APPENDIX D:

RIVERFRONT ENVIRONMENTAL AND OTHER REGULATORY CONSIDERATIONS REPORT

This Page Intentionally Left Blank

RIVERFRONT ENVIRONMENTAL AND OTHER REGULATORY CONSIDERATIONS BARLOW POINT

Prepared for

Port of Longview

Prepared by

Anchor QEA, LLC

720 Olive Way, Suite 1900

Seattle, Washington 98101

March 2016

TABLE OF CONTENTS

List of Tables

List of Photographs

List of Figures

List of Attachments

ACRONYMS AND ABBREVIATIONS

BMP	best management practice
CARA	critical aquifer recharge area
CDID	Consolidated Diking and Improvement District
City	City of Longview
Ecology	Washington State Department of Ecology
EIS	Environmental Impact Statement
ELS	Ecological Land Service
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
GLO	General Land Office
LMC	City of Longview Municipal Code
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
OHWM	ordinary high water mark
OWS	overwater structure
PCE	primary constituent element
PDF	private drainage facility
PMA	Port Management Agreement
Port	Port of Longview
RM	River Mile
SEPA	Washington State Environmental Policy Act
SHPO	State Historic Preservation Officer
TRRWTP	Three Rivers Regional Wastewater Treatment Plant
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources

EXECUTIVE SUMMARY

The Barlow Point site, owned by the Port of Longview (Port), is located adjacent to the Columbia River and downstream of the current developed Port. This report was developed to review the existing environmental conditions at the Barlow Point site, provide an analysis of environmental considerations for developing the site for industrial purposes, and also address other ancillary regulatory considerations. The report includes a summary of existing conditions for the environmental elements considered, addresses key development considerations and potential fatal flaws, and provides potential mitigation measures for addressing potential environmental impacts. The specific topics that are addressed in this report include: cultural and historic resources, Endangered Species Act (ESA)-listed species, critical areas (including wetlands), shorelines and upland areas, as well as a section on potential mitigation opportunities and strategies for identified potential impacts. Other regulatory considerations related to potential impacts of the project on land and natural resources include discussion of the Washington State and National Environmental Policy Acts process, water rights and availability, U.S. Army Corps of Engineers Section 408 requirements, and Port Management Agreements.

In summary, there are potential impacts from the development of Barlow Point to each of the various environmental resources addressed in this report, as well as other ancillary regulatory considerations related to development of the Site. However, no environmental impacts have been identified that could not be mitigated through design or implementing compensatory mitigation actions, and no fatal flaws from an environmental perspective were identified.

1 SITE OVERVIEW AND UPLAND HABITAT

Barlow Point is a 282.5-acre property adjacent to the Columbia River. The property is within the limits of the City of Longview, Washington (City), and is zoned Heavy Industrial. In 2010, the Port of Longview (Port) purchased 275 acres of this property at Barlow Point for future Port industrial development, with an additional 7.5 acres of tidelands acquired in 2012. The property is located downstream of the current developed Port at approximately river mile 64 (RM 64), which is on the west side of the City. To better understand the full potential of the Barlow Point site, the Port determined that a comprehensive master planning process should occur.

A market analysis and conceptual site planning exercise were performed in late 2014 and through early 2015 to identify possible types of use and site layouts. Two options arose from those processes, which focus on production and export of dry or liquid bulk commodities. Specific industry types were identified from the market analysis to provide the basis to analyze demand and capacity requirements for Barlow Point. The dry bulk option (Option 1) includes potash (export only), urea (production and export), and wood pellets (export only). The liquid bulk option (Option 2) includes crude oil (export only), methanol (production and export), and biodiesel (production and export). See the Barlow Point Conceptual Planning report in Appendix B of the main report for further details.

1.1 Existing Conditions

The northeastern boundary of the Barlow Point site is formed by the edge of a drainage ditch, which separates the property from the adjacent Mt Solo Landfill. The riverfront portion of Barlow Point is bounded to the southwest by the navigation channel of the Columbia River; the upstream reach is referred to as the Barlow Point Channel and the downstream reach as the Walker Island Channel. Topography is relatively flat (0 to 2 percent slopes) with occasional relief provided by agricultural drainage ditches.

Barlow Point is currently managed for agricultural purposes (primarily hay production) and as such is dominated by herbaceous vegetation such as fescue (*Festuca*), velvet (*Holcus lanatus*), and orchard (*Dactylis*) grasses. Grassy areas provide limited foraging habitat for waterfowl in the spring (when the ground is seeded) and in the fall (when crops

have senesced). During the summer, larger mammals such as black-tail deer and coyote use the site for foraging and refuge. Small mammals, such as field mice and meadow voles, use the herbaceous cover during the summer and provide a food source for coyotes and birds of prey. The central portion of the site supports a forested component with a sparse shrub and herbaceous understory. Stratified forested vegetation and canopy coverage provide greater habitat functions, primarily as an area of refuge, than are present in other areas of the site.

Table 1 provides a summary of Washington Department of Fish and Wildlife (WDFW) terrestrial Priority Species that have been documented near or on the Barlow Point Site.

Table 1
Mapped Federal and State Important Species and Habitats that May Occur within and/or adjacent to the Port Based on Agency Databases

Species	Federal Status	State Status	Within or Adjacent to Port Property	Location
Mammals				
Columbian white-tailed deer (*Odocoileus virginianus leucurus*)	Endangered	Endangered	Yes	Biotic Detection at Barlow Point area in January 2010 (WDFW)
Birds				
Waterfowl concentrations	None	None	Yes	Barlow Point (WDFW)
Osprey (*Pandion haliaetus*)	None	None	Yes	Shoreline of Columbia and Cowlitz Rivers (WDFW)
Peregrine falcon (*Falco peregrinus*)	None	None	Yes	Lewis and Clark bridge (WDFW)
Bald eagle (*Haliaeetus leucocephalus*)	Species of Concern	Sensitive	Yes	Shoreline of Columbia River; Fisher Island
Cavity nesting ducks	None	None	Yes	Fisher Island and Adjacent Properties
Canada goose	None	None	Yes	Fisher Island and other Columbia River Islands

1.2 Key Development Considerations

Development is unlikely to be affected by the existing upland habitat outside of wetlands, critical areas, and shorelines as described in Section 4. There are no state or federally protected plant or animal species known to be present in the uplands, although many migratory bird species protected by the Migratory Bird Treaty Act (MBTA) do utilize the site during certain times of the year. Disturbance resulting in take of migratory birds is prohibited by the terms of the MBTA.

1.3 Fatal Flaws Considerations

No fatal flaws related to development of upland habitat are foreseeable for Barlow Point.

1.4 Potential Mitigating Measures

Mitigation for upland development (non-wetlands) outside of any delineated jurisdictional wetlands will not likely be required. Wetland impacts and associated mitigation requirements are discussed in Section 4.

2 CULTURAL AND HISTORIC RESOURCES

2.1 Existing Conditions

2.1.1 Environmental and Cultural Setting

The Barlow Point property is located along the lower Columbia River at its confluence with the Cowlitz River. It is in the *Picea sitchensis* vegetation zone, found along the Washington and Oregon coasts, and is characterized by a wet, mild climate and dense, tall forests (Franklin and Dyrness 1973). It is in the Coast Range physiographic province, a region characterized by steep topography, bedrock formations of Tertiary age, and a variety of soils (Franklin and Dyrness 1973).

The Columbia River was in the vicinity of its current location by 6 million years ago. During the last glacial maximum about 15,000 years ago, sea level was about 370 feet (112 meters) below modern sea level (Baker et al. 2010). The Columbia and Cowlitz rivers incised deep channels through the underlying bedrock. Catastrophic floods, caused when Glacial Lake Missoula broke its ice dam several times between 15,000 and 13,000 years ago, scoured the Columbia valley and further deepened the river channel (Alt 2001). As the glaciers melted and sea level rose, the river rapidly deposited sediment in its deeply incised channel and on adjacent flood plains. Baker et al. (2010) found that most of the sediment in the lower Columbia Valley was deposited prior to 9,000 years ago, after which "sediments were bypassing the nearly full tidal basin to the beaches and inner shelf." During most of the Holocene, deposition of alluvial sediments was relatively slower but still measurable.

The earliest archaeological sites in southwest Washington and northwest Oregon are upland sites assigned to the Young's River complex, thought to date from 8,000 to 6,000 years ago (Pettigrew 1990). The sites consist of sparse stone tool assemblages with leaf-shaped projectile points (Matson and Coupland 1995). The earliest recorded sites along the Columbia River date to only 2,500 years ago, though "all sites located on the floodplain prior to about 3000 B.C. (4,950 years ago) have probably been drowned and covered with alluvium" (Pettigrew 1990). Intensive salmon fishing appears around 2,000 years ago, as indicated by the presence of net sinkers and salmon remains in faunal assemblages in the Seal Island Phase and Ilwaco 1 Subphase (Pettigrew 1990). The Ilwaco 2 Subphase is characteristic of late prehistoric phases in the Northwest Coast culture area. Sites dating to the Ilwaco 2 Subphase contain exotic trade goods, bow and arrow technology, and permanent villages with large houses. Salmon fishing

further increases in intensity with the appearance of elaborate weirs and traps, as well as permanent fishing stations (Pettigrew 1990).

The property is in the traditional territory of the Cowlitz Tribe, a Salish-speaking group with villages north of the Cowlitz-Columbia confluence. At the time of historic contact, villages along the Columbia River from around the midpoint of the Columbia River estuary to the location of present-day Kalama belonged to Cathlamet-speaking Chinook peoples (Silverstein 1990), though "the villages near the mouth of the Cowlitz were jointly inhabited by Cowlitz and Chinookans" (Hajda 1990). Chinook and Cowlitz cultures shared many lifeways. In both groups, permanent villages were the basic social unit, and were linked by trade and intermarriage (Hajda 1990; Silverstein 1990). Canoes were the primary mode of transportation until the arrival of the horse in the early 1800s (Silverstein 1990). Woodworking was of primary importance for the manufacture of household goods, dwellings, and canoes. Subsistence was based on fishing for salmon, smelt, and other freshwater fish, as well as gathering plant foods and hunting small and large mammals (Hajda 1990; Silverstein 1990). These activities were performed seasonally, with fishing and gathering in the summer, trade in the fall, and tool manufacture and ceremonial activities in the winter (Haeberlin and Gunther 1930).

The first documented Euroamerican explorations of the river mouth area were by various Spanish explorers in the 1770s; American Captain Robert Gray was the first to cross the Columbia Bar in 1792 (Hayes 1999). The project vicinity is first shown on a map by William Broughton of the British Vancouver expedition of 1792 (Hayes 1999). More detailed maps were made by William Clark and Meriwether Lewis as they wintered on the lower Columbia River in 1805 and 1806 (Clark et al. 1814). Figure 1 shows the project vicinity on the Lewis and Clark map. Exploration and settlement of the area was slow over the next decades, increasing in the 1840s as Americans attempted to wrest control from the British (Mackie 1997). The Oregon Treaty of 1846 awarded the Oregon Territory to the United States. The first detailed map of the project area was made shortly thereafter, in 1858, by the General Land Office (GLO; Figure 2).

The first Euroamerican settlers arrived in the Longview area in 1849, founding a settlement they named Monticello. In 1852, a convention gathered at Monticello to propose statehood

for what would become Washington State (City of Longview 2010). Monticello remained a tiny frontier outpost until 14,000 acres of property were purchased between 1919 and 1922 by lumberman Robert Alexander Long (Wilma 2005). Long created a planned community that thrived until the Great Depression (McClary 2008).

The Barlow Point property is part of the original 327-acre Donation Land Claim of Mr. and Mrs. George Barlow, a Michigan couple who settled on their claim in 1854 (Longview Daily News 1926). A location labeled "Barlow" is shown on the GLO, which may be the Barlow home. It may also be the Barlow Point geographical feature, which is shown on early coast survey and topographic maps. The parcels that make up the property have changed hands a number of times, with owners that have included the Long-Bell Lumber Company, International Paper, and Terra Firma, Inc. A 1985 USGS topographic map (Coal Creek 7.5-foot quadrangle) labels the adjacent property an "industrial waste dump," and construction debris and wood waste from timber products was placed on the adjacent property. This landfill is known as the Mt. Solo Landfill. Terra Firma operated a motocross track on the property between about 2000 and 2010. The property is otherwise undeveloped.

2.1.2 Recorded Resources

There are no recorded archaeological sites on the property. The nearest site is 45CW003, Mt. Coffin, which is located 1.65 miles southeast of the property. Once a Cowlitz burial ground, it was destroyed during gravel mining operations in the early twentieth century. The site has been completely removed. There is a collapsed residential structure dating from the 1920s to 1970s (45CW164), 1.95 miles north of the property. It has been determined ineligible for listing in the National Register of Historic Places (e.g., it is not historically significant). There are no structures known to the Cowlitz County Assessor to be older than 50 years on the property.

Two cultural resources surveys have been constructed on parts of the property. The first was conducted on 55 acres of the northeastern portion of the property (Freed 2001). The survey, performed for the Diking District, included pedestrian reconnaissance and 15 shovel probes at higher probability locations. No archaeological materials were located. It was noted that "if not for the levees along the Columbia, this area would flood frequently. The soils can be quite saturated and are undoubtedly affected by the daily tidal fluctuations along this section

of the Columbia River" (Freed 2001). The second was a pedestrian survey conducted along the Bonneville Power Administration right-of-way on the southeastern corner of the property (Oliver and Schmidt 2012). No cultural materials were located.

Two archaeological surveys were conducted nearby. Anchor QEA conducted a survey of the neighboring parcel to the southeast, which included examination of geotechnical probes and the excavation of three shovel tests (Bundy 2010). Archaeological monitoring of eight backhoe trenches on the same property revealed no archaeological materials (Punke and Fagan 2012).

2.1.3 Archaeological Potential

Previous archaeological surveys and historic maps reveal that the Barlow Point property was low-lying floodplain prior to historic activities (levee building, industrial disposal, and motocross track construction).

Recent geotechnical investigation offers another source of information regarding sediment and groundwater. Eighteen test trenches were excavated in April 2015 and logged by geotechnical engineers (Figure 3; see Appendix F, Preliminary Geotechnical Site Assessment, Hart Crowser). The trenches were excavated using a standard 3-foot-wide toothed backhoe bucket, to approximately 4 feet deep. There was no archaeologist present, and no cultural materials were noted by the engineers. Water was encountered in most trenches between 2.5 and 4 feet below the surface (Photograph 1). Fill is clearly evident in the upper 1 to 2 feet in all of the trenches, characterized by lack of soil formation, mottling, and presence of riprap-type rock (Photographs 2 and 3). Sediments that appear to be native alluvium are present beneath the fill and generally appear saturated.

Geotechnical investigations are consistent with historic documents, indicating that the area was low-lying and probably regularly flooded. Prior to levee construction, it would probably not have been usable for settlement at any time during the Holocene. However, the area was undoubtedly traversed and used by local communities for much of the Holocene. It is possible that remains of this use, such as isolated artifacts, or fish weirs or traps, may still be present somewhere on the property. Remains of the Barlow homestead—structures or

artifacts—may also be present beneath historical and modern fill. The property has low to moderate archaeological potential.

Photograph 1

Test Pit No. 15, Showing Water Table

Photograph 2

Test Pit No. 16, Showing Fill in Upper 2 to 3 Feet

Photograph 3

Test Pit No. 2, Showing Saturated Alluvium

2.2 Key Development Considerations

Archaeological investigation and coordination with the State Historic Preservation Officer (SHPO) and Native American tribes will be required for any of the development options. If the selected project receives federal funding or a federal permit, Section 106 of the National Historic Preservation Act would apply. If not, review would still be required under the Washington State Environmental Policy Act (SEPA). Greater volume of ground disturbance will correlate with a greater likelihood of discovering archaeological materials. Therefore, development alternatives that minimize ground disturbance will also minimize the amount of survey required and the chance of encountering archaeological materials.

2.3 Fatal Flaws Considerations

Although archaeological sites may be present on the property, discovery of a site is unlikely to cause a fatal flaw for any potential development. Impacts to sites can be mitigated under federal or state cultural resources laws. Early coordination with SHPO, tribes, and federal agencies (if any) can reduce risk and uncertainty associated with developing mitigation measures for impacts to archaeological sites.

2.4 Potential Mitigating Measures

Mitigation for impacts to archaeological sites is not standardized under state or federal cultural resources laws, regulations, or guidelines. Mitigation is determined through consultation. Typical mitigation for impacts to archaeological sites includes professional excavation of a portion of the site and curation of the resulting artifacts and samples. As part of mitigation, additional measures are occasionally implemented, such as tribal monitoring of the excavation or development of interpretive materials about the site.

3 ENDANGERED SPECIES ACT ISSUES

The proposed development at Barlow Point has the potential to impact species protected under the Endangered Species Act (ESA) due to work in the Columbia River and work in the uplands. Fish species listed under the ESA are known to occur within the Columbia River at and in the vicinity of Barlow Point. Avian and terrestrial ESA-listed species may occur in the vicinity of Barlow Point both along the shoreline and in the uplands, though the uplands of Barlow Point are not known to support these ESA-listed avian or terrestrial species. Because ESA-listed species are known to occur in the vicinity of the proposed Barlow Point project, ESA Section 7 consultation will be required to be completed for any proposed development concept.

The list of species to be included in an evaluation of potential project-related effects for an ESA Biological Assessment will depend upon the extent of the proposed action area, which is established based on the entirety of the proposed action. The proposed action includes the project development at Barlow Point, as well as the area affected by all potential direct, indirect, interrelated, and interdependent effects; cumulative effects; and any avoidance, minimization, and compensatory mitigation measures. As a result, the action area can be significantly larger than the project area, and may include more than one distinct location. Additionally, recent National Marine Fisheries Service (NMFS) Biological Opinions completed by the Lower Columbia River division staff for projects with discharge of waters or fill into the Willamette or Columbia rivers have extended the in-water portion of the action area to the Pacific Ocean. Finally, the in-air portion of the action area is based on an evaluation of the potential noise effects of construction actions. Use of impact pile driving methods to drive large-diameter steel pipe piles can extend the in-air portion of the action area several thousand meters or possibly several kilometers into the uplands. It should be noted that many of these ESA considerations will also be required to be addressed as part of the overall permitting process for the project.

3.1 Existing Conditions

The Columbia River at the Barlow Point site provides habitat to numerous ESA-listed species of salmon, trout, and other fish, which are identified in Table 2. Each of the listed fish species would be required to be considered in a Biological Assessment for the proposed

action because they all have designated (or proposed) critical habitat located within the Columbia River adjacent to Barlow Point.

Table 2
Threatened, Endangered, and Candidate Fish Species and Critical Habitat that May Occur in the Project Area

Species	Status	Agency	Critical Habitat Status
Chinook salmon (*Oncorhynchus tshawytscha*)			
Snake River fall ESU [3]	Threatened	NMFS	Designated
Snake River spring/summer ESU	Threatened	NMFS	Designated
Upper Columbia River spring ESU	Endangered	NMFS	Designated
Lower Columbia River ESU	Threatened	NMFS	Designated
Upper Willamette River ESU	Threatened	NMFS	Designated
Chum salmon *(Oncorhynchus keta)*			
Columbia River ESU	Threatened	NMFS	Designated
Coho salmon (*Oncorhynchus kisutch)*			
Lower Columbia River ESU	Threatened	NMFS	Proposed
Sockeye salmon *(Oncorhynchus nerka)*			
Snake River Basin ESU	Endangered	NMFS	Designated
Steelhead trout *(Oncorhynchus mykiss)*			
Snake River Basin ESU	Threatened	NMFS	Designated
Upper Columbia River ESU	Threatened	NMFS	Designated
Middle Columbia River ESU	Threatened	NMFS	Designated
Lower Columbia River ESU	Threatened	NMFS	Designated
Upper Willamette River DPS [4]	Threatened	NMFS	Designated
Bull trout *(Salvelinus confluentus)*	Threatened	USFWS	Designated
Eulachon (*Thaelichthys pacificus),* southern DPS	Threatened	NMFS	Designated
Green sturgeon (*Acipenser medirostris),* southern DPS	Threatened	NMFS	Designated

Notes:
ESU = Evolutionarily Significant Unit
DPS = Distinct Population Segment
NMFS = National Marine Fisheries Service
USFWS = U.S. Fish and Wildlife Service

There are other ESA-listed terrestrial avian and mammal species that are potentially found in Cowlitz County, but these are unlikely to occur at the Barlow Point site, due to lack of suitable habitat, and are therefore not mentioned in this report. Barlow Point is dominated by pasture grasses with a deciduous forested component in the central portion of the site. According to the U.S. Fish and Wildlife Service (USFWS), the preferred habitat of streaked horned larks includes wide open spaces with no trees and few or no shrubs. They nest on the ground in sparsely vegetated sites dominated by low stature grasses and forbs. Data indicate that streaked horned larks are generally found in open landscapes of 300 acres or more. Some sites may be smaller in size if they are adjacent to fields or open water and provide open landscape with the appropriate habitat characteristics. Given the dense herbaceous vegetation and lack of open, sandy ground, it is unlikely that streaked horned larks would use the site for any life stages. Ecological Land Service (ELS) conducted bird and lark surveys in 2014 and 2015 at the Barlow Point site and concluded there is no lark habitat present and that no lark observations were recorded at Barlow Point.

Columbia white-tailed deer inhabit riparian forest, brush land, and pasture on islands and within the floodplain of the lower Columbia River. The species is currently listed as endangered, but on October 6, 2015, the USFWS announced plans to downgrade the listing to threatened due to evidence of moderate species recovery (USFWS 2015). The Columbia White-tailed Deer National Wildlife Refuge was created in 1972 to protect 5,200 acres of Columbia River shoreline and island habitat near Cathlamet, Washington. Recent reintroductions of Columbia white-tailed deer have expanded the deer's range up the Columbia River to islands near Longview. It is likely that additional subpopulations will become established as a result of the reintroduction efforts. However, an important component of deer habitat selection is the availability of thermal and secure cover. Columbia white-tailed deer prefer forest communities. The existing habitat within the project area consists mainly of pasture grasses. Although a single biological detection in the Barlow Point area was recorded by WDFW in 2010 (WDFW Priority Habitat and Species Mapping), it is ELS's opinion that Barlow Point does not provide preferred habitat for white-tailed deer.

Other ESA-listed birds, including yellow-billed cuckoo, marbled murrelet, and northern spotted owl, appear on species lists for Cowlitz County but are not known to occur in the

project area due to lack of suitable habitat (northern spotted owl), lack of suitable habitat and foraging sites (marbled murrelet), or are believed to be locally extirpated (yellow-billed cuckoo).

3.2 Key Development Considerations

No federal, state, or locally important terrestrial animal or plant species were observed by ELS during Barlow Point surveys. Due to the documented presence of Columbia white-tailed deer in the vicinity of Barlow Point, permitting for site development may require ESA consultation for this species.

Development considerations at the Barlow Point site that are relevant to evaluation of effects on ESA-listed fish species include the following:

- The amount of new overwater structure (OWS). The presence of OWS can affect critical habitat for ESA-listed salmonids through shading and provision of habitat for predators.
- The location of new OWS relative to water depths. Shallow, nearshore waters are used more extensively by juvenile ESA-listed salmonids for foraging and migration, and the presence of OWS in shallow waters may be considered to have greater effects on salmonid critical habitat compared to OWS in deeper water habitat because the effects of shading are reduced in deeper waters.
- The amount and area of bank armoring or stabilization required. Shoreline stabilization with armor material can alter the riparian and shoreline habitat and functions that support ESA-listed salmonids, including rearing, foraging, and migration.
- The amount and area of riverbank/ground stabilization (e.g., deep soil mixing or stone columns) required. Ground stabilization measures may be required to create load-bearing sub-surfaces for the proposed piers or wharfs, as well as to prevent liquefaction in the event of seismic activity. Some ground stabilization measures may require installation of piling, which may produce regulatory concerns around in-water or in-air noise impacts. Certain types of ground stabilization measures may result in altered substrate conditions, which may in turn affect the presence and abundance of benthic organisms. Various alternatives for ground stabilization are

discussed in more detail within the Barlow Point geotechnical report (see Appendix F, Preliminary Geotechnical Site Assessment, Hart Crowser).

- Increased potential for wake stranding of juvenile fish. Barlow Point has been identified in other studies as a location where fish stranding has occurred on the upper shoreline. Understanding the mechanisms driving the fish stranding events is important to ensure that alterations to the shoreline conditions at Barlow Point do not further increase the likelihood of fish stranding.
- Potential new outfalls discharging permitted waters (process water, wastewater, stormwater, etc.) directly to the Columbia River. While discharges may be permitted under appropriate authorizations (e.g., industrial general stormwater permits), a new outfall construction permit from the U.S. Army Corps of Engineers (USACE) provides NMFS with an opportunity to review water quality standards of the discharge waters to ensure that the parameters are protective of ESA-listed species, particularly salmonids. Water quality criteria suggested by NMFS for the protection of salmonids for metals, such as copper and zinc, may be well below the Industrial General Stormwater Permit thresholds and detectability thresholds for some laboratory analyses. Potential ESA-consultation Biological Opinion requirements may include additional monitoring and reporting, with re-initiation of consultation for exceedances. Additionally, new outfalls may also have ESA-related impacts based on screening and the amount of scour protection required.
- Installation methods and size of piling. The use of impact hammer installation and use of large-diameter steel piles produce elevated in-water and in-air noise levels that may be injurious to listed fish and bird species. Although there are no ESA-listed marine mammals in the Columbia River, there are sea lions and occasionally seals within the Columbia River that are protected by the Marine Mammal Protection Act. There may be an opportunity to use a number of noise-reducing measures, from the type of pile used to hammer dampening and bubble curtains.
- Upland site management. ESA-listed or MBTA birds (e.g., streaked horn lark) use habitats similar to those created by stockpiles or cleared and scarified spaces in upland areas.
- WDFW maps a "biotic detection" of the Columbia white-tailed deer at Barlow Point in 2010; ELS has been unable to confirm white-tailed deer presence during subsequent surveys completed between 2010 and 2015.

3.3 Fatal Flaws Considerations

During ESA pre-application review and consultation, components of the proposed action may receive a high level of scrutiny from the USFWS and NMFS, and additional conservation measures or best management practices (BMPs) may be required to be incorporated into the proposed action. It is likely that a project of the size and scope being proposed for Barlow Point would result in a determination of "likely to adversely affect" for many of the ESA-listed fish species. There have been few new industrial facilities permitted and constructed along the Lower Columbia River in the last decade; however, the lack of construction has not necessarily been related to inability to obtain a Biological Opinion for a shoreline development project. Based on an initial consideration of proposed potential site design concepts, including any related mitigation measures, there do not appear to be any aspects of the project that would lead to a jeopardy/adverse modification determination under ESA. Therefore, no fatal flaws related to ESA-listed fish species are noted in the current development concepts for the Barlow Point site.

3.4 Potential Mitigating Measures

Potential mitigating (e.g., avoidance and minimization) measures to consider for protection of ESA-listed fish species as part of the conceptual designs for Barlow Point include measures to reduce the extent, extremity, or duration of direct effects to the aquatic (in-water) environment from construction, as well as measures to avoid or minimize effects related to the size and location of built components located along the shoreline. General construction BMPs are widely available to control and minimize construction-related direct impacts to water quality and in-water noise-generating actions. Avoidance and minimization measures that may reduce the effects of the project on ESA-listed fish species include configuring docks, piers, and wharves such that the OWS components are located in deep water, as well as using materials that allow for light transmission (e.g., grated decking for walkways or gangways). Potential forage or rearing impacts from shoreline stabilization measures can be minimized by using bioengineering methods where practicable, such that vegetation along the shoreline riparian zone is maintained to provide shading and nutrient/prey inputs to support foraging juvenile salmonids.

Additional compensatory mitigation to address impacts to shoreline/riparian habitat may be included or required to offset losses in function. Such mitigation may be achieved through implementation of permittee-led restoration projects or purchase of mitigation bank credits, depending on the type and location of impacts and the availability of credits.

For impacts to upland habitat and species, if future surveys detect the presence of white-tailed deer at the site, mitigation measures may be appropriate through consultation with WDFW, depending upon the extent of the species occurrence, its habitat, and the type of development proposed.

4 WETLANDS, CRITICAL AREAS, AND SHORELINES

Ecological Land Service (ELS) was contracted by KPFF Consulting Engineers to assess the presence or absence of wetlands, streams, fish and wildlife habitat conservation areas, frequently flooded areas, geologic hazard areas, and critical aquifer recharge areas (CARA) on site at Barlow Point. In addition, ELS also reviewed the current shoreline Environment Designations applicable to the Barlow Point site based on the City of Longview's current Shoreline Management Plan.

4.1 Existing Conditions

4.1.1 Methodology

When identifying wetlands on site, ELS followed the USACE Routine Determination Method described in the Wetland Delineation Manual (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (USACE 2010). For regulatory purposes under the Clean Water Act (Section 404) the Environmental Protection Agency (EPA) defines wetlands as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions" (EPA 2014). Wetlands are regulated as "Waters of the United States" by the USACE, as "Waters of the State" by the Washington State Department of Ecology (Ecology), and as "Critical Areas" by the City. When mapping streams, ditches, and other surface drainages, ELS uses standard methodology defined by the Ecology publication, "Determining the Ordinary High Water Mark on Streams in Washington State" (Ecology 2010). The presence or absence of fish and wildlife habitat conservation areas, frequently flooded areas, geologic hazard areas, and CARA are based on map and data sources referenced in the City of Longview Municipal Code (LMC) and on site observations.

ELS conducted site visits during April of 2015 to assess the site and identify potential wetland locations. Barlow Point is actively farmed by the Port for hay production and, due to ongoing farming activities, wetland determinations can be complicated. For this reason, wetland boundaries and categories should be treated as preliminary and used for planning and development strategy rather than agency verification. ELS identified 21 individual areas that potentially met wetland conditions within the levee, northeast of the Columbia River,

totaling an estimated 28.5 acres of wetland on site. In addition to wetlands, ELS located approximately 12 man-made drainage ditches currently maintained for agricultural land use. Because of their connectivity to wetlands, the man-made ditches may be regulated by the USACE; filling or altering the ditches for development may require a USACE permit. The man-made ditches on site are low-flow, shallow, warm water systems that do not have a fish-bearing designation and are not considered to provide fish habitat or the potential for fish habitat. Two adjacent large drainage ditches at the edge of the property are designated as fish bearing (Type F) by the Washington Department of Natural Resources (WDNR): one is located north of the site, identified as a private drainage facility (PDF) by the City of Longview, and the second is located to the east, identified as Ditch 14, which is owned and maintained by Consolidated Diking and Improvement District #1 (CDID #1). PDF and Ditch 14 are slow-moving, warm waters that provide habitat for warm-water fish, primarily bass, perch, and other species in the sunfish family (*Centrarchidea macropterus*), together with non-native species such as grass carp (*Ctenopharyngodon idella*). PDF and Ditch 14 do not provide suitable habitat for steelhead, salmonids, or other anadromous fish, and do not support such fish. They are not identified on the WDFW fish mapping web portal as potential for anadromous species. PDF, Ditch 14, and man-made ditches on site have connectivity to one another by culverts. There is no connectivity between PDF, Ditch 14, or man-made ditches on site and the Columbia River except artificially. Waters on site and adjacent to the Site reach the Columbia River through pump stations maintained by CDID #1. Fish located in PDF or Ditch 14 cannot pass through the pump station into the Columbia River, and fish from the Columbia River cannot reach the project Site. Any proposed development impacts to Type F waters at or below the ordinary high water mark (OHWM) will be subject to regulation. Ditch maintenance, which includes excavation and removal of accumulated sediment and vegetation occurring within ditches, mapped as Type F waters, is considered an exempt activity due to the routine nature of such activities.

Preliminary wetland boundaries and ditch locations were mapped using a hand-held Global Positioning System unit with sub-meter accuracy. The approximate OHWM for the Type F water north (PDF) was located using aerial photography. One mapped wetland outside of the levee is located immediately adjacent to the Columbia River within the Urban Conservancy zone of the shoreline located in the furthest downstream reach of the river at this site. This wetland, which is mostly off-site and not on Port property, was not delineated

by ELS, but it occurs beyond the toe of the levee on the Columbia River side. Because of the Urban Conservancy designation, no fill can occur within this wetland.

4.1.2 Summary of Additional Critical Areas Information

Fish and wildlife habitat conservation areas on or adjacent to the site consist of two Type F waters (Ditch 14 and Ditch PDF), and one Type S water (the Columbia River). Jurisdictional criteria of fish and wildlife conservation areas are discussed in more detail in Section 4.1.1.

LMC identifies frequently flooded areas as all flood hazard areas identified by Flood Insurance Rate Maps published by the Federal Emergency Management Agency (FEMA) (LMC 17.10.130). Flood areas near Barlow Point are identified by FEMA on the attached Figure 4 Site Map. They consist of floodplain and floodway, and are limited to lands waterward of the levee.

Geologic hazard areas are defined in LMC 17.10.140 as areas with landslide potential or potentially unstable soil. Geologic hazard includes areas of historical failure, slopes greater than 15 percent on permeable soils, slopes greater than 40 percent with 10 feet of vertical relief, areas subject to rock fall during seismic shaking, rapid stream incision, or areas located in a canyon. The average slope at Barlow Point is between 0 and 2 percent in all locations except the levee embankments; these are engineered and meet or exceed City stability requirements. There is no historical land stability failure on site. CARAs are not mapped in the City area and consequently are not anticipated to affect development of the site.

4.2 Key Development Considerations

4.2.1 Critical Area Protections and Land Use Designations

If site development is proposed, a more detailed jurisdictional wetland determination will be necessary for regulatory verification, impact assessment, and determining any mitigation needs. On-site wetlands were rated using the *Washington State Wetland Rating System for Western Washington, 2014 Update* (Ecology 2014). Using this system, the majority of wetlands on site score a preliminary Ecology rating of Category IV. Wetlands with forested vegetation in the central portion of the site have slightly higher habitat and water quality potential and may receive the higher rating of Category III. Standard buffer widths for

wetland categories were determined using Ecology's guidance, as described in *Wetlands in Washington State, Volume 2: Guidance for Protecting and Managing Wetlands* (Ecology 2005), and LMC 17.10.110(4).

City wetland buffer designations are based on wetland category, water quality, or habitat functions, as well as the current or proposed land use intensity (LMC 17.10.110(4)). Barlow Point is zoned by the City as Heavy Industrial. For the following buffer designations, ELS assumes that future development of the site will meet the high intensity land use designation. According to LMC, Category IV wetlands with high intensity land use receive a designated buffer width of 50 feet to protect water quality functions (habitat functions are assumed to be too low for protection). Category III wetlands with high intensity land use and a final habitat score of 4 points or less receive a designated buffer width of 80 feet (LMC 17.10.110(4)(c)). Type F waters greater than 5 feet wide receive a designated buffer width of 150 feet regardless of the land use intensity designation. However, the PDF and Ditch 14 Type F waters are maintained as a slough/ditch by the Port and/or the CDID #1 and it is unlikely that LMC would require a buffer. The Columbia River is a designated a "Shoreline of the State," and is considered a "Shoreline of Statewide Significance."[1] Shorelines of the State have a designated management area of 200 feet, measured landward of the OHWM, and are subject to shoreline use designations.

According to the City's *Draft Shoreline Master Program* (revised November 2014; City of Longview 2014), Columbia River shoreline designations adjacent to Barlow Point include High Intensity, Urban Conservancy, and Aquatic. The purpose of the High Intensity environment is to provide for high intensity water-oriented commercial, transportation, and industrial uses while protecting existing shoreline ecological functions and restoring ecological functions in areas that have been previously degraded. The purpose of the Urban Conservancy environment is to protect and restore ecological functions of open space, floodplain, and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses. The purpose of the Aquatic environment is to protect,

[1] "Shorelines of Statewide Significance" are a component of "Shorelines of the State." There is no regulatory difference between these two designations.

restore, and manage the unique characteristics and resources of the area waterward of the OHWM.

The shoreline at Barlow Point is designated critical habitat for species of salmon listed in Table 1. Critical habitat includes primary constituent elements (PCEs) that are important for the survival of the species, including riparian areas with natural vegetation and shallow sloped shorelines to facilitate the migration of juvenile salmonids to the estuary and Pacific Ocean. The critical habitat designations for salmonids within the Columbia River occurred in 2005, and the critical habitat PCEs are based on the condition of the habitat at the date of designation. In 2005, the Barlow Point shoreline condition was already in a modified condition and, therefore, the PCEs for natural shoreline were not present or were in a non-functioning state at the time of designation. An evaluation of the functions provided by the shoreline is based upon existing conditions or conditions at designation. The existing conditions provide the baseline for measuring the change in function that occurs as a result of implementing a development project that may impact the shoreline areas. Aside from wetland and streams, there are no other critical areas associated with the upland habitat that are likely to require mitigation.

FEMA has designated portions of the site south of the levee as FEMA floodplain and FEMA floodway. If a future development of the site includes portions of FEMA-designated areas, a floodplain permit may be required by the City.

4.2.2 Buffer Modifications

Wetland buffers can be modified using Buffer Width Averaging or Buffer Width Reduction. In the case of buffer averaging and buffer reduction, the minimum buffer width cannot be less than 40 feet at its narrowest point for Category III wetlands, or 25 feet for Category IV wetlands. Buffer reduction and buffer averaging cannot be used on the same resource on the same site.

Shoreline and other typed water buffers can be modified using Internal Riparian Zone Averaging, or Buffer Width Reduction. Portions of the internal riparian zone may be reduced up to 50 percent from the normal standards if riparian zone widths are

correspondingly increased elsewhere within the applicant parcel. Buffer width may be reduced by up to 50 percent if an applicant undertakes approved enhancement measures. In some instances, riparian area widths may increase to protect sensitive wildlife species such as bald eagle nests or heron rookeries that depend on streams and wetlands, or to protect surface waters from slope failures and soil erosions. These standards are applied on a case-by-case basis, using site-specific and watershed system information. At this time, there are no known sensitive wildlife species within the project area that would initiate wider shoreline or stream buffer widths.

4.3 Fatal Flaws Considerations

It is reasonable to assume that future development of the property will involve impacts to Category III and Category IV wetlands and wetland buffers in the internal area of the site. The wetlands are relatively low functioning, as they occur within an actively farmed parcel. Any large-scale development could impact 10 to 30 acres of wetland, or other potentially jurisdictional surface waters such as sloughs and ditches. Avoidance and minimization measures will be addressed through an Alternatives Analysis in accordance with Section 404(b)(1) of the Clean Water Act, a necessary step when acquiring a USACE permit to impact wetlands and other Waters of the U.S. If an alternative location with fewer wetland and other environmental resource impacts cannot be found, a development project is typically permitted in tandem with an appropriate mitigation plan. The low functions of on-site wetlands will be taken into account during site analyses and mitigation planning efforts. Higher functioning wetlands that occur along the Columbia River shoreline waterward of the levee will likely be the focus of avoidance and minimization efforts. In contrast, lower functioning farmed wetlands can be mitigated using preservation, enhancement, rehabilitation, and/or re-establishment of higher quality wetlands located in the same watershed. In consideration of these factors and scenarios, ELS finds no fatal flaw prohibiting development of the site, assuming that any impacts would occur on lower functioning wetlands in portions of the site that are currently farmed.

4.4 Potential Mitigating Measures

Mitigating measures for potential development of the property include the implementation of avoidance and minimization measures to reduce impacts to wetlands, jurisdictional waters,

critical areas, and their buffers. Consideration of practicable alternatives with fewer environmental resource impacts will be completed as part of the CWA Section 404(b)(1) alternatives analysis, and the final proposed action may include compensatory mitigation to address unavoidable impacts to wetlands and critical areas.

5 MITIGATION STRATEGIES AND OPPORTUNITIES

The development at Barlow Point may result in unavoidable impacts to aquatic and upland habitats and ecological functions associated with habitat and species. These impacts are expected to require compensatory mitigation to address requirements of the Clean Water Act Section 404(b)(1), as well as impacts to critical habitat under the ESA or other state and local requirements, including but not limited to WDFW fish habitat conservation measures and City-designated critical areas impact mitigation. As the project moves forward, potential mitigation approaches and/or replacement ratios will need to be proposed by the Port. The final mitigation plan will be determined after a comprehensive permitting process involving the agencies listed above. Other agencies that may require permitting, or may comment on a proposed mitigation plan, could include the Cowlitz Indian Tribe, the Yakama Nation, NMFS, and Ecology.

Mitigation is typically required to be sequenced in the following order: avoid, minimize, and mitigate impacts. Adverse impacts to aquatic resources should first be avoided through the design and permitting processes. If impacts cannot be avoided, appropriate and practicable steps to minimize any potential adverse impacts should be taken. Finally, if unavoidable adverse impacts remain, compensatory mitigation for the impacts is required. The amount and quality of compensatory mitigation is typically not considered by regulatory agencies to be a substitute for avoiding and minimizing impacts.

Compensatory mitigation is typically accomplished through the following three ways:

1. Mitigation Banks: A mitigation bank is a wetland, stream, or other aquatic resource area that has been restored, established, enhanced, or preserved. This resource area is then set aside to compensate for future impacts to aquatic resources resulting from permitted activities. Upon the approval of regulatory agencies, permittees can acquire mitigation bank credits to meet their requirements for compensatory mitigation.
2. In-Lieu Fee Mitigation: A permit applicant may make a payment to an in-lieu fee program that will conduct wetland, stream, or other aquatic resource restoration, creation, enhancement, or preservation activities. In-lieu fee programs are generally administered by government agencies or non-profit organizations that have

established an agreement with the regulatory agencies to use in-lieu fee payments collected from permit applicants.

3. Permittee-Responsible Mitigation: A permittee may be required to provide compensatory mitigation through an aquatic resource restoration, establishment, enhancement, and/or preservation activity. This compensatory mitigation may be provided at or adjacent to the impact site (i.e., on-site mitigation) or at another location, usually within the same watershed as the permitted impact (i.e., off-site mitigation). The permittee retains responsibility for the implementation and success of the mitigation project.

The Port of Longview currently owns 76 acres of land downstream from the Barlow Point site at the Willow Grove Wetlands site. The Port-owned property could be used for advance mitigation, such as a restoration project that could address future compensatory mitigation requirements for development of shoreline and upland features at the Barlow Point site. An additional 229 acres at this site are owned by the Columbia Land Trust for a Site total of 305 acres. Under the terms of the sale agreement, the Port could obtain mitigation credit for restoration work done on this part of the Site. The specific nature, magnitude, and applicability of any proposed restoration project in this area to mitigate for Barlow Point impacts would need to be further designed and studied.

Additionally, the Port has completed advanced mitigation through removal of a berth docking structure on Port property. There may be an opportunity to apply the advanced mitigation credits from the dock removal to offset the development of new OWS at Barlow Point. If these mitigation credits were applied, it is expected that a Habitat Equivalency Analysis model that details the specific impacts resulting from the Barlow Point development would need to be developed to demonstrate what credits from the advanced mitigation could be used towards the Barlow Point development.

6 OTHER REGULATORY CONSIDERATIONS

6.1 Water Rights and Availability

The purpose of this section is to summarize existing water rights information and analyze potential water sources for the Barlow Point site that would meet the needs of potential alternative development scenarios being considered by the Port.

6.1.1 Water Needs

Water needs are being investigated for the two potential site development options identified in the Section 1. The amount of water needed for Barlow Point is dependent on the development assumptions for each option being evaluated. Process water use for the two options, including a variation on the liquid bulk option, is estimated in Table 3.

Table 3
Estimated Process Water Needs – Barlow Point Industry

Potential Site Development Options	Instantaneous Withdrawal[1] (gallons per minute)	Annual Volume[2] (acre-feet per year)
Options 1 – Dry Bulk	6,500	10,466
Option 2a – Liquid Bulk	2,000	3,220
Option 2b – Liquid Bulk (Methanol/Ammonia Plant)	8,300	13,365

Notes:
1. Source of instantaneous withdrawal from KPFF Consulting Engineers (KPFF, 2015).
2. Annual volume assumes maximum instantaneous withdrawal occurs 24 hours per day, 365 days per year.

The water use assumes that the maximum flow rate is required continuously (24 hours per day, 365 days per year). The estimated values could be much greater than the actual quantity of water required because it is not likely that the full flow rate is required 100 percent of the time, and information is not available regarding the potential for process water reuse in industrial operations. Once this information is available, it can be used to confirm or refine the annual quantity requirements. The annual quantities in Table 3 are more appropriately described as maximum amounts.

6.1.2 Water Sources

There are several potential water sources due to Barlow Point's location, including existing Port water associated with existing groundwater and surface water permits, existing City surface water from the Columbia River, and groundwater wells. Additional options were identified but not evaluated, including the use of reclaimed water from the City and identifying other water rights in the area held by other parties and exploring whether one or more of these rights (or portions of these rights) could be acquired and transferred to Barlow Point. These additional options could be evaluated in the future, depending upon the outcome of the two options identified in Section 1. Results of the Port and City potential source options analyses are provided below.

6.1.2.1 Port of Longview

The Port currently has four groundwater rights and one surface water right. Three of the groundwater rights are certified, and one groundwater right and the surface water right are in permit status. Table 4 summarizes information on the Port of Longview's water rights.

Table 4
Port of Longview Water Rights

Number	Source(s)	Water Right Type and Status	Instantaneous Withdrawal (gallons per minute)	Annual Volume (acre-feet per year)
138-D, 139-D, 1732-A[1]	4 wells (W-1, W-2, W-3, and W-4)	Groundwater, Certified	1,580	956
S2-29973	Columbia River	Surface Water, Permitted	6,100[2]	6,650
G2-29973	10 wells	Groundwater, Permitted	11,500	13,300

Notes:
1. Number 138-D, 139-D, and 1732-A were considered together in a change application in 2001.
2. The instantaneous withdrawal was calculated from a permitted diversion of 13.6 cubic feet per second.

It is assumed that the existing certified water rights for the Port are currently being fully used, and that the permitted water rights would be used to develop Barlow Point. Using this assumption, the combined surface water and groundwater permitted rights are sufficient to

supply any of the potential industry options listed. If only one source is desired (groundwater or surface water), permitted water rights may not be sufficient.

For a surface water diversion, the permitted water rights are sufficient in instantaneous withdrawal rate and annual volume for a liquid bulk operation. Permitted surface water instantaneous withdrawal rates are not sufficient for an Option 1 Dry Bulk or Option 2 Liquid Bulk 2b.

For groundwater extraction, the permitted water rights are sufficient for liquid and dry bulk potential developments. For Option 2b, the instantaneous withdrawal rate is sufficient, but the annual volume is not sufficient if it is assumed that the maximum withdrawal rate is needed 100 percent of the time. However, the annual volume would be sufficient if the maximum withdrawal rate was not needed 100 percent of the time. If there is no withdrawal for an average of 4 hours per month, permitted groundwater rights would be sufficient for the two-tenant option.

The Port of Longview's permitted water rights currently do not include Barlow Point as a place of use. The legal place of use is currently "Area served by the Port of Longview, located within Sections 4, 5, 6, 9, & 10 of T. 7 N., R. 2 W.W.M., in Cowlitz County, Washington" (see Figure 1). In order to be able to use the Port's water rights for Barlow Point, a change in the places of use and points of diversion for the surface and groundwater permits will need to be filed with Ecology.

The proposed groundwater change in water withdrawal area would include evaluating existing groundwater rights in the area and demonstrating that the existing rights for other users are not diminished. These existing rights include the City's Mint Farm Wellfield, which is located approximately 2 miles from Barlow Point. According to the Report of Examination for the Port's groundwater permit, potential wells at Barlow Point should be placed in the unconsolidated alluvial unit that is hydraulically connected to the Columbia River in order to minimize interference with nearby wells, and to support the proposed increased groundwater withdrawal rates from the permit. Additionally, it should be noted that it may be unlikely that the Port's groundwater permits could be transferred to or include the City's Mint Farm Wellfield as an option. In the Report of Examination for the Mint

Farm Wellfield, well logs show the wells in the Mint Farm Wellfield are 350 to 370 feet deep, which is in the deep aquifer system. This aquifer appears to be different than the hydraulically connected aquifer to the Columbia River that was targeted for supply by the Port's groundwater permit, but this should be confirmed through a more detailed hydrogeologic investigation.

Additionally, the City's 2012 Comprehensive Water System Plan shows that Barlow Point is within the Wellhead Protection Area boundary for the Mint Farm Wellfield. The southeastern portion of Barlow Point is within the 5- and 10-year source areas (see Figure 2; Kennedy/Jenks Consultants 2012). Potential industrial development at Barlow Point will need to demonstrate that protective measures are in place to maintain groundwater quality.

6.1.2.2 City of Longview

The City's water service area includes Barlow Point, so their water supply can be used to supply the Barlow Point property. The City has been shifting from surface water to groundwater and has groundwater rights for their Mint Farm Wellfield for city supply. Surface water rights are secondary to the groundwater rights. As of the 2012 Comprehensive Water System Plan, the City has water rights of 28,250 gallons per minute for the maximum instantaneous flow rate and 14,629 acre-feet per year for the maximum annual volume.

Currently, the City of Longview uses 6,373 gallons per minute and 5,560 acre-feet per year. Table 5 summarizes the existing use, 6-year forecast, and 20-year forecast of water right adequacy for the City of Longview.

As shown in Table 5, water rights are available from the City of Longview supply. There is available instantaneous flow available from the City of Longview for Barlow Point industry beyond the 20-year forecast. Excess annual volume for the 20-year forecast is not sufficient for two of the three different types of potential industrial development, per the water usage assumptions provided in Table 3. Table 6 presents the deficiency and off-time required for the industry types to stay within City of Longview water rights assuming the 20-year forecasted use.

Table 5
City of Longview Water Right Adequacy

Forecast	Instantaneous Flow Rate (gallons per minute)	Annual Volume (acre-feet per year)	Excess Instantaneous Flow Rate (gallons per minute)	Excess Annual Volume (acre-feet per year)
Water Rights	28,250	14,629	-	-
Existing Use	6,373	5,560	21,877	9,069
6-Year Forecast	6,952	6,052	21,298	8,577
20-Year Forecast	8,227	7,169	20,023	7,460

Source: Kennedy/Jenks Consultants 2012

Table 6
Barlow Point Industry Deficiencies Using City of Longview Water Rights

Potential Industrial Development Options	Full Time Deficiency (acre-feet per year)[1]	Percentage of Time Available[2]	Hours Per Month Shortage[3]
Options 1 – Dry Bulk	3,006	71.3%	210
Option 2a – Liquid Bulk	0	100.0%	0
Option 2b – Liquid Bulk	5,905	55.8%	323

Notes:
1. Full-time deficiency compares the 20-year forecasted City of Longview adequacy to the annual volume required by the industry type assuming the maximum instantaneous withdrawal rate occurs 100 percent of the time.
2. Percentage of time available assumes the maximum instantaneous withdrawal rate occurs when withdrawal occurs.
3. Hours per month shortage refers to the average time (in hours per month) no withdrawal can occur if the maximum instantaneous withdrawal rate is used.

From the results in Table 5, Option 2a (Liquid Bulk) can be fully supplied using City water rights. For Option 1 (Dry Bulk) and Option 2b (Liquid Bulk), City water rights cannot supply Barlow Point in full assuming the maximum instantaneous withdrawal rate occurs 100 percent of the time. City water rights can supply 71.3 percent of the annual volume for dry bulk and 55.8 percent of the annual volume for Option 2b (Liquid Bulk 2-tenant).

Per the City's 2012 Comprehensive Water System Plan, the existing infrastructure in the vicinity of Barlow Point could potentially serve potable water needs but would not be

adequate to serve potential industrial process water demands. Discussions with the City indicate that new infrastructure would need to be extended to Barlow Point to serve the large water demand for the potential industrial users identified in the options.

In the City's 2012 Comprehensive Water System Plan, The Three Rivers Regional Wastewater Treatment Plant (TRRWTP), which treats sewage for Longview, Kelso, Beacon Hill Water and Sewer District, and Cowlitz County, is permitted to produce Class A effluent but currently treats to a secondary level. Reclaimed water is currently used for on-site irrigation and wash-down water. Other reclaimed water uses are not currently economically feasible. The distance to convey Class A effluent (5.7 miles) from the TRRWTP makes this option likely economically infeasible for providing reclaimed water to future industrial water users at Barlow Point. Further investigation would be needed to verify whether this is a potentially viable supply source.

The City also encourages on-site water reuse where possible. Other area industrial users have implemented on-site reuse programs that have reduced demands. Potential industries developing in Barlow Point should consider the feasibility of reusing water to reduce the withdrawal required.

6.1.3 Summary

Water needs for potential industrial uses at Barlow Point were analyzed and compared against available water rights from the Port and the City. The Port currently has groundwater and surface water permitted for use. Groundwater permitted use quantities are sufficient to supply any of the industrial options analyzed. Surface water permitted use is sufficient for Option 2 – Liquid Bulk use but not sufficient for Option 1 – Dry Bulk or the Option 2 Liquid Bulk 2-tenant option. A change in permit would need to be submitted because the place of use and source location would be different than that currently indicated on the permit.

The City has sufficient water rights to supply the instantaneous quantity for the Barlow Point future potential industrial development options, but only has enough annual volume to completely supply the liquid bulk (Option 2a) under current assumptions. If City water was used to service Barlow Point, new infrastructure to convey water to the site would be needed.

Other options would require seeking other perfected water rights in the area that are no longer needed by the current owners, seeking supplemental water rights, or reducing water requirements through reuse or process design approaches to reduce water demand. Reclaimed water from the TRRWTP does not appear to be a feasible option but needs further investigation.

The Port and City groundwater permits appear to draw water from the different aquifers; the Port's targeted aquifer identified in the permit Report of Examination is much shallower than the City's wellfield wells. However, both permits note unconfined sand and/or gravel units of similar thickness, so further analysis is needed to confirm aquifers.

6.2 Section 408 Considerations

Section 14 of the Rivers and Harbors Act of 1899 and codified in 33 United States Code 408 (commonly referred to as "Section 408") authorizes the USACE, via the District Engineer, to grant permission for the alteration, occupation, or use of a USACE civil works project if the USACE determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project. Due to the presence of the USACE-maintained levee along the Columbia River (operated by the Cowlitz CDID #1) and the proximity of the Columbia River Federal Navigation Channel, development at Barlow Point will be subject to Section 408 review by the USACE.

6.2.1 Existing Conditions

The CDID levee and Columbia River Federal Navigation Channel are both currently operable civil works projects maintained by the USACE. There are no encroachments on the levee nor the navigation channel associated with the existing conditions at Barlow Point.

6.2.2 Key Development Considerations

Section 408 review may require development of substantial engineering-related information related to the impact of the proposed development at Barlow Point and specifically any associated structures crossing the CDID #1 levee or near the federal channel on the continued operation of these federal features. The USACE has developed scalable procedures and required information to make determination on Section 408 projects. Based on the proposed alteration, the USACE Portland district will determine the data, analyses, and

documentation necessary to make a determination regarding whether the proposed alteration does not impair the usefulness of the project and is not injurious to the public interest. The proposed development at Barlow Point could impact the aforementioned USACE civil works projects and is expected to be considered a major (as opposed to a minor) development based on the existing USACE guidance on completing Section 408 review. It should be noted that encroachments or impacts to the levee or federal channel may be allowed by the USACE but must be addressed through mitigating measures, developed during the design phase through coordination with the USACE and CDID #1. The general nature of the analysis and documentation expected to be required by the USACE for a major development can be found in Attachment A.

6.2.3 Fatal Flaws Considerations

In order to grant permission under Section 408, USACE must determine that the proposed alteration does not impair the usefulness of the USACE project, which includes retaining the project's authorized purpose, and is not injurious to the public interest. It is expected that, with the inclusion of specific mitigation measures recommended by either USACE or CDID #1, the proposed development at Barlow Point would meet the conditions for permission under Section 408 review.

6.2.4 Potential Mitigating Measures

The Section 408 process must be completed before the USACE can issue a Section 404 or Section 10 permit for a project. However, the Section 408 process is processed independently from the Section 404 or Section 10 permit process. Therefore, as a time saving measure, the Port of Longview can enter into the Section 408 process with the USACE and CDID #1 at any time. Project-specific mitigating measures may be identified by the USACE and CDID #1 during further design–phase discussions.

6.3 Port Management Agreement Considerations

6.3.1 Existing Conditions

The Port of Longview has an existing Port Management Agreement (PMA) with WDNR that provides the Port with the legal authority to manage certain state-owned aquatic lands that

abut land that is owned, leased, or managed by the Port. The Port manages these state-owned aquatic lands using the state's aquatic land management laws and regulations, in addition to the regular laws that govern port operations. The Port's current PMA is focused around the Port's existing berthing areas and does not include any state-owned lands associated with the Barlow Point site. This section assumes that the Port plans to expand their current PMA to include the Barlow Point site.

6.3.2 Key Development Considerations

Ports have the clear authority under a PMA to develop long-range plans for the state-owned aquatic lands covered under the agreement. If these long-range plans are agreed-to during the PMA expansion process, the Port then has the ability to implement these plans without needing to obtain additional WDNR approvals (i.e., rights-of-entry or leases) for specific actions defined in the PMA. Having the Port's PMA expanded to include Barlow Point would provide greater certainty to the Port as to the nature and types of allowable activities within the PMA, reduce overall WDNR approvals timeframes, and provide the Port with the ability and flexibility to directly manage these areas.

6.3.3 Fatal Flaws Considerations

No fatal flaws have been identified for the PMA process. If the PMA expansion were not able to be negotiated with WDNR, then another form of approval from WDNR for use of the state-owned aquatic lands (i.e., an aquatic lease) would need to be obtained prior to development or other use of these areas.

6.3.4 Potential Mitigating Measures

The WDNR is likely to require specific mitigation measures to be included in the PMA as part of approving the PMA expansion. The Port will need to carefully review and consider the potential long-term benefits and consequences associated with each of the proposed mitigation measures to determine if the Port is able to implement them, or whether additional negotiations with WDNR should be conducted.

7 SEPA AND NEPA PROCESS OVERVIEW

Proposed development at Barlow Point will be expected to satisfy SEPA and National Environmental Policy Act (NEPA) requirements. Based on the conceptual site plans, the Port anticipates compliance with SEPA through the development of a SEPA Environmental Impact Statement (EIS). A separate NEPA process will be required for any proposed in-water work that would trigger a USACE permit. This USACE NEPA process would most likely be led by the USACE, although a joint SEPA/NEPA process could also be used to satisfy these requirements. Additionally, if a development option is identified that requires a natural gas feedstock pipeline for manufacturing, a separate NEPA process through the Federal Energy Regulatory Commission (FERC) would likely be required to assess the impacts of licensing and constructing the pipeline.

For the purposes of complying with SEPA, the Port is contemplating two potential EIS scenarios: 1) a non-project specific SEPA evaluation that addresses the general impacts of the suite of development alternatives that the Port may consider adopting for the Barlow Point Site and not specific to a particular tenant; or 2) a project-specific SEPA evaluation that would address the impacts to the Site based on the requirements of a specific tenant(s). Under either scenario, the Port is responsible for considering the potential for significant adverse impacts of adopting a Barlow Point Master Plan, and it is anticipated that an EIS would be required to be developed for either the non-project or project-specific processes.

For a non-project specific SEPA evaluation, the Port would need to identify a suite of likely development alternatives on the site that are anticipated to include dry and liquid bulk scenarios. General impacts associated with the development alternatives would be assessed and mitigating measures would be identified to offset potential impacts. The information developed would address the impacts and mitigation measures at a programmatic level, meaning that the analysis would address the general types of impacts that would occur from industrial development of and the range of products proposed for the Site, but would not address the impacts of a specific tenant or product. When the ultimate use of the property is identified (a specific tenant or product), a supplemental SEPA review will be needed for that specific use. Depending on whether there are additional impacts or uses that were not considered in the non-project specific SEPA evaluation, the additional SEPA evaluation

could take the form of a SEPA checklist, EIS addendum or supplement, or a new project-specific EIS. The information developed would be specific to the development being considered.

For a project-specific SEPA evaluation, the Port would need to identify development alternatives on the Site specific to the tenants' needs and requirements and the specific materials to be handled at the Site. Specific impacts associated with these development alternatives would be assessed and mitigating measures would be identified to offset potential impacts. It is expected that the project-specific SEPA review would not require additional SEPA documentation to be developed for the specific development because those impacts and mitigation measures would be inherently addressed in the documentation.

For either a non-project specific or project-specific SEPA review, the SEPA process requires that the Port evaluate the project against the purpose and need for the proposed action and identify and evaluate the potential impacts of the proposed action compared with those of the identified alternatives. The SEPA EIS would require evaluation of the project based on purpose and need, as determined by the Port and, if applicable, the tenant. To meet these requirements, a SEPA EIS for the Barlow Point project would address various aspects of developing Barlow Point including the following:

- Reasonable alternatives for development of a project, including a No Action alternative
- Environmental studies conducted for the project (including but not limited to: ESA Biological Assessment, Clean Water Act Section 404(b)(1), Wetland Delineations, and Hydrodynamic Evaluations)
- The potential for and significance of any adverse impacts as a result of implementing the project
- Mitigation measures designed into the project to minimize or avoid probable significant adverse impacts
- Any significant adverse impacts that cannot be avoided by the project's design and compensatory mitigation measures that could be used to reduce those impacts
- Other federal, state, and local permits, licenses, or other approvals required for the project, including the approvals for a proposed pipeline

A separate NEPA process will be required for any proposed in-water work (i.e., the construction of new marine terminals) and would be led by the USACE. NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. The NEPA review would need to include a similar review of reasonable alternatives, significant impacts, mitigation measures, and other related permits, licenses, or approvals as are detailed above for the SEPA process. The specific NEPA mechanism to be used would need to be determined by the USACE, but is expected to be a NEPA Environmental Assessment or EIS based on the anticipated impacts from developing Barlow Point.

For any development option identified that requires a natural gas feedstock pipeline for manufacturing, a separate NEPA process would likely be required to assess the impacts of licensing and constructing the pipeline. The pipeline NEPA process would be led by the utility proposing to obtain a license to construct the pipeline, and the award of that license as well as construction of the pipeline is the action evaluated by the FERC as lead NEPA agency. The specific NEPA mechanism to be used would need to be determined by the FERC, but is expected to be a NEPA Environmental Assessment or EIS based on the anticipated impacts and potential public scrutiny associated with development of a new natural gas pipeline.

7.1 SEPA/NEPA Development Considerations

If a specific tenant for Barlow Point is not identified, the Port should consider using a non-project specific SEPA evaluation to address the SEPA process. The non-project specific SEPA evaluation will provide the Port with the ability to address public and agency comments on the proposed alternatives and inform future potential tenants of environmental considerations that could affect their specific development proposals. This process would allow the Port to address and identify mitigation for general project impacts from industrial development, and the baseline information developed would be expected to be directly applicable to any future development and associated additional SEPA review specific to said development.

If a specific tenant for Barlow Point is identified, the Port should consider using a project-specific SEPA evaluation to address the SEPA process for the project. This type of evaluation would allow for project-specific impacts to be addressed and would inform the Port and tenant as to specific public and agency considerations and expected impacts from and mitigation measures for the identified project alternatives.

7.2 SEPA/NEPA Pipeline Considerations

As described above, potential development options identified require a natural gas feed stock line for bulk commodity production. The natural gas transmission line operated by Northwest Pipeline, LLC appears to be the most reasonably located natural gas mainline operated in the vicinity of Barlow Point. The line required for Barlow Point would likely be proposed from the same mainline but would be considerably longer due to the distance between Barlow Point and the Northwest Pipeline mainline. As the length of the pipeline increases, there are more considerations related to NEPA to be made for the layout of the line, including potential impacts associated with water crossings or right-of-way easement requirements.

Before the pipeline can be constructed, the owner must first obtain a Certificate of Public Convenience and Necessity from FERC. Developing NEPA documentation and proceeding through the NEPA process to obtain a new certificate from FERC for a new pipeline is likely to take 2 to 3 years from the initial filing of forms with FERC to the final approved pipeline configuration and operation licensing; per review of previous similar projects and discussions with FERC and pipeline representatives.

7.3 SEPA/NEPA Fatal Flaws Considerations

No fatal flaws have been identified for the SEPA/NEPA process associated with the development of Barlow Point or a new natural gas pipeline to serve Barlow Point. However, due to recent trends related to the level of public involvement associated with projects involving fossil fuels, the Port should be aware that there could be potential delays in the environmental process related to proposing fossil fuel products at Barlow Point or from development of a new natural gas pipeline due to potential permit appeals or the need to respond to extensive public comments related to these aspects of the project.

7.4 Potential Mitigating Measures

As part of the SEPA and NEPA processes for the project, the Port should consider engaging specific groups or individuals with potential interest in or opposition to any element of the project. These interactions can occur in advance or as part of the EIS scoping process to identify specific concerns and proactively address potential project impacts and identify mitigation measures.

8 REFERENCES

Alt, D.D., 2001. *Glacial Lake Missoula and its Humongous Floods.* Mountain Press Publishing, Missoula, MT.

Baker, D., C. Peterson, E. Hemphill-Haley, and D. Twichell, 2010. Latest Pleistocene and Holocene (2-16 ka) sedimentation in the Columbia River estuary, Oregon, USA. *Marine Geology* 273(1-4):83-95.

Bundy, B.E., 2010. *Millennium Bulk Logistics Phase I Existing Project: Archaeological Monitoring of Geotechnical Investigations.* Report on file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

City of Longview, 2010. History. Cited: October 2010. Available from: http://www.mylongview.com/community/longview_history.html.

City of Longview, 2014. *Draft Shoreline Master Program*. May 2013, Revised October 2013 and November 2014. Available from: http://www.mylongview.com/modules/showdocument.aspx?documentid=1544.

Clark, W., S. Lewis, and M. Lewis, 1814. A Map of Lewis and Clark's Track Across the Western Portion of North America, From the Mississippi to the Pacific Ocean, By Order of the Executive of the United States in 1804, 5 and 6. Washington State University Manuscripts, Archives, and Special Collections WSU 550.F592.4.

Ecology (Washington State Department of Ecology), 2005. *Wetlands in Washington State, Volume 2: Guidance for Protecting and Managing Wetlands.* Ecology Publication No. 05-06-008. April 2005.

Ecology, 2010. *Determining the Ordinary High Water Mark on Streams in Washington State*. Ecology Publication No. 08-06-001. June 2008.

Ecology, 2014. *Washington State Wetland Rating System for Western Washington, 2014 Update*. Publication No. 14-06-029. October 2014.

Environmental Laboratory, 1987. *Corps of Engineers Wetlands Delineation Manual*. Final Report. Wetlands Research Program Technical Report Y-87-1. January 1987.

EPA (U.S. Environmental Protection Agency), 2014. Wetlands Definitions. Available from: http://water.epa.gov/lawsregs/guidance/wetlands/definitions.cfm.

Franklin, J.F. and C.T. Dyrness, 1973. *Natural Vegetation of Washington and Oregon*. USDA Forest Service General Technical Report PNW-8. Portland, Oregon.

Freed, R., 2001. *Cultural Resource Survey for the Consolidated Diking Improvement District No. 1 in Longview, Cowlitz County, Washington*. Report on file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Haeberlin, H., and E. Gunther, 1930. The Indians of Puget Sound. *University of Washington Publications in Anthropology* 4(1):1-84.

Hajda, Y., 1990. Southern Coast Salish. In *Handbook of North American Indians, Volume 7, Northwest Coast*, ed. W. Suttles, pp. 503-517. Washington, D.C.: Smithsonian Institution Press.

Hayes, D., 1999. *Historical Atlas of the Pacific Northwest: Maps of Exploration and Discovery: British Columbia, Washington, Oregon, Alaska, Yukon*. Seattle, WA: Sasquatch Books.

Kennedy/Jenks Consultants, 2012. *2012 Comprehensive Water System Plan*. Prepared for City of Longview. August 2012.

KPFF, Unknown.

Longview Daily News, 1926. Obituary for Mrs. Mary Therese (Barlow) Downing. January 18.

McClary, D.C., 2008. Longview: A thumbnail history. HistoryLink.org Essay 8560. Cited: October 2010. Available from: http://www.historylink.org/index.cfm?DisplayPage=output.cfm&file_id=8560.

Mackie, R.S., 1997. *Trading Beyond the Mountains: The British Fur Trade on the Pacific 1793-1843.* Vancouver, BC: University of British Columbia Press.

Matson, R.G., and G. Coupland, 1995. *The Prehistory of the Northwest Coast*. New York: Academic Press.

Oliver, L., and S. Schmidt, 2012. *A Cultural Resource Survey for the Seismic Harding Geotechnical Testing on the Columbia and Willamette Rivers*. Report on file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Pettigrew, R.M., 1990. Prehistory of the Lower Columbia and Willamette Valley. In *Handbook of North American Indians, Volume 7, Northwest Coast*, ed. W. Suttles, pp. 518-529. Washington, D.C.: Smithsonian Institution Press.

Punke, M., and J.L. Fagan, 2012. *Archaeological Monitoring of Geotechnical Investigations.* Report on file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

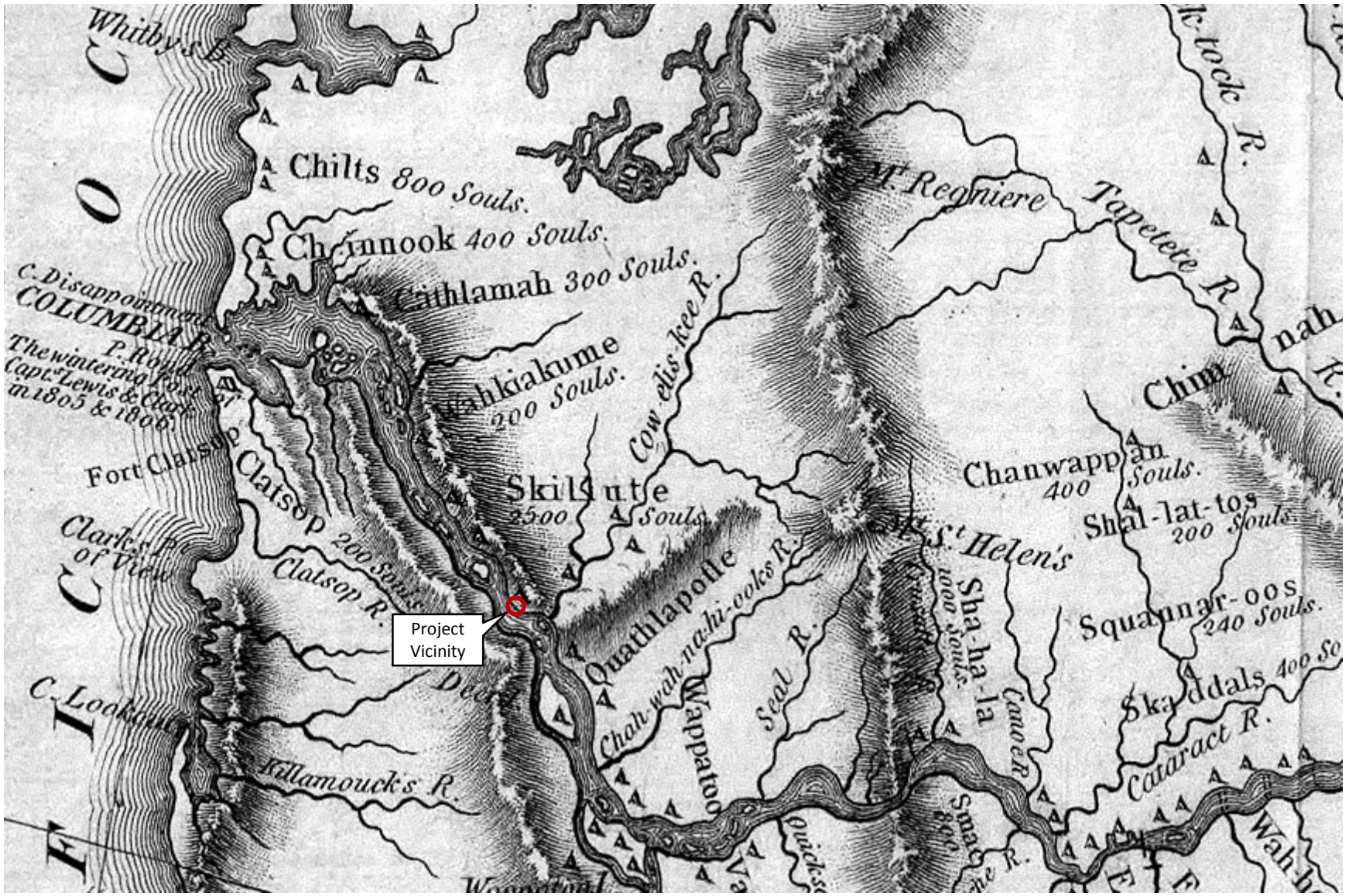
Silverstein, M., 1990. Chinookans of the Lower Columbia. In *Handbook of North American Indians, Volume 7, Northwest Coast*, ed. W. Suttles, pp. 533-546. Washington, D.C.: Smithsonian Institution Press.

USACE (U.S. Army Corps of Engineers), 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*. U.S. Army Engineer Research and Development Center, Environmental Laboratory. May 2010.

USFWS (U.S. Fish and Wildlife Service), 2015. U.S. Fish and Wildlife Service Proposes to Downlist the Columbian White-Tailed Deer from Endangered to Threatened. October 6, 2015. Accessed from: http://www.fws.gov/oregonfwo/Documents/NR2%20Columbia%20White-Tailed%20Deer%2010.1.2015a.pdf.

Wilma, D., 2005. Cowlitz County – A thumbnail of history. Cited: October 2010. Available from: HistoryLink.org essay 7482.

FIGURES



I:\Projects\Port of Longview\Barlow Point\Deliverables\Environmental Report\Figures\Figure 1 - Barlow Point Property.docx

ANCHOR QEA

Figure 1
Barlow Point Property on 1805-6 Lewis and Clark Map
Environmental Report
Barlow Point

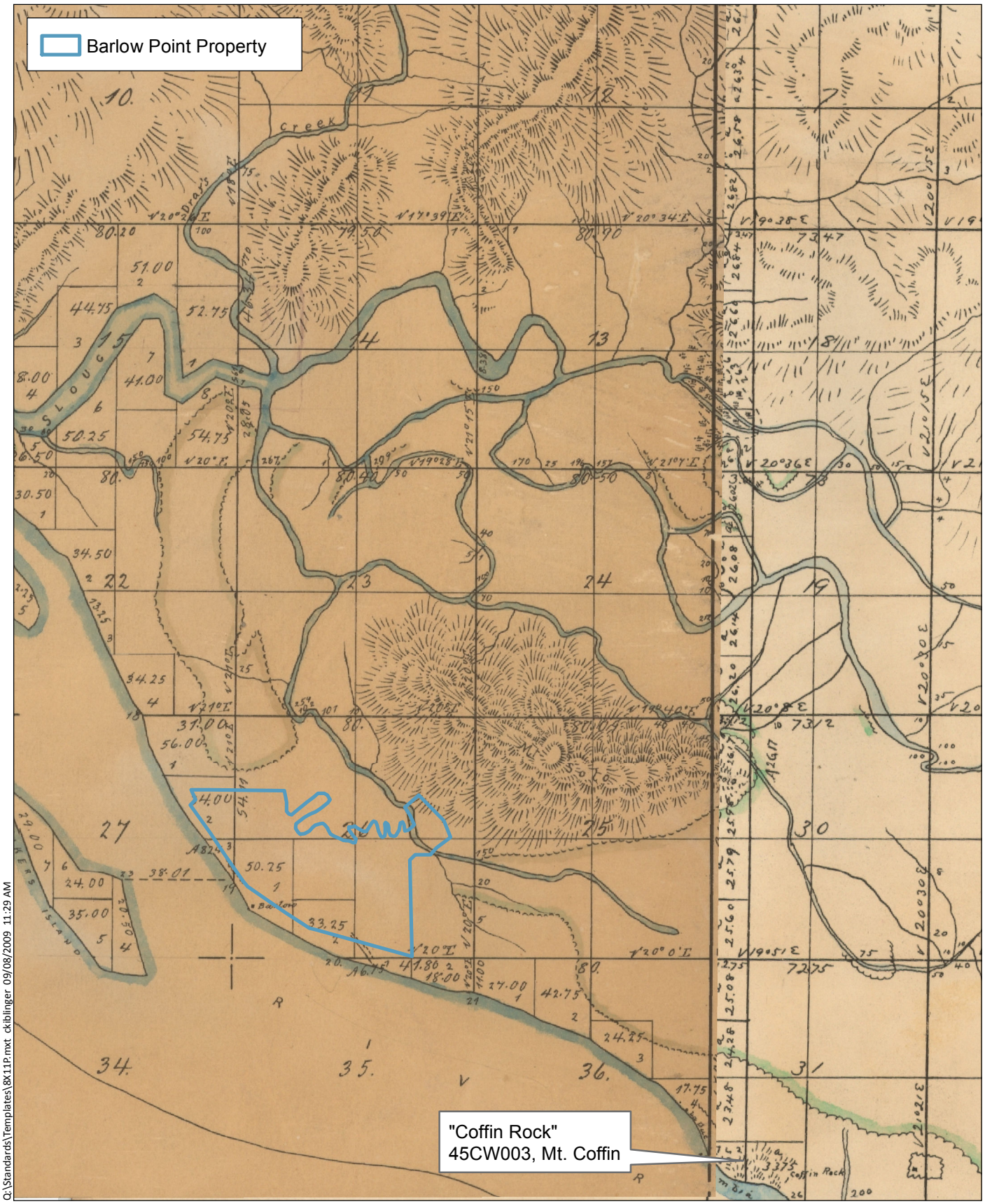


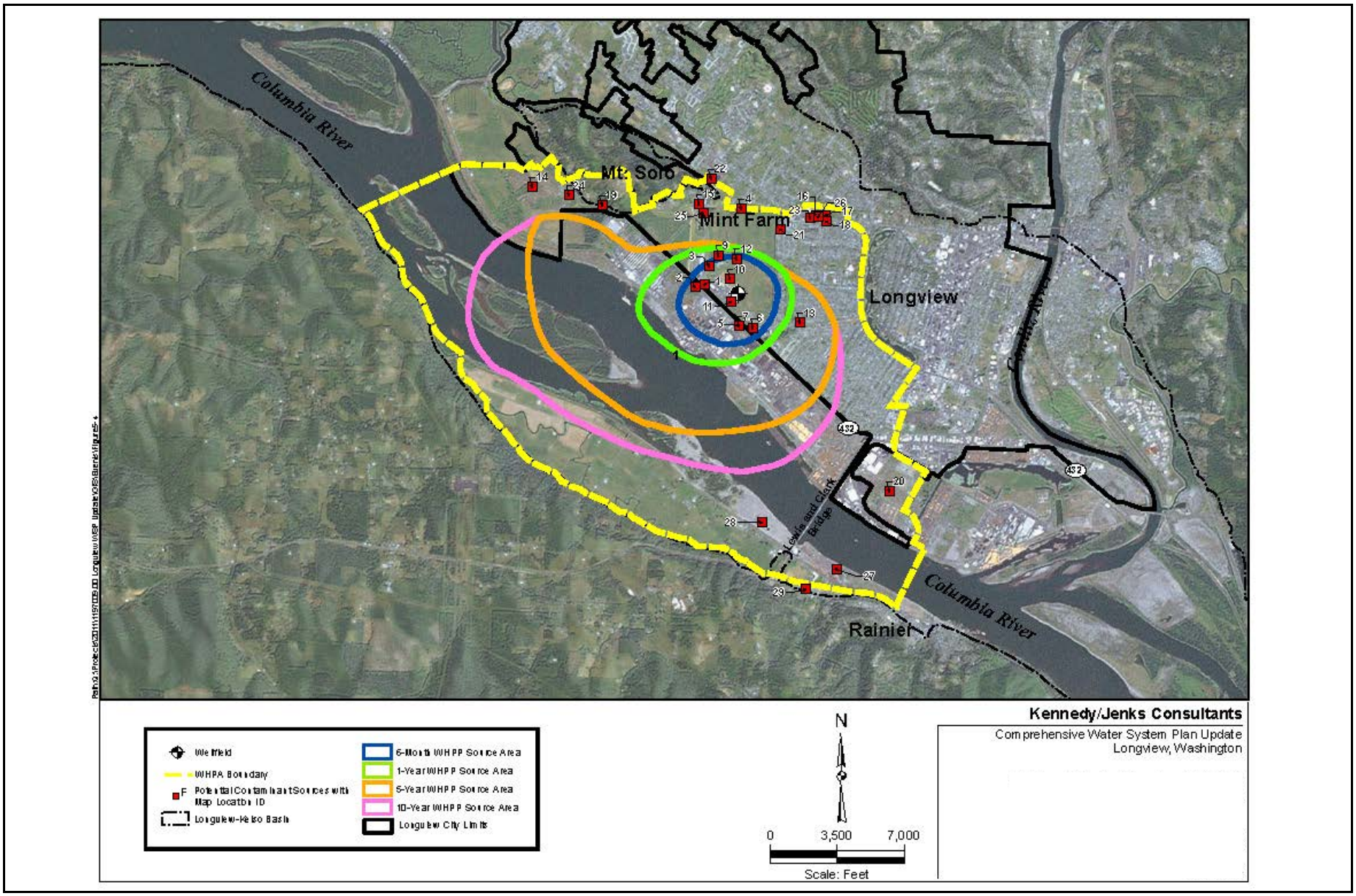
Figure 2
General Land Office Map
Environmental Report
Barlow Point

C:\Users\bbundy\Documents\GIS\Projects\BarlowPT\Barlow_CRSection_Fig3.mxd bbundy 7/14/2015 9:10:04 PM

ANCHOR QEA

Miles
0 0.25 0.5

Figure 3
Approximate Geotechnical Test Trench Locations
Environmental Report
Barlow Point



ANCHOR QEA

Figure 4
Wellhead Protection Area (WHPA) Mint Farm Wellfield
Environmental Report
Barlow Point

ATTACHMENT A
USACE ENGINEER CIRCULAR 1165-2-216

DEPARTMENT OF THE ARMY
US Army Corps of Engineers
Washington, DC 20314-1000

EC 1165-2-216

CECW-CP
Circular
No. 1165-2-216

31 July 2014

EXPIRES 31 July 2016

Water Resource Policies and Authorities

POLICY AND PROCEDURAL GUIDANCE FOR PROCESSING REQUESTS TO ALTER US ARMY CORPS OF ENGINEERS CIVIL WORKS PROJECTS PURSUANT TO 33 USC 408

TABLE OF CONTENTS

(This page intentionally left blank)

DEPARTMENT OF THE ARMY
US Army Corps of Engineers
Washington, DC 20314-1000

EC 1165-2-216

CECW-CP
Circular
No. 1165-2-216

31 July 2014

EXPIRES 31 July 2016

Water Resource Policies and Authorities

POLICY AND PROCEDURAL GUIDANCE FOR PROCESSING REQUESTS TO ALTER US ARMY CORPS OF ENGINEERS CIVIL WORKS PROJECTS PURSUANT TO 33 USC 408

1. Purpose.

a. The purpose of this Engineer Circular (EC) is to provide policy and procedural guidance for processing requests by private, public, tribal, or other federal entities, to make alterations to, or temporarily or permanently occupy or use, any US Army Corps of Engineers (USACE) federally authorized civil works project, referred to as "USACE project" within this document, pursuant to 33 USC 408 (Section 408). Proposed alterations must not be injurious to the public interest or affect the USACE project's ability to meet its authorized purpose.

b. The main body of this EC contains policy applicable to all types of Civil Works projects and an overall step-by-step procedural guide to be tailored at the district level to the appropriate level of detail for a specific Section 408 request. Supplemental guidance including additional procedural, decision-making and coordination detail related to specific infrastructure types (i.e. dams, hydropower, levee systems, channels, and navigation) can be found in Appendices B-E.

c. This EC supersedes the previous policy memoranda on this subject as identified in Appendix A.

2. Applicability. This circular is applicable to all headquarters USACE elements, divisions, districts, laboratories, and field operating activities having civil works planning, engineering, design, construction, and operations and maintenance (O&M) responsibilities. Note that for use in this EC, "district" refers to a USACE district office and "division" refers to a USACE division office. This EC applies to requests for alterations received by districts on or after the date of issuance.

3. Distribution Statement. Approved for public release; distribution is unlimited.

4. References. References for the main EC are in Appendix A.

5. Authority. The authority to grant permission for temporary or permanent alterations is contained in Section 14 of the Rivers and Harbors Act of 1899 and codified in 33 USC 408, titled *Taking possession of, use of, or injury to harbor or river improvements*, and states the following: "*It shall not be lawful for any person or persons to take possession of or make use of for any purpose, or build upon, alter, deface, destroy, move, injure, obstruct by fastening vessels*

thereto or otherwise, or in any manner whatever impair the usefulness of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States, or any piece of plant, floating or otherwise, used in the construction of such work under the control of the United States, in whole or in part, for the preservation and improvement of any of its navigable waters or to prevent floods, or as boundary marks, tide gauges, surveying stations, buoys, or other established marks, nor remove for ballast or other purposes any stone or other material composing such works: Provided, That the Secretary of the Army may, on the recommendation of the Chief of Engineers, grant permission for the temporary occupation or use of any of the aforementioned public works when in his judgment such occupation or use will not be injurious to the public interest: Provided further, That the Secretary may, on the recommendation of the Chief of Engineers, grant permission for the alteration or permanent occupation or use of any of the aforementioned public works when in the judgment of the Secretary such occupation or use will not be injurious to the public interest and will not impair the usefulness of such work."

6. Policy.

a. Alteration. Section 408 authorizes the Secretary of the Army to grant permission for the alteration or occupation or use of the project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project. Unless otherwise stated, for ease of reference, the use of the term "alteration" in this document also includes "occupation" and "use." For purposes of this document, the words "alteration" or "alter" refers to any action by any entity other than USACE that builds upon, alters, improves, moves, occupies, or otherwise affects the usefulness, or the structural or ecological integrity, of a USACE project. Alterations also include actions approved as "encroachments" pursuant to 33 CFR 208.10.

b. Other Authorizations. A requester has the responsibility to acquire all other permissions or authorizations required by federal, state, and local laws or regulations, including any required permits from the USACE Regulatory Program (Section 10/404/103 permits). In addition, an approval under Section 408 does not grant any property rights or exclusive privileges.

c. Alterations within Project Boundaries. This EC only applies to alterations proposed within the lands and real property interests identified and acquired for the USACE project and to lands available for USACE projects under the navigation servitude.

d. Requesters. A request for Section 408 permission can originate from a non-federal sponsor or an independent requester. For USACE projects with a non-federal sponsor as described in paragraph 6.e., the requester must either be the non-federal sponsor or have the endorsement of the non-federal sponsor prior to a written request, reference paragraph 7.c.(2), being submitted to USACE.

e. Non-Federal Sponsors. The district will provide a hardcopy or electronic copy of this EC to each non-federal sponsor described below:

(1) A non-federal sponsor that has provided assurances pursuant to Section 3 of the Flood Control Act of 1936, as amended (33 USC 701c), or Section 221 of the Flood Control Act of 1970, as amended (42 USC 1962d-5b), is responsible for ensuring that a USACE project is operated and maintained in accordance with requirements prescribed by USACE. Any proposed alteration that would require permission from USACE under Section 408 must be requested by or come through the non-federal sponsor. Accordingly, for improvements, excavations, construction, or changes to local flood protection works referenced in 33 CFR 208.10(a)(4) and (5), approval from USACE under Section 408 (and in accordance to procedures in this EC) must be obtained by the non-federal sponsor. If a USACE project has multiple non-federal sponsors in this category, concurrence in writing must be obtained by all non-federal sponsors prior to USACE approval of a Section 408 request.

(2) For USACE projects that were constructed in whole or in part pursuant to a cost-share agreement with a non-federal sponsor, but are operated and maintained by USACE, the district will obtain written concurrence by each of the non-federal sponsors for the proposed alteration prior to USACE approval of a Section 408 request.

(3) For requested alterations located in inland and intracoastal waterways, the district will issue a public notice to notify users of the waterways, navigation stakeholders, and other interested parties as the district deems appropriate.

f. Routine Operations and Maintenance Activities. Routine operations and maintenance (O&M) activities specified in the O&M manual and performed by the non-federal sponsor or USACE do not require permission from USACE under Section 408.

g. USACE Shoreline Management and Master Planning Programs. Activities contained in 36 CFR 327 do not require review for purposes of Section 408. The processes in 36 CFR 327 ensure that the requested activity will not be injurious to the public interest and will not impair the usefulness of the project. Engineer Regulation (ER) and Engineer Pamphlet (EP) 1130-2-550, Chapter 3, provides the procedures for the USACE Master Plan Program. ER 1130-2-406 provides the procedures for the USACE Shoreline Management Program.

h. Real Estate Outgrants.

(1) Real Estate outgrants are defined in ER 405-1-12, Chapter 8, or subsequent regulation.

(2) Outgrants issued to implement an approved Project Master Plan, including the Shoreline Management Plan or Operational Management Plan, do not require review for purposes of Section 408. See ER/EP 1130-2-550, Chapter 3.

(3) Outgrants issued pursuant to the procedures in ER/EP 1130-2-550, Chapters 16 or 17 ensure the requested alteration in the outgrant request will not be injurious to the public interest and will not impair the usefulness of the project; thus, meeting the intent of Section 408. However, the USACE team evaluating the outgrant requests involving an alteration to project

structures and projects as discussed in Appendices B – E of this EC must consider the additional criteria and factors discussed in those appendices. In addition, the team evaluating outgrant requests will determine if HQUSACE review is required by following the process described in paragraph 6.t. of this EC. If the determination is that HQUSACE review is required, then the outgrant request will require a documented Section 408 decision in accordance with this EC. When a Section 408 decision is required, the Real Estate Contracting Officer will not issue such outgrant unless the appropriate USACE decision maker with delegated authority grants permission for the alteration pursuant to Section 408. Any special conditions included pursuant to Section 408 must be included in the outgrant. If HQUSACE review is not required, then districts may follow procedures in ER/EP 1130-2-550, Chapters 16 or 17 for issuing the outgrant decision.

(4) Outgrant requests not included in ER/EP 1130-2-550, Chapters 16 or 17 require a Section 408 determination in accordance with this EC. The Real Estate Contracting Officer will not issue such outgrant unless the appropriate USACE decision maker with delegated authority grants permission for the proposed alteration pursuant to Section 408. Any conditions included in the grant of permission pursuant to Section 408 must be included in the outgrant.

i. Previously Approved Alterations. All previous approvals granted for alterations, including "encroachments" approved pursuant to 33 CFR 208.10 prior to the date of this EC are not invalidated by this EC.

j. Unauthorized Alterations. The policy of USACE is to pursue enforcement and correction of unauthorized alterations of covered projects. If an unauthorized alteration is discovered, the district, after consulting with the Offices of Counsel and Real Estate, should take the appropriate steps to remedy the unauthorized alteration. The Chief of Regulatory should be notified of any unauthorized alterations so the appropriate course of action can be taken with respect to Section 10/404/103 permits. Specific enforcement steps the district takes will depend on the particular nature of the unauthorized alteration and whether the unauthorized alteration is located on project boundaries where a non-federal sponsor holds the land rights for operations and maintenance. Non-federal sponsors with operations and maintenance responsibilities for the USACE project, reference paragraph 6.e.(1), remain responsible for ensuring no unauthorized alterations are occurring within the project boundaries.

k. Authorized Project Purpose. No granting of permission is allowed under Section 408 for a proposed alteration that would have an effect of deauthorizing a project or eliminating an authorized project purpose.

l. Completeness. Requests must be for complete alterations. A proposed alteration is considered complete if it results in a fully functional element once construction is completed.

m. Design and Construction Standards. A proposed alteration pursuant to Section 408 must meet current USACE design and construction standards. However a requester is not required to

bring those portions or features of the existing USACE project that are not impacted by the alteration up to current USACE design standards.

n. Hydrologic and Hydraulics Impacts. As a general rule, proposed alterations that will result in substantial adverse changes in water surface profiles will not be approved.

o. Type I Independent External Peer Review (IEPR). Per EC 1165-2-214, because Section 408 requests are not planning studies, Type I IEPRs are not required.

p. Regulatory Program Coordination.

(1) The granting or denial of permission pursuant to Section 408 is not a permit action handled by the Regulatory Program.

(2) If a proposed alteration also requires authorization pursuant to Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and/or Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (Section 10/404/103), district Regulatory and Section 408 personnel must coordinate throughout their respective evaluations.

(3) The decision on a Department of the Army permit application pursuant to Section 10/404/103 cannot and will not be rendered prior to the decision on the Section 408 request.

(4) Regulatory funds can only be used for a Section 10/404/103 action, which may include those actions with an associated Section 408 request. Regulatory staff can use Regulatory funds to participate in joint meetings and internally coordinate portions of shared documents when a Section 408 request also requires a Section 10/404/103 action. Regulatory funds cannot be used to develop or coordinate any components of the Section 408 request independent of a Section 10/404/103 action.

(5) Processing Department of the Army permit applications pursuant to Sections 10/404/103 will be accomplished in accordance with current regulations and guidance.

(6) In cases when a Section 408 request requires division or HQUSACE coordination and/or review, no Section 10/404/103 permit decision documentation will be forwarded to the division or HQUSACE in order to preserve the independent decision-making authority of the District and Division Commanders. The district, however, should ensure that the Section 408 documentation clearly articulates if Section 10/404/103 authorization is required.

q. In-kind Contribution Credit under Section 221 of the Flood Control Act of 1970, as amended (Section 221).

(1) Alterations of a USACE Project with an Ongoing Feasibility Study. There may be cases where a non-federal sponsor wishes to undertake alterations to an existing USACE project for which there is an ongoing USACE feasibility study and seek credit eligibility for those

alterations toward its cost share for the not-yet authorized USACE project (under Section 221 of the Flood Control Act of 1970). In such cases, any proposed alteration for which the non-federal sponsor is seeking credit cannot be initiated until the draft feasibility report is released for public review, an in-kind memorandum of understanding (MOU) for the work is executed, and Section 408 permission is issued. Additional authorizations, such as those required pursuant to Section 10/404/103 under the USACE Regulatory Program, may also be required before the non-federal sponsor can initiate any work.

(2) In Kind Contributions for an Authorized USACE Project. In those cases where a non-federal sponsor is undertaking work as an in-kind contribution on an authorized USACE project pursuant to an executed project partnership agreement that provides credit for such work, Section 408 permission is not required.

(3) Detailed guidance on crediting can be found in ER 1165-2-208.

r. Sharing of Sensitive Information. Requesters seeking sensitive information about an existing USACE project to develop a proposed alteration will submit requests for that information in writing. Sensitive information includes information that could pose a security risk or aid those intending to do harm to a USACE project. Examples include but are not limited to design analyses, as-builts or other drawings, specifications, location of deficiencies, operational information, and contingency plans. The office that generated or is responsible for the information requested will review the request in coordination with the district operational security officer, to determine whether it is sensitive. Districts should limit the distribution of sensitive information to only the information that is necessary for the proposed alteration. Districts will advise requesters that the information to be provided is sensitive and direct requesters to provide a list of individuals with whom the information will be shared. Districts will advise requesters that the sensitive information will not be shared with individuals not on the list. Reviewers should work with their District Office of Counsel to determine if a non-disclosure statement is needed. Districts may in some cases have to withhold sensitive information regardless of its necessity for the development of a proposed alteration. Requests for data submitted to USACE by other agencies will not be provided and will be referred to the other agency for a release determination.

s. Categorical Permission. The district, division, and/or HQUSACE have the ability to create a categorical permission for Section 408 that would cover potential alterations that are similar in nature and that have similar impacts. Categorical permissions should be established by providing public notice of the activities covered by the categorical permission. There should be appropriate documentation and analysis developed to determine that the impacts of activities covered by the categorical permission are permissible and that environmental compliance for those activities has been met. Once established, a simplified process to validate application of the categorical permission and specify any special conditions that may apply on a site-specific basis may be used.

t. Section 408 Decision Level. Certain proposed alterations, once recommended by the district and division, will require a final decision by the Director of Civil Works at HQUSACE. All other decisions on proposed alterations may be rendered by the District Commander unless a Division Commander establishes a regional process that requires that the decision be made by the Division Commander. If the answer to any of the following questions is "yes" and the district and division recommend approval, then the Section 408 request requires HQUSACE level review and decision, reference paragraph 7.c.(7):

(1) Does the proposed alteration require a Type II IEPR, reference EC 1165-2-214?

(2) Does the proposed alteration require an Environmental Impact Statement (EIS) in which USACE is the lead agency?

(3) Does the proposed alteration change how the USACE project will meet its authorized purpose? An example would be a proposed alteration to permanently breach a levee system for ecosystem restoration purposes but raise all structures behind the levee to achieve the same flood risk management benefits. This project still meets the authorized flood risk management purpose, but in a different manner.

(4) Does the proposed alteration preclude or negatively impact alternatives for a current General Investigation (GI) or other study?

(5) Is the non-federal sponsor for a USACE project proposing to undertake the alteration as in-kind contributions eligible for credit under Section 221 of Flood Control Act of 1970, as amended?

(6) Is the proposed alteration for installation of hydropower facilities?

(7) Is there a desire for USACE to assume operations and maintenance responsibilities of the proposed navigation alternation pursuant to Section 204(f) of Water Resources Development Act (WRDA) of 1986?

If the district is unsure, the district should engage the division and HQUSACE, reference Paragraph 9 of this EC, Vertical Teaming.

7. Procedures.

a. District Section 408 Coordinator. The District Commander will designate a Section 408 Coordinator responsible for ensuring processes in this EC are met and to ensure the proper coordination occurs among all the necessary district elements, including but not limited to, regulatory, real estate, counsel, planning, engineering, programs and project management, and/or operations. The Section 408 Coordinator will also ensure proper coordination among other districts if the USACE project crosses more than one district's area of responsibility. In addition the Section 408 Coordinator will track district expenditures, including funding provided by any

non-federal interests, for processing Section 408 requests on a fiscal year basis by funding source.

b. Description. In order to grant permission under Section 408, USACE must determine that the proposed alteration does not impair the usefulness of the USACE project, which includes retaining the project's authorized purpose, and is not injurious to the public interest. Because proposed alterations vary in size, level of complexity, and potential impacts, the procedures and required information to make such a determination are intended to be scalable. Based on the proposed alteration, districts will determine data, analyses and documentation necessary in order to make a determination regarding whether or not the proposed alteration does not impair the usefulness of the project and is not injurious to the public interest. Requirements for data, analyses and documentation may be subject to change as additional information about the Section 408 proposal is developed and reviewed.

c. Step-by-Step Procedures. The procedures have been grouped into nine steps: pre-coordination, written request, required documentation (including environmental compliance, if applicable), district-led Agency Technical Review (ATR), Summary of Findings, division review, HQUSACE review, notification, and post-permission oversight. Not all the steps will be applicable to every Section 408 request. In simple cases, steps may be combined or occur simultaneously. For more complex cases, there may be the need for extensive coordination between the district and requester throughout the process. Supplemental information for these steps specific to dams and reservoirs, hydropower, levees and floodwalls, flood risk management channels, and navigation can be found in the appendix appropriate to the type of infrastructure (Appendices B-E). At any time in the process if the district determines that the requirements will not or cannot be met, the district may deny the request prior to completing all the required steps. If a request is denied, the requester will be advised in writing as to the reasons for denial.

(1) Step 1: Pre-Coordination. Early coordination between USACE, the requester and/or non-federal sponsor, if applicable, is strongly recommended because it will aid in identifying potential issues, focusing efforts, minimizing costs, and protecting sensitive information. Districts shall ensure requesters are provided a hardcopy or electronic copy of this EC.

(2) Step 2: Written Request. The purpose of this step is to document the initiation of the Section 408 process. Information from this step will be used by the district to determine documentation and approval requirements.

(a) All requests for Section 408 permission must be submitted in writing to the District Commander of the appropriate USACE district office having jurisdiction over the USACE project that would be impacted by the alteration. Each district has the flexibility to determine the format in which this written request is submitted; however,

(b) The written request must include:

i. a complete description of the proposed alteration including necessary drawings, sketches, maps, and plans that are sufficient for the district to make a preliminary determination as to the location, purpose and need, anticipated construction schedule, and level of technical documentation needed to inform its evaluation. Detailed engineering plans and specifications are not required at Step 2, but could be submitted at the same time if available;

ii. a written statement regarding whether the requester is also pursuing authorization pursuant to Sections 10/404/103 and, if so, the date or anticipated date of application/pre-construction notification submittal;

iii. information regarding whether credit under Section 221of the Flood Control Act of 1970, as amended, or other law or whether approval under Section 204(f) of WRDA 1986 is being or will be sought;

iv. a written statement of whether the requester will require the use of federally-owned real property or property owned by the non-federal sponsor; and,

v. a written statement from the non-federal sponsor endorsing the proposed alternation, if applicable.

(3) Step 3: Required Documentation. The purpose of this step is to outline the documentation necessary for the district to determine whether the proposed alteration would impair the usefulness of the project or be injurious to the public interest. The list below is meant to provide an overview of the general requirements, but requirements are scalable to the nature of the proposed alteration.

(a) Technical Analysis and Design. The district should work closely with the requester to determine the specific level of detail necessary to make a decision for a particular alteration request. The minimum level of detail will be 60% complete plans and specifications and supporting technical analysis.

(b) Hydrologic and Hydraulics System Performance Analysis. The purpose of a hydrologic and hydraulics system performance analysis is to determine the potential hydrologic and hydraulics impacts of proposed alterations. Districts will determine if such an analysis is needed and, if so, the appropriate scope of analysis based on the complexity of the proposed alteration. The requester will be responsible for the analysis. Hydrologic and hydraulic system performance analyses will be applied to alterations that alter the hydrologic and/or hydraulic conditions (e.g., reservoir operations, bridge constrictions, hydropower installation, etc.) See Appendix F for more details regarding the requirements of a hydrologic and hydraulics system performance analysis.

(c) Environmental Compliance.

i. A decision on a Section 408 request is a federal action, and therefore subject to the National Environmental Policy Act (NEPA) and other environmental compliance requirements. While ensuring compliance is the responsibility of USACE, the requester is responsible for providing all information that the district identifies as necessary to satisfy all applicable federal laws, executive orders, regulations, policies, and ordinances. NEPA and other analysis completed to comply with other environmental statutes (e.g. Endangered Species Act) should be commensurate with the scale and potential effects of the activity that would alter the USACE project. The district will work with the requester to determine the requirements, which will be scaled to the likely impacts of the proposed alteration and should convey the relevant considerations and impacts in a concise and effective manner.

ii. The NEPA compliance process should be completed in an efficient, effective and timely manner consistent with guidance issued by the Council on Environmental Quality on March 6, 2012 entitled *Improving the Process for Preparing Efficient and Timely Environmental Reviews under the National Environmental Policy Act.* NEPA compliance should follow the process set forth in 40 CFR Parts 1500-1508 and the USACE civil works NEPA implementing regulations found in 33 CFR Part 230. Documentation for Section 408 requests do not require the same level of analysis or documentation needed for planning studies and, therefore, Appendix A and other portions of Part 230 specific to planning studies do not apply. However, in some cases, documentation from studies may be used to inform a Section 408 decision, such as a report that would be required for Section 204(f) of the Water Resources Development Act of 1986.

iii. For any final Environmental Impact Statement (EIS) or Environmental Assessment (EA) or other environmental compliance document, the requester's proposal will be identified as the "requester's preferred alternative."

iv. USACE has jurisdiction under Section 408 only over the specific activities or portions of activities that have the potential to alter a USACE project. Therefore, if a proposed alteration is part of a larger project (and/or its associated features) that extends beyond the USACE project boundaries, the district should determine what portions or features of the larger project USACE has sufficient control and responsibility over to warrant their inclusion in the USACE environmental review. The scope of analysis for the NEPA and environmental compliance evaluations for the Section 408 review should be limited to the area of the alteration and those adjacent areas that are directly or indirectly affected by the alteration. For example, a pipeline can extend for many miles on either side of the USACE project boundary. In this example, the scope of analysis would likely be limited to the effects of the pipeline within the USACE project boundary, but would not address those portions of the pipeline beyond the USACE project boundary. In contrast, a proposal to alter a levee system might require USACE to examine that proposal's potential effects on the reliability of the levee system to provide flood risk reduction to the area behind the levee system itself. As a general rule, if there are features of a larger project occurring outside of the USACE project boundaries that are so intimately connected to the features of the larger project altering a USACE project that they cannot be meaningfully

distinguished (e.g., a setback levee that is located outside of the original project boundary of the levee being replaced), the USACE Section 408 NEPA document should be broad enough to address all those effects. Generally, elements of the larger project that are not intimately connected to the features that would alter the USACE project (e.g., concessions being constructed off USACE property by the same entity requesting permission to construct boat access to a USACE reservoir) should not be included in the USACE environmental review.

v. Only reasonable alternatives need to be considered in detail, as discussed in the CEQ NEPA regulations at 40 CFR Part 1502.14. Reasonable alternatives must be those that are feasible, and such feasibility must focus on the accomplishment of the underlying purpose and need (of the requester) that would be satisfied by the proposed federal action (granting of permission for the alteration). For Section 408 requests, reasonable alternatives should focus on two scenarios: 1) no action (i.e., no proposed alteration in place) and 2) action (i.e. proposed alteration in place). Thus, examination of alternative forms of a proposed alteration that the requester has not proposed should only be included to the extent necessary to allow a complete and objective evaluation of the public interest and informed decision regarding the alteration request.

vi. Districts must make diligent efforts to involve the public in the decision-making process, including soliciting appropriate information from the public to inform the environmental analysis and public interest determination. For the purposes of Section 408 requests that are expected to have less than a significant effect on the human or natural environment, a public notice soliciting input will serve as the method of advising all interested parties of the proposed alteration for which permission is sought and by which information necessary to inform USACE's evaluation and review is solicited. As such, this public notice must be circulated to the public as early in the evaluation of a proposed alteration as possible to generate meaningful public and agency input to inform the evaluation and decision-making processes. Generally, Section 408 EAs should not be circulated for public comment. In circumstances where a proposed alteration is associated with a current study or other uncommon circumstances, the decision to circulate the Section 408 component of that EA will be approved by the Division Commander or the Division Commander's designee. Any decision to circulate an EA/Finding of No Significant Impact (FONSI) for a Section 408 request that also requires a Section 10/404/103 permit decision must be coordinated with the Regulatory Program to ensure that only information pertinent to non-Regulatory Program matters is included in the documented to be circulated.

vii. A number of categorical exclusions that allow completion of the NEPA process in an efficient manner for those activities that individually and cumulatively would not result in significant effects on the environment are included in 33 CFR 230.9. For example, categorical exclusions in 33 CFR 230.9(b) and (i) may have applicability to some of the smaller scale activities that may be encountered under Section 408. Real estate grants for rights-of-way as referenced in 33 CFR 230.9(i) should be broadly interpreted to include grants of rights-of-way by either USACE or the non-federal sponsor. A categorical exclusion may be used for Section 408, provided that care is taken to ensure that the proposed alteration is within the intended scope of the specific categorical exclusion used and extraordinary circumstances that may

require the preparation of an EIS or EA have been taken into consideration. It is recommended that the applicability and use of the categorical exclusion be documented in accordance with recent CEQ guidance, *Establishing, Applying and Revising Categorical Exclusions under the National Environmental Policy Act.*

viii. The district should use, to the extent possible, any NEPA documentation that may already exist for the federal project. In some cases NEPA documentation has already been completed through an existing or ongoing civil works study. The districts should use the information to the extent feasible and supplement the existing information as needed.

ix. If the proposed alteration is covered by an EIS in which USACE is a cooperating agency, the district may adopt or supplement that EIS and develop a Record of Decision (ROD) that is specific to the proposed alteration. For hydropower alterations, USACE and FERC have entered into an MOU for meeting NEPA requirements (see Appendix C).

(d) Real Estate Requirements. A list of all real property interests required to support the proposed alteration must be provided, including those in federally managed lands and those owned by the requester. If a non-standard estate is proposed, the district must follow the normal approval requirements outlined in EC 405-1-11 and Chapter 12, ER 405-1-12 or subsequent regulation. Maps clearly depicting both existing real estate rights and the additional real estate required must also be provided. If the lands are under the control of the Army, the applicant will work with the district to determine lands impacted. Additional information may be needed. If it is determined that an outgrant of Army land is required, a *Report of Availability and Determination of Availability* must be completed by the district in accordance with AR 405-80 and Chapter 8, ER 405-1-12 or subsequent regulation.

(e) Discussion of Executive Order 11988 Considerations. The district may require the requester to submit sufficient data in order that the district may conduct its analysis in accordance with ER 1165-2-26 to ensure that the proposed alteration is compliant with EO 11988. The request should be assessed as to whether there would be induced development in the floodplain as a result of the proposed alteration and address the positive and negative impacts to the natural floodplain functions.

(f) Requester Review Plan Requirement. The district has the flexibility to decide whether or not the requester must prepare a review plan for the alteration for district approval. A review plan is required when a Type II Independent External Peer Review (IEPR) is required. If the district determines, by following procedures in EC 1165-2-214, a Type II IEPR is required, then at minimum the requester is required to submit a Type II IEPR review plan. The Risk Management Center (RMC) will be the Review Management Organization (RMO) and is required to endorse in writing all review plans for Type II IEPRs to ensure that the review plans reflect a level of review commensurate with the scope and scale of the proposed alterations. All requester-generated review plans for Type II IEPRs will be approved by the Division Commander.

(g) Operations and Maintenance. Requesters must identify any operations and maintenance requirements needed throughout the life of the proposed alteration and the responsible entity for the operations and maintenance into the future. For instances when there may be a desire for USACE to assume or incorporate operations and maintenance of the proposed alteration as part of its responsibilities for the USACE project being modified, a justification must be provided. See Appendix E for federal assumption of maintenance associated with navigation features. Any alteration to a project operated and maintained by a non-federal sponsor and for which an update to the operations and maintenance manual is required, the non-federal sponsor will provide USACE with sufficient information to update the O&M manual. The modified O&M manual will be subject to environmental compliance in the same manner as the requested alteration. The non-federal sponsor will acknowledge in writing their continued responsibility to operate, maintain, repair, rehabilitate and replace the USACE project at no cost to the government and will hold and save the government free from all damages arising from construction, operation, maintenance, repair, rehabilitation, and replacement of the project.

(h) Other Information. Based on the alteration request, the district may require the requester to provide additional information to complete its evaluation.

(4) Step 4: District-Led Agency Technical Review.

(a) District Review Plans. The purpose of the district review plans is to define the requirements, procedures, and specific details of how the district-led Agency Technical Review (ATR) will be conducted for Section 408 proposals. In addition, district decisions about required documentation, Type II IEPRs and approval level should be documented in the review plans. Districts have the option to develop an overarching review plan, called a Procedural Review Plan, that establishes the review procedures to be used for Section 408 requests similar in nature and that have similar impacts. Procedural Review Plans must be endorsed in writing by the Risk Management Center and approved by the Division Commander. Otherwise, the district will develop an alteration-specific review plan to be approved by the Division Commander.

(b) District-led Agency Technical Review. For the purposes of Section 408, the purpose of a district-led ATR is to determine if requirements set forth in this EC have been met. Reviewers can be from the home district. If lacking the appropriate expertise, the district should supplement their staff with outside subject matter experts through appropriate communities of practice, centers of expertise, or other offices. Review teams should be comprised of reviewers with the appropriate independence and expertise to conduct a comprehensive review in a manner commensurate with the complexity of the Section 408 proposal. It should be noted, DrChecks can be used for Section 408 ATRs, but it is not required. The ATR team will make the following determinations:

i. Impair the Usefulness of the Project Determination. The objective of this determination is to ensure that the proposed alteration will not limit the ability of the project to function as authorized and will not compromise or change any authorized project conditions, purposes or outputs. All appropriate technical analyses including geotechnical, structural, hydraulic and

hydrologic, real estate, and operations and maintenance requirements, must be conducted and the technical adequacy of the design must be reviewed. If at any time it is concluded that the usefulness of the authorized project will be negatively impacted, any further evaluation under 33 USC 408 should be terminated.

ii. Injurious to the Public Interest Determination. Proposed alterations will be reviewed to determine the probable impacts, including cumulative impacts, on the public interest. Evaluation of the probable impacts that the proposed alteration to the USACE project may have on the public interest requires a careful weighing of all those factors that are relevant in each particular case. The benefits that reasonably may be expected to accrue from the proposal must be compared against its reasonably foreseeable detriments. The decision whether to approve an alteration will be determined by the consideration of whether benefits are commensurate with risks. If the potential detriments are found to outweigh the potential benefits, then it may be determined that the proposed alteration is injurious to the public interest. This determination is not the same as the "contrary to the public interest determination" that is undertaken pursuant to Sections 10/404/103. Factors that may be relevant to the public interest depend upon the type of USACE project being altered and may include, but are not limited to, such things as conservation, economic development, historic properties, cultural resources, environmental impacts, water supply, water quality, flood hazards, floodplains, residual risk, induced damages, navigation, shore erosion or accretion, and recreation. This evaluation should consider information received from the interested parties, including tribes, agencies, and the public.

iii. Legal and Policy Compliance Determination. A determination will be made as to whether the proposal meets all legal and policy requirements. District Office of Counsel concurrence is required. The compliance determination for any Section 10/404/103 permit decision associated with the proposed alteration is separate from and will not be included in this compliance determination.

(5) Step 5: Summary of Findings. Upon completion of the district ATR and demonstration of environmental compliance, the district will develop a Summary of Findings (content and format scalable to the alteration) to summarize the district rationale and conclusions for recommending approval or denial. The Summary of Findings will serve as the basis for the final decision on the proposed alteration. If the district determines that HQUSACE approval is required, the district will submit the Summary of Findings to the division for review. The Summary of Findings will be signed by the District Commander (or designee) and contain the following, if applicable:

(a) Summary of rationale and conclusions for recommending approval or denial;

(b) Written request;

(c) A physical and functional description of the existing project, including a map;

(d) Project history and authorization;

(e) Impact to the usefulness of the USACE project determination;

(f) Injurious to the public interest determination;

(g) Policy Compliance certification;

(h) Certification of Legal Sufficiency from District Office of Counsel;

(i) Certification by the Chief of the District Real Estate Division that the real estate documentation is adequate;

(j) A description of any related, ongoing USACE studies (if applicable), including how the proposed alteration may impact those studies;

(k) Summary of any changes to the O&M manual. If the district has determined that USACE would assume O&M responsibilities as part of its responsibilities for the USACE project, include the rationale and any anticipated increase in USACE O&M costs.

(l) Summary of any changes to a project partnership agreement (PPA) or local cooperation agreement (if applicable);

(m) Applicable environmental compliance documentation including but not limited to NEPA documentation, Endangered Species Act (ESA) documentation, and other necessary documentation;

(n) Finding of No Significant Impact (FONSI) or Record of Decision (ROD) (These will be signed concurrently with the Section 408 decision. If HQUSACE approval is required, these will be draft and will be signed by the Director of Civil Works);

(o) Summary of the acceptance and use of funds pursuant to Section 214 if applicable as outlined in Appendix G; and,

(p) Any additional final conclusions or information, including any associated controversial issues.

(6) Step 6: Division Review (if required).

(a) Upon receipt of the district prepared Summary of Findings for HQUSACE review and decision, the division will review the submittal and provide comments to the district within 30 days unless the division notifies the district that additional review time is needed. The division will review the Summary of Findings for policy compliance and legal sufficiency; quality assurance and completeness; identification of conflicts with ongoing studies; and confirmation of the need for HQUSACE review and decision. The district is responsible for addressing division comments prior to submission to HQUSACE. The timeline required to address comments may

vary depending on significance of the division comments. If the division decides the district may approve the Section 408, that rationale should be documented as part of the administrative record.

(b) The Division Commander will either deny the Section 408 request or recommend approval to HQUSACE. If the division denies the request, this decision will be transmitted to the district. If the division recommends approval, the division will forward an electronic copy of the Summary of Findings and the Division Commander's recommendation to the appropriate HQUSACE Regional Integration Team (RIT). This may be forwarded to HQUSACE during the publication period of the final EIS (if an EIS is required for the alteration).

(7) Step 7: HQUSACE Review (if required).

(a) Upon receipt of the Section 408 submittal from the division, the RIT will forward the Summary of Findings and division recommendation to the HQUSACE Office of Water Project Review (CECW-PC) for a policy compliance review. The RIT will ensure that the appropriate reviewers include engineering and other appropriate subject matter experts such as navigation, levee safety, dam safety, real estate and environmental. HQUSACE will review and provide comments within 30 days, unless HQUSACE notifies the division that additional review time is needed. The timeline required to address comments will vary depending on significance of the HQUSACE comments. The RIT will coordinate the results, as needed, to correct or improve the package as necessary to address concerns. The district is responsible for addressing HQUSACE comments or coordinating with the requester for comment resolution.

(b) The RIT will draft the final HQUSACE decision memorandum for the Director of Civil Work's signature.

(c) If the Summary of Findings contains a draft FONSI, the Director of Civil Works will sign the FONSI concurrently with the Section 408 decision, if permission is granted.

(d) If the Summary of Findings contains a draft ROD, HQUSACE will not finalize the Section 408 decision sooner than 30 days after the publication of the final EIS and the district has transmitted an updated draft ROD. HQUSACE will finalize the ROD concurrently with the Section 408 decision.

(e) The RIT will provide the final HQUSACE decision memorandum and signed FONSI or ROD, if applicable, to the division that will in turn provide the decision to the district.

(8) Step 8: Notification. The District Commander is responsible for providing a written notification to the requester for all Section 408 requests, regardless of the decision level. Appendix H contains an example letter.

(a) If the final decision is to deny the request, the requester will be advised in writing as to the reason(s) for denial.

(b) If the final decision is to approve the request, the District Commander will provide a written approval document. In situations where the district also is evaluating a Section 10/404/103 permit application, the district may forward the Section 408 decision letter with the Section 10/404/103 permit decision, once it is made. For cases involving a categorical permission, the written approval will be validation that the categorical permission is applicable.

(c) Special Conditions. For approved alterations, the District Engineer may include special conditions. Examples of special conditions may include:

i. The requester must obtain approval by the district of 100% plans and specifications prior to construction.

ii. The requester must have both the Section 408 permission and appropriate real estate document prior to construction.

iii. The requester must obtain the appropriate Section 10/404/103 permits prior to construction.

iv. The requester must be responsible for implementing any requirements for mitigation, reasonable and prudent alternatives, or other conditions or requirements imposed as a result of environmental compliance.

v. Note, in the event of any deficiency in the design or construction of the requested activity, the requestor is solely responsible for the remedial corrective action, and any permission granted under Section 408 should explicitly state this responsibility.

(9) Step 9: Post-Permission Oversight.

(a) Construction oversight. The district should develop procedures for monitoring construction activities. The purpose is to ensure the Section 408 permittee is constructing the alteration in accordance with the permission conditions. Any concerns regarding construction should be directed to the Section 408 permittee (and the non-federal sponsor if the Section 408 permittee is not the non-federal sponsor) for resolution. Oversight should be commensurate with the level of complexity of the alteration.

(b) As-builts. Drawings showing alterations as finally constructed will be furnished by the Section 408 permittee to the district after completion of the work. As-builts must be provided within 180 days of construction completion.

(c) Operations and Maintenance (O&M) Manual Updates. The Section 408 permittee and/or non-federal sponsor is required to provide the district with sufficient information to update the O&M manual, as required. O&M manual updates may range from simple removal and replacement of paragraphs or entirely new manuals depending on the scope and complexity of the alteration. The district is responsible for reviewing and approving or developing any updates

needed to the O&M manual as a result of the alteration. At a minimum, the update should include a description of the new features, reference to the Section 408 approvals, as-builts, and instructions regarding O&M of any new features not included in the existing manual. Reference ER 1110-2-401 or ER 1130-2-500 for information on O&M manuals.

(d) Post Construction Closeout. Post construction closeout requires an on-site inspection of the completed alteration. The district may coordinate post construction closeout with the other federal, state or local agency. Where projects require an update to the O&M manual or PPA, the USACE district must conduct the post construction inspection and provide notification to the applicant and non-federal sponsor regarding acceptance or any corrective actions that are required. Notification that the alteration was constructed in accordance with the permit conditions must include a copy of the updated O&M manual.

(e) Administrative Record. The district will keep an administrative record for each Section 408 proposal. The administrative record should include all documents and materials directly or indirectly considered by the decision maker and should be ordered chronologically. It should include documents, materials, and a record of the offices and staff that are pertinent to the merits of the decision, as well as those that are relevant to the decision-making process.

8. Funding. Potential available sources of funds for review activities include:

a. Applicable project-specific appropriated funds in investigations, construction, operations and maintenance, or flood control - Mississippi River and Tributaries may be used for Section 408 reviews that are specific to the applicable project. Vertical team concurrence through division and HQUSACE RIT must be obtained prior to use of investigations or construction funds.

b. For federally authorized levee systems, channels, and dams operated and maintained by a non-federal sponsor, district Inspection of Completed Works funds may be used. In addition, on a case by case basis, for Section 408 requests critical to the functioning of these levee systems, channels, and dams and for reducing risk to life safety, requests for funding may be submitted to the HQUSACE Levee Safety Program Manager;

c. For federally authorized navigation projects, district project condition surveys funds may be used if the navigation projects do not have funding within their operations and maintenance account;

d. Funding for district coordination on Federal Energy Regulatory Commission (FERC) Activities. The funding for district coordination regarding FERC activities related to non-federal hydropower development will be provided by HQUSACE. Districts should request funding from HQUSACE through their respective division in coordination with their designated FERC Hydropower Coordinators. The request will be processed at HQUSACE through their respective regional integration team and forwarded to the HQUSACE Hydropower Business Line Manager, CECW-CO-H, for final approval and processing;

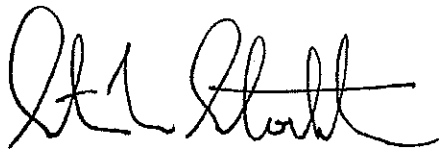
e. Funding to Process Section 408 Requests under Section 214. Funds may also be accepted under the authority of Section 214 of WRDA 2000, as amended, to expedite the review and evaluation of a Section 408 request. Funds may only be accepted from non-federal public entities. Examples of acceptable uses include, but are not limited to Agency Technical Review, real estate evaluation, copying or other clerical/support tasks, site visits, travel, coordination activities, additional personnel (including support/clerical staff), contracting support for technical services and environmental review and filing the environmental compliance documents. The processes applicable to accepting funds under the authority of Section 214 or WRDA 2000, as amended, are contained in Appendix G.

f. Federal Transportation Projects. In certain circumstances for alterations necessary for federal transportation projects, USACE may accept and expend funds provided by a state DOT agency pursuant to section 6002(j) of Public Law 109-59 (codified at 23 USC 139(j)) provided the Secretary of Transportation finds such review activities directly and meaningfully contribute to an underlying transportation project. In such cases, USACE only may accept funds in amounts necessary for USACE to meet the time limits for environmental review established for the project and may only accept funds for activities beyond the normal and ordinary capabilities permitted by USACE's general appropriations; and,

g. Funding to Process Section 408 Requests under Section 204(b). Water Resources Development Act of 1986, as amended, Section 204(b) allows non-federal interests to contract with USACE to provide technical assistance in obtaining all necessary permits, which includes Section 408 permission, associated with non-federal improvements to navigation features pursuant to Section 204(a) of WRDA 86.

9. Vertical Teaming. Vertical teaming between the district, division, and HQUSACE is encouraged when there is doubt as to the appropriate course of action related to the application of this guidance. Vertical teaming is also recommended to promote early coordination of potential alterations that may have Congressional interest or policy implications. Please coordinate through the appropriate HQUSACE's RIT.

FOR THE COMMANDER:



9 Appendices
See Table of Contents

STEVEN L. STOCKTON, P.E.
Director of Civil Works

(This page intentionally left blank)

APPENDIX A

References

This appendix is a list of USACE engineer documents (regulations, manuals, and technical letters) and other USACE and non-USACE appropriate references. The intent is to provide a comprehensive listing of appropriate guidance referenced in the main EC. Appendices B-G each list references specific to that appendix.

Rivers and Harbors Appropriation Act of 1899

Flood Control Act of 1970

Clean Water Act of 1972

Marine Protection, Research, and Sanctuaries Act of 1972

Endangered Species Act of 1973

Water Resources Development Act of 1986

Water Resources Development Act of 2000

Public Law 109-59
Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

Executive Order 11988
Floodplain Management

33 USC 408
Taking possession of, use of, or injury to harbor or river improvements

33 USC 701c
Rights-of-way, easements, etc.; acquisition by local authorities; maintenance and operation; protection of United States from liability for damages; requisites to run-off and water-flow retardation and soil erosion prevention assistance

42 USC 1962d-5b
Written agreement requirement for water resources projects

33 CFR 208.10
Local flood protection works, maintenance, and operation of structures and facilities

33 CFR 230
Procedures for Implementing NEPA

36 CFR 327
Rules and regulations governing public use of water resource development projects administered by the Chief of Engineers

40 CFR 1500-1508
Council on Environmental Quality (NEPA)

AR 405-80
Management of Title & Granting Use of Real Property

ER 405-1-12
Real Estate Handbook

ER 1110-2-401
Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual for Projects and Separable Elements Managed by Project Sponsors

ER 1130-2-406
Shoreline Management at Civil Works Projects

ER 1130-2-500
Partners and Support (Work Management Policies)

ER 1130-2-550
Project Operations - Recreation Operations and Maintenance Policies

ER 1165-2-26
Implementation of Executive Order 11988 on Floodplain Management

ER 1165-2-208
In-Kind Contribution Credit Provisions of Section 221 of the Flood Control Act of 1970, as Amended

EC 405-1-11
Real Estate Acquisition

EC 1165-2-214
Water Resources Policies and Authorities (Civil Works Review)

EP 1130-2-550
Recreation Operations and Maintenance Guidance and Procedures

Council on Environmental Quality (2010)
Establishing, Applying and Revising Categorical Exclusions under the National Environmental Policy Act

Council on Environmental Quality (2012)
Improving the Process for Preparing Efficient and Timely Environmental Reviews under the National Environmental Policy Act

US Army Corps of Engineers 2006 (This EC supersedes this memorandum.)
Policy and Procedural Guidance for the Approval of Modification and Alteration of Corps of Engineer Projects, CECW-PB Memorandum, 23 October 2006

US Army Corps of Engineers 2008 (This EC supersedes this memorandum.)
Clarification Guidance on the Policy and Procedural Guidance for the Approval of Modifications and Alterations of Corps of Engineers Projects, CECW-PB Memorandum, 17 November 2008

US Army Corps of Engineers 2010 (This EC supersedes this memorandum.)
Implementation Guidance for Utilizing Section 214 of the Water Resources Development Act of 2000, as amended, to Accept Funding from Non-Federal Public Entities to Expedite the Evaluation of Permits pursuant to 33 USC 408, CECW-PB Memorandum, 18 June 2010

(This page intentionally left blank)

APPENDIX B

Dams and Reservoirs (including Navigation Dams)

B-1. Purpose. The purpose of this appendix is to provide supplemental guidance to be used in conjunction with guidance in the main EC for alterations proposed by others to federally authorized dams and reservoirs, including dams associated with navigation locks. This appendix is also applicable to all associated appurtenances to include lands required to ensure reservoir integrity up to the project probable maximum flood (PMF), in addition to structures and canals where failure would release pool. Federally authorized dams include those operated and maintained by USACE. Also included are dams constructed by USACE, but which are operated and maintained by non-federal sponsors and may also be included under the jurisdiction of a State Dam Safety Agency defined by the National Dam Safety Program. For reservoirs, this appendix is applicable to water intake structures and pump stations constructed on USACE-managed lands. See Appendix C for additional information concerning hydropower facilities.

B-2. References. The main USACE reference document is Engineer Regulation (ER) ER 1110-2-1156, Safety of Dams, Policy and Procedures, which includes details on various dam safety activities, including inspections and risk assessments. ER1110-2-1156 also provides a comprehensive list of references for dams for consideration in review of dam design, construction, and operations and maintenance.

a. Section 6 of the Flood Control Act (FCA) of 1944 (P.L. 78-534), Contracts for sale of surplus water at Army projects – Disposition of revenues

b. Water Supply Act (WSA) of 1958 (P.L. 85-500, as amended)

c. EO 11988, Floodplain management

d. 44 CFR 65.10, Mapping of areas protected by levee systems

e. ER 1110-2-1156, Safety of Dams, Policy and Procedures

f. EC 1165-2-214, Civil Works Review

g. See Appendix A for other applicable references

B-3. Policy. The information below supplements policy in Paragraph 6 of the main EC.

a. Coordination with State Dam Safety Agencies. When the request is for the alteration of a dam operated by a non-federal sponsor, the alteration will be reviewed by the State Dam Safety Agency. In these cases the requester must obtain written concurrence of the proposed alteration from the State Dam Safety Agency be required prior to USACE issuing the final Section 408 decision.

b. National Flood Insurance Program (NFIP). The FEMA criteria related to NFIP mapping purposes (44 CFR 65.10, Mapping of areas protected by levee systems) are not USACE design standards and should not be a consideration for the technical analysis or design review. However, the impacts associated with mapping levee, floodwall, or channel projects for the NFIP, such as influences on floodplain management, should be discussed as part of compliance with EO 11988, reference Paragraph 7.c.(3)(e) in the main EC and considered when discussing potential impacts to associated risks.

c. Design and Construction Standards. Paragraph 6.m. in the main body of the EC specifies that a proposed alteration itself must meet current USACE design and construction standards. However, a requester is not required to bring the remaining existing USACE project up to current USACE design standards. An example might be if a requester submitted a proposed alteration for a landside seepage berm, but the dam has erosion issues on the waterside at the same location. The seepage berm would need to meet USACE design and construction standards, but the proposed alteration would not have to also address the waterside erosion if the district has determined that the seepage berm was a complete alteration that is not influenced by the erosion issue.

d. Additional Considerations for Municipal and Industrial (M&I) Water Supply.

(1) Water supply users entering into an agreement under Section 6 of the Flood Control Act (FCA) of 1944 (PL 78-534) or the Water Supply Act (WSA) of 1958 (PL 85-500, as amended) generally will not need a separate Section 408 permission.

(2) For currently authorized M&I water supply storage, Section 408 considerations will be taken into account in the drafting of a M&I water storage agreement and associated real estate instruments. Any requirements related to the user's facilities (intake structures, etc.) will be included in the agreement and related real estate instruments.

(3) For reallocated M&I water supply storage under the 1958 WSA authority, the water supply user must be advised that the reallocation study itself will not specifically address the Section 408 considerations but that Section 408 considerations will be taken into account in the drafting of a water storage agreement and associated real estate instruments. Any requirements for water supply user's facilities (intake structures, etc.) will be included in the agreement and associated real estate instruments.

(4) For surplus water under the authority of Section 6 of the 1944 FCA, Section 408 considerations will be taken into account in the drafting of the surplus water agreement and associated real estate instruments and any requirements for water supply user's facilities (intake structures, etc.) will be included in the agreement and associated real estate instruments.

(5) For M&I water supply intakes of any size to be placed in projects that do not include specifically authorized water supply storage, Section 408 permission will be required. Intakes with fixed infrastructure placed in impoundments without authorized conservation storage will

require Section 408 permission. Section 408 review should include consideration of physical and operational impacts to the project.

B-4. Procedures. The information below corresponds to and supplements the steps in Paragraph 7 of the main EC.

a. Step 1: Pre-Coordination. Ensure involvement of the District Dam Safety Officer (DSO) and Dam Safety Program Manager (DSPM). In addition, the district should inform the requester of any current dam safety modification studies that are ongoing or are being considered that may have compatible objectives with the potential proposed alteration.

b. Step 2: Written Request. Follow procedures in Paragraph 7 of the main EC.

c. Step 3: Required Documentation.

(1) Technical Analysis and Design. The list below is only a guide for information and/or analyses that may be needed to review alterations to dams and reservoirs. It is not intended to list every item that may be needed to make a final Section 408 decision, nor is it intended that every type of analysis be required for all proposals.

(2) Civil. Each submittal should clearly identify the existing condition of the dam and/or appurtenant structures to include plan, profile and design details of the proposed alteration in relation to the existing USACE project. Below are examples of information necessary to understand the existing and proposed conditions.

(a) Alteration location (Vicinity map and specific alteration location)

(b) Applicable datum

(c) Real estate interests, existing and to be acquired, needed for the proposed alteration

(d) Grading plans

(e) Layout plan, profiles, and cross-sections of the proposed alternation

(f) Previous inspection reports to assist in identifying existing deficiencies and their proximity to the proposed alteration

(g) Sections and details

(h) Temporary measures required during construction (bypasses, cofferdams, etc.)

(3) Geotechnical. The following is a list of analyses or information that may be necessary to consider in evaluating geotechnical impacts if proposed alterations alter the dam embankment or penetrate the natural blanket or foundation.

(a) Erosion control (changes in erosive forces on a slope)

(b) Liquefaction susceptibility

(c) Material usage/borrow/waste/transport/hauling

(d) Placement of stockpiles, heavy equipment, or other surcharges

(e) Results of subsurface investigation – boring logs, test pit logs, laboratory test results, etc.

(f) Seepage analysis

(g) Settlement analysis

(h) Stability analysis

(i) Vegetation

(4) Structural. The following is a list of analysis or information that may be necessary to evaluate the impacts of proposed alterations to concrete, sheetpiling, or drainage structures.

(a) Bridges and related abutments

(b) Design analysis for retaining walls and excavation support system

(c) Design of shallow or deep foundations, including bearing capacity and settlement analysis if the construction is located within the line of protection or right-of-way and creates potential seepage problems

(d) Design recommendations for foundations on expansive soils

(e) Diaphragm walls

(f) Gates or other operable features

(g) Other structural components integral to the project

(h) Pier penetrations of levee embankments

(i) Stability analysis including sliding, overturning, bearing, flotation, uplift and any seismic load effects for any alteration to the channel walls and/or flood walls

(j) Structural drainage control methods

(k) Water stops and contraction/expansion joints

(5) Hydrology and Hydraulics. Refer to Appendix F for details on when and how a hydrology and hydraulics system performance analysis should be conducted. Refer to the list below for examples of factors that should be considered when evaluating hydrology and hydraulics impacts.

(a) Changes in inflow

(b) Changes in velocity

(c) Changes in water surface profiles and flow distribution

(d) Consideration of impacts to energy dissipation measures; hydropower generation; sedimentation; or navigation

(e) Scour Analysis

(f) Sediment transport analysis

(g) Upstream and downstream impacts of the proposed alterations

(6) Water Control Management Plan. Alterations may have impacts on how water control structures are operated. In these cases, the alterations should consider any impacts or changes to water control plans that may be necessary. If a change to a water control manual is required, the NEPA document developed for the Section 408 alteration should incorporate appropriate analysis for updating the water control manual. Alterations that will work in conjunction with an existing federal Water Control Manual (WCM) should be documented and incorporated into that WCM. Items to be considered are:

(a) Effects on existing Biological Opinions, Water Quality Certifications, Coastal Zone Management Concurrences, etc. should evaluate project impacts on any legal document, agreement, or requirement that informs water control management by USACE

(b) Impacts/revisions to the operation of USACE facilities or other projects within the basin

(7) Operations, Maintenance and Flood Fighting. Alterations may change operation, maintenance or require special flood fighting procedures.

(a) Effects on existing maintenance access

(b) Effects on maintenance practices

(c) Flood contingency plan during construction, measures proposed to protect area under construction, monitoring of river level, river stage at which plan will be activated, materials and equipment to be used to activate plan, and personnel contact and telephone number to activate plan.

(d) Flood fighting requirements and practices

(e) Special inspection requirements

(8) Potential Failure Mode Analysis. Depending on the proposed alteration, the requester may be required by the district to provide a potential failure mode analysis with the proposed alteration in place.

(9) Requester Review Plan Requirement. If the district determines a Type II Independent External Peer Review (IEPR) is required for the proposed alteration, the Risk Management Center (RMC) will determine based on information provided in the Requester Review Plan for the Type II IEPR if the dam senior oversight group (DSOG) will review the dam alteration. If it is determined that the DSOG review is required, the RMC will inform the division, which will include the requirement for the DSOG review within the approval memorandum, as required in EC 1165-2-214, for the Requester Review Plan to the district. The district should contact the HQUSACE Dam Safety Program Manager to schedule a briefing with the DSOG as soon as possible. Information to be presented should include available risk assessment (Screening for Portfolio Risk Analysis (SPRA) or higher level risk assessments) information and a description of the proposed alteration. The DSOG briefing can occur concurrently with other steps, but should occur before the request is submitted for division review. The RMC will consider the following in determining whether DSOG review is required:

(a) whether the benefits of the alteration are generally commensurate with the risks

(b) whether the alteration potentially worsens or creates new failure modes or risk drivers for the USACE project; and

(c) whether the alteration is exceptionally complex or high risk.

d. Step 4: District-led Agency Technical Review (ATR).

(1) Risk. For dams with SPRA or higher level risk assessment information, districts should take this information into account to determine whether the proposed alteration may increase the risk associated with the project. If a dam does not have a SPRA or a higher level

risk assessment completed, a risk assessment is not required to be conducted prior to making a Section 408 decision.

(2) Alterations Within the Reservoir Area. These proposed alterations require the same level of technical review as alterations to dams. Generally alterations within the reservoir areas will be requested by the water supply non-federal sponsor for intake facilities. These alterations should be reviewed for impacts to life safety, inundation, and intake levels. When reviewing the intake levels, consideration will be given to drought conditions and also to lake level drawdowns for dam safety water control purposes. When alterations are proposed along the reservoir, the alteration will be reviewed for constructability and for potential failure modes related to misoperation, overtopping, foundation failures, alteration-induced subsidence, and other possible incidents that could cause the uncontrolled loss of pool.

(3) The district Dam Safety Program Manager and Dam Safety Officer are required to review and endorse approval or recommend denial of any Section 408 request that modifies a dam.

e. Step 6. Division Review. For dam alterations requiring HQUSACE approval as determined by answering the questions in Paragraph 6.t. of the main EC, the division Dam Safety Program Manager (DSPM) and Dam Safety Officer (DSO), in addition to any additional division reviewers, are required to review and endorse approval or recommend denial.

f. Step 7. HQUSACE Review. For dam alterations requiring HQUSACE approval as determined by answering the questions in Paragraph 6.t. the main EC, the HQUSACE DSPM or designee review, in addition to the Office of Water Project Review, are required to endorse approval or recommend denial.

g. Step 8: In addition to the other notification procedures in Paragraph 7.c.(8) of the main EC, for alterations related to mapping for the National Flood Insurance Program (NFIP), the written approval document will specify that approval does not constitute, nor should it be construed as, an evaluation to determine if NFIP criteria have been met.

h. Step 9: Post – Permission Oversight.

(1) Inspections. Inspections conducted by USACE should document whether approved alterations are being operated and maintained in accordance with the Section 408 approval and O&M manual.

(2) National Inventory of Dams. Districts should ensure that the National Inventory of Dams is updated for USACE dams and appurtenant structures as applicable to capture new or changed features constructed as part of a Section 408 permission.

(This page intentionally left blank)

Appendix C

Non-Federal Hydropower Development at USACE Facilities

C-1. Purpose. The purpose of this appendix is to provide supplemental guidance to be used in conjunction with guidance in the main EC and Appendix B for requests for alterations of USACE projects by adding conventional and/or non-conventional hydroelectric power generating facilities. Conventional hydroelectric generating facilities are facilities that have a turbine and generator unit combination contained in a powerhouse adjacent to a USACE non-powered dam that provide the potential energy for the powerhouse. A non-conventional facility, such as a hydrokinetic hydroelectric generating unit, typically is not contained in a powerhouse and not adjacent to a dam but could be attached to other USACE civil works structures such as jetties, levees, and navigation channels. This appendix is applicable to requests received from non-federal entities which have been granted a preliminary permit or license by the Federal Energy Regulatory Commission (FERC).

C-2. References.

a. Federal Power Act, as amended

b. ER 1110-2-401, Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual for Projects and Separable Elements Managed by Project Sponsors

c. ER 1110-2-1150, Engineering and Design for Civil Works Projects

d. ER 1110-2-1454, Corps Responsibilities for Non-Federal Hydroelectric Power Development under the Federal Power Act

e. ER 1110-2-1462, Water Quality and Water Control Considerations for Non-Federal Hydropower Development at Corps of Engineers Projects

f. ECB 2008-8, Sharing Technical Information in Support of Non-Federal Hydropower Development

g. US Army Corps of Engineers, Charging and Retaining Fees Charged to FERC Licensees, CECC-G memorandum, 6 June 2006

h. Memorandum of Understanding Between the United States Army Corps of Engineers and the Federal Energy Regulatory Commission on Non-Federal Hydropower Projects, 25 March 2011

i. See Appendix A and B for other applicable references.

C-3. Policy. This information supplements policy in Paragraph 6 of the main EC and Appendix B.

a. USACE and FERC Coordination. USACE and FERC have agreed to work with each other and with other participating agencies or entities, as appropriate to ensure that timely decisions are made and that the responsibilities of each agency are met. Specifically, subject to the availability of resources and in accordance with applicable laws, regulations, Army policies and FERC policies, each agency agrees to: commit to early involvement; participate proactively; share data; communicate informally; attend public meetings; and coordinate on studies of hydropower potential.

b. Sharing of Technical Information. See reference in Paragraph C-2.f. of this appendix.

C-4. Procedures. The information below corresponds and supplements the steps in Paragraph 7 of the main EC.

a. Step 1: Pre-Coordination. When a USACE district receives a written request to modify a USACE civil works project for the addition of hydroelectric generation, the district will confirm that the requester has a valid FERC preliminary permit or license to investigate the potential for adding hydroelectric power facilities to the civil works project. Once validated, the district will initiate coordination with the requester and FERC. Initial coordination should consist of a meeting to discuss the proposed project and inform the requester of any known issues that would impact their proposal, such as any dam safety issues.

b. Step 2: Required Documentation.

(1) National Environmental Protection Act (NEPA) Requirements. Districts should follow NEPA procedures as described in the main EC. In most cases where a requester requests approval for alteration of a USACE civil works structure for the purpose of adding hydroelectric generating facilities, USACE typically acts as a cooperating agency to a lead agency, FERC. Under Section V of the reference in paragraph C-2.g, "...As the agency with the approval/disapproval authority for the licensing of hydropower projects, the FERC shall serve as the lead Federal agency for the preparation of the environmental document" (for non-federal hydropower development at USACE water resources projects). As appropriate, and as resources allow, USACE will assist FERC in the preparation of relevant sections of the environmental document to the extent that the information is necessary for USACE to adopt the document/incorporate portions by reference to support its independent Section 408 decision and/or any other required USACE permit decision (e.g. Section 10/404/103).

c. Step 3: Remaining Procedures. Districts should follow remaining procedures outlined in the main EC and Appendix B.

Appendix D

Levee, Floodwall or Flood Risk Management Channel Projects

D-1. Purpose. The purpose of this appendix is to provide supplemental guidance to be used in conjunction with guidance in the main EC for proposed alterations by others to federally authorized USACE civil works' levee, floodwall, or flood risk management channel projects, including their associated features. Supplemental information for alterations to navigation channels is in Appendix E. If a levee, floodwall, or flood risk management channel is associated with a dam project, Appendix B should be consulted. Common associated features for levee, floodwall, or channel projects include sheetpile walls, berms, relief wells, cutoff walls, foundation, drainage structures, ponding areas, closure structures, pump stations, transitions, and erosion protection.

D-2. References. The following is a list of references containing evaluation processes, design standards, and operations and maintenance procedures that may be relevant to consider for alterations to levee, floodwall, or channel projects.

a. P.L. 84-99, as amended, flood emergencies; extraordinary wind, wave, or water damage to federally authorized hurricane or shore protective structures; emergency supplies of water; drought; well construction and water transportation

b. 33 CFR 208.10, Local flood protection works; maintenance and operation of structures and facilities

c. 44 CFR 65.10, Mapping of areas protected by levee systems

d. ER 500-1-1, Civil Emergency Management Program

e. ER 1110-2-1806, Earthquake Design and Evaluation of Civil Works Projects

f. ER 1110-2-1942, Inspection, Monitoring, and Maintenance of Relief Wells

g. EM 1110-1-1005, Control and Topographic Surveying

h. EM 1110-1-1804, Geotechnical Investigations

i. EM 1110-1-1904, Settlement Analysis

j. EM 1110-2-1418, Channel Stability Assessment for Flood Control Projects

k. EM 1110-2-1601, Hydraulic Design of Flood Control Channels

l. EM 1110-2-1902, Slope Stability

m. EM 1110-2-1906, Laboratory Soils Testing

n. EM 1110-2-1913, Design and Construction of Levees

o. EM 1110-2-1914, Design, Construction, and Maintenance of Relief Wells

p. EM 1110-2-2002, Evaluation and Repair of Concrete Structures

q. EM 1110-2-2007, Structural Design of Concrete-Lined Flood Control Channels

r. EM 1110-2-2100, Stability Analysis of Concrete Structures

s. EM 1110-2-2104, Strength Design for Reinforced-Concrete Hydraulic Structures

t. EM 1110-2-2502, Retaining and Flood Walls

u. EM 1110-2-2504, Sheet Pile Walls

v. EM 1110-2-2902, Conduits, Culverts, and Pipes

w. EC 1110-2-6066, Design of I-Walls

x. ETL 1110-2-583, Engineering and Design: Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures

y. ETL 1110-2-575, Evaluation of I-Walls

z. U.S. Army Corps of Engineers, Policy for Development and Implementation of System-Wide Improvement Frameworks (SWIFs), CECW-HS memorandum, 29 November 2011

aa. U.S. Department of Interior Bureau of Reclamation and US Army Corps of Engineers, Best Practices in Dam and Levee Safety Risk Analysis, 3 December 2012

bb. See Appendix A for other applicable references.

D-3. Policy. The information below supplements policy in Paragraph 6 of the main EC.

a. National Flood Insurance Program (NFIP). The FEMA criteria related to NFIP mapping purposes (44 CFR 65.10, Mapping of areas protected by levee systems) are not USACE design standards and should not be a consideration in the technical analysis or design review. However, the impacts associated with mapping levee, floodwall, or channel projects for the NFIP, such as influences on floodplain management, should be discussed as part of compliance

with EO 11988, reference Paragraph 7.c.(3)(e) in the main EC and considered when discussing potential impacts to associated risks.

b. Completeness. Reference to Paragraph 6.l. in the main EC. An example is one reach of a levee system may require a slurry wall to address seepage and a different reach may require a seepage berm. The slurry wall and seepage berm can be constructed and function independently of each other, and, therefore, could be considered as two complete alterations.

c. Design and Construction Standards. Paragraph 6.m. in the main EC specifies that a proposed alteration itself meet current USACE design and construction standards. However, a requester is not required to bring the remaining existing USACE project up to current USACE design standards. An example is a requester has submitted a proposed alteration for a landside seepage berm for a levee, but the levee has erosion issues on the waterside at the same location. The seepage berm would need to meet USACE design and construction standards, but the proposed alteration would not have to also address the waterside erosion if the district has determined that the seepage berm was a complete alteration that is not influenced by the erosion issue.

D-4. Procedures. The information below corresponds and supplements the steps in Paragraph 7 of the main EC.

a. Step 1: Pre-Coordination. Ensure involvement of the district Levee Safety Officer (LSO) and Levee Safety Program Manager (LSPM).

b. Step 2: Written Request. If a proposed alteration is being requested as part of an approved System Wide Improvement Framework (SWIF), the requester must supply that information within their written request.

c. Step 3: Required Documentation.

(1) Technical Analysis and Design. The list below is only a guide for information and/or analyses that may be needed to review alterations to levee, floodwall, or channel projects. It is not intended to list every analysis or design consideration that may be needed for all proposals.

(2) Civil. Each request should clearly identify the existing condition of the portion of the levee, floodwall, or channel project being altered and include plan, profile and design details of the proposed alteration in relation to the existing USACE project. Below are examples of information that may be necessary to understand the existing and proposed conditions:

(a) Alteration location (Vicinity map and specific alteration location in station or river mile and/or decimal degrees)

(b) Applicable datum

(c) Real estate interests, existing and to be acquired, needed for the proposed alteration

(d) Grading plans

(e) Layout plan, profiles, and cross-sections of proposed alteration

(f) Previous inspection reports to assist in identifying existing deficiencies and their proximity to the proposed alteration

(g) Temporary measures required during construction (bypasses, cofferdams, etc.)

(3) Geotechnical. The following is a list of analyses or information that may be necessary to consider for geotechnical considerations and assessing their impacts if proposed alterations alter the levee, floodwall or channel bank cross-section or penetrate the natural blanket or foundation.

(a) Erosion control (changes in erosive forces on a slope)

(b) Material usage/borrow/waste/transport/hauling

(c) Placement of stockpiles, heavy equipment, or other surcharges

(d) Results of subsurface investigation – boring logs, test pit logs, laboratory test results, etc.

(e) Seepage analysis

(f) Settlement analysis

(g) Stability analysis

(h) Vegetation

(4) Structural. The following is a list of analyses or information that may be necessary to evaluate the impacts of proposed alterations to concrete, sheetpiling, or drainage structures:

(a) Bridges and related abutments

(b) Design analysis for retaining walls and excavation support system

(c) Design of shallow or deep foundations, including bearing capacity and settlement analysis if the construction is located within the line of protection or right-of-way and creates potential seepage problems

(d) Design recommendations for foundations on expansive soils

(e) Diaphragm walls

(f) Gates or other operable features

(g) Other structural components integral to the project

(h) Pier penetrations of levee embankments

(i) Stability analysis including sliding, overturning, bearing, flotation, uplift and any seismic load effects for any alteration to the channel walls and/or flood walls

(j) Structural drainage control methods

(k) Water stops and contraction/expansion joints

(5) Hydrology and Hydraulics. Refer to Appendix F for details on when and how a hydrology and hydraulics system performance analysis should be conducted. Refer to the list below for examples of factors that should be considered when evaluating hydrology and hydraulics impacts.

(a) Changes in velocity

(b) Changes in water surface profiles and flow distribution

(c) Scour analysis

(d) Sediment transport analysis

(e) Upstream and downstream impacts of the proposed alterations

(6) Water Control Management Plan. Alterations may have impacts on how water control structures are operated. In these cases, the alterations should consider any impacts or changes to water control plans that may be necessary. If a change to a water control manual is required, the NEPA document developed for the Section 408 alteration should incorporate appropriate analysis for updating the water control manual. Alterations that will work in conjunction with an existing Federal Water Control Manual (WCM) should be documented and incorporated into that WCM. Items to be considered are:

(a) Effects on existing Biological Opinions, Water Quality Certifications, Coastal Zone Management Concurrences, etc. should evaluate project impacts on any legal document, agreement, or requirement that informs water control management by the USACE

(b) Impacts/revisions to the operation of USACE facilities or other projects within the basin

(7) Operations, Maintenance and Flood Fighting. Alterations may change how a levee, floodwall or channel project is to be operated, maintained or require special flood fighting procedures. Reviews should consider the factors below to determine potential effects.

(a) Effects on existing project access

(b) Special inspection requirements

(c) Effects on maintenance practices

(d) Flood fighting requirements and practices

(e) Flood contingency plan during construction, measures proposed to protect area under construction, monitoring of river level, river stage at which plan will be activated, materials and equipment to be used to activate plan, and personnel contact and telephone number to activate plan

(8) Requester Review Plan Requirement. If the district determines a Type II Independent External Peer Review (IEPR) is required for a proposed alteration to a levee or floodwall project, the Risk Management Center (RMC) will determine based on the information provided in the Requester Review Plan for the Type II IEPR if the Levee Senior Oversight Group (LSOG) will review the proposed alteration. If it is determined that the LSOG review is required, the RMC will inform the division who will include the LSOG review requirement within the final approval memorandum, as required in EC 1165-2-214, for the Requester Review Plan to the District. The district should contact the HQUSACE Levee Safety Program Manager to schedule a briefing with the LSOG as soon as possible. Information to be presented should include available risk assessment (screenings or higher level risk assessments) information and a description of the proposed alteration. The LSOG briefing can occur concurrently with other steps, but should occur well before the request is submitted for division review. The RMC will consider the following in determining whether LSOG review is required:

(a) whether the benefits of the alteration are generally commensurate with the risks

(b) whether the alteration potentially worsens or creates new failure modes or risk drivers for the USACE project; and

(c) whether the alteration is exceptionally complex or high risk.

d. Step 4: District-Led Agency Technical Review (ATR).

(1) Rehabilitation Program. Proposed alterations to federally authorized levees, floodwalls, and channels, must also be evaluated to determine whether the alteration will become an integral component of the project. If it is determined that the proposed alteration will become an integral component of the project that is necessary for proper functioning of the project for its authorized purpose, the completed alteration will be included as a project feature eligible for rehabilitation assistance pursuant to PL 84-99. The district is responsible for making a determination as to whether or not a proposed alteration will become an integral component of the project. Factors to consider will vary depending on the type of infrastructure and the proposed alteration. This determination must be made for all proposed alterations to flood risk management projects, regardless of their status in the Rehabilitation Program at the time of the Section 408 request, to ensure that the proposed alteration is appropriately considered in future decisions about project eligibility for rehabilitation assistance. Examples of such alterations include stability or seepage berms, and changes to the structure type or geometry. For more information on USACE emergency activities and the rehabilitation program, see ER 500-1-1, Emergency Employment of Army and Other Resources – Civil Emergency Management Program.

(2) Risk. For levee and floodwall projects with risk screening or higher level risk assessment information, districts should take this information into account to determine whether the proposed alteration may increase the risk associated with the project. If the project does not have a risk screening or a higher level risk assessment completed, a risk assessment is not required to be conducted prior to making a Section 408 determination.

(3) The district Levee Safety Program Manager and Levee Safety Officer are required to review and endorse approval or recommend denial of any Section 408 request that modifies a levee or floodwall project.

e. Step 6: Division Review. For levee or floodwall project alterations requiring HQUSACE approval as determined by answering the questions in Paragraph 6.t. of the main EC, the division LSPM and LSO, in addition to any additional division reviewers, are required to review and endorse approval or recommend denial.

f. Step 7: HQUSACE Review. For levee or floodwall alterations requiring HQUSACE approval as determined by answering the questions in Paragraph 6.t. of the main EC, the HQUSACE LSPM or designee in addition to the Office of Water Project Review are required to review and endorse approval or recommend denial.

g. Step 8: Notification. In addition to the other notification procedures in Paragraph 7.c.(8) of the main EC, for alterations related to mapping for the National Flood Insurance Program (NFIP), the written approval document will specify that approval does not constitute, nor should it be construed as, an evaluation to determine if NFIP criteria have been met.

h. Step 9: Post-Permission Oversight.

(1) Inspections. Inspections conducted by USACE should document whether approved alterations are being operated and maintained in accordance with the approved Section 408 and/or updated O&M manual.

(2) National Levee Database (NLD). Districts should ensure that the NLD is updated for levee and floodwall projects, as needed, to capture new or changed features constructed as part of a Section 408 permission. The district will provide the requester with the requirements for any needed surveys, including updated centerline information and cross sections, in order to update the project information in the NLD to capture the alterations.

Appendix E

Navigation Channels, Harbors, Locks, Jetties, Bridges, and Features

E-1. Purpose. The purpose of this appendix is to provide supplemental information to be used in conjunction with guidance in the main EC for alterations proposed by others to USACE navigation projects, including channels, harbors, locks, jetties, bridges, and other associated features. Refer to Appendix B for proposed alterations to navigation dams.

E-2. References. The following is a list of references that may be relevant to consider for alterations to navigation features.

a. Section 204 of Water Resources Development Act of 1986, Public Law (PL) 99-662

b. 33 USC 565, River and Harbor Improvement by Private or Municipal Enterprise

c. ER 1110-2-1403, Studies by Coastal, Hydraulic, and Hydrologic Facilities and Others

d. ER 1110-2-1404, Engineering and Design - Hydraulic Design of Deep Draft Navigation Projects

e. ER 1130-2-520, Project Operations - Navigation and Dredging Operations and Maintenance Policies

f. ER 1140-1-211, Non-Department of Defense Reimbursable Services

g. ER 1165-2-124, Construction of Harbor and Inland Harbor Projects by Non-Federal Interests

h. EM 1110-2-1611, Layout and Design of Shallow-Draft Waterways

i. EM 1110-2-1613, Engineering and Design - Hydraulic Design of Deep Draft Navigation Projects

j. EP 1130-2-520, Project Operations - Navigation and Dredging Operations and Maintenance Guidance and Procedures

k. See Appendix A for other applicable references.

E-3. Policy. The information below supplements policy in Paragraph 6 of the main EC.

a. Mission of the Navigation Program. The mission of the USACE navigation program is to provide safe, reliable, efficient, effective, and environmentally sustainable waterborne transportation systems for movement of commerce, national security needs, and recreation. This

mission is accomplished by ensuring adequate project dimensions to provide safe passage of commercial navigation through the federally-authorized navigation project, while minimizing environmental impacts. Accordingly, any proposed alterations to an authorized navigation project must be evaluated to determine that such alteration will not impair the usefulness of the project and will not be injurious to the public interest.

b. Categories of Navigation Alterations. Proposed navigation alterations fall into two categories:

(1) Category 1: Improvements Associated with Water Resources Development Act of 1986, Section 204 (Section 204), Construction of Projects by Non-Federal Interests.

(a) Section 204(a) authorizes a non-federal interest to undertake navigational improvements in harbors or inland harbors of the United States, subject to obtaining any permits pursuant to Federal and State laws in advance of construction. Except for projects or improvements implemented under Section 204(e) and Section 204(f), non-federal interests will be responsible for the operations and maintenance of such improvements. Section 408 applies to these improvements and procedures in this EC must be followed.

(b) When there is a request for USACE to assume operations and maintenance responsibilities of the non-federal improvements pursuant to Section 204(f), processes in ER 1165-2-124 for Section 204(f) approval should be followed. Section 408 permission will also be required; however, the Section 204(f) report prepared for the Secretary of the Army may also serve as the documentation to inform the Section 408 permission decision. In general, the Section 204(f) report will not be submitted to the Assistant Secretary of the Army for Civil Works (ASA(CW)) for approval until after the requests for the Section 408 permission and Section 10/404/103 permit have been approved. In addition, a written agreement addressing the assumption of maintenance is required. To remain eligible for assumption under Section 204(f), the ASA(CW) determinations must be made and the agreement executed prior to initiation of construction, which is defined as award of the first construction contract. Approval by the ASA(CW) is required to grant an exception to policy to allow for solicitation of the construction contract prior to the required approvals, permissions and permits, and agreement.

(c) Section 204(b) allows non-federal interests to contract with USACE to provide technical assistance in obtaining all necessary permits for a non-federal interest to construct navigation improvements pursuant to Section 204(a) if the non-federal interest pays all the costs for such assistance. Authority to provide this assistance has been delegated to the field in accordance with the Support For Others guidance (ER 1140-1-211). This provision may be used to provide assistance for the Section 408 process.

(d) Section 408 is not applicable to construction undertaken by non-federal interests pursuant to Section 204(e).

(2) Category 2: Alterations not included in Category 1, which will follow guidance in this EC.

(a) Project Specific Setbacks. In order to help streamline the coordination and evaluation process, districts are encouraged to develop project specific setback distance criteria that establish minimum distances (adjacent, over, and/or below a navigation feature). The purpose would be to use the pre-determined technical analysis accomplished to determine the setbacks as a way to facilitate an expedited district-led Agency Technical Review (reference Paragraph 7.c.(4)). These criteria would then be used in a manner to determine that if any future construction and maintenance activities occur beyond these distances, then the alteration will likely not impact the federal navigation project nor be injurious to the public interest under Section 408. At a minimum, the following should be considered when developing setbacks:

- Maximum dredging depth and width, to include advanced maintenance, allowable over-depth, and non-pay overdepth
- Top edge of the navigation channel, including appropriate side slopes and overdepth
- Sufficient clearances of equipment needed for dredging the navigation channel to its full depth and width, including side slopes
- Minimum air gap required for lines or structures crossing above the channel
- Weather, tides, flow rates, velocities, and other factors related to the region
- Dredged Material Disposal facility availability

E-4. Procedures. The information below corresponds to and supplements the steps in Paragraph 7 of the main EC.

a. Pre-Coordination (reference step 1 in Paragraph 7 of main EC). Depending on the extent of the proposed alteration, coordination with other agencies such as the U.S. Coast Guard, National Oceanic and Atmospheric Administration (NOAA), USFWS, US EPA, US Navy, etc. may be necessary.

b. The following should be considered when implementing steps 1-8 in Paragraph 7 of the main EC:

(1) Activities proposed in federal navigation channels may also require evaluation by Regulatory pursuant to Section 10/404/103. In accordance with regulations, Regulatory must consider general impacts to navigation in its review of a permit application. A regulatory permit will not be issued if it is not compatible or conflicts with the authorized purpose of a federally authorized project. Therefore, Regulatory and Navigation should coordinate throughout their respective reviews.

(2) The majority of proposed alterations to federal navigation projects that also require Section 10/404/103 authorization are proposals for utility line crossings, boat docks, bulkheads, revetments, dredging, and other similar activities. Generally, Navigation can quickly and easily determine whether these proposed alterations could be constructed to avoid impacts to operation and maintenance of the navigation project (e.g. compare the proposal to approved set-back policies and/or overdepths) and thereby recommend Section 408 approval of an alteration request rapidly.

(a) In these basic cases, Navigation will document the results of their Section 408 evaluation and decision in a brief written letter to be signed by the District Commander, see Appendix H for an example. This letter will serve as the documented Section 408 decision that will accompany the Section 10/404/103 decision in the district file. This letter also can be sent to the requester at the same time with the Section 10/404/103 permit, if granted, so long as the requester and Section 10/404/103 permittee are the same entity and the approval and permit decisions are distinct in the transmittal.

(b) If Navigation determines the proposed alteration must be revised (e.g. installed at deeper depth than that proposed), Navigation will coordinate directly with the requester and copy Regulatory on the correspondence since such an alteration would likely affect the Regulatory evaluation. Likewise, Regulatory should also copy Navigation on any changes to the proposed alteration it may require for Section 10/404/103 purposes.

(c) In instances where the proposed alteration cannot be quickly and easily reviewed as outlined above, such as if technical analyses are warranted, and/or Navigation has determined it cannot approve the proposal under Section 408, the Navigation business line must conduct its review in accordance with the main EC.

c. Step 9: Post-Permission Oversight. Any long-term monitoring and maintenance of the approved navigation alteration will be the responsibility of the Section 408 permittee throughout the life of the alteration and without cost to the government. Navigation will continue to conduct routine inspections, maintenance and monitoring of the USACE navigation project, except for any features added by the Section 408 permittee's alteration. If the Section 408 permittee identifies potential impacts to the USACE project as a result of the construction and/or maintenance of the alteration the Section 408 permittee will notify USACE immediately. If USACE identifies potential impacts from the Section 408 permittee's construction or maintenance/monitoring activities, USACE will notify the Section 408 permittee immediately. USACE will work collaboratively with the Section 408 permittee to identify the appropriate corrective action. The Section 408 permittee will be responsible for implementing the appropriate corrective action as determined by USACE. It should be noted that any proposed corrective action may require a change to the original approved alteration or a new Section 408 request depending on the proposed action. Navigation should engage Regulatory in these discussions in case the impacts and/or corrective actions also require authorization under Section 10/404/103.

Appendix F

Hydrologic and Hydraulics System Performance Analysis

F-1. Purpose.

a. This appendix is intended to outline the requirements for a hydrologic and hydraulics system performance analysis as referenced in paragraph 7.c.(3)(b) of the main EC. The purpose of a hydrologic and hydraulics system performance analysis is to determine the potential upstream and downstream hydrologic and hydraulic impacts of proposed alterations. Districts will determine whether a hydrologic and hydraulics system performance analysis is needed and if so, the appropriate scope of analysis based on the complexity of the proposed alteration. The requester will be responsible for the analysis. This appendix describes when an analysis is required, how to perform the analysis and how to display the data.

b. The hydrologic and hydraulics system performance analysis described in this appendix is not a risk assessment. A risk assessment considers explicitly the performance of the structural flood risk management measures and the consequence of exposure of people and property to the entire range of likely flood events. The hydrologic and hydraulics system performance analysis only considers the likely flood events and the hydraulic loading and assumes the structural measures (dams, levee and floodwall systems, and channels) perform as authorized. It does not consider consequences.

F-2. References.

a. ER 1105-2-101, Risk Analysis for Flood Damage Reduction Studies.

b. EM 1110-2-1619, Risk-Based Analysis for Flood Damage Reduction Studies.

c. U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center (HEC). 2008. *HEC-FDA Flood Damage Reduction Analysis, User's Manual, Version 1.2.4.*, CPD-72. Hydrologic Engineering Center, Davis, CA.

d. USACE HEC. 2009. Project Report-71 (PR-71). Documentation and Demonstration of a Process for Risk Analysis of Proposed Modifications to the Sacramento River Flood Control Project (SRFCP) Levees.

e. Davis, Darryl W., Beth A. Faber, and J. R. Stedinger. 2008. *USACE Experience in Implementing Risk Analysis for Flood Damage Reduction Projects*, Journal of Contemporary Water Research and Education 140(1):3-14.

F-3. Policy.

a. For the purposes of this appendix, the word "system" is an integrated combination of features, property, and environment that are hydraulically interconnected in which the extent downstream and upstream of the proposed alteration captures the areas expected to be influenced by changes in discharge, volume, or corresponding water surface elevation at the proposed alteration site.

b. System performance analyses will be applied to alterations that alter the hydrologic and/or hydraulic conditions (e.g., reservoir operations, bridge constrictions, etc.) of federally authorized USACE projects. Districts will determine the appropriate scope of analysis based on the complexity of the proposed alteration.

c. The hydraulic analysis will evaluate pre- and post-project water surface elevations, changes in velocity, flow regime, and scour potential.

d. The hydraulic analysis will consider the full range of loading conditions.

e. For loading conditions where flood waters exceed the project's system capacity, the analysis will assume weir flow.

f. Under no circumstances will the analysis assume breach or malfunction of any existing or altered component of the project system for the flood up to the top of containment as a means of relieving system impacts. The project is to be considered stable and functional to top of containment. The assumption is that the project can be stabilized to the authorized condition. Based on this assumption, fragility curves are not required.

g. Impacts will be determined by comparing performance parameters (annual exceedance probability (AEP), assurance (conditional non-exceedance probability (CNP), etc.) for the existing and authorized conditions, if they are different, to the conditions resulting from the project alteration.

F-4. Strategy.

a. Hydrologic and hydraulics system performance analysis for proposed alterations must assess system performance at the proposed alteration site and at all locations reasonably considered to be affected by the proposed alteration. The procedures described in this appendix are, in general, appropriate, with some adaptation to reflect the effects of hydraulic connectivity.

b. Hydrologic and hydraulics system performance analysis includes the following steps:

(1) Step 1: Define the spatial extent of the system for which hydrologic and hydraulic impacts must be assessed, and select index locations within that extent for the performance analysis.

(a) The extent of the hydraulically interconnected system must be defined as the first step in performance analysis. This extent must be broad enough to include channel reaches and floodplains downstream and upstream of the proposed alteration site that a reasonable analyst would expect to be influenced by changes in discharge, volume or corresponding water surface elevation at the proposed alteration site. Within that extent, impact areas should be identified and index locations selected to allow fair assessment of likelihood of inundation transference. If initial findings show significant impacts at the outer extents represented by the selection of index locations, additional index points may be required out to the locations showing no impacts. Guidance for identifying impact areas and selecting index locations is included in the user's manual for the HEC-FDA (HEC, 2008) software and in EM 1110-2-1619.

(b) Review of hydraulic model results will aid in determining the appropriate extent. For example, examination of computed water surface profiles will identify locations upstream or downstream of a proposed alteration site at which changes in channel geometry at the site will have an impact on water surface elevations. Care must be exercised and results scrutinized to judge if changes in computed elevations are logically related to the changes in channel geometry or if changes seen in the model results are an artifact of computational imprecision. In some cases downstream flows at a confluence will increase for a proposed alteration, but the increase will be due to a change in timing between contributing hydrographs. Consideration should be given to whether the change in timing would be expected to be reflected in historical events, or whether the change in timing is an artifact of the synthetic hydrology developed.

(2) Step 2: Identify the authorized and existing condition (if different) for all features (e.g. levee, floodwall, channel, and/or dams) of that system to serve as the basis for assessing impacts of proposed alterations.

(3) Step 3: Collect or develop the necessary functions and transforms to compute authorized and existing performance at all index locations within the system.

(a) Performance computations are completed on an index location by index location basis following the procedure described in EM 1110-2-1619 and illustrated in Figure F-1. Each of the applicable functions described in Figure F-1 must be developed for each index location. The unregulated discharge-probability function (Figure F-1a) must include all flows that accumulate at the index location, including tributary inflows upstream. The unregulated-regulated flow transform (Figure F-1c) must represent, in the aggregate, the impact of all regulation upstream of the index location. This impact will include the impacts of intentional regulation by upstream reservoirs and diversions, and the incidental impact of regulation if any upstream design features, such as levee systems, overtop and flows onto an adjacent floodplain. The discharge-stage transform (Figure F-1g) is a localized function, representing conditions at each index location, unaffected by upstream conditions, but including perhaps the impact of downstream conditions if backwater influences stage. Finally, the stage-damage relationship (Figure F-1k) is typically used to assess the economic risk. However, for proposed alterations, it is only required to consider hydrologic and hydraulics performance of the system, therefore the stage-damage relationship need not be "real" unless the requester has the information and chooses to include

economic damages. Reference F-2.d. of this appendix contains an example of how to utilize a "dummy" stage-damage relationship.

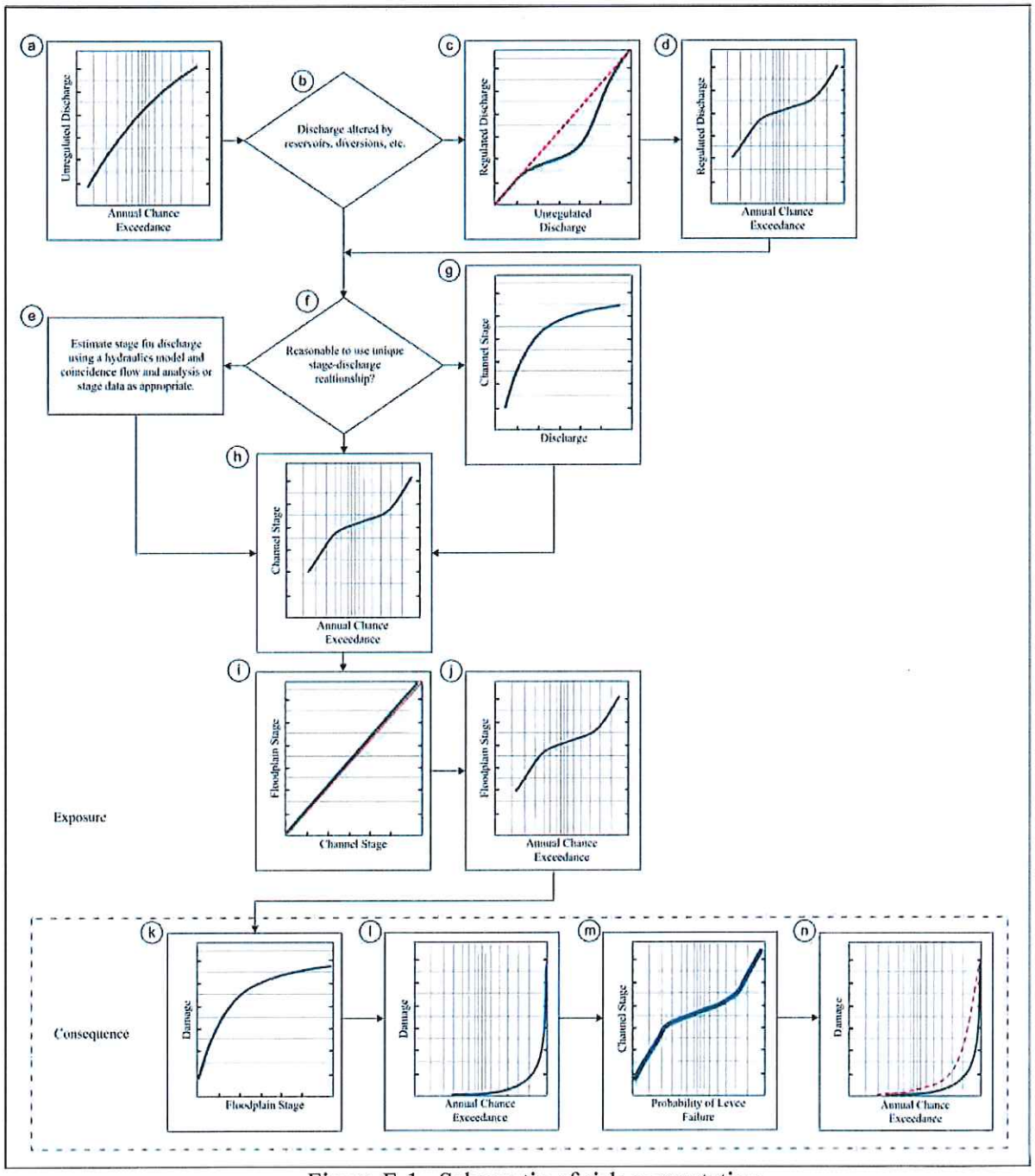


Figure F-1. Schematic of risk computation

(b) In addition to the various functions required for hydrologic and hydraulics system analysis, the uncertainty about each function must be described. This task is completed following the general guidance presented in this appendix and EM 1110-2-1619. However, current policy does not cover how to describe the uncertainty about functions that represent accumulated impacts. For example, the uncertainty about the unregulated to regulated discharge transform at a location downstream of multiple reservoirs must reflect the accumulated uncertainty about joint operation of those reservoirs. If the district needs assistance in determining accumulated impacts, districts should consult experts at Engineer and Research Development Center (ERDC), HEC, or engage the division and HQUSACE, reference paragraph 9 of the main EC, Vertical Teaming.

(4) Step 4: Assess hydrologic and hydraulics performance of the existing and authorized conditions, if they are different, at all index locations. Hydrologic and hydraulics performance is computed location by location within the extent of the system. The software HEC-FDA (HEC, 2008) may be used for this computation. Results may be reported as shown in paragraphs F-4 and F-5.

(5) Step 5: Simulate system behavior and performance with the features of the proposed alteration in place as necessary to revise and modify all functions and transforms throughout the system to reflect changes due to the proposed alteration.

(a) Analysis needed in this step will depend upon the proposed alteration. For example, if the alteration includes the addition of flood storage or changes to the manner in which available storage is operated, a reservoir system simulation model such as HEC-ResSim may be developed and ran with a period of record or selected hypothetical events. Through this model, a new unregulated to regulated discharge transform can be developed.

(b) Similarly, if the proposed alteration includes changes to the channel, for example through levee setbacks, these changes must be simulated to derive new transforms for downstream locations. Those transforms may change as a result of the channel changes.

(c) The system analysis must include a forecast of future hydrologic and hydraulics conditions with proposed alteration features in place. The analysis must consider the effects of reasonably foreseeable future alterations and/or projects throughout the system in conjunction with the proposed alteration.

(6) Step 6: Compute hydrologic and hydraulics conditions with the proposed alteration performance indices at index locations system-wide. Hydrologic and hydraulics performance are computed point by point within the extent of the system. The HEC-FDA software (HEC, 2008) may be used for this computation.

(7) Step 7: Determine if likelihood of inundation is transferred by comparing hydrologic and hydraulics performance indices system-wide. Once various indices of hydrologic and hydraulics performance is computed and reported, system-wide impact of a proposed alteration

can be assessed. For proposed alterations that reduce the likelihood of inundation, the AEP will be less and confidence in reduction in likelihood of inundation will be greater. However, these outcomes may not be true for all index locations within the system; therefore all locations must be assessed. Proposed alterations may have adverse changes, thus shown as increases in AEP and to decreases in assurance at one or more index points. If these adverse changes are determined to be significant, then the proposed alteration likely must be denied. If the district is unsure about determining if adverse impacts are significant, the district should engage the division and HQUSACE, reference paragraph 9 of the main EC, Vertical Teaming.

F-5. Display of Hydrologic and Hydraulics System Performance Reporting.

a. The performance is required to be described. Useful measures of this performance include the following:

(1) Annual exceedance probability for overtopping only. This measure is well represented by the annual exceedance probability computed for a location in the floodplain if that computation includes the entire range of exposure. For example, in the case of a floodplain containing a levee, the annual exceedance probability may be computed considering capacity exceedance due to overtopping only. Uncertainty about all functions must be included in the annual probability computations. Annual exceedance probability must also consider the entire range of discharge or elevation represented by the probability functions, from the $p = 0.50$ to $p = 0.002$ events, for example. Uncertainty about all functions must be included in the annual probability computations. Table F-1 provides a way to describe the performance at each index point in terms of AEP.

Table F-1 AEP

Index Point	Existing AEP	With Alteration AEP	Change in AEP
1			
2			
N			

(2) Assurance for overtopping only for selected flood loading. This performance measure represents the probability that an index point will perform as expected when the system is loaded with a single selected flood. For example, this index of performance may quantify the probability that the system will perform as expected if the flood discharge is 350,000 cfs (9,911 cu m/sec), or if the annual maximum event is a $p = 0.01$ event. The computation must consider uncertainty. Table F-2 provides a way to describe the performance at each index point for various flood events in terms of assurance (also referred to as "CNP").

Table F-2 Assurance

Index Point	Probability of Annual Event					
	0.02		0.01		0.004	
	Existing	With Alteration	Existing	With Alteration	Existing	With Alteration
1						
2						
N						

In other words, this index of performance shows the probability that the target stage associated with each alteration plan will not be exceeded, given the occurrence of an event of specified annual chance exceedance probability.

b. To improve the understanding of the impacts of the proposed alteration, inundation maps showing flood depths for the two scenarios of 1) without the proposed alteration and 2) with the proposed alteration will be required. The inundation maps will include the location of the proposed alteration and areas within the system where hydrologic and hydraulics impacts may occur.

F-6. Display of System-Wide Hydrologic and Hydraulics Performance and Uncertainty Information. Displaying and reporting of system-wide hydrologic and hydraulics performance and uncertainty will require engineering judgment. Reference F-2.d. of this appendix may be used as an example. There may be challenges in developing consistent system-wide inflow flood-frequency curves with uncertainty; accurately representing reservoir operation rules with attendant uncertainty to develop regulated flow frequency curves; and adequately reflecting the integrity or lack thereof of the system with its associated uncertainty. The reference in paragraph F-2.e. contains further description of the challenges. Displaying and reporting of system-wide hydrologic and hydraulics performance and uncertainty information is an extension of displaying and reporting of hydrologic and hydraulics performance and uncertainty for a single site or impact area.

(This page intentionally left blank)

Appendix G

Use of Section 214 of WRDA 2000, as amended, for 33 U.S.C. § 408

G-1. Purpose. The purpose of this appendix is to provide guidance for accepting funds from non-federal public entities to expedite the evaluation of proposed alterations pursuant to 33 USC 408.

G-2. References.

a. Section 4 of the Indian Self-Determination and Education Assistance Act (25 USC 450(b))

b. Section 214 of the Water Resources Development Act of 2000 (Public Law 106-541), as amended

c. Clean Water Act Section 404 (33 USC 1344) and/or Rivers and Harbors Act Section 10 (33 USC 403)

d. 10 USC 2695. Acceptance of funds to cover administrative expenses relating to certain real property transactions

G-3. Authority. Section 214 of the Water Resources Development Act of 2000 (Public Law 106-541), as amended, provides:

a. The Secretary, after public notice, may accept and expend funds contributed by non-federal public entities to expedite the evaluation of permits of those entities related to a project or activity for a public purpose under the jurisdiction of the Department of the Army.

b. In carrying out this section, the Secretary will ensure that the use of funds accepted under subsection (a) will not impact impartial decision making with respect to permits, either substantively or procedurally.

c. The authority provided under this section is in effect from October 1, 2000, through December 31, 2016, unless further amended.

G-4. Background. The U.S. Army Corps of Engineers (USACE) has used the Section 214 authority to accept and expend funds for expediting Section 10/404/103 permit applications in the regulatory program. In addition, it has been determined that it is appropriate to receive funding under that authority to expedite processing of requests pursuant to 33 USC 408. Division and District Commanders are hereby authorized to accept and expend funds contributed by non-federal public entities for the purposes of Section 408, subject to the limitations herein.

G-5. Non-Federal Public Entity. Non-federal public entities are limited to governmental agencies, including the governments of Indian Tribes as defined in Section 4 of the Indian Self-Determination and Education Assistance Act (25 USC 450(b)). Typical Section 408 request agencies may include: flood risk management districts, water conservation agencies, storm water management agencies, transportation departments, hydropower agencies, and port authorities that have the desire to expedite the Section 408 review process. The non-federal public entity seeking expedited review under Section 408 need not be the non-federal sponsor of the federally authorized project. Private entities are not allowed to provide funding pursuant to Section 214.

G-6. Acceptable Uses of Funds. Examples of acceptable uses of funds provided by non-federal public entities pursuant to Section 214 for the purpose of expediting the evaluation of submitted Section 408 requests include, but are not limited to, Agency Technical Review, real estate evaluation, copying or other clerical/support tasks, site visits, travel, coordination activities, additional personnel (including support/clerical staff), contracting support for technical services, and environmental review and filing the environmental compliance documents.

a. Section 214 will not be used to accept and expend funds to cover administrative expenses related to the issuance of real property instruments required if the Section 408 permission is granted. Those administrative costs for drafting, negotiating, or issuing any necessary real estate instruments, will be accepted under the provisions of 10 USC 2695.

b. No funds provided by a federal agency to a non-federal public entity may be accepted by USACE under Section 214 unless the non-federal public entity forwards to USACE a written confirmation from the federal agency that the use of the funds to expedite the evaluation of Section 408 permit applications is acceptable.

c. No funds under Section 214 will be accepted if it will negatively impact impartial decision making, see paragraph G-7.

G-7. Initial Public Notice for Intent to Accept Funds.

a. Prior to accepting and expending funds contributed by non-federal public entities, the division or district must issue a public notice, post the public notice in a clearly identified and easily accessible area (e.g., "Acceptance of Section 214 Funds for Expediting Section 408 Requests") on its webpage, and distribute the notice to concerned agencies, organizations, and the interested public.

b. The public notice will describe the non-federal public entity providing such funds, the USACE authority to accept and expend such funds, the reason for such contributions, how acceptance of the funds is expected to expedite the Section 408 review process, what types of activities the funds will be expended on, what procedures will be in place to ensure that the funds will not impact the division or district's impartial decision making, and information on the impacts, if any, to the district's and division's Section 408 review and evaluation process that is not subsidized by funds contributed by non-federal public entities. Further, if Section 214 funds

are also intended to be accepted or have been accepted to expedite the evaluation of Section 10/404/103 permit applications for the same proposed alteration and/or by the same non-federal public entity, such intention should be clearly stated in the public notice.

c. Provided that the purpose for accepting funds remains the same as that described in the initial public notice, a new public notice is not required in the event a memorandum of agreement (MOA), as defined in paragraph G-6 below, is amended to extend the term of the agreement, to modify the proposed alteration identified in the MOA, or to adjust the terms of the advance payment contemplated under the MOA.

G-8. Basis for Acceptance of Funds. Following the review of the comments received in response to the public notice, the Division or District Commander will determine if accepting funds will expedite the processing of Section 408 requests for the funding entity, provided that the division and/or the district can put in place measures to ensure impartial evaluation and decision-making, and provided that accepting these funds will not slow down evaluation of other Section 408 requests. If the Division or District Commander determines, after considering public comments, that the acceptance and expenditure of the funds is appropriate, the funds may be accepted and expended. Funds will be accepted only if the public interest is better served through cost effectiveness, enhanced evaluation capability, streamlined reviews, or other appropriate justification. An informational public notice will be issued regarding the Division or District Commander's decision. The division or district will post the informational public notice on its webpage in the same, easily identifiable and accessible area used for the first public notice, and distribute the notice to concerned agencies, organizations, and the interested public. Prior to accepting any monies, the division or district will enter into a memorandum of agreement (MOA) with the funding entity. At a minimum, the MOA must include a scope of work, an itemized budget estimate, address the provision of additional funds if needed, as well as the return of unused funds, and must identify the total annual cost for each federal fiscal year covered by the term of the MOA. The itemized budget estimate must include identification of personnel, hourly rates, indirect labor costs, estimated hours of work, and travel costs related to the MOA scope of work.

G-9. Impartial Decision Making.

a. Section 214 requires that the government ensure that the use of funds accepted under that statute does not impact impartial decision making, necessitating procedures in addition to those otherwise applicable to the consideration and evaluation of Section 408 requests.

b. A requirement applicable to all Section 408 requests is that if third party contracts are used to develop decision documents, such decision documents must be drafts only, and must be reviewed and adopted by USACE before any decision or recommendation is made.

c. Since Section 408 decisions may be at the Director of Civil Works level or the District Commander level, depending on the estimated magnitude of the impacts of the proposed alterations on the relevant USACE projects, impartial decision making at all review levels must

be ensured. In cases where the approval authority is at the level of the Director of Civil Works, and the district has accepted Section 214 funds, the district, through the division, must provide sufficient information to assure the decision maker that the acceptance and expenditure of funds by the district under Section 214 have not affected the district's or the division's evaluation of the Section 408 request, either substantially or procedurally. Draft technical documents or draft decision documents resulting from the use of Section 214 funds must be reviewed and signed by unfunded reviewers prior to consideration by the Division or District Commander. No funds received under Section 214 will be expended for the Division Commander's or the District Commander's consideration and recommendation concerning a Section 408 request.

d. Each Section 408 Summary of Findings, reference paragraph 7.c.(5) of the main EC, involving the expenditure of Section 214 funds will include a summary describing the procedures implemented to ensure the evaluation was impartial and in compliance with this guidance, including: (1) the initial public notice, any comments received, the memorandum documenting the Division or District Commander's decision to accept funds under Section 214, and the informational public notice of the Division or District Commander's decision; (2) the Section 214 MOA entered into by the division or district and the non-federal public entity to accept and expend funds; (3) an accounting of the amount, type, and source of funds accepted and spent; and (4) a qualitative assessment of how the use of the funds expedited the Section 408 review process.

e. When a final Section 408 decision has been made either by the Director of Civil Works or District Commander, that decision will be made publicly available on the originating district's webpage in an area clearly identifiable as being for Section 408 reviews funded through this authority.

G-10. Accountability. The funds must be accounted for to ensure that they are expended for their intended purpose. Each district entering into a Section 214 MOA for a Section 408 evaluation will establish a separate account to track receipt and expenditure of the funds in the Corps of Engineers Financial Management System. USACE personnel accomplishing the technical and administrative tasks required to expedite the evaluation of the Section 408 request covered by the MOA will charge their time against a specific account when working on those requests. Within 30 calendar days of the conclusion of each fiscal year, Division Commanders will provide to the appropriate Regional Integration Team letter reports documenting the acceptance and expenditure of funds; an accounting of the amount, type, and source of funds accepted and spent; copies of any public notices published within that fiscal year, any comments received with responses given; a quantitative and qualitative assessment that defines and demonstrates how the use of the funds expedited the permit review process; an analysis of any issues regarding impartial decision making; a copy of the performance metrics used by the district to evaluate the effectiveness of the use of funds; a statement certifying that all funded personnel are aware of and appropriately trained on the requirements contained in this guidance memorandum; and a letter from the funding entity detailing its level of satisfaction with the district's performance under the MOA. An information copy of the reports and analysis will be

provided to the Office of the Assistant Secretary of the Army (Civil Works) within 60 days of the conclusion of each fiscal year.

(This page intentionally left blank)

Appendix H

Example Section 408 Decision Letter

District Letterhead
(Date here)

(Name and address of requester of determination here)
[Mr./Ms.] (Full Name of Requester)
(Title of Requester**)**
(Requester Address**)**
(City, State Abbreviation**, and Zip Code)**

Dear [Mr./Ms.] (Last Name of Requester),

The *(district name here)* District of the U.S. Army Corps of Engineers (USACE) has performed an evaluation of your request to *(brief description of proposed alteration)* to *(name of federal project to be altered)* operated and maintained by *(name (s) of non-federal sponsor (s) and/or USACE)* pursuant to Section 14 of the Rivers and Harbors Act of 1899, 33 USC 408 (Section 408). This evaluation was performed in accordance with Engineer Circular (EC) 1165-2-216.

Based on this evaluation, the *(district name here)* District ("grants" or "denies") the request to alter *(name of federal project to be altered)* for the following reasons: *(summarize rationale)*. *(Add optional language related to any special conditions). (If permission is granted, include the following statement – "As the requestor, you are solely responsible for any remedial action needed to correct any deficiency in the design or construction of the requested alteration.")*

For any questions regarding this evaluation, please contact *(name and title of district Section 408 point of contact here)* at *(contact information here)*.

Sincerely,
(Name of District Commander)

(district name here)
U.S. Army Corps of Engineers

Enclosures *(Attach supplemental documentation as needed).*

(This page intentionally left blank)

Appendix I

Acronyms

CFR	Code of Federal Regulation
CEQ	Council on Environmental Quality
EC	Engineer Circular
EP	Engineer Pamphlet
ER	Engineer Regulation
EA	Environmental Assessment
EIS	Environmental Impact Statement
FONSI	Finding of No Significant Impact
IEPR	Independent External Peer Review
M&I	Municipal and Industrial
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
O&M	Operations and Maintenance
PPA	Project Partnership Agreement
ROD	Record of Decision
USACE	United States Army Corps of Engineers
USC	United States Code

(This page intentionally left blank)