result in the 100% material loss of the original gate for the Large Lock (see letter dated 21 May 2021).

The undertaking is located in Section 11, Township 25 North, Range 3 East in Seattle, Washington. The revised APE for the undertaking encompasses the project area, include staging, and access areas. The Corps believes that the revised APE is sufficient to identify and consider both direct and indirect effects of the proposed project.

The Large Lock is an element of the National Register of Historic Places (NRHP) listed Chittenden (Hiram M.) Locks and Related Features of the Lake Washington Ship Canal Historic District (LWSC Historic District). The District was listed on the National Register in 1978 and is eligible under Criteria A, B, and C. The District is significant as a major engineering achievement that created a navigable waterway joining Puget Sound to Lake Union and Lake Washington.

The Large Lock is divided into two components: Large Lock, West and Large Lock, East and contains a total of five gates (Enclosure 3). A miter guard gate and service gate are located at both the east end on the freshwater side and the west end on the saltwater side of the Large Lock. The fifth gate is a service gate located in the center of the Large Lock and is to be replaced (Enclosures 4 and 5).

The undertaking will consist of the complete demolition and removal of the original Large Lock center gate and a portion of the concrete walkway at the rear of the Administration Building (Enclosure 4). The historic center gate will be replaced with a horizontally framed, welded steel fabrication with the same dimensions as the existing gate. The miter gate leaves would be a single sided skin plate design and mounted into the concrete canal walls. This will require removal and disposal of the old gate and fabrication/delivery of two (2) new gate leaves. Gate leaves are the doors that make up the gate. Each gate leaf has its own set of machinery to operate it. The new contractor-fabricated miter gate leaves will be installed in the existing gate recesses with new gate anchors placed into the concrete. The new gates will be metal and painted black to match the existing historic gate, the design will change from double skin (Enclosure 5), to single skin (Enclosures 6 and 7). The demolished concrete will be replaced with color matched material to match the historic concrete. Enclosures 8-10 show where historic concrete will be removed and replaced with color matched material. The concrete formula developed for this project will be saved for future work. The existing gate machinery and electrical equipment will be reused and connected to the new gates. One lock chamber dewatering is anticipated to adjust and commission the miter gate after installation.

The Corps requests your review and agreement with our determination of the revised APE and our determination that there will be an adverse effect to the NRHP listed LWSC Historic District by the undertaking given the loss of material from the Large Lock.

If you have any questions or desire additional information, please contact the project Architectural Historian, Ms. Lys Opp-Beckman, at lys.opp-beckman@usace.mail.mil or (206) 764-3422. The project Archaeologist, Ms. Kara Kanaby can be contacted at Kara.M.Kanaby@usace.army.mil or (206) 940-9715. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Sincerely,

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Laura Boerner, LG, LHG
Chief, Planning, Environmental and
Cultural Resources Branch

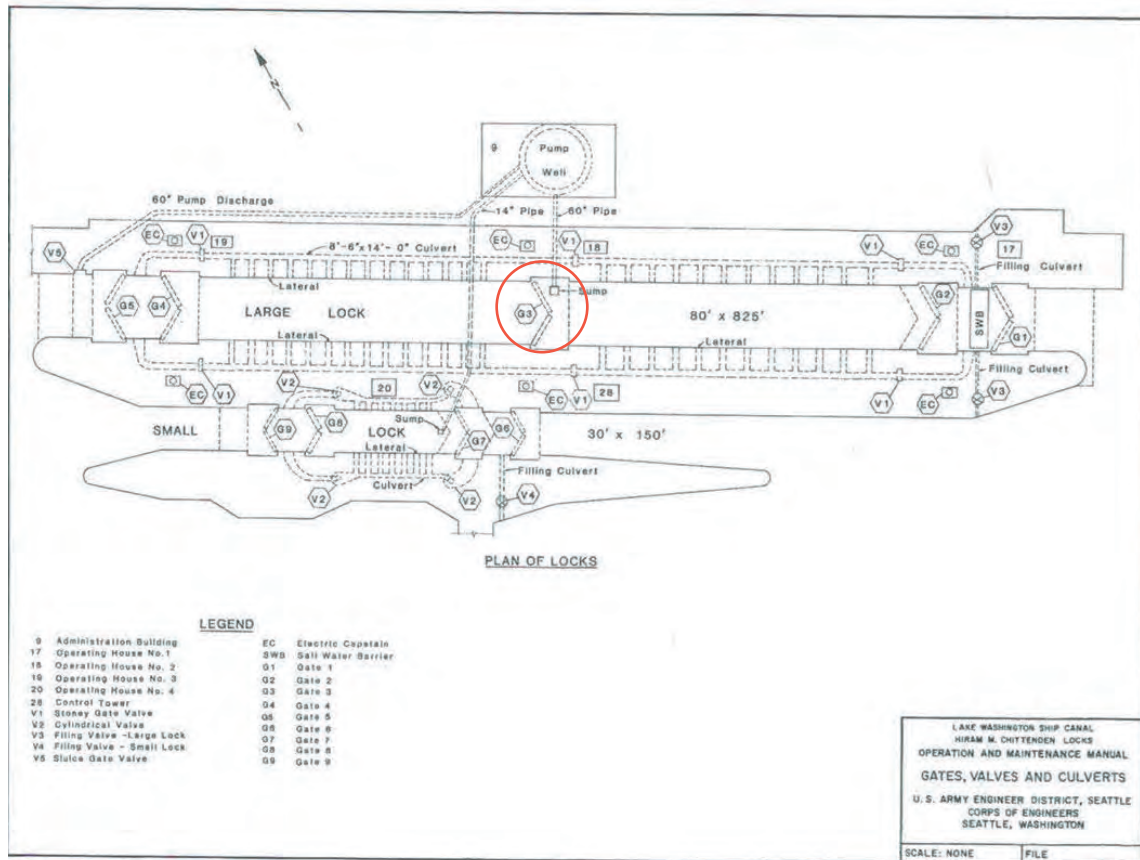
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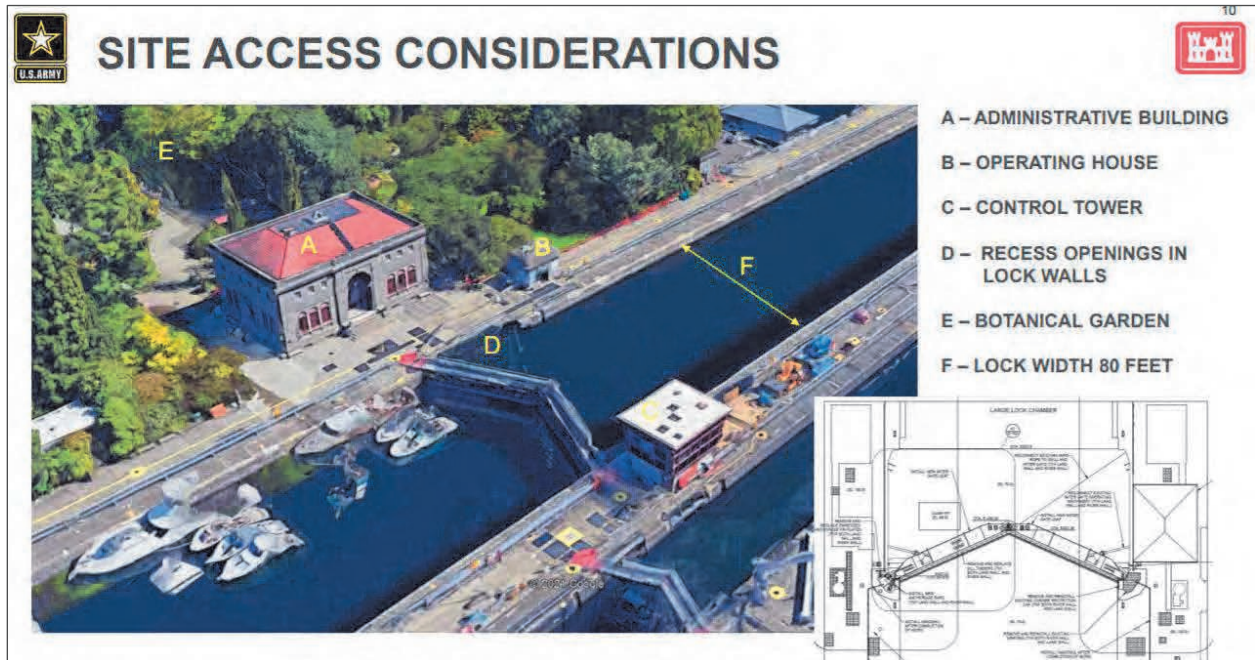
Enclosure 1: Revised APE



Enclosure 2. Yellow arrow points to the center gates



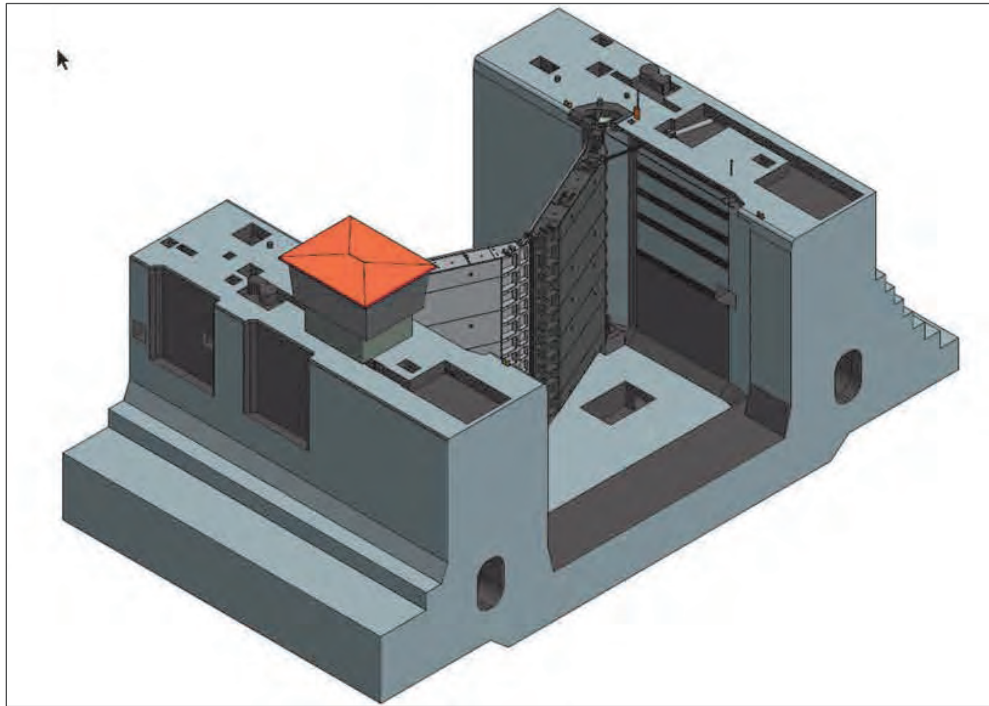
Enclosure 3: Map showing Large Lock Gate locations. Red circle show location of center gate.



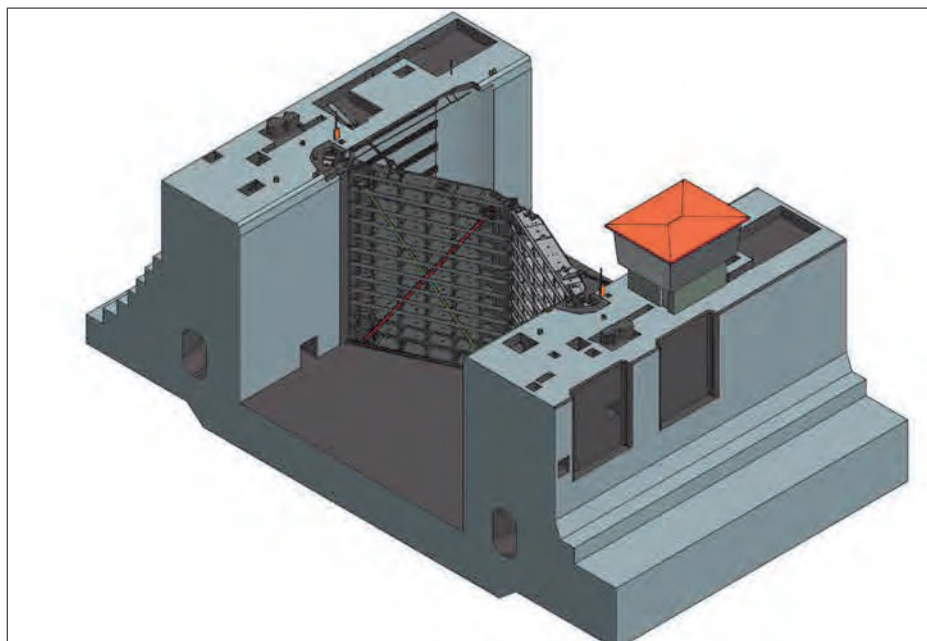
Enclosure 4. Close up of site, letter D shows the gate.



Enclosure 5. De-watered, double skin, historic center gate, photo taken March 2021.



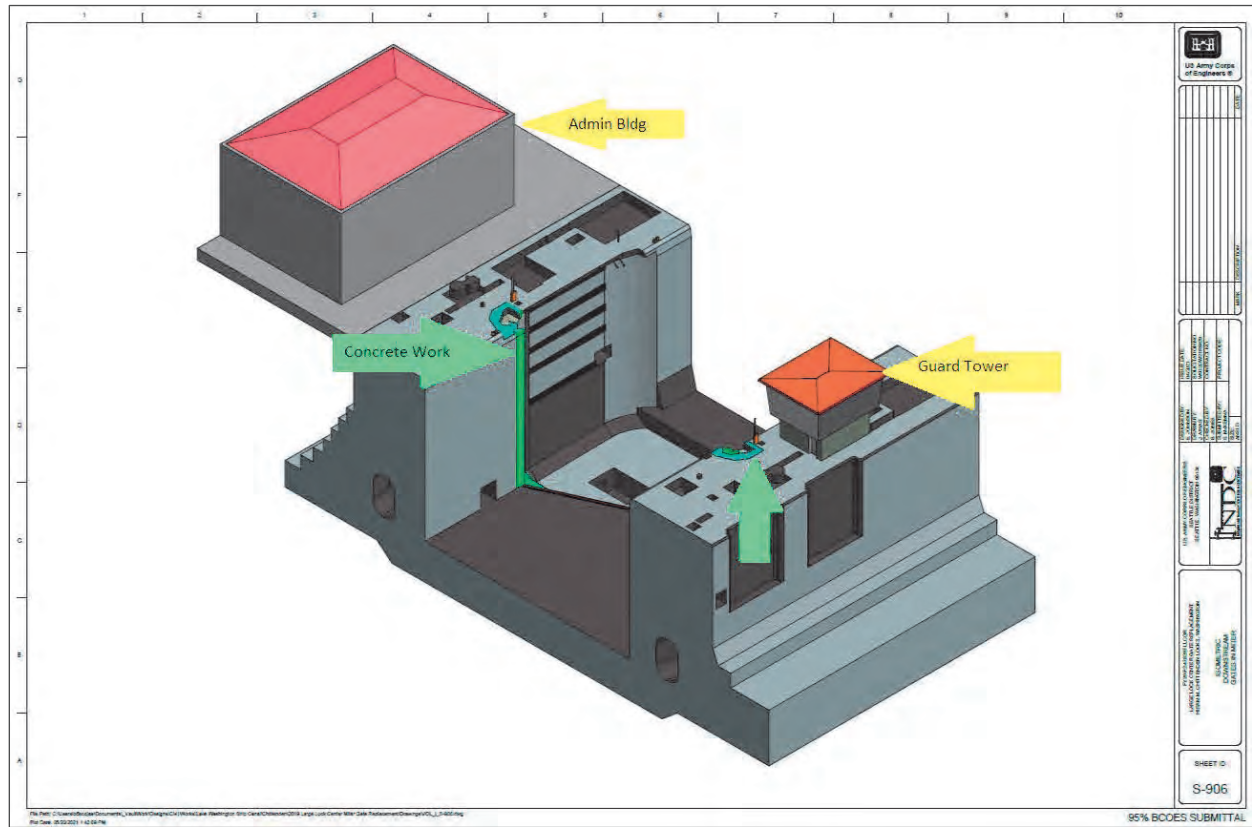
Enclosure 6. Rendering of new single skin gate



Enclosure 7. Rendering of new single skin gate from another view



Enclosure 8: Overhead view of location where concrete will be removed from Large Lock walls. The green dots mark the location but are not to scale and are for representation purposes only.



Enclosure 9: Overview showing where historic concrete will be removed. Historic concrete is green with green arrows pointing to it.

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

Planning, Environmental and Cultural Resources Branch

May 21, 2021

Allyson Brooks, Ph.D.
State Historic Preservation Officer
Department of Archaeology and Historic Preservation
Post Office Box 48343
Olympia, Washington 98504-8343

SUBJECT: Large Lock Center Gate Replacement, King County, Washington State, DAHP Log:
2021-04-02392

Dear Dr. Brooks:

The U.S. Army Corps of Engineers (Corps) is continuing consultation on the proposed replacement of the large lock center gates (The Large Lock) located at the Lake Washington Ship Canal (LWSC), also known as the Chittenden Locks, in Seattle, King County, Washington State (Enclosures 1,2, and 3). In our letter dated 13 May 2021, the Corps documented the area of potential effects (APE) with which your office agreed to on 14 May 2021. This letter provides a brief project description, summarizes the efforts to identify historic properties, and provides the agency determinations and findings as provided at 36 C.F.R. § 800.4(d).

The undertaking is located in Section 11, Township 25 North, Range 3-0 East in Seattle, Washington. The Large Lock is a component of the Chittenden Locks which was listed on the National Register of Historic Places (NRHP) in 1978.

The undertaking will consist of the complete demolition and removal of the old Large Lock center gates and a portion of the concrete walkway at the rear of the Administration Building (Enclosure 4). The historic center gate will be replaced with two metal ones mounted into the concrete canal walls (Enclosure 5). This will require removal and disposal of the old gates and fabrication/delivery of two (2) new gate leaves. The new contractor-fabricated miter gate leaves will be installed in the existing gate recesses with new gate anchorages placed into the concrete. The new gates will be metal and painted black like the existing historic gates, the design will change from double skin (Enclosure 6), to single skin (Enclosure 7), there is historic precedent for this design modification at the locks. The demolished concrete will be replaced with color matched material with large aggregate to match the historic, the formula developed for this project will be save for future work. The existing gate operating machinery will be reused and connected to the new gates. Existing electrical equipment on the gates will be removed and reinstalled on the new gates. One lock chamber dewatering is anticipated to adjust and commission the miter gate after installation.

The Large Lock and the center gates was completed in 1916. It is a double skin, gate that is held together with circular rivets. The top of the gate is protected from ship impacts with boards that are attached with nuts and bolts, the assembly is painted black. The center gates are beyond their functional lifetime and must be replaced for safety issues. The gates have been largely un-altered during their lifetime. Creosote treated timbers at the top of the gates were replaced with a composite wood circa 2010, because the material change was very small and imitative it does not decrease the integrity of this central feature of the Chittenden Locks.

At this time the Corps is requesting Washington SHPO's review and agreement with our finding that there will be an adverse effect to the NRHP listed Chittenden Locks by the undertaking. The removal of the original center gates and the installation of a new gate will adversely affect the Chittenden Locks because this project will result in the 100% material loss of an original and contributing element (the center gate).

The Corps is making a good faith effort to gather information from affected Tribes identified pursuant to 36 C.F.R. § 800.3(f). We have notified the Muckleshoot Indian Tribe and Suquamish Tribe to assist in identifying properties which may be of religious and cultural significance. We have not received a response from either Tribe. Furthermore, the Corps requests your concurrence with our finding that there will be an adverse effect by the proposed undertaking 36 C.F.R. § 800.5 due to a 100% material loss of the 1917 center gates (A.1). Based on the finding of adverse effect we will begin the creation of an MOA drafted in compliance with § 800.6(c).

We appreciate your consideration of our request. If you have any questions or desire additional information, please contact the project Architectural Historian, Ms. Lys Opp-Beckman, at lys.opp-beckman@usace.mail.mil or (206) 764-3422. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Sincerely,

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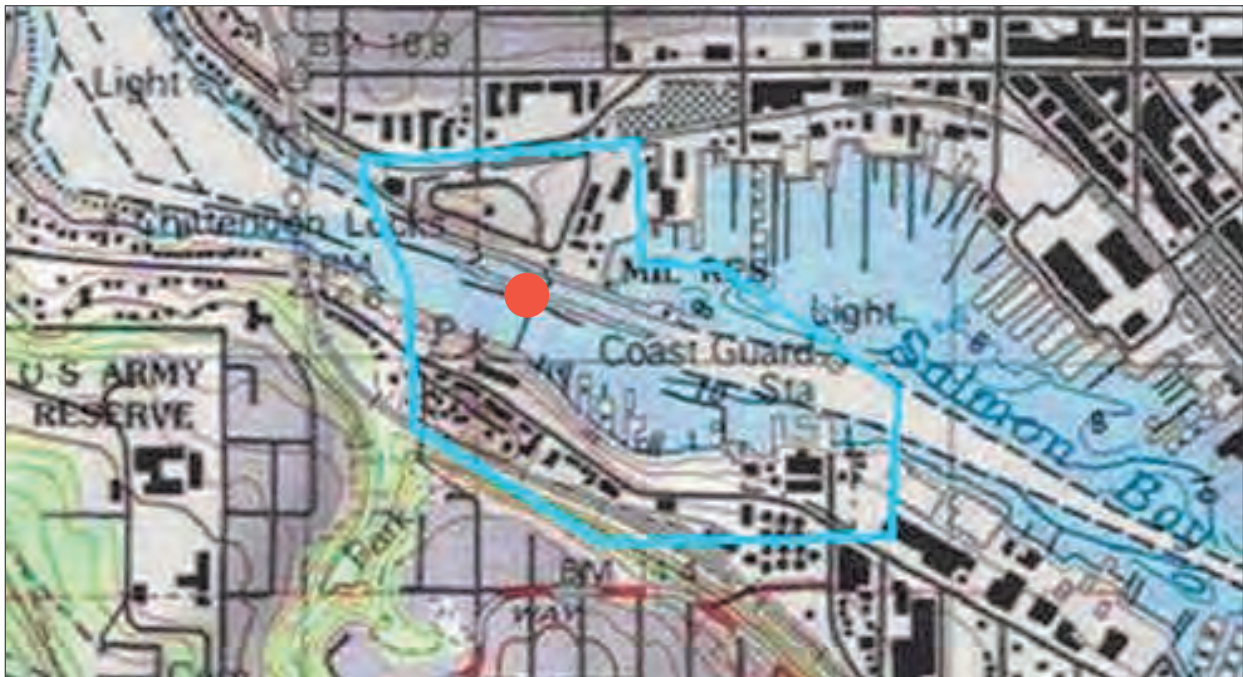
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Laura Boerner, LG, LHG
Chief, Planning, Environmental and
Cultural Resources Branch

Enclosure/s



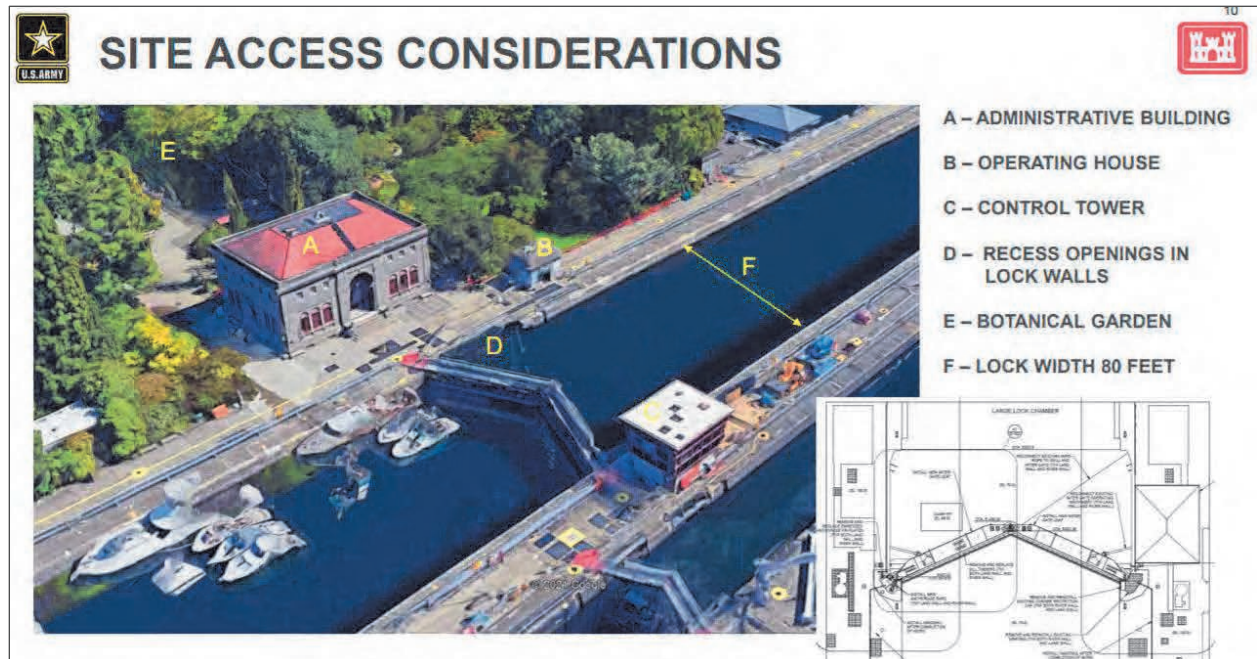
Enclosure 1. Location Map, 2021 Aerial, locks shown with yellow arrow.



Enclosure 2. APE Map, APE boundary shown with blue line, location.



Enclosure 3. Blue line shows historic district boundaries.



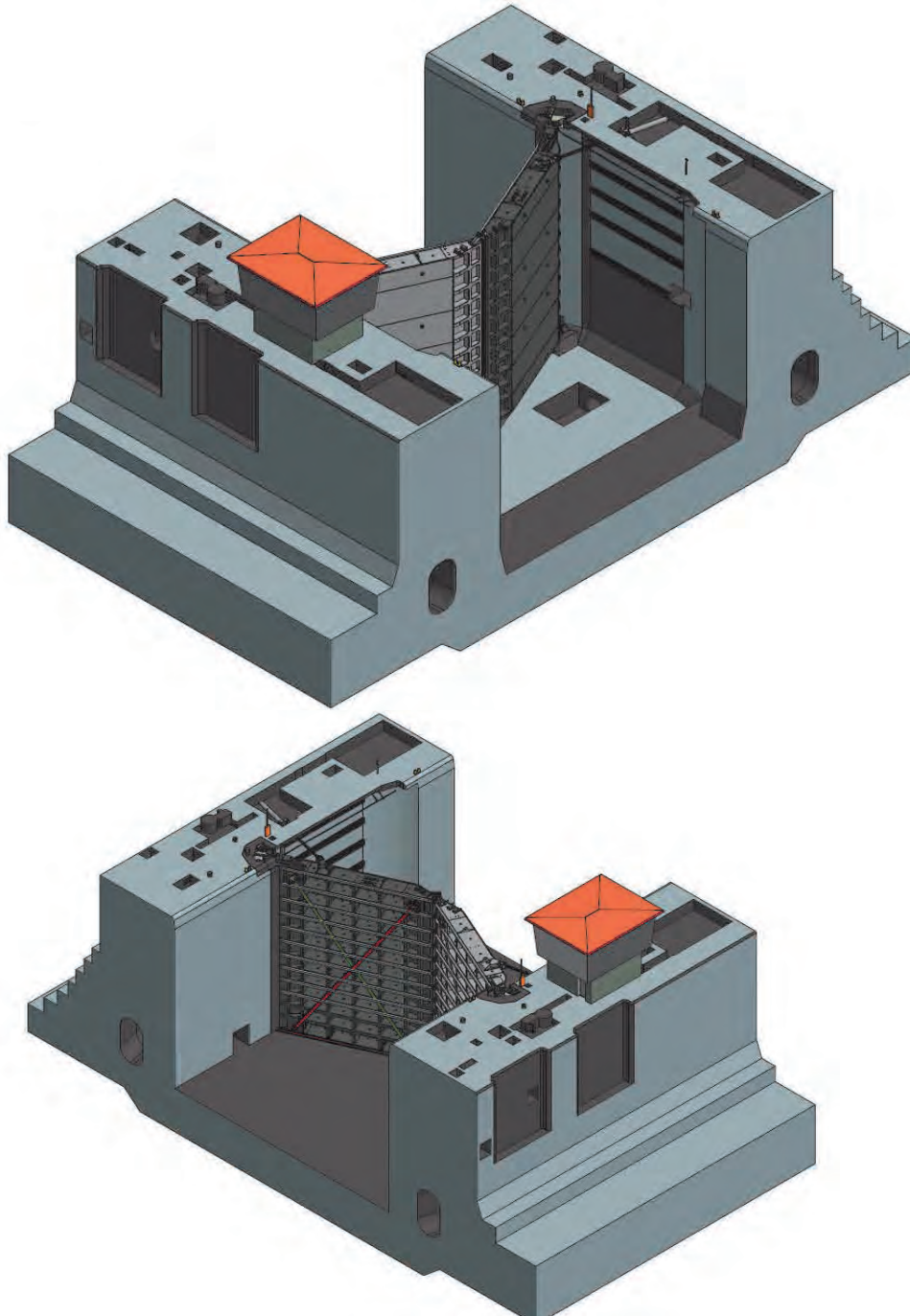
Enclosure 4. Close up of site, letter D shows the gates.



Enclosure 5. De-watered, double skin, historic center gates, photo taken March 2021.



Enclosure 6. Example of historic single skin gate at Chittenden Locks.



Enclosure 7. Rendering of new single skin gate.



Allyson Brooks Ph.D., Director
State Historic Preservation Officer

May 14, 2021

Laura Boerner, LG, LHG
Chief, Planning, Environmental and
Cultural Resources Branch
US Army Corps of Engineers - Seattle District

In future correspondence please refer to:
Project Tracking Code: 2021-04-02392
Property: Large Lock Center Gate Replacement
Re: APE Concur

Dear Laura Boerner:

Thank you for contacting the State Historic Preservation Officer (SHPO) and Department of Archaeology and Historic Preservation (DAHP) regarding the above referenced project. In response, we have reviewed your description and map of the area of potential effect (APE).

We concur with your definition of the APE. Please provide us with your survey methodology before proceeding with any inventories. Along with the results of the inventory we will need to review your consultation with the concerned tribes, and other interested/affected parties. Please provide any correspondence or comments from concerned tribes and/or other parties that you receive as you consult under the requirements of 36 CFR 800.4(a)(4).

These comments are based on the information available at the time of this review and on behalf of the SHPO in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR 800. Should additional information about the project become available, our assessment may be revised.

Thank you for the opportunity to review and comment. Please ensure that the DAHP Project Number (a.k.a. Project Tracking Code) is shared with any hired cultural resource consultants and is attached to any communications or submitted reports. If you have any questions, please feel free to contact me.

Sincerely,

Holly Borth
Project Compliance Reviewer
(360) 890-0174
holly.borth@dahp.wa.gov





DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

Planning, Environmental and Cultural Resources Branch

May 12, 2021

Allyson Brooks, Ph.D.
State Historic Preservation Officer
Department of Archaeology and Historic Preservation
Post Office Box 48343
Olympia, Washington 98504-8343

SUBJECT: Large Lock Center Gate Replacement, King County, Washington State, DAHP Log: 2021-04-02392

Dear Dr. Brooks:

The U.S. Army Corps of Engineers (Corps) proposes the replacement of the large lock center gates (The Large Lock) located at the Lake Washington Ship Canal (LWSC), also known as the Chittenden Locks, in Seattle, King County, Washington State. (Enclosures 1 and 2). The purpose of the undertaking is to replace the existing large lock gates with new gates to ensure safety. The Corps has determined and documented the area of potential effect (APE) for the undertaking and is consulting with your office under Section 106 as provided at 36 C.F.R. § 800.4(a). The letter requests agreement with the Corps' APE determination.

The Large Lock is an element of the National Register of Historic Places (NRHP) listed Chittenden (Hiram M.) Locks and Related Features of the Lake Washington Ship Canal Historic District (Enclosure 3). The District was listed on the National Register in 1978 and is eligible under Criteria A, B, and C. The District is significant as a major engineering achievement that created a navigable waterway joining Puget Sound to Lake Union and Lake Washington.

The LWSC is the one of the busiest shipping canals in the nation. The purpose of the undertaking will ensure continued function and safety for LWSC users. The gates are over 100 years old; a 2012 Corps study concluded the gates are at high risk of failure and are in need of full replacement.

The proposed project includes the complete demolition and removal of the old gates and replacement with two metal ones mounted into the concrete canal walls (Enclosure 4). This will require removal and disposal of the old gates and fabrication/delivery of two (2) new gate leaves. The new contractor-fabricated miter gate leaves will be installed in the existing gate recesses with new gate anchorages placed into the concrete. New intermittent contact quoin blocks and sealing surfaces will be retrofitted vertically in the concrete gate monoliths. The new gate pintles will incorporate self-lubricating pintle balls as part of a fixed-pintle design into new embedded metals at the bottom of the lock chamber. The existing gate operating machinery will be reused

and connected to the new gates. Existing electrical equipment on the gates will be removed and reinstalled on the new gates. One lock chamber dewatering is anticipated to adjust and commission the miter gate after installation.

The undertaking is located in Section 11, Township 25 North, Range 3-0 East in Seattle, Washington. The APE for the undertaking encompasses the project area, include staging, and access areas. The Corps believes that the APE is sufficient to identify and consider both direct and indirect effects of the proposed project.

The Corps is making a good faith effort to gather information from affected Tribes identified pursuant to 36 C.F.R. § 800.3(f). We have notified the Muckleshoot Indian Tribe and Suquamish Tribe to assist in identifying properties which may be of religious and cultural significance.

The Corps requests your review and agreement with our determination of the APE. If you have any questions or desire additional information, please contact the project Architectural Historian, Ms. Lys Opp-Beckman, at lys.opp-beckman@usace.mail.mil or (206) 764-3422. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Sincerely,

BOERNER.LAUR
A.A.1251907443

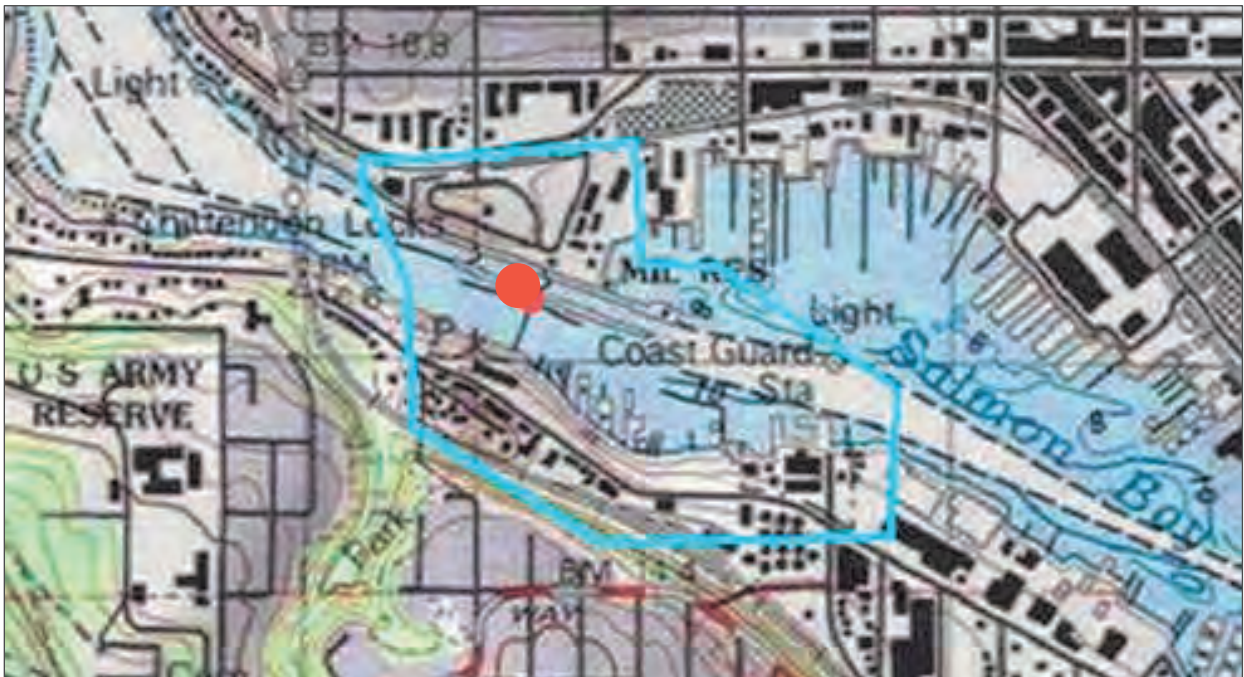
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Laura Boerner, LG, LHG
Chief, Planning, Environmental and
Cultural Resources Branch

Enclosure/s



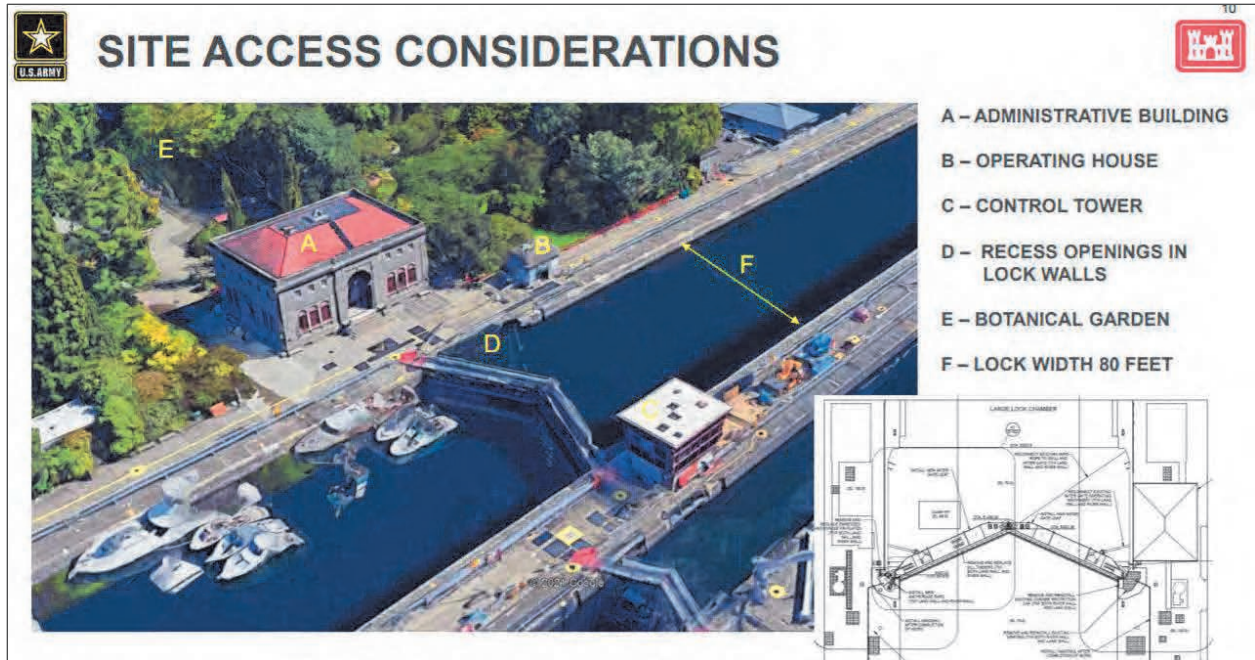
Enclosure 1. Location Map, 2021 Aerial, locks shown with yellow arrow.



Enclosure 2. APE Map, APE boundary shown with blue line, location.



Enclosure 3. Blue line shows historic district boundaries.



Enclosure 4. Close up of site, letter D shows the gates.



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

May 12, 2021

The Honorable Jaison Elkins, Chairman
Muckleshoot Indian Tribe
39015 172nd Avenue SE
Auburn, WA 98092-9763

SUBJECT: Large Lock Center Gate Replacement, King County, Washington State, DAHP Log:
2021-04-02392

Dear Chairman Elkins:

The U.S. Army Corps of Engineers (Corps) proposes the replacement of the large lock center gates (The Large Lock) located at the Lake Washington Ship Canal (LWSC), also known as the Chittenden Locks, in Seattle, King County, Washington State (Enclosure 1). The purpose of the undertaking will ensure continued function and safety for LWSC users. The gates are over 100 years old; a 2012 Corps study concluded the gates are at high risk of failure and are in need of full replacement. The proposed project includes the complete demolition and removal of the old gates and replacement with two metal ones mounted into the concrete canal walls (Enclosure 2). To assist in our review, we are notifying you about the project, and requesting your assistance in gathering information you might have to identify properties which may be of religious or cultural significance that may be affected by the project as specified by the implementing regulations for Section 106 as provided at 36 C.F.R. § 800.4(a)(4). The letter also summarizes efforts made by the Corps to identify historic properties that may be affected by the undertaking.

The Large Lock is an element of the National Register of Historic Places (NRHP) listed Chittenden (Hiram M.) Locks and Related Features of the Lake Washington Ship Canal Historic District (Enclosure 2). The District was listed on the National Register in 1978 and is eligible under Criteria A, B, and C. The District is significant as a major engineering achievement that created a navigable waterway joining Puget Sound to Lake Union and Lake Washington.

The proposed project includes replacing the existing 100-year old miter gate leaves. This would require removal and disposal of the old gates and fabrication/delivery of two (2) new gate leaves. The new contractor-fabricated miter gate leaves will be installed in the existing gate recesses with new gate anchorages placed into the concrete. New intermittent contact quoin blocks and sealing surfaces will be retrofitted vertically in the concrete gate monoliths. The new gate pintles will incorporate self-lubricating pintle balls as part of a fixed-pintle design into new embedded metals at the bottom of the lock chamber. The existing gate operating machinery will be reused and connected to the new gates. Existing electrical equipment on the gates will be removed and reinstalled on the new gates. One lock chamber dewatering is anticipated to adjust

and commission the miter gate after installation. The duration of the dewatering is expected to be 45 days.

The undertaking is located in Section 11, Township 25 North, Range 3-0 East in Seattle, Washington (Enclosure 3). The area of potential effect (APE) for the undertaking encompasses the project area, include staging and access areas (Enclosure 4). The Corps believes that the APE is sufficient to identify and consider both direct and indirect effects of the proposed project.

We would like to summarize efforts taken to date to identify cultural resources within the APE. The Corps staff archaeologist has conducted a records search and literature review of the Washington Information System Architectural and Archaeological Records Database. The literature review and records search indicate no archeological sites, or traditional cultural places present within the APE.

If you have information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible. A copy of this letter with enclosures will be furnished to: Ms. Laura Murphy, Archaeologist, Muckleshoot Indian Tribe, 39015 172nd Avenue SE, Auburn, WA 98092-9763.

If you have any questions or desire additional information, please contact the Project Architectural Historian, Ms. Lys Opp-Beckman, at lys.opp-beckman@usace.army.mil, or (206) 708-5899. You may also contact Ms. Lori Morris, Tribal Liaison at (206) 764-3625 or by email at frances.morris@usace.army.mil. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761. Thank you for your assistance with this undertaking.

Sincerely,

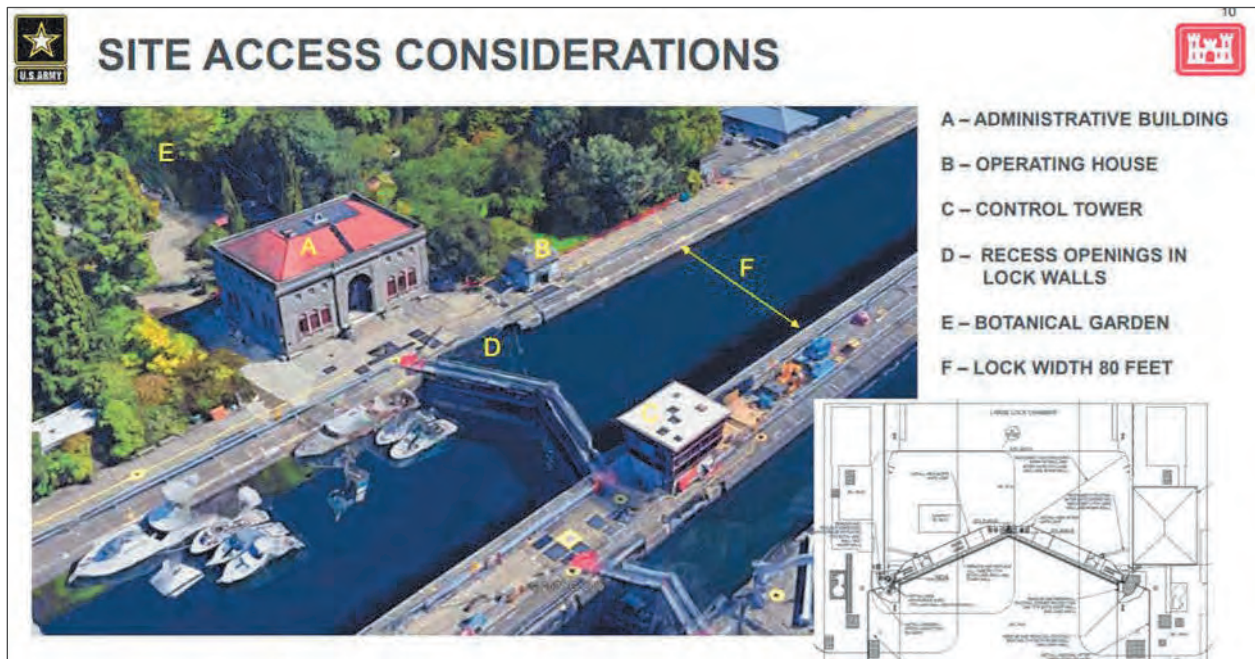
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Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch

Enclosure/s



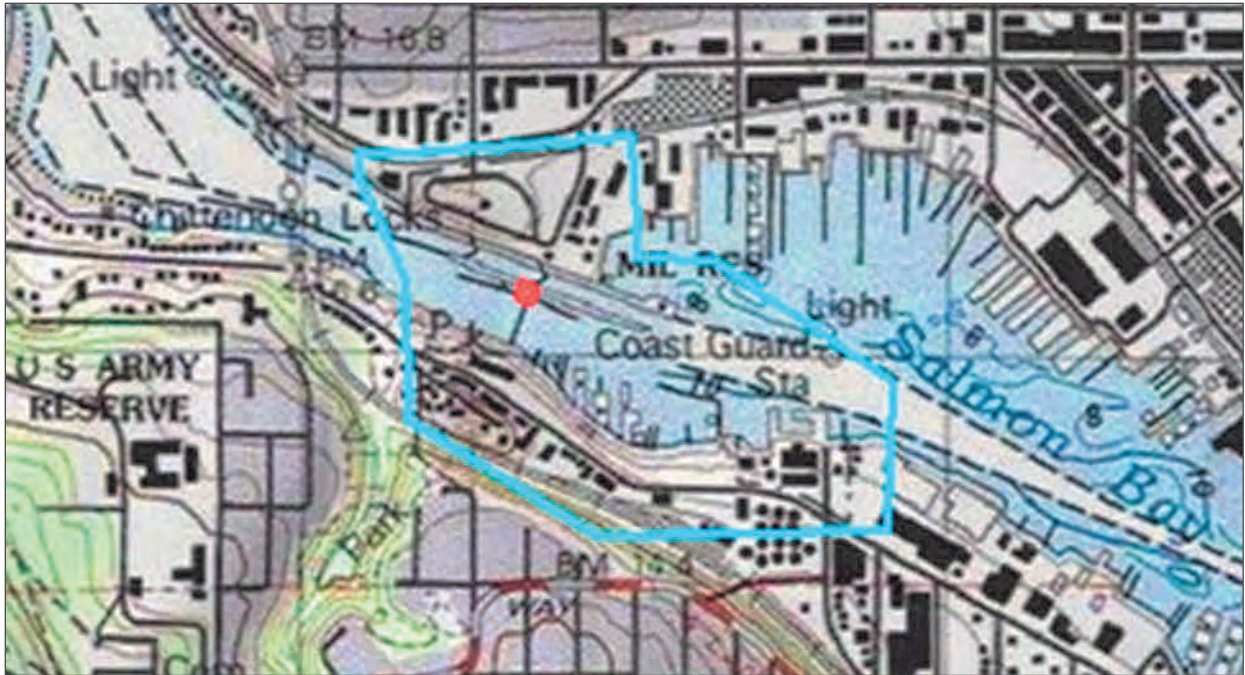
Enclosure 1. Location Map, 2021 Aerial, locks shown with yellow arrow.



Enclosure 2. Close up of site, letter D shows the gates.



Enclosure 3. Blue line shows historic district boundaries.



Enclosure 4. APE Map, APE boundary shown with blue line, red dot indicates lock location.



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

May 12, 2021

The Honorable Leonard Forsman, Chairman
Suquamish Tribe
P.O. Box 498
Suquamish, WA 98392

SUBJECT: Large Lock Center Gate Replacement, King County, Washington State, DAHP Log:
2021-04-02392

Dear Chairman Forsman:

The U.S. Army Corps of Engineers (Corps) proposes the replacement of the large lock center gates (The Large Lock) located at the Lake Washington Ship Canal (LWSC), also known as the Chittenden Locks, in Seattle, King County, Washington State. (Enclosure 1). The purpose of the undertaking will ensure continued function and safety for LWSC users. The gates are over 100 years old; a 2012 Corps study concluded the gates are at high risk of failure and are in need of full replacement. The proposed project includes the complete demolition and removal of the old gates and replacement with two metal ones mounted into the concrete canal walls (Enclosure 2). To assist in our review, we are notifying you about the project, and requesting your assistance in gathering information you might have to identify properties which may be of religious or cultural significance that may be affected by the project as specified by the implementing regulations for Section 106 as provided at 36 C.F.R. § 800.4(a)(4). The letter also summarizes efforts made by the Corps to identify historic properties that may be affected by the undertaking.

The Large Lock is an element of the National Register of Historic Places (NRHP) listed Chittenden (Hiram M.) Locks and Related Features of the Lake Washington Ship Canal Historic District (Enclosure 2). The District was listed on the National Register in 1978 and is eligible under Criteria A, B, and C. The District is significant as a major engineering achievement that created a navigable waterway joining Puget Sound to Lake Union and Lake Washington.

The proposed project includes replacing the existing 100-year old miter gate leaves, this will require removal and disposal of the old gates and fabrication/delivery of two (2) new gate leaves. The new contractor-fabricated miter gate leaves will be installed in the existing gate recesses with new gate anchorages placed into the concrete. New intermittent contact quoin blocks and sealing surfaces will be retrofitted vertically in the concrete gate monoliths. The new gate pintles will incorporate self-lubricating pintle balls as part of a fixed-pintle design into new embedded metals at the bottom of the lock chamber. The existing gate operating machinery will be reused and connected to the new gates. Existing electrical equipment on the gates will be removed and reinstalled on the new gates. One lock chamber dewatering is anticipated to adjust and

commission the miter gate after installation. The duration of the dewatering is expected to be 45 days.

The undertaking is located in Section 11, Township 25 North, Range 3-0 East in Seattle, Washington (Enclosure 3). The area of potential effect (APE) for the undertaking encompasses the project area, include staging, and access areas (Enclosure 4). The Corps believes that the APE is sufficient to identify and consider both direct and indirect effects of the proposed project.

We would like to summarize efforts taken to date to identify cultural resources within the APE. The Corps staff archaeologist has conducted a records search and literature review of the Washington Information System Architectural and Archaeological Records Database. The literature review and records search indicate no archeological sites, or traditional cultural places present within the APE.

If you have information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible. A copy of this letter with enclosures will be furnished to: Dennis Lewarch, Tribal Historic Preservation Officer, Suquamish Tribe , PO Box 498, Suquamish, WA 98392-0498.

If you have any questions or desire additional information, please contact the Project Architectural Historian, Ms. Lys Opp-Beckman, at lys.opp-beckman@usace.army.mil, or (206) 708-5899. You may also contact Ms. Lori Morris, Tribal Liaison at (206) 764-3625 or by email at frances.morris@usace.army.mil. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761. Thank you for your assistance with this undertaking.

Sincerely,

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Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch

Enclosure/s

**MEMORANDUM OF AGREEMENT
BETWEEN
THE U.S. ARMY CORPS OF ENGINEERS SEATTLE DISTRICT
AND
AND THE WASHINGTON STATE HISTORIC PRESERVATION OFFICER
FOR
THE LAKE WASHINGTON SHIP CANAL LARGE LOCK CENTER GATE PROJECT,
SEATTLE, KING COUNTY, WASHINGTON**

WHEREAS, the U.S. Army Corps of Engineers, Seattle District (USACE), will demolish and replace the original center gate of the Large Lock at the Chittenden (Hiram M.) Locks, Lake Washington Ship Canal (LWSC) operating project in the city of Seattle, King County, Washington, hereafter referred to as the undertaking; *and*

WHEREAS, the Chittenden Locks and Related Features of the LWSC Historic District is listed on the National Register of Historic Places (NRHP), under Criteria A as a significant major engineering achievement completed under government auspices that created a navigable waterway joining Puget Sound to Lake Union and Lake Washington; under Criteria B as it is associated with significant individuals: Major Hiram M. Chittenden, the Seattle District Engineer who developed and promoted the plan for the canal, Colonel James B. Cavanaugh, who supervised the construction of the project, and Bebb and Gould, the architectural firm who designed the layout and complex of concrete buildings around the Locks; and, Criteria C as the original eleven concrete accessory buildings are distinctive examples of classical ornamented early 20th century architecture; *and*

WHEREAS, the Large Lock is a contributing element to the LWSC Historic District and is divided into two components: Large Lock, West and Large Lock, East and contains a total of five sets of gates. A miter guard gate and service gate are located at both the east end on the freshwater side and the west end on the saltwater side of the Large Lock. The fifth gate pair is a service gate located in the center of the Large Lock and is the gate to be replaced. The Large Lock is situated at the foot of Salmon Bay and is 825 feet long and 80 feet wide. The Large Lock is separated by a concrete wall from the Small Locks *and*

WHEREAS, the undertaking is subject to review under Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. § 3000101-307108, and its implementing regulations (36 C.F.R. 800); *and*

WHEREAS, the USACE has notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect and they have declined to participate in the memorandum of agreement (MOA); *and*

WHEREAS, the USACE has invited the City of Seattle Historic Preservation Program, Friends of the Ballard Locks, Historic Seattle, King County Historic Preservation Program, Muckleshoot Indian Tribe, and Suquamish Indian Tribe to be consulting

Memorandum of Agreement between the U.S. Army of Engineers Seattle District and the Washington State Historic Preservation Officer for the Lake Washington Ship Canal Large Lock Center Gate Project, Seattle, King County, Washington

parties, participate in the development of the MOA and sign the MOA as consulting parties; *and*

WHEREAS, the City of Seattle Historic Preservation Program, Friends of the Ballard Locks, Historic Seattle, King County Historic Preservation Program, the Muckleshoot Indian Tribe and the Suquamish Indian Tribe, declined to participate in the development of the MOA and sign the MOA as consulting parties; *and*

WHEREAS; The removal of the original center gates will be 100% material loss of original material; *and*

WHEREAS, the USACE has consulted with the State Historic Preservation Officer (SHPO) under Section 106 of the NHPA and has determined that the project will have an adverse effect on the Historic District by the loss of the original center gate in the Large Lock; *and*

WHEREAS, the USACE has consulted with SHPO in accordance with Section 106 to resolve adverse effects to the LWSC Historic District from the undertaking; *and*

WHEREAS, the area of potential effect (APE) is defined as the Large Lock and staging and access areas (Appendix A); *and*

NOW, THEREFORE, the parties agree that the following stipulations will be met in order to mitigate the loss of the original center gate of the Large Lock as proposed below:

I. STIPULATIONS

To mitigate the loss of the original center gate of the Large Lock, the USACE will ensure the following are completed within 5 years from the date of execution of the MOA.

1. USACE will completely revise and update the 1978 National Register of Historic Places Inventory Nomination Form. The information in the existing nomination form is out of date and significant changes have occurred within the Historic District since 1978. The new nomination will be a wholesale replacement document. The new nomination form will follow the guidance set forth in the *Washington State National Register Guide, 5th Edition 2013* (or most recent version), the *National Register Bulletins: Bulletin 15, How to Apply National Register Criteria for Evaluation*, and *Bulletin 16A How to Complete the National Register Registration Form*. As part of the nomination form revision and update, the USACE will document changes that have occurred within the LWSC historic district, review all existing buildings and structures to determine if they are still contributing elements to the Historic District, and ensure all buildings and structures that were not fifty years of age in 1978 are evaluated. The nomination will be presented for formal review and listing process with DAHP and the State Review Board. USACE will forward the revised and updated nomination to the Keeper of the National Register of Historic Places for re-listing.

Memorandum of Agreement between the U.S. Army of Engineers Seattle District and the Washington State Historic Preservation Officer for the Lake Washington Ship Canal Large Lock Center Gate Project, Seattle, King County, Washington

2. A historic property inventory form (HPIF) will be completed in the DAHP WISAARD system for each building or structure located in the LWSC Historic District that does not already have a HPIF completed. Each HPIF will be prepared at the intensive level by a cultural resource professional meeting the Secretary of the Interior's Professional Qualification Standards in Architectural History.

3. The LWSC historic property management plan (HPMP) will be updated with any new information obtained from the nomination form update and revision that is not already included in the HPMP. DAHP will be offered at least one opportunity to review and comment on any revisions to the HPMP.

II. DISPUTE RESOLUTION

- 1) Should any Signatory object at any time to any actions proposed or to the manner in which the terms of this MOA are implemented, they shall immediately submit the objection in writing to the USACE. The USACE shall immediately notify the Signatory and any concurring party to this MOA of the objection and shall request their comments on the objection be provided within fifteen (15) calendar days following receipt of the USACE's notification, and proceed to consult with the objecting party for no more than thirty (30) days to resolve the objection.
- 2) If the objection is resolved during the thirty (30) calendar-day consultation period, the USACE may proceed with the disputed action in accordance with the terms of that resolution.
- 3) If the USACE determines that the objection cannot be resolved through consultation, the USACE shall 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 thirty (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 any concurring party, and provide them with a copy of this written response. The USACE will then proceed according to its final decision.
- 4) If the ACHP does not provide its advice regarding the dispute within the thirty (30) daytime 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 Signatory and any concurring Party to the MOA and provide them and the ACHP with a copy of such written response.
- 5) The USACE may authorize any action subject to objection under this Stipulation to proceed after the objection has been resolved in accordance with the terms of this Stipulation.

Memorandum of Agreement between the U.S. Army of Engineers Seattle District and the Washington State Historic Preservation Officer for the Lake Washington Ship Canal Large Lock Center Gate Project, Seattle, King County, Washington

- 6) The USACE's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

III. AMENDMENTS

This MOA may be amended when such an agreement is agreed to in writing by all signatories and in accordance with 36 C.F.R. §800.6(c)(7).

IV. TERMINATION

- 1) The refusal of any concurring party invited to concur in this Agreement does not invalidate the Agreement per 36 C.F.R. 800.6(c) (3).
- 2) If any Signatory determines that the terms of this Agreement cannot be or are not being carried out, the parties shall immediately consult with the other signatories to develop an amendment per Section III, above. If the Agreement is not amended, any signatory may terminate it per 36 C.F.R. 800.6(c) (8).
- 3) Once the MOA is terminated, and prior to work continuing on the undertaking, USACE must either (a) execute a MOA pursuant to 36 C.F.R. § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 C.F.R. § 800.7. USACE will notify the other signatories as to the course of action it will pursue.
- 4) Execution of the MOA by the USACE and SHPO, and implementation of its terms, is evidence that the USACE has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment, thereby fulfilling its obligations under 36 C.F.R. 800.6 of Section 106 of the National Historic Preservation Act.

V. DURATION

This agreement will be null and void if its terms are not implemented within five (5) years from the date of its execution, unless the signatories agree in writing pursuant to Article III to an extension for carrying out its terms. If this agreement is considered null and void and the USACE chooses to continue with the undertaking, USACE shall re-initiate review of the undertaking. This MOA will expire within five years of signature date, unless extended per Stipulation IV. If this MOA expires prior to the stipulations being fulfilled, the Corps will follow Termination procedures at Stipulation IV.

VI. ANTI-DEFICIENCY ACT

USACE's obligations under this Agreement are subject to the availability of appropriated funds, and the stipulations of this Agreement are subject to the provisions of the Anti-Deficiency Act. USACE shall make reasonable and good faith efforts to secure the necessary funds to implement this Agreement in its entirety. If compliance with the Anti-

Memorandum of Agreement between the U.S. Army of Engineers Seattle District and the Washington State Historic Preservation Officer for the Lake Washington Ship Canal Large Lock Center Gate Project, Seattle, King County, Washington

Deficiency Act alters or impairs USACE's ability to implement the stipulations of this Agreement, USACE shall consult in accordance with the amendment procedures found at Stipulation III and termination procedures found at Stipulation IV.

SIGNATORIES:

BULLOCK.ALEXANDER.L
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Alexander "Xander" L. Bullock
Colonel, Corps of Engineers
District Commander

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Date 10/20/2021 _____

Allyson Brooks, Ph.D.
State Historic Preservation Officer

Memorandum of Agreement between the U.S. Army of Engineers Seattle District and the Washington State Historic Preservation Officer for the Lake Washington Ship Canal Large Lock Center Gate Project, Seattle, King County, Washington

APPENDIX A: Area of Potential Effects

