



**US Army Corps
of Engineers**
Rock Island District

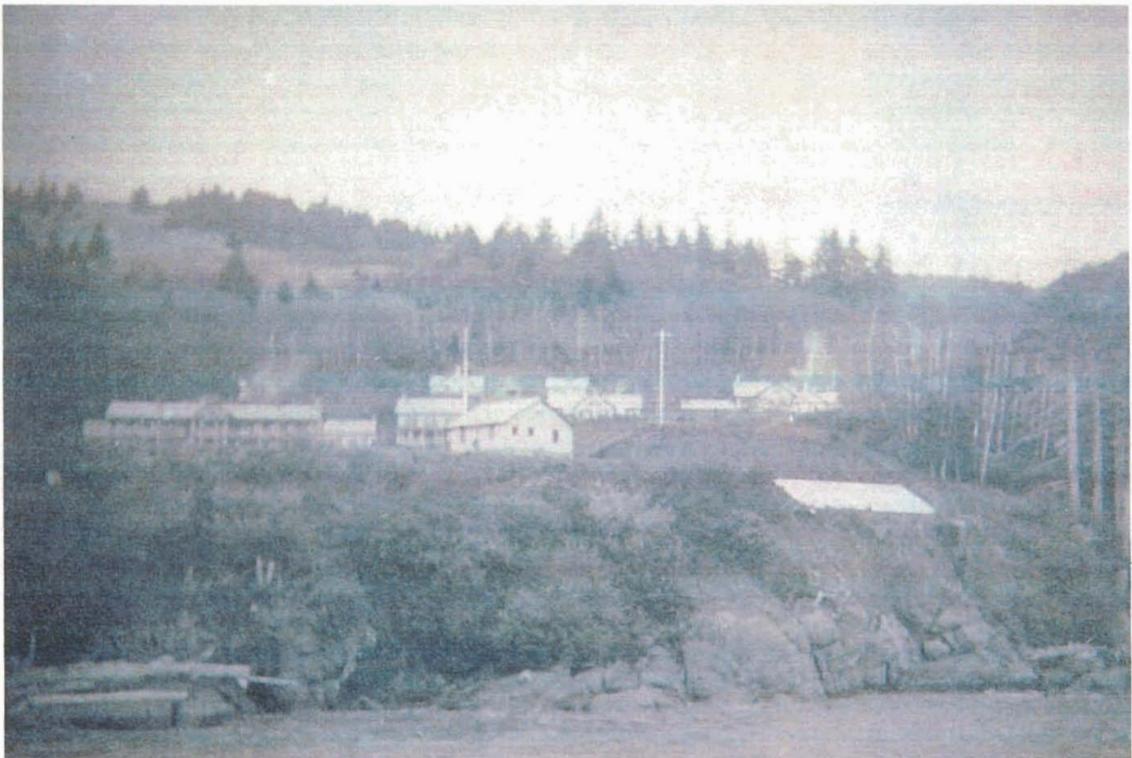
**Defense Environmental Restoration Program
for
Formerly Used Defense Sites
MILITARY MUNITIONS RESPONSE PROGRAM
PRELIMINARY ASSESSMENT**

For the Former

Fort Columbia Military Reservation

**Pacific County, Washington
Project Number F10WA031402**

**FINAL REPORT
JANUARY 2005**



EXECUTIVE SUMMARY:

The investigation focused on approximately 769.68 acres located in Pacific County, Washington. The U.S. Army purchased the property from a early pioneer in 1864 for the sum of \$3,000. The former site was purchased for military use as part of the Harbor Defenses of Columbia.

The land purchased for Fort Columbia lay dormant until 1898. The Spanish American War was responsible for renewed interest in construction of a modern seacoast defense system on the Columbia River. Construction started on Battery Ord in 1899 and was completed the following year. Two additional batteries were completed by 1903. The first contingent of Army regulars reported to the garrison on 23 June 1903. The former Fort Columbia provided defense for the Columbia River through the end of WWII. The War Department reduced the fort to caretaker status as the war ended in 1945. In December 1947 the Department of the Army declared a number of installations as surplus. The declaration included the former Fort Columbia. In the spring of 1948 the War Assets Administration assumed custody and accountability for the fortress.

Several years later the State of Washington negotiated with the WAA and was granted ownership of the property for use as a state park. The dedication of Fort Columbia Historical State Park was on 17 June 1951. The fort has remained under the control of the Washington State Park System since that time.

The Archive Search Report concludes that there is no ordnance presence on the former Fort Columbia.

RISK ASSESSMENT PROCEDURES FOR
MILITARY MUNITIONS RESPONSE PROJECTS

Property Name:	<u>Fort Columbia Military Reservation</u>	Rater's Name:	<u>Daniel Linehan</u>
Property Location:	<u>Chinook, WA</u>	Phone Number:	<u>918-420-8868</u>
FUDS Property/Project #:	<u>F10WA031402</u>	District:	<u>DAC</u>
Property Type:	<u>Coastal defense</u>	Office Symbol:	<u>SJMAC-ESM</u>
Score:	<u>5</u>	Date Completed:	<u>2 AUGUST 2004</u>

RISK ASSESSMENT:

This risk assessment (RAC) procedure was developed to address explosives safety hazards related to munitions. This procedure does not address environmental hazards associated with munitions constituents. The U.S. Army Engineering and Support Center, Huntsville (USAESCH), Ordnance and Explosives Directorate (CEHNC-OE) developed this procedure in accordance with MIL-STD 882C and AR 385-10. The Risk Assessment Code (RAC) score will be used by the U.S. Army Corps of Engineers to prioritize the response action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based on the best available information resulting from record searches, reports of Explosive Ordnance Disposal (EOD) actions, field observations (site visits), and interviews. This information is used to assess the risk involved based on the potential MMRP hazards identified for the project. The risk assessment evaluates two factors, hazard severity and hazard probability.

Part I - Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible event resulting from personnel exposure to various types and quantities of unexploded ordnance.

TYPE OF ORDNANCE: (Check all that apply)

A. Conventional ordnance and ammunition:	VALUE
Projectiles, explosive (20 millimeter and larger)	10 <input type="checkbox"/>
Bombs, explosive	10 <input type="checkbox"/>
Grenades, hand or rifle, explosive	10 <input type="checkbox"/>
Landmine, explosive	10 <input type="checkbox"/>
Rockets, guided missile, explosive	10 <input type="checkbox"/>
Other Explosive item not previously stated	10 <input type="checkbox"/>
Bomb, practice (w/spotting charge)	6 <input type="checkbox"/>
Detonators, blasting caps, fuses, boosters, bursters	6 <input type="checkbox"/>
Practice ordnance (w/ spotting charges, other than bombs)	4 <input type="checkbox"/>
Small arms, complete round (.50 cal or less)	1 <input type="checkbox"/>
Small arms, expended (.50 cal or less)	0 <input type="checkbox"/>
Practice ordnance (w/o spotting charges)	0 <input type="checkbox"/>
Conventional ordnance and ammunition (enter largest single value checked)	0

What evidence do you have regarding conventional unexploded ordnance? No evidence of confirmed or potential MEC presence.

Property Name:
Project Number:
Property Type:

B. Pyrotechnics (for munitions not described above):

VALUE

Munitions containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable) 10

Munitions containing a flame or incendiary material (i.e., Napalm, Triethylaluminum metal incendiaries) 10

Containers containing WP or other pyrophoric material or flame or incendiary material 6

Flares, signals, simulators, screening/burning smokes (other than WP) 4

Pyrotechnics (enter the single largest value checked) 0

What evidence do you have regarding pyrotechnics? None

C. Bulk Explosives (HE) (not an integral part of conventional ordnance; un-containerized):

VALUE

Primary or initiating explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.) 10

Secondary explosives (Demolition charges, PETN, Compositions A, B, C, Teteryl, TNT, RDX, HMX, HBX, Black Powder, etc.) 8

Insensitive explosive substances (explosive contaminated soils, ammonium nitrate) 3

Bulk Explosives (HE) (enter the single largest value checked) 0

What evidence do you have regarding bulk explosives? None

Property Name:
Project Number:
Property Type:

D. Bulk propellants (not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

VALUE

Solid or liquid propellants

6

Bulk Propellants (select 6 or 0)

0

What evidence do you have regarding bulk propellants? None

E. Recovered Chemical Warfare Materiel (RCWM), Weaponized Industrial Chemicals and Radiological Materiel:

VALUE

Toxic chemical agents (H-Mustard, G-Nerve, V-Nerve and L-Lewisite)

25

Chemical Agent Identification Sets

20

Radiological Materiel (If rad waste is identified please call the HTRW-CX at 402-697-2555)

15

Weaponized Industrial Chemicals (Hydrogen Cyanide AC; Cyanogen Chloride, CK; Phosgene, CG)

10

Riot Control Agents (vomiting, tear)

5

Chemical and Radiological (enter the single largest value checked)

0

What evidence do you have regarding chemical or radiological? None

TOTAL HAZARD SEVERITY VALUE (Sum of value A through E, maximum of 61)

0

Apply this value to Table 1 to determine Hazard Severity Category

Property Name:
Project Number:
Property Type:

**TABLE 1
HAZARD SEVERITY***

<u>DESCRIPTION</u>	<u>CATEGORY</u>	<u>HAZARD SEVERITY VALUE</u>
CATASTROPHIC	I <input type="checkbox"/>	21 and/or greater
CRITICAL	II <input type="checkbox"/>	10 to 20
MARGINAL	III <input type="checkbox"/>	5 to 9
NEGLIGIBLE	IV <input type="checkbox"/>	1 to 4
**NONE	V <input checked="" type="checkbox"/>	0

*Apply Hazard Severity Category to Table 3 and complete Part II of this form.

**If hazard severity value is 0, complete Part II of this form. Then proceed to Part III and use a RAC score of 5 to determine your appropriate action.

PART II - Hazard Probability. The probability that a hazard has been, or will be, created due to the presence and other rated factors of unexploded ordnance, explosives, incendiary, pyrotechnic, radiological, or RCWM materials on a formerly used Department of Defense (DOD) site.

AREA, EXTENT, ACCESSIBILITY OF MMRP HAZARD (Check all that apply)

A. Locations of MMRP hazards:

	VALUE
On the surface	5 <input type="checkbox"/>
Within tanks, pipes, vessels, or other confined areas	4 <input type="checkbox"/>
Inside walls, ceilings, or other building/structure	3 <input type="checkbox"/>
Subsurface	2 <input checked="" type="checkbox"/>
Location (enter the single largest value checked)	2

What evidence do you have regarding the location of MMRP? Any MEC is would have to be subsurface.

Property Name:
Project Number:
Property Type:

B. Distance to nearest inhabited location/structure likely to be at risk from MMRP hazard (road, park, playground, building, etc.).

	VALUE
Less than 1,250 feet	5 <input checked="" type="checkbox"/>
1,250 feet to 0.5 mile	4 <input type="checkbox"/>
0.5 mile to 1.0 mile	3 <input type="checkbox"/>
1.0 mile to 2.0 Miles	2 <input type="checkbox"/>
Over 2 miles	1 <input type="checkbox"/>

Distance (enter the single largest value checked) 5

What are the nearest inhabited structures/buildings? The site is a State Park with a high visitor rate and overnight lodging.

C. Number(s) of building(s) within a 2-mile radius measured from the MMRP hazard area, not the installation boundary.

	VALUE
26 and over	5 <input type="checkbox"/>
16 to 25	4 <input checked="" type="checkbox"/>
11 to 16	3 <input type="checkbox"/>
6 to 10	2 <input type="checkbox"/>
1 to 5	1 <input type="checkbox"/>
0	0 <input type="checkbox"/>

Number of buildings (enter the single largest value checked) 4

Narrative: There are several buildings within the park , plus several buildings on the eastern and western borders of the park.

Property Name:
Project Number:
Property Type:

D. Types of Buildings (within 2-mile radius)

VALUE

- | | |
|--|---------------------------------------|
| Educational, childcare, residential, hospitals, hotels, commercial, shopping centers | 5 <input checked="" type="checkbox"/> |
| Industrial, warehouse, etc. | 4 <input type="checkbox"/> |
| Agricultural, forestry, etc. | 3 <input type="checkbox"/> |
| Detention, correctional | 2 <input type="checkbox"/> |
| No buildings | 0 <input type="checkbox"/> |

Types of buildings (enter the single largest value checked)

5

Describe the types of buildings: The ASR states this is a popular state park with a caretaker staff and a large number of visitors.

E. Accessibility to site refers to access by humans to military munitions. Use the following guidance:

VALUE

- | | |
|---|---------------------------------------|
| No barrier nor security system | 5 <input checked="" type="checkbox"/> |
| Barrier is incomplete (e.g., in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing | 4 <input type="checkbox"/> |
| A barrier (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site. | 3 <input type="checkbox"/> |
| Security Guard, but no barrier | 2 <input type="checkbox"/> |
| A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel continuously monitors and controls entry; or, an artificial or natural barrier (e.g., fence combined with a cliff) which completely surrounds the area; and, a means to control entry at all times through the gates or other entrances (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the area). | 0 <input type="checkbox"/> |

Accessibility (enter the single largest value checked)

Describe the site accessibility: The area is open to the public.

Property Name:
Project Number:
Property Type:

F. Site Dynamics. This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion on beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5 <input type="checkbox"/>
Not anticipated	0 <input checked="" type="checkbox"/>
Site Dynamics (enter the single largest value checked)	0

Describe the site dynamics: None anticipated for this site.

TOTAL HAZARD PROBABILITY VALUE 21
 (Sum of largest values for A through F (maximum of 30). Apply this value to Hazard Probability Table 2 to determine the Hazard Probability Level.

**TABLE 2
HAZARD PROBABILITY***

<u>DESCRIPTION VALUE</u>	<u>LEVEL</u>	<u>HAZARD PROBABILITY</u>
FREQUENT	A <input type="checkbox"/>	27 or greater
PROBABLE	B <input checked="" type="checkbox"/>	21 to 26
OCCASIONAL	C <input type="checkbox"/>	15 to 20
REMOTE	D <input type="checkbox"/>	8 to 14
IMPROBABLE	E <input type="checkbox"/>	less than 8

*Apply Hazard Probability Level to Table 3

Property Name:
 Project Number:
 Property Type:

Part III - Risk Assessment. The risk assessment value for this site is determined using the following Table. Enter the results of the Hazard Probability and Hazard Severity values.

TABLE 3

PROBABILITY LEVEL	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
SEVERITY CATEGORY:					
CATASTROPHIC I	1 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
CRITICAL II	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
MARGINAL III	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
NEGLIGIBLE IV	3 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
None (V) = RAC 5 <input checked="" type="checkbox"/>					

RISK ASSESSMENT CODE (RAC)

- RAC 1-4 Recommend and approve further action as appropriate. Refer to EP 1110-1-18 for discussion of MMRP projects and the process to be followed for execution of project response actions.
- RAC 5 Usually indicates that No DOD Action Indicated (NDAI) is necessary. Recommend and approve NDAI and follow instructions for project closeout in accordance with current program guidance.

PART IV - Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.
There are no areas of confirmed or potential MEC presence at this site.

Property Name:
 Project Number:
 Property Type:

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
FOR
FORMERLY USED DEFENSE SITES

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

September 2003

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ORDNANCE AND EXPLOSIVES
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 FORMER FORT COLUMBIA MILITARY RESERVATION
 PACIFIC COUNTY, WASHINGTON
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ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
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ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

1. INTRODUCTION

a. Subject and Purpose

(1) This report presents the findings of a historical records search and site inspection for ordnance and explosives (OE) presence located at the former Fort Columbia Military Reservation (see plate 1 for general location map). The investigation was performed under the authority of the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS).

(2) The investigation focused on approximately 769.68 acres located in Pacific County, Washington. The U.S. Army purchased the property from a early pioneer in 1864 for the sum of \$3,000. The former site was purchased for military use as part of the Harbor Defenses of Columbia (see documents E-1, E-11, E-12 and E-24).

(3) The purpose of this investigation was to characterize the site for potential OE presence, to include conventional ammunition, missiles, and chemical warfare materiel (CWM). This was achieved by a thorough evaluation of historical records, interviews and on-site visual inspection results.

b. Scope

(1) This report presents the site history, site description, real estate ownership information, and confirmed ordnance presence (prior to and after site closure), based on available records, interviews, site inspections, and analyses. The analysis provides a complete evaluation of all information to assess current day potential ordnance presence, where actual ordnance presence has not been confirmed.

(2) For the purpose of this report, OE presence consists of live ammunition, live ammunition components, CWM or explosives which have been lost, abandoned, discarded, buried, fired, or thrown from demolition pits or burning pads. These items were manufactured, purchased, stored, used, and/or disposed of by the War Department/Department of Defense. Such ammunition/components are no longer under accountable record control of any DOD organization or activity.

(3) **Expended** small arms ammunition (.50 caliber or smaller) is **not** considered OE presence. OE further includes "explosive soil" which refers to any mixture in soil, sands, clays, etc., such that the mixture itself is explosive. Generally, 10 percent or more by weight of secondary explosives in a soil mixture is considered explosive soil.

2. PREVIOUS INVESTIGATIONS

a. **Corps of Engineers Documents**

(1) A Preliminary Assessment of Eligibility (PAE), dated 7 November 1991, of the former Fort Columbia Military Reservation was authorized under DERP-FUDS. Shapiro and Associates, Incorporated conducted the PAE. The Findings and Determination of Eligibility, dated 3 April 1992, concluded that this site, Site Number F10WA031400, was found to have been formerly used by the Department of Defense (DOD), and was therefore eligible for the Defense Environmental Restoration Program (see documents E-22 and E-23).

(2) Table 2-1 is included to show the status of any DERP-FUDS PAE projects concerning the subject site.

TABLE 2-1 1993 PRELIMINARY ASSESSMENT of ELIGIBILITY				
Project Number	DERP Category	Present Phase	Comments	Location
F10WA031401	CON/HTRW	N/A	Completed	Support Area
F10WA031402	OE	SI	Ordnance & Explosives Presence	Entire Site
N/A	BD/DR	N/A	None Recommended	N/A

b. **Other Reports**

There were no other pertinent investigations discovered during this site inspection.

3. SITE DESCRIPTION

a. **Existing Land Usage**

(1) The former Fort Columbia Military Reservation is located about six miles southeast of Ilwaco in Pacific County, Washington on Highway 101 (see plates 2 and 3). The

site is contained within Sections 9, 15, 16, 21, and 22, Township 9 North and Range 10 West.

(2) The total acreage of the former site is a little over 769.68 acres. The majority of the former site is now the Fort Columbia State Park and is owned by the State of Washington. The remaining land, a quarter of a quarter section, is owned by the Calumet Timber Company, Portland, Oregon (see documents G-4 and G-5, plates 2 and 3 and table 3-1).

TABLE 3-1 LAND USAGE					
AREA	FORMER USAGE	PRESENT OWNER	PRESENT USAGE	SIZE/ ACRES	COMMENT S
Area A	Military Reservation	State of Washington and Calumet Timber Company	State Park Forestry	769.68	Plate 3
Area B	Firing Fan	Public Domain	Shipping Recreation	7,102	Plate 3
FDE Acreage				769.68 acres	

b. Climatic Data

(1) The western boundary of the former site is near the Pacific Ocean and the southern boundary meets the Columbia river basin (reference B-8). The site is located in an area known as the Olympic Rain Forest area of the Coast Ranges Physiographic Province.

(2) Moderating influences of the ocean are largely responsible for the cool summers and moderate winters. The average July temperature ranges from 65 degrees Fahrenheit near the Pacific Ocean to 75 degrees Fahrenheit inland. January temperatures range from a high of 40 degrees Fahrenheit to a low of 30 degrees Fahrenheit (reference B-8). During the summer fog banks from over the ocean result in considerable fog and morning cloudiness in the lower elevations.

(3) The Willapa Hills form a continuous ridge from the Chehalis River valley to the Columbia resulting in heavy precipitation and winds of gale force frequently during the winter season (reference B-9). Annual precipitation ranges from 70 to 100 inches in the coastal area. Snow fall ranges from 10 to 30 inches in the lower elevations and melts rather quickly. Snow depths seldom exceed six to 15 inches.

c. Topography

Topography of this site is steep sided at the shoreline of the Columbia River to very steep and hilly reaching an elevation of approximately seven hundred and fifty feet above sea level one half mile inland from the shoreline. The Columbia River on the south provides drainage for the subject site (reference B-8).

d. Geology and Soils

(1) Soils are composed of two associations that contain four series of soils. The soil associations are the Zenker-Elochoman and the Bunker-Knappton.(reference B-8).

(2) The Zenker series consists of very deep, well drained upland soil. Slopes range from 8 to 90 percent with elevations from 50 to 1,600 feet. This soil is formed from weathered sandstone. The Elochoman series consists of very deep, well drained soils on the uplands. This series is found at elevations of 100 to 1,800 feet. Again, these soils are formed from weathered sandstone (reference B-8). This association up hill north to south in the central area of the former site and ranges from zero feet above sea level to 750 feet above sea level.

(3) The Bunker series is a very deep, well drained soils on uplands. Bunker soils are formed in colluviums derived from basalt. Like the above series they are found at elevations of 100 to 1,800 feet.(reference B-8). The slopes range from 5 to 90 percent with the soils on this site tending to be in the higher range. The Knappton Series is also derived from weathered basalt with slopes from 8 to 90 percent. This association is found formed around the above Zenker-Elochoman association.

e. Hydrology

A well log was obtained for a private well one mile west of the former site at approximately two feet above sea level. The well was drilled to a depth of 35 feet however potable water was not reached. No other well logs were found for the general area (document E-28).

f. Natural Resources

It is suspected that endangered species frequent the subject site. If any intrusive actions are anticipated write or call the Washington Department of Fish and Wildlife, Region 6, 48 Devonshire Road, Monsanto, WA (references B-5 and B-6).

**TABLE 3-2
NATURAL RESOURCES**

Resource Classification	Type	Comments
Birds	N/A	None Identified
Plants	N/A	None Identified
Animals	N/A	None Identified
Insects	N/A	None Identified
Reptiles	N/A	None Identified

g. Historical/Cultural Resources and Demographics

(1) Historical: The Fort Columbia State Park is listed on the National Historical Register. Information concerning a site survey may be requested from the Washington State Historic Preservation Office, 111 West 21st Ave, KL-11, Olympia, WA (see document.E-21).

(2) Cultural: The Chinook Native American Tribe was the original inhabitants of the area. The first white people to come to the area were the Spanish and Portuguese with the English and French explorers following soon afterward. Later settlers from the Scandinavian countries were drawn to the area and remained (reference B-7). There are no known archeological sites in the park however, prior to any intrusive activities contact Washington State Historic Preservation Office.

(3) Demographics: Ilwaco, incorporated in 1890, is a city of 950 people according to the 2000 census however, during the summer the city swells to nearly 3,000 people. The city is in the Pacific County, Washington on the shores of the Columbia River and the Pacific Ocean. The city is in legislative district nineteen and congressional district three. A mayor and five city council members govern the city. Cranberry farming, oyster industry, salmon fishing, commercial forestry operations and a thriving tourist industry economically support the city.

4. HISTORICAL SITE SUMMARY

a. Chronological Site Summary

(1) In February 1862 Congress appropriated \$100,000 to build defensive fortifications for the newly acquired northwest territory of the mouth of the Columbia River. Fearing Confederate gunboats entering the mouth of the

Columbia River a string of defenses were planned and initiated. Fort Stevens was completed in 1864 and Fort Canby was garrisoned in April 1864 at the very mouth of the river. The following year Colonel de Russey began negotiations for the purchase of the Chinook Point. After nearly a year of contractual problems Captain Elliot purchased the former Scarborough claim at a public auction. Captain Elliot then purchased the remaining property required for the new fort by negotiating a quitclaim deed with Mary Ducheney. The entire property transfer of 643 acres cost the United States Government a mere \$3,000 (see documents E-11, E-17 and E-18).

(2) The land purchased for Fort Columbia lay dormant until 1898. The Spanish American War was responsible for renewed interest in construction of a modern seacoast defense system on the Columbia River. Fort Columbia saw Battery Ord completed that year. Batteries Murphy and Crenshaw were completed in the next several of years. The first contingent of Army regulars reported to the garrison on 23 June 1903. The 33rd Company, Coastal Artillery from Fort Canby, Washington, manned the Fort. Facilities for support of a minefield were also presumably built at some point during this time period.

(3) World War I timeframe saw the decommissioning of Battery Ord and Battery Crenshaw. The three 3-inch guns on Battery Crenshaw were shipped to France and the two 8-inch guns of Battery Ord were removed (see documents E-2, E-4 and E-5). Battery Murphy was the only operational battery on Fort Columbia at the end of World War I. None of the artillery was ever fired at the enemy. A mine casement building was built to support the mining operations of the Columbia River. The Treaty of Versailles resulted in another short period of peace. As normally happens the Forts of the Columbia Defense System were again reduced in manpower and activity. Caretaker personnel managed only the essential functions to ensure the survivability of the Forts. The notable activity between wars was the occasional training of National Guard Coast artillery and mine units.

(4) The late 1930's again saw war looming on the horizon and military expansion and buildup began. The summer of 1940 saw the activation of all operable gun batteries. However, none of the minefields were laid. In May of 1941 the final tract of land was added to the reservation. A 40 acre tract was acquired by Declaration of Taking from the state of Washington and used as an observation post. Battery C of the 18th Coast Artillery reported to Fort Columbia on 29 September 1941. This was the manning of Fort Columbia on 7 December 1941 (see document E-11, E-12 and G-5).

(5) M4 ground mines were laid in an attempt to secure the mouth of the Columbia as WWII began. Shortly after ground mines (bottom) replaced the buoyant mines in an attempt to modernize the minefield (see document E-8). An underwater audio listening system and an electric switching system for firing the mines was installed to enhance the minefield. Approximately at the same time all control for the minefield was transferred from Fort Stevens to Fort Columbia. Battery Murphy with its 6-inch guns was the operational battery for Fort Columbia throughout the war (see document E-9).

(6) Fort Columbia manned for battle until the end of 1944 when it became apparent that Japan was no longer a threat to the mainland of the United States. At that time the manning of the fort was decreased, the 6-inch guns protecting the minefield and the Columbia River were removed and shipped out. The gun mounts themselves were dismantled and sold for scrap. The minefield was removed from the river and war material was shipped back to depots for redistribution. Fort Columbia reverted to caretaker status and awaited disposition.

(7) In December 1947 the Department of Army declared a number of installations as surplus. The declaration included the former Fort Columbia. In the spring of 1948 the War Assets Administration assumed custody and accountability for the fortress (see document E-10).

(8) Several years later the state of Washington negotiated with the WAA and was granted ownership of the property for use as a state park (see documents E-12, E-13 and E-14). The dedication of Fort Columbia Historical State Park was on 17 June 1951 (see document E-15). The fort has remained under the control of the Washington State Park System since that time.

(9) During the Cold War Battery 246 was utilized as a air raid shelter for state government officials. A newspaper article noted that at least one exercise was held in the mid 1960s' to test the facility for readiness in the event of enemy attack (see document E-29). Since that time the battery has been converted back to its original configuration and is currently, like the rest of the park, being restored.

TABLE 4-1
SUMMARY OF CHRONOLOGICAL HISTORY

Year	Action
1864	U.S. Army purchased property for Columbia River Defense
1896	Construction started on Battery Jules Ord, completed in 1898.
1899	Construction started on Battery William Murphy, completed in 1900.
1899	Construction started on Battery Frank Crenshaw, completed in 1900.
1918	Guns removed and shipped from Battery Jules Ord.
1918	Guns removed and shipped to France from Battery Frank Crenshaw.
1941	WWII, Fort Columbia manned. Battery Murphy operational. Minefield laid shortly thereafter.
1942	Construction started on Battery 246, never completed.
1943	Columbia River minefield upgraded with audio detection devices and a new electric switchboard.
1945	Columbia River Harbor Defense terminated.
1945	Columbia River Minefield was removed.
1945	Guns removed from Battery William Murphy.
1945	Fort Columbia reduced to caretaker status.
1948	War Assets Administration (WAA) assumes custody and accountability of Fort Columbia.
1950	The process of conveying Fort Columbia to the state of Washington State Park Service began. Parcels were doled out to the state over a period of four years. Nearly all improvements were included
1951	Fort Columbia became Fort Columbia State Park. The park was Dedicated on 17 June 1951.
1960	Battery Ord used as civil defense shelter for state government officials during the Cold War period.

b. Historic Military Munitions Usage

(1) Introduction

(a) Research efforts began with a thorough review of all reports, historical documents, and reference material gathered during the archival search. During this review, an effort was made to focus on areas of OE presence described in previous reports as well as additional areas that were identified during the research.

(b) Because of the evolution of military operations on the site, this section has been broken down chronologically by mission.

(2) Civil War Period

(a) This was the time period that Congress realized the importance of protecting the waterways as a means of keeping intruders from invading the expanding country. Congress appropriated \$100,000 for the fortification of the northwest frontier. The mouth of the Columbia River was recognized as a strategic location requiring protection. Fort Canby, Fort Stevens and Fort Columbia were planned for that purpose. Initially only Fort Canby and Fort Stevens were constructed however, in 1898 Fort Columbia was started.

(3) Post Civil War Period

(b) Fort Columbia was finally built at the turn of the century. Fort Columbia sported three batteries, Fort Ord with three 8-inch guns which was completed in 1898, Battery Creshshaw with a trio of 3-inch rapid fire guns and Battery Murphy with a pair of 6-inch guns that were completed in 1900 (see documents E-4, E-5 and E-25). Although no documentation was found the guns were probably test fired with solid or inert rounds.

(c) The fort augmented Fort Stevens, located directly across the Columbia River, by providing mine laying operations for the Columbia River minefield. Fort Columbia had its own mine casement building and docking facilities to support mine laying operations (see document E-3, E-8 and E-11).

(d) Numerous engineering problems were encountered with the new construction. The most easterly 8-inch gun for Battery Ord had critical flooding problems and was dismantled and filled in with earth shortly after its construction (see document E-4). Other than short periods of occupancy the fort remained in caretaker status

(3) WWI Period

(a) Few records of WWI activities were found. Several photographs of the barracks and officer housing indicate that Fort Columbia was a major coastal defense site and was fully operational during the WWI timeframe. Only Battery Murphy was functional. Photographs of the 6-inch battery confirm that it was manned and ready to defend the Columbia. However, no records of test firing or practice firing of the guns were found (see document F-3).

(b) The assumption can be made that training and target practice was accomplished and also because of the short distances between other coastal defense sites and populated area, the town of Astoria, only limited firing fans were permitted. Standard combat loads for all three batteries were a mixture of armor piercing and high explosive rounds. Practice firing would have been accomplished only with inert filled or solid steel projectiles and would have been directed at targets towed in the center of river only. None of the batteries ever fired a shot in anger during WWI (see documents E-20 and E-21).

(c) A historical report mentions buoyant mines as the only mines used in the Columbia River mine field during WWI. Again, with the little information available, it can be assumed that Fort Columbia provided the mines for mining the north side of the river. It is possible that a few mines were detonated for practice during this timeframe. The mines deployed in the minefield itself would have been retrieved when the threat of war ended (see document E-3 and E-11).

(d) At some point after the start of WWI Batteries Crenshaw had its guns removed. Documents show that by 1918 the three 3-inch guns from Battery Crenshaw were removed and shipped to France. A park illustration at the former battery stated the guns were shipped to France at the onset of the war. The two 8-inch guns at Battery Ord were removed prior to the war possibly around 1910. Removal of the 8-inch guns was probably due to their obsolescence. Documentation shows that carriages for all the guns were sold as scrap (see document E-4 and E-5).

(4) Post WWI Period

The post WWII period saw no significant events involving ordnance and explosives. The years following WWI were quiet with only an occasional National Guard Coastal Artillery Unit training on rare occasion. One document does mention training on Battery Murphy. Mine training, if any, was probably done on the shores of the Columbia River due to heavy river commerce and fishing. No documentation was

found indicating any training was done with mines in the river (see document E-11).

(5) WWII Period

(a) Approximately a year prior to the United States entering the war the Columbia River Defenses were taken off caretaker status and manning was increased. Construction began on Battery 246, a modern battery with two 6-inch guns mounted on tear shaped shielded barbettes (see document E-12 and E-20). The only remaining battery on Fort Columbia, the 6-inch Battery Murphy assumed wartime posture (see document E-20). The river minefield was laid shortly after Pearl Harbor was bombed. A historical report mentions buoyant mines as the only mines at the onset of WWII. The system was upgraded to M4 ground mines in 1942 and maintained until the minefield was ordered removed in 1944 (see documents E-8 and E-11). Shortly after the minefield removal Battery Murphy was also dismantled with the 6-inch guns shipped and the carriages sold as scrap. At the time of stand-down, Battery 246 was near completion, however the gun tubes had not been installed.

(b) The mine casement building and the nearly completed 6-inch battery, Battery 246, were designed with decontamination rooms and air filtering equipment for use in case of an enemy attack with chemical munitions. However, there is no documentation to suggest that any type of chemical warfare materiel (e.g. M1 war gas identification sets or chemical-filled projectiles) was ever present on this site. A soldier serving at Fort Columbia during the war stated they never trained for chemical attacks (see interview H-5).

(6) Cold War Period

In 1960 Battery 246 was outfitted into a civil defense shelter for government officials. This was one of four shelters in the state (see document E-29). The former battery provided a bomb proof and gas proof facility however there never was any ordnance or explosives associated with it.

c. Other potential Areas of Environmental Interest

(1) Hazardous, Toxic, and Radiological Waste

The SI team did not observe potential HTRW hazards on site.

(2) Building Demolition/Debris Removal

The SI Team viewed several structures that contained building debris and deteriorated floor tiles containing asbestos.

d. Map Analysis

Many maps were available of the former Fort Columbia. Using the maps site inspection team was able to visit specific areas and buildings to confirm whether or not any hazards existed. The maps confirmed that there had not been any land use changes since the early 1900s'.

e. Aerial Photo Interpretation

An aerial photograph taken in 1953 was found at the Pacific County Historical Society. The photograph has excellent detail of the former Fort Columbia. A thorough examination of the photograph indicates that there were no landfill areas. No denuded areas that many times indicate burial areas were evident. There does not appear to be any stressed areas that would indicate chemical spills or usage on the photograph (see document F-4).

f. Interviews

(1) Mr. Roberts is the Washington State Park Ranger in charge of the Fort Columbia State Park. During the course of this interview Mr. Roberts stated that there has never been any reports of any OE being found on the park property. He added that one battery had been filled in with dirt almost immediately after it was constructed due to a water seepage problem and that he was not sure if anything had been buried during the process. However, he added that since the battery was directly in front of the Commander's house probably only clean fill was used. Mr. Roberts went on to say that he didn't feel that there were any burial sites in the area and that he has never found any evidence to support any other type of chemical contamination. He stated that there was no ordnance in any of the battery shell rooms or in any other structures (see interview H-4).

(2) Mr. Trophy Hughes, an extremely knowledgeable person on Fort Columbia, was stationed at the fort for several years before and during WWII. Mr. Hughes said that he was trained at Fort Stevens that is just across the river from Fort Columbia. He then reported in for duty at Fort Columbia. Mr. Hughes was assigned to Battery C, 18th Coastal Artillery and later to the 249th Coastal Artillery. Mr. Hughes duties at the fort were food service and serving as a member of the gun crew. He stated that their training with artillery was focused on firing solid projectiles at

towed water targets. The rounds fired were 6-inch TP and occasionally 37mm solid practice rounds. He said they checked their accuracy by watching splashes that could be easily seen in the water. Mr. Hughes stated that High Explosive rounds were never fired from the Fort Columbia batteries. He said that there were no anti-aircraft positions on Fort Columbia. Mr. Hughes stated another interesting fact. He said that he pulled the lanyard on the last round fired for training at Fort Columbia. He also said that there was never a round fired from the fort in anger. Mr. Hughes added that Fort Columbia did not have facilities for chemical training and that he never trained with a gas mask (see interview H-5).

(3) Ms. Gale Hemmen works with the Oregon State Park Service at Fort Stephens which is directly on the other side of the Columbia River from Fort Columbia. She has worked there for over twenty years and is quite familiar with Fort Columbia. She said much of her historical research on the Columbia River defense system also included Fort Columbia. She said that she was unaware of any type of OE related problems at either fort. Ms. Hemmen said that about ten years ago a fisherman did find an empty floating mine at the very mouth of the Columbia River. She stated that it was never determined where the mine had come from but that it was definitely empty (see interview H-1).

(4) Mr. Lund is a local historian that specializes in military history. He provided volunteer work at Fort Columbia several years ago and has done extensive research on the subject site. His prime project at Fort Columbia was to renovate the brig, which was completed about four years ago. Mr. Lund said that he has never heard of any ordnance problems on the subject site. Mr. Lund also said that he did not know of any environmental problems such as burial sites (see interview H-2).

(5) Mr. David Hansen works for the State Historical Preservation Office and has done a large amount of research on the Columbia River Defense System. He said that Fort Columbia was one of his favorite historical landmarks in the state of Washington. Mr. Hansen has done work at Fort Columbia researching all aspects of historical and cultural. He said that during the research no problems were ever uncovered with ordnance or explosives (See interview H-3).

5. SITE ELIGIBILITY

a. **Confirmed Formerly Used Defense Sites**

(1) Former land usage by the War Department was confirmed for the site as summarized in section 2a of this

report. The approximately 769.68 acre site was under control of the Department of the Army from 1864 until 1947.

(2) Documentation shows that the last known lease expired and the control passed from the Department of Army to the original property owners in 1948 (documents E-18 and E-19). Today, no ownership of any part of the former installation remains with the Department of Defense (see plate 4 and document E-22).

b. Potential Formerly Used Defense Sites

No potential FUDS site was found.

6. VISUAL SITE INSPECTION

a. General Procedures and Safety

(1) During the period 17 through 24 July 2003, members of the Site Inspection (SI) team assessed the former Fort Columbia. The primary task of the inspection team was to assess the former site for OE presence. The site inspection was limited to non-intrusive methods. Subsurface sampling was not authorized nor performed.

(2) Rights-of-entry were willingly granted from the Washington State Park Department. Mr. Evan Roberts, Senior Park Ranger, personally guided the SI Team to all areas of interest in the park.

(3) A site safety plan (reference I-1) was developed and utilized by the SI team to assure safety from injury during the site inspection of this facility. A briefing prior to the inspection was conducted which stressed that OE should only be handled by military EOD personnel.

(4) Prior to the site visit, a thorough review of all available reports, historical documents, texts, and technical ordnance reference materials gathered during the historical records search portion of the ASR was made to ensure awareness of potential ordnance types and hazards.

b. Site Inspection: Area A, Military Reservation

(1) The site inspection began when the Site Inspection team (SI team) met with Park Ranger Roberts at the old fort fire house which has been converted for a supply storage area and vehicle parking. Using an all-terrain vehicle the SI team proceeded east past the billeting area and then approximately a quarter of mile north up a heavily forested steep trail to an observation and command post area. This area provided a commanding view

of the cantonment and battery area of the camp as well as a panoramic view of the Columbia River. Command Post and Observation buildings were still standing. This area did not have any record of ordnance presence (see photographs K-1, K-2, and K-3).

(2) The SI team continued up the trail to the highest observation and communication post. This area had no structures other than a concrete post with telephone line connections. The area is approximately 500 feet above sea level. The highest elevation in the park is approximately 750 feet above sea level. The SI team proceeded back down the hill by another route that had no structures on it at all. This route went along the eastern boundary of the park and ended up back in the cantonment area. No ordnance or CWM areas were noted on the way up the hill or on the way back down the hill (photograph see K-5).

(3) Immediately below the former commanding officers quarters is the mounded over battery structure, Battery Ord. This portion of Battery Ord was filled in with dirt nearly immediately after construction because of faulty construction. The area is mounded over with earth and nicely landscaped. Other than several patches of concrete protruding from the ground and informational signs for tourists, all signs of military usage are gone. A few yards to the west is the remaining Battery Ord that originally housed two 8-inch guns. The SI team visually checked the old battery. The old shell, shot and powder rooms were empty. It was obvious to the SI Team that the concrete structure had not been used as a battery since early WWI time period (see photographs K-6, K-7 and K-8). No evidence of ordnance presence was seen.

(4) An interesting note is that between Battery Ord and Battery 246, U.S. Highway 101 tunnels directly under the hill. Thus, when Fort Columbia was on operational status, the highway did not interfere with the defenses of the Columbia River (see photograph K-9). Moving on down the hill just south of Battery Ord is Battery 246. Battery 246 is the newest structure in the former fort. It is also in the best condition of all the batteries on the site. With the exception of the guns this battery is mounded over with earth. The structure was built to be a self-contained, bomb proof and gas proof coastal battery. This structure has been renovated and in the process of restoration. One powder room has been restored and includes a display of powder canisters (empty). The SI team was escorted through the entire underground portion of the battery. The structure has lights and all the rooms were viewed. No ordnance is in any of the shell or shot rooms. The grounds around the outside of the battery are neat and well landscaped. Gun tubes have been recently installed to the carriage type barbette inside the tear drop shields adding

to authenticity of the battery (see photographs K-10, K-11, K-12).

(5) The SI team next walked 40 yards southeast to Battery Frank Crenshaw, a former 3 gun emplacement, 3-inch rapid fire battery completed in 1900 (see photographs K-13 and K-14). This is another of the Fort Columbia batteries that probably never saw action because the 3-inch guns were removed and shipped to France at the beginning of WWI. This battery is partially earth mounded and constructed with concrete. The 3-inch carriage type barbette mounted guns were barricaded from each other with concrete walls. In the lower level of the battery was a bomb proof room, powder room and projectile storage room. The SI team found all the rooms empty. The grounds around the battery are all landscaped nicely. There was no evidence of any OE presence in the vicinity of the battery.

(6) A very short distance to the west is the final battery that the SI team investigated. Battery William Murphy has two 6-inch disappearing carriage guns. The battery was completed 1900 and was the only battery to serve in both WWI and WWII. It is the only battery that was operational in WWII. The battery is the closest to the river and almost directly facing Fort Stevens located on the other side of the river. The battery is partially mounded toward the top with concrete. Like the others it has shell and powder rooms on the lower level with the guns place on the upper level. The gun emplacements are open to the river and are separated from each other with concrete structures. A walkthrough of the lower level founds the individual rooms empty and in good condition (see photographs K-15, K-16, K-17 and K-18). No OE presence was noted throughout the battery.

(7) Thirty yards west of Battery Murphy is the former "old mine casement building". The building is kept locked however the SI team was allowed entry for the purpose of the site inspection. The purpose of the building was to support the river minefields. No ordnance was ever kept in the building however the SI team walked through the facility because the name "mine casement building" infers ordnance related activity. As expected the building was free of any ordnance presence however asbestos tiled floor in one room was badly broken up which could present a problem if the public were ever allowed to tour the facility (see photograph K-19).

(8) Moving west to the bay on Chinook Point the new casement building was inspected. This newer building was built at the beginning of WWII. This building is concrete and built into the bank on the bay. Except for the entrance the entire building is underground. The building was bomb proof and gas proof. This building was investigated for the

same reason the old mine casement building (see document K-19. This building is also kept locked and not open to the public. This building has numerous open holes in the floor and one room with the interior building materials falling down presenting a hazard to the unwary visitor (see photographs K-20, K-21 and K-22). Mr. Roberts, the Park Ranger stated that they would possibly like to open this building to the public but there would have to be a major cleanup and renovation first.

(9) The grounds around the facility like the rest of the park, are very well kept. The area just north on the building and on the bay is where the mine laying vessels docked. Pylons from the old pier are still present however they do not present any known type of hazard (see photograph K-23).

(10) Spot inspections of all the remaining grounds were performed by the SI team. The remaining grounds are heavily forested in pine. No burial pits or dumpsites were noted. No abnormal areas void of vegetation were noted nor was there any discolored soils or vegetation.

c. Site Inspection: Area B, Firing Fan

The firing fan extends from the shoreline just below Battery Murphy out into the Columbia River (see photograph K-24). The fan has been constructed so that it does not reach populated areas on the south shores of the river. A visual inspection of the shoreline revealed no ordnance presence.

7. SITE OE/CWM TECHNICAL DATA

a. End Item Technical Data

The on-site inspection team was unable to locate data considered to be all-inclusive regarding ordnance that may have been used, or was ever present, on this site. Table 8-1 is included to provide information on possible ordnance that may have been used on the former Fort Columbia Military Reservation Site (NOTE: Table is for reference only and does not indicate presence on site).

**TABLE 7-1
END ITEM TECHNICAL DATA**

ITEM ,	TYPE/MODEL	FILLER/WEIGHT	FUZE TYPE
Projectile AP 8-Inch	MK 21	Explosive D 5.03 Lbs	MK 21, MK 23
Projectile AP 6-Inch	MK 35	Explosive D 1.95 Lbs	MK 21, MK 19
Projectile 6-Inch Special Common	MK 27	Explosive D 2.20 Lbs	MK 19
Projectile AP 3-Inch	M63	Explosive D .17 Lbs	
.50 caliber	M2	N/A	N/A
.30 caliber rifle	M2	N/A	N/A
.30 caliber carbine	M1	N/A	N/A

b. Chemical Data of Ordnance Fillers

Table 8-2 is a listing of the chemical filler for the ordnance listed on Table 8-1 (NOTE: Table is for reference only and does not indicate presence on site).

**TABLE 7-2
SUMMARY OF SITE ORDNANCE FILLERS**

Explosive Material	Synonyms	Chemical Compounds
Smokeless Powder	Nitrocellulose	$[C_6H_8O_5(NO_6)_2]_n$
Explosive D	Ammonium Picrate	$C_6H_2(NO_2)_3ONH_4$

8. EVALUATION OF ORDNANCE PRESENCE

a. General Procedures

(1) **Confirmed** Ordnance and Explosives (OE) presence is based on verifiable historical record evidence or direct witness of OE items (with explosive components and/or inert debris/fragments) since site closure. Additional field data is not needed to identify a confirmed site.

(a) Verifiable historical record evidence is based on OE items actually seen on site since site closure and authenticated by: Historical records (Archive Records, Preliminary Assessment Reports, Site Investigation Reports), local fire departments and local law enforcement agencies/bomb squads, military Explosive Ordnance Disposal (EOD) units, newspaper articles, photographs, or maps.

(b) Direct witness of OE items consists of the site inspection team(s) and other credible witnesses as determined by the ASR Research Team Leader (landowners, workers on-site, soldiers who served there, etc.) verifying that they have seen OE presence on the surface or subsurface since site closure.

(2) **Potential** ordnance and explosive presence is based on a lack of confirmed OE presence. Potential OE presence is inferred from records, present day site features, non-verifiable direct witness, or indirect witness. Additional field data are needed to confirm potential OE sites.

(a) Inference from historical records is based on no OE items actually seen on site since site closure and would include documentation (records, aerial photographs, maps) indicating possible OE presence derived from common practice in production, storage, use or disposal at that time and from records indicating known OE usage.

(b) Inference from present day site features would be the indication of possible OE presence from such obvious features as target circles, depressions, mounds/backstops, OB/OD areas/pits, etc.

(c) Indirect witness would be people who have stated that they have heard of OE presence on-site (hearsay evidence).

(3) Subsites with **no ordnance presence** are based on a lack of confirmed or potential ordnance evidence. All evidence found in historical records and present day site inspections do not indicate confirmed or potential ordnance presence. There is no reasonable evidence, either direct or inferred, to suggest present day ordnance presence. Additional field data are not needed to assess areas with no ordnance presence. This site is considered to have **no ordnance presence**.

b. Site Specific: Area A, Evaluation of Military Reservation

This site, former Fort Columbia Military Reservation, is considered to have **no ordnance presence**. A thorough physical site investigation was accomplished over

the period of a week. In all cases every area produced negative results for ordnance and chemical warfare materiel. There was no documentation to show the presence of OE or CWM. Personal interviews with knowledgeable persons also pointed to the lack of OE presence. Record checks by local park officials, the state preservation officer, local law enforcement officials and Explosive Ordnance Disposal personnel were all negative. The former military reservation is considered to have **no ordnance presence.**

c. Site Specific: Area B, Evaluation of Firing Fan

A range fan for Battery Murphy was developed with the help of a knowledgeable veteran whom had been stationed at the former fort during WWII. The veteran, Mr. Hughes, was a participating member of the artillery crew that manned Battery Murphy. He stated that he pulled the lanyard that fired the last projectile prior to the dismantling of the 6-inch guns. He further stated that only solid projectiles, not high explosive were used for training and that accuracy was checked by the splashes in the water. He added that all firing was directed to the middle of the river and that they never fired across the river (see plate 3). Therefore, the firing fan was developed depicting the approximate area he described. Also with Mr. Hughes statements in mind it was determined that the area within the firing fan has no explosive presence due to the fact that only practice ammunition with no high explosives or spotting charges were used. The probability is good that prior to WWII firing practice took place. However, because of the physical limitations induced by the terrain it can be reasonably assumed that all firing that occurred was with inert practice rounds. The firing fan is considered to have **no ordnance presence.**

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX A

REFERENCE SOURCES AND RECORDS REVIEWED

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
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GOVERNMENT AGENCIES**FEDERAL****DEPARTMENT OF DEFENSE**

Defense Technical Information Center & Secure STINET 8725 John J. Kingman Rd Suite 0944 Fort Belvoir, VA 22060-6218	Computer Search (DTIC) & (STINET)	(703) 427-8274 (703) 767-8228	Has no site-specific information.
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Department of Defense Explosives Safety Board Historical Accident Database 2461 Eisenhower Avenue Alexandria, VA 22331-0600	Computer Search (DDESB)	(703) 325-1369	Has no site-specific information.
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DEPARTMENT OF ARMY

Explosive Ordnance Disposal 707 th Ordnance Company Bldg 6180, Idaho St. Fort Lewis, WA 98433	ISG Hockstedler	(509) 357-5507	Has no site-specific information.
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Explosive Ordnance Disposal 53 rd Ordnance Company 5 th Ave, Bldg 275 Yakima, WA 98901	SGT Bendickson	(509) 577-3376	Has no site-specific information.
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HQ, USACE-Office of History Humphreys Engineer Center Attn: CEHO-ZA 7701 Telegraph Rd Alexandria, VA 22310	Staff	(703) 428-6554	See Appendix B, Section II, Parts A&B.
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FORT COLUMBIA MILITARY RESERVATION**SITE SPECIFIC INFORMATION SOURCE RECORD**

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
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GOVERNMENT AGENCIES**FEDERAL****DEPARTMENT OF ARMY**

JMC History Office Attn: AMSJM-PA (History) Bldg. 390 Rock Island, IL 61299	George Eaton	(309) 782-1450 DSN 793-1450	Has no site-specific information.
MANSCEN Library 597 Engineer Loop Bldg. 3202, Suite 200 Fort Leonard Wood, MO 65473	Dr. Wright (Base Historian)	(573) 563-4109 DSN 676-4109	Has no site-specific information.
Rock Island Arsenal Museum Attn: SIORI-CFS-M Bldg. 60 Rock Island, IL 61299-5000	Chris Leinicke	(309) 782-5021 DSN 793-5021	Has no site-specific information.
U.S. Army Center of Military History 103 Third Ave. Fort McNair Washington, DC 20319-5058	Staff	(202) 685-2733 DSN 325-2733	See Appendix B, Section II, Parts A&B.
U.S. Army Military History Institute Archives 22 Ashburn Drive Carlisle Barracks Carlisle, PA 17013-5008	David Keough	(717) 245-3189 DSN 242-3189	Has no site-specific information.

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
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GOVERNMENT AGENCIES**FEDERAL****DEPARTMENT OF ARMY**

U.S. Army Military History Institute Photo Archives 22 Ashburn Drive Carlisle Barracks Carlisle, PA 17013-5008	Mike Winey	(717) 245-3434 DSN 242-3434	Has no site-specific information.
U.S. Army Military History Institute Reference Library 22 Ashburn Drive Carlisle Barracks Bldg. 22 Carlisle, PA 17013-5008	Louise Friend John Slonaker	(717) 245-3103 DSN 242-3103 Fax DSN 242-4370	Has no site-specific information.
U.S. Army Ordnance Museum Aberdeen Blvd. Bldg. 2601 Aberdeen PG, MD 21005-5201	Dr. Atwater	(410) 278-3602 DSN 298-3602	Has no site-specific information.
U.S. Army SBCCOM Attn: AMSSB-SCI-H 5232 Fleming Rd Aberdeen PG, MD 21010	Kathleen Ciolfi	(410) 436-4430 DSN 584-4430	No record of chemical warfare materials used at the site.
USACE, Seattle District P.O. Box 3755 Seattle, WA 98124-2255	Jonathan Maas	(206) 764-6745	Real estate maps.

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
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GOVERNMENT AGENCIES**FEDERAL****DEPARTMENT OF ARMY**

USACE, Seattle District
P.O. Box 3755
Seattle, WA 98124-2255

Claire Wilson Real Estate (206) 764-6088

INPR and real estate information, maps and lease documents.

DEPARTMENT OF AIR FORCE

(AFHRA)
Air Force Historical Research Agency
Research Division
600 Chennault Circle
Bldg. 1405
Maxwell AFB, AL 36112-6424

Joe Caver (334) 953-5834
DSN 493-5834

Has no site-specific information.

(AFHRA)
Air Force Historical Research Agency
Information Systems Division
600 Chennault Circle
Bldg. 1405
Maxwell AFB, AL 36112-6424

Sheila Roten (IRIS) (334) 953-6884
Essie Roberts (334) 953-2439
(IRIS microfiche) DSN 493-6884
DSN 493-2439

Has no site-specific information.

Air University Library
600 Chennault Circle
Bldg. 1405
Maxwell AFB, AL 36112-6424

Reference Services (334) 953-2888
DSN 493-2888

Has no site-specific information.

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
GOVERNMENT AGENCIES			
FEDERAL			
DEPARTMENT OF NAVY			
Marine Corps Historical Center Washington Navy Yard 901 M St., SE Washington, DC 20374-5040	Staff	(202) 433-3447 DSN 288-3447	See Appendix B, Section II, Parts A&B
Naval Construction Battalion Center (NCBC) NAVFAC Historian Office CB Logistics Center, Code 09 (Bldg. 99) 4111 San Pedro St. Port Hueneme, CA 93043	Carol Marsh	(805) 982-5563 DSN 551-5563	Has no site-specific information.
Naval Construction Battalion Center (NCBC) Technical Information Center Attn: Code 72 1100 23rd Ave. Port Hueneme, CA 93043	Brian Thompson	(805) 982-1124 DSN 551-1124	Has no site-specific information.
Naval Historical Center Washington Navy Yard Naval Aviation History Branch 901 M St., SE Washington, DC 20374-5060	Staff	(202) 433-4407 DSN 288-4407	See Appendix B, Section II, Parts A&B
Naval Historical Center Washington Navy Yard Operational Archives 901 M St., SE Washington, DC 20374-5060	Staff	(202) 433-2833 DSN 288-2833	See Appendix B, Section II, Parts A&B

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
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GOVERNMENT AGENCIES**FEDERAL****DEPARTMENT OF NAVY**

Naval Historical Center Washington Navy Yard Navy Department Library 901 M St., SE Washington, DC 20374-5060	Staff	(202) 433-4132 DSN 288-4132	See Appendix B, Section II, Parts A&B
NAVEODTECDIV Technical Library 2008 Stump Neck Road Indianhead, MD 20640-5070	Betty Arbogast Dawn Risko	(301) 743-6834	Has no site-specific information.
U.S. Naval War College Archives 686 Cushing Rd Newport, RI 02841-1207	Dr. Evelyn Cherpack	(401) 841-2435	Has no site-specific information.
U.S. Naval War College Library 686 Cushing Rd Newport, RI 02841-1207	Alice Juda Maggie Rauch	(401) 841-4551	Has no site-specific information.
U.S. Naval War College Museum 686 Cushing Rd Newport, RI 02841-1207	Tony Nicolosi Bob Cembrola	(401) 841-4052	Has no site-specific information.
NARA-Archives I (Old Military and Civil Textual Division) Pennsylvania Ave. & 7th St., NW Washington, DC 20408	Staff	(202) 208-1903 (202) 208-0370 (202) 208-6273	See Appendix B, Section II, Parts A&B

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
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GOVERNMENT AGENCIES**FEDERAL****NATIONAL ARCHIVES RECORDS ADMINISTRATION (NARA)**

NARA-Archives II (Cartographic & Architectural Branch) 8601 Adelphi Rd College Park, MD 20740	Staff	(301) 713-7040	See Appendix B, Section II, Parts A&B
NARA-Archives II (Motion Picture, Sound, Video Branch) 8601 Adelphi Rd College Park, MD 20740	Staff	(301) 713-7060	See Appendix B, Section II, Parts A&B
NARA-Archives II (Still Picture Branch) 8601 Adelphi Rd College Park, MD 20740	Staff	(301) 713-6660	See Appendix B, Section II, Parts A&B
NARA-Archives II (Textual Reference Branch) 8601 Adelphi Rd College Park, MD 20740	Staff	(301) 713-7250	See Appendix B, Section II, Parts A&B
NARA-Pacific Alaska Region 6125 Sand Point Way, NE Seattle, WA 98115	Staff	(206) 526-6501	See Appendix B, Section III, Parts A&B
National Personnel Records Center (Military Personnel Records) 9700 Page Ave. St. Louis, MO 63132-5100	John Daly	(314) 801-9138	See Appendix B, Section III, Parts A&B.

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
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GOVERNMENT AGENCIES**FEDERAL****NATIONAL ARCHIVES RECORDS ADMINISTRATION (NARA)**

Washington National Records Center 4205 Suitland Rd Suitland, MD 20746-8001	Staff	(301) 457-7190	See Appendix B, Section II, Parts A&B
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CONGRESS

Library of Congress Geography and Map Division 101 Independence Ave., SE Washington, DC 20540-4650	Staff	(202) 707-5000	See Appendix B, Section II, Parts A&B
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Library of Congress Prints and Photographs Division 101 Independence Ave., SE Washington, DC 20540-4650	Staff	(202) 707-5000	See Appendix B, Section II, Parts A&B
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DEPARTMENT OF AGRICULTURE

Grays Harbor County Farm Service Agency 330 Pioneer Ave W Montesano, WA 98563	Staff	(360) 249-5900	1938 Topography Map.
---	-------	----------------	----------------------

Natural Resources Conservation Service 330 Pioneer Ave W Montesano, WA 98563	Staff	(360) 249-5944	Soil survey for Pacific County.
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FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
--------------	------	-----------	-------------------

GOVERNMENT AGENCIES**FEDERAL****DEPARTMENT OF AGRICULTURE**

Natural Resources Conservation Service 1216 Robert Bush Drive County Annex, PO Box 336 South Bend, WA 98586	Tim Kellogg	(360) 875-9428	Aerial photos from 1972.
--	-------------	----------------	--------------------------

UNITED STATES GEOLOGICAL SOCIETY

United States Geological Society Denver Federal Center P.O. Box 25286 Denver, CO 80225	Doug Carl (NIMA Customer Service)	(703) 264-3472 Fax -3133	Topographic quad maps.
---	--------------------------------------	-----------------------------	------------------------

STATE

Fort Columbia State Park C/O Fort Canby State Park P.O. Box 488 Ilwaco, WA 98624	Evan Roberts	(360) 642-3078	Provided site visit and old photographs. See interview H-4.
Fort Stevens State Park 100 Peter Iredale Road Hammond, OR 97121	Gale Hemmen	(503) 861-3170	Exhibits and like ordnance items used at Fort Columbia. See interview H-1.
State Historical Preservation Office (SHPO) Office of Archeology and Historic Preservation 111 West 21 st Ave, KL-11 Olympia, WA 98504	Staff	(360) 753-4011	Prior to any intrusive remedial activities on this site, contact with the State Historical Preservation Officer (SHPO).

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
--------------	------	-----------	-------------------

GOVERNMENT AGENCIES**STATE**

State Historical Preservation Office (SHPO) Office of Archeology and Historic Preservation 111 West 21 st Ave, KL-11 Olympia, WA 98504	David Hansen	(360) 902-0930	Knowledgeable of Fort Columbia See Interview H-3.
--	--------------	----------------	--

COUNTY

Pacific County Assessor Long Beach, WA 98631	Staff	(360) 642-9301	Ownership information
Pacific County Sheriff Long Beach Office Long Beach, WA 98631	Staff	(360) 642-9403	Has no site-specific information.
Pacific County Assessor South Bend, WA			Property ownership verification, tax documents.

CITY

Astoria Public Library 450 10th Street Astoria, OR 97103	Anne Odom	(503) 325-7323	Documents from local authors and newspaper clippings.
Ilwaco Timberland Library 158 First Ave. North Ilwaco, WA 98624	Staff	(360) 642-3908	Has no site-specific information.

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION	NAME	TELEPHONE	NATURE OF SUPPORT
AGENCIES			
CITY			
Long Beach Police Department Long Beach, WA 98631	Staff	(360) 642-3416	Has no site-specific information.
PRIVATE			
Coast Defense Study Group, Inc. 731 Baltimore Pike Bel Air, MD 21014	Publication		Source of military history articles, several articles and maps retrieved from internet.
Council on America's Past 518 Why Worry Lane Phoenix, AZ 85021	Heliogram Publication	(800) 396-4693	
On-Line Computer Library Center 6565 Frantz Road Dublin, OH 43017-3395	Computer Search (OCLC) & (FirstSearch)	(800) 848-5878	No relevant information found on this site.
Scientific & Technical Information Library System Defense Ammunition Center John L. Byrd Jr. Technical Library ATTN: SIOAC-ESM 1 C Tree Rd McAlester, OK 74501-9002	Computer Search (STILAS)	(918) 420-8771 DSN 956-8771	Has no site-specific information.
Pacific County Historical Society 1008 West Robert Bush Drive, South Bend, WA 98586	Bruce Weilepp	(360) 875-5224	Acquired historical aerial photograph.
Ilwaco Heritage Museum PO Box 153 Ilwaco, WA 98624	Joan Mann Hobe Kytr	(360) 642-3446	Acquired copies of historical photographs.

FORT COLUMBIA MILITARY RESERVATION

SITE SPECIFIC INFORMATION SOURCE RECORD

The following organizations and personnel are acknowledged for their support

ORGANIZATION

NAME

TELEPHONE

NATURE OF SUPPORT

PRIVATE

Chinook

Trophy Hughes

(360) 777-8412

See interview H-5

1449 5th Street
Astoria, OR 97103

Bill Lund

(503) 325-5783

See interview H-2.

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX B

REFERENCES AND ABSTRACTS

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Bibliography

SECTION II

National Capitol Register Archives Search

Part A: Positive Findings

Part B: Negative Findings

SECTION III

Regional National Archives Search

Part A: Positive Findings

Part B: Negative Findings

APPENDIX B

REFERENCES AND ABSTRACTS

- B-1. U.S. Army Corps of Engineers, Rock Island District, Site Safety Plan, 25 June 1992, with Appendix A-298, 21 March 2003 (document I-1).
- B-2. CEHND 1105-3-9, Management Plan, U.S. Army Corps of Engineers, Huntsville Division, 10 August 1992.
- B-3. CENCRC, Management Plan, U.S. Army Corps Of Engineers, Rock Island District, 10 March 1995.
- B-4. Department of Army, AR-200-1, Environmental Protection and Enhancement, 23 April 1990.
- B-5. Internet Document, "Washington listing of Endangered, Threatened and Endangered Species", National Endangered Species Act Reform Coalition, www.nesarc.org, 4 April 2003.
- B-6. State of Washington, Department of Fish and Game Region 6, Document, "State Listed Endangered and Threatened Animals of Washington", 7 July 2003, <http://www.wa.gov/wdfw/reg/region6>.
- B-7. Internet Site, "Demographic Statistics for City of Ilwaco", 6 July 2003, <http://www.co.pacific.wa.us/ilwaco>.
- B-8. Department of Agriculture, Soil Conservation Service, Report, Soil Survey of Grays Harbor County Area, Pacific and Wahkiakum, Washington, 1983.
- B-9. National Oceanic and Atmospheric Administration, Climate of Washington, June 1982.
- B-10. St. Louis Corps of Engineer Ordnance Data, OP 1664, U.S. Explosive Ordnance, (documents D-1 thru D-4).
- B-11. Office of the Chief of Engineers, Document, "Map and Real Estate Data Circa 1864, NARA Archives II, Drawer 189, Sheet 3 (document E-1).

- B-12. Office of the Chief of Engineers, Document, "Armament Report for Year Ending 1902, Fort Columbia", 31 December 1902, NARA Archives II, Drawer 257, Sheet 6-12 (document E-2).
- B-13. United States Army Engineer School, Manuel, "Seacoast Fortification Construction", Government Printing Office, 1920 (document E-3).
- B-14. Office of the Chief of Engineers, Report, "Report of Completed Works - Seacoast Fortifications...", 30 June 1921, NARA, Pacific Region (Laguna Niguel), RG 77, Entry 1007 Box 43 (document E-4).
- B-15. Office of the Chief of Engineers, Report, "Report of Completed Works - Seacoast Fortifications...", 30 September 1926, NARA, Pacific Region (Laguna Niguel), RG 77, Entry 1007 Box 43 (document E-5).
- B-16. Department of Army, File, "Realty Control File Summary", Prior to 1940, USACE Office of History, Real Estate Records 1504-07 Washington, Box 13 (document E-6).
- B-17. Office of the Chief of Engineers, Document, "Report of Completed Works - Seacoast Fortifications, Harbor Defenses of Columbia," 1 May 1944, NARA Archives II, RG 77 Entry 1007, Box 43 (document E-7).
- B-18. Office of the Chief of Engineers, Document, "Suppliment to Harbor Defenses of Columbia," 15 March 1944, NARA Archives II, RG 77 Entry 1007, Box 45 (document E-8).
- B-19. Adjutant General's Office, Document, "Annexes to Harbor Defense Project..." 27 May 1947, NARA Archives II, RG 407, Entry 366, Box 3 (document E-9).
- B-20. War Assets Administration, Document, "Declaration of Surplus Real Property", 17 December 1947, USACE Seattle District Real Estate (document E-10).
- B-21. Paper, "General History Harbor Defenses of the Columbia, Clatsop County Chapter of the Oregon Historical Society (document E-11).
- B-22. Department of the Interior, Report, "Report on Application by Washington State Parks and Recreation

Commission for Transfer", December 1949, USACE Seattle District Real Estate (document E-12).

B-23. Department of Army, Document, "Transmittal of War Department Shipping Document, Harbor Defenses of the Columbia River", 16 March 1949, USACE Seattle District Real Estate (document E-13).

B-24. War Assets Administration, Report, "Harbor Defenses of the Columbia River Disposition Board Report" 21 April 1948", USACE Seattle District Real Estate, (document E-14).

B-25. Washington State Park Service, Program, "Dedication Program" 17 June 1951, Astoria Public Library (document E-15).

B-26. Chief of Engineers, document, "Real Property Management and Document Disposal Report", 1 March 1955, USACE Seattle District Real Estate (document E-16).

B-27. Book, The Cape Forts, Guardians of the Columbia, Circa 1957, Marshall Hanft (document E-17).

B-28. Book, Chinook Point, 1957, John Hussey (document E-18).

B-29. General Services Administration, Document, "Request for Valuation Service", 4 March 1958, NARA Archives II, RG 291, Entry 5, Case Files, 1962 (document E-19).

B-30. Newspaper Article, "Big Guns Once Guarded Columbia River Mouth", 8 April 1962, Seattle Times (document E-20)

B-31. Newspaper Article, "The Guns of Fort Columbia", 30 April 1986, Chinook Observer, (document E-21).

B-32. U.S. Army Corps of Engineers, Seattle District, Inventory Project Report/Project Summary Sheet for Site No. F10WA301400 dated 19 January 1989 (document E-22).

B-33. U.S. Army Corps of Engineers, Seattle District, DERP-FUDS Findings and Determination of Eligibility for Site No. F10WA031401, dated 3 April 1992, (document E-23)

B-34. Article, "The Forts of Wherever", November 1993, Coast Defense Study Group Journal, Robert M. Zink, (document E-24).

B-35. Data Sheets, "Facts about Fort Columbia Batteries ",
Coast Defense Study Group Journal, 14 May 2003
<http://www.cdsg.org/HDCRdata>, (document E-25).

B-36. Excerpts, " Legend Explaining Describing Fort
Columbia", Coastal Defense Study Group Journal, (document
E-26)

B-37. Document, "Ownership Data", 21 July 2003, Pacific
County Assessor's Office (document E-27).

B-38. State of Washington Ecology Department, Document,
"Water Well Log" 4 September 2003,
<http://apps.ecy.wa.gov/wellog> (document E-28).

B-39. Article, "Fort Columbia State Park", 18 July 1965,
Astoria Public Library, Astoria, Oregon, Local History
Section (document E-29).

B-40. Historical Photograph, Fort Columbia Troop Housing,
Circa 1910, Courtesy Ilwaco Heritage Museum, Ilwaco, WA
(photograph F-1).

B-41. Department of Army, Policy Letter, "Site Eligibility
Policy Clarification", U.S. Army Corps of Engineers, 15
March 1994 (document E-30).

B-41. Historical Photograph, Ordnance Warehouse with
Housing, Circa 1910, Courtesy Chinook Observer, 23
November 1973, Long Beach , Washington (photograph F-2).

B-42. Historical Photograph, Battery Murphy, Circa 1910
Courtesy Ilwaco Heritage Museum, Ilwaco, WA (photograph
F-3).

B-43. War Department, "Map Fort, Columbia", 26 April 1921,
Coastal Defense Study Group Journal, (document G-1).

B-44. U.S. Coast and Geodetic Survey, Map, "Topographical
Map of Fort Columbia", 1938, (document G-2).

B-45. War Department, "Map Fort, Columbia", 1 May 1946,
Coastal Defense Study Group Journal, (document G-3).

B-46. War Department, "Map Real Estate", 14 August 1947",

USACE, Seattle District Real Estate Files (document G-4).

B-47. War Department, "Map, Real Estate", 8 August 1953,
USACE, Seattle District Real Estate Files (document G-5).

SECTION II
NATIONAL CAPITAL REGION ARCHIVES FINDINGS
PART A
POSITIVE FINDINGS
FORT COLUMBIA MILITARY RESERVATION, WA

SECTION II
NATIONAL CAPITAL REGION ARCHIVES FINDINGS
PART A
POSITIVE FINDINGS

FORT COLUMBIA MILITARY RESERVATION, WA

Also Researched Under: Harbor Defenses of the Columbia River, WA;
Town of Ilwaco, WA; and Pacific County, WA

NARA - ARCHIVES II - TEXTUAL BRANCH
COLLEGE PARK, MD

RG 77 (Records of the Office of the Chief of Engineers)

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Local Board Report, Modernization Program, Harbor
Defenses of the Columbia, 1942, Including Seacoast
Artillery, Underwater Defenses, and Anti-Aircraft
Artillery

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Map, Fort Columbia, Batteries Ord, Murphy, and Crenshaw,
1921

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Map, Mouth of the Columbia River, Fort Columbia, 1921

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Map, Mouth of the Columbia River, Oregon and Washington,
1921

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Plan, Harbor Defenses of the Columbia, Fort Columbia,
Mine Casemate, May 1942

FORT COLUMBIA MILITARY RESERVATION, WA

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications
(Fire Control Structures), Harbor Defenses of the
Columbia, Fort Columbia, Washington, Battery 246,
20 March 1943

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications
(Fire Control or Torpedo Structures), Harbor Defenses of
the Columbia, Fort Columbia, Washington, 30 June 1921

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications,
(Fire Control Structures), Harbor Defenses of the
Columbia, Fort Columbia, Washington, Mine Casemate,
10 May 1943

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications
(Fire Control or Torpedo Structures), Harbor Defenses of
the Columbia, Fort Columbia, Washington, 30 June 1921

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications
(Fire Control Structures, Harbor Defenses of the
Columbia, Fort Columbia, Washington, 20 February 1943

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications (Gun
and Mortar Batteries), Coast Defenses of the Columbia,
Fort Columbia, Washington, Battery Jules Ord,
30 September 1926

FORT COLUMBIA MILITARY RESERVATION, WA

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications (Gun
and Mortar Batteries), Coast Defenses of the Columbia,
Fort Columbia, Washington, Battery Jules Ord, 30 June
1921

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications (Gun
and Mortar Batteries), Coast Defenses of the Columbia,
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30 June 1921

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications (Gun
and Mortar Batteries), Coast Defenses of the Columbia,
Fort Columbia, Washington, Battery William Murphy,
30 June 1921

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications,
Harbor Defenses of the Columbia, Washington, Battery
246, 30 April 1945

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications,
Harbor Defenses of the Columbia, Fort Columbia,
Washington, Battery 246, 1 May 1944

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications,
Harbor Defenses of the Columbia, Fort Columbia,
Washington, Searchlights, 1 December 1945

FORT COLUMBIA MILITARY RESERVATION, WA

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications,
Harbor Defenses of the Columbia, Fort Columbia,
Washington, Mine Casemate, 1 September 1945

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 43

Report of Completed Works - Seacoast Fortifications,
Harbor Defenses of the Columbia, Fort Columbia,
Washington, Mine Casemate, 15 October 1944

Entry 1007: Harbor Defense File (Geographic), Classified,
1918 - 1945

Box 45

Supplement to Harbor Defense Project, Harbor Defenses of
the Columbia, 1945. Including Seacoast Artillery,
Underwater Defense, and Anti-Aircraft Artillery

Entry 1007: Harbor Defense Files, (Geographic), Classified,
1918 - 1945

Box 121

Data Sheet, Battery Crenshaw, Fort Columbia, Coast
Defenses of Columbia

Entry 1007: Harbor Defense Files, (Geographic), Classified,
1918 - 1945

Box 121

Data Sheet, Battery Murphy, Fort Columbia, Coast
Defenses of Columbia

Entry 1007: Harbor Defense Files, (Geographic), Classified,
1918 - 1945

Box 121

Data Sheet, Battery Rod, Fort Columbia, Coast Defenses
of Columbia

RG 291 (Records of the Federal Property Resources Service)

Entry 5: Real Property Disposal Case Files, 1962

Box 204

Memorandum, Map, and Form Relative to Value of Surplus
Property, Portion of Fort Columbia Military Reservation,
Chinook, Washington, 18 February 1958

FORT COLUMBIA MILITARY RESERVATION, WA

RG 330 (Records of the Office of the Secretary of Defense)

Entry 11: Inventories of Military Real Property, 1954 - 1957
Box

Installation Inventory of Military Real Property, Fort
Columbia, Washington, 1954

RG 407 (Records of the Adjutant General's Office, 1917 -)

Entry 37A: Central Decimal File, 1917 - 1925

Box 1165

Letters and Memorandum Relative to Request of Right of
Way Through Fort Columbia in Connection with Expansion
of Ocean Beach Highway, 9-17 March 1922

Entry 37A: Central Decimal File, 1917 - 1925

Box 1165

Letters Relative to Request for Permission to Acquire
Oil and Gas Lease on Grounds of Fort Columbia Military
Reservation, 9 - 15 April 1924

Entry 37H: Central Decimal File, 1926 - 1939

Box 2991

Correspondence Relative to Rehabilitation of Harbor
Defenses of the Columbia Fire Control System, Including
Fort Columbia, 23 July - 12 August 1937

Entry 37H: Central Decimal File, 1926 - 1939

Box 2991

Letter and Endorsement Relative to Proposed Abandonment
of Fort Columbia, 28 June - 18 July 1927

Entry 366: Special Projects, Harbor Defense, 1929 - 1948

Box 3

Annexes to Harbor Defense Project, Harbor Defenses of
Columbia, Including Seacoast Guns, Underwater Defense
and Anti-Aircraft Defense, 1947

Entry 366: Special Projects, Harbor Defense, 1929 - 1948

Box 3

Appendices to Annexes to Harbor Defense Project Harbor
Defenses of the Columbia, 1944

FORT COLUMBIA MILITARY RESERVATION, WA

Entry 366: Special Projects, Harbor Defense, 1929 - 1948
Box 3

Supplement to Harbor Defense Project, Harbor Defenses of
the Columbia, Including Seacoast Artillery, Underwater
Defense, and Anti-Aircraft Artillery, 1944

NARA - ARCHIVES II - CARTOGRAPHIC BRANCH
COLLEGE PARK, MD

RG 77 (Records of the Office of the Chief of Engineers)

Fortifications File

Drawer 189

Sheet 3

Map and Real Estate Data, Fort Columbia, Point Chinook
Military Reservation

Fortifications File

Drawer 257,

Sheet 6-12

Armament Report for Year Ending 31 December 1902,
Fort Columbia, Washington

U.S. ARMY - CENTER OF MILITARY HISTORY
WASHINGTON, DC

Historical Document Collection

Historical Data Cards

Historical Data Card, Harbor Defenses of Columbia

Military Forts, Posts, Camps, Stations, Etc.

228.01 Permanent

Letters and Historical Data, Fort Columbia, Washington,
15 December 1949 - 6 January 1977

U.S. ARMY CORPS OF ENGINEERS - OFFICE OF HISTORY
ALEXANDRIA, VA

Historical Document Collection

Book of Military Reservations

Military Reservations, Fort Columbia, Real Estate Data

Book of Military Reservations

Military Reservations, Fort Columbia, Real Estate Data

FORT COLUMBIA MILITARY RESERVATION, WA

Real Estate Records

1504-07 Washington

Box 13

Realty Control File Summary (Land Acquisitions and
Disposals Subsequent to 1 July 1940), Fort Columbia,
Washington, Including Site Data

SECTION II
NATIONAL CAPITAL REGION ARCHIVES FINDINGS
PART B
NEGATIVE FINDINGS
FORT COLUMBIA MILITARY RESERVATION, WA

SECTION II
NATIONAL CAPITAL REGION ARCHIVES FINDINGS
PART B
NEGATIVE FINDINGS

FORT COLUMBIA MILITARY RESERVATION, WA

Also Researched Under: Harbor Defenses of the Columbia River, WA; Town of Ilwaco, WA; and Pacific County, WA

**LIBRARY OF CONGRESS - GEOGRAPHY AND MAP DIVISION
WASHINGTON, DC**

Sanborn Map Collection

**LIBRARY OF CONGRESS - PRINTS AND PHOTOGRAPHS
DIVISION
WASHINGTON, DC**

HABS/HAER
Subject Catalogues
Videodisk Collection

**NARA - ARCHIVES I
WASHINGTON, DC**

RG 26 (Records of the U. S. Coast Guard)
Entry: Narrative Histories of World War II
Entry 59A-2499: Direction Finder Files, 1944 - 1947
Entry 82C: Central Correspondence, 1942 - 1953
Entry 100: Real Property Surveys

RG 49 (Records of the Bureau of Land Management)
Entry: Land Entry Papers

RG 77 (Record of the Office of the Chief of Engineers)
Entry: DeGrange Index
Entry 18: Letters Received, 1822 - 1866
Entry 20: Letters and Papers Received, 1834 - 1866
Entry 30: Letters Sent, 1866 - 1877
Entry 33: Letters Received, 1866 - 1867
Entry 36: Letters Received ("A" File), November 1867 -
November 1870
Entry 59: Letters Sent, 1871 - 1886
Entry 64: Letters Received, 1871 - 1886
Entry 73: Letters Sent, 1886 - 1889

FORT COLUMBIA MILITARY RESERVATION, WA

Entry 76: Letters Received Relating to Fortifications,
1886 - 1887
Entry 96: General Correspondence, 1890 - 1892
Entry 103: General Correspondence, 1894 - 1923
Entry 171: Land Papers, 1794 - 1916
Entry 220: Coast Defenses, Fortifications File, 1898 -
1920

RG 92 (Records of the Office of the Quartermaster General)
Entry 89: General Correspondence, 1890 - 1914
Entry 167: Reports of Annual Inspections of Buildings,
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1890
Entry 287: General Correspondence, 1919 - 1925
Entry 1058: Annual Reports of Construction and Repair
Division, 1903 - 1915
Entry 1067: Detailed Copies of "Historical Record of
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RG 94 (Records of the Adjutant General's Office, 1780s -
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- RG 177 (Records of the Chiefs of Arms)
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- RG 393 (Records of the U.S. Army Continental Commands, 1821 - 1920)
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- RG 30 (Records of the Bureau of Public Roads)
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Entry 349A: Central Classified Files, 1907 - 1936
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"Record of Equipment and Condition of Buildings at
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Entry 47: Army Intelligence Project Decimal File, 1941 - 1945
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**U.S. ARMY CENTER OF MILITARY HISTORY
WASHINGTON, DC**

Historical Document Collection
Historical Data Cards
Posts, Camps, and Stations File
WW II Posts, Camps, and Stations

**U.S. ARMY CORPS OF ENGINEERS - OFFICE OF HISTORY
ALEXANDRIA, VA**

Dale Floyd Collection
Coast Defense Study Newsletter
Image Collections
Installation Books
Map Collection
Military Collection

**WASHINGTON NATIONAL RECORDS CENTER
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RG 77 (Records of the Office of the Chief of Engineers)
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Map, Real Estate, Dated 27 May 1949.

Box # 96

Report, Subject: Application by Washington State Parks and
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Map, Buildings and Batteries, Fort Columbia, date unknown

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SEATTLE, WA***

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Nothing Found

ORDNANCE AND EXPLOSIVES
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FORMER FORT COLUMBIA MILITARY RESERVATION
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APPENDIX C

ABBREVIATIONS, ACRONYMS, AND BREVITY CODES

APPENDIX C

ABBREVIATIONS, ACRONYMS, AND BREVITY CODES

AAA	Anti-Aircraft Artillery
AR	Army Regulation
BD/DR	Building Demolition/Debris Removal
BLM	Bureau of Land Management
CEHNC	U.S. Army Corps of Engineers, U.S. Army Engineering and Support Center
CEMVR	U.S. Army Corps of Engineers, Rock Island District
CENWS	U.S. Army Corps of Engineers, Seattle District
CON/HTRW	Containerized Hazardous, Toxic and Radiological Waste
DA	Department of Army
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DOI	Department of Interior
EE/CA	Engineering Evaluation Cost Analysis
EOD	Explosive Ordnance Disposal
FDE	Findings and Determination of Eligibility
FUDS	Former Used Defense Site(s)
HTRW	Hazardous, Toxic and Radiological Waste
HTW	Hazardous and Toxic Waste
INPR	Inventory Project Report
IRA	Interim Remedial Action
NARA	National Archives Records Administration
NDAI	No DoD Action Indicated
NPRC	National Personnel Records Center
OE	Ordnance and Explosives
PAE	Preliminary Assessment of Eligibility
QASAS	Quality Assurance Specialist Ammunition Surveillance
RAC	Risk Assessment Code
RG	Record Group
SHPO	State Historic Preservation Office
SI	Site Investigation or Site Inspection
TM	Technical Manual
TP	Target Practice Ammunition
USA	U.S. Army
USN	U.S. Navy
USAF	U.S. Air Force
USACE	U.S. Army Corps of Engineers
USATCES	U.S. Army Technical Center for Explosives Safety

UXO
WAA
WD

Unexploded Ordnance
War Assets Administration
War Department

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APPENDIX D

ORDNANCE TECHNICAL DATA SHEETS

APPENDIX D
ORDNANCE TECHNICAL DATA SHEETS

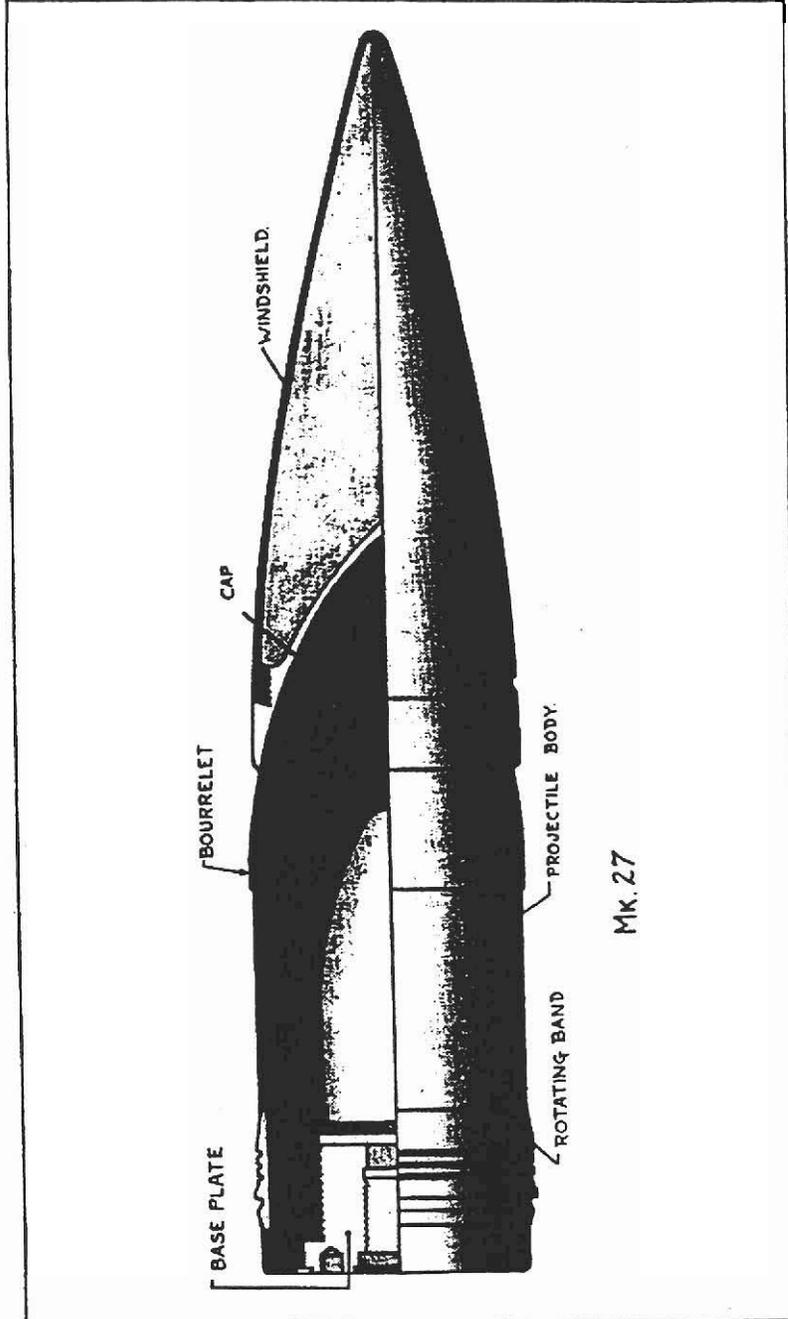
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- D-2. Projectile 3-Inch (B-9)
- D-3. Small Arms Ammunition (B-9).
- D-4. Projectile, 8-Inch (B-9).
- D-5. Projectile, TP, 37MM (B-9)

PROJECTILE, 6-INCH, MK 27

PROJECTILE DATA

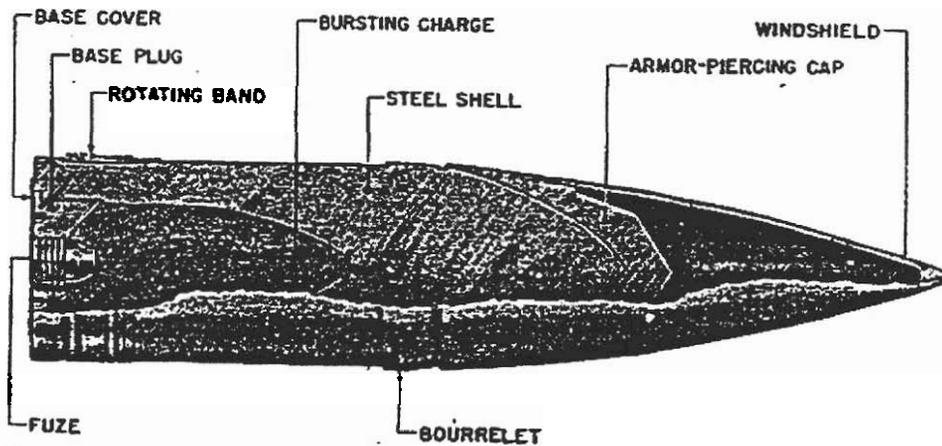
NATIONALITY: U.S. NAVY	INFORMATION DATE: April, 1943
CALIBER: 6"/47 - Mk. 27	CLASSIFICATION: Special Common
TARGET: Used against lightly armored surface craft such as cruisers, destroyers and also submarines.	



PROJECTILE DATA

NATIONALITY: U.S. NAVY	INFORMATION DATE: April, 1943
CALIBER: 6"/47 - Mk. 27	CLASSIFICATION: Special Common
TARGET: Used against lightly armored surface craft such as cruisers, destroyers and also submarines.	
1. OVERALL LENGTH - With Cap & Windshield Without Cap & Windshield	27.0" 15.95"
2. DIAMETER OF BASE	5.99"
3. DISTANCE FROM BASE TO BAND	1.0"
4. WIDTH OF BAND	2.50"
5. DIAMETER OF BOURRELET	5.99"
6. TYPE OF FILLING	Explosive D
7. WEIGHT OF FILLING	2.20 lbs
8. WEIGHT OF LOADED PROJECTILE	105 lbs
9. CHARGE-WEIGHT RATIO	2.1 %
10. TYPE OF GUN USED IN	6"/47
11. TRACER	Mk. 5
12. FUZES WHICH MAY BE USED IN PROJECTILE	Base: Mk. 19
13. CAP & WINDSHIELD: The Cap is soldered to the nose of the projectile. Also it is held secure by five crimp caps equally spaced around the periphery of the nose. The Windshield is fastened to the cap by means of five notches which are equally spaced on the periphery and staked.	
14. CARTRIDGE CASE	Mk. 4
15. PRIMER	Mk. 13
16. REMARKS:	For method of marking and painting projectile, see INTRODUCTION.

PROJECTILE, ARMOR PIERCING 3 INCH, M62



Description. This projectile consists of a heat-treated, hardened steel body which has a softer steel A.P. cap sweated on its forward end. The RP cap is threaded to receive a cast aluminum windshield or false ogive. Markings on projectile will say "With fuze and with tracer" if the base cavity is filled with explosives and "With Tracer" if the cavity is empty and only a tracer element will be installed.

Diameter 3 inches
Weight 14.91 pounds
Filling Explosive D
Weight of filling 0.17 pounds
Fuze M66 or M66A1 Base Detonating Fuze

Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944

SMALL-ARMS AMMUNITION

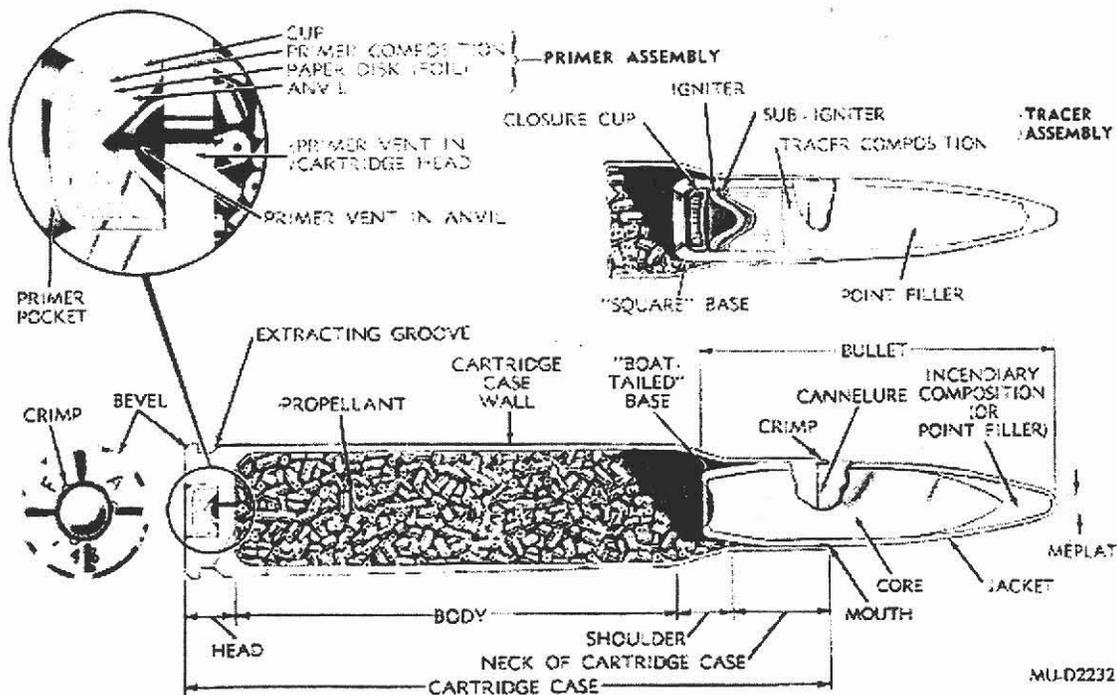


Figure 1. Typical cartridge (sectional)

General. Small-arms ammunition, as used herein, describes a cartridge or families of cartridges intended for use in various types of hand-held or mounted weapons through 30 millimeter. Within a caliber designation, these weapons may include one or more of the following: rifles (except recoilless), carbines, pistols, revolvers, machineguns and shotguns. For purposes of this publication, small-arms ammunition may be grouped as cartridges intended primarily for combat or training purposes (API, HEI, tracer or ball); for training purposes only (blank or dummy); or for special purposes (rifle grenade or spotter-tracer). Refer to TM 9-1306-200 for more detailed information on small-arms ammunition.

Cartridges. In general, a small-arms cartridge is identified as an assembly of a cartridge case, primer, a quantity of propellant within the cartridge case, and a bullet or projectile. Blank and rifle grenade cartridges are sealed with paper closure disks in lieu of bullets. Dummy cartridges are composed of a cartridge case and a bullet. Some dummy cartridges contain inert granular materials to simulate the weight and balance of live cartridges. A typical cartridge and the terminology of its components are shown in figure 1.

Case. Although steel, aluminum, zinc and plastic materials have been used experimentally, brass, a composition of 70 percent copper and 30 percent zinc, is the most commonly used material for cartridge cases. Steel, as well as brass, is an approved material for caliber .45 cartridge cases. Brass, paper and plastic are used for 12 gage shotshell bodies. Aluminum is used for military-type .410 gage shotshell bodies. Configurations of cartridges and bullets are illustrated in figures 2 through 11.

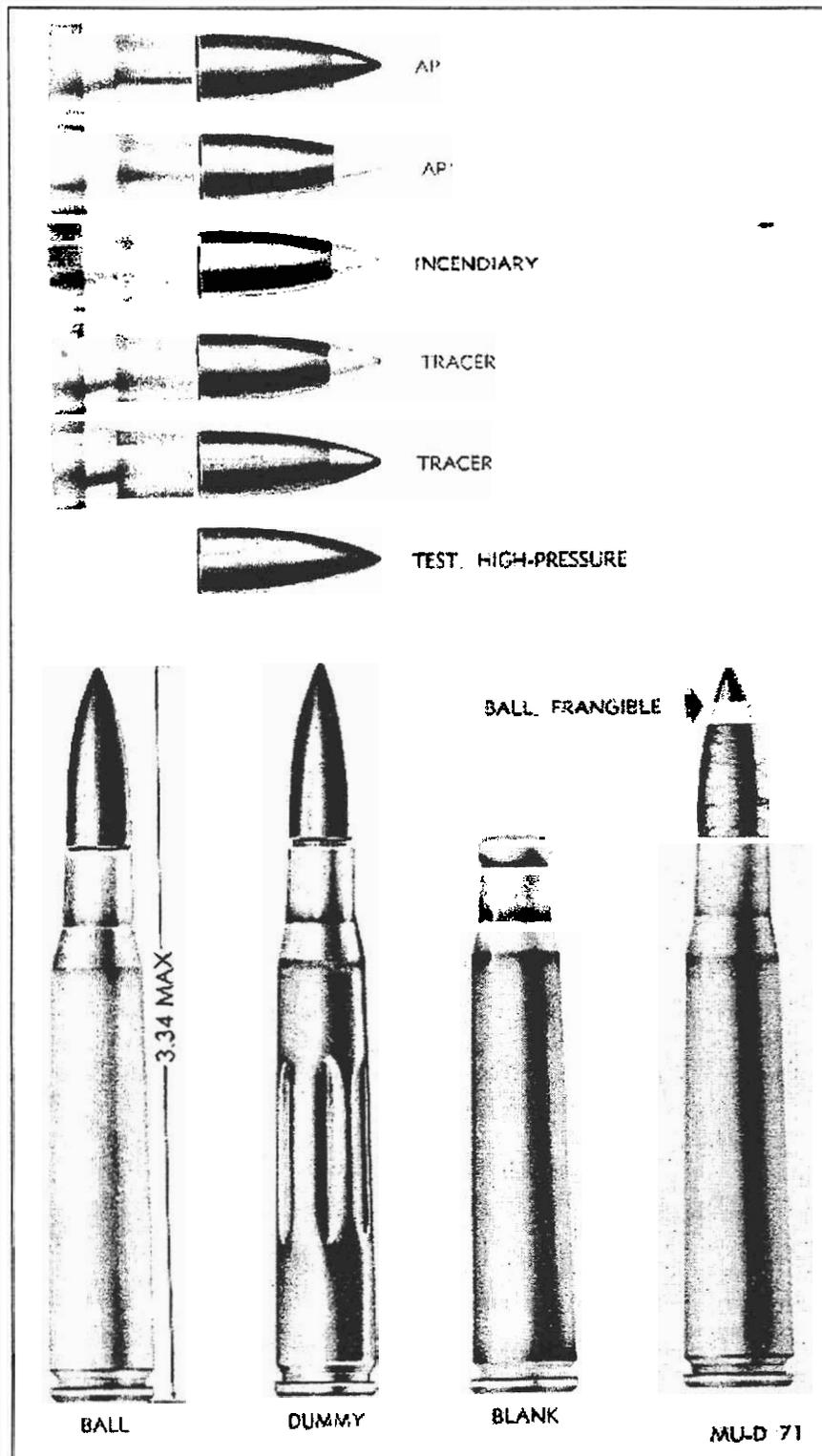


Figure 7. Caliber .30 cartridges

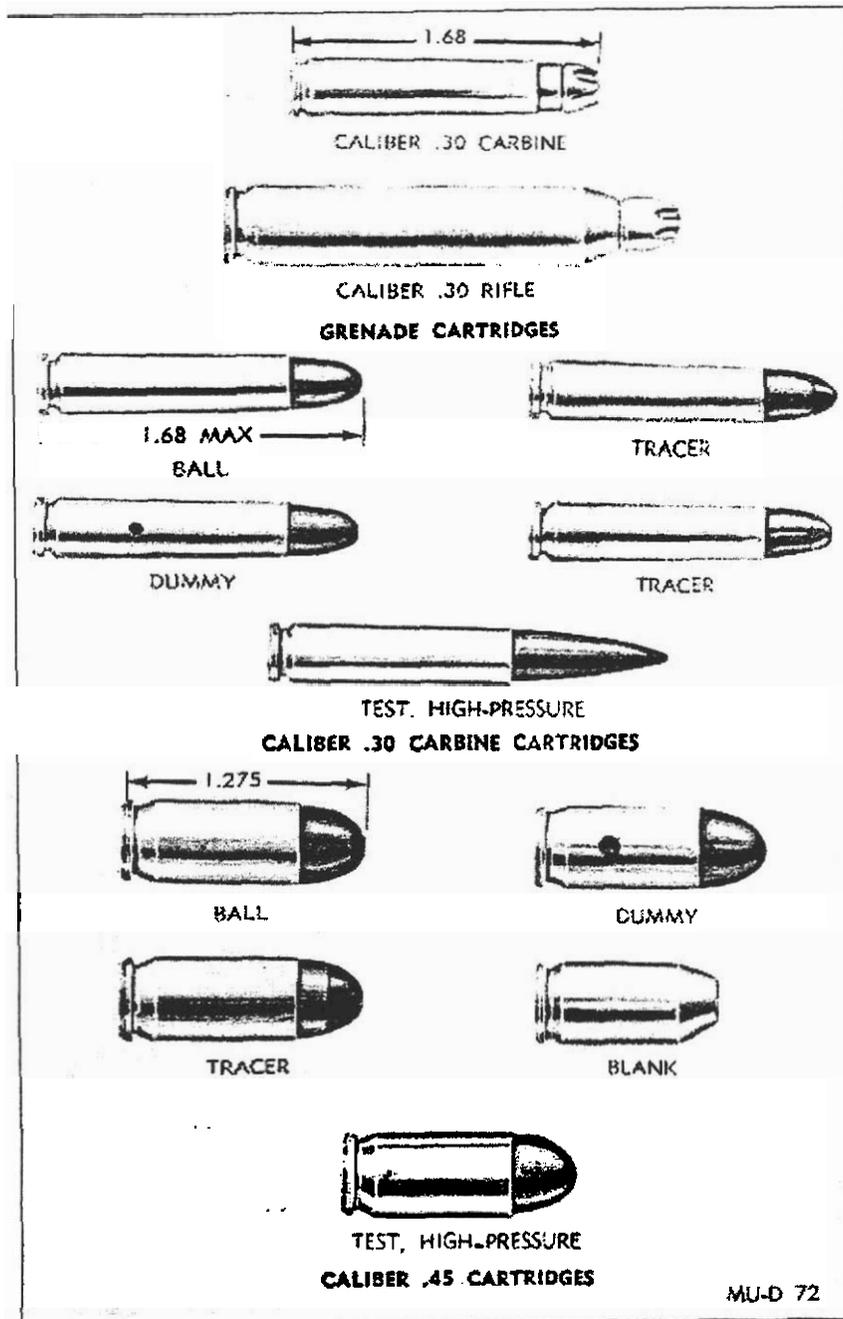


Figure 8. Caliber .30 carbine and caliber .45 cartridges

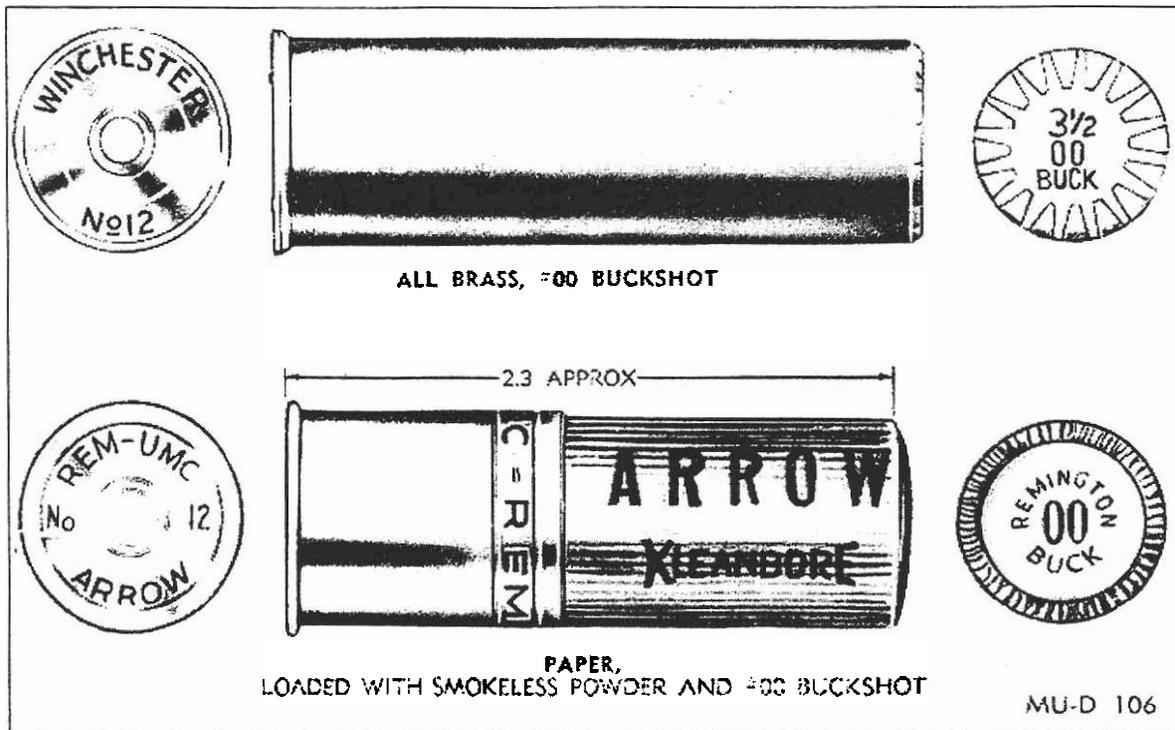


Figure 14. 12 gage shotgun shells

- (2) Caliber .45 blank cartridges fired in exercises to condition dogs to gun fire.
- (3) Caliber .22 hornet and .410 shotgun cartridges for firing in Air Force combination (survival) weapons for hunting purposes.
- (4) Caliber .45 line-throwing cartridges for firing in caliber .45 line-throwing rifles. The Navy uses these for throwing lines from ship-to-ship. The Army Signal Corps uses these for projecting signal wires over elevated terrain.
- (5) Shotshells containing the designated shot sizes as required for the following:
- 12 gage #00 Buck for guard duty
 - 12 gage #4 Buck for guerrilla purposes.
 - 12 gage #6, 7½ and 8 shot for clay target shooting for training purposes.
 - .410 gage #7 shot for caliber .22/.410 survival weapons maintained by aircraft

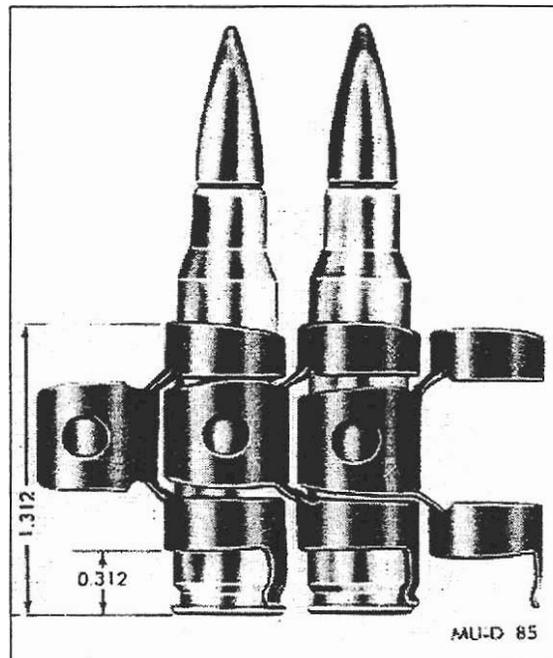


Figure 15. Linked 7.62-mm cartridges

Identification Markings. Each outer shipping container and all inner containers are fully marked to identify the ammunition. Wire-bound boxes are marked in black and ammunition boxes are painted olive drab, with markings in yellow. When linked ammunition is functionally packed, component lot numbers are replaced by a functional lot number. Typical packing and identification markings are illustrated in figures 17 through 19.

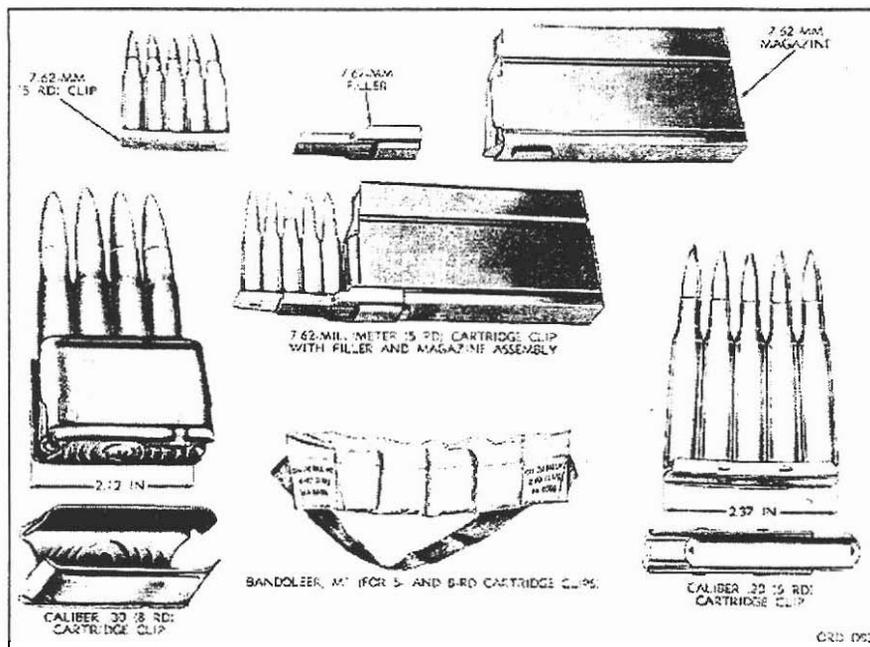


Figure 17. Cartridges, links, belt, cartons, bandoleers and ammunition box

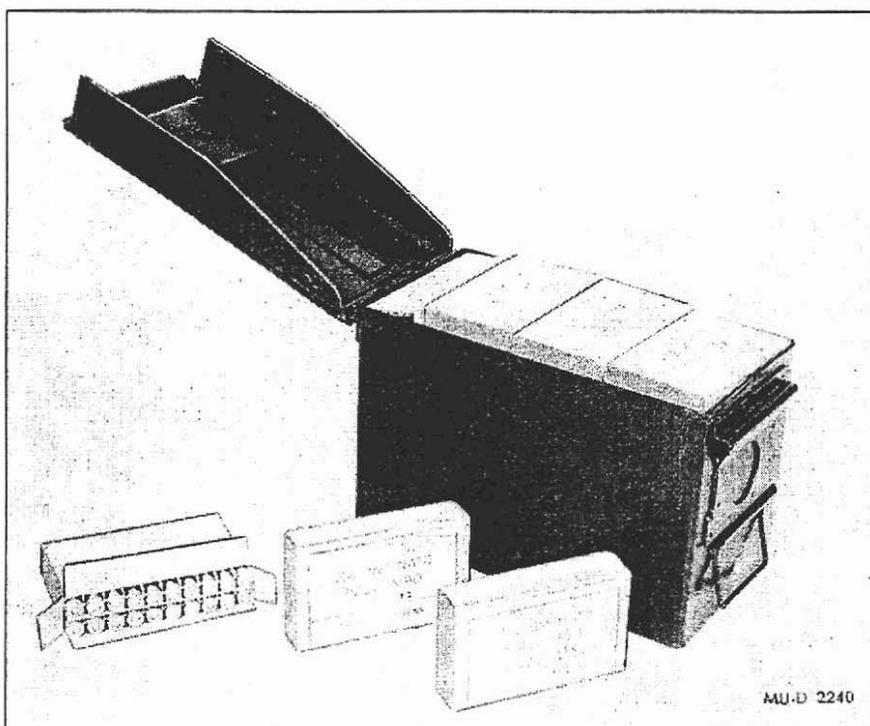


Figure 18. Cartridges, link belt, cartons, bandoleers and ammunition box

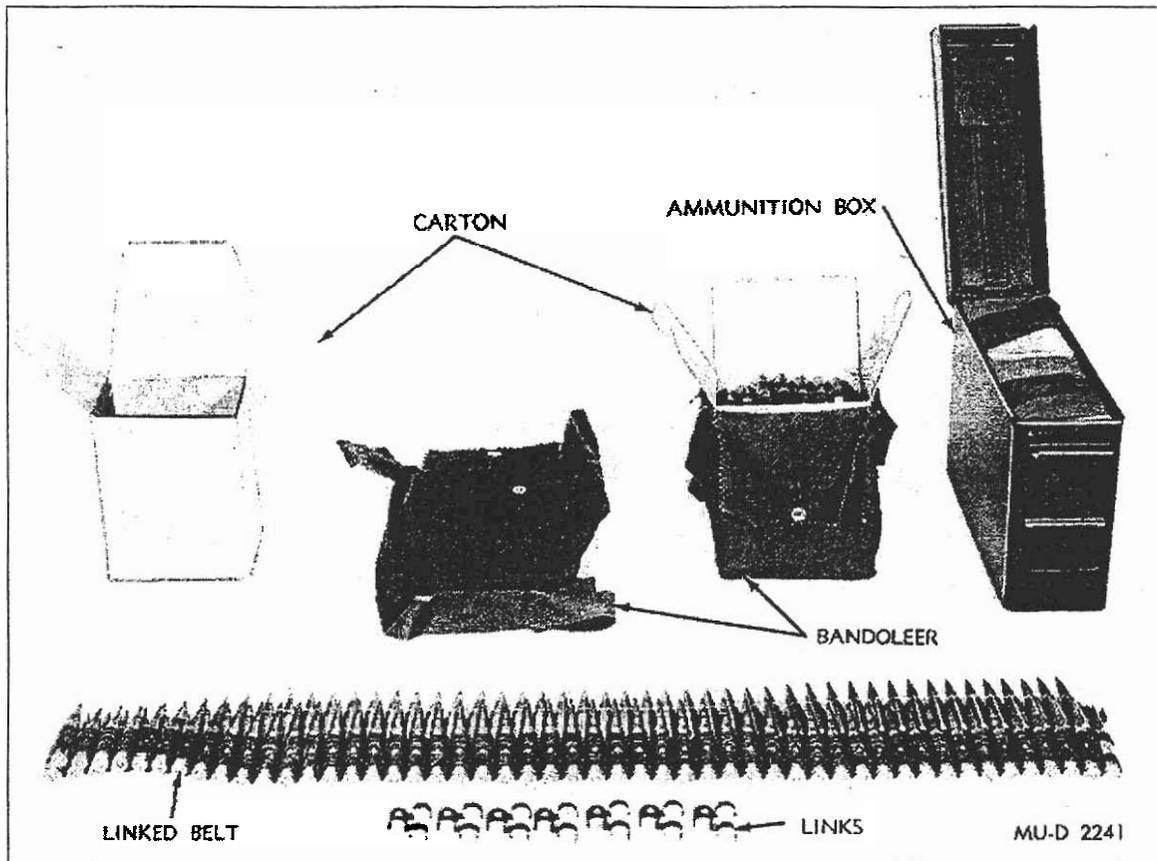


Figure 19. Cartridges, link belt, cartons, bandoleers and ammunition box

Care, Handling and Preservation

Small-arms ammunition is comparatively safe to handle. It is packed to withstand transportation, handling and storage conditions normally encountered in the field. However, consideration should be given to general handling precautions pertaining to ammunition and explosives.

Reference: This data is a reprint of Chapter 3, TM 9-1300-200, *Ammunition General*, October 1969

PROJECTILE, 8-INCH, ARMOR PIERCING, MK 21 MOD 1-5



8-inch AP, MK 21 Mods 1 - 5

Armor-Piercing (AP). These projectiles are designed to penetrate an equal caliber of Class A armor plate. The windshield is made of either forged mild steel, steel stamping, or aluminum. It has no special strength other than to prevent destruction during handling and set back on firing. The cap is a soft steel designed to increase the power of penetration to the projectile. The body is of high quality alloy steel. The base plug closes off the explosive cavity and holds the base fuze or base fuze adapter. The base fuze is inserted through the base plug or base fuze adapter and is designed to detonate the projectile after penetration.

Length

with cap and windshield	36.0 inch
without cap and windshield	24.5 inch
Diameter of bourrelet	7.97 inch
Width of band	3.30 inch
Weight	335 pound
Filler	Explosive D
Weight of filler	5.03 pounds
Fuze	Base Fuze, Mk 21 Mods 0 and 1 Base Fuze, Mk 23 Mod 0

Reference: NAVSEA OP 1664, Volume 1, *U.S. Explosive Ordnance*, 28 May 1947, West Point Text Book, "Ordnance and Gunnery", copyright 1907

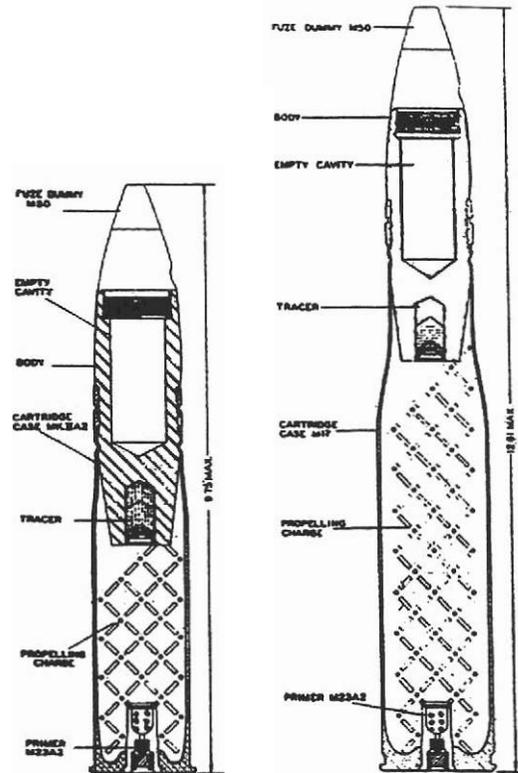
CARTRIDGE, 37mm, PRACTICE, M55A1

Complete round. This round was designed to simulate the M54, HE Shell for practice firing.

Cartridge cases. M1A1 gun, M17 is "Standard", M17B1 is "Substitute Standard". The Mk IIIA2 is "Standard" with the Mk IIIA2B1 being the "Substitute Standard"

Primer. M23A2, 20-grain, Percussion Primer is "Standard" for both rounds. Some rounds may be found with M23A1 primer.

Projectile. The projectile is of the same length, weight, and contour as the HE Shell M54. It is made of three parts. The body has no filler, but is made to the same size and weight as the high-explosive M54. A tracer cavity is machined into the base. Of course, since no filler is used, the tracer does not have shell destroying qualities. The tracer consists of red tracer cavity composition and igniting compound closed into the tracer cavity. The Fuze, dummy, M50, is entirely inert and is made in one piece of cast aluminum. It is of the same size, shape, and weight as the M56 Fuze.



Identification. The complete rounds can be identified for the M1A2, 37-mm Antiaircraft gun by its size and the extracting groove in the cartridge case. The complete round can be identified for the M4 (aircraft) gun by its shorter cartridge case (5.69 inches) with its extracting flange. Aside from the blue painting and white stenciling on the projectile, it may be distinguished as the Practice Round M55A1 by the Dummy Fuze M50. The complete round measures 12.81 inches in length and weighs 2.62 pounds

Length of complete round

M1A1 Gun	12.81 inch
M4 Gun	9.75 inch

Weight

M1A1 Gun	2.62 pound
M4 Gun	1.94 pound

Propellant weight

M1A1 Gun	6.0 ounce FNH
M4 Gun	2.5 ounce FNH

Fuze M50 Dummy Fuze

Color Blue with white markings

Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944

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TEXTUAL REFERENCES

APPENDIX E

TEXTUAL REFERENCES

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- E-4. "Report of Completed Works - Seacoast Fortifications...", 30 June 1921, (B-14).
- E-5. "Report of Completed Works - Seacoast Fortifications...", 30 September 1926, (B-15)
- E-6. "Realty Control File Summary", Prior to 1940, (B-16).
- E-7. "Report of Completed Works - Seacoast Fortifications, Harbor Defenses of Columbia," 1 May 1944, (B-17).
- E-8. "Supplement to Harbor Defenses of Columbia," 15 March 1944, (B-18).
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- E-10. "Declaration of Surplus Real Property", 17 December 1947, (B-20).
- E-11. "General History Harbor Defenses of the Columbia", (B-21).
- E-12. "Report on Application by Washington State Parks and Recreation Commission for Transfer", December 1949, (B-22).
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Washington Territory

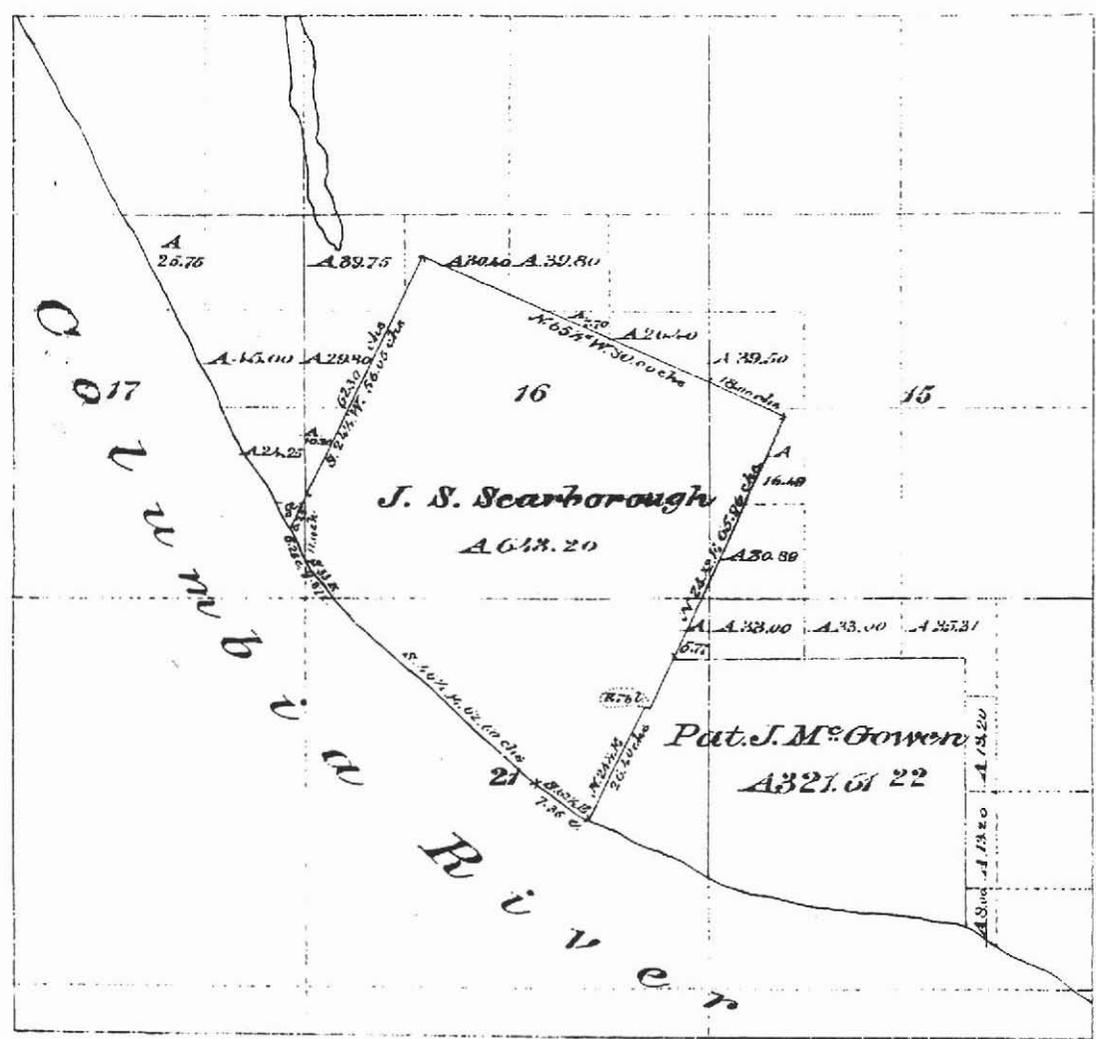
Military Reservation Chinook Point

This Reservation is situated on the Northern Shore and near the Mouth of Columbia River. It was ceded to the U. States. on the 1st of May, 1864. by Henry W. Stevens, Administrator of Rogue Duchesney, deceased, for the sum of \$2000.

Boundaries:

Beginning at a point 11.10 chains north of the ~~the~~ ~~marked~~ ~~point~~ at the South East corner of Section Seventeen, and running thence South $34\frac{1}{2}^{\circ}$ West 0.25 chains, thence South 29° East 0.25 chains, thence South 33° East 9.87 chains, thence South $40\frac{1}{2}^{\circ}$ East 12.50 chains, thence South $32\frac{1}{2}^{\circ}$ East 7.35 chains, thence North $24\frac{1}{2}^{\circ}$ East 20.40 chains, thence East 78 links, thence North $24\frac{1}{2}^{\circ}$ East 65.96 chains thence North $65\frac{1}{2}^{\circ}$ West 85 chains, thence South $24\frac{1}{2}^{\circ}$ West 50.55 chains to the place of beginning. Containing 143 $\frac{1}{2}$ acres more or less.

Point Chinook Military Reservation



FOR YEAR ENDING DECEMBER 31, 1902

FORT *Columbia Wash.*

257
6-12

MODERN ARMAMENT.

MOUNTED.

ON HAND, NOT MOUNTED

FOR GUNS.

FOR GUNS.

12-inch.
10-inch.
8-inch.
6-inch.
4.7-inch.
4-inch.
15-pounder.
6-pounder.
For 12-inch mortars.

12-inch.
10-inch.
8-inch.
6-inch.
4.7-inch.
3-inch.
15-pounder.
6-pounder.
For 12-inch mortars.

CARRIAGES:

Disappearing—

- L. E., model 1894.
- L. F., model 1896.
- A. R. F., model 1896.
- L. E., model 1897.
- L. F., model 1898.
- L. F., model 1901.

✓
20

Non-disappearing—

Model 1894.

Artillery—

Model 1896.
Model 1898.

Field—

Model 1891.
Model 1896.

Casemate—

Field—

Mortar—

Model 1891.
Model 1896.

	13-inch.	10-inch.	8-inch.	6-inch.	5-inch.	4.7-inch.	4-inch.	15-pounder.	6-pounder.	12-inch mortars.
GUNS:										
Mounted—										
On disappearing carriages,			✓ 3							
On nondisappearing carriages,										
On gun-lift carriages,										
On balanced-pillar mounts,										
On pedestal mounts,										
In casemate,										
Not mounted,										
MORTARS:										
Mounted,										
Not mounted,										
TOTAL GUNS AND MORTARS,										
			3							
PLATFORMS:										
Platforms on which guns or mortars are mounted,										
Platforms ready for guns or mortars to be mounted thereon,										
Additional platforms to be built with available funds,										
TOTAL PLATFORMS WHEN WORK WITH AVAILABLE FUNDS IS COMPLETED,										
			3	2				0.5		

8-INCH CONVERTED RIFLES.

	PLATFORMS.		CARRIAGES.		GUNS.	
	On which rifles are mounted.	Without rifles.	Mounted.	Not mounted.	Mounted.	Not mounted.
Barbette, front pintle,						
Do., center pintle,						
Casemate, front pintle,						
Do., center pintle,						
TOTALS,						

276
27
10

NUMBER 61
OCCASIONAL PAPERS
ENGINEER SCHOOL
UNITED STATES ARMY

UG
448
WS3

NOTES ON
SEACOAST FORTIFICATION
CONSTRUCTION

By

COL. EBEN EVELETH WINSLOW
CORPS OF ENGINEERS, U. S. ARMY

PREPARED UNDER THE DIRECTION OF THE CHIEF
OF ENGINEERS, U. S. ARMY, FOR USE
AT THE ENGINEER SCHOOL



23408

WASHINGTON
GOVERNMENT PRINTING OFFICE
1920

Abbot System.

When Gen. Abbot was relieved from duty at Willetts Point about 1886 the system that had been developed by him was briefly as follows:

The mines used were of two kinds, ground mines and buoyant mines. The latter were those commonly used, and even when ground mines were used they frequently had attached to them buoys which when struck by a vessel would cause the mine to explode.

The mine case was made of steel approximately one-half inch in thickness, the most common form consisting of two hemispheres 32 inches in diameter. These hemispheres were pressed out of flat steel plates. At the same time there was turned up along the edge of the hemisphere a rim an inch or two wide. The two hemispheres of a mine case were firmly welded together along their rims and this formed a spherical case, 32 inches in internal diameter. At the top of the mine there was fastened a fixed ring by which the mine could be raised or held up, and at the bottom there was left an opening into which could be screwed through a water-tight joint, the so-called compound plug. This opening was loosely covered by a removable cap in which the joint between the cable and the insulated wire entering the mine was protected. To three points symmetrically situated on the lower hemisphere were welded three long bales which, at their lower ends, were united in a ring to which could be attached the anchor ropes. The anchor ropes used were made of steel wire and were shackled at their lower ends to heavy anchors.

The compound plug which was screwed into the bottom of the mine case consisted of a water-tight entrance for the insulated wire, a chamber to hold the priming charge and fuses, and above this chamber a combined circuit closer and circuit regulator.

The insulated wire after passing through the water-tight entrance in the base of the compound plug entered the priming chamber. Here two fuses in series were placed in the circuit which ended at a terminal post on the circuit regulator. The priming charge of dry gun cotton was placed in the priming chamber, around the fuses.

The circuit regulator was intended for firing the mine by "judgment"—that is, without its being hit and while the current still remained open at the circuit closer. The main essential parts of the circuit regulator were a high resistance coil of wire and a small already polarized permanent steel magnet. Normally, the electric current coming from the shore passed through the fuses in the priming chamber, thence through the high resistance coil to the metal walls of the compound plug, and thence through the mine case to "ground." The resistance of the coil was so great that this current was much too small to affect the fuses in any way. Moreover, the direction of the current was normally such that the magnetic action induced in the

coil was of such a character as to repel the permanent magnet. If, however, the direction of the current was reversed, the magnetism induced in the coil was also reversed and the small permanent magnet was attracted. In moving, it short circuited the high resistance coil and greatly augmented the strength of the current.

The circuit closer part, intended for contact firing, consisted essentially of a small metal ball resting in a little hemispherical cup-like hole. Normally, the electric circuit was broken here, but if the mine was struck sufficiently hard or was tipped sufficiently far, the metal ball would roll up along the side of its cup until it touched one of a number of metal springs, thus making an electric connection and short circuiting the high resistance coil of the circuit regulator.

The mines were connected with the shore by insulated armored electric cables lying on the bottom. At or near the shore these cables passed in through cable conduits to so-called mining casemates which contained the operating apparatus. All the joints of these cables were very carefully insulated, so that after a mine was put in place there was a continuous insulated electric circuit passing from the operating apparatus in the casemate, through the core of the cable and the various junction boxes, into the priming charge chamber of the compound plug. Here the circuit, still insulated, passed through two fuses and to an insulated attachment on the base of the circuit regulator where it divided into two parallel branches, one passing to ground through the high resistance coil of the circuit regulator and the other attempting to pass through the circuit closer.

In the operating casemate were two voltaic batteries; a so-called signal battery consisting of a few cells of the Daniel type similar to those used in telegraph offices, and a firing battery composed of some 300 "Lelanché" cells similar to those used in electric bell circuits. These two types of cells were chosen because, at that time, the Daniel battery was the most efficient then known for use on closed circuits, and the Leclanché cells for use on open circuits.

The signal battery was normally kept in circuit with the mines, and caused a slight current to pass through the cables and the high resistance coils of the circuit regulators. This current was measured when the mines were planted and from time to time thereafter, supposedly at least once a day. The constancy of this current gave evidence as to the good condition of the mine and its connections.

If the mine was struck and tipped by a passing vessel or in other ways the ball of the circuit closer would make connection, short-circuiting the high-resistance coil and largely increasing the current passing through the cable. This increased current would then be sufficient to work the operating apparatus in the operating box of the casemate, but was not enough, if only the signal battery were in

the circuit, to fire the mine. However, if the firing battery also was in circuit, or was brought into circuit by the mechanism of the operating box, the fuses would be fired and the mine exploded.

To fire the mine by "judgment" it was necessary to connect in the firing battery, but in the reverse direction. The voltage of the firing battery passing through the high-resistance coil of the circuit regulator was not of itself sufficient to fire the fuses; but if this current passed through the circuit regulator in the reverse direction it reversed the magnetism of the coil, drew over the small permanent magnet, and short-circuited the high-resistance coil, thus causing an increase of current sufficient to fire the fuses.

Such a mine was harmless unless the firing battery was turned on. With the battery out of circuit the mine might be struck by a vessel with safety to the vessel though not necessarily with safety to the mine. However, if the firing battery was in circuit the mine would explode upon contact, and it could, by reversing the firing battery, be fired at any desired time even without being struck.

In the electric system the so-called "single wire" was used, the earth and water being utilized as the return circuit. The inner end of whichever battery was in series with the mines was grounded through a wire leading into the casemate, and the outer end of the circuit was grounded through the mine case, which was submerged in sea water.

The mine was usually moored so as to float at low tide and in a slack current about 5 feet below the surface. Had it been closer to the surface it could have been seen from a distance and could probably have been destroyed by artillery fire. As the tide rose the water, of course, would rise higher above the mine, but fortunately in all the harbors of our country the tidal fluctuations are too small to place the mines so deep that they could be passed over at high tide without being struck; that is, unless the mine had been depressed by the action of currents.

When a mine is moored in water where there is a strong current it will, of course, be pushed sideways by the current, thus causing the anchor rope to assume an inclined position until an approximate equilibrium is attained between the depressing effect of the current and the buoyancy of the mine case. With the same strength of current, and consequently the same angular displacement of the anchor rope, both the horizontal movement and the vertical depression vary proportionately with the depth of the water. For evident reasons the mines, when thus depressed, must not be permitted to sink so low that at high tide vessels might pass over them without touching them.

Furthermore, it is advisable that the horizontal movement be restricted within as narrow limits as possible. Mines are planted in regularly located groups with intervals so small that it is practically impossible for a vessel to pass through a group without striking at least one mine. Theoretically, of course, the current effect on mines planted fairly close together should be such as to give them equal and parallel displacements, but actual experience shows that this is not always true, and that the irregularities in currents are frequently so great that with any considerable horizontal displacement the intervals between the mines may become extremely irregular, leaving gaps through which a vessel might possibly be able to pass.

It was therefore considered desirable, even for mines to be fired by contact, that the horizontal displacement be kept small. For mines to be fired by "judgment" this is even more important. The effective radius of action of a mine is comparatively small, and for certainty of effect in "judgment" firing it is essential that the mine, at the time it is fired, should be quite close to where it was expected to be. Of course the displacement caused by a current might be estimated and allowed for, but such an estimate must in any case be but little more than a guess.

Fortunately, it was possible to diminish to a considerable extent the movements of the mine by the simple expedient of increasing the size of the mine cases. The pressure of the current varies, of course, with the area of the surface exposed to the current, while the upward or buoyant force varies with the volume of water displaced. As a body increases in size its volume increases in greater ratio than its area, so that the larger the mine case the greater the ratio between the buoyant force and the deflecting force and the less the angular deflection of the anchor ropes; consequently, the smaller the horizontal displacement and the vertical depression of the mines.

This fact was recognized and several sizes of large mine cases were designed, the largest having a volume equal to that of a 46-inch sphere, or approximately three times that of the regular 32-inch sphere. However, in order to secure as far as possible uniformity in details this increase in size was made not by using larger spheres but by keeping the same top and bottom hemispheres and inserting between these two hemispheres cylinders of the same diameter as the hemispheres and having lengths sufficient to give the proper volume.

The larger mines were intended for use in deep water or where the currents were strong, as for these locations the depression of the larger mines would not be as great as if the standard 32-inch mines were used. However, it had to be recognized that there might be places where a large tidal variation, or the existence of very strong currents, would cause even the largest mines to sink so low, either

by judgment, whereas before it was necessary to fire three. This improvement was rendered possible by the fact that 19 conductor cables are now manufactured, and these were not obtainable in Gen. Abbot's time.

The change to a grand group of 19 mines having individual cables, instead of seven groups of three mines to the group, has increased by approximately three times the number of cables entering the operating room, and therefore the number of individual operating switches and levers. It became necessary, therefore, to do away with the operating boxes, which under the Abbot system could easily be spread on the shelves around the three sides of a single operating space, and to substitute for them, a series of switchboards arranged around the walls of the operating room.

Each grand group now has its own switchboard, each switchboard being composed of 20 small square panels, arranged four wide by five high. The conductor from each mine leads to its own small panel; the twentieth panel is utilized for switches, signal lamps, etc. The operation of the lever and the magnet on these square panels is on exactly the same principle as in the old operating boxes invented by Gen. Abbot, but a change in the method of mounting on the switchboard has required a change in the mechanical details.

For the old signal battery, composed of voltaic cells, a storage battery is now utilized. This is located in a special separate room. In another room, close to the operating room, there is placed an engine and dynamo for charging the storage battery, as well as the motor generator for furnishing the alternating firing current. The small motor generator is operated by a direct current from the storage battery and gives off at the generator end an alternating current of the proper voltage.

The same selective system of contact or judgment firing is retained, although the tendency has been, so far as drills are concerned, to place more and more reliance upon judgment firing and the tracking of vessels.

TACTICAL USE OF MINES.

Tactically, submarine mines partake of the nature of obstacles, and though they are destructive obstacles, their use is restricted to a large extent by the same conditions that affect the use of other forms of obstacles in land warfare. As obstacles, their principal function is to delay the advance of the enemy, and to delay him in a position where he will be subjected to destructive fire from our artillery on shore. In fact, submarine mines, if used otherwise than in connection with shore batteries, can delay only and can not entirely prevent the entrance of an enemy's vessel. If not protected by gunfire, the mines can and probably will be destroyed by counter mining or their cable connections with the shore will be found by dragging operations.

and will be destroyed. These dragging operations will probably be conducted by boats too small to operate the circuit closers and too insignificant for mines, by judgment firing, to be wasted on them.

It is essential, therefore, that the mines be located within the field of fire of guns on shore. In the modern system of artillery organization the rapid-fire batteries of any fort, or at least a number of such guns, are usually assigned to the mine commander for the protection of his mine field, so that the use of these guns for the protection of this mine field will not be interfered with by the lack of unity of command, which might occur if these guns were not under the control of the mine commander.

It is, of course, advisable that the mine field should be located so far to the front as to cause the enemy's vessels to halt before they can come close enough to the defenses to make effective use of their rapid fire guns, but at the same time the mines must not be pushed so far to the front as to make their protection by their own rapid fire armament inefficient, or so to make it possible for the enemy under cover of darkness, fogs, or thick weather, to remove, destroy, or paralyze the submarine mine defense.

MORAL EFFECT OF MINES.

One fact strongly brought into prominence in all recent wars is that the efficiency of fixed mines lies largely in their moral effect upon naval commanders. The proper use of any naval vessel is against other naval vessels, and a naval commander is not likely to risk possible instantaneous destruction of his vessel by an unseen mine unless the advantages to be gained are much greater than they ordinarily are. Furthermore, the location and the number of mines which may have been planted, and their condition as to efficiency, will not generally be known to a foreign naval commander who will usually give them credit for being more numerous and better than they are. Indeed, I know one distinguished officer, who, after studying carefully the manner in which the American fleet declined to enter the harbor at Santiago, Cuba, which was supposed to be but really was not defended by effective mines, and the way in which the Japanese stayed out of Port Arthur, stated that in his opinion a most efficient defense could be arranged for almost any harbor by merely pretending to plant mines and then putting up in plain sight of the enemy, as if intended for a warning to our friendly vessels, a large sign marked "Torpedoes."

SUBMARINE MINE BUILDINGS.

When matters connected with the operation of the submarine mine system were transferred to the Coast Artillery, there was left in the hands of the Engineers, the construction of the buildings per-

taining to the submarine mine system. These buildings are the mining casemates from which the mines are operated; the conduits connecting the casemates with the shore; the cable terminals on the shore; the cable tanks in which the cable is stored when not in use; the torpedo storehouses in which are kept the mine cases and other material; the loading rooms in which the mines are loaded; the magazines in which the dynamite is stored; the range stations, plotting rooms, and dormitories; the torpedo wharves at which the mine planter is to land and receive the loaded mines; and the tramways connecting the wharves with the cable tanks, storehouses, loading rooms, etc.

Mining Casemates.

The so-called "mining casemates" are in reality not casemates at all; that is, in the sense in which the word "casemate" is ordinarily used in connection with fortifications. They are in reality the operating houses of the mine system and acquired the name "casemate" probably from the fact that many of the older "mining casemates" were made by mere alterations of existing casemates of the old forts, which had become obsolete in so far as locations for mounting guns was concerned.

The mining casement is really the operating house for the mine system and into it are led the cables coming from the mines. In its most modern form a casemate ordinarily consists of several different rooms; an "operating room," in which are located the operating boxes or switchboards, the testing instruments, and other appliances used in the operation of the system; a power room, containing the electric generating plant; a storage battery room containing the storage battery; and a fourth room used as a dormitory or office room.

In the early casemates, as planned by the Board of Engineers, the main consideration seems to have been to provide protection and concealment, and protection seems to have been sought even at the expense of efficiency of operation. As then constructed the casemate consisted of a room about 12 by 18 feet in floor area with a ceiling in the form of a full center arch. No steel beams were allowed in the roof because it was feared that they might affect the delicate galvanometers and other electrical instruments used at that time. The roof and walls of the casemates were of concrete and were very thick, 20 feet on the side toward the enemy and 10 feet on the opposite side. Above and around this concrete was placed a large pile of sand. The entrance was usually through a crooked gallery opening out to the rear, so that by no chance could any projectile enter the casemate. Incidentally, it may be stated that no light could get in and very little air, the only arrangement for ventilation being a crooked ventilator pipe a few inches in diameter and extend-

ing from the ceiling to some point on top of the sand fill where its outlet could be concealed.

In the center of the floor of the casemate there was a large manhole covered by a removable trapdoor and connecting with a conduit leading to the shore through which the cables were extended into the casemate. Around the floor, on three sides of the opening of this manhole, there was a line of tables or shelves of suitable height for the operating boxes, etc. The testing appliances, the batteries, and a few other fittings were kept on other shelves placed under the operating tables or around the walls.

In the harbors where there were older fortifications available, the mining casemates were usually built in these older fortifications, utilizing an abandoned casemate from which the gun had been removed, or some other older room. The casemate openings or other voids in the scarp walls were filled with concrete, the thickness of the scarp wall was much increased by adding new concrete, and a great deal of sand was piled around it. Where no good site was available within an older fortification, the casemate was an entirely new structure built preferably in some existing sand dune or other hill.

Although between 1890 and 1898, quite a large number of casemates of the general character described above, were built in the various fortified harbors of this country, but little use was made of these casemates until the Spanish War, and it was then discovered that many of them were so damp that condensation was apt to occur on the electrical instruments with resulting electrical leakage. To do away with the dampness, coal oil stoves and lamps were introduced, but while these lamps were fairly efficient in overcoming the dampness, they soon rendered the air almost unbreathable.

As a result of this experience, the Board of Engineers prepared in 1899 a new design for a casemate which was published in Mimeograph No. 32. In this design the thick concrete wall and the sand protection were omitted from one side and were replaced by a comparatively thin wall with doors and window openings to provide light and air. On the other sides there were to be interior timber walls with an air space between them and the casemate and similarly there was to be an interior ceiling with an air space above. Means were to be provided for artificially heating the air in these air spaces and it was hoped by these means to prevent the trouble due to dampness.

It was soon found out, however, that the casemate proposed was too small, especially when the storage battery had to be provided instead of the older galvanic battery.

In 1903, therefore, the Board of Engineers presented a new plan published as the second supplement to mimeograph No. 32. In this new plan, the dimensions of all the rooms and the number of rooms were increased and sleeping accommodations for the operating detachment were provided. The casemate was now to consist essentially of a frame building constructed in the vacant space in a large concrete mass, the building being completely surrounded on all sides by an air space. The roof was to be made waterproof so that any dripping or seepage through the concrete might run away. As by this time the delicate galvanometers which had formerly been used for measuring current and voltage had been replaced by the standard self-contained ammeters and voltmeters, no difficulty was to be feared from the use of iron in the concrete, so the ceiling was shown as built of reinforced concrete. On one side, that is, the side to the rear, the exterior concrete wall was to consist essentially of concrete columns to be pierced for doors and windows opposite the similar openings of the interior frame building.

In the mimeograph instructions, it was stated that when the casemate could be built in a location where it would be entirely protected from hostile fire, the mass of concrete even might be omitted so that the only thing which would have to be constructed was a structure essentially similar to the frame building itself.

The first casemate of this last type which was built was at Fort Monroe, Va. The casemate was located on the parade level of one of the bastions of the old fort, and being surrounded on all sides, except the rear, by the masonry ramparts of the old fort, this position was supposed to provide sufficient protection.

The use of timber as the material for the casemate was intended to reduce condensation, but of course it made the building inflammable. However, as at that time it was customary to build practically all the observation stations of the fire control system of timber, the use of timber for the casemate was in accordance with standard practice. Subsequently, as was noted in the chapter on fire control, it became usual to build range stations not of timber but of cement plaster on metal laths, and a similar change was made at the same time in the construction of mining casemates. Later on, some mining casemates were built of concrete blocks, some of brick, and a number of reinforced concrete.

Since the adoption of the general design of casemates just described, only minor changes have been made. A casemate still consists of four main rooms; at one end, a dormitory for the detachment that in the daytime may be used as an office, next, a large operating room with closets and a toilet, then a dynamo room, and at the other end, a storage battery room.

Formerly, it was customary to have the cables enter a well or manhole under one corner of the operating room, and from this manhole trenches covered with removable sections of floor led around the walls of the room a few feet away from the walls. Over these trenches were placed the operating switchboards.

It was soon found, however, that it was somewhat difficult to handle the cables in these narrow trenches and in the first casemate built at Honolulu, which was designed and constructed by the author, an improvement was made. In this casemate, a cellar some 4 feet deep was constructed under the entire operating room and extended some 3 feet to the front and rear of the operating room forming areaways which were covered by gratings. The cable conduit entered one of these areaways so that the ends of the cable could be pulled into the cellar. The object of the cellar was to simplify the handling of the cables and to provide ventilation. When pulled in, the cables are spread around the floor of the cellar and under their particular operating boards and for the passage of a cable up into the operating room a small hole is bored through the floor, behind the proper operating board.

The Honolulu casemate was constructed with reinforced concrete walls, but for convenience in handling cables and for attaching the wiring, the operating room was finished with a wooden floor and a wooden ceiling. The mining casemates built a few years later in the Canal Zone were of the same general character as that of the Honolulu casemate, being constructed with reinforced concrete walls and having a cellar underneath the operating room.

Most of the casemates constructed by the Engineer Department from 1908, up to and including the year 1917, were of the open type. They were located where they would be well protected by other structures from the direct fire of the enemy and consequently were given no overhead or rear concrete protection.

The experience of the World War, however, has invited attention to the danger from air bombing and to the need of overhead protection for a structure as essential to the defense as a mining casemate. Consequently, reinforced concrete roofs surmounted by earth covers have been added at many of the formerly existing casemates, and future casemate plans will undoubtedly provide for overhead protection.

It will be noticed that the early standard designs for casemates provided an unnecessary amount of protection, with resulting dampness. The designs were gradually changed to the open casemates, without any overhead protection whatsoever. The pendulum is now swinging the other way and the standard design provides complete protection both overhead and on all sides. This tendency must, however, not be allowed to go so far as to permit casemates to be built without sufficient provision for dryness and ventilation.

Cable Conduits and Terminals.

The cable conduits lead from the casemate toward the shore, and if this distance exceeds 200 feet or so, the ease of handling the heavy torpedo cables requires that intermediate manholes be provided. The earliest conduits built were like sewers, large enough for a man to crawl through, and but one conduit was provided for any casemate connection with the shore, all the cables being intended to be hauled through this one. The more modern form of construction however, is to use multiple terra-cotta ducts laid in concrete and covered over with concrete. At intervals, these multiple conduits enter into the side walls of manholes. In general, the torpedo conduit lines are similar to the fire control or power line conduits except that the individual conduits should be somewhat larger.

The cable terminal is really a large manhole placed near the sea, on the beach, or preferably behind a sea wall, if there is one. It is provided with rings set in the walls for use in drawing in the heavy cables. In fact, the same character of rings are useful in all the manholes of the torpedo conduit line.

The designs of cable terminals and manholes have become standardized and the standard designs should be studied.

When built behind a sea wall the terminal must, of course, have a connection with the sea by means of a hole cut below low water, and arrangements must be made so that this hole may be stopped up when not in use. When there is no sea wall, this cable terminal is built in the sand beach and at such a level that it will ordinarily be covered by the sand and not be seen. On the side toward the land the multiple duct conduit system enters, and on the side toward the sea openings are made which are temporarily plugged with wooden plugs. When the cables are to be laid, temporary trenches must be dug from this cable conduit into the water. The cables are then laid in these trenches and the ends passed through into the terminal manhole.

Cable Tanks.

Cable tanks are designed for the storage of submarine cables, as experience has shown that this cable keeps best when covered with water. It consists essentially of a tank to be kept full or nearly full of water, the depth of the water being sufficient to slightly more than submerge the standard cable drums. For convenience in handling the heavy drums of cable, a bridge crane with a hoist or block is provided which may be moved back and forth over the cable tank. The ends of this bridge crane are supported by rails placed on lines of columns along the sides of the tank. In order to retard evaporation, a house is usually built over the cable tank.

CHAPTER XV.
SUMMARY.

In the preceding chapters of this work, the attempt has been made to gather together, for the instruction of student Engineer officers, and for the assistance of such other Engineer officers as may be called upon to take charge of fortification construction, a number of facts which the author has learned from his experience and study of the subject. There have been inserted here hints as to the best methods of doing things, reminders as to certain details which an inexperienced officer might in all probability overlook, and warnings as to things which should be avoided.

The attempt has been made also, by a recital of the history of the development of emplacement design, to show that the accepted standards are based, not upon the mere whims of designing officers, but upon a sort of evolution, based upon experience that has shown which of the many things attempted in the past should be retained and which should be discarded. Furthermore, the attempt has been made, as far as appeared possible, to point out the reasons which appear to underlie the success or failure of the different expedients tried.

It will probably have been noted that the recital of the work actually done seems to cease as of a date several years ago. This is because, for the last few years, there has been more or less stagnation in seacoast fortification matters in this country, due largely to the transfer of the interest and the energy of all concerned to the great war on the other side of the water. Consequently, these notes may be considered as a sort of compilation of past history, made in a well-marked interval between the past and the future.

Up to the present it has not been possible to even roughly predict the effect the experiences of the World War will have upon the future of seacoast fortification construction, for sufficient time has not yet elapsed to permit the lessons taught by the war to be thoroughly considered and digested.

During the war, there were very few instances of combats between coast fortifications and naval vessels. The Allies, as far as we can learn, made no effort to attack, or even to make a demonstration against, the German coast fortifications, and the same is equally true as to attacks or demonstrations by the German Navy against the seacoast fortifications of the British, French, or Belgium coasts.

As was stated in one of the earlier chapters, most of the seacoast defenses existing prior to our Civil War were provided on their land side with regular defenses against land attacks. The forts then built were usually closed works. On their seacoast sides they were designed to combat ships, while on their land sides they were designed so as to be able to resist land attacks, even up to a regular siege. This form of design was rendered possible by the short range of the guns of the day.

Unfortunately, in the batteries and emplacements constructed since the Civil War, provisions for defense on the land side would appear to have been somewhat neglected, probably for the reason that the increased range of artillery had caused land operations to be so extensive that land defenses located close to or immediately in the rear of seacoast batteries would be practically valueless, as an enemy could probably put such batteries out of commission by land guns emplaced at a considerable distance in the rear. Consequently, to be of value the land defenses provided would have to be not defenses of the seacoast batteries themselves but rather land defenses for protecting the entire group of seacoast forts, and not improbably including within the defensive lines cities and other utilities.

Beginning some five or ten years ago, however, the question of the land defense of our seacoast forts, and of the cities protected by them, began to again receive the attention which its importance demands. Boards were appointed for drawing up the defensive lines, for laying out the defensive works, and for gathering together data as to the personnel and material necessary for such land defenses. Much information of this kind has been gathered together and placed where it will be of value.

Later, beginning with the formation of the War Department Board of Review, Gen. Kingman, then the Chief of Engineers, in submitting to the War Department his views as to the adequacy of any seacoast defense project, began the custom of urging that all seacoast defense projects should be accompanied by provisions for adequate mobile armies for the defense on the land side of the areas supposed to be protected on the sea side by the seacoast fortifications under consideration. In many of his reports, he stated to the Board of Review that his assent to the board's project for the seacoast defenses mentioned was based upon the supposition that before this seacoast defense project could be carried into effect, proper provision would have been made for the organization of the mobile land forces necessary for the land defense.

The increase in the range of land artillery, shown during the World War to be possible, has made it necessary to move the defensive lines much farther away from the cities than had heretofore been considered necessary, and the increase in the radius of these land line

defense lines has, of course, correspondingly increased their perimeters and multiplied the points at which the enemy may concentrate his attack. In the protection of these defensive lines, heavy mobile artillery, moving upon railroad tracks constructed in advance to positions likewise constructed in advance, will doubtless play an important part. Such guns, before the enemy shall have landed, may doubtless on occasions be quite useful in assisting in repelling a naval attack against our protected harbors, or in keeping the enemy's naval vessels at a distance from our coasts.

However, in the opinion of the author, the importance of having certain armanent portable in no way detracts from the necessity of having, in certain locations in our harbors, large guns permanently emplaced. Seacoast guns, once permanently emplaced, are fixed and will be at their proper places when required. On the other hand, there is always the possibility that should not be overlooked, that a portable gun, either through our own neglect or as a result of the machinations of the enemy, may have been sent elsewhere and will be absent when the need for its use becomes most acute.

It is the opinion of the author that the recent demands, which have been made by some officers who have recently returned from abroad, that all guns hereafter to be installed in seacoast defenses should not only be portable but should be so mounted as to be capable of all around fire and at any degree of elevation, are somewhat overdrawn. They are in violation of the fundamental principle that any fortification design must necessarily be a compromise between a number of conflicting elements, and that perfection in any one detail can, in general, be obtained only at the expense of inefficiency in some other items.

For effective use not only in fixed fortifications but in active land operations as well we must have many guns of many different kinds. We need light rapid fire guns for accompanying the advance of the Infantry in land operations and, to some extent, for combating small boats on the seacoast; we need heavier rapid fire guns for combating on our sea front the secondary armament of naval vessels, and on our land fronts for overcoming the enemy's fortifications and his artillery. Likewise we need heavy guns for combating the heavy guns of the enemy whether on shipboard or on land. No one gun can fulfill all these different functions.

In our seacoast defenses, every seacoast gun should have some one important function to fulfill, and the gun itself, its carriage, and its emplacement should be so designed as to enable it to perform this one important function most efficiently. If, at the same time and without lessening the ability of the gun to perform its proper function, it can be so mounted and emplaced as to make it capable of performing some other less important functions, so much the better; but

the arrangements made for the performance of these less important functions should never be permitted to interfere with the efficiency of the gun in the performance of its main function.

The normal function of a seacoast gun is ordinarily to cover with its fire a certain water area, to prevent an enemy's vessel from entering this water area, or to sink the enemy's vessel if it should attempt to come in. Every detail of the carriage, every detail connected with the emplacement, every detail of its fire-control system should be so designed as to enable the gun to bring to bear on this particular water area the most rapid and most efficient fire possible. If, without interfering with the efficiency of this character of fire, for which the gun was especially designed, the gun carriage or the emplacement can be so designed as to permit the gun to fire on certain land areas also, so much the better, but if the attempt to make it possible for the gun to fire on these land areas results in any decrease in the rapidity or accuracy of the fire of this gun at an enemy's vessel in its particular water area, the real value of the gun must have been reduced.

In attempting to make it possible for a seacoast gun to fire toward the land, careful consideration should be given as to whether this fire to the rear, if required, will be long-range fire only, or as to whether it will ever be necessary to fire the gun to the rear at zero elevation or at an angle of depression. Long-range fire on certain land areas can usually be made possible without difficulty, but as was shown in describing the tentative designs of future emplacements, all around fire at zero elevation is not possible with any large gun except by a return to the two-story type of battery, with a resulting resort to mechanical means of handling ammunition and a decrease in the rapidity and reliability of ammunition service. This can but make the gun less efficient in the performance of its main function.

In the opinion of the author, it is far from essential that all guns should hereafter be mounted so as to be capable of firing at the maximum range. That some at least of the guns for the defense of any port should be able to fire at the maximum range is of course essential, but this does not necessarily imply that all guns must be capable of this kind of fire.

Fire at very long ranges where the target is out of sight of the gun, and where position finding is difficult, must necessarily be exceedingly erratic and ineffective. Little material damage will probably be done by such fire and the effect will be moral only. Nevertheless, to keep the enemy's vessels as far away as possible it is essential that some of our guns should be able to fire at such extreme ranges

If the enemy has reason to believe that in the attempt to make this extreme long-range fire possible we have decreased the efficiency of our short-range fire, it is not improbable that he might take the somewhat small risk of rushing through the area covered by our ineffective long-range fire, into the area where he knows that our short-range fire will likewise be ineffective. If, however, he knows that the closer in he gets the more effective our fire will be, he will surely not dare such a risk.

It would appear to have been conclusively shown that our heavy disappearing guns can be loaded and fired more rapidly and efficiently than is possible with any barbette mounts yet designed. To be sure, the range of guns on disappearing carriages is comparatively limited, say to 25,000 yards, but in the opinion of the author it is not improbable that there are a number of locations in our harbors where it is desirable to continue to mount some of our primary guns on disappearing carriages, even though this somewhat restricts their range, for it will result in making the fire of these guns most rapid and efficient at the ranges at which they are capable of firing. Such guns will, of course, be unable to take part in an action at extreme ranges, but when the time does come, if it ever should, when the enemy approaches within the range of these guns they will then be absolutely and thoroughly reliable. Knowing such to be the case, it is quite probable that the enemy will never dare to come within their range.

On a seacoast as extensive as ours it is manifestly impossible that we can defend our entire coast. We may defend our most important harbors and commercial centers, but we can not efficiently protect all our smaller ports or the open seacoast between. Where we do build seacoast defenses they should be strongly built, for weak defenses in some respects are worse than none at all. It is much better that we should have a few well defended harbors than a number of weakly defended ports. In fact, our seacoast fortifications should be well planned, well built, and well armed, not so much with a view of defeating an enemy when he does make an attack as in persuading him not to attack at all.

By defending our most important harbors the enemy will be persuaded not to attack them and will be compelled to land his army, if he feels he can accomplish this successfully, on the open coast or at our smaller ports which lack the wharves, the unloading facilities, and the rail connections usually available only at our larger harbors. The landing of enemy under such circumstances and conditions will necessarily be slowly done, and should give time for the concentration of our mobile land forces.

If our seacoast fortifications at any harbor have been so well designed and built as to have deterred an enemy from attacking them, to have kept him out of a harbor plentifully supplied with landing and dock facilities, and to have forced him to land elsewhere under difficult conditions, and where proper terminal facilities are lacking, they must be considered to have performed most efficiently the main purpose for which they were designed. Nothing more should be expected or desired of them. In fact, a seacoast fortification may be said to have most efficiently performed the function for which it was intended, if it is never called into use at all.



REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(Gun and Mortar Batteries)

COAST DEFENSES OF THE COLUMBIA.....
FORT. COLUMBIA, WASHINGTON.....
BATTERY.. JULES ORD.....
No. of guns None Caliber Carriage lbs none

Form 1 Corrected to June 30, 1921.

Battery commenced	Dec. 1896	Sources of electric current	Central Power Plant.
Battery completed	July 1898		
Date of transfer	July 16, 1898	Max. kw. required for lights	4.1 kw.
Material of construction	Concrete	Max. kw. required for motors	None. Not in use.
Portland or Rosendale cement	Portland		
Cost to date of transfer	\$137,298.79		
Connected to water supply	Yes	Present condition of battery	Poor.
Connected to sewer	Yes	Rooms wet or dry	Dry.
Type of latrine	Syphon		
Type of data transmission	None	How ventilated	6" dia. shafts, conical top ventilators No ventilating doors.
Trumion elevation in battery	#1&2, 106.20' #3 146.13'	Remarks-	The three 8" guns for this battery have been dismounted and shipped away for use elsewhere and the carriages have been sold. Battery re- wired in 1910. No. 3 emplacement, magazine room and corridor remodelled and used for switchboard room.
Datum plane	M.L.L.W.		

ARMAMENT- NONE

E-4

Emplacement or mortar No	Guns or Mortars					Carriages				
	Cal.	length	model	Serial No.	Manufacturer mounted	Type model	Serial No.	Manufacturer	Motor	
1	8"	278.5"	1888 M.	20	Waterbury General	Engr. Dept	Dis. I. F. 1896	1	P.M. Tool Co.	None
2	8"	278.5"	do.	23	do.	do.	do. 1896	10	do.	do.
3	8"	278.5"	1888 MII	44	do.	C.A.C.	do. 1896	32	Lake E. Engr. Wks.	do.
4										
5			Guns shipped away.							
6										
7										
8										

HOISTS.

Emplacement Number	Type	Motor	Serial No.	Maker	H.P.	Volts	RPM	Type of control	Date of transfer	Remodeled for long points
2	do.	do.	131565	do.	110	1060	do.	do.	do.	No

Hoist in emplacement #3 removed and stored.

SUPERSEDED - See Form 1, Sep 30, 1924

REPORT OF COMPLETED WORKS- SEACOAST FORTIFICATIONS
(Battery Plan)

Form 7

Corrected to

COAST DEFENSES OF THE COLUMBIA
FORT COLUMBIA
BATTERY JULES ORD

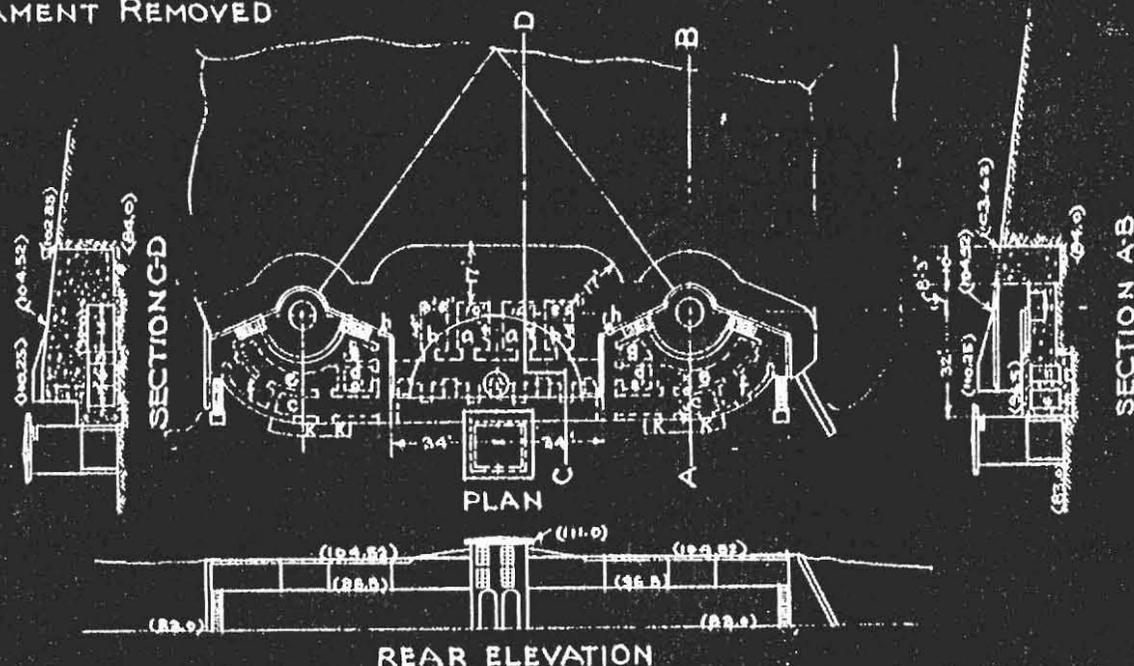
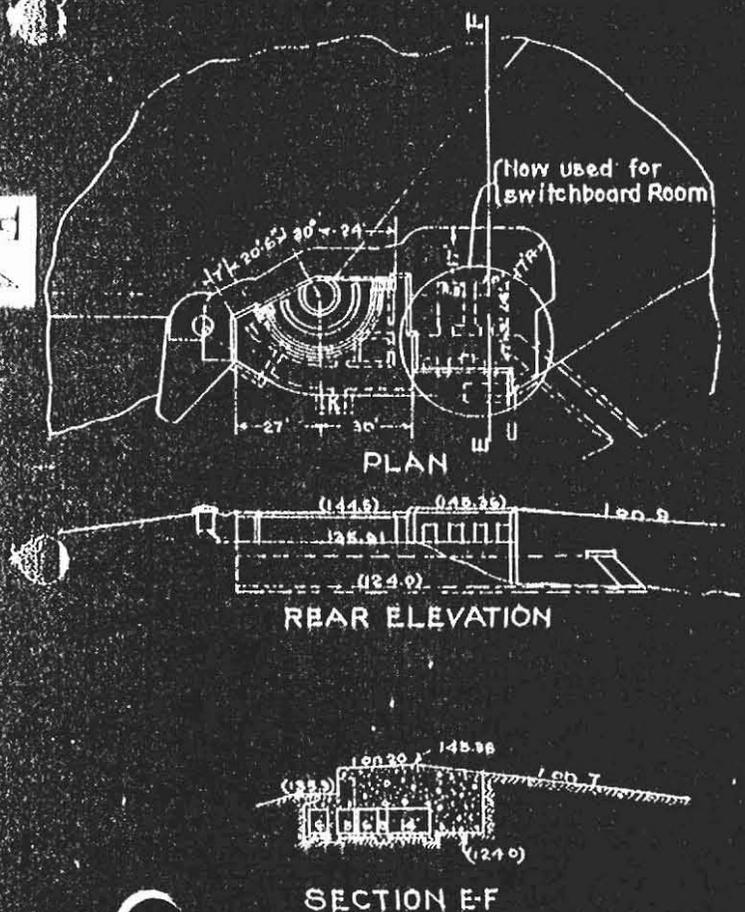
No. of Guns

Caliber

Carriage

0 20 60 100 200 FT.

ARMAMENT REMOVED



LEGEND

- a - Powder Room
- b - Shell Room
- c - Shot Room
- d - Tool Room
- e - Storage Battery Room
- f - Guard Room
- g - Latrine
- h - Telephone Recess
- K - Cranes

Note: Plane of Reference - Mean Lower Low Water.

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(Gun and Mortar Batteries)

COAST DEFENSES OF...THE COLUMBIA...
FORT...COLUMBIA, WASHINGTON...
BATTERY...JULES ORD
No. of guns None Caliber Carriage none

Form 1 Corrected to Sept. 30, 1926.

Battery commenced	Dec. 1896	Sources of electric current	Central Power Plant.
Battery completed	July 1898		
Date of transfer	July 16, 1898	Max. kw. required for lights	4.1 kw.
Material of construction	Concrete	Max. kw. required for motors	None. Not in use.
Portland or Rosendale cement	Portland		
Cost to date of transfer	\$137,298.79		
Connected to water supply	Yes	Present condition of battery	Poor.
Connected to sewer	Yes	Rooms wet or dry	Wet.
Type of latrine	Syphon		
Type of data transmission	None	How ventilated	6" dia. shafts, conical top ventilators. No ventilating doors.
Trumion elevation in battery	#1&2, 106.20' #3 146.13'	Remarks-	The three 8" guns for this battery have been dismantled and shipped away for use elsewhere and the carriages have been sold. Battery rewired in 1910. No. 3 emplacement, magazine room and corridor remodeled and used for switchboard room.
Datum plane	M.L.L.W.		

ARMAMENT

Emplacement or mortar No	Guns or Mortars					Carriages					
	Cal.	length	model	Serial No.	Manufacturer	mounted	Type	model	Serial No.	Manufacturer	Motor
1	8"	278.5"	1888 M1	20	Watervliet	Engr. Dept.	Dis. L. F.	1896	1	P. H. Tool Co.	None
2	8"	278.5"	do	23	Arsenal	do	do	1896	10	do	do
3	8"	278.5"	1888 M1	44	do	C. A. C.	do	1896	32	Lake E. Engr. Wks.	do
4											
5			Guns removed and shipped away.							Carriages removed and sold.	
6											
7											
8											

HOISTS.

Emplacement Number	Type	Delivery	Motor					Date of transfer	Remodeled for long points
			Serial No.	Maker	Volts	RPM	Type of control		
1/2									

The hoists and motors for the three emplacements have been removed and sold by salvage officer.

By NARA Date 7/03

E-5

RESERVATION NAME:

106

Fort Columbia, Washington

OFFICIALLY DESIGNATED BY:

LOCATION:

In Pacific County, 6 miles Southeast of Ilwaco, Washington

TYPE:

Harbor Defenses of Columbia

LAND OWNERSHIP AND COST DATA

ACQUISITION ACTIONS

DISPOSAL ACTIONS

Exhibits "A"

Exhibits "B"

NET AREA

GROSS COST

729.35 acres, NET AREA AS OF 1 JULY 1940.

20.00 acres, fee

0.33 of an acre, easement (1)

20.33 acres, total area acquired after 1 July 1940.

\$2,001.00

709.68 acres, total area acquired

761.58 acres, *

8.10 acres

8.10 acres, **

0.00

JURISDICTION

RELOCATIONS

Exhibit "C"

FINAL PROJECT MAP:

Exhibit "D"

MISCELLANEOUS PAPERS:

Exhibits "E"

REMARKS:

* 136.35 acres, fee, loss due to Soil Erosion, 3-5-48

591.90 acres, fee, 33.00 acres, transfer, 0.33 of an acre, easement (1)

Accountability assumed by W.A.A., 4-1-48.

** Reported excess (GSA Form 30) to General Services Adm., 10-14-53. who

conveyed it to the State of Oregon by Quitclaim Deed, dtd., 6-20-54.

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS

HARBOR DEFENSES OF THE COLUMBIA
FORT COLUMBIA, WASHINGTON

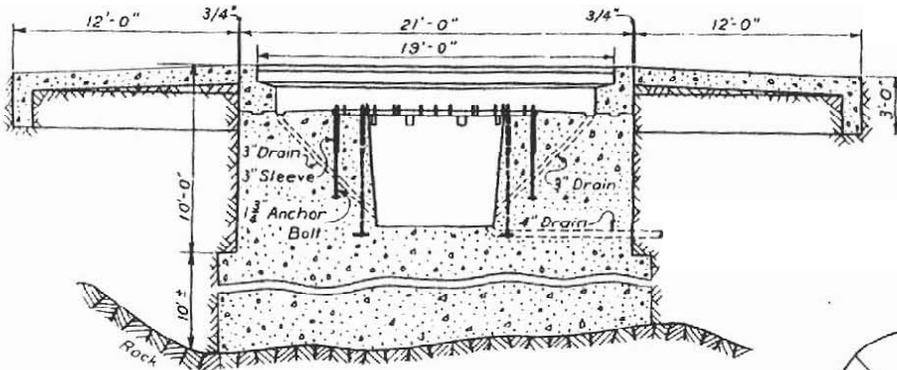
BATTERY 246

NO. OF GUNS 2 CALIBER 6 IN. CARRIAGE BARBETTE M-4

SCALES AS SHOWN

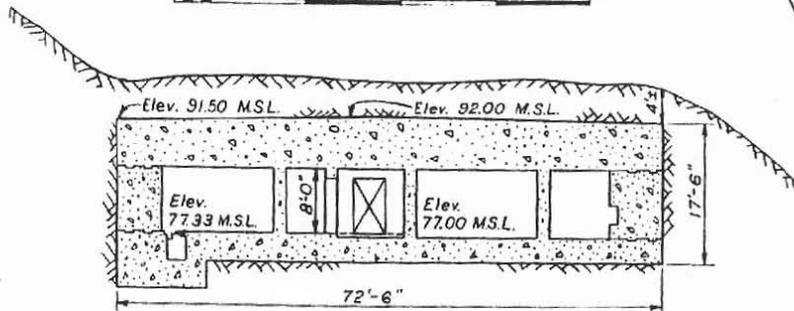
PART VII

CORRECTED TO 1 MAY 1944



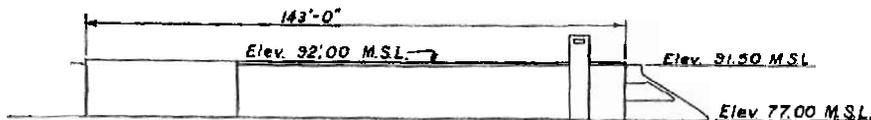
SECTION B-B

SCALE IN FEET
0 5 10 15 20



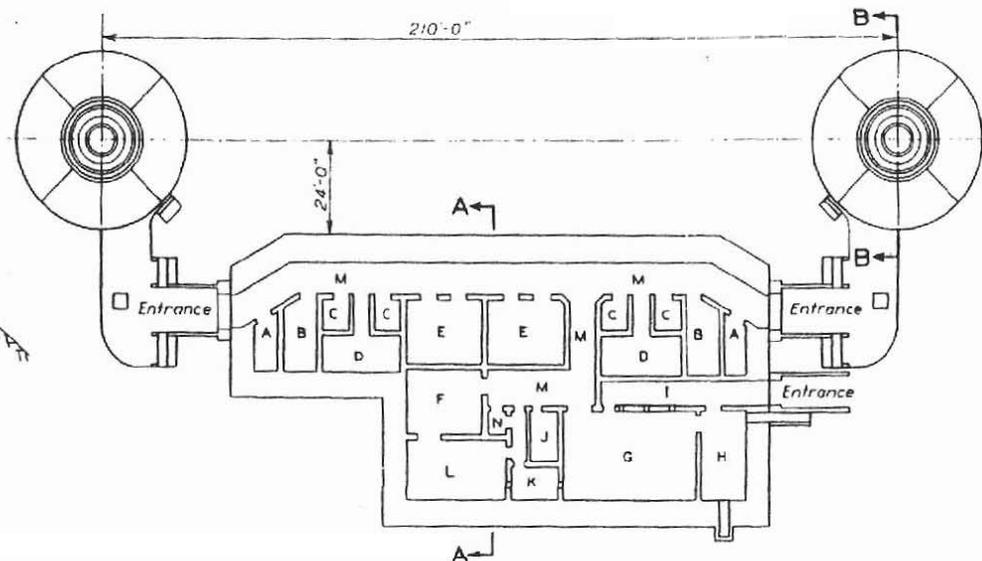
SECTION A-A

SCALE IN FEET
0 10 20 30 40 50



REAR ELEVATION

SCALE IN FEET
0 20 40 60 80 100



PLAN

SCALE IN FEET
0 20 40 60 80 100

- A - STOREROOM
- B - AIR COMP. & MOTOR GEN ROOM
- C - SHELL ROOM, 7' x 8'
- D - SHELL ROOM, 9' x 21'
- E - POWDER ROOM, 16' x 20'
- F - PLOTTING ROOM, 16' x 20'
- G - POWER ROOM, 22' x 35'
- H - WATER COOLER ROOM, 12' x 22'
- I - EXHAUST GALLERY, 6' x 4'
- J - CWS ROOM, 6'-0" x 12'-6"
- K - LATRINE, 8' x 12'
- L - SWITCHBOARD ROOM, 15' x 27'
- M - CORRIDOR
- N - AIR LOCK

E-7

7
207
4-4
7

DECLASSIFIED

Authority 735036

By 80 NARA Date 2/25/03

S E C R E T

REGISTER NO. _____

SUPPLEMENT
TO

HARBOR DEFENSE PROJECT
HARBOR DEFENSES OF THE COLUMBIA

109925

1. This is a REGISTERED DOCUMENT (Par. 2t, AR 380-5, dated 15 March 1944) and consists of 8 Annexes and 6 Appendices.
2. The SHORT TITLES of this document are: (Par. 2v, AR 380-5).
 - a. Annexes - Col-AN-WDC-44.
 - b. Appendices - Col-AP-WDC-44.
3. This document will be accounted for on 30 June and 31 December of each year to the Commanding Officer, Harbor Defenses of the Columbia. (Par. 37, AR 380-5).
4. Prompt report will be submitted when this document is transferred from one person to another. (Par. 38, AR 380-5).
5. This document supersedes the document with Short Title as follows: CCA-AN-CR

*Rec'd w/662B (Col. River) 4
Sub 13-*

Encl. w/Col of E 662 (Return to River) Com-109925

*Files
BR*

I

E-8

S E C R E T

*27
1007
1343
271*

SECTION I - GENERAL
(Continued)

b. To support the defense against landing attack within range of the harbor defense weapons.

4. TACTICAL ORGANIZATION.

a. The following tabulations indicate the armament and facilities which are manned in the interim project and upon completion of the modernization project:

- (1) Interim Project: (See Exhibit 1-A-1).
- (a) Army controlled submarine ground mine project with USAMP Randolph and mine flotilla.
 - (b) Battery Russell 2 - 10" DC guns
 - (c) Battery Murphy 2 - 6" DC guns
 - (d) Battery Allen 2 - 6" DC guns
 - (e) AMTB Battery No. 1 2 - 90mm guns, M1 on M1A1 mount
2 - 90mm guns, M1 on fixed carriage, M3
2 - 37mm guns, M1A2 on M3 mount
 - (f) AMTB Battery No. 2 2 - 90mm guns, M1 on fixed carriage, M3
2 - 37mm guns, M1A2 on M3 mount
 - (g) Twenty-two (22) 60" Seacoast Searchlights ~~2-90MM GUNS M1 ON M1A1 MOUNT~~
- (2) Completed Modernization Project: (See Exhibit 1-A).
- (a) Army controlled submarine mine project (ground type) with USAMP Randolph and mine flotilla.
 - (b) Battery (Const) #245 2-6" guns, BC long range.
 - (c) Battery (Const) #246 2-6" guns, BC long range.
 - (d) Battery (Const) #247 2-6" guns, BC long range.
 - (e) AMTB Battery No. 1 2-90mm guns, M1 on fixed carriage M3.
2-90mm guns, M1 on mobile carriage M1A1.
2-37mm guns, M1A2 on mobile carriage M3.
 - (f) AMTB Battery No. 2 2-90mm guns, M1 on fixed carriage M3.
2-90mm guns, M1 on mobile carriage M1A1.
2-37mm guns, M1A2 on mobile carriage M3.
 - (g) Twenty-two (22) 60" Seacoast Searchlights

DECLASSIFIED

Authority 735036
By 20 NARA Date 2/25/03ANNEX ASECTION I - GENERAL
(Continued)

b. Navy and Air Corps Coordination.

- (1) Close cooperation with the Navy and the Fourth Air Force is established. Liaison with the Navy is established in the Harbor Entrance Control Post, which structure also contains the Harbor Defense Command Post. In the Harbor Entrance Control Post the Navy maintains direct communication by wire and radio to the Naval Station, Astoria, Oregon, the Naval Air Station, Tongue Point (Astoria), the U. S. Coast Guard and Captain of the Port, Astoria, Oregon, and the Harbor Entrance Control Post Signal Station on Cape Disappointment. Liaison with the Fourth Air Force is maintained by the Army in the Harbor Entrance Control Post by direct tactical wire communication through the tactical switch at Portland, Oregon (Seaport) and Seattle, Washington (Seatac).

c. Priority of Installations.

- (1) The armament approved for the Harbor Defenses of the Columbia after completion of the modernization project is listed below in order of tactical importance to allow other echelons to determine priorities to be assigned to the various project items.

<u>Order of</u> <u>Importance</u>	<u>Tactical No.</u>	<u>Name</u>
1	1	Battery (Const) #247
2	5	Battery (Const) #245
3	3	Battery (Const) #246
4	4	Mine Project
5	2	AMTB Battery No. 1
6	6	AMTB Battery No. 2
7		Harbor Defense - General

- 5 -

S E C R E T

E-8

SECRET

- 8 -

c. EXISTING BATTERIES AND EMBLACEMENTS.

(1) Status and Disposition

Battery	No. of Guns	Gun Caliber & Model	Model of Mount	Location by Fort	Current Status of Empl. & Mag.	WD Auth for Abandonment	Disposition of Armament and Status of Disposition
Russell	2	10" M1900	1901 DC	Stevens	Interim Project	Sec I, Par 1d	Retained pending completion Btry (Const) #245, #246, and #247.
Clark	0			Stevens	Ord & Sig Storage	Sec I, Par 1d	Sold and salvaged. (12-INCH MORTAR)
Pratt	0		1898 DC	Stevens	Ord Storage	Sec I, Par 1d	Tubes returned to Watervliet Arsenal Nov 1943. Remainder of battery authorized for salvage. (6-
Allen	2	6" M1905	1903 DC	Canby	Interim Project	Sec I, Par 1d	Retained pending completion Btry (Const) #247.
Mishler	2	10" M1888M2	1896 DC	Stevens	Emplacement utilized for HECP - HDCP	Sec I, Par 1d	Counterweights and removable parts salvaged. Tubes and carriage retained for reasons contained in reference in Sec I, Par 1d.
Levis	0			Stevens	Ord Storage		Battery removed after World War I. (10-INCH D.C.)
Walker	0			Stevens	Ord Storage		Battery removed after World War I. (10-INCH D.C.)
Smur	0			Stevens	Min Storage		Battery removed after World War I. (3-INCH B.C.)
Guenther	0			Canby	Ord Storage	Sec I, Par 1d	Battery sold and salvaged. (12-INCH MORTAR)
O'Flyng	0			Canby	Troop Shelter		Battery removed after World War I. (6-INCH D.C.)
Murphy	2	6" M1897M1	1898 DC	Columbia	Interim Project	Sec I, Par 1d	Retained pending completion Btry (Const) #246.
Ord	0			Columbia	F/R for Btry Murphy and Troop Shelter	Sec I, Par 1d	Battery removed after World War I. (8-INCH D.C.)

By: NARA Date: 2/25/03

Authority: 735036

DECLASSIFIED

9. GOVERNMENT OWNED OR LEASED RESERVATIONS.

Name	Location No.	Acreage	Date of Procurement	Authority for Procurement	Purpose
Klipsan Beach	1-A	.25	11 August 1944	3rd Ind, WD AGO, file AG 660.2 (27 Jun 43)OB-S-E to 1tr Hq HDC, 660.2 27 Jun 43, subj: "Requirements for Harbor Defense Searchlights".	2 Portable S/L Positions
Tioga	1	.46	Leased 1 Mar 1943	War Department approval of 1943 Expenditure Program	2 Portable S/L Positions 1 Single B/E Station
Cable Easement	Ft Canby to Loc 1	Not defined	Easement dated 15 Mar 1943	War Department approval of 1943 Expenditure Program	Cable Right of Way
North Head	2	21.8	28 August 1941	War Department approval of 1941 Expenditure Program	2 Fixed S/L Positions 1 Triple B/E Station 1 SCR 682 Radar
Ft Canby Military Reservation	3, 3A 4 5, 5A	more or less	23 March 1875	General Orders No. 9, Headquarters; Department of the Columbia, 23 March 1875.	Military Post
Sand Island Military Reservation	5B	1700 more or less	21 October 1864	Ceded to US by act of Legislative Assembly of State of Ore	2 Single B/E Stations 3 Mine Cable Huts
Chinook	6	40	10 May 1941	War Department approval of 1941 Expenditure Program	1 Single B/E Station
	Ft Columbia to Loc 6	.33	Easement filed 10 May 1941	War Department approval of 1941 Expenditure Program	Cable Right of Way
Ft Columbia Military Reservation	6A 7 8	729 more or less	1864 - 1869	643 acres deeded U.S. by Henry K. Stevens in 1864; 33 acres set apart for Military purposes by Executive Order dated 8 May 1899; 53 acres acquired by deed from Northern Pacific R.R. in 1899	Military Post
Hammond Military Reservation	8A	.23	3 August 1909	Legislative act of 27 May 1908 35 Stat. 393	

E-8

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- 12 -

Authority 735036
By NARA Date 7/25/03

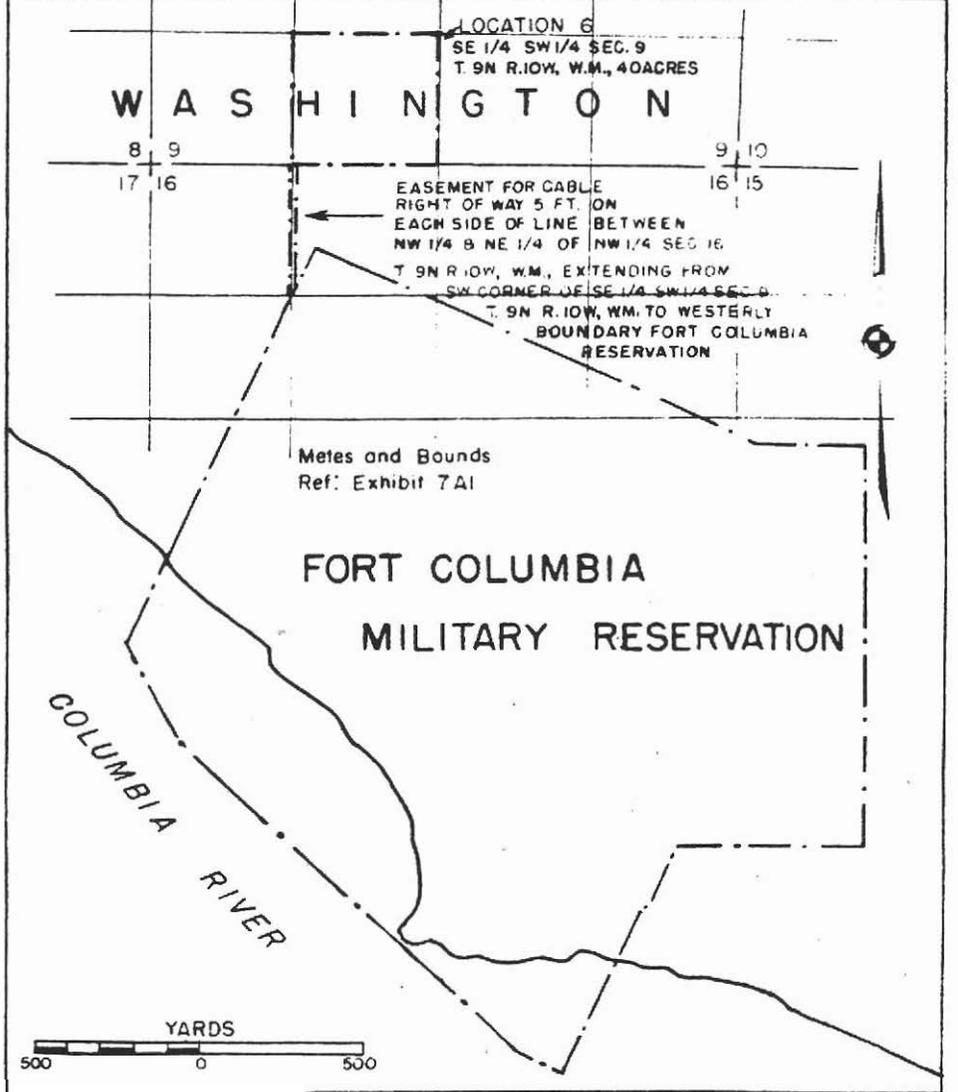
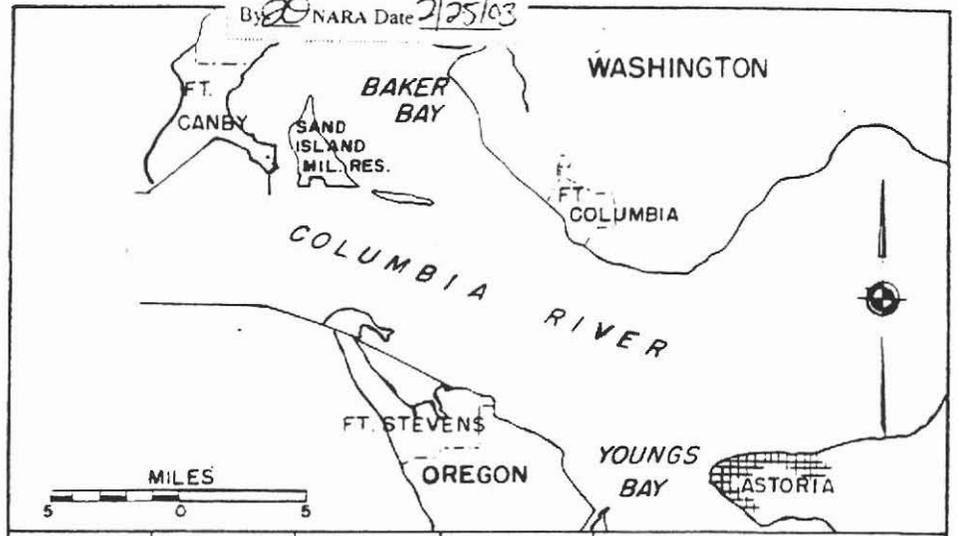
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HARBOR DEFENSES OF THE COLUMBIA		REVISED DATE
GOVERNMENT OWNED AND LEASED LANDS		
Prepared By: OFFICE OF THE ART. ENG. FORT STEVENS, OREGON	DATE: 15 JULY 1944	EX. 7A ANNEX A

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By: [signature] NARA Date 2/25/03

S E C R E TDESCRIPTION OF FORT COLUMBIA MILITARY RESERVATION

All that certain tract of land situated in Pacific County, Washington, and described as follows:

Beginning at a concrete monument which is South 752 feet and East 153½ feet from the section corner common to sections 8, 9, 16 and 17, Township 9 North, Range 10 West of the Willamette Meridian, thence from said monument by metes and bounds,

- S. 24°46' W., 2436.2 feet, to a 6" x 3' sewer tile filled with concrete and marked U. S. M. R.,
- S. 24°46' W., 210.4 feet, to similar concrete filled sewer tile marked U. S. M. R.,
- S. 24°46' W., 263.0 feet, to a third such monument marked U. S. M. R.,
- S. 23°31'14" W., 789.8 feet, to a point on the section line between sections 16 and 17, which point is the initial point of the original tract deeded to the United States for a military reservation;

Thence following said original reservation boundary,

- S. 24°30' .., 412.5 feet. to Government meander line.
- S. 29° E., 412.5 feet,
- S. 33° E., 651.42 feet,
- S. 46°30' E., 4125.0 feet,
- S. 62°30' E., 485.1 feet, to point where boundary leaves the meander line,

Thence,

- N. 24°30' E., 1485.4 feet, to a concrete post,
- N. 24°30' E., 257. feet,
- East 51.5 feet, to a concrete post,
- N. 24°30' E., 666.6 feet, to a concrete post,

Thence leaving the original boundary and running east 1821.6 feet along the north boundary of the P. J. McGowan Donation Land Claim to the southeast corner of lot 9 of section 22,

Thence north 3730.32 feet to a hemlock post at the northeast corner of lot 2 of section 15, west 1066 feet to a hemlock post at the intersection of the north line of lot 2 with the original boundary,

Thence N. 65°30' .., 4427 feet along said original boundary to the point of beginning.

The tract as described contains an area of 729.35 acres.

HARBOR DEFENSES OF THE COLUMBIA

DESCRIPTION OF FORT COLUMBIA
MILITARY RESERVATION

Date: 2 June 1944 Exh 7-A-1

Page 1 of 1 Page

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Authority 735036
By NARA Date 2/25/03S E C R E TANNEX D - UNDERWATER DEFENSEINDEX

	<u>Page</u>
Paragraph 1 - Authority	2
Paragraph 2 - Controlled Submarine Mine Project	2
Paragraph 3 - Mine Shore Facilities	3
Paragraph 4 - Mine Field Protection	5
Paragraph 5 - Storage of Mine Explosives	5
Paragraph 6 - Land Requirements	5

EXHIBITS

- Exhibit 1-D - Underwater Defense Project, Ground Mines, M4.
- Exhibit 2-D - Mine Shore Facilities, Fort Stevens.
- Exhibit 3-D - Mine Shore Facilities, Fort Columbia.
- Exhibit 4-D - Mine Shore Facilities, Sand Island & Fort Canby.

- 1 -

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Authority: 735036
By: [signature] NARA Date 2/25/03ANNEX D - UNDERWATER DEFENSE1. AUTHORITY.

- a. Original Buoyant Project - Reference Annex A, paragraph 1c (1).
- b. Conversion to Ground Mine Project - Reference Annex A, paragraph 1c (2) and (3).

2. CONTROLLED SUBMARINE MINE PROJECT.

a. Underwater Portion of Defense (Exhibit 1-D):

- (1) The controlled submarine mine field consists of twelve (12) groups of thirteen (13) M-4 ground mines each.
- (2) The project is planted in three (3) lines of four (4) groups each. The lines are spaced approximately 800 yards apart with a one hundred fifty (150) foot interval between mines.
- (3) The following tabulation is the average submergence of each group referred to mean low water:

Group Number	Submergence
1	30 ft.
2	53 ft.
3	58 ft.
4	35 88 ft.
5	35 ft.
6	38 ft.
7	60 ft.
8	28 ft.
9	32 ft.
10	41 ft.
11	32 ft.
12	63 ft.

- (4) The single conductor cables are routed from the distribution boxes of the three (3) lines of mines to three (3) cable huts located on Sand Island. Two (2) seven-conductor cables connect the three (3) cable huts to the shore installation located at Fort Columbia. See Exhibit No. 1-D.
- (5) The project includes four (4) concrete cable huts to facilitate the routing of the submarine mine cables. Three huts are located on the easterly end of Sand Island, the fourth hut is constructed at the water's edge of the rock knoll at Chinook Point, Fort Columbia, and ties the mine field into the cascade.
- (6) The Audio Reception System, M-1, is installed seaward from the front line of mines. The Navy has no sound ranging equipment, underwater listening devices, or net and boom defenses in the Columbia River, or approaches thereto.

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By 20 NARA Date 2/25/03ANNEX D - UNDERWATER DEFENSE
(Continued)

b. Submarine Mine Flotilla.

The vessels indicated below are assigned to the submarine mine flotilla for controlled submarine mine work. These vessels are fully capable of performing the various functions of submarine mine operations. All vessels listed are required due to the excessive maintenance caused during spring and winter months as a result of rough water, high wind velocities, and storm conditions prevailing during these seasons.

	<u>Vessel</u>	<u>Length</u>	<u>Beam</u>	<u>Draft</u>	<u>Authority</u>
(1)	Mine Planter USAMP #7	188'	37'	11'	Letter, OCT, file 565.4H, MP-7, dated 12 Nov 42.
(2)	Distribution L-64	64'	18'	6'	Letter, OCT, file 565.4H, Asgmt of L-64 and L-75, dated 20 Sep 42.
	Box Boats L-75	64'	18'	7'	
(3)	Yawls M-296	26'	8'	3'3"	Letter, AGO, file 565.4, Asgmt of M-296, dated 20 Nov 39.
	M-332	26'	8'	3'	Unknown.
	M-333	26'	8'	3'	Unknown.
	M-380	26'	8'	2'7"	Letter, OCT, file 565.4H, M-380, Asgmt of M-380, dated 29 Jun 42.
	M-463	26'	8'	2'7"	Letter, OCT, file 565.4H, M-463, Asgmt of M-463, dated 29 Aug 42.
	J-796	27'6"	7'6"	3'	Letter, OCT, file
	J-797	26'9"	7'6"	3'	565.4H, Asgmt of
	J-798	30'	8'3"	2'6"	J-796, J-797, J-798,
	J-799	32'	9'6"	2'6"	J-799, dated 8 Aug 42.

c. The FB-535, a ninety-eight (98) foot diesel powered boat, is now being used to provide ferry service between Fort Stevens and Fort Canby. This boat was used for planting activities prior to receipt of the USAMP #7 and the equipment necessary to convert it back to an auxiliary mine planter is maintained in local storage.

3. REQUIRED SHORE FACILITIES FOR SUBMARINE MINE PURPOSES.a. Wharves. - Exhibit No. 2-D.(1) Mine Wharf - Location 11.

Used for mine material and capable of berthing the mine planter and one DB boat for loading operations only. An open dock on the Columbia River is not suitable for permanent berthing of vessels.

(2) Boat Dock - Location 11.

A newly constructed wood piling dock, 300 feet long, capable of berthing two DB boats, two harbor boats, and several yawls or similar size boats. This dock is protected by a breakwater and is satisfactory for permanent berthing.

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By 20 NARA Date 2/25/03

ANNEX D - UNDERWATER DEFENSE
(Continued)b. Boathouses and Small Boat Basin. - Exhibit No. 2-D.(1) Boathouse - Location 11.

An existing wood frame corrugated iron structure, located at the land end of the mine wharf. Shelter for four mine yawls is provided.

(2) Small Boat Basin - Location 11.

Adjoins the new mine storeroom with a boat ramp and narrow (3') gauge railway which extends from a minus four feet MLW to a piling supported dock built adjacent to the mine storeroom. The basin includes 5 landing floats, each 10' x 40'.

c. Mine Loading Room. - Exhibit No. 2-D.

A new reinforced concrete structure at Location 11.

Inside dimensions: 42' x 25' x 18' high, with an adjoining section 25' x 25' x 10' high. The structure contains necessary heavy duty equipment for handling ground mines and is satisfactory except that it does not meet the quantity distant table requirements.

d. Mine Storehouses. - Exhibit No. 2-D.(1) Mine Storeroom No. 1 - Location 13.

A reinforced concrete structure 127' x 40' with overhead crane facilities and "run in" narrow gauge (3') railway connecting to the mine loading room and mine wharf.

(2) Mine Storeroom No. 2 - Location 11.

A new wood frame structure on piling foundation adjoining the small boat basin. Inside dimensions: 39' x 131' x 19' high which includes an office inside the structure, 19' x 14' x 8' high.

(3) Cable Tank House - Location 13.

A wood frame, corrugated iron siding, structure 146' x 20' containing three cable tanks; two each 17'7" x 36'2" x 6', and one 17'6" x 22'2" x 7'3". It is adequate and satisfactory.

e. Explosive Storage Magazines. - Exhibit No. 2-D.

Two (2) reinforced concrete earth-covered, igloo-type structures at Location 12. Inside dimensions: 17' x 26' x 8' high. These structures have a total capacity of 143,000 pounds of TNT which is adequate for the "30% overage" of approximately 140,000 pounds required for the approved ground type project. Fuzes are stored in abandoned Battery Smur at Location 10. The storage plan complies with the provisions of TM 9-1900.

f. Mine Casemate. - Exhibit No. 3-D.

An adequate reinforced, concrete, earth-covered, bomb-proof and gasproof structure, defiladed behind the rocky knoll at Chinook Point at Location 8. The inside dimensions of the structure are 32' x 50' x 10' high and include the operating room, gasproof equipment and gasproof compartments, latrine, power generator room, and storerooms. Fourteen (14) control panels are installed, or on hand to be installed. Two (2) panels are spares.

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By 20 NARA Date 2/25/03S E C R E TANNEX D - UNDERWATER DEFENSE
(Continued)g. Mine Plotting Room. - Exhibit No. 3-D.

An existing concrete dug-in structure located in the lower level of Station MC-M₂¹ at Location 7. Reference: Paragraph ~~2-3~~, Annex B.

7d.(8)

h. Mine Group and Battery Command Stations.(1) Mine Group Station - Location 5.

Located on Cape Disappointment in an existing concrete structure. Reference: Paragraph ~~2-3~~, 3C. Annex B. This site provides a controlling field of view of the mine field and all approaches thereto.

(2) Mine Battery Command Station - Location 7.

Located in MC-M₂¹.

i. Mine Observation Stations.

Reference: Paragraph ~~2-3~~, Annex B, and Exhibit 13-B, 2-D, 3-D, and 4-D. 7d.

4. MINE FIELD PROTECTION.

a. Two AMTB Batteries, Tactical No. 2 and No. 6, are directly under the control of the Mine Group Commander. Their fields of fire as well as that of two 6" BC gun batteries, Tactical No. 3 and No. 5, can cover all water areas in the mine field and approaches thereto. See Exhibit 3-A and 4-A.

b. The following numbered searchlights are located to provide illumination over the mine field and approaches thereto: Nos. 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17.

5. STORAGE OF EXPLOSIVES.

a. All TNT used in mine field operations is stored in the concrete igloo-type structures referred to in paragraph 3e above.

b. The igloos are situated beyond minimum quantity-distance table requirements of any inhabited building and meet the requirements of TM 9-1900.

c. Fuzes are stored separately from all TNT in an abandoned battery emplacement.

6. LAND REQUIREMENTS.

a. None.

- 5 -

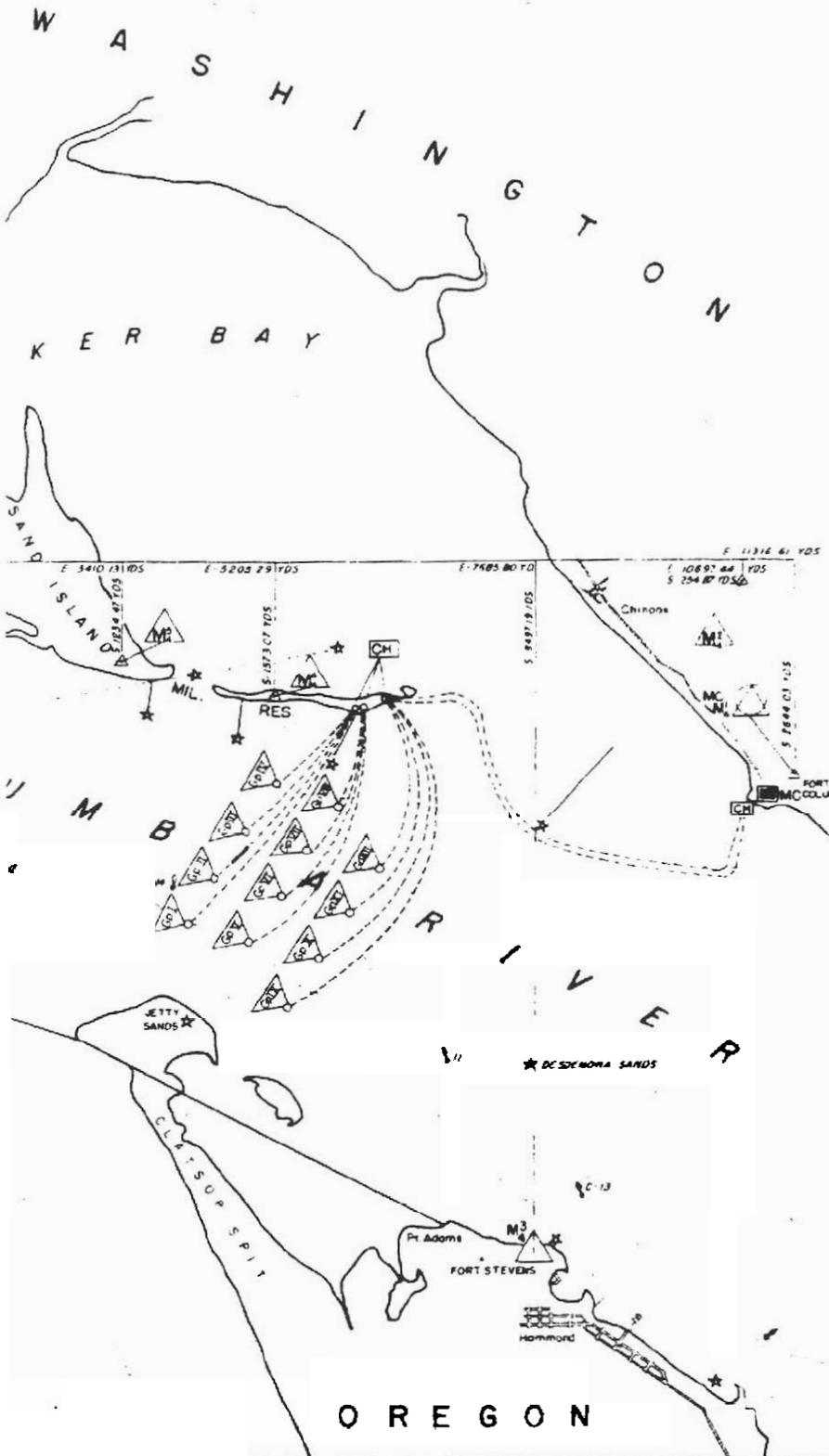
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By NARA Date 2/25/03

ET



ROUP DEPTHS

- Co XII — 60 ft
- Co XIII — 28 ft
- Co IX — 32 ft
- Co I — 41 ft
- Co II — 32 ft
- Co XII — 63 ft

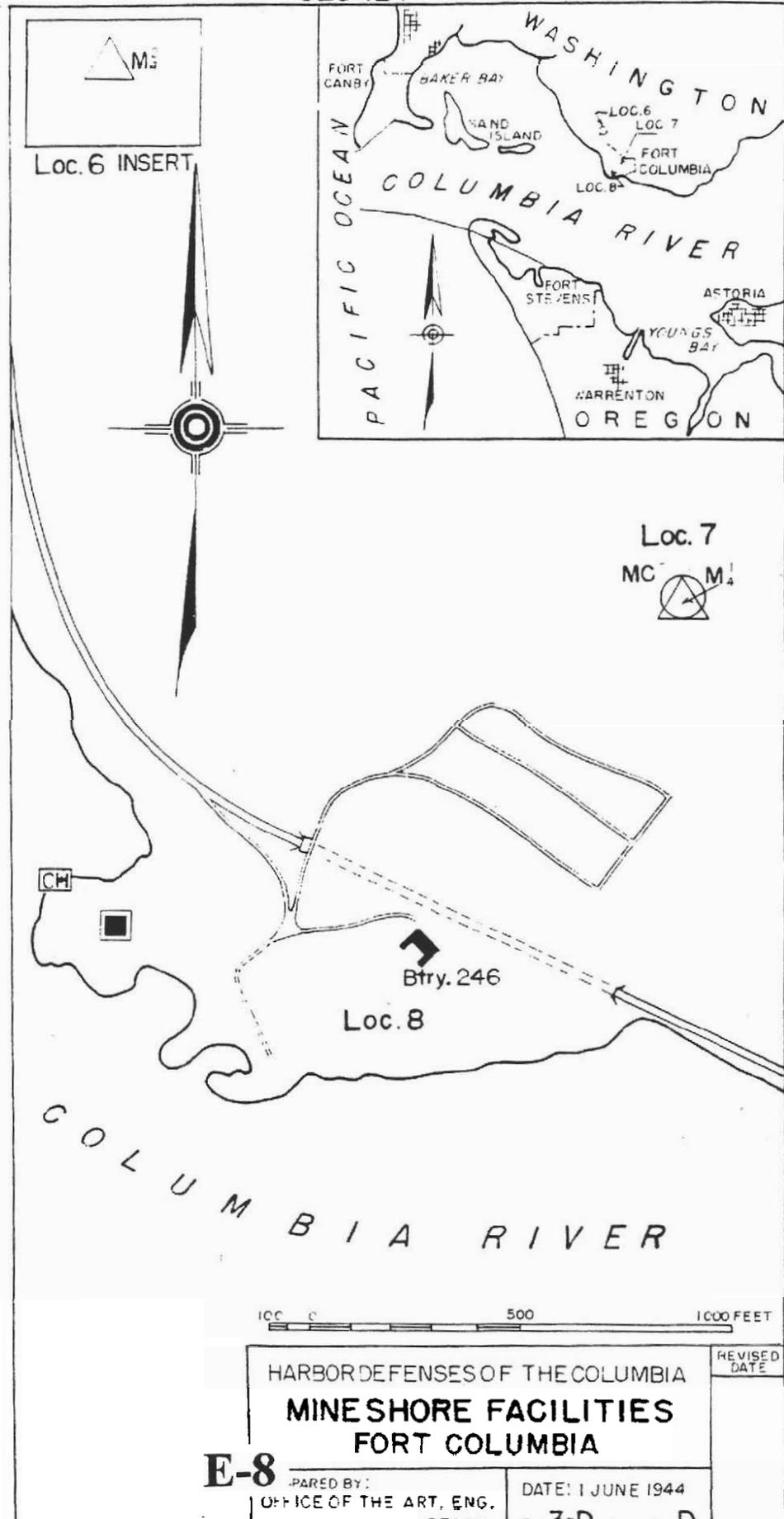
HARBOR DEFENSES OF THE COLUMBIA		REVISED DATE
UNDERWATER DEFENSE PROJECT		
GROUND MINES M-4		
PREPARED BY: OFFICE OF THE FORT STEVEN	E-8	DATE: 1 JUNE 1944 EX. I-D ANNEX D

DECLASSIFIED

Authority: 235036

By: NARA Date: 2/25/03

SECRET



E-8

PREPARED BY: OFFICE OF THE ART. ENG.

DATE: 1 JUNE 1944

REVISED DATE

DECLASSIFIED
Authority *NARS 70068*
By *20* NARA Date *2/25/03*

AG 411#(b)

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NARS 5/1/70

AG 411#(b)

ANNEXES

TO

HARBOR DEFENSE PROJECT

HARBOR DEFENSES OF COLUMBIA

Never destroy a Harbor Defense Project or Annex. OPD approves HD Projects and Annexes and therefore is responsible for sending a copy of each to TAG for permanent and historical file when they become obsolete.

AG 313.6 (27 May 47)

*407
326
F. 3
411*

COPY NO. 7

E-9

REGISTERED
DOCUMENT

DECLASSIFIED
 Authority *NND 760166*
 By *90* NARA Date *2/25/83*

ANNEX A

SEACOAST GUNS

1. The tactical organization of the Harbor Defenses of The Columbia is shown on Exhibit 1-A. The commanding officer of Group 1, the commanding officer of Group 2, and the anti-aircraft groupment commander, are designated as the Fort Commanders at Forts Stevens, Canby, and Columbia, respectively.

2. The fields of fire and the dead areas of the guns are shown on Exhibits 2-A to 7-A, inclusive. The fields of view of the observing stations and the lengths of baselines are shown in exhibits of Annex B.

3. The following batteries are required to carry out the mission of the harbor defense and are included in this project:

Group 1 (12" mortars)

Battery Guenther (Battery No. 1)
 Battery Clark (Battery No. 5)
 Railway Battery (Battery No. 7)

Group 2 (6" Guns)

Battery Allen (Battery No. 2)
 Battery Murphy (Battery No. 3)
 Mine Battery (Battery No. 4)
 Battery Pratt (Battery No. 6)

All of the armament is installed except the Railway Battery (No. 7).

4. Battery Guenther (Ft. Stevens). - For location and field of fire, see Exhibit 2-A. This battery is designated in these annexes as Battery No. 1, and consists of four 12" mortars.

5. Battery Clark (Ft. Stevens). - For location and field of fire see Exhibit 5-A. This battery is designated in these annexes as Battery No. 5, and consists of four 12" mortars.

6. Railway Battery. - For location and field of fire, see Exhibit 7-A. This battery is designated in these annexes as Battery No. 7, and consists of four 12" mortars mounted on railway carriages. When employed in this harbor defense the firing position of this battery will be in rear of the hills on the right flank of Battery Russell. This site was approved by the Secretary of War in 9th Indorsement, dated January 22, 1934 (AG 660.2 (6-26-33)(Misc.) E). This will require the construction of a railroad from a point on the Jetty Railroad just north of old Fort Stevens to the position selected, a distance of about 2400 yards. A railroad formerly connected this point with Battery Russell and utilization of the old road bed will reduce the cost of construction.

7. Battery Allen (Ft. Canby). - For location and field of fire, see Exhibit 3-A. This battery is designated in these annexes as Battery No. 2, and consists of two 6" guns, mounted on disappearing carriages.

8. Battery Murphy (Ft. Columbia). - For location and field of fire, see Exhibit 4-A. This battery is designated in these annexes as Battery No. 3, and consists of two 6" guns, mounted on disappearing carriages.

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 Authority *NNT 760162*
 By *20* NARA Date *2/25/13*

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WAR RESERVE AND BATTLE ALLOWANCES OF AMMUNITION
 HARBOR DEFENSES OF THE COLUMBIA

Approved by the Secretary of War in 15th Indorsement. W.D., A.G.O.,
 May 22, 1934 (AG 381.4 (3-13-33)(Misc.) E,

Battery	No. of Guns	Cal.	Class	Fort	Wt. of Proj.	Battle Allowance	War Reserve	Place of Storage
No. 1. Guenther	4	12" M	B	Canby	700 1046	640 320	640 320	Battery "
" 2. Allen	2	6" DC M1905	B	"	AP HE	1200 200	1200 400	" "
" 3. Murphy	2	6" DC M1897 M1	B	Columbia	AP HE	1200 200	1200 400	" "
" 5. Clark	4	12" M	B	Stevens	700 1046	720 240	720 240	" "
" 6. Pratt	2	6" DC M1897 M1	B	"	AP HE	1200 200	1200 400	" "
" 7. Ry.	4	12" M Ry.	-	-	700 1046	720 240	720 240	25% in mag. Btry. Russell Remainder in Central Re- serve.

EXHIBIT 8-A

E-9

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Authority NNT 760166
By 90 NARA Date 2/25/13

ANNEX D

UNDERWATER DEFENSE

1. The underwater defense project for this harbor defense, as approved by the Joint Board, provides for seven groups of controlled mines and two listening posts. The location of the mine fields and listening posts as chosen by the Joint Board are shown on Exhibit 1-D. It should be noted that currents of six to seven knots are common in this area, and that for many months in the year the water is so rough that planting would be difficult.

2. It is proposed to abandon the mining casemate and mine fire control stations at Fort Stevens and to concentrate the operation of the mine field, after it is planted, at Fort Columbia. This plan has many advantages. At Fort Stevens the mine cables leading to the casemate must pass over sandy beaches subject to the action of waves and tides. As a result the cables would be exposed to view most of the time. At Fort Columbia the cables pass directly from the water through a duct to the casemate. The M¹ station and plotting room at Fort Stevens is located in a wooden frame tower that has neither protection nor concealment. The M¹ station and plotting room at Ft. Columbia is located well up on Scarborough Hill and is exceptionally well protected and concealed. It affords an excellent view of the mine field and its approaches.

3. Existing installations and equipment.

a. Mine storeroom. - A concrete, slate roof structure, 40' x 122', located about 230 yards southeast of Battery Clark. It is about one mile from the mine wharf with which it is connected by a narrow (3') gauge railway. Storage facilities are adequate.

b. Loading room. - A wooden frame, corrugated iron siding structure, about 22' x 45', located about 30 yards southwest of mine wharf. It contains a testing tank 7' x 33' and is satisfactory.

c. Cable tanks. - A wooden frame, corrugated iron siding structure about 20' x 104', located about 50 yards in rear of the mine storeroom. It contains two tanks each 17'7" x 36' x 7'. It is satisfactory.

d. Explosive magazine. - The old bombproof mining casemate built in 1898 is used. It is located about 160 yards southeast of Battery Freeman (old Fort Stevens). It complies with the provisions of TR 1370-A.

e. Mine wharf. - At Ft. Stevens. Provides moorage for one DB boat and launching equipment for mine yawls.

f. Boat house. - A wooden frame, corrugated iron siding structure, located at the land end of the mine wharf. Shelter for four mine yawls is provided. The yawls are moved to and from their place of launching by means of boat cars.

g. Mine casemate. - A reinforced concrete bombproof structure, 22' x 50', located behind a rock knoll at Chinook Point, Ft. Columbia - about 14 ft. above MLW. It is well concealed and protected. Three operating panels are now installed and it is proposed to install the four operating panels now in the mine casemate at Ft. Stevens.

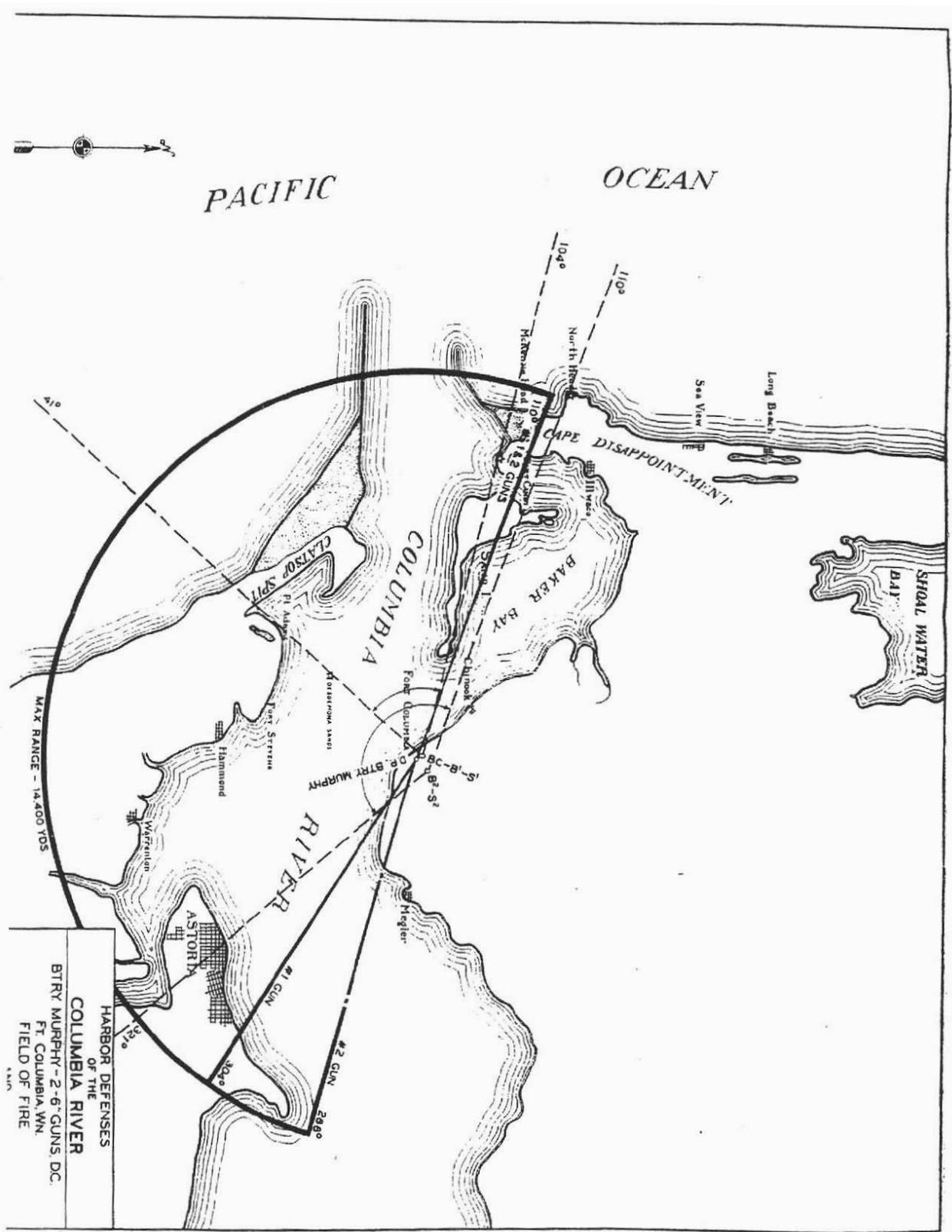
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Authority NND 760162
By 20 NARA Date 2/25/03~~SECRET~~

- h. Mine yawls. - Three on hand.
- i. Fire control system. - Described in Annex B.
4. The following additional equipment and installations are required to establish, maintain, and operate the underwater defenses:
- a. One mine planter. - There are no local boats suitable for emergency planting. A mine planter should be assigned to this harbor defense when planting of the mine project is directed by the War Department. Suitable moorage for a mine planter in mild weather is available at Ft. Stevens. In stormy weather suitable moorage is available at the municipal docks at Astoria, five miles from Fort Stevens.
- b. One distribution box boat. - While a boat suitable for conversion to a DB boat can be obtained locally in an emergency, it is believed that a DB boat should be assigned to this harbor defense at the earliest possible date for training in preparation for an emergency.
- c. Two locomotives, gasoline engine, 3-1/2 ton, narrow (3') gauge. - These locomotives are required to haul flat cars from the mine storeroom to the mine wharf, a distance of one mile.
- d. Four flat cars, narrow (3') gauge. - Four cars are required to transport material from the storeroom to the mine wharf.
- e. Mine plotting board. - See Annex B.
5. Cost estimate. - An estimate of cost and priority guide is appended as Exhibit 2-D. Those items which should be procured and installed in peace time are marked with an A. Those items which should be procured in peace time but whose installation may be deferred until an emergency arises are marked B. Those items to be procured and installed when an emergency arises are marked C.

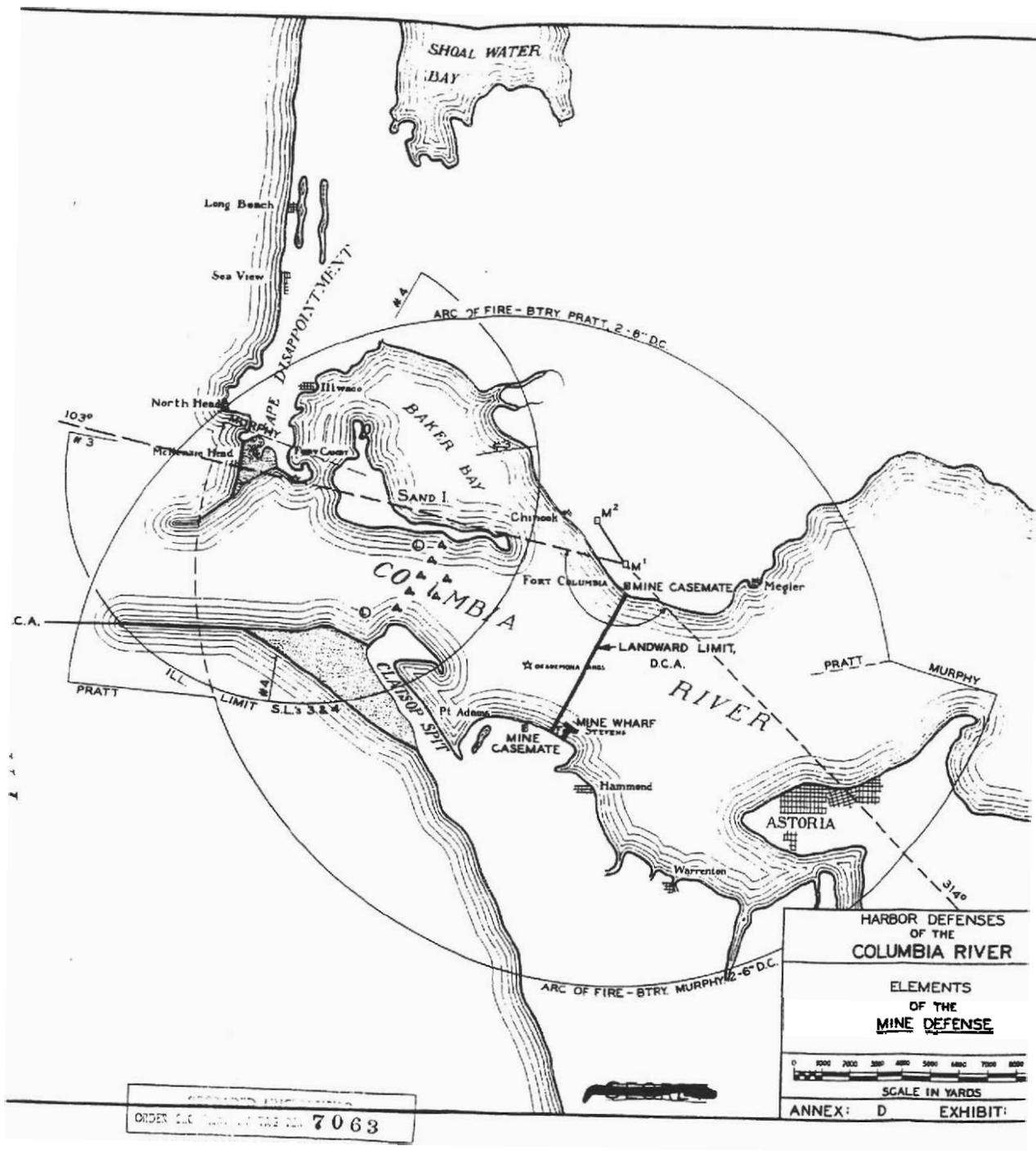
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Authority NARS 700166
By OC NARA Date 2/25/12



HARBOR DEFENSES
OF THE
COLUMBIA RIVER
BTRY MURPHY - 2-6" GUNS, D.C.
FT. COLUMBIA, WN.
FIELD OF FIRE

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 Authority *NARS 76016*
 By *DA* NARA Date *2/25/83*

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ORDER NO. 7063

WAA FORM-1005
(5-20-46)

UNITED STATES OF AMERICA
WAR ASSETS ADMINISTRATION

FORM APPROVED
INDUSTRY BUREAU NO. 168001.3

DECLARATION OF SURPLUS REAL PROPERTY
(TO THE WAR ASSETS ADMINISTRATOR, WASHINGTON 25, D.C.)

IMPORTANT

SEE INSTRUCTIONS ON REVERSE FOR COMPLETING THIS FORM

1. REPORTING AGENCY Department of the Army,
Corps of Engineers,
Washington 25, D. C.

2. PROPERTY IDENTIFICATION Harbor Defenses of the Columbia
River are located in Pacific County, State of Washing-
ton and in Clatsop County, State of Oregon.

3. AREA Fee - 669.117 Easement - 33.88
License - 0.918 Total - (703.915 acres)

4. USE OF PROPERTY PRIOR TO ACQUISITION
Barren shore lands.

5. OPINION OF BEST FUTURE USE
Park purposes and home sites.

6. DATE OF ACQUISITION
PRIOR TO 1/1/40 MIXED SUBSEQUENT TO 12/31/39

7. FORMER OWNER See file on Harbor Defenses of the
Columbia for schedules.
See tract registers in schedules attached hereto.

9. DATE 17 DEC 1947

10. REPORTING AGENCY NUMBER
WB 1222

11. WAA NUMBER
W. - Wash. 82

12. DISPOSAL AGENCY NUMBER

13. REPRESENTATIVES TO CONTACT
Mr. Dick Darnielle, Chief,
N.P. Division, Real Estate Office,
500 Pittock Block,
Portland 5, Oregon. BR. 0621

14. LOCATION OF TITLE PAPERS
Chief, Military Reservations Division
Office of the Judge Advocate General
Department of the Army,
Washington 25, D. C.

15. COST OF PROPERTY

ACQUISITIONS	\$ 3,809.00
BETTERMENTS	\$ 192,158.50
TOTAL	\$ 195,967.50

16. PROCEEDS

REMARKS This surplus declaration covers parts of the Harbor Defenses of the Columbia River and are more particularly described as follows:

	<u>Bldgs.</u>	<u>Cost</u>	<u>Fee</u>	<u>Easement</u>	<u>License</u>	<u>Cost</u>
* Galena Station, Clatsop (St. Stevens) 3 County, State of Oregon (Mil. Res.)	3	\$ 8,070.82	3.20	33.88	0.918	\$ 183.00
* Station "X", Clatsop (Columbia 3) County, State of Ore (Beach Mil. Res.)	3	16,722.54	10.00			255.00
Hammond Military Reser- vation, Clatsop County, State of Oregon	1	2,500.00	0.227			570.00
* Tioga Station, Pacific (Long Beach) County, State of Wn. (Fire Control Station)	1	7,500.00	0.46			800.00
Fort Columbia, Pacific County, State of Wn.	39	157,365.14	625.23			2,001.00
	<u>49</u>	<u>\$192,158.50</u>	<u>669.117</u>	<u>33.88</u>	<u>0.918</u>	<u>\$3,809.00</u>

For detailed information refer to the schedules attached hereto; which pertain to each installation.

DO NOT FILL IN

DATE OF ASSIGNMENT

ASSIGNED TO

ASSIGNED BY

SIGNATURE

DIVISION

17. AUTHORIZED BY Chief of Engineers

Signed 12/18

SIGNATURE OF REPORTING OFFICIAL
EDWARD J. FANFLIK
Chief, Management & Disposal Div.,
Real Estate

NAME AND TITLE (Please type)

1911

ASTORIA

GENERAL HISTORY

HARBOR DEFENSES OF THE COLUMBIA

Assembled for the
Clatsop County Chapter of the
Oregon Historical Society

Clatsop County Historical Society

December 1, 1947

Historical Society

F O R E W O R D

The most important feature of any history should be its authenticity. The acquisition of the original papers from which this treatise is taken must be considered an extraordinary stroke of good luck.

The source of this material is unquestionably authentic, since it represents the original historical diary (unchanged in any respect) kept by those men, soldiers all, of varying ranks who staffed the Forts and Camps mentioned in the body of this text.

The interest expressed by those who find the history of this area worth setting down has made it a rewarding task for the Clatsop County Chapter of the Oregon Historical Society to assemble these papers and to present these facts for all to read.

It is the hope of the Society that all who have expressed the desire to have these notes published in permanent form will find this volume to their liking.

Clatsop Co. Historical Society - gift

GENERAL HISTORY
HARBOR DEFENSES OF THE COLUMBIA

1864 -- 1946

Three forts forming a triangle of defense at the mouth of the Columbia River constitute the Harbor Defenses of Columbia. Principal of these is Fort Stevens, Oregon, located on the south side of the river on Point Adams. Fort Canby and Fort Columbia, the subsidiary posts, are on the north side of the river on Cape Disappointment and Scarboro Head, respectively.

Those locations and installations have a long record as historical records of the Pacific Northwest go, and a summary of this background is deemed appropriate to a history of the Harbor Defenses of the Columbia.

Our knowledge of "The Harbor Defenses of the Columbia" begins with a Spaniard, Ferrole, who sailed up the Oregon coast in 1543. He was the first white man to see the coast of Oregon. In 1592, another Spaniard, Juan De Fuca, sailed by; but nature protected the secret of the Columbia River, and De Fuca went on to discover the Straits of Juan De Fuca. In 1602, Martin Aquilar reported seeing a "rapid and abundant river" which might have been the Columbia, but it was not until 1775 that Bruno Heceta, actually discovered what lay beyond the breakers at the mouth of the Columbia, which he called "Rio De San Roque." Later, Captain John Meares, an Englishman, attempted to enter the river, but failed. "Cape Disappointment" which he named is a monument to his failure. Captain Robert Gray, a Boston trader, was the first white man to cross the bar (1792) and to sail up the river, which he called "Columbia," after his ship.

By order of President Jefferson, Lewis and Clark explored the great wilderness which lay to the west of the United States of that time. They terminated their westward advance in the immediate vicinity of Fort Stevens, Oregon, and their journal describes the present sites of both Fort Stevens and Fort Canby.

Fort Stevens reservation originally belonged to the Clatsop Indians, whose several settlements were located near Point Adams on the approximate site of Hammond. Treaty signed on 5 August 1851 accrued this land to the United States.

Executive Order dated 26 February 1852 reserved for military purposes public lands within the limits of the present reservation of Fort Stevens; also Cape Disappointment was reserved and set apart for military purposes by this Executive Order, which as later modified by Executive Order 22 December 1850 set apart the Cape Disappointment Lighthouse Reservation.

The Secretary of War, in his annual report to the President in 1855 stated that "Sea Coast defenses have been steadily

pressed toward completion; fortification of Ship Island and of the entrance of the Columbia River recommended."

In 1834 the reservation at Chinook Point, or Scarborough Head where Fort Columbia is now located, was set apart by Executive Order later modified by Executive Order, 8 May 1839, reserving for military purposes lot 9, section 23, containing 35 acres.

Construction of old Fort Stevens began in July 1863 and was completed in October 1864. This work was done under direction of Colonel R. L. Debussy, whose office was at San Francisco. The Fort was named in honor of General Isaac Ingalls Stevens, one time Governor of Washington Territory and Superintendent of Indian Affairs, who was killed in action 1 September 1862 at the battle of Chantilly, Virginia.

Fort Stevens comprises an area of 2,852 acres, and is bounded by the Columbia River on one side and the Pacific Ocean on another. It is the principal installation and headquarters of the Harbor Defenses of the Columbia.

Fort Canby, with an area of 1,562.23 acres is situated on Cape Disappointment, at the mouth of the Columbia River. It was originally known as Fort Cape Disappointment, Washington Territory, until it was officially designated as Fort Canby by General Order 5, War Department, in 1873.

It was named in honor of Brigadier General Edward Richard Sprigg Canby, who was murdered on 11 April 1873 by Modoc Indians near Van Bremer's ranch, California, while engaged in a peace conference.

Because of fear that Confederate gun boats might attempt to enter the Columbia River, the Engineer Corps started laying platforms for guns at Fort Canby in 1862, but it was not garrisoned until April, 1864, when Company A, 9th Infantry occupied the fort.

Fort Columbia is the innermost of the three coast defense fortifications grouped about the mouth of the Columbia River. It is located on the Columbia River between the Washington towns of Chinook and McGowan. It has an area of 720 acres.

The first step in the establishment of Fort Columbia, Washington, was the purchase of civilian claims to parts of the reservation early in 1860. This step was followed by placing a government agent in charge. Soon the preliminary survey work was begun; and later (1868) the construction of the present fort. The post was first occupied by a regular garrison on 23 June 1903, when a detachment of one officer and twenty-three men of the 33rd company, Coast Artillery, arrived from Fort Canby, Washington. The balance of the company arrived 30 June 1903.

The geographical divisions and departments, in which the Harbor Defenses of the Columbia are situated, were originally

known as the Pacific Division. Pursuant to G. O. 10, the first and oldest division of the Department of the Pacific Coast, was established in February, 1848, pursuant to General Orders 40, 5 November 1846. By General Orders 13, 1848, Department No. 10 was limited to the Territory of California, and the same order created Department No. 11, to consist of the Territory of Oregon. By General Orders 34, dated 10 October 1848, the Pacific Division was established, including Departments Nos. 10 and 11. These departments were merged into the Pacific Division by General Orders 27, 1851, and 1853, by General Orders 25, the name of the command was changed to Department of the Pacific, and it was made to include all the territory of the United States west of the Rocky Mountains, except the Territory of Utah and the Department of New Mexico.

In 1858, by General Orders 10, the Department of the Pacific was divided into two parts, called the Department of California and the Department of Oregon. The Pacific Division was reorganized 27 June 1865, by General Orders 118, to embrace the Department of California and the Department of the Columbia. The geographical limits of the Division have varied. The Pacific Division was discontinued 2 July, 1891, by General Orders 57. On 15 January 1904 the Pacific Division was again reorganized, including the Department of California and the Department of the Columbia. The Pacific Division was abolished with other divisions 30 June 1907 by General Orders 95, War Department.

The Department of the Columbia, embracing Oregon, Washington, and Idaho, was established by General Orders 118, 27 June 1865 as a part of the Pacific Division, and from 1858 to 1865, it was known as the Department of Oregon. In 1870, Alaska was added to the Department of the Columbia, remaining under this department except from 19 January 1900 to 30 September 1901 during which time it formed the Department of Alaska. From its establishment in 1865, the Department of the Columbia remained a part of the Pacific Division until that division discontinued in 1891. In 1904, this department again became a part of the Pacific Division, remaining there until that division was again abolished 30 June 1907 by General Orders 95, War Department.

The geographical divisions and departments established for purposes of military administration 1 July 1911 by General Orders 64, War Department, 1911 (Western Division embracing the Department of California, the Columbia and Hawaii) were discontinued 15 February 1913. By General Orders 9, War Department, 6 February 1913, the territory of the United States and its possessions was organized into geographical commands as follows: The Eastern Department, Central Department, Southern Department, Western Department, the Philippine Department, the Hawaiian Department. General Orders 38, War Department, 3 April 1917, as amended by General Orders 51, War Department, 1 May 1917, the existing orders establishing geographical departments and territorial organization thereunder in the United States, were, by direction of the President, amended, to take effect 1 May 1917, so as to organize

six of such departments: The Northeastern Department, the Eastern Department, the Seaboard Department, the Central Department, the Southern Department, and the Western Department.

On 15 June 1901 by General Orders 81, War Department, the forts now comprising the Harbor Defenses of the Columbia were designated the Artillery District of the Columbia, under the Commanding General of the Department of the Columbia, with headquarters at Vancouver Barracks, Washington. An important change in the higher administration of Coast Artillery was made by General Orders 9, War Department, 6 February 1913, under the provisions of which the Coast Artillery troops serving within the continental limits of the United States were organized into three Coast Artillery Districts: The North Atlantic, the South Atlantic and the Pacific. In General Orders 46, War Department, 24 April 1917 the prior orders organizing Coast Artillery troops in districts were rescinded, and, by direction of the President, those troops, serving within the continental limits of the United States, were organized, to take effect 1 May 1917 into Coast Artillery Districts to be embraced in the respective geographical departments mentioned as follows:

North Pacific Coast Artillery District, embraced in the Western Department: The Coast Defenses of Puget Sound and the Columbia

South Pacific Coast Artillery District, embraced in the Western Department: The Coast Defenses of San Diego, Los Angeles, and San Francisco.

On 9 June 1925 the Coast Defenses of the Columbia received a new designation by General Orders 13, War Department, changing it to the Harbor Defenses of the Columbia. These defenses, functioned under the War Department through the Ninth Coast Artillery District, which was the next higher tactical and administrative command above the harbor defense commander, under the jurisdiction of the Ninth Corps Area Commander with headquarters at the Presidio of San Francisco, California,

The Harbor Defenses of the Columbia are now a part of the Northwestern Sector, Western Defense Command under command of Major General Robert H. Lewis, with headquarters at Fort Lewis, Washington, who is assisted in Harbor Defense matters by Brigadier General James H. Cunningham, Assistant Sector Commander for Harbor Defenses Affairs.

Construction and arming of the Harbor Defenses of the Columbia can be divided into four phases, each activated by the necessities of war:

- (1) Original construction during the Civil War Period, 1863-1866
- (2) Construction during the Spanish American War Period, 1896-1904

- (1) Reconstruction during the Reconstruction Period, 1865-1877.
- (2) Construction during the World War I Period, 1917-1918.
- (3) Construction during the World War II Period, 1940-1945.

During the first period of construction, which was motivated by the fear that Confederate gun boats might attempt to force the Columbia River, Old Fort Stevens and Old Fort Canby were constructed and armed. Old Fort Stevens, which was located in the site of the present 240th Coast Artillery Battalion Parade Ground, was a walled and moated pentagon redoubt guarded by a total of 34 muzzle loaders ranging from 8 to 15 inches in calibre. This installation existed until 1896, when the guns were dismounted and sold. The moat was not filled in until 1940. Old Fort Canby consisted of three batteries designated Right, Center, and Left. These batteries, which were located near Cape Disappointment Light, consisted of muzzle loaders of the same size and type used in Old Fort Stevens. These guns were dismounted and removed at various times between 1825 and 1896.

Next phase of construction took place during the Spanish American War Period, when the United States was first beginning to assert its rightful place as a great world power. Between 1896 and 1903, the defense plans of the War Department for the Columbia River crystalized into approximately material form we now see. The boundaries of the present reservations of Fort Stevens and Fort Canby were defined about as they now exist. Fort Columbia was constructed and armed. Plans were made for mining the river entrance. Disappearing carriage type guns and 12" mortars, then the most modern and impregnable harbor defense armament conceived by the genius of U. S. Army military engineering, were installed. Wire communications were laid out and the Harbor Defenses of the Columbia became a powerful bastion of American defense.

During this period construction at Fort Stevens included;

- (1) Battery Lewis, located at the present site of the Harbor Defense Command Post, consisting of six 10" DC type guns. This battery proved unwieldy to handle for fire control purposes and was redesignated as three batteries, (a) Battery Mishler on the left, (b) Battery Walker in the center, and (c) Battery Lewis on the right. None of these batteries proved satisfactory as the gun pits were too small and any firing endangered members of the gun crews.

- (2) Battery Russell, located at the right foot of Fire Control Hill, consisted of two 10" DC type guns. This battery proved very satisfactory and enjoyed the distinction of being the last 10" battery of its type to remain activated in the United States. It was not inactivated until 20 December 1944.

- (3) Battery Clark, located to the south of Swash Lake, consisted of eight 12" mortars, four of which were later moved to Fort Canby.

(4) Battery Pratt, located to the immediate right of Battery Lewis, consisted of two 6" DC type guns.

(5) Battery Freeman, located on the redoubt of Old Fort of Fort Stevens, consisted of two 6" guns mounted on barbette type carriages.

(6) Battery Spur, located on the bank of the river between the jetty railroad and the boat house, consisted of two 3" RF guns.

Construction at Fort Canby included:

(1) Battery Allen, located on Cape Disappointment northeast of the Lighthouse, consisted of three (layer two) 6" DC type guns. This battery was the last 6" battery of its type in the United States to be manned. It was not activated until 9 March 1945.

(2) Battery O'Flying, located on Cape Disappointment east of the Lighthouse consisted of two 6" DC type guns.

Construction at Fort Columbia included:

(1) Battery Ord, located on Scarboro Hill, consisted of two 3" BL DC type rifles.

(2) Battery Crenshaw, located below Battery Ord, consisted of three 3" RF guns.

(3) Battery Murphy, located low in the slope of Scarboro Hill, consists of two 6" DC type guns.

New construction in the Harbor Defenses of the Columbia during World War I period was meager; however, much modernization and renovation was accomplished. Battery Guenther was established at Fort Canby, utilizing two 12" mortars from each pit at Battery Clark, thus effecting two 4 gun mortar batteries, one on each side of the entrance to the Columbia River. Battery Guenther did not prove satisfactory (due to the earth slides which time and again filled its pits and produced a serious maintenance problem) until the excess hill overhanging was removed in 1942.

Armament construction and installation at the Harbor Defenses of the Columbia during the World War II period has been extensive, modern and in keeping with the best concepts of military engineering. Not only have three 6" RF gun batteries been projected and two of these completed, but also radio detection and ranging equipment, both Surveillance and Fire Control, has been installed; and the Mine Facilities have been vastly improved and expanded.

Auxiliary construction has been completed as follows:

(1) Battery 245, located to the northeast of Swash Lake Fort, consists of two 6" BL DC type guns.

(2) Battery 346, located above Battery Murray on Jew-Bore Hill, consists of two 3" LA EC type guns. (Not complete in that the tubes have not been installed.)

(3) Battery 347, located on North Head, consists of two 3" LA EC type guns.

(4) AMTB #1, located on the north side of the Columbia River near Jetty A consists of two 30mm guns on fixed carriage and two 90mm guns on mobile carriage M1A1.

(5) AMTB #2, located on the south side of the Columbia River on Clatsop Spit, consists of two 30mm guns on fixed carriage M6 and two 90mm guns on mobile carriage M1A1.

Radio detection and ranging equipment here installed is of the finest and consists of:

(1) S 1 Station (SCR 622) located on North Head is a general surveillance set.

(2) D 1 Station (SCR 296A) located on North Head is a sea coast artillery fire control set.

(3) D 2 Station (SCR 296A) located on Cape Disappointment is a sea coast artillery fire control set.

(4) D 3 Station (SCR 296A) located near Fire Control Hill is a sea coast artillery fire control set.

Mine installations have been greatly improved by construction of a new gas and splinter-proof casemate at Fort Columbia, new base end stations on Sand Island below the usual fog level, facilities for handling ground mines, new docking facilities at Fort Stevens, and new and modern mine control and communications facilities.

Periods of activity at the Harbor Defenses of the Columbia have like all Military Activity in our peace loving nation, been predicated upon war or the imminence of war. These Harbor Defenses have hummed with the carefully directed activity of thousands of earnest soldiers when danger to our land made coastal defense security essential. Then, in our tradition, with peace the soldiers returned to their civilian pursuits and the military structure was guarded from rust and decay by only the essential few.

From 1791 to 1803 Fort Stevens and Fort Clark were continuously garrisoned, except for brief periods when relief of garrisons from New England was required for other operations. Indians were overruled and the independence of the United States was maintained and the Harbor Defenses of the Columbia were manned only by the few soldiers of the United States Army. The only soldier who was killed was a private named Mac Williams.

From 1888, the 3rd Coast Artillery had been the main arm of the Harbor Defenses of the Columbia. It was stationed at Fort Stevens, Oregon and furnished the garrisons for Fort Warby and Fort Columbia. This organization performed manifold duties including maintenance work, seacoast artillery practice, and mine work.

By mid 1899, unsettled world conditions had alarmed national politicians to the extent that the War Department was able to secure funds for an increase in the standing Army. The garrison at the Harbor Defenses of the Columbia immediately felt the effect of this change in policy. 1 July 1899 Headquarters Detachment and Battery F of the 3rd Coast Artillery were activated with station at Fort Stevens; and on 10 November 1899, a battalion known as the Panama Recruit Detachment was activated to train at Fort Stevens. This detachment remained in The Harbor Defenses of the Columbia for about one year.

Pursuant to the activation of Battery F, 3rd Coast Artillery, Battery Clark was activated to add to the in-service armament of the Harbor Defenses which until that date had been Battery Pratt only, except during the annual National Guard firings.

Reorganization of the Coast Artillery 1 February 1940 inactivated the 3rd Coast Artillery and activated Headquarters Battery, Battery A and Battery B, 18th Coast Artillery at Fort Stevens, Oregon, and 8 November 1940 the War Department realizing the need for service troops in an expanding command activated Service Command Unit No. 1914 (first as part of CASU 9019) to serve at Fort Stevens. Then on 3 January 1941 Headquarters and Headquarters Battery 1st Battalion, 18th Coast Artillery, and Battery C, 18th Coast Artillery, were activated.

The 249th Coast Artillery Regiment (HD) of the Oregon National Guard was mobilized under authority of Executive Order No. 9000, and ordered into the Active Military Service of the United States on 16 September 1940. Mobilization was completed at the various Oregon State Armories and on 23 September 1940, the regiment was assembled at Camp Clatsop, Oregon, to complete basic training before being sent to complement the garrison at the Harbor Defenses of the Columbia.

Between 15 November and 15 December 1940, influenza spread rapidly through the troops at Camp Clatsop and those at Harbor Defenses of the Columbia. Prompt and competent medical and command attention were given this, the only epidemic thus far to attack personnel of the Harbor Defenses of the Columbia during World War II. By late December spread of the disease was checked. No fatalities resulted.

The 249th Coast Artillery moved from Camp Clatsop to Fort Stevens, Oregon 7 February 1941, and all units of the regiment were then stationed at Fort Stevens, however, on

12 February 1941, Battery D, 240th Coast Artillery, went to Fort Canby and a detachment of that Battery took over guard duty at Fort Columbia.

In this same date Battery Allen and Battery Guenther were activated at Fort Canby and Fort Canby was activated.

On 17 March 1941 Battery D, 240th Coast Artillery, went to Fort Columbia from Fort Stevens, activating that Fort and on this date Battery Murphy was activated. Then on 18 March 1941, Battery E, 249th Coast Artillery, went to Fort Canby from Fort Stevens; and 17 April 1941, Headquarters Battery, 1st Battalion, 249th Coast Artillery, followed Battery E. In the meantime, on 1 April 1941, Headquarters Battery, Harbor Defenses of the Columbia, was activated at Fort Stevens, and on 1 June 1941, Battery G 18th Coast Artillery was activated at Fort Stevens.

Battery Russell was activated on 31 July 1941. Activation of all other serviceable gun batteries in the Harbor Defenses of the Columbia having already been ordered, and personnel having by now been provided to man them, the defenses were at the fullest strength possible without mine field or new armament. Soldiers were training on three 6" DC batteries, two 12" Mortar batteries, one 10" DC battery, mines, and searchlights.

29 September 1941, Battery D, 249th Coast Artillery, went to Fort Canby from Fort Columbia; Battery E, 249th Coast Artillery, went to Fort Stevens from Fort Canby; and Battery C, 18th Coast Artillery, went to Fort Columbia from Fort Stevens. Then on 3 November 1941, Headquarters Battery, 1st Battalion, 249th Coast Artillery, returned to Fort Stevens from Fort Canby and Headquarters Battery, 2nd Battalion, 249th Coast Artillery, went to Fort Canby from Fort Stevens.

This was the situation of troops and armament of the Harbor Defenses of the Columbia on 7 December 1941, when Japan treacherously attacked Pearl Harbor. Colonel Clifton M. Irwin of the Oregon National Guard was commanding officer, having assumed command 1 October 1941.

Declaration of war found the Harbor Defenses as ready as existing material would permit. Personnel were trained on all available armaments. Leaves, furloughs and passes were cancelled and officers and men settled down to the grim business of war, and the monotony--the lot of the Coast Artillery--of waiting in watchful preparedness for attack.

With the declaration of war came authority to the Commanding Officer, Harbor Defenses of the Columbia, to activate the Columbia Bay mine field and this project was begun on 21 December 1941, using a converted ferry boat as a mine-layer. Buoyant mines were planted and the project was completed 3 March 1942. In keeping with joint Army-Navy policy, a Harbor Entrance Control Post was established in conjunction with the Harbor Defense Command Post on a 24-hour per day basis to control shipping.

Four 12" mortars were taken on 7 January 1942 by Battery C, 243rd Coast Artillery, to Brown's Point on the north entrance to Grays Harbor to assist in the defense of that water area. A lightological laboratory of the Gray's Harbor Defenses is attached as an app main hereto. The remaining four mortars were shipped to Fort Lewis, Washington, on 6 February 1942.

Colonel C. S. Honey, CMC, Regular Army, arrived at Fort Stevens, Oregon 28 May 1942, and that date assumed command of the Harbor Defenses of the Columbia.

An enemy naval vessel believed to be a Japanese submarine shelled the Harbor Defenses of the Columbia on the night of 21 June 1942. Nine rounds of what appeared to be 5" shells were fired in a bombardment that lasted from 2320 to 0340. Although most of the projectiles landed in swampy terrain to the south of Fort Stevens proper, one round fell 300 yards in front of Battery Russell and one within 50 yards of a concrete pillbox making the southern boundary of Fort Stevens. The Harbor Defenses of the Columbia suffered no casualties and no damage in this the only bombardment since 1812 by hostile craft of a fortification within the continental United States. The submarine remained out of range of armament then existing in the Harbor Defenses of the Columbia; therefore, fire could not be returned.

Despite the possibility that the attack might be launched on the same or greater scale at any time, there was no interference with regular training in the Harbor Defenses of the Columbia. Troops proceeded with their preparation against all types of attack, and it was during this period that most of the thirty-four linear miles of barb wire which surrounds strategic points within the Harbor Defenses of the Columbia was put down. Search light defense was also vastly expanded during this period and Battery C of the 243rd Coast Artillery went to Fort Canby from Fort Stevens on 1 August 1942, prior to which date a detachment from Battery C had taken searchlights to the Gray's Harbor Defense area.

Coast Artillery tacticians had long known that the type armament constructed at the Harbor Defenses of the Columbia during the Spanish American War period and still in service here was unsuitable for defense against modern naval craft. The 12" mortars at Batteries Clark and Southwick were known to be particularly unsuitable for fire against targets with the speed of present day naval vessels. Therefore, these batteries were deactivated on 12 August 1918, and the personnel which had manned them were made available for more pressing duties of defense preparation.

Coast Artillery tacticians had also developed projects for replacement of the old armament with modern Harbor Defenses of the Columbia. The program of development of these plans to improve the Harbor Defenses of the Columbia was begun on 24 January 1942 and construction was begun

in 1941. The 267th Coast Artillery Battalion was activated at Fort Stevens, and June 1942, followed by Stevens, Oregon, at this training station. The advance party arrived 18 Jan. 1942, and the remaining personnel of the battalion 28 August 1942. This battalion trained for service in the Alaskan Defense Command and upon completion of training on 9 November 1942, departed Fort Stevens. The 267th Coast Artillery Battalion was the first large group to be trained in the Harbor Defenses of the Columbia for service outside the United States during World War II. 9 November 1942, another large group of trainees began to arrive. These men were organized as a provisional battalion and trained at Camp Ridge Road. On 13 January 1943, their basic training having been completed, the trainees were assigned to various units of the Harbor Defenses of the Columbia.

In September of 1942 expansion of the defenses of Gray's Harbor was effected by the assignment of more troops, including Battery , 340th Coast Artillery, which departed for Gray's Harbor on 18 September 1942. With the assignment of additional Coast Artillery troops to Gray's Harbor, it became necessary to place these installations under Coast Artillery Command, and on 4 October 1942, the Gray's Harbor Defenses became Group III, Harbor Defenses of the Columbia. However, on 5 November 1942, the commanding officer, Harbor Defenses of the Columbia, relinquished command of the Harbor Defenses of Gray's Harbor until 21 October 1943 when he reassumed command. HHC Troops at the Gray's Harbor Defenses now included Headquarters Battery, 1st Battalion, (which went to Westport on 12 April 1943), Battery C and Battery D, 340th Coast Artillery. On 1 February 1944, all Harbor Defenses of the Columbia troops returned to this station.

During this period Harbor Defenses of the Columbia were rapidly being provided the most modern armament and equipment. In October, 1942, 50 caliber machine guns were received and in December, 1942, 57 mm guns (replaced by 40's 29 July 1944). On 12 January 1943, anti-motor torpedo boat defenses were instituted with the installation of the mobile 30 MM guns of AMTB #1, and AMTB #2 at Port Sanby and Fort Stevens, respectively.

The mine project was also proceeding apace and on 11 January 1943, the 14th SAMP Battery and the USAMP "Randolph" arrived. Early in May of 1943 an under-water audio reception system was installed in conjunction with the mine field. The first of June, 1943, the war channel through the buoyant field was cleared by the use of ground mines and on 13 September 1943, the first ground mine project was completed. The project was successful and by the end of March, 1944, all buoyant mines had been removed and replaced with ground mines. In the meantime, a number of mines and a assignment of personnel were made to the Harbor Defenses of the Columbia.

1 June 1944 1st Battalion, 18th CA were inactivated and Battery A, 249th CA assigned to HMCB;

10 April 1944 Headquarters Battery, 1st Battalion, 249th CA, sent to HMCB from Fort Stevens;

17 August 1943 Battery C, 18th CA, went to Fort Conby from Fort Columbia; Battery D, 249th CA, went to Fort Columbia from Fort Stevens;

3 October 1943 Headquarters Battery, 18th CA departed HMCB for HDSB;

19 January 1944 Battery D, 249th CA, redesignated Battery F, 249th CA, and Battery F, 249th CA, redesignated Battery D, 249th CA;

20 January 1944 Battery F, 249th CA, redesignated Battery G, 18th CA; Battery G, 18th CA, redesignated Battery F, 249th CA; Battery C, 18th CA redesignated Battery C, 249th CA; Battery C, 249th CA, redesignated Battery C, 18th CA; Battery A, 18th CA, redesignated Battery A, 249th CA; Battery A, 249th CA, redesignated Battery A, 18th CA;

25 April 1944 1st Battalion, 18th Coast Artillery, departed Fort Stevens, for Camp Breckenridge, Kentucky.

26 May 1944 249th Coast Artillery Band redesignated 92d AFG Band.

26 July 1944 Navy personnel departed HMCB which was then inactivated.

18 October 1944 249th CA Regiment inactivated; 171st CA Bn, 249th CA Bn and Battery A, HMCB, formed from 249th CA Regiment.

24 November 1944 92nd AFG Band departed Fort Stevens for Jefferson Barracks, Missouri.

Changes in personnel as set forth above reflect our improved position in the war and the completion of armament which requires less operating personnel. 29 December 1944, Battery Russell was inactivated and Battery 245 activated. 9 March 1945, Battery Allen was inactivated and Battery 247 activated. 7 July 1945, the Columbia River mine field was ordered removed. 12 July 1945 HMCB #1 was inactivated and preparations were made for the activation of HMCB #2 and the eventual inactivation of Battery 247.

Thus far Captain DePasco's force has been successful in
no better against the enemy and has been driven back to
one position only, on 21 June 1911. Harbor Defense Coast
Artillery report against such an enemy. It is their duty to
await the enemy's mission. Their orders are dictated by ac-
complishment of their mission. The enemy has attempted to
force entry to the Columbia River.

Witness

Headquarters Fort Stevens
April 20th 1865

Orders No. 1

I. Pursuant to orders from Headquarters Defenses Mouth
of Columbia River, the undersigned hereby assumes command of
this post.

II. Lieut. James E. Saunders 8th Inftry. Cal. Vols is
hereby assigned to duty as H. A. Q. M. & A. S. S. He will
without any unnecessary delay make out requisitions for
Quartermaster & Commissary supplies and submit plans and
estimates for the necessary buildings on this Post.

III. Sergeant John A. Pomme' Co "E" 8th Inftry. Cal.
Vols is hereby detailed on duty in the Quartermaster's de-
partment & will in addition thereto perform the duties of
Sgt. Major & Ordnance Sergeant of the Post.

GASTON d'ARCOIS (Signed)
Capt. 8th Inftry. Cal. Vols
Commdy. Post.

Witness

Headquarters Fort Stevens, Oregon
April 20th 1865

Orders No. 2

The attention of the Troops is called to the 32nd Article
of War. Any soldier guilty of interfering with the friendly
Indians living in the vicinity of the Post will be brought to
trial.

By Order of Capt. d'Arcois

Jas. F. Saunders (Signed)
Snd. Lieut. 8th Inftry. C. V. Acty.
Post Adjutant

Witness

APPENDIX A
OFFICERS OF THE REGIMENT, HOWARD ROAD CAMP, ST. LOUIS, MISSOURI, 1901

No.	Name	Rank	Regiment	From	To
1	Gaston Martens	Captain	8th Calif. Vol. Inf.	4-20-68	1-69
2	S. L. James	Captain	2nd. Infantry	10-68	10-68
3	H. C. Dodge	1st. Lt.	2nd. Infantry	10-17-68	3-21-69
4	John A. Darling	Captain	2nd. Artillery	2-25-68	1-20-71
5	W. P. Graves	1st. Lt.	2nd. Artillery	1-21-71	5-23-71
6	A. C. M. Pennington	Captain	2nd. Artillery	5-23-71	10-25-72
7	W. C. M. Netterville	Captain	25th Infantry	10-20-72	11-14-77
8	H. P. Miller	Captain	4th Infantry	11-27-72	11-14-77
9	C. E. Throckmerton	Captain	4th Infantry	11-14-77	2-11-81
10	E. S. Chapin	1st. Lt.	4th Artillery	2-12-81	6-10-81
11	H. B. Eltonhead	1st. Lt.	21st Infantry	6-11-81	9-18-81
12	S. E. Sparrow	Captain	25th Infantry	9-17-81	11-30-81
13	J. C. White	Captain	1st Artillery	12-1-81	3-20-83
14	Richard C. Shaw	1st. Lt.	1st. Artillery	3-21-83	9-7-85
15	Millard F. Harmon	2nd. Lt.	1st. Artillery	9-6-83	1-11-84
16	Abner H. Merrill	1st. Lt.	1st. Artillery	1-12-84	10-3-84
17	R. T. Yeatman	1st. Lt.	1st. Artillery	10-4-84	12-1-84
18	(In charge of Ordnance Sergeant, Negro)			12-2-84	3-10-93
19	E. A. Miller	1st. Lt.	3rd. Artillery	3-10-93	6-9-93
20	Sebra Smith	Captain	3rd. Artillery	6-10-93	4-20-99
21	G. T. Patterson	1st. Lt.	3rd. Artillery	4-21-93	3-23-99
22	W. A. Bethel	1st. Lt.	3rd. Artillery	3-29-99	4-23-00
23	H. E. Cloke	1st. Lt.	3rd. Artillery	4-30-00	4-13-01
24	J. P. Haines	Captain	Artillery Corps	4-14-01	7-31-03
25	Chas. Humphreys	Major	Artillery Corps	7-31-03	8-30-03
26	Wm. Force	Captain	Artillery Corps	2-31-03	3-6-07
27	A. D. Schenck	Lt. Col.	Artillery Corps	3-7-04	9-16-05
28	R. F. Gardner	Captain	Artillery Corps	9-17-05	4-2-06
29	L. H. Walker	Colonel	Artillery Corps	4-3-06	7-31-07
30	J. V. White	Lt. Col.	CAC	3-1-07	5-1-08
31	Thomas D. Lamoreau	Captain	CAC	3-2-08	10-11-08
32	James Prentice	1st. Lt.	CAC	10-12-08	10-26-08
33	Thomas D. Lamoreau	Capt. (Maj. Dec. 3, 1908)	CAC	10-27-08	2-11-09
34	George F. Bartlett	Major	CAC	2-12-09	12-17-09
35	Meroy C. Buckley	Captain	CAC	12-18-09	1-3-10
36	Stephen M. Foot	Lt. Col.	CAC	1-4-10	3-6-11
37	Malcolm Young	Captain	CAC	9-7-11	10-21-11
38	Gustave W. S. Stevens	Lt. Col.	CAC	10-23-11	1-31-13
39	James L. Long	Captain	CAC	2-1-13	3-17-13
40	E. Edwards	Lt. Col.	CAC	10-17-13	12-29-13
41	Henry H. Ludlow	Colonel	CAC	12-30-13	11-28-16
42	Kelly E. Lemson	Captain	CAC	11-29-16	3-7-17
43	Clarence E. Smith	Major	CAC	3-8-17	4-11-17
44	Wilket E. Ellis	Colonel	CAC	4-12-17	6-25-18
45	Frank Strach	Lt. Col.	CAC	2-1-18	2-17-18
46	W. C. Rafferty	Colonel	CAC	3-24-18	12-1-19
47	W. C. Bond	Lt. Col.	CAC	12-3-18	4-3-20
48	A. C. Thompson	Major	CAC	2-3-20	11-22-20
49	Cor. At	Lt. Col.	CAC	11-23-20	2-1-21
50	Wm. R. Carlson	Captain	CAC	2-10-21	1-1-21
51	Charles H. King, Jr.	Major	CAC	3-12-21	1-21-21

No.	Name	Rank	Regiment	From	To
47	W. H. Carlisle	Captain	CAC	12-22-31	2-12-32
48	H. S. Spring	Captain	CAC	2-24-32	6-1-34
49	A. P. Huff	1st.Lt.	CAC	6-1-31	6-1-33
50	F.H. Chamberlain	1st.Lt.	CAC	6-2-33	7-22-33
51	L. A. Percy	Captain	CAC	7-27-33	6-22-37
52	A. R. Swens	Captain	CAC	6-22-37	11-21-39
53	Donald Kolberg	Major	CAC	11-21-39	7-21-34
54	Wm. H. Stewart	Major	CAC	7-22-34	2-16-37
55	Allison L. Jones	Major	CAC	2-16-37	8-22-37
56	Edgar H. Thompson	Colonel	CAC	8-22-37	8-3-40
57	Frederick Loftquist	Lt.Col.	CAC	8-1-40	9-25-40
58	Henry C. Davis, Jr.	Colonel	CAC	9-26-40	1-5-41
59	R. P. Glassburn	Colonel	CAC	1-5-41	4-22-41
60	Holly E. Lanmon	Colonel	CAC	4-22-41	9-27-41
61	Kenneth Rowntree	Lt.Col.	CAC	9-28-41	9-30-41
62	Clifton M. Irwin	Colonel	CAC	10-1-41	10-16-41
63	Kenneth Rowntree	Lt.Col.	CAC	10-17-41	10-26-41
64	Clifton M. Irwin	Colonel	CAC	10-27-41	4-26-42
65	Kenneth Rowntree	Lt.Col.	CAC	4-26-42	4-27-42
66	Carl S. Doney	Colonel	CAC	4-28-42	12-31-45
67	Walser W. Alby	Lt.Col.	CAC	1-1-46	5-6-46
68	Ernest C. Knapp	Lt.Col.	CAC	5-7-46	5-26-46
69	Thompson	Colonel	CAC	5-26-46	6-14-46
70	Manly D. Gibson	Colonel	CAC	6-15-46	6-4-47

REGENTS COMMANDING THE MARINE DEFENSES OF THE COLUMBIA
1940-1944

Regiment	Letter of Co. or Battery	From	To
18th Coast Artillery	D	2-1-40	4-25-44
1934 CSE		11-12-40	1-2-41
18th Coast Artillery	C	1-3-41	4-25-44
18th Coast Artillery	Hq. Btry, 1st. Bn	1-3-41	4-25-44
18th Coast Artillery	Medical Det.	1-3-41	4-25-44
249th Coast Artillery	Hq. Btry	2-6-41	10-18-44
249th Coast Artillery	Hq. Btry, 1st. Bn.	2-6-41	10-18-44
249th Coast Artillery	Hq. Btry, 2nd. Bn.	2-6-41	10-18-44
249th Coast Artillery	Band	2-6-41	5-26-44
249th Coast Artillery (Sanby)	Hq. Btry, 2nd. Bn.	11-3-41	10-18-44
249th Coast Artillery (Sanby)	G	8-1-42	10-1-42
18th Coast Artillery (Sanby)	C	6-17-43	1-20-44
249th Coast Artillery (Sanby)	C	1-20-44	10-18-44
171st Coast Artillery (Sanby)	A, B, & Hq. Det.	10-18-44	

October 18, 1944, reorganization and/or redesignation
results as follows:

Hq. & Hq. Btry, 2nd Battalion, 249th to
Hq. and Hq. Detachment, 171st CA Bn.
Btry. C, 249th and Btry. D, 249th to
Btry. A, & B, 171st. CA Bn.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
REGION FOUR

RO

FORT COLUMBIA
Chinook, Pacific County, Washington

WAA Registry No. H-Wash-82

REPORT ON APPLICATION

by

WASHINGTON STATE PARKS AND RECREATION COMMISSION

FOR TRANSFER OF SURPLUS PROPERTIES

FOR AN HISTORICAL MONUMENT

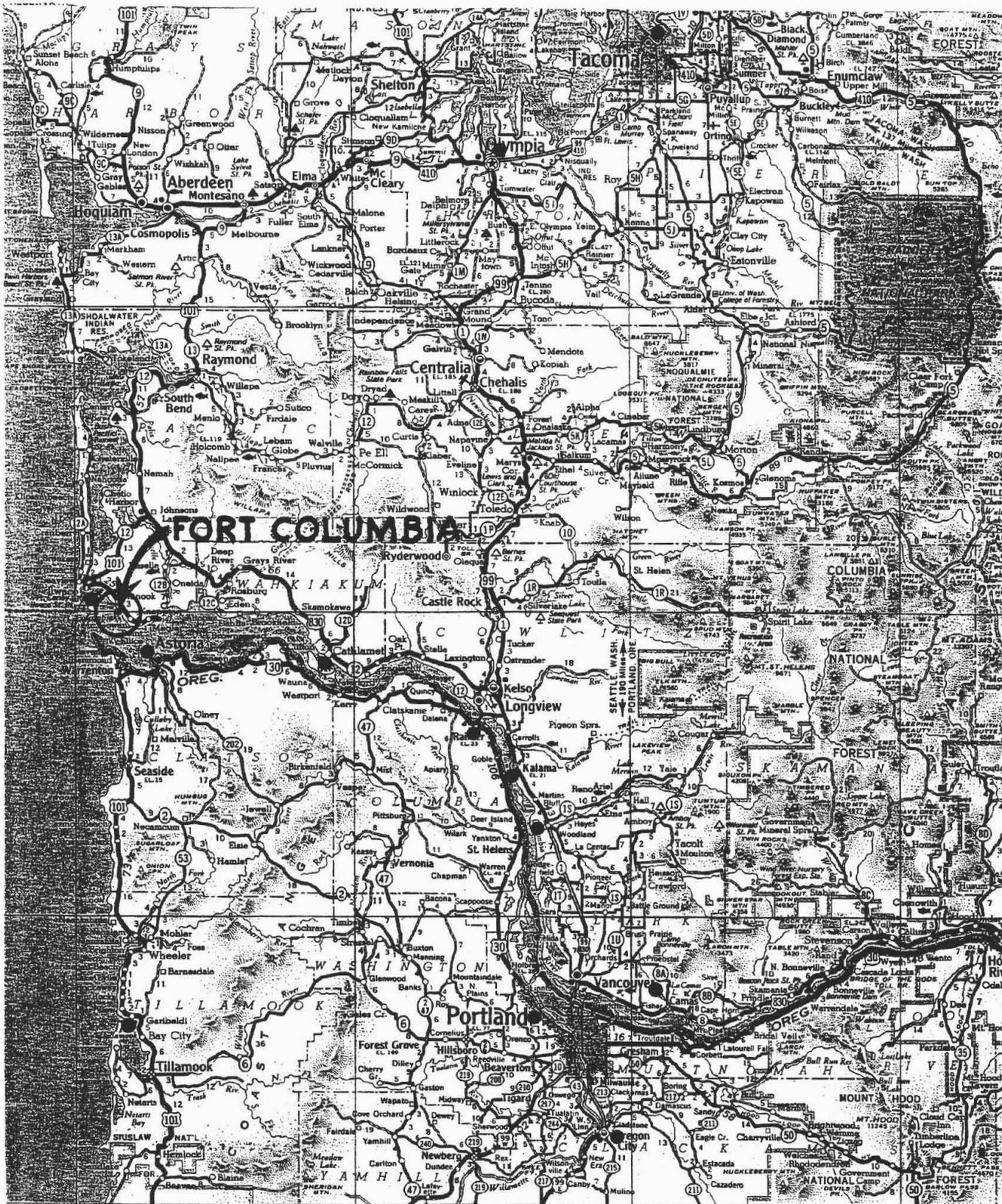
Prepared for

Region 11, General Services Administration, War Assets

December 1949

Authors

Raymond E. Hoyt, Reg. Chief of Land and Recreational Planning
V. Aubrey Neasham, Regional Historian
John A. Hussey, Historian
Harold G. Fowler, Park Planner



VICINITY MAP

WAA No. H-Wash-82
WAA Region 11
NPS Region Four

FORT COLUMBIA

Chinook, Pacific County, Washington

Report on Application

by

Washington State Parks and Recreation Commission

for

Transfer of Surplus Properties for an Historical Monument

FOREWORD

Authority and Purpose

Section 13(h) of the Surplus Property Act of 1944, amended by Public Law 616, 80th Congress, approved July 10, 1948, authorizes the disposal by the War Assets Administration to States, political subdivisions, instrumentalities thereof, and municipalities, of surplus real property, together with surplus improvements and equipment located thereon, which may be determined by the Secretary of the Interior to be suitable and desirable for public park and public recreational areas or as historical monuments.

This report is submitted in accordance with the authority to make final determination delegated to the Director of the National Park Service by the Secretary of the Interior, July 14, 1948.

The purpose of this report is to describe, analyze, and evaluate the property desired by the applicant in respect to its proposed historical monument use and to recommend disposal determination.

Application

Applicant: Washington State Parks and Recreation Commission,
Olympia, Washington.

Date: August 26, 1948, Original application
February 14, 1949, Further details of use program
February 23, 1949, Amended application
March 16, 1949, Supporting data contingent to
program of utilization
June 8, 1949, Further revision and amplification
of use program
December 1, 1949, Amended application reducing
area

WAA No. H-Wash.-82

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Important contributory historical values are possessed by Fort Columbia by virtue of its geographical position. Situated as it is, directly within the mouth of the stream, the property has witnessed practically the entire story of the development of the lower Columbia River area. Beginning in 1775, many of the key events of the exploration and settlement of the region occurred within sight of, or in the neighborhood of, Chinook Point and Scarboro Hill. Grey and Broughton anchored very close to the property. The general location of Lewis and Clark's Fort Clatsop can be seen from it. The Pacific Fur Company's post of Astoria was across the river. The North west Company maintained its Pacific Slope Headquarters at Astoria, as did for several years its successor, the Hudson's Bay Company. Yankee and British maritime traders frequented the vicinity of Chinook Point, and later many American missionaries and settlers passed the property on their way up and down the Columbia.

On the bar at the entrance of the river, plainly visible from Scarboro Hill, occurred many famous and tragic shipwrecks. The city of Astoria developed into a shipping center, and the old anchorages can be seen from Fort Columbia. Significant developments in the salmon fishing industry took place nearby; and only a few miles to the westward the Army Engineers tamed the dangerous river mouth with their famous jetties. All the key points in the harbor defenses of the Columbia are in sight from the emplacements on Scarboro Hill.

This magnificent story of the development of the lower Columbia River area could be well told at Fort Columbia. The relatively unspoiled natural beauty of the property, the commanding view obtained from it, and its position on a main highway recommend it as an ideal spot for a regional history museum. This suitability for use as a base from which to tell the story of the Columbia River increases the historical significance of Fort Columbia.

Identification of the property

A complete legal description of the property is contained in the appendix to this report.

There is no question concerning the historical identification of this property, except for the problem of whether or not the site of the principal residence of Chief Comcomly was within the reservation boundaries. This matter is dealt with at some length in the historical narrative which follows this paragraph. The identification of the present Chinook Point and Scarboro Hill with landmarks mentioned by early explorers, navigators, and travelers is treated, with full documentation in the same narrative.

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HISTORICAL NARRATIVE

Natural features having historical significance

Within its 633.33 acres, Fort Columbia Military Reservation embraces two natural features which have figured somewhat prominently in the history of the area lying about the mouth of the Columbia River.

Chinook Point

The first of these landmarks is Chinook Point, a hilly spur of low elevation which projects westward into the Columbia River almost directly opposite, and some six miles within, the stream's entrance. The point forms the eastern limit of Baker Bay, the inlet which lies immediately within and to the north of the river's mouth and which was a favorite anchorage for ships in the days before jetties and other improvements altered the character of the entrance.

In years past, Chinook Point was not quite as conspicuous as it is today. Both to the northwest and to the southeast of the promontory the shoreline, composed of sandy beach and low-lying marsh land, projected farther into the stream than it does at present, giving the point somewhat the character of an elbow at which the shoreline changed direction (see Map No. 2). In recent decades, however, the shifting currents have washed away much of the beach land, leaving the harder core of the point as a definite, several pronged projection into the river. The extent of the erosion may be judged from the fact that since 1864 some 136.35 acres of land have disappeared along the approximately one mile of shoreline which forms the southern boundary of the Fort Columbia Military Reservation.¹

The headland was first named "Chenoko," or Village Point by Lieutenant W. R. Broughton, of Vancouver's exploring expedition, in October, 1792, after the main Chinook Indian settlement which was located about a mile or mile and a half to the eastward.² Except for appellations given by visitors who were unacquainted with, or unimpressed by, Vancouver's designations, the promontory has continued to be known as "Chinook Point" to the present day.

It should be noted, however, that in times past the term "Chinook Point" was not always employed to designate solely the particular headland which now bears that name. From accounts left by various visitors and

¹Department of the Army, Corps of Engineers, Declaration of Surplus Real Property to the War Assets Administration, Fort Columbia, December 17, 1947, MS, 20. It is interesting to note that in 1862 the beach extended even around the tip of the present point. U.S., War Dept., Corps of Engineers, Columbia River Entrance, General Map of Cape Disappointment, Point Ellen & Chinook...1862, MS Map in Office of Chief of Engineers, Washington, D.C.

²George Vancouver, A Voyage of Discovery to the North Pacific Ocean, and Round the World . . . (3 vols. and atlas, London, 1798), II, 52-53, 70-71, 75.

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explorers, it would seem that the entire bulging line of beach, lying at the foot of the hills and extending from perhaps as far as the present town of Chinook on the north nearly to Point Ellice on the south, was occasionally called "Chinook Point." When a more precise term was needed to indicate that the present Chinook Point was meant, some such designation as "the extreme point" was employed.³ Indeed, when Sir Edward Belcher visited the Columbia in 1839 he drew a map upon which a broad projection located about midway between the present Fort Columbia and Point Ellice was labelled "Chenoke Point."⁴

The tip of the promontory is included in the tract of 8.1 acres which has not been declared surplus and which is being withheld by the Portland District, Corps of Engineers, for river and harbor purposes. But since a considerable area of the southern and eastern portions of the point proper is within the land declared surplus and since the entire point is in view from the slopes of the proposed park, it is assumed that whatever historical values are attached to the tip of the point also belong to the hillside immediately adjoining it.

Scarboro Hill

The second prominent natural feature within the boundaries of Fort Columbia is Scarboro Hill, which rises sharply to the north and east from Chinook Point to a height of approximately 840 feet. The top of the peak is situated close to the center of the main section of the reservation.⁵ On the south, west, and north the hill is quite isolated, but on the south-east, east, and north-east it is connected with the series of higher hills which occupies the peninsula north of Point Ellice.

Standing as it does at the western edge of these hills and presenting a bold face to the sea, Scarboro Hill is a conspicuous landmark when seen from Baker Bay and the mouth of the Columbia (see Map No. 2). Until at least 1858, and probably to some extent even as late as 1902, the prominence of the peak was much more marked than at present. In contrast with the densely wooded slopes of the adjoining range, the western and south-western face of Scarboro Hill was largely bare, being covered only with grass, ferns, and low shrubs. This singularity was noted by members of the Lewis and Clark expedition and was mentioned in the writings of many

³For accounts which appear to indicate this broader use of the term, see Alexander Henry, New Light on the Early History of the Greater Northwest . . ., edited by Ellicott Goues (3 vols., New York, 1897), II, 754-755; Joseph Schafer, ed., "Documents Relative to Warre and Vavasour's Military Reconnoissance in Oregon, 1845-6," in Quarterly of the Oregon Historical Society, X (March, 1909), 78; George Davidson, "Directory for the Pacific Coast," in U. S. Coast and Geodetic Survey, Report of the Superintendent of the Coast Survey . . . During the Year 1858 (Washington, 1859), 398-399.

⁴[Great Britain, Admiralty, Hydrographic Office], Chart of the Entrance of Columbia River, Surveyed by Sir Edward Belcher, C. B., in H. M. S. Sulphur, 1839 (Hydrographic Office, May 30, 1844).

⁵There are several lesser summits of Scarboro Hill, one of which, to the east of the main peak, is generally labelled "Scarboro Hill" on modern maps. See Map No. 4.

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subsequent visitors to the area. The geographer George Davidson wrote in 1858 that "no other hill in this vicinity possesses this peculiar feature."⁶

In recent decades, however, the forest has obliterated most of the former open space. This process was undoubtedly hastened, if it was not caused, by the plantings of trees and shrubs made by James A. Scarborough, whose donation land claim covered the hill. Also, the growth of trees was evidently encouraged after 1898 in order to form screens to hide the gun emplacements built on the face of the peak.

Because of this conspicuousness, Scarboro Hill and Chinook Point, which is an extension of the peak's southwest slope, have proved useful as bearing points for the navigation of the entrance and lower reaches of the Columbia River. As early as 1792, Lieutenant Broughton found the promontory "a good leading mark for clearing the shoals that lie between it and Cape Disappointment."⁷ Peter Corney, who visited the river in trading vessels a number of times between 1814 and 1817, advised seamen ascending the stream to keep Tongue Point "open about a ship's length" with Chinook or Village Point, the latter being a "remarkable hill," known by "a large clear patch on the side, and the only clear piece of ground in sight."⁸ The United States Exploring Expedition under the command of Lieutenant Charles Wilkes charted the river in 1841, and Wilkes recommended that the "light green patch visible on Chinook Hill"⁹ be used as a guide for threading the intricate channels of the entrance.

During the early 1850's, when the United States Coast Survey began to chart the mouth of the river and when artificial aids to navigation were set in place, Scarboro Hill was discarded as a bearing mark. Official Government charts and sailing directions issued during that decade recommended Point Ellice and other landmarks as aids in locating channels and ignored the formerly popular Chinook Point. According to local tradition, however, fishermen continued to use the hill and, in particular, a beautiful hawthorn tree which grew upon its slopes from about 1848 until 1897, as marks of guidance.¹⁰

Scarboro Hill has been called by a number of names during the century and a half it has been known to Europeans. The famous explorer and geographer David Thompson ascended the peak in July, 1811, and termed it simply "a green hill," evidently because of the color of the vegetation on the open slope at that season of the year. Two years later, another

⁶U. S. Coast and Geod. Survey, Report . . . 1858, 398-399.

⁷Vancouver, A Voyage of Discovery, II, 53, 75.

⁸Peter Corney, Voyages in the Northern Pacific . . . (Honolulu, 1896), 58.

⁹Charles Wilkes, United States Exploring Expedition . . . Hydrography (Philadelphia, 1861), 332-333. For another mention of the use of the hill as a navigating point, see Charles Wilkes, Narrative of the United States Exploring Expedition . . . (5 vols., Philadelphia, 1845), IV, 490.

¹⁰Lewis R. Williams, Chinook by the Sea (Ridgefield, Wash., 1924), 39-40.

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member of the North West Company, Alexander Henry, climbed the hill, which, he recorded in his journal, was known as "the Chinook hill, or Red Patch." The latter name, he said, came from the fact that the grass and ferns on the face of the hill formed a spot of reddish color when seen from the sea during the fall and winter. The term "Red Patch" hung on with considerable tenacity. An official of the Hudson's Bay Company employed it in a letter written in 1825.¹¹

By 1841, however, the name "Chinook Hill" had gained the ascendancy. It was used on the chart prepared by the Wilkes expedition of that year, and it still was in use when the United States Coast Survey issued its first detailed chart of the mouth of the Columbia in 1851 (see Map. No. 2). By the latter date James A. Scarborough was living on his land claim on the hill, and his name became attached to the peak. The designation "Scarboro Hill" appeared on a Coast Survey progress map as early as 1852, and in that form it appears on nearly all official Government maps to this day. The more correct spelling, "Scarborough Hill," was employed in the Coast Survey Directory for the Pacific Coast in 1858, and that form, occasionally written as "Scarborough Head," is the one favored by most writers who mention the locality.¹²

Aboriginal life at Chinook Point

At least as far back as the first European explorations of the lower Columbia River, Chinook Point was situated in the territory occupied by the Chinook Indians, who inhabited the north bank of the river between Grays Bay and the ocean. During the spring and summer months the natives generally lived immediately upon the shore of the Columbia, but in the late fall and early winter most of them shifted their places of residence to the northern range of their territory, on Shoalwater Bay. The Chinooks proper were a part of the larger Chinookan family or stock, the tribes of which lived on both sides of the Columbia River from the Dalles to the sea, on the lower Willamette to the falls, and on the coast from Tillamook Head, about twenty miles south of Point Adams, to near the northern

¹¹T. C. Elliott, ed., "Journal of David Thompson," in Quarterly of the Oregon Historical Society, XV (June, 1904), 105; Henry, New Light on the Early History of the Greater Northwest, II, 754-755; J. H. Pelly to G. Canning, London, December 9, 1825, in Quarterly of the Oregon Historical Society, XX (March, 1919), 28.

¹²Wilkes, Hydrography, Atlas, II, plate 66; U. S. Coast and Geodetic Survey, Report . . . 1851 (32 Cong., 1 Sess., Senate, Ex. Doc. No. 3), Sketch 57; ibid., Report . . . 1852, Sketch K; ibid., Report . . . 1858, 392. For examples of variants, see Edmund S. Meany, Origin of Washington Geographic Names (Seattle, 1923), 259; James G. Swan, The Northwest Coast; or, Three Years' Residence in Washington Territory (New York, 1857), 101, 109; United States, Works Progress Administration, Washington, Told by the Pioneers (3 vols., [n. p.], 1937-1938), I, 110.

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different matter, however. The lack of adequate appropriations caused delay after delay. In 1855, for instance, the Secretary of War urgently recommended that the entrance of the Columbia River be fortified, but no action was taken. On September 20, 1860, Colonel George Wright, commander of the Army's Department of Oregon, made an impassioned plea for adequate defenses. Fearing a possible conflict with Great Britain, he called the attention of the commander of the Army to the fact that there was not a single defensive gun on the entire northwest coast and that the settlements of the lower Columbia River, including the important city of Portland and the military headquarters at Fort Vancouver were all "at the mercy of a single hostile steamer."⁷⁹

Finally, on February 20, 1862, Congress passed a fortification bill which appropriated \$100,000 for the commencement of permanent defensive works at the mouth of the Columbia. It is stated in local histories that the fear of Confederate cruisers, particularly the Alabama, induced the War Department to hurry the construction of these forts. Such considerations may have had some effect, but military correspondence of the time proves that on the part of the officers in the Northwest, at least, a "foreign war" was the threat which loomed largest on the horizon.

To carry out the intent of the Congressional act, two Engineer Officers, Lieutenant Colonel René Edward De Russy and First Lieutenant George Henry Elliot, were sent to the mouth of the river to prepare a plan for the defenses. They made their examination during the summer of 1862 and selected Cape Disappointment, Point Ellen (near Point Adams), and Chinook Point as the three sites most suitable for permanent fortifications. Their surveys, drawings, and recommendations were sent to Washington for approval.

After much anxious urging on the part of Brigadier General Benjamin Alford, commanding the District of Oregon, the War Department in the early summer of 1863 authorized De Russy, by then a colonel and chief engineer officer at San Francisco, to proceed with the construction of "temporary" defensive works at the mouth of the Columbia River.

On July 4, 1863, De Russy assigned the task to Captain G. H. Elliot and ordered him to repair at once to the site of the projected operations. Cape Disappointment was considered the most important defensive point and had the further recommendation of being already owned by the Government. The first works, therefore, were to be constructed there. The two other recommended sites were both claimed by private individuals. "I intend shortly to visit Astoria with a view to purchasing these sites," De Russy told Elliot, "when, in conferring with each other, we can decide upon the best mode of carrying on the operations on either Point Ellen, Chinook

⁷⁹36 Cong., 2 Sess., Senate, Ex. Doc. No. 1, vol. II, 132-139.

⁸⁰U. S., War Department, The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies (70 vols. in 128, Washington, 1860-1901), Series I, vol. I, pt. II, p. 96. See also ibid., 139-140.

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Point or at both at the same time."⁸¹

As it turned out, it was decided to erect the second set of fortifications at the mouth of the Columbia, not on Point Ellen but on Point Adams, where the Government already owned some land, and where additional property was purchased early in August, 1863. The problem of obtaining the site for the third defensive work was not solved so promptly.⁸²

Purchase of the Scarborough Claim by the United States

Colonel De Russy was not long in acting upon his resolution to acquire Chinook Point. Evidently he decided to negotiate with the heirs of Rocque Ducheney through Henry K. Stevens, an enterprising citizen of the Shoalwater Bay district whom the Colonel seems to have met at Astoria. On August 24, 1863, Stevens informed De Russy that he had interviewed Mrs. Ducheney respecting her claim and that she had offered to sell one hundred acres of the land for \$600, or the 640 acres at three dollars per acre. "I expect to take out letters of administration on the Ducheny Estate," Stevens wrote, "and consequently will be able to give, or perfect a good title."⁸³

De Russy was satisfied with this offer. From San Francisco he directed Captain Elliot to buy one hundred acres, "including the house and garden at the Point nearest to Chinook," for the price mentioned, the purchase to be subject to the approval of the Secretary of War.⁸⁴ Five days later, fearing that "some speculating individual" might learn of the Government's intentions and purchase the land before he could get it, Colonel De Russy told Elliot not to bargain too long over the one hundred acres but to buy the entire claim at Mrs. Ducheney's price if necessary.⁸⁵

De Russy's suspicions were not without foundation. He soon received word that Mrs. Ducheney had withdrawn her offer to sell one hundred acres for \$600 and that she now wanted at least \$1000. On October 24, 1863, Stevens announced his appointment as administrator of the Ducheney estate, and told the Colonel that the whole claim could be purchased by the United States for \$1975 in gold. At about the same time, evidently, he intimated

⁸¹R. E. De Russy to G. H. Elliot, Fort Point, July 4, 1863 in U. S., War Department, Corps of Engineers, Portland District, Defenses, Mouth of Columbia River, Letter Book, July 4, 1863, to June 15, 1869, MS, in Oregon Historical Society, Portland, Oregon. See also J. G. Totten to R. E. De Russy, Washington, June 10, 1863, original telegram in *ibid.*

⁸²In addition to the sources already cited, this outline of the beginnings of the Columbia River fortifications is based upon the following: War of the Rebellion, series I, vol. L, pt. II, pp. 89-90, 96, 112, 134-135, 139-141, 259, 301-302, 322-323, 567-568; Clatsop County Chapter of the Oregon Historical Society, General History, Harbor Defenses of the Columbia, 1864-1945 (mimeographed, *n.p.*, December 1, 1947), 1-2, 5.

⁸³H. K. Stevens to R. E. De Russy, Astoria, August 24, 1863, in U. S. Engrs., Portland Dist., Defenses, Mouth Col. River, Letter Book, July 4, 1863, to June 15, 1869, MS.

⁸⁴R. E. De Russy to G. H. Elliot, San Francisco, September 23, 1863, in *ibid.*

⁸⁵Same to Same, San Fran **E-12** September 28, 1863, in *ibid.*

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that certain persons were attempting to influence the widow Ducheny to take a course not specified in the available correspondence, but seemingly directed toward setting a higher price.⁸⁶

De Russy conditionally accepted the offer made by Stevens. He was authorized by the Chief of Engineers to purchase the property for any price up to \$5000 in United States legal tender notes.⁸⁷

Meanwhile, Stevens had petitioned for, and received, permission of the probate court to sell the Scarborough claim on behalf of the Ducheny heirs. The tract, he stated in his petition, was valued at \$1500. The sale, however, could not be a simple transaction between the administrator and the United States. The property had to be advertised and sold at public auction to the highest bidder.

After the required legal delays, therefore, an auction was held at three o'clock on the afternoon of March 7, 1864, at the home of Louis Rendeau, in Chinookville. Captain G. H. Elliot, acting in behalf of the United States, purchased the entire property for \$2000, to be paid in cash upon the approval of the deed by the Secretary of War. The sale was further subject to the right of dower possessed by Ducheny's widow.⁸⁸

Because of certain technicalities connected with the term of the probate court, the deed was not made out at the time of sale. Finally, on May 24, 1864, Henry K. Stevens, as administrator of the estate of Recque Ducheny, signed the instrument transferring the Scarborough Donation Claim, consisting of 643.2 acres, to the United States. The deed was delivered to Captain Elliot some days later in return for a bond or "writing" in which the officer agreed to make payment upon approval of the instrument by the Secretary of War.

Colonel De Russy heartily endorsed Elliot's conduct at the auction. "Considering the importance of the position," he told his assistant, "I think that we obtained it at a very low rate."⁸⁹ But approval from Washington was not received so promptly. As late as October 22, 1866, the Ducheny estate had not been paid for the property. Evidently the transaction was consummated shortly thereafter, however, for on March 13, 1867, the deed was recorded in the records of Pacific County, Washington.⁹⁰

⁸⁶H. K. Stevens to G. H. Elliot, Oysterville, October 18, 1863, in U.S. Engrs., Portland Dist., Defenses, Mouth Col. River, Letter Book, July 4, 1863, to June 15, 1869, MS; H. K. Stevens to R. E. De Russy, Astoria, October 24, 1863, in *ibid.*; V. Wackenrender to R. E. De Russy, San Francisco, December 7, 1863, in *ibid.*

⁸⁷R. E. De Russy to G. H. Elliot, San Francisco, February 6, 1864 in *ibid.*

⁸⁸Pacific County, Washington, Probate Records, No. 09, MSS.

⁸⁹R. E. De Russy to G. H. Elliot, San Francisco, March 17, 1864, in U.S. Engrs., Portland Dist., Defenses, Mouth Col. River, Letter Book, July 4, 1863, to June 15, 1869, MS.

⁹⁰Pacific County, Probate Records, No. 09, MSS; Pacific County, Deed Record Book "B," MS, 170-171.

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At the time of the auction sale, Captain Elliot had acted promptly to relieve the property of another encumbrance upon its title -- the right of dower held by the widow of Rocque Ducheny. On March 7, 1864, Mary and her recently-acquired husband, Solomon B. Preble, in consideration of \$1000, signed a quitclaim deed renouncing all their interest in the Scarborough Donation Claim.⁹¹

History of the Chinook Point Reservation, 1864-1896.

It was the intention of the Engineer officers to proceed with the construction of batteries at Chinook Point immediately upon the final acquisition of the land. With this end in view, Captain Elliot obtained permission from Stevens to define the boundaries of the claim and to perform preliminary work during the summer of 1864.⁹²

Evidently nothing of consequence was done, however, and the efforts of the Engineers were concentrated upon completing the works already begun nearer the immediate entrance to the River. In April, 1864, the defenses at Cape Disappointment were turned over to garrison troops; and in April, 1865, Fort Stevens, on Point Adams, was ready for occupancy by the line forces. Colonel De Russy had planned to move all of his construction equipment to Chinook Point from Point Adams, but, as has been seen, instructions from Washington in regard to the land title of the Scarborough claim were slow in arriving. As a consequence, De Russy was obliged to delay the work.⁹³

By the time the matter of the title was settled, the War Department evidently had changed its mind concerning the urgency of the need for fortifications at Chinook Point, for it appears that no further action was taken upon the subject until about 1895. Meanwhile, the Scarborough Donation Claim lay largely deserted and neglected, a very loose watch being kept over it by the troops at Cape Disappointment, or, later, at Fort Stevens.

In 1869 the military authorities learned that squatters were occupying the reservation at Chinook Point, and the commander at Cape Disappointment was instructed to evict them. It is interesting to note that the principal squatter was Mary, the widow of Rocque Ducheny. Her second husband had died, and in June, 1867, she had married a man named John C. Kelly, described as a Catholic and as a fisherman by occupation. The officer in charge at Cape Disappointment reported to his superiors in October 1869, that the Kellys "still cling to this land as home, living there

⁹¹Pacific County, Deed Record Book "B", MS, 170-171.

⁹²H. K. Stevens to G. H. Elliot, Cape Disappointment, June 7, 1864; and same to same, June 17, 1864, both in U. S. Engrs., Portland Dist., Defenses, Mouth Col. River, Letter Book, July 4, 1863, to June 15, 1869, MS.

⁹³R. E. De Russy to R. C. Drum, San Francisco, April 6, 1865, in War of the Rebellion, series I, vol. L, pt. II, p. 1182.

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during the fishing season, and when they cannot find any other place."⁹⁴

Two years later Kelly refused an offer by which he would have been permitted to occupy the land under an agreement with the Government. He had by that time left the tract and was residing on a claim which he had purchased. "The Scarborough claim is now unoccupied," reported the commander of Fort Stevens on October 31, 1871.⁹⁵ In September of the next year, the ubiquitous Henry K. Stevens leased the land from the Government for two years at an annual rental of one dollar.⁹⁶

Construction of Fort Columbia, 1896-1903

After permitting them to remain neglected and practically abandoned for many years, the War Department, in or about 1895, determined to modernize and strengthen the defenses at the mouth of the Columbia River. Among other major features, the plans called for the installation of facilities for mining the river entrance and for the erection of the long-contemplated batteries at Chinook Point. As a result, during the period from about 1896 to about 1904, an intensive construction program was carried out at Fort Stevens, at Fort Canby (on Cape Disappointment), and at Chinook Point. When the project was completed, the fortifications at the entrance of the Columbia had assumed approximately the form they maintained until World War II.

In 1895 the Corps of Engineers drew up a rather elaborate project for the works to be constructed at Chinook Point. Included were plans for howitzer batteries as well as for large-caliber rifles. This project, however, was never carried out in its entirety.⁹⁷

The first authorized work project for Chinook Point called for the building of an eight-inch gun battery; and on-the-spot plans for its construction were made during the fall of 1896. On November 6 of that year the engineers in charge received instructions to build, in addition, a mining casemate at Chinook Point, to cost \$6000.⁹⁸

⁹⁴J. I. Rodgers to G. H. Mendell, Cape Disappointment, October 4, 1869, in U. S. Engrs., Portland Dist., Defenses, Mouth Col. River, Letter Book No. 2, MS. See also Oregon Historical Society, Biographical File, MSS, under John Kelley.

⁹⁵A. C. M. Pennington to Acting Asst. Adj. Gen., Dept. of the Columbia, Fort Stevens, October 31, 1871, in U. S. Engrs., Portland Dist., Defenses, Mouth Col. River, Letter Book No. 2, MS.

⁹⁶Same to same, Fort Stevens, October 1, 1872, in ibid.

⁹⁷U.S., War Dept., Corps of Engineers, Sheet E--Mouth of the Columbia River, New Works at Chinook Point, Proposed by the Board of Engineers, April 20, 1895, MS map, in Office of Chief of Engineers, Washington, D. C.

⁹⁸G. B. Hegarth to C. A. F. Flagler, Fort Stevens, September 2, 1896, in U. S. Engrs., Portland Dist., Confidential Files, Fortifications, Letters Book No. 7, MS; W. L. Fish to C. A. F. Flagler, Portland, November 6, 1896, in ibid.

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Before the construction of the actual fortifications could begin, a wharf, cement plant, railroad, quarters for the work crews, offices, and other preliminary structures had to be erected. The contract for the wharf and its approaches was let on December 10, 1896, and work was under way before the end of the year.

During March, 1897, the site of the battery was cleared and excavation was begun. The excavation for a battery of two guns was completed in June, and the major concrete work was finished on September 11, 1897. By April 25 of the next year two eight-inch rifles with disappearing carriages, L. F. Model 1896, had been mounted, and by June 30, 1898, the engineer in charge could report that the battery of two guns was "now entirely finished," complete with ammunition, lifts, cranes, and other requisites, except for the steel cover on the observation station and for electric wiring and lamps. This battery was later known as "Battery Ord" It was located on the slope of Scarboro Hill at an elevation of about one hundred feet.

A third emplacement for one eight-inch rifle was begun in August, 1897, and was completed in May, 1898. It stood a short distance to the southeast of the first battery, about fifty feet below the present Building No. 1. By June 30, 1898, the gun was on hand, but the experimental carriage, Model 1894, had not yet reached the site. The mining casemate, of concrete, "entirely sunk into the ground" was completed in March, 1898.

By July 16, 1898, the work contemplated in the first allotment for Chinook Point had been finished. The Engineers removed most of their equipment and turned the emplacements and ordnance over to the commander at Fort Stevens. Eleven men of Company M, 3rd Artillery, were sent over from the latter post on July 15, 1898, to guard the new fortifications. They comprised the first detachment of troops to arrive at the future Fort Columbia.⁹⁹

During the next several years two additional defensive works were constructed. These were Battery Crenshaw, containing three three-inch rapid fire guns and located low on the south slope of Scarboro Hill; and Battery Murphy, containing two six-inch, disappearing-type guns and built below Battery Ord.

Meanwhile, preparations were being made to house a garrison for the new post. In order to secure an adequate water supply, additional land adjoining the northeast corner of the Scarborough claim was acquired in 1899. The first parcel of this new land was obtained by Executive Order dated May 6, 1899, setting aside from the public domain for military

⁹⁹The above account of the first construction at Fort Columbia was based upon a large number of operations reports, prepared by the U. S. Assistant Engineer, Fort Stevens, and filed in a box labelled "Report of Operations, Chinook Point, 1896, 1897-1898," in U. S. Engrs., Portland Dist., Field Records, MSS, in Oregon Historical Society. For information of the arrival of the first troops, see Harold Epstein, Memo on Fort Columbia, typescript in Region Four Office, NPS, and based on AGO, Fort Columbia, Post Returns, for July, 1898, MSS, in War Records Division, National Archives.

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purposes Lot 9, Section 22, containing thirty-three acres, more or less.

The second parcel of additional land, consisting of Lots 1 and 2 of Section 15, and Lot 4 of Section 21, containing 53.15 acres, more or less, was purchased by deed dated July 31, 1899, from the Northern Pacific Railroad Company, for \$212.60. The addition of these two parcels to the "military reservation at Fort Columbia" was officially announced by a declaration signed by the Secretary of War on April 17, 1900.¹⁰¹

Exclusive jurisdiction over the original reservation was ceded to the Federal Government by Section I, Article 25, of the Constitution of the State of Washington and the general act approved January 23, 1890, set out in Section I, under General Legislation. Exclusive jurisdiction over the area set apart from the public domain and the area purchased in 1899 was ceded by the general act approved February 24, 1891, set out in Section I, under General Legislation.¹⁰²

Indicative of its new importance, the post, formerly known simply as Chinook Point, was, "by direction of the President, and under the provision of paragraph 196, Army Regulation," officially named Fort Columbia on July 13, 1899.¹⁰³

By the end of December, 1902, the principal buildings required for the housing of the post garrison had been completed on the hillside above the batteries. The structures consisted of one barracks for enlisted men, one single and one double set of officers' quarters, one double set of non-commissioned officers' quarters, a hospital, guard house, administration building, and various other structures.¹⁰⁴ These buildings, all of frame construction, were described by the Inspector General as "complete and commodious," though the absence of recreational facilities, important in an isolated and uneventful station, was noted. This shortcoming was remedied somewhat by the erection of a gymnasium in 1906.¹⁰⁵

¹⁰⁰United States, War Dept., Military Reservations, Washington, (Washington, 1942), 13. U. S., War Dept., Judge Advocate General, United States Military Reservations, National Cemeteries, and Military Parks, Titles, Jurisdiction, Etc. (Rev. ed.: 1916, Washington, 1916), 444.

¹⁰¹Pacific County, Washington, Deed Record Book No. 34, MS. 209-210; U. S., War Dept., AGO, General Orders No. 51, April 18, 1900.

¹⁰²U. S., War Dept., Military Reservations, Washington, 13.

¹⁰³The order was not officially published, however, until July 22. See General Orders No. 134, Adjutant General's Office, Washington, July 22, 1899, in U. S. War Dept., Adjutant General's Office, General Orders and Circulars, 1899 (Washington, 1899).

¹⁰⁴A complete list of the buildings, with their dimensions, dates of construction, and other information is to be found in U.S., War Dept., Quartermaster General's Office, Outline Descriptions of Military Posts and Reservations in the United States and Alaska and of National Cemeteries (Washington, 1904).

¹⁰⁵Harold Epstein, Memorandum, October 21, 1948, typescript, based upon Inspector General to Commanding General, U.S.A., May 11, 1903, and upon G.O. 18, July 3, 1906, but **E-12** found in Adjutant General's Office Files, MSS, in War Records Division, National Archives.

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During the construction of the batteries and buildings at Chinook Point, some interesting relics were unearthed. Consisting chiefly of beads, they were evidently from Indian graves. One find made early in 1903 was particularly noteworthy. A bank immediately behind the barracks caved in to expose three boxes, covered with canvas nailed on with brass-headed tacks. Besides the usual beads and shell money, one box contained a number of old coins, some dating back to the 1770's. With the coins were some medals dating from the campaign of William Henry Harrison, silver rings and bracelets, crockery, and many other items.¹⁰⁶

History of Fort Columbia, 1903-1948

From 1898 until 1903 there was never more than a handful of men, serving as a caretaker detachment, stationed at Fort Columbia. The post was first occupied by a regular garrison on June 23, 1903, when a detachment of one officer and twenty-three men of the 33rd Company, Coast Artillery, arrived from Fort Canby, Washington. The balance of the company reached Fort Columbia on June 30, and the next day, July 1, 1903, the headquarters of the new post were officially established. Captain Brooke Paine was the first commanding officer of the garrison.¹⁰⁷

A force, generally numbering about four officers and one hundred enlisted men, was maintained at Fort Columbia until or about the time of the first World War.¹⁰⁸ During that conflict the garrisons of the Harbor Defenses of the Columbia were greatly expanded, and the Coast Artillery units of the Oregon National Guard were mobilized there. Figures are not available, however, concerning the garrison at Fort Columbia.

New construction during the period of the 1917-1918 hostilities was meager in the Columbia River defenses, but much modernization and renovation was accomplished. Fort Columbia suffered a loss of strength at that time, for her eight-inch guns were removed for service overseas.¹⁰⁹

Very shortly after World War I, the Harbor Defenses of the Columbia were reduced to a state of almost complete inactivity. Only one company was maintained at Fort Stevens, and from it were drawn small caretaker detachments for Fort Canby and Fort Columbia. For a number of years before 1931, one sergeant and one or two other enlisted men constituted the sole force at the two latter establishments, and their duties were not arduous. In fact, it is reported that they had plenty of time to keep cows and sell milk to neighboring fishermen.¹¹⁰

¹⁰⁶Chinook Observer (Chinook), April 3, 1903, as copied by Mrs. Lucile McDonald. See also, Williams, Chinook by the Sea, 25.

¹⁰⁷Clatsop County Chapter of the Oregon Historical Society, General History, Harbor Defenses of the Columbia, 2; Epstein, Memo on Fort Columbia, MS, 1-2. Mr. Epstein's work is based upon records of the AGO, in War Records Division, National Archives. June 30, 1903, is the official date of the establishment of the first permanent garrison at Fort Columbia.

¹⁰⁸Edmond S. Meany, History of the State of Washington (New York, 1937), 342.

¹⁰⁹Oregonian (Portland), June 14, 1931.

¹¹⁰Ibid.

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During a Government economy drive in 1931, General Douglas MacArthur recommended "partial disposal" for Fort Columbia, but evidently no action was taken, since the reservation remained intact. The quiet of the post was broken only for about two weeks each summer, when National Guard units manned Battery Murphy for training purposes.

Unsettled world conditions resulted in increased War Department appropriations in 1939, and the troops at Fort Stevens were increased. As the result of a reorganization of the Coast Artillery on February 1, 1940, units of the 18th Coast Artillery were activated and sent to that post. On September 16, 1940, the 249th Coast Artillery Regiment of the Oregon National Guard was ordered into active service and, after a period of training, was employed to complement the garrison of the Harbor Defenses of the Columbia River. At first all units of the regiment were stationed at Fort Stevens, but on February 21, 1941, Battery B, 249th Coast Artillery, was despatched to Fort Canby, and a detachment from that unit took over guard duty at Fort Columbia. At about that time, under a War Department appropriation of \$130,000 to be shared by Fort Columbia and Fort Canby, construction of barracks to house additional troops at Fort Columbia was begun, and the old buildings of 1902 vintage were rehabilitated.¹¹¹

On March 17, 1941, Battery D, 249th Coast Artillery, went to Fort Columbia from Fort Stevens, thus activating the post. Battery Murphy was activated on the same day. By July 31, 1941, activation of all other serviceable gun batteries in the Harbor Defenses of the Columbia had been ordered. On September 29, 1941, Battery D, 249th Coast Artillery, left the post and was replaced by Battery C, 18th Coast Artillery. This latter unit was garrisoning Fort Columbia on December 7, 1941, when Japan attacked the United States.

The declaration of war greatly increased military activity in the Harbor Defenses of the Columbia. Authority was received to activate the mine fields at the river entrance. This operation began on December 25, 1941, and was completed March 3, 1942. Improvements made in the mine control equipment at Fort Columbia between 1941 and the end of World War II included a new gas and splinter-proof casemate, and new and modern mine control communication facilities.

Plans for these and other defensive works called for the acquisition of more land near the Fort Columbia Military Reservation. To this end, condemnation proceedings were instituted, and by a final judgment on the Declaration of Taking, dated May 10, 1941, the United States acquired from the State of Washington a tract of forty acres, consisting of the southeast quarter of the southwest quarter of Section 9, T. 9 N., R. 10 W. This lot, for which \$2000 was paid, was known as No. ND-9-2, Columbia River Harbor Defenses. It was located a short distance north of the northwest corner of the old Scarborough Donation Claim.

By instrument dated May 16, 1941, and in consideration of the sum of one dollar, the firm of P. J. McGowan and Sons, Inc., conveyed to the United States an easement for a right-of-way for cable lines over a narrow strip of land, ten feet wide and containing .33 acres, connecting tract ND-9-2 with the Fort Columbia Military Reservation. The tract covered by

¹¹¹Sunday Oregonian (Po E-12 April 6, 1941, magazine sec., p. 8.

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this easement was known as No. ND-9-1, Columbia River Harbor Defenses.¹¹²

Long before World War II, the War Department realized that the armament of the Harbor Defenses of the Columbia River was out-moded, and planning boards had worked out projects for the installation of weapons capable of coping with modern naval craft. Under the impetus of war, these plans were put into effect.

At Fort Columbia the modernization program was represented by the installation of Battery 246, located on Scarboro Hill between Batteries Murphy and Ord and consisting of two six-inch, long-range, rapid-fire rifles mounted on barbette carriages. Begun in or about October, 1942, this battery seems never to have been completed. At least as late as 1947 the tubes had not been installed.

It is not possible in this report to list all the military units, with their several changes in designations, which garrisoned Fort Columbia during World War II. Suffice it say that, as during the entire previous history of the military occupation of the fortification, no events outside the normal routine of training and of garrison life appear to have occurred, except upon the night of June 21, 1942. About midnight on that day an enemy vessel, believed to have been a Japanese submarine, fired nine shells which fell harmlessly at Fort Stevens, Oregon. This event has been termed the only bombardment by a foreign craft of a fortification within the continental limits of the United States to occur since the War of 1812.

Observers at Fort Columbia saw the gun flashes and estimated the range of the enemy. Permission to return the fire was requested but was not granted. One explanation given for the failure to answer the shelling in kind was that the submarine remained out of range of the armament then existing in the Harbor Defenses of the Columbia. Some former members of the Fort Columbia Garrison, however, still feel that there is more to the story than has been made public.

By July 7, 1945, the war with Japan had progressed so favorably that the removal of the Columbia River mine field was ordered. Some batteries

¹¹²For further information concerning these additional tracts of land, see Pacific County, Washington, Deed Record Book No. 122, MS, 336, 524; Dept. of the Army, Corps of Engineers, Declaration of Surplus Real Property . . . Fort Columbia, MS, p. 20 and map entitled "War Department, U. S. E., Construction Division, Real Estate, Fort Columbia Military Reservation Approved 25 Nov., 1944"; U. S., War Dept., Military Reservations, Washington, 12-13.

No attempt has been made in this report to record the various easements and rights-of-way across the Fort Columbia Military Reservation which have been granted at various times. For them, with some data on the construction of a railroad and roads across the reservation, see materials cited immediately above; and U. S., War Dept., United States Military Reservations, National Cemeteries, and Military Parks (ed. 1916), 444; and, particularly, photostats of documents contained in War Assets Administration, Seattle Office, Classification File, MSS.

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were inactivated about the same time, and the garrisons of the forts were reduced.¹¹³

On March 28, 1947, the three forts comprising the Harbor Defenses of the Columbia were listed by the War Department among thirty-five Army posts and airfields declared surplus.¹¹⁴ On December 17 of that year the Corps of Engineers presented to the War Assets Administration an official Declaration of Surplus Real Property covering Fort Columbia, reserving, however, an area of 8.1 acres, more or less, for river and harbor works. The War Department stripped the reservation of its armament, and at 12:01 a. m., March 31, 1948, Fort Columbia passed to the jurisdiction of the War Assets Administration.¹¹⁵

¹¹³Except where otherwise indicated, this account of Fort Columbia, 1903-1945, was based upon Clatsop County Chapter of the Oregon Historical Society, General History, Harbor Defenses of the Columbia, which, in turn, is largely based upon the post diaries of Fort Stevens.

¹¹⁴Oregonian (Portland), March 29, 1947, p. 1, col. 3.

¹¹⁵War Assets Administration, District Office, Seattle, Washington, Acquisition and Declaration File, MSS; and ibid., Classification File, MSS.

ADDRESS REPLY TO
THE DIVISION ENGINEER
(NOT TO INDIVIDUALS)

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
OFFICE OF THE DIVISION ENGINEER
NORTH PACIFIC DIVISION
500 PITTOCK BLOCK
PORTLAND 5, OREGON

EB
Enright
2011
AD

MPDM

16 March 1949

REFER TO FILE
MPD 602.2 (Harbor Defenses
of the Columbia River)

602.3 Columbia River Harbor Defenses

SUBJECT: Transmittal of War Department Shipping Document, Harbor
Defenses of the Columbia River, Oregon and Washington.

TO: The Chief of Engineers, Corps of Engineers, U. S. Army,
WASHINGTON 25, D. C.

ATTENTION: Real Estate Division - ENGLT

1. Reference is made to 1st Indorsement of this office, dated 11 March 1948, file and subject as above, which forwarded a copy of shipping document covering transfer of land and buildings at subject installations from military to civil accountability pursuant to authority contained in 4th Indorsement of the Office of the Assistant Secretary of the Army to the Director, Service, Supply and Procurement, dated 26 January 1948, subject: "Retention of Areas and Facilities at Harbor Defenses of the Columbia for Civil Works".

2. Certain errors were made in describing and computing the acreages of the land areas in the original document and a corrected shipping document based on the final acquisition audit figures for the installations has been issued. A copy of the corrected document is forwarded herewith for the files of your office to replace the document previously forwarded by above referenced 1st Indorsement. The corrected document effects no change in the actual property requested and approved for use in connection with the Civil Works activities of the Portland District.

FOR THE DIVISION ENGINEER:

Dick Darnielle

DICK DARNIELLE
Division Real Estate Officer

1 Incl.
Incl. 1 - WSD RI 140W48
dtd 3-5-48.

USACE
Seattle District
Real Estate File

W.R. DEPARTMENT SHIPPING DOCUMENT	VOUCHER NO.	STATION Portland Oregon	REQUISITION NO.	MO.	DAY	YE	SHEET	CONTINUATION SHEET "CORRECTED COPY 3/8/49"													
					5	48	15														

STOCK NUMBER	DESCRIPTION OF ARTICLE	UNIT OF MEAS.	NUMBER OF PKGS.	TYPE OF PKG.	PACKAGE NOS.	UNIT WT.	TOTAL WEIGHT	UNIT CUBE	TOTAL CUBE	REQ. LINE ITEM NO.	STOCK COND.	TALLY QUANTIT ACTUALLY SHIPP
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1	Fort Stevens, continued:																																															
2	N. 46° 00' 40" W., parallel with and 100 feet distant south-																																															
3	-westerly from the center line of said track and the prolonga-																																															
4	tion thereof, a distance of 913.0 feet; thence west 287.8 feet;																																															
5	thence north 277.8 feet; thence N. 46° 00' 40" W. 1,781.0 feet;																																															
6	thence west 1,155.1 feet; thence N. 66° 00' W. 6,500 feet; thence																																															
7	west 2,800 feet, more or less, to the low water line of the																																															
8	Pacific Ocean.																																															
9	The lands lying north of the line above described contain																																															
10	1,323.74 acres, more or less.																																															
11	Sand Island																																															
12	Sand Island, Oregon is located at the mouth of the Columbia																																															
13	River in Townships 9 North, Ranges 10 and 11 West, Willamette																																															
14	Meridian, containing 1,249 acres more or less.																																															
15	Fort Columbia, Washington																																															
16	A parcel of land lying in the J.S. Scarborough Donation Land																																															
17	Claim No. 37 in Section 21, Township 9 North, Range 10 West of																																															
18	the Willamette Meridian in Pacific County, Washington, said parcel																																															
19	being more particularly described as follows:																																															
20	Beginning at a point on the southwesterly side of the right-																																															
21	of-way of State Highway No. 12, said point being south 4,118.0 feet and																																															
22	east 2,850.0 feet from the quarter section corner common to																																															
23	Sections 16 and 17 in Township 9 North, Range 10 West of the																																															
24	Willamette Meridian; thence southeasterly along the southwesterly																																															
25	side of the right-of-way of said highway a distance of 540 feet;																																															
26	thence south 560 feet more or less to the line of mean high water																																															
27	of the Columbia River; thence westerly and northerly downstream																																															
28	following the line of mean high water to a point directly west of																																															
29	the point of beginning; thence east 140 feet more or less to the																																															
30	point of beginning, containing 8.1 acres more or less.																																															
31	Also the right to the use of the tide lands adjoining and																																															
32	bordering on the lands above described in accordance with the act																																															
33	of the Legislature of the State of Washington approved March 20,																																															
34	1890, entitled "An Act granting to the United States for public																																															
35	purposes, the use of certain tide lands belonging to the State																																															
36	of Washington", and acts amendatory thereof, which acts provide																																															

E-13

WAR DEPARTMENT
is DOCUMENT

VOUCHER NO.

STATION
Portland
Oregon

REQUISITION NO.

MO. DAY YR. SHEET
5 48 16

CONTINUATION SHEET

"CORRECTED COPY" 3/8/49

STOCK NUMBER	DESCRIPTION OF ARTICLE	UNIT OF MEAS.	NUMBER OF PKGS.	TYPE OF PKG.	PACKAGE NOS.	UNIT WT.	TOTAL WEIGHT	UNIT CUBE	TOTAL CUBE	REQ. LINE ITEM NO.	STOCK COND.	TALLY QUANTITY ACTUALLY SHIPPED
	Fort Columbia continued: States shall cease the use of the tide lands for governmental purposes.											
	Fort Canby, Washington All of fractional Sections 8 and 9, together with the accretions thereto above the line of mean high water of the Pacific Ocean, the Columbia River, and Baker Bay, in Township 9 North, Range 11 West of the Willamette Meridian, Pacific County, Washington, excepting therefrom the area within the existing Lighthouse Reservation containing approximately 13.56 acres. The lands above described contain a net area of 1,212 acres, more or less. Also the right to the use of the tide lands adjoining and bordering on the lands above described in accordance with the Act of the Legislature of the State of Washington, approved March 20, 1890, entitled "An Act granting to the United States, for Public purposes, the use of certain tide lands belonging to the State of Washington", and acts amendatory thereof, which acts provide for reverter to the State of Washington, whenever the United States shall cease the use of the tide lands for governmental purposes.											
	Hammond Military Reservation Tract No. 2, Hammond Military Reservation, containing no acreage, and being a right and privilege to provide telephone, light and power service for Fort Stevens, from the City of Hammond and to protect necessary connections with submarine cables Nos. 782 and 783 from Fort Stevens, Fort Columbia and Fort Canby.											
	Utilities All utilities including water, electrical, sewer including roads and improvements are included with buildings and on land retained as enumerated above.											
	Fence, cyclone, 78" high	lin.ft.										1,400
	Post, corner, metal	ea.										5
	Post, end, metal	ea.										8
	Gate, 10' (20' roadway)	ea.										2
		ea.										1

E-13

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P
Y

WAR ASSETS ADMINISTRATION
P.O. Box 4062
PORTLAND 8, OREGON
Real Property Field Office

In reply refer to:
RPD/PPM
Harbor Defenses of
the Columbia River

April 21, 1948

District Engineer
Portland District
628 Pittock Block
Portland, Oregon

Subject: Harbor Defenses of the Columbia River
Disposition Board Report, 23 March 1948

Dear Sir:

Attached are twenty (20) copies of Report of Dis-
position Board covering Harbor Defenses of the Columbia River,
Clatsop County, Oregon and Pacific County, Washington, dated
March 23, 1948, for your information and files.

This agreement covers the formal assumption of cus-
tody and accountability of the said Harbor Defenses by War
Assets Administration, effective 12:00 midnight, March 31, 1948.

Very truly yours,

/s/C. E. Zimmer
C. E. ZIMMER, Acting Chief
Property Management Division
Real Property Field Office

Enclosures:
Report of Disposition
Board (20)

E-14

USACE.
SEATTLE District
Real Estate Files

REPORT OF DISPOSITION BOARD
COVERING
HARBOR DEFENSES OF THE COLUMBIA RIVER
CLATSOP COUNTY, OREGON AND PACIFIC COUNTY, WASHINGTON

W-Wash-82

WD-1222

23 March 1948

Hammond Military Reservation, Clatsop County, Oregon

Comprises 0.227 acre of fee-owned land and has one unnumbered two story building located on the site. The Hammond Military Reservation consists of Lots 28, 29 and 30, Block 16, and as recorded in Book 66, page 180 of Deed Records of Clatsop County, State of Oregon. There are no utility services on the facility.

Tloga Station, Pacific County, Washington

Consists of 0.46 acre of fee-owned land located north of the Town of Long Beach, Washington, and described as Lots 3, 4, 5, and 6 in Block 12 of Pioneer, according to the plat thereof now on file in the Office of the Auditor of and for Pacific County, Washington. Located on the site are three buildings numbered 800, 800A, and 800B.

Fort Columbia, Pacific County, Washington

Consists of 625.23 acres of land, declared surplus, situated at Chinook Point on the north bank and at the mouth of the Columbia River, in Pacific County, Washington. EXCLUDED from this transfer are 8.1 acres of land withheld by the District Engineer, Portland District, for use in connection with Rivers and Harbors work.

Located on the site are 39 surplus buildings and structures identified as follows:

<u>Bldg. No.</u>	<u>Designation</u>	<u>Bldg. No.</u>	<u>Designation</u>
1	Officers' Family Qtrs.	T301	S/L Shelter
2	" " "	T301A	" "
3	" " "	T301B	Power Plant
4	Administration Bldg.	T301C	S/L Control Booth
5	N.C.O Family Qtrs.	T307	Garage
6	" " "	T308	Chlorinator House
7	" " "	T310-D	Troop Shelter
8	Army Hospital	500	Power Plant
9	Barracks	501	Barracks
11	Guard House	502	Base End Station
12	Flag Staff	503	" " "
13	Warehouse	504	Recreation
17	Officers' Family Qtrs.	505	Generator Bldg.
18	N.C.O. Family Qtrs.	506	" "
19	" " "	507	Base End Station
22	Fire Station	508	Control Booth
25	Oil House	* 510	M 2/4 Station
T100	Barracks	* 511	Generator Bldg.
T110	Post Exchange	556	Battery
T120	Officers' Family Qtrs.		

* Located at Chinook

Fort Columbia - Cont'd.

Included in this transfer, subject to receipt by War Assets Administration of an approved supplement to Declaration of Surplus Real Property, WD-1222, are only those portions of the below listed utility systems as are located on the land declared as surplus to War Assets Administration:

- (a) Water distribution system including the Reservoir (Bldg.32)
- (b) Electric distribution system
- (c) Sewer distribution system
- (d) Underground power and telephone cable

Transfer of the 625.23 acres of land is effected subject to the following rights granted by the Government acting by and through the Department of the Army.

- (a) Easement to the North Columbia Telephone Company for pole line right-of-way.
- (b) Permit for extension on State Highway granted to the State of Washington.
- (c) License to Public Utility District No. 2 to run power line.
- (d) Permit to Pacific County, State of Washington, to extend County road.

Section II

Date of Transfer

The District Engineer, Portland District, hereby transfers custody and accountability for the real property under his jurisdiction at the site of the Harbor Defenses of the Columbia River to the War Assets Administration as of 12:00 Midnight, 31 March 1948, excepting that real property specifically excluded from the transfer and as indicated in Section I (General) hereof.

The War Assets Administration shall assume custody and accountability for protection and maintenance for that portion of the facility declared surplus to the needs of the Department as of 12:01 A.M., 1 April 1948.

Section III

Real Property

The District Engineer, Portland District, will transfer all real property and installed equipment at the various sites of the Harbor Defenses to War Assets Administration as of the date of transfer, excepting that real property specifically excluded from the transfer and as referred to in Section I (General) hereof.

The District Engineer shall transfer all outgrants including leases, licenses, easements, and permits to War Assets Administration as of the date of transfer.

Approved and Concurred in:

For War Assets Administration:

/s/ Robert L. Nelson
Robert L. Nelson, Chief
Property Management Division
Real Property Disposal Field Officer

For the District Engineer, Portland District:

/s/ Charles S. Cohn
Charles Cohn
Chief of Management and Disposal

Section IV

Personal Property

There is no personal property under the jurisdiction of the District Engineer on the sites of the five facilities effected by this transfer.

HISTORICAL HIGHLIGHTS

Of Fort Columbia

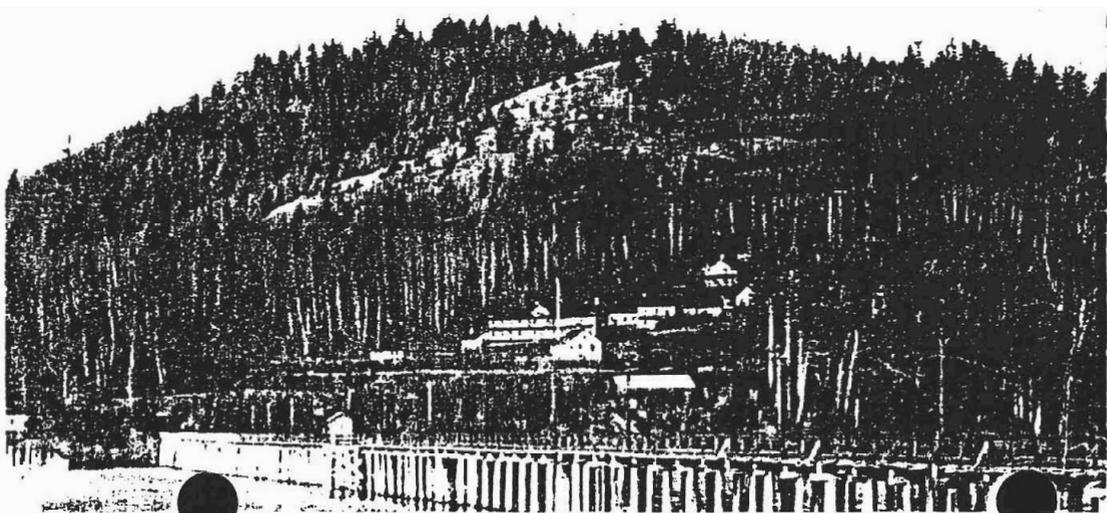
Nearly a century and a half ago, Captain Robert Gray of Boston, anchored his ship, "The Columbia," just off Chinook Point on which the present fort is located, and that day, May 11, 1792, became the discoverer of the river, which he named the Columbia after his vessel. This discovery was later a decisive factor in the determination of title to the Northwest in the dispute between the United States and Great Britain.

In 1805, Lewis and Clark, the first overland explorers of the area, camped near the spot where these forts were later built. Here, also, Comcomly, colorful chief of the Chinook tribe, built his lodge. Scarborough Head, the hill just above, was formerly bare and served as a guiding landmark for sailing ships crossing the bar.

James Allan Scarborough, master of the Hudsons Bay Company's famous schooners, "Cadboro" and "Mary Dare," retired from the sea in 1843 and settled on this property, taking out a donation land claim of 640 acres under the law of 1850. Later sold by Scarborough's sons to Rocque Duchaney, manager of the Hudsons Bay trading post at nearby Chinookville, the property was purchased by the army in 1864 for \$3,000 as a site for a military reservation.

Work on the fortifications began in 1896. Fort Columbia guns guarded the mouth of the Columbia from 1898 until the end of World War II.

Fort Columbia and Scarborough Hill



F-15

F-15

Dedication and Opening of

FORT COLUMBIA

Historical State Park



COPPER MEDAL struck especially for fur trading and exploring expedition of Captain Robert Gray and Captain John Kendrick Gray was in command of "The Columbia" when he discovered the river he named after his ship.

June 17, 1951

By the

Washington State Parks and Recreation
Commission

Arthur B. Langlie, Governor

Commission Members

Dr. Frank F. Warren, Chairman

Ruth E. Peeler, Vice Chairman

Herbert J. Olson

Emil H. Miller, Sec.-Treas.

John E. Blume

John M. McClelland, Jr.

Arthur H. Morgan

John R. Vanderzicht, Director



We Preserve Our Heritage

Fort Columbia Historical State Park

The three forts guarding the mouth of the Columbia—Canby and Columbia on the Washington side and Stevens on the Oregon shore—were declared surplus by the army in 1947. At that time The Longview Daily News suggested that two of these abandoned forts would make admirable additions to the Washington state park system. This idea spread and the next year, when Congress enacted legislation enabling the federal government to transfer surplus property without cost to the states, the State Parks and Recreation Commission, at the suggestion of Mrs. Ruth E. Peeler, a commissioner, made application for the transfer of Fort Columbia to the state.

Finally, in March, 1950, after survey and study, the National Park Service recommended that the site be given to the state for preservation as an historical monument, and the transfer was made. Since then, the guard house has been remodeled, roads cleared, a parking lot graded, old batteries cleaned, signs painted and erected, and considerable clearing and ground improvement, including a work-day sponsored by the Ilwaco Junior Chamber of Commerce, has also been done.

Conversion of the hospital into an interpretive museum in which the rich history of the lower Columbia area will be interpreted through exhibits, charts, maps, dioramas and displays will be the next park project. This will probably take another two years of work.

This Park Has a Threefold Purpose

Fort Columbia Historical State Park of 285 acres has been added to the Washington state park system for three reasons:

- (1) To preserve for public use an exceptionally beautiful piece of shoreline, where one may look across the Columbia River bar to the broad Pacific, historic Astoria, and the hills of Oregon.
- (2) To mark an historic site that is epic in the annals of Pacific Northwest history and to interpret it properly so that visitors may know the importance of the events that occurred in the lower Columbia area in their relation to the over-all development of the Pacific Northwest.
- (3) To preserve a typical example of the many coastal forts along the Pacific Coast that, for many years, guarded the western approaches to American shores.

DEDICATION PROGRAM

June 17, 1951

1:30 P. M.

Music by Astoria Elks Band Director, James Lovatt

2:00 P. M.

Master of Ceremonies--John R. Vanderzicht, Director
State Parks and Recreation Commission

"How the Park Came To Be" J. M. McClelland, Jr.
Commissioner, Third District

Introduction of Guests

Plans of the DAR Mrs. James Grieg Walker, Jr.

"Historical Significance of the Area" Dr. Dorothy O. Johansen
Associate Professor of History and Humanities
Reed College, Portland, Oregon

Dedication of the Park Dr. Frank F. Warren, Chairman
State Parks and Recreation Commission

3:00 P. M.

PACIFIC COUNTY CENTENNIAL PAGEANT

Directed by Mrs. C. D. Davis

Choreography—Miss Marie Hannan

Narrator—L. D. Williams, Jr.

Tom-toms—Prior Millikan

(Indians—Members of the Long Beach Redmen's Lodge)

1-15

1-15

PART I

INSTALLATION Fort Columbia (108)		LOCATION 6 miles southeast of Ilwaco	
<input type="checkbox"/> ARMY <input type="checkbox"/> AIR FORCE <input type="checkbox"/> ATOMIC ENERGY COMMISSION		<input checked="" type="checkbox"/> MILITARY <input type="checkbox"/> COMMAND <input type="checkbox"/> INDUSTRIAL	
<input type="checkbox"/> CIVIL <input type="checkbox"/> FLOOD CONTROL <input type="checkbox"/> RIVER & HARB.			
ACREAGE ENTIRE INSTALLATION	FEE OWNED 736	PUBLIC LAND 33	LEASSED -
LESSER INT. -		COUNTY Pacific	STATE Washington

PART II

DATE	STATUS	E OR P	FEE OWNED (Acres) (1)	PUBLIC LANDS (Acres) (2)	LEASSED (Acres) (3)	LESSER INT. (Acres) (4)	NATURE OF FACILITIES	COST TO GOVT. (Dollars)	CUSTODY BY C.E. (Date)
A 6/30/47	Surplus	P	592	33		-	Harbor Def.	160,866	9/30/47
B 3/5/48	Surplus	P	136					None	No
C 6/19/52	Excess	P	-				Buildings	4,120	No
D 5/28/53	Excess	P	8				Harbor Def.	21,665	No
E 5/28/53	Excess	E	-				Cable Line	322,395	No
F									
G									
H									
I									

PART III

TEMPORARY USE GRANTS

REF.	IN PROCESS			GRANTED			PURPOSE
	NO.	ACRES	CONSIDERATION (\$)	NO.	ACRES	CONSIDERATION (\$)	
D1				1	-	None	Il-Access Road

REPORTED TO WAA OR GSA

REF.	REPORTED TO WAA OR GSA	DESIGNATED DISPOSAL AGENCY	DATE DESIGNATED	DISPOSITION
A1, 2 & 4	12/17/47	War Assets Admin.	-	CT - 4/1/48 (WAA)
D1	10/14/53	GSA	-	- 6/20/54 GC Deed

TRANSFER OR RETRANSFER TO OTHER GOVERNMENT AGENCIES

REF.	DATE AUTHORIZED	RECEIVING AGENCY	DATE OF LTR FROM ARMY AF OR AEC	RESTORATION OR BLDG. DISP. COMPLETED (Date)	DATE CUSTODY ASSUMED
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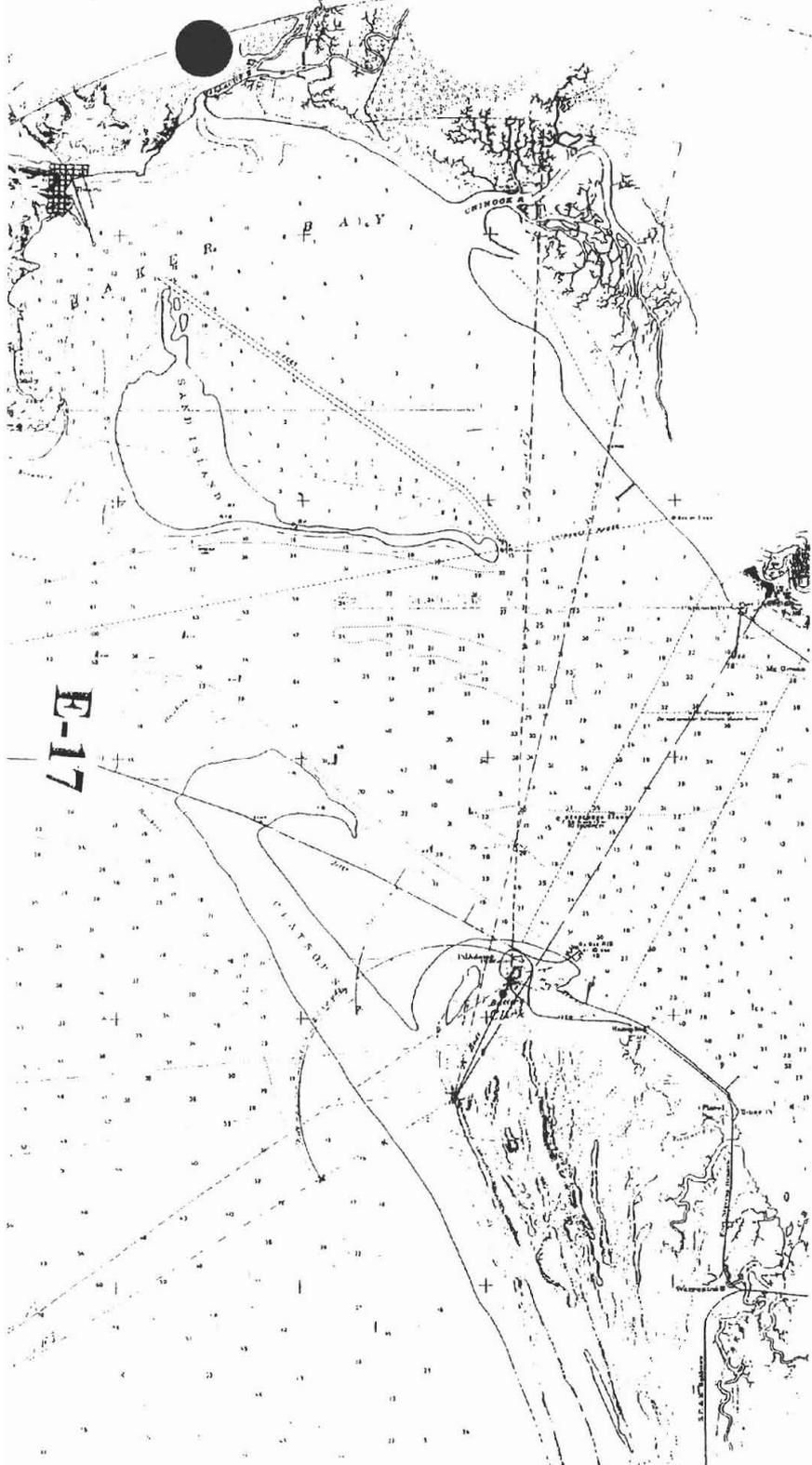
LEASE CANCELLATIONS

REF.	NO.	ACRES	RENTAL (Dollars)	REPORTED TO GSA	CANCELLED
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OTHER DISPOSALS

REF.	CLASSIFIED	APPRAISED	ADVERTISED	DATE SET FOR OPENING OF BIDS	COMPLETED	CONSIDERATION (\$)
B1	1	-	-	-	See Remarks	None
C1	1	-	-	9/22/52	1/21/55	153.00
E1	1	-	-	-	1/29/54	None

SIGNATURE *Gerald R. ...* ADDRESS **4735 East Marginal W**
 W. M. TRUEDELL **E-16**



ASTORIA PUBLIC LIBRARY
BOOKS 355.795
Hanft, Marshall
Cape forts

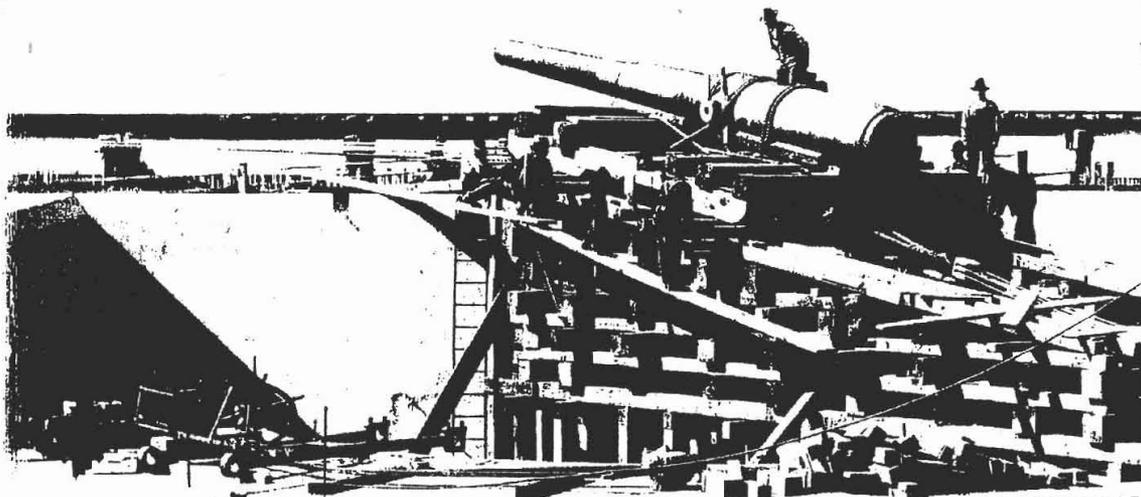


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Marshall Hanft

THE CAPE FORTS

*Guardians
of the Columbia*



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HANFT



MOUTH OF COLUMBIA RIVER

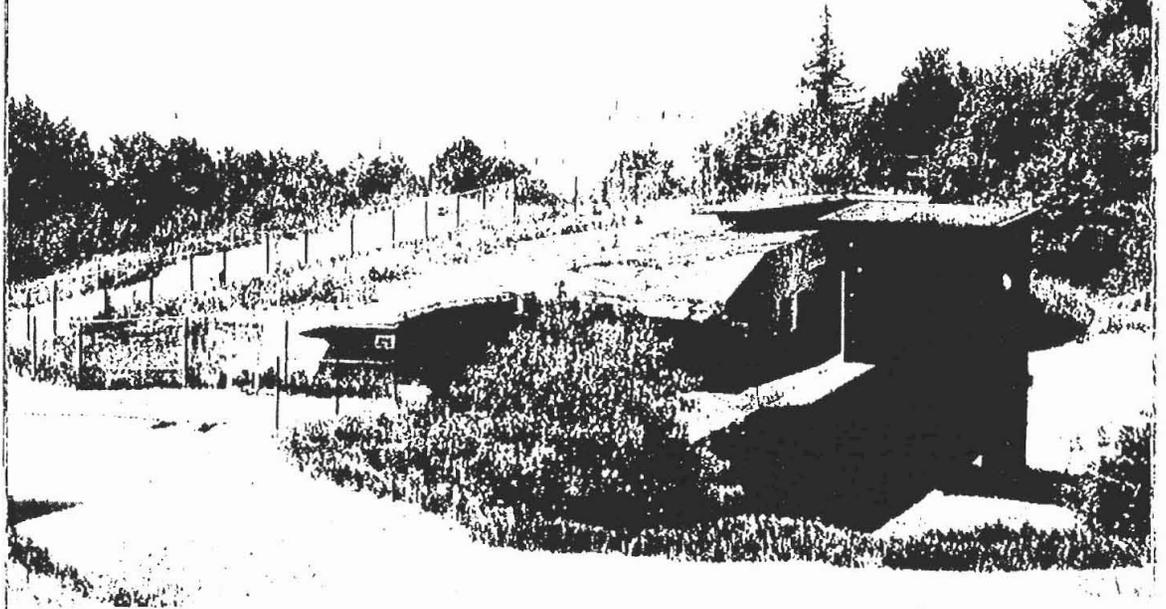
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E-17

San Francisco Cal.
Forwarded to the Engineer Department
with letter of this date October 15th 1883.

W. H. D. Dyer
Capt. U. S. Army

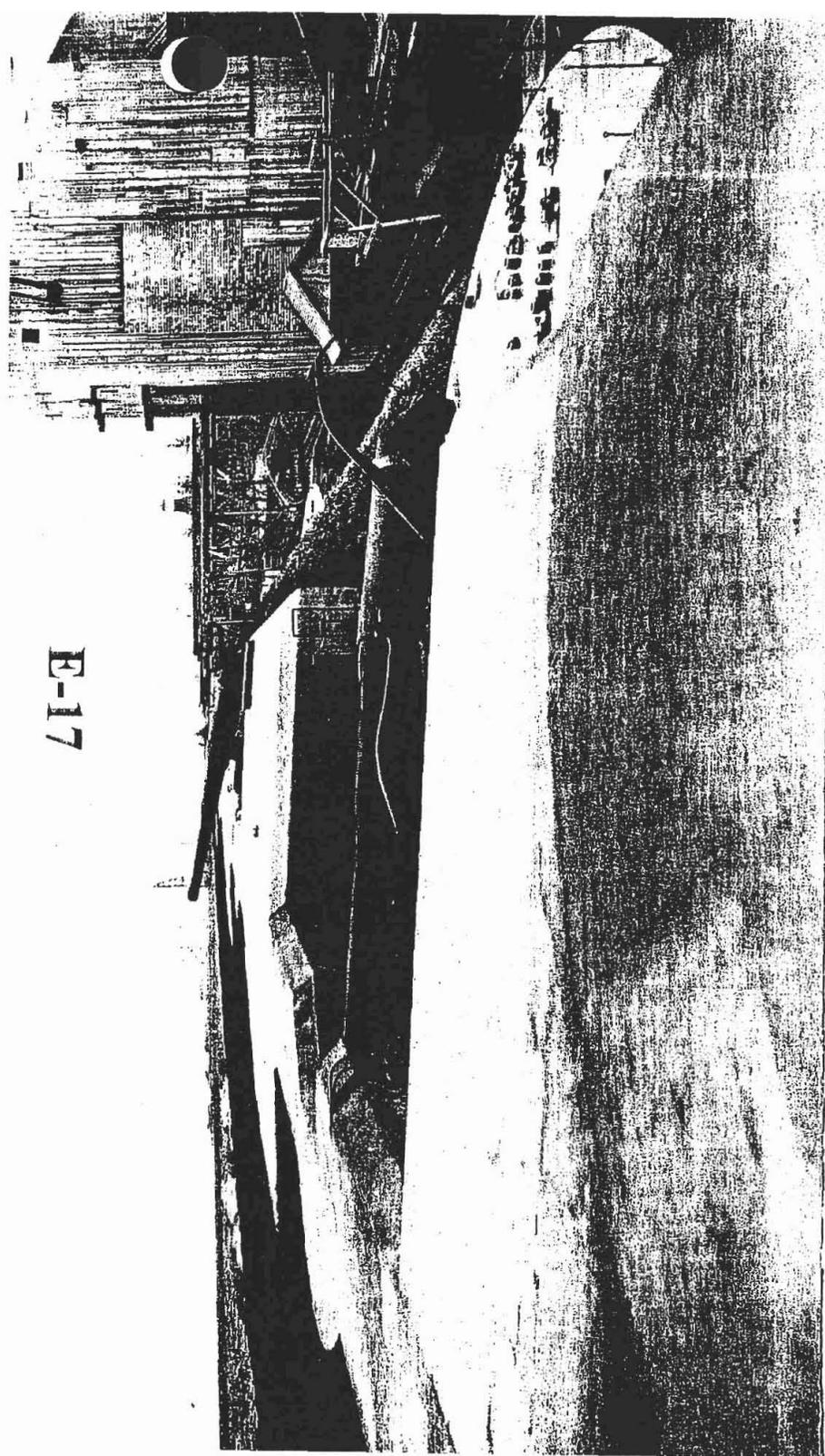
Astor, Wash. 1917
450 Family
Astoria, Oregon 97103 2100



Above, view from Fort Columbia State Park, Washington, across Battery Ord emplacements, toward mouth of Columbia River, with Bakers Bay and Cape Disappointment in the right background. Battery Ord has not had weapons since World War I. Below are officer quarters and barracks. 1968 photos, Seufert Collections, OHS.



E-17



E-17

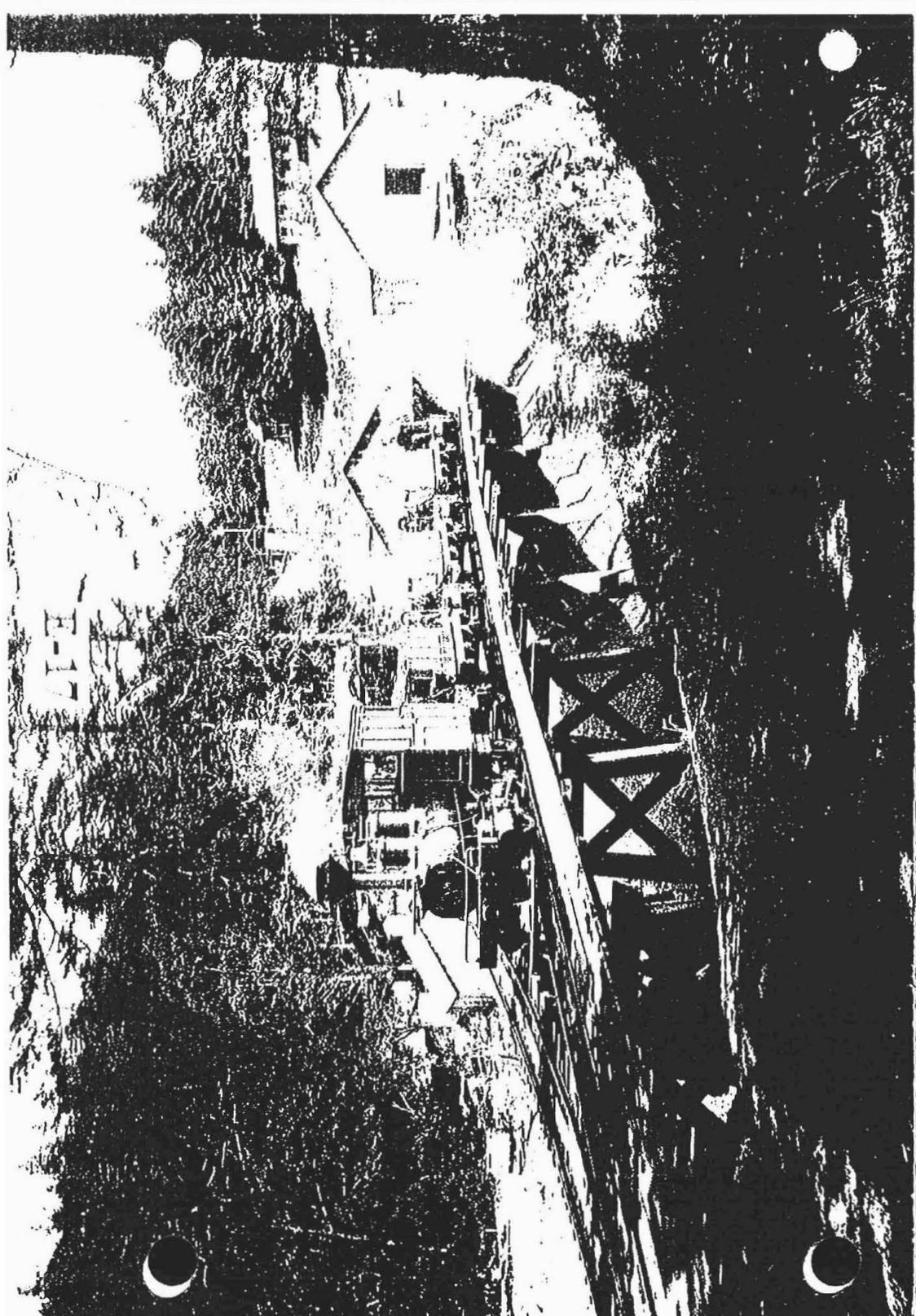
was again regarrisoned in 1898, it was initially with a detachment of Company M, 3rd Artillery, from Fort Canby.

It was however the last of the Columbia River forts to receive new armament at the turn of the century. Fort Columbia, the other Washington side installation at Chinook Point about six miles inland from the river mouth, had two new 8-inch rifles mounted in Battery (Jules) Ord in 1898, and 3-inch and 6-inch rifle emplacements were completed there during the next two years for Batteries (Frank) Crenshaw and (William) Murphy respectively. It was several years after this before concrete sites were ready at Fort Canby for the 6-inch rifles of Batteries (Elijah) O'Flyng and (Harvey) Allen.⁶⁰

The first additional armament provided at Fort Stevens after 1867 were four of the total of six emplacements of West Battery, completed in 1898. The other two, unique there in that they were designed for all around fire, were finished in 1900. They were located west of the original "fort" and like it, they were near the bank of the river. These emplacements mounting 10-inch rifles on disappearing carriages were later divided into three batteries of two guns each which were named, from east to west, Lewis, Walker, and Mishler.⁶¹

60. Fort Columbia had been projected for development in 1863 but litigation on ownership of Chinook Point delayed completion of purchase of the fort site until after the Civil War, and interest lapsed. Battery Ord eventually had three 8-inch rifles mounted on it. It was named for 1st Lt. Jules G. Ord, 6th U.S. Infantry, who was killed in action on San Juan Hill, Cuba, 1 July 1898. Other batteries here mentioned were named as follows: Crenshaw for Capt. Frank F. Crenshaw, 28th Infantry, U.S. Volunteers, who died 28 August 1900, of wounds received in action in the Philippine Islands; Murphy for Capt. William L. Murphy, 39th Infantry, U.S. Volunteers, who was killed in action in the Philippine Islands, 14 August 1900; O'Flyng for Ens. Elijah Temple O'Flyng, 23rd U.S. Infantry, who died of wounds received in action at Fort Erie, Upper Canada, 18 September 1814; Allen for Lt. Col. Harvey A. Allen, 2nd U.S. Artillery, a veteran of the Mexican and Civil wars (died 20 September 1882). Battery Guenther, established at Fort Canby shortly after World War I with four 12-inch mortars from Battery Clark at Fort Stevens, was named for Brig. Gen. Francis L. Guenther (died 5 December 1918). Two 6-inch long range rifles on barbette mounts were placed at Fort Canby during World War II (Battery 247). A similar installation at Fort Columbia (Battery 246) was never completed.

61. These batteries were named for explorer Capt. Meriwether Lewis,



By 1902 the U.S. Army Corps of Engineers had built three more concrete armament sites along the river. These became three designated batteries: Battery (James) Pratt, to the right of West Battery and between it and the earthwork, mounted two 6-inch rifles on disappearing carriages; Battery (Constant) Freeman, placed within the earthwork, including two 6-inch rifles on barbette carriages with heavy metal shields and one 15-pounder rifle on a pedestal mount; Battery (Elias) Smur, to the right of the earthwork, upriver, mounted two 15-pounder rifles, also on pedestal.⁶²

Another concrete site completed at Fort Stevens in 1899 was inland and a few hundred yards south of Battery Pratt. This installation, named Battery (William) Clark, when mounted contained two pits of four 12-inch mortars each.⁶³

Battery (David) Russell, the last of the concrete emplacements built at Fort Stevens, was completed in 1904.⁶⁴ Its location

of the Lewis and Clark Expedition, 1804-1806; for Col. Leverett Walker, Coast Artillery Corps, and Commanding Officer, Fort Stevens 1906-1907 (died 29 October 1907 after leaving the command); and for 1st Lt. (Brevet Captain) Lyman Mishler, 5th U.S. Infantry, who was killed in action at Valverde, New Mexico, 21 February 1862.

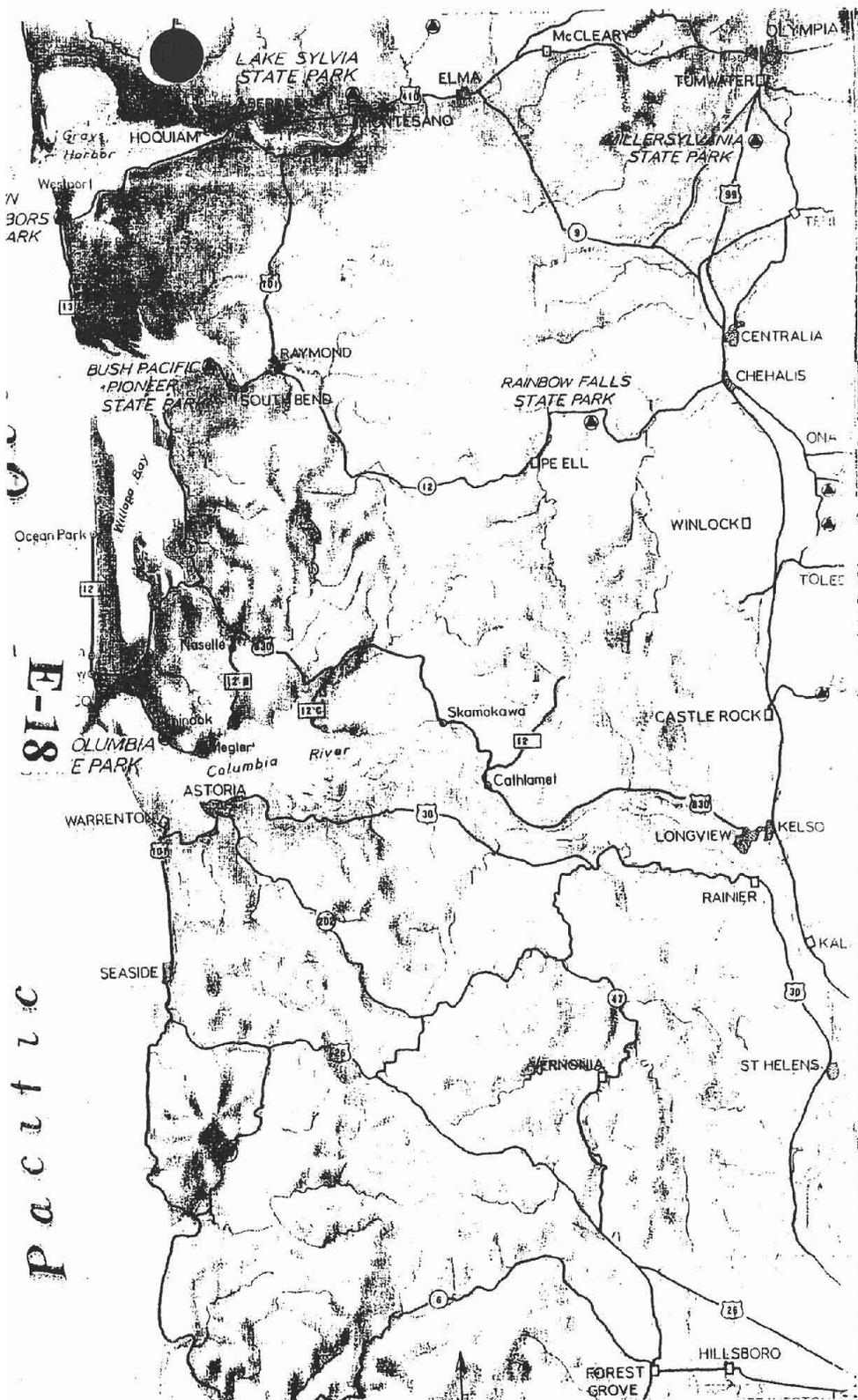
⁶² These batteries were named for 1st Lt. (Brevet Captain) Jan P. Pratt, 11th U.S. Infantry, who was killed in action at Bethes Church, Va., 29 May 1864; for Lt. Col. (Brevet Colonel) Constant Freeman, Corps of Artillery, who served during the Revolutionary War and War of 1812 (died 27 February 1824); and for 3rd Lt. Elias Smur, 4th Riflemen, who died 19 October 1814 of wounds received at Lync Creek, Upper Canada.

⁶³ Named for explorer Capt. William Clark, with the Lewis and Clark Expedition, 1804-1806.

⁶⁴ The two 6-inch long range rifles of Battery 245, established during World War II west of Battery Mishler (used then as a command post), were significant to the defense of the Columbia River, but their barbette mounts were not really emplaced in the sense the large guns of the other batteries were.

Battery Russell was named by General Order No. 194, War Department, 27 December 1904, in honor of Bvt. Maj. Gen. David A. Russell (Major, 8th U.S. Infantry), who was killed in action at Opequon, Virginia, on 19 September 1864.

The emplacement for the battery was constructed in the year it was named, but the installation of the disappearing carriages and the actual mounting of the two 10-inch rifles, as well as other necessary preparations prior to test firing, all consumed a considerable amount of additional



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BOOKS 979.7

Hussey, John A

Chinook Point and the story of Fort Colu



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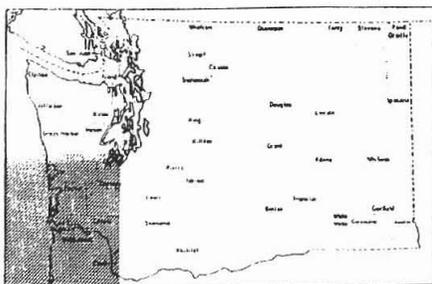
CHINOOK POINT

And the Story of FORT COLUMBIA

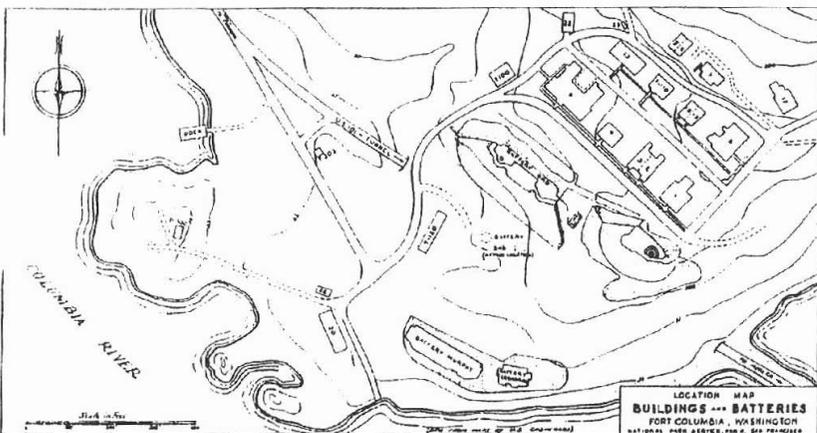
Chinook Pt. ●
Columbia River

By John Hussey

979.7
HUSSEY



The relief map used on the front and back cover and state the map (left) were especially prepared by Dr. John Sherman of the Cartographic laboratory, Department of Geography, University of Washington.



E-18

- | | | |
|---|---|---|
| 1—Captain's Quarters | 8—Hospital | 25—Oil House |
| 2-3—Lieutenants' Quarters | 9—Artillery Barracks | 26—Power Plant eng.
(Search Light Power Plant) |
| 4—Administration Building | 13—Quarter Master &
Subsistence Storehouse | T-100—Post Exchange &
Bowling Alley |
| 5-6—Noncommissioned
Officers' Quarters | 17—Surgeon | T-120—Officers' Quarters |
| 7—Hospital Stewards'
Quarters | 20—Ordnance Storehouse | T-302—Powerhouse |
| | 22—Fire Appr. House | T-303—Gate House |

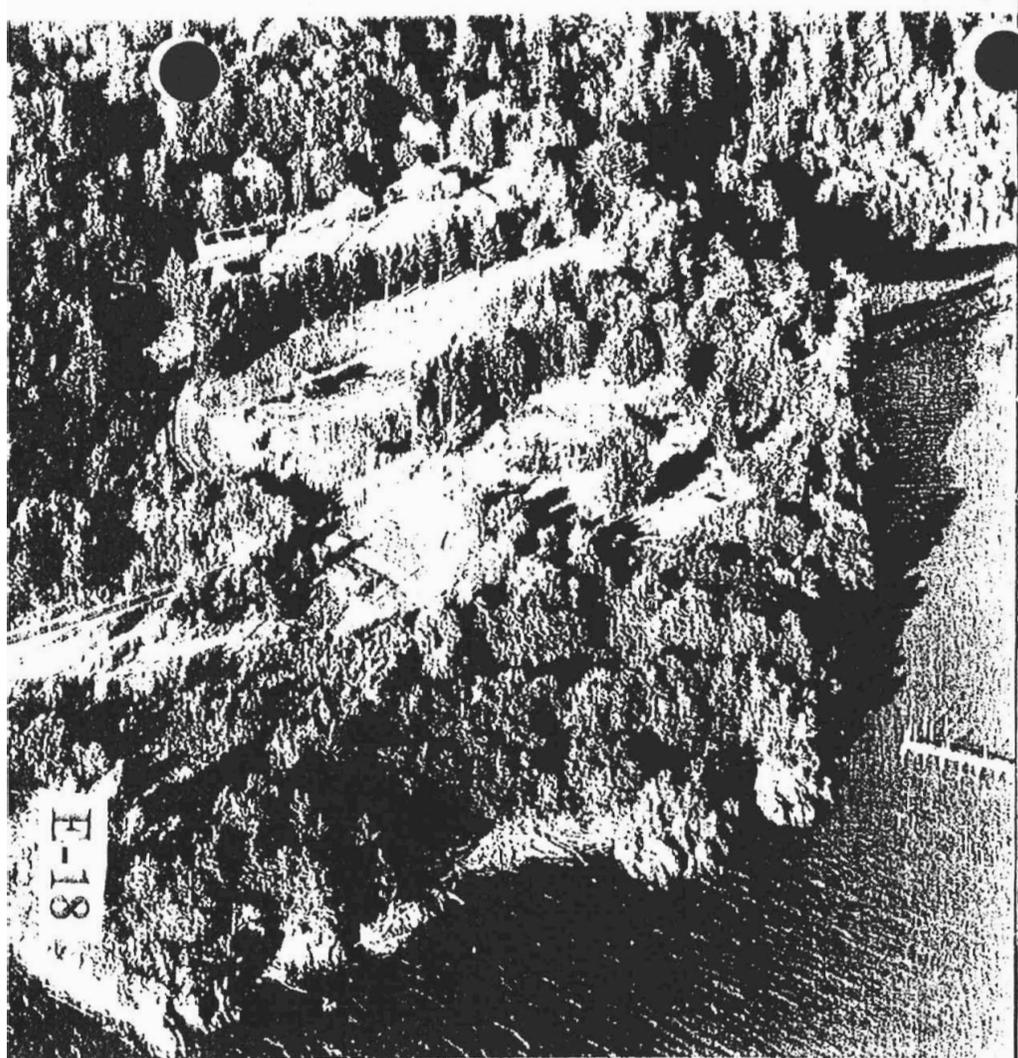
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Revised 1967

WASHINGTON STATE PARKS AND RECREATION COMMISSION
OLYMPIA, WASHINGTON
CHARLES H. ODEGAARD, Director



Fort COLUMBIA is one of three fortifications built by the United States to guard the mouth of the Columbia River. Erected during the period when wars were fought only on the ground and on the sea, it was declared obsolete after World War II. In 1950 a large part of the Fort Columbia Military Reservation was transferred to the State of Washington to be preserved as an historic monument by the State Parks and Recreation Commission.

Virtually intact except for its armament, Fort Columbia remains in appearance a typical coast artillery post of the late 1890's and early 1900's. It is reminiscent of one of the great strategic concepts which long dominated American military planning—the idea that our harbors could be made safe from invasion by a system of massive fixed defenses.



- Courtesy Aero-Marine Photos, Tacoma

This aerial view shows Chinook Point, the prominent point of land closely associated with events of three centuries, from Gray's discovery of the Columbia in 1792 until World War II when modern coast artillery batteries were added to Fort Columbia's outdated gun installations. The picture shows some of the fort structures, built just before the turn of the century, with Highway 101 running beneath the point through a tunnel constructed originally for a narrow gauge railway. At lower right can be seen remnants of the long dock that served the fort in earlier days when all supplies were brought in by water.

CHINOOK POINT

And the Story of FORT COLUMBIA

By John Hussey

*F*ORT COLUMBIA stands at Chinook Point on the north shore of the Columbia River opposite, and about six miles within, the stream's mouth. The point is a hilly spur jutting westward into the river between the towns of Megler and Chinook. It was named in 1792 by Lieut. W. R. Broughton, of Vancouver's exploring expedition, after a nearby Chinook Indian village.

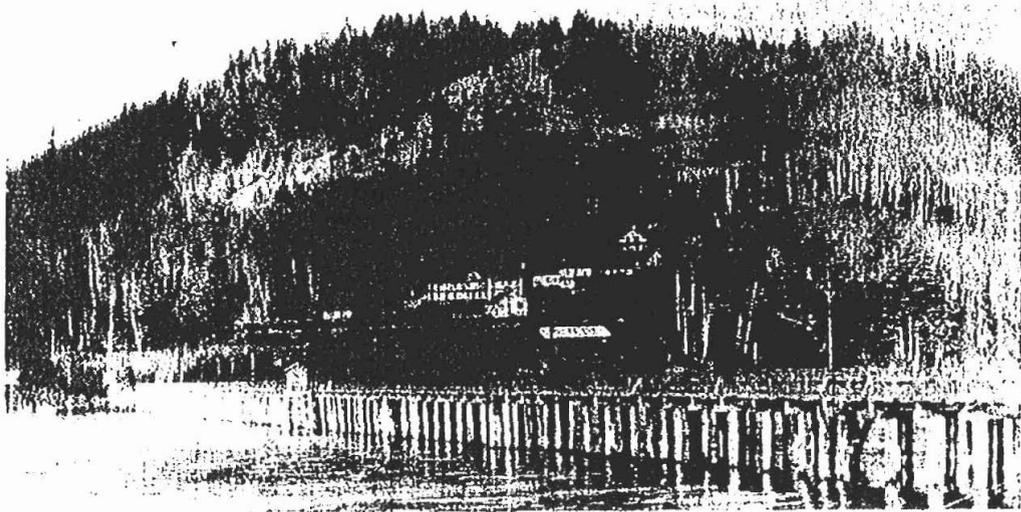
Rising sharply to the north and east of Chinook Point is Scarboro Hill. This peak, about 840 feet high, is the most prominent natural feature of Fort Columbia Historical State Park. Standing at the western edge of a range of hills and presenting a bold face to the sea, it is a conspicuous landmark when seen from the mouth of the Columbia.

When first viewed by white men, the hill was even more noticeable than at present. In contrast with the densely wooded slopes of the adjoining range, the western and southwestern face of Scarboro Hill was largely bare, covered only with grass, ferns, and low shrubs. As late as 1858 the geographer George Davidson was able to say that "no other hill in this vicinity possesses this peculiar feature." In recent decades, however, the forest has blotted out much of the open space.

Scarboro Hill has been known by several names during the last century and a half. When the famed explorer and fur trader of the North West Company, Alexander Henry, climbed the peak in 1813, he noted in his journal that it was called "the Chinook Hill, or Red Patch." The latter name, he said, came from the fact that the grass and ferns on the face of the hill formed a reddish spot when seen from the sea during the fall and winter.

The term "Chinook Hill" was the one most commonly used during the 1840's; but in 1850 Captain James A. Scarborough moved permanently onto his land claim on the hill, and his name gradually became

The author, John Hussey, Ph. D., is a historian on the staff of the National Parks Service. He made the historical study of Fort Columbia leading to its designation as an historic area worthy of preservation and interpretation by the State of Washington. He has made similar studies of Fort Vancouver, now a national monument, Fort Flagler and Fort Casey in Washington and a number of other historic sites in other western states.



Scarboro Hill, around 1910, showing the long dock in the foreground on which supplies for the fort were unloaded from river craft. Note that the hill behind the fort was still bare at this time, a characteristic that explorers and early mariners noted in their logs and journals.

plorers—Gray, Vancouver, Lewis and Clark, and David Thompson. With them and in their paths came the maritime fur traders, who opened a brisk traffic with the natives. In 1811 the Pacific Fur Company established Fort Astoria and began the land-based fur trade of the lower Columbia area. Two years later they gave way to the Britishers of the Northwest Company, and the name of Fort Astoria was changed to Fort George. The Northwest Company merged with the Hudson's Bay Company in 1821. During the 1830's the missionaries arrived, mostly from the United States; and the next decade saw the large-scale influx of American settlers, a movement which facilitated the peaceful acquisition of the Oregon Country by the United States.

No major or dramatic incident in this stirring pageant occurred on the ground now within Fort Columbia Historical State Park. However, most of the chief actors in the drama at one time or another passed Chinook Point on their way up or down the river. Some of them even tramped the soil of Chinook Point and the peak behind it. Many

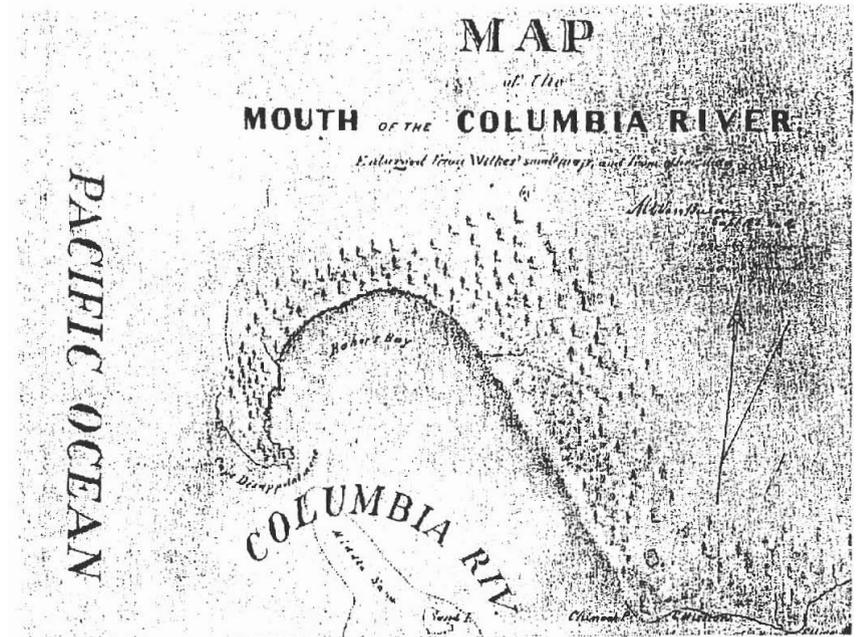
attached to the peak. It is still known as "Scarborough Hill," or "Scarborough Head." The shortened version, "Scarboro Hill," appeared on a United States Coast Survey progress map as early as 1852, and in that form the name appears on official Government maps to this day.

E-18 Because Scarboro Hill and Chinook Point were such conspicuous features of the landscape, they long proved useful as bearing points in navigating the dangerous entrance of the Columbia River. As early as 1792 the British naval officer, Lieut. Broughton, found Chinook Point to be "a good leading mark for clearing the shoals that lie between it and Cape Disappointment." For nearly half a century thereafter most sailing directions for entering the river recommended using the bare patch on Chinook Hill as a guide.

Not until the early 1850's, when the United States Coast Survey began to chart the river's mouth and when artificial aids to navigation were set in place, was Scarboro Hill discarded as a bearing mark. According to local tradition, however, fishermen continued for years to use the hill and, in particular, a beautiful hawthorn tree which grew upon its slopes from about 1848 to 1897, as guiding marks.

The Pageant of History

Beginning in 1775, when Europeans first saw the opening between Cape Disappointment and Point Adams and suspected that it might mark the mouth of a great river, a vast historical drama began to unfold in the region drained by the Columbia. First came the ex-



—Courtesy Bancroft Library, Berkeley, Calif.

This map was drawn more than one hundred years ago partly from data supplied by the United States Exploring Expedition, sent around the world during the years 1836-1842 by the Federal Government and commanded by Lieutenant Charles Wilkes. The small rectangle shown above Chinook Point probably represents the land cultivated by Captain James A. Scarborough and his wife, Ann.

Shortly after Scarborough's death, James Birnie, an old Hudson's Bay Company employee who had long been in charge of Fort George (Fort Astoria), was appointed guardian of the captain's two young sons, Edwin and Robert. On April 23, 1856, Birnie, on behalf of the minor heirs, sold the Scarborough Donation Land Claim to Rocque Duchenev for \$1,250.

Rocque Duchenev was a long-time employee of the Hudson's Bay Company. For a number of years he had served as the "very polite and hospitable" agent in charge of the firm's trading post at Chinookville. His wife was Mary Rondeau, said to have been a granddaughter of Chief Comcomly. In later years she was sometimes known as "Princess Mary." She must have been a remarkable woman, since as late as 1899 her son-in-law insisted he had "to stand guard over her even now with a shotgun to keep away her numerous suitors."

Several years after he acquired the Scarborough claim, Duchenev was killed in a fight between a salmon packing company and a fishermen's group. He was survived by his wife and six children. The family lived at or near Chinookville, some distance from the Scarborough Donation Claim, and was "neither able nor disposed" to use or improve the property. By the end of 1863 it was described as being "untenable and unproductive." About that time Mary Duchenev married Solomon B. Preble. Seemingly she and her husband had very little interest in the land at Chinook Point and were in a receptive mood for an offer to purchase.

Columbia River Defenses

In 1845 it appeared that the United States and Great Britain might go to war over the Oregon Country, which had been open to settlement by the citizens of both countries under a joint occupation agreement. In order to be prepared for any eventuality, the British government sent Lieutenants Henry J. Warre and Mervyn Vavasour from Canada to make a military reconnaissance of the disputed area. The two officers examined the mouth of the Columbia during the winter of 1845-1846 to plan for its defense. They recommended Cape Disappointment and Tongue Point as sites for permanent batteries. Chinook Point was among the locations they believed might serve "for temporary purposes." As matters developed, the international controversy was settled by treaty during 1846, and the Oregon Country south of the 49th parallel became United States territory.

Soon after the close of the Mexican War, the United States took measures for the defense of the vast new territory acquired in the

West as a result of that conflict and of the Oregon Treaty of 1846. Boards of engineers were sent to the Pacific Coast to select sites for fortifications. One result of such surveys was an executive order in 1852 setting aside lands on Cape Disappointment and Point Adams, at the mouth of the Columbia River, for military purposes.

The actual building of defensive works proved to be quite a different matter. The lack of adequate appropriations caused delay after delay. Finally, on February 20, 1862, Congress appropriated \$100,000 to begin permanent defensive works at the mouth of the Columbia. It is sometimes said that fear of Confederate cruisers, particularly the *Alabama*, induced the War Department to hurry the building of these forts, but correspondence of the time proves that on the part of the officers in the Northwest, at least, a "foreign war" was the threat which loomed largest on the horizon.

During the summer of 1862 officers of the Corps of Engineers were sent to the mouth of the river to prepare a plan for the defenses. They selected Cape Disappointment, Point Ellen (near Point Adams on the south shore of the Columbia), and Chinook Point as the three most suitable sites for permanent fortifications, and their recommendations were sent to Washington for approval.

Meanwhile, the War Department authorized Colonel Rene Edward de Russy, chief Engineer officer at San Francisco, to proceed with the construction of "temporary" defenses at the entrance to the Columbia. This task was assigned to Captain George Henry Elliot, and on July 4, 1863, he was ordered to go at once to the scene of operations. Cape Disappointment was considered the most important defensive position and had the further advantage of being already owned by the Government. The first works, therefore, were to be constructed there. Colonel de Russy proceeded with plans to purchase the sites on Point Ellen and Chinook Point. As it turned out, it was decided to erect the second set of fortifications not on Point Ellen but on Point Adams, where the Government already owned some land and where additional property was acquired in August, 1863. The problem of obtaining the site for the third fort was not solved so promptly.

Purchase of Scarborough Claim

Colonel de Russy opened negotiations with the heirs of Rocque Duchenev during the summer of 1863 for the purchase of the Chinook Point property, but he found himself blocked by legal questions related to the settlement of the Duchenev estate and by Mrs. Duchenev's

disinclination to settle on a price. Finally, the local probate court gave permission for the sale, and on March 7, 1864, at a public auction conducted in Chinookville, Captain Elliot purchased the entire Scarborough claim on behalf of the United States for \$2,000. At the same time and for an additional \$1,000, Mary Duchenev and her newly acquired second husband, Solomon B. Preble, signed a quit-claim deed renouncing all their interest in the property.

The deed of transfer was signed on May 24, 1864, but payment could not be made without the prior approval of the Secretary of War. This requirement caused a delay of about two years, and it was not until March 13, 1867, that the transaction was finally completed and the deed recorded.

Chinook Point Reservation, 1864-1896

In the meantime, the Engineers concentrated their efforts on completing the works already started nearer the river's mouth. The defenses at Cape Disappointment were turned over to garrison troops

April, 1864; and one year later Fort Stevens, on Point Adams, again, was ready for occupancy by line forces. Colonel de Russy planned to move his construction equipment from Point Adams to Chinook Point, but the long delay in completing the Scarborough claim purchase caused an indefinite postponement of the work.

E-18

Office U. S. Military Telegraph.
WAR DEPARTMENT.

The following Telegram received at Washington, 11 AM, Jan 16th 1864.
From San Francisco 11 AM.

Date, Jan 15 1864.

Gen. Jacob S. Silliman
Alfred D. Silliman
Genl.

The Duchenev estate at Cheenoke Point will have to be sold shortly at public auction the sale is good shall it bid it in if it exceed the amount authorized by the Army officers before me by telegram what to be
R. E. de Russy
Col. U. S. Engs

Telegram dated 1864 asking permission to bid on the "Duchenev estate at Cheenoke Point" which the Army wanted for a fort site.

— Courtesy, The National Archives, Washington, D. C

By the time the title was settled, the War Department evidently had changed its mind concerning the urgency of the need for fortifications on Chinook Point, for apparently no further action was taken upon the subject until about 1895. For three decades the Scarborough claim lay largely deserted and neglected. A very loose watch was kept over it by the troops at Cape Disappointment and Fort Stevens.

In 1869 the military authorities learned that squatters were occupying the Chinook Point reservation, and the commander at Cape Disappointment was ordered to evict them. The principal squatter was found to be Mary, the widow of Rocque Duchenev. Her second husband had died, and in June, 1867, she had married John C. Kelly, a fisherman. The officer in charge at Cape Disappointment reported that the Kellys "still cling to this land as home, living there during the fishing season, and when they cannot find any other place."

Two years later Kelly declined an opportunity to occupy the land under an agreement with the Government. He had by then left the tract and was living elsewhere. "The Scarborough claim is now unoccupied," reported the commander of Fort Stevens in October, 1871. During the next year the property was leased to a nearby resident for two years at an annual rental of one dollar.

This letter dated June 29, 1864, from Col. R. E. de Russy to Brig. Gen. Richard Delafield, chief of engineers, reports, somewhat exultantly, that the Army had been able to buy the Scarborough claim of 643 acres at Chinook Point for \$3,000. De Russy had been authorized to bid as high as \$5,000 for the land.

[Faded handwritten text, likely the beginning of the letter mentioned in the caption above.]

[Faded handwritten text, likely the end of the letter mentioned in the caption above, including a signature.]

Guns for Chinook Point, 1896-1900

After letting the forts at the mouth of the Columbia lie neglected and practically abandoned for many years, the War Department, about 1895, determined to modernize and strengthen them. Among other major features, the plans called for the installation of facilities for mining the river entrance and for the erection of the long-contemplated batteries at Chinook Point. As a result, an intensive construction program was carried out at Fort Stevens, at Fort Canby (on Cape Disappointment), and at Chinook Point during the period from about 1896 to about 1901. When the project was completed, the fortifications at the entrance to the Columbia had assumed approximately the form they maintained until World War II.

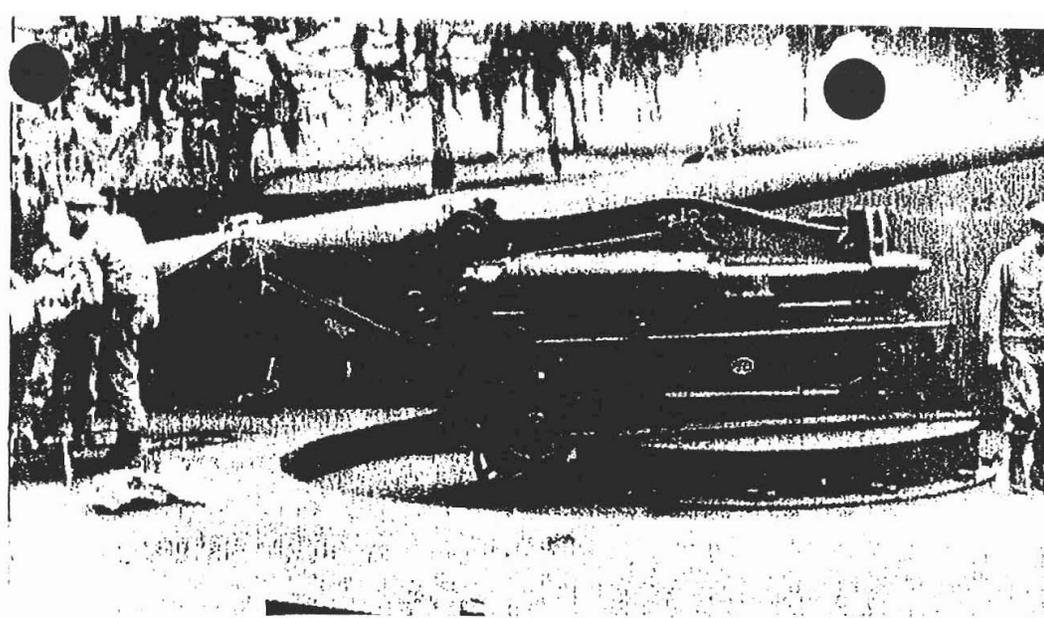
The first project authorized for Chinook Point was an 8-inch gun battery. Money was appropriated for this purpose on June 6, 1896; and plans were drawn during the fall of that year. In November a concrete mining casemate was added to the Chinook Point project.

Before the construction of the fortifications could begin, a wharf, cement plant, railroad, quarters for the work crews, offices, and other preliminary structures had to be erected.

Excavation for a battery of two guns was started during March, 1897, on the slope of Scarborough Hill at an elevation of about 100 feet. Major concrete work was finished in September. The rock for concrete was taken from Coffin Rock, near the mouth of the Cowlitz River, and floated down the Columbia on barges. By April 25, 1898, two 8-inch rifles with disappearing carriages, U. S. Model 1896, were mounted. A third emplacement, for one 8-inch rifle, was started in August, 1897, and completed in May, 1898. It stood a short distance southeast of the other two emplacements. Its gun was on hand by June 30, 1898, but the experimental carriage, Model 1894, had not yet reached the site.

This line of three 8-inch rifles was later known as "Battery Ord." It was named for Lieut. Jules Garesche Ord, 6th U. S. Infantry, who was killed in action at San Juan Hill in Cuba, July 1, 1898. According to family tradition, he stopped to give a wounded Spaniard a drink of water, and the Spaniard shot him. After the armament of this battery was removed during World War I, the southern emplacement was filled with dirt. Its remains may be seen today near the former commanding officer's quarters.

By July 16, 1898, the work contemplated in the first allotments for Chinook Point had been finished; and on that day the Engineers turned the emplacements, the ordnance, and the concrete mining



One of the six-inch disappearing guns at Battery Murphy, which guarded the entrance of the Columbia River at Fort Columbia from 1900 through World War II.

casemate over to the commander of Fort Stevens. Eleven men of Company M, 3rd Artillery, were sent over from the latter post on July 15, 1898, to guard the new fortifications. They were the first troops to staff the future Fort Columbia. They were quartered in the bunk house and carpenter shop left by the construction crews.

Additional fortifications were built on Chinook Point during the next two years. Battery Crenshaw, consisting of three 3-inch rapid-fire guns, was constructed low on the south side of the point. It was turned over to the Artillery on June 28, 1900. Almost adjoining it to the northwest was Battery Murphy, completed on June 29, 1900. It contained two 6-inch, disappearing-type guns.

Garrison Housing, 1899-1906

Meanwhile, preparations were being made to garrison the new post. In order to assure an adequate water supply, 86 additional acres adjoining the northeast corner of the Scarborough claim were acquired in 1899. The principal buildings needed to house a garrison were erected on the hillside above the batteries. Completed by the end of 1902, these structures included a large barracks, one single and one double set of officers' quarters, one double set of non-commissioned officers' quarters, a hospital, a guard house, and an administration building. All were of frame construction.

Shortly after the completion of this work, the post was inspected by Army authorities. The new buildings, reported the Inspector General, were "complete and commodious," but he noted the absence of recreational facilities, so important in an isolated and uneventful station. This shortcoming was partially remedied by the addition of a gymnasium in 1906.

Another important step in the development of the new post was the assignment of a name. Formerly known simply as "Chinook Point," the new installation, by order of the President, was officially designated "Fort Columbia" on July 13, 1899.

Fort Columbia, 1903-1939

From 1898 until 1903 only a small caretaker detachment was maintained at Fort Columbia. The first regular garrison arrived June 23, 1903. It consisted of one officer and 23 men of the 33rd Company, Coast Artillery, from Fort Canby, Washington. The rest of the company followed on June 30; and the next day, July 1, 1903, the headquarters of the new post were officially established. The first commanding officer was Captain Brooke Payne.



Officers row at Fort Columbia around 1910 when the fir trees along either side of the street were still small. Barracks (now museum) at left. Commanding officer's house at right.

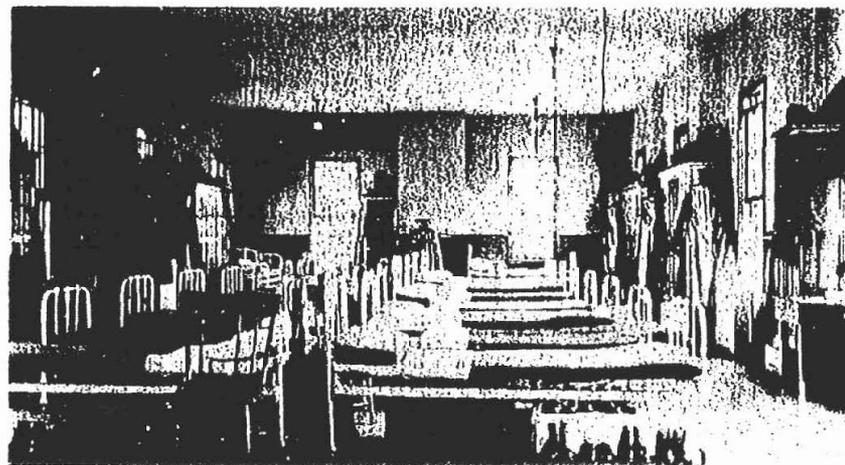
Until World War I the garrison at Fort Columbia generally numbered about four officers and 100 men. The outbreak of hostilities in 1917 resulted in a considerable expansion of the forces stationed at the Harbor Defenses of the Columbia. The Coast Artillery units of the Oregon National Guard were mobilized there. Fort Columbia shared in the increased activity, and its facilities were renovated and

modernized. However, the war actually brought about a decrease in its defensive strength, since its three 8-inch guns were removed for service on railroad mounts overseas.

Following World War I the Harbor Defenses of the Columbia were reduced to a state of almost complete inactivity. Only one company was maintained at Fort Stevens in Oregon, and from it small caretaker details were drawn for Fort Canby and Fort Columbia. For a number of years one sergeant and one or two other enlisted men constituted the sole force at these latter posts, and their duties were not arduous. It is reported that they had plenty of time to keep cows and sell milk to neighboring fishermen.

General Douglas MacArthur recommended "partial disposal" of Fort Columbia during a Government economy drive in 1931, but no action was taken. The quiet of the post was broken only for about two weeks each summer, when National Guard units manned Battery Murphy for training purposes.

Interior of main barracks (museum building) showing arrangement of beds and lockers in large second floor room.



Fort Columbia in World War II

Unsettled world conditions resulted in increased War Department appropriations in 1939, and the garrison at Fort Stevens, headquarters of the Harbor Defenses of the Columbia, was increased. On September 16, 1940, the 249th Coast Artillery Regiment of the Oregon National Guard was ordered into active service and, after a period of training,

was employed to further strengthen the Columbia River defenses. Battery B, 249th Coast Artillery, was sent to Fort Canby on February 21, 1941, and a detachment from that unit took over guard duty at Fort Columbia. About the same time construction of barracks to house additional troops at Fort Columbia was begun, and the old buildings of 1902 vintage were rehabilitated.

On March 17, 1941, Battery D, 249th Coast Artillery, went to Fort Columbia from Fort Stevens, thus activating the post. Battery Murphy was activated on the same day. In September Battery D was replaced by Battery C, 18th Coast Artillery. This unit was at the post on December 7, 1941, when Japan attacked the United States.

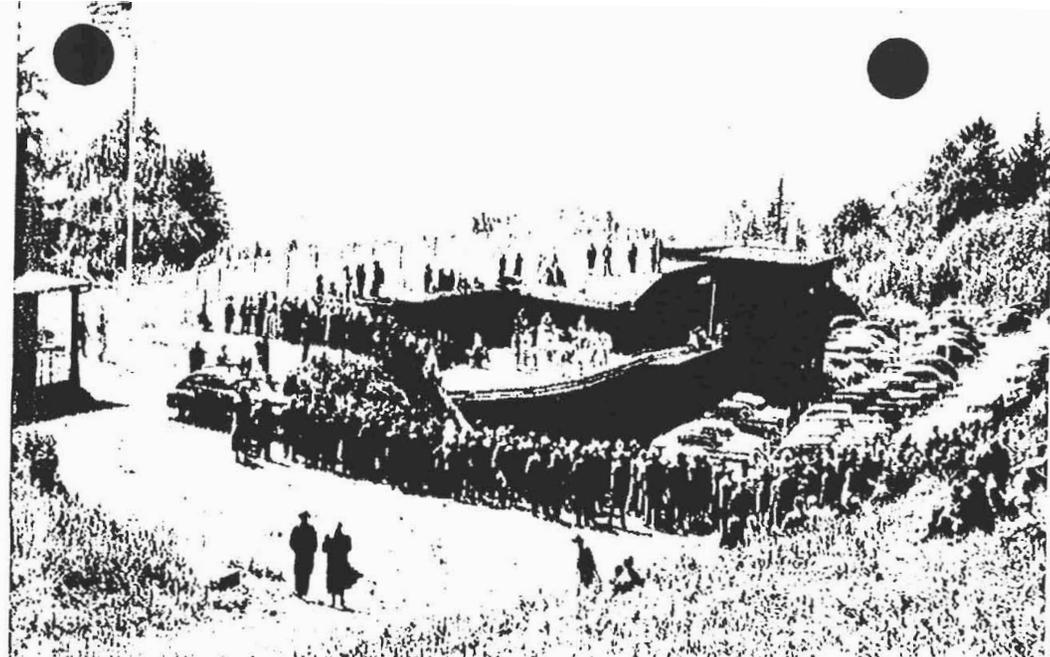
The declaration of war greatly increased military activity in the Harbor Defenses of the Columbia. Among other measures, the mine fields at the river entrance were put in a state of readiness. Improvements made in the mine control equipment at Fort Columbia during the war included a new gas-proof and splinter-proof casemate and modern mine control communication facilities.

Long before World War II the War Department realized that the armament of the Harbor Defenses of the Columbia was out-moded, and planning boards had worked out projects for the installation of weapons capable of coping with modern naval craft. Under the impetus of war, these plans were put into effect.

B-18

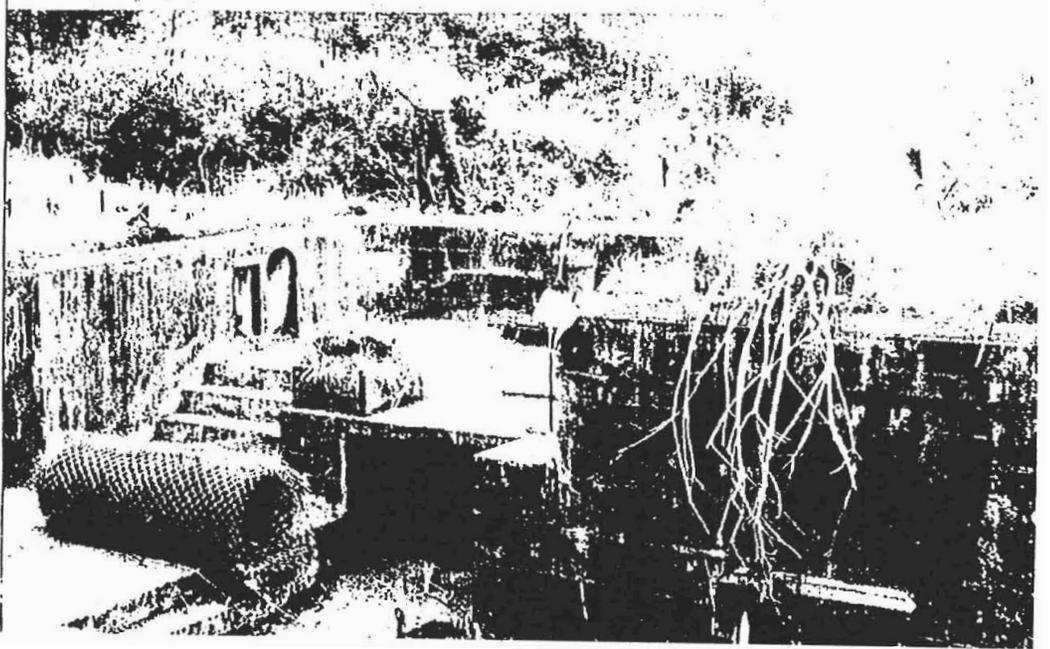


Fort Columbia served as a summer time National Guard encampment for many years. Here a group of Guardsmen are shown camped, around 1912, behind Battery Ord with barracks and officers' houses in the background.



Picture at the dedication of Fort Columbia State Park on June 17, 1951, when a group of Pacific County young people staged a pageant, using the platform of Battery Ord for a stage.

A field day was held at Fort Columbia shortly after the State Parks Commission took over the property and numerous Pacific County men helped clean up the long deserted area. Here three workers are shown digging out Battery Crenshaw. Both photos on this page by J. M. McClelland Jr., vice chairman of the Parks Commission, who directed the planning and initial development of Fort Columbia Historical State Park.



At Fort Columbia the principal result of this program was the installation of Battery 246 on Scarboro Hill between Battery Murphy and Battery Ord. It was to consist of two 6-inch, long-range, rapid-fire rifles mounted on barbette carriages. Begun in 1942, this battery was never completed. In connection with these improved defenses, a detached tract of 40 acres was added to the Fort Columbia Military Reservation in 1941.

Throughout its history Fort Columbia never fired a shot "in anger." No events outside the normal routine of training and garrison life appear to have occurred, except upon the night of June 21, 1912. About midnight on that day a Japanese submarine fired nine shells which fell harmlessly at Fort Stevens, Oregon. This event has been termed the only bombardment by a foreign craft of a fortification within the continental limits of the United States since the War of 1812. Observers at Fort Columbia saw the flashes and estimated the range of the enemy, but the fire was not returned. It was later explained that the submarine kept out of range of the armament then existing in the Harbor Defenses of the Columbia.

By July 7, 1915, the war had progressed so favorably that the removal of the Columbia River mine field was ordered. Several batteries were inactivated about the same time, and the garrisons of the forts were reduced.

Abandoned by Army - Becomes State Park

On March 28, 1947, the three forts of the Harbor Defenses of the Columbia were listed as surplus by the War Department. Fort Columbia was stripped of its armament, and on March 31, 1948, it was transferred to the jurisdiction of the War Assets Administration. The Washington State Parks and Recreation Commission applied for the property for historical monument purposes on August 26, 1948. After an investigation by the National Park Service, the property was determined to be suitable for use as an historical monument, and on May 12, 1950, a major portion of the reservation was transferred to the State of Washington. A ceremony of dedication was held June 17, 1951, and the old military post became Fort Columbia Historical State Park.



ABOVE PHOTO: The Regional History room of the Fort Columbia Museum.
 LOWER PHOTOS: Exhibit on the Lewis and Clark expedition is one of many such displays portraying the history of the area. Dioramas such as the one shown on this page assist in "telling the story."

F-18

GENERAL SERVICES ADMINISTRATION
PUBLIC BUILDINGS SERVICE

REQUEST FOR VALUATION SERVICE

1. DATE OF REQUEST

2. REQUEST NUMBER

10-19-58
10-19-58

10PRD-191-AR

3. REQUESTING OFFICE

Disposal Branch
Acc. & Disposal Division

4. NAME OF REQUESTING OFFICER

R. G. Deede

This form is for use in requesting valuation service of real property and related personal property. If request originates in the Central Office, submit original to the Chief, Appraisal Staff; if in the regional office, to the Regional Appraiser. Requesting office retains duplicate copy.

5. PURPOSE OF APPRAISAL (Check one)

TO DETERMINE:

- A. FAIR SALES PRICE
- B. FAIR PURCHASE PRICE
- C. FAIR COMPENSATION IN CONDEMNATION ACTIONS
- D. FAIR CONSIDERATION FOR A PARTIAL RELEASE UNDER AN EXISTING MORTGAGE
- E. FAIR VALUE IN A TRANSFER OF REAL ESTATE TO ANOTHER FEDERAL AGENCY
- F. FAIR RENTAL VALUE
- G. VALUE FOR INSURANCE PURPOSES
- H. FAIR MARKET VALUE FOR PURPOSES OF COMPLIANCE WITH THE NATIONAL ECONOMY ACT OF 1932, AS AMENDED
- I. OTHER SERVICE AS STATED:
Current Fair Market Value Determination

6. ADDRESS OF PROPERTY

A. NUMBER AND STREET

B. CITY

C. STATE

Chinook

Washington

D. NAME BY WHICH PROPERTY IS POPULARLY KNOWN, OR PLACOR NUMBER

Portion of former Fort Columbia Military Reservation GR-Wash-459A

7. LEGAL DESCRIPTION OF PROPERTY TO BE APPRAISED (Use additional sheet, if necessary)

A. LOT NUMBER, BLOCK NUMBER, NAME OF SUBDIVISION, AND CITY OR COUNTY

See attached legal description

B. METES AND BOUNDS

See attached legal description

C. OTHER

8. BRIEF DESCRIPTION OF IMPROVEMENTS (Buildings, structures, above-ground utilities, etc.)

None

A. BRIEF DESCRIPTION OF MACHINERY, EQUIPMENT, OR OTHER PERSONALTY

None

9. IDENTITY AND ADDRESS OF PRESENT OWNER

Department of Health, Education, and Welfare, 441 Federal Office Building, San Francisco, California

10. ATTACHMENTS (List here, if available, such data and documents as may be attached as, for example, maps, plot plans, working drawings, land surveys, inventories, together with the legal description of all easements, encroachments, liens, existing leases, or other encumbrances, which might affect the marketability of the property in question. Use additional sheet if necessary.)

Legal description and drawing attached. It is requested that appraisal be made on the basis of cash sale of land and timber as one unit by an appraiser qualified to appraise both timber and timber land. Fair market value determination should be furnished this office by April 10, 1958. There is no known public access to this surplus property. (over)

11. REQUESTING OFFICER

R. G. DEEDE, Signature CRIST, A & D Div.

DATE: Feb. 18, 1958

Realty Officer

10PRD

SUBJECT: Inspection of portion former
Fort Columbia Military Reservation
Pacific County, Washington
GSA Control No. GR-Wash-459A

This property is part of the 339 acre portion of former Fort Columbia reported excess to this Administration March 11, 1957 by the Department of Health, Education and Welfare after it reverted to the Government. The State of Washington made application for all of the property for historic monument purposes except 40.33 acres of land which is the subject of this inspection. The property was inspected on February 4, 1958 by the writer who was accompanied by Mr. Fred Harkness, Superintendent of Fort Columbia Historic Monument and Mr. John Brand, Property Officer, Washington State Parks and Recreation Commission.

DESCRIPTION: The property consists of a 40 acre tract, being the SE $\frac{1}{4}$ of SW $\frac{1}{4}$ Section 9, T 9 N, R 10 W, W.M., and a 1,465 ft. cable line easement approximately 24 ft. wide across Section 16 in the same Township and Range. The entire property is on a hill and is covered with timber and thick underbrush. (See attached pictures)

IMPROVEMENTS: There are no known improvements located on the property.

ENCUMBRANCES: There are no known encumbrances affecting this property. Inspection of the property reveals that there is no road or other means of public access. The County Engineer's Office, Pacific County, advises that they have no record of public access to the property and a review of records at the Federal Records Center indicate there is no access. The easement for a cable line to the 40 acre tract does not permit usage for access purposes.

TAXES AND ASSESSMENTS: Due to Federal ownership there are no taxes or assessments on this property, however, the Pacific County Assessor's office has been requested to furnish assessment values of similar and adjacent property in private ownership.

VICINITY: The property is approximately one-half mile northeasterly of Chinook, Washington on a hill surrounded by timbered lands on all sides except to the west. The Chinook River Valley directly west of the property has several prosperous looking dairy farms. The land north of subject property is state land; to the east the adjacent quarter quarter is owned by R. J. Provo, beyond which the balance

of the section is owned by Crown Zellerbach Corp.; and to the south and west the land is owned by Willapa Investment Company. (See attached drawing) The writer was able to gain access to the property from U. S. Highway 101 by walking over the logging road at the easterly end of Houtchen Street in Chinook, Washington, to a point near the east line of the NE $\frac{1}{2}$ of NW $\frac{1}{4}$ of Sec. 16, then breaking brush to the southeasterly corner of the property.

GENERAL:

The subject 40.33 acres of land was acquired by the Department of the Army during 1941 as an adjunct to Fort Columbia for observation post purposes. After the Fort was deactivated it was reported to General Services Administration. Subject property is portion of the 339.06 acres of land which was assigned to the Department of Health, Education and Welfare for disposal to the State College of Washington for educational purposes in connection with the College's forest research program. Because of lack of funds it was not used and reverted to the Federal Government by Bargain and Sale Deed dated February 15, 1957. The property was reported excess March 11, 1957 and determined surplus May 22, 1957. The Washington State Parks and Recreation Commission has made application for approximately 298.73 acres of land acquired prior to 1900 for historic monument purposes which leaves the 40.33 acres remaining available for other disposal.

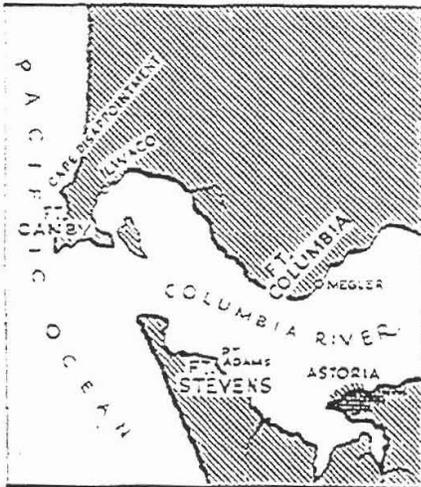
INTEREST IN THE PROPERTY:

It is believed that the amount of merchantable timber on this property will be its major attraction. The land has a good stand, principally of Fir and Hemlock with some Cedar, Pine and Alder. The quarter directly east, which has a similar stand of timber, has been cruised for the County Assessor and has a reported value for assessment purposes of between \$6,000 to \$8,000.

There will be considerable interest in this property by firms with local timber holdings as well as local residents if the property is advertised for disposal by sale. Several letters contained in the files indicate interest in the property although it is not generally known that it is surplus.

SUMMARY:

In view of the foregoing it is considered that the highest and best use for this 40.33 acres of unimproved timbered land is for the timber it will produce. Interest in the property indicates that it will be saleable following advertising.



THREE FORTS, now decommissioned, formed a triangular defensive barrier at the Columbia River.

Big Guns Once Guarded Columbia River Mouth

April 1962 *Little Linn*

By HERBERT C. DAVIS

ONE day in July a few summers back I crossed the Columbia River on the ferry from Astoria to Megler and took Route 12 toward Ilwaco, Pacific County. As I arrived at the old railroad tunnel, under Scarborough Hill, now the highway tunnel, nostalgic anticipation gripped me. I was about to see once again Fort Columbia, the Coast Artillery fort at the river mouth where I served as sergeant-major in the First World War. I drove out of the tunnel to a gate on

which a sign read, "Fort Columbia Historical State Park," and went up to the headquarters area. At first glance it looked much as I had remembered it. The scene of 40 years past flashed through my memory.

On that day in May, 1919, my unit was discharged. Colonel Doud, the fort commander, who was being retired, bid me good-bye at headquarters. He got into the officer's buckboard, behind two matched Army mules driven by a sergeant of the Quartermaster Corps, and rode down the hill to the long pier where the boat to take us to Fort Stevens waited.

The rest of us marched down in loose order and glanced back to the 4th Company Columbia Barracks that had been our home.

We passed Battery Murphy, remembering the gunnery skills we learned there; we passed the guardhouse and thought of those who had stopped there for a while; we looked up to the top of Scarborough Hill, where many of us had done duty at the range-finders, 300 steps up the hill above the guns.

I doubt if any of us gave a single thought to what would happen here after we left.

THE Coast Artillery forts were different from other Army posts. They were "home" to the men. We became part of them; we had permanent, specialized duty. The enemy must come to us. The guns became old friends.

Early in the war, the eight-inch guns from Battery Ord had been shipped to France for railroad duty. But Batteries Murphy and Crenshaw and the mine-field casemate still were there to do their job.

Now, more than 40 years later, the buildings are in good condition, freshly painted the same old yellow. The 4th Company Barracks holds a wonderful museum of Southwestern Washington. The commanding officer's quarters is a museum for the Daughters of the American Revolution, holding historical items of national significance.

The guardhouse was moved in the Second World War to make room for the modern Battery 246. The mine-control casemate is buried in a jungle.

Little trees planted in 1918 now tower 50 feet and sturdy tables are scattered among them. A picnic ground is developing on the flat where the quartermaster kept the mules.

Truly a sword has been beaten into a plowshare.

LIFE returned to the old girl in the Second World War. Installation of two modern, long-range six-inch rifles was started but never finished. The old guns were oiled up, but never used.

Then came the end. The war was over; all guns were removed, and the fort became a place of peace and recreation. Visitors, as they sit under the trees at the tables, like to hear the story of her beginnings and heydays.

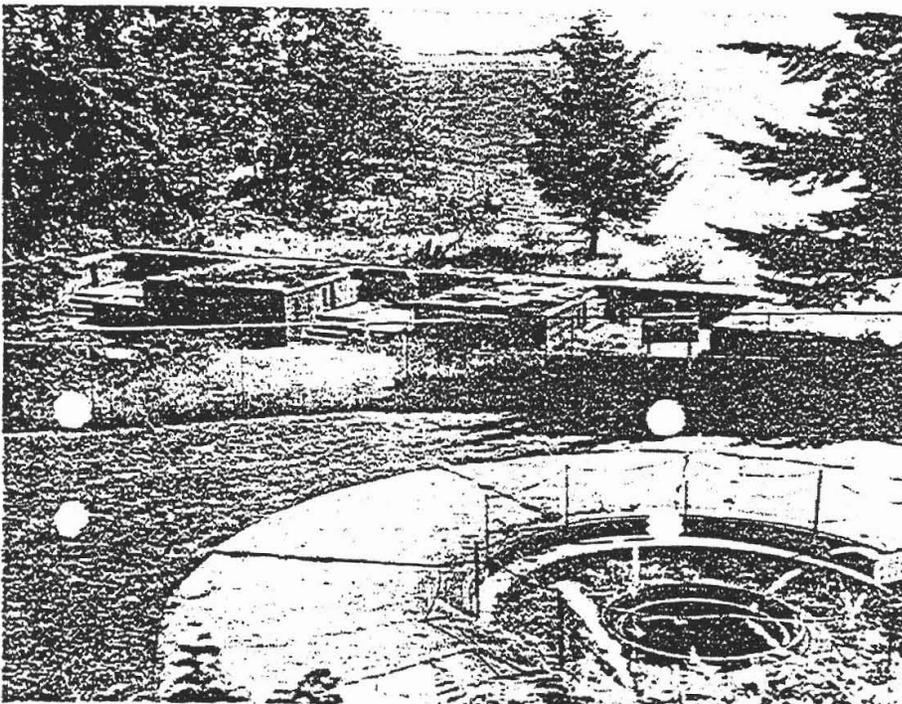
The ancient castles of Europe were fortresses. The old coast forts of America, such as McHenry and Sumter, were patterned after them. By the end of the Spanish-American War these forts were obsolete, vulnerable to naval guns mounted on ships.

Around the turn of the century, the concept of the disappearing gun, the mortar battery, hidden behind a hill or excavated rampart, brought the coast-defense forts and the Coast Artillery Corps of trained specialists to man them.

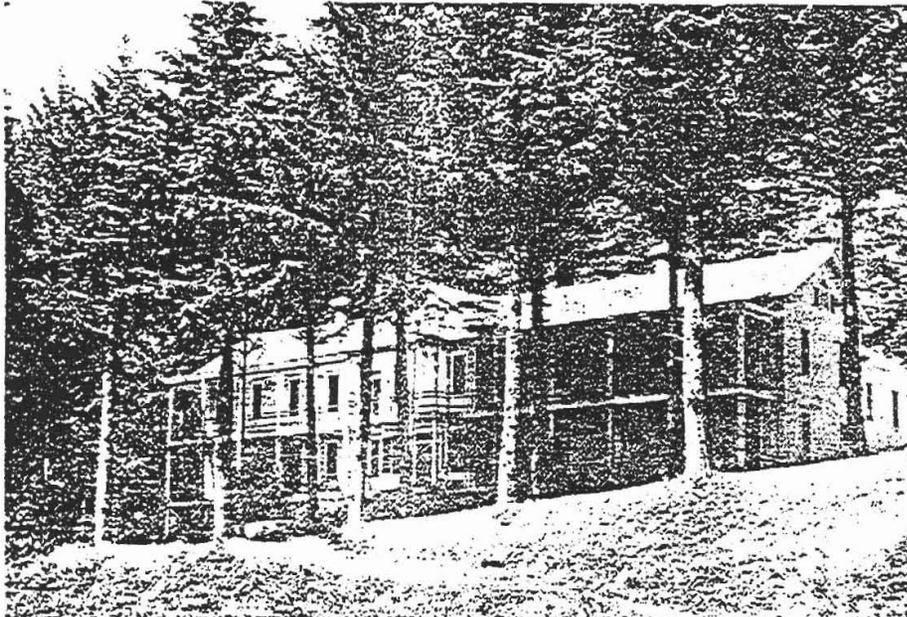
Now, the great coast-defense forts are gone. Fixed artillery, disappearing guns, barbette mounts with recoil systems and monster mortar batteries that could snoot nearly straight up are obsolete. Many of the men who manned them in the First World War are gone.

The first airplane to leave the deck of a ship ended the forts' usefulness; they no longer were hidden. The landing craft of the Second World War finished the job started by the aircraft.

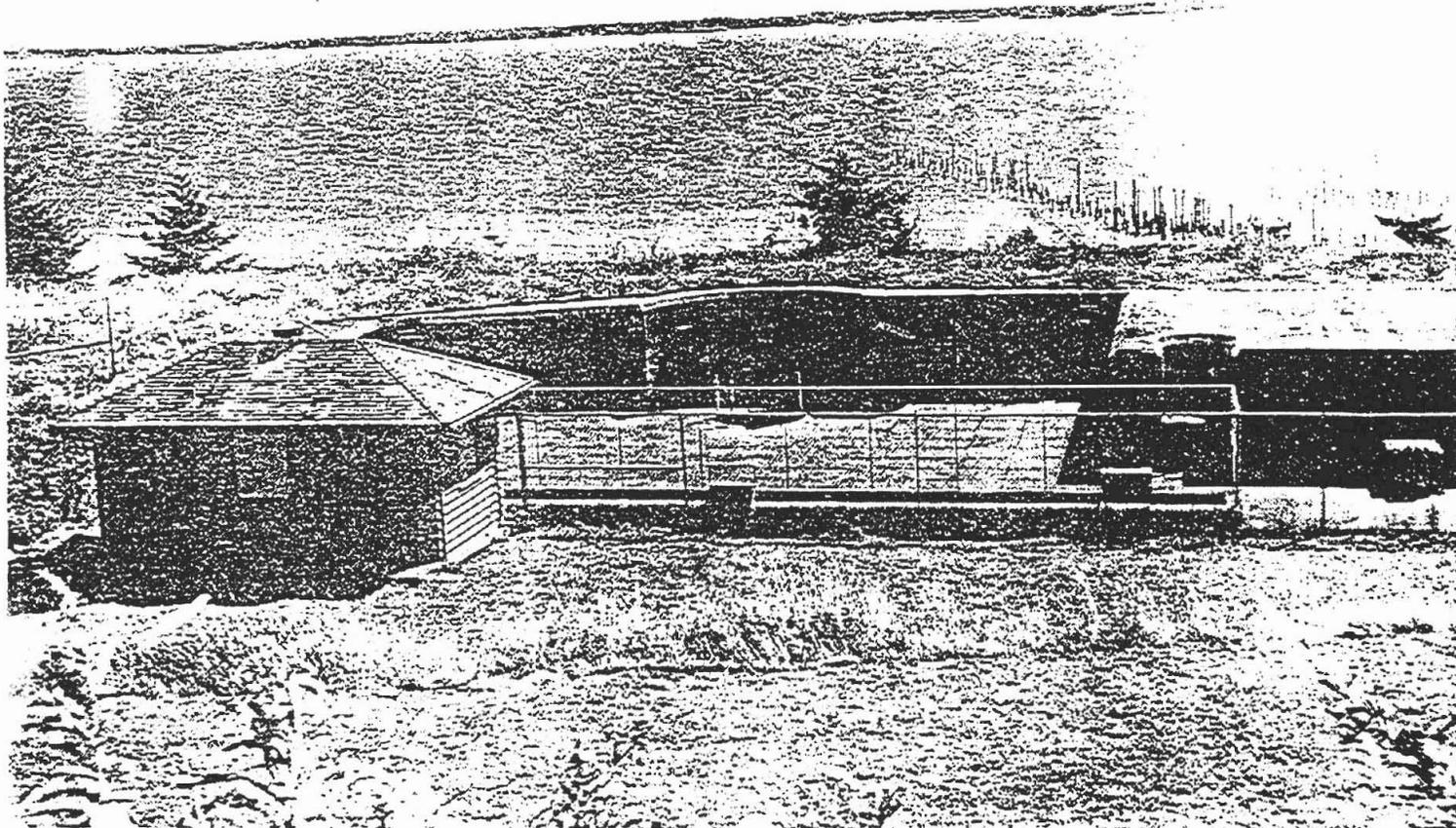
The military organization known as the Coast Defenses of the Columbia consisted of three forts,



GUNS formerly mounted at Fort Columbia commanded a stretch of river above the mouth. Battery Crenshaw, center, was installed in 1898. Battery 246, lower, was a Second World War unit.



THE BARRACKS BUILDING of 4th Company of Fort Columbia houses a Southwestern Washington museum.



EMPLACEMENTS of Battery Murphy and remnants of a pier recall Fort Columbia's active past. The fort now is a state park.

strategically situated in a triangle. Headquarters was at Fort Stevens, Ore., on Point Adams, at the south side of the Columbia River mouth.

This post first was occupied in 1865 by the 8th California Infantry. The armaments, installed in 1900, were Battery Lewis, six ten-inch disappearing rifles and Battery Clark, eight 12-inch mortars. The fort was inactivated in 1947, the guns were removed and the land was transferred to the Corps of Engineers.

North of the mouth of the Columbia, on Cape Disappointment, was established Fort Disappointment, garrisoned in 1863 with California and Oregon volunteers. The name was changed to Fort Canby in 1875.

Armament, installed in 1898, included Battery O'Flynn, two six-inch disappearing rifles; Battery Allen, three six-inch disappearing rifles, and Battery Guenther, four 12-inch mortars.

Fort Canby was made a subpost of Fort Stevens in 1906. It was inactivated in 1947 and all of its buildings and guns were removed. Only a Coast Guard station and lighthouses are left on the peninsula.

THE jungle has taken over the Canby gun emplacements and one needs a machete to reach them. This earliest of the reservations at the mouth of the river has gone native, fast returning to the wild land it was before being occupied by white men. The State of Washington is contemplating establishing a recreational and trailer park in a part of this area.

At the apex of the triangle was Fort Columbia, upstream on Chinook Point at the foot of Scarborough Hill. The reservation was acquired in 1864 but no fort was built until 1895.

Installation of armaments was started in 1897 and completed in 1898. They were Battery Ord, three eight-inch disappearing rifles; Battery Murphy, two six-inch disappearing rifles, and Battery Crenshaw, three three-inch rapid-fire barbette mounts. Here also was the concrete casemate from which to control the mines in the river.

Columbia was a subpost of Fort Stevens and was the key fort. Its armament was light but it controlled the mines. It had to take care of anything that got past the two other forts.

abandonment of the forts. It took 15 years for this to happen and in the meantime they enjoyed a short period of activity.

In the Second World War a Japanese submarine fired several shots into Fort Stevens. The fort did not return the fire because it could not reach such a low target.

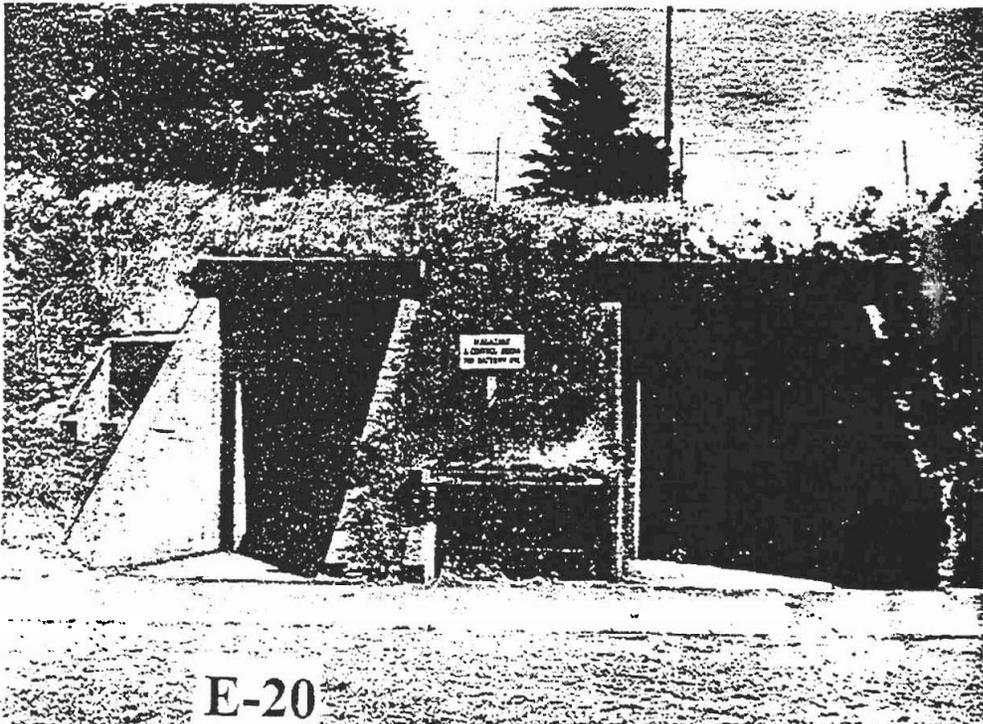
This was the only enemy action ever recorded at these forts.

March 28, 1947, the Coast Defenses of the Co-

lumbia were declared surplus, their guns were removed, the land was left vacant or disposed of. They never had fired a shot in anger.

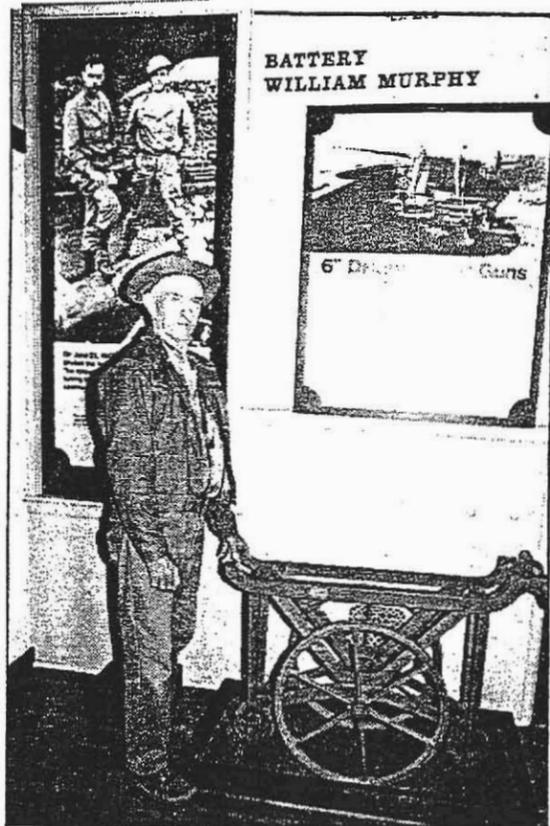
Washington acquired Fort Columbia and has made it into a beautiful historical park and recreation spot. It is hoped Fort Canby can be used for the same purpose. Oregon is planning something for Fort Stevens.

—Photos by the author.



The guns of Fort Columbia: A shot was never fired in anger

By Mike Johnston
News Editor



Paul Bruner stands beside an ammo carrier and a picture of the six-inch disappearing guns at Fort Columbia. The guns were removed after World War II.

Mike Johnston photo

They were all young Ohio boys back in 1941. Born and raised in the heart of the nation, they were drafted to serve along the western coastline for only one year while war clouds gathered in the Pacific.

Trophy Hughes, now of Chinook, was from Columbus, Ohio; Fred Harkness of Ilwaco was from Fultonham, Ohio; and Paul Bruner of Long Beach hailed from Zanesville, Ohio. They were only a few of the hundreds who came to the Long Beach Peninsula.

Work began early in 1941 to refurbish and rearm Ft. Columbia and Ft. Canby, old military guardians of the mouth of the Columbia River. The Ohio boys were drafted in February and March 1941, loaded into troop trains and sent west to Ft. Stevens along the Oregon Coast.

There they took basic army training and were all made members of the 18th Coast Artillery unit and assigned to Battery C at Ft. Columbia. Next came training at Ft. Canby with the fort's six-inch "disappearing" guns. When ready to fire, the big cannon would creep up over its concrete installation. Once fired, the recoil would cause it to retract down behind the concrete walls for reloading. They called their nest of tents at Ft. Canby "Dogpatch".

Hughes remembers first coming to Chinook by boats to the docks of Chinook Packing from Oregon after basic training. All of them remarked about how green and lush the coast seemed in comparison with Ohio. All three would later marry local women and settle on the peninsula.

Bruner said work was underway when they arrived at Ft. Columbia to get it in shape, but more work was needed. Searchlight batteries, target plotting rooms, and much more needed to be put in place. Construc-

tion of Ft. Columbia began in 1897 and was completed in 1903. This work was part of a nationwide buildup of coastal fortifications that included the expansion of existing facilities at Ft. Stevens and Ft. Canby. Ft. Columbia became a state park in the late 1940s, after the war.

Harkness said serving at Ft. Columbia was good duty and he found out how good it was after he was assigned to much larger, more impersonal camps elsewhere in the nation. Ft. Columbia's "soldier boys" were respected in the community and, because of the small town atmosphere, got to know local residents well. There were dances and other activities held on and off post along with fishing, clam digging and hunting nearby. Bruner said the troops established their own mess fund and were able to have great meals that, at times, included T-bone steaks.

But the war clouds finally gathered into a storm that broke Dec. 7, 1941.

Harkness was lining up for lunch at the Ft. Columbia dining room when word came over the radio. Japanese Imperial forces had bombed the U.S. Pacific Fleet at Pearl Harbor. All military personnel must return to duty stations and all leaves are cancelled. The night before Harkness went to a dance with Bernice Nyberg, who would later become his wife.

Bruner was on furlough and was cutting a Christmas tree in Astoria. Once he learned of the bombing, he came back to the fort immediately. Hughes had a three-day pass and was in Portland when he learned of the events at Pearl Harbor.

He reached Ft. Columbia at night by car and the guard wouldn't let the automobile with lights go up the hill to the fort on account of the strict blackout orders. Hughes said there wasn't a light anywhere to be seen. They didn't know it now, but their one year hitch was about to be lengthened indefinitely.

All soldiers were restricted to camp for several months after the start of the war. All were very busy with their camp work and practice firing of the six-inch guns. Harkness was in supplies, Hughes and Bruner were cooks. Each had a position on a gun crew to cover in case regular crew members couldn't take their responsibilities.

Military boats towed a target consisting of red canvas stretched over a frame. Hughes remembers some of the men said they were bored with the duty and wanted to go somewhere else. Many of those transferred out, Hughes said, saw military action and didn't come back.

Tension and security at the fort rose again on the

evening of June 21, 1942, when Ft. Stevens in Oregon reported that a Japanese submarine had apparently lobbed a shell into the area near the installation. Hughes remembers he was resting after duty and Bruner said he was just about ready to turn in. Harkness said at first report it was thought Ft. Stevens was taking part in night gunnery exercises.

But when the warning siren began to wail, all Ft. Columbia personnel rushed to their battle stations. Hughes was the lanyard man who would wrap the firing line around his body and lean onto it to fire the big gun. Bruner was a "powder monkey" who put the charge in and swabbed the breach after firing. Harkness handled ammunition.

Bruner remembers everyone reporting they were ready to fire when asked that evening about their status. No firing occurred. Officers felt gunfire from shore would give away their positions.

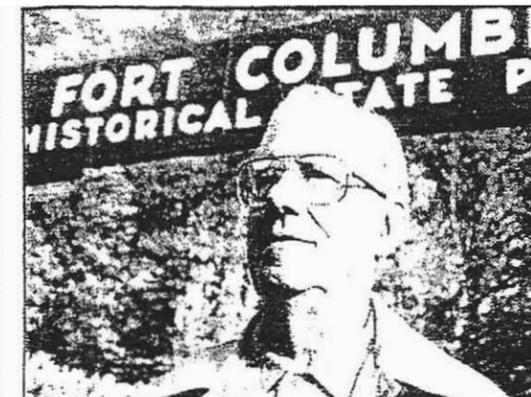
In training, the concussion from firing the big guns would violently slap clothes against crew members' bodies. Chin straps were ordered unfastened in case a concussion caught a helmet and caused head injuries.

Hughes said large search light batteries could light up the whole mouth of the river if need be. If a fishing boat or ferry vessel forgot to douse all its running lights, a steady search light beam would catch it and the vessel would be challenged to identify itself. After identification, the erring running light would go out.

As time went on, the perceived threat of Japanese attack on the coast lessened and soldiers were shipped out. Hughes was sent east for field artillery training and later was stationed overseas in Italy. Harkness was stationed in California and took special ordnance training in Atlanta, Georgia. Bruner went to different camps and finished the war cooking for a unit overseeing prisoners of war who worked at farming in Huntley, Wyoming.

They all eventually returned to the peninsula. Harkness, in 1952, was "reunited" with his old duty station when he was appointed manager of Ft. Columbia State Park after the facility was turned over to the state. Much of the improvements now seen came during his time at the unique park. Harkness retired from park work in 1977.

The lives of other men and women now living on the peninsula have been interconnected with Ft. Columbia and Ft. Canby during the war years, but not all could be brought into this article. But all of them agree, not one shot was ever fired in anger towards the enemy from the two fortifications, now major tourist attractions on the peninsula.



4-408



DEPARTMENT OF THE ARMY
NORTH PACIFIC DIVISION, CORPS OF ENGINEERS
P.O. BOX 2870
PORTLAND, OREGON 97208-2870

REPLY TO
ATTENTION OF:

CENPD-PM-MP (200-1a)

06 APR 1992

MEMORANDUM FOR

CDR, HQUSACE (CEMP-R), 20 MASS AVE NW, WASH DC 20314-1000

✓ CDR, USAED, HUNTSVILLE DIVISION, P.O. BOX 1600, HUNTSVILLE, AL
35807-4301

SUBJECT: Defense Environmental Restoration Program for Formerly
Used Defense Sites (DERP-FUDS); Inventory Project Report (INPR)
for Site No. F10WA031400, Fort Columbia Military Reservation,
Pacific County, Washington

1. I am forwarding the subject INPR for your action. The site
is determined to be a formerly-used defense site. The proposed
project is eligible for DERP-FUDS.

2. I recommend that:

a. CEMP-R approve the proposed CON/HTW project (F10WA031401)
and assign it through this headquarters to CENPS for removal
design and removal action (RD/RA).

b. CERND file this INPR.

3. The CENPD-PM-MP POC for this action is Mr. Moon-Yong Han,
P.E., FTS 423-7361 or COM (503) 326-7361.

Encl
Memo, CENPS-EN-GT-HW,
13 Dec 91

ERNEST G. HARRELL
Major General, USA
Commanding

CF (w/encl):
CEMP-RF



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-2255

CENPS-EN-GT-HW (200-1a)

13 December 1991

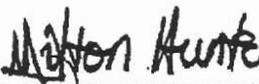
MEMORANDUM FOR Commander, U.S. Army Engineer Division, North Pacific,
ATTN: CENPD-PM-MP, P.O. Box 2870, Portland, Oregon 97208-2870

Subject: Defense Environmental Restoration Program for Formerly Used Defense Sites,
(DERP-FUDS) Inventory Project Report (INPR) for Site No. F10WA031400, Fort
Columbia Military Reservation, Pacific County, Washington

1. The enclosed INPR presents the DERP-FUDS Preliminary Assessment for the above former coastal artillery battery site. A site visit was conducted on 7 November 1991. The site survey summary sheet and site map are included in the INPR.
2. We have determined that the site was formerly used by the United States Army. A recommended Findings and Determination of Eligibility (FDE) is included in the INPR.
3. Also, we have determined that there is a potential for hazardous waste at the site which would be eligible for cleanup under DERP-FUDS. The category of waste at the site is containerized hazardous and toxic waste (CON/HTW).
4. We recommend:
 - a. Approval and signing the FDE.
 - b. Forwarding a copy of this INPR to CEMRD for information.
 - c. Forwarding a copy of this INPR to CEHND for the PA file.
 - d. Forwarding a copy of this INPR to CEMP requesting approval and funds for this district to perform the CON/HTW removal project during FY92. A cost estimate is included in the INPR.

Encl as

CF:
CENPS-RE


MILTON HUNTER
Colonel, Corps of Engineers
Commanding

PROJECT SUMMARY SHEET
FOR
DERP-FUDS CON/HTW PROJECT NO. F10WA031401
FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
SITE NO. F10WA031400

PROJECT DESCRIPTION: There are seven underground storage tanks (UST's) at four separate locations on the former Fort Columbia Military Reservation, which have not been used since the Army vacated the property. The number of UST's at each location, and pertinent information about each one follows (refer to the attached map for locations of site numbers):

Site No. 1 - One approximately 1,000-gallon tank is located at site No. 1, alongside a trail/road leading from the west side of building 20 to building 557 (New Mining Casemate). Although a diesel odor is detectable from the tank, the amount and type of residue/liquid remaining in the tank is unknown. The tank is buried approximately one foot below the ground surface (turf). Removal would require excavation, backfilling and restoration of turf. There may be buried water utilities in the area. The excavation would require fencing to minimize hazard to the public.

Site No. 2 - Two tanks of approximately 350-gallon capacity each are located about 60 feet down the left gallery of building 557 (New Mining Casemate) in a small room on the right. Past product stored in the tanks is unknown, though water plus diesel residue is suspected. The tanks are stored on a concrete floor within a wood-planked (2 x 8's) enclosure, 6-inches high by 56-inches deep and 72 inches long. Removal would require dismantling of the wooden enclosure and carrying the tanks out of the structure.

Site No. 3 - Three tanks of approximately 370-gallon capacity each are located down a steep dirt track in the apron area on the east side of building 500 (power plant). Gasoline is expected; however, two fill pipes are plugged. The area is paved with concrete, either pavers or jointed to form small squares, and would require possibly 50 feet of sawcutting, and repaving to match existing pavement. A steep narrow track to the site may inhibit access of some equipment and vehicles. As an open excavation, the site would require fencing to minimize hazard to the public, and repaving after backfilling.

Site No. 4 - One approximately 1,500-gallon tank is buried adjacent to the west wall and behind building 8, American Youth Hostel (AYH), at an unknown depth. Heating oil is the suspected use, though product could not be determined as the fill cap could not be removed. External piping includes a 2-inch-diameter vent pipe mounted about 10 feet high on the AYH wall. Centerline of tank is approximately 8 feet from the wall. The excavation would require fencing to minimize hazard to the public.

The tanks are thought to be between 50 and 60 years old, except the three tanks at Site No. 3 which were installed around 1920.

PROJECT ELIGIBILITY: The seven UST's were installed and used exclusively by the United States Army until the late 1940's.

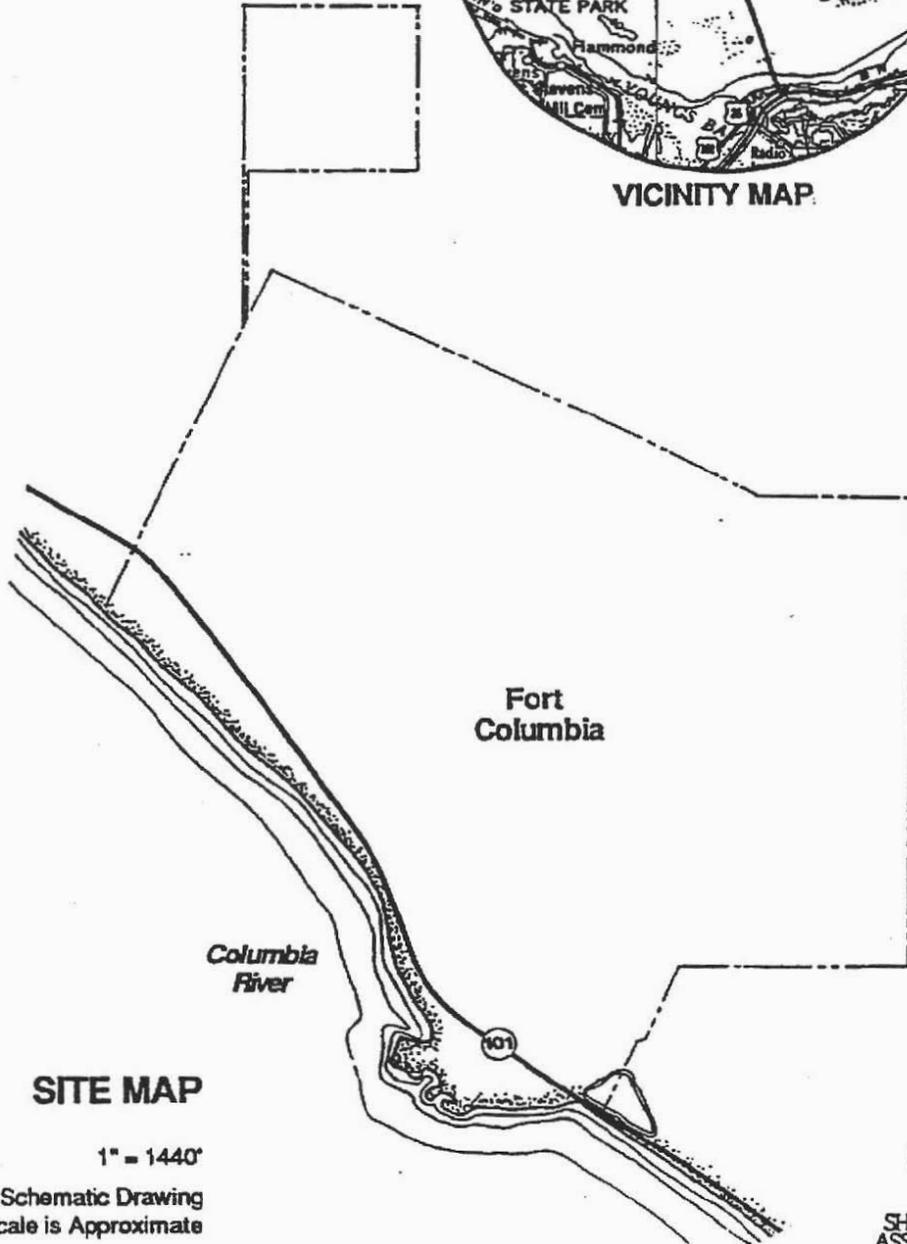
Attachment 3a Fort Columbia Military Reservation, Washington



STATE INDEX



VICINITY MAP



SITE MAP

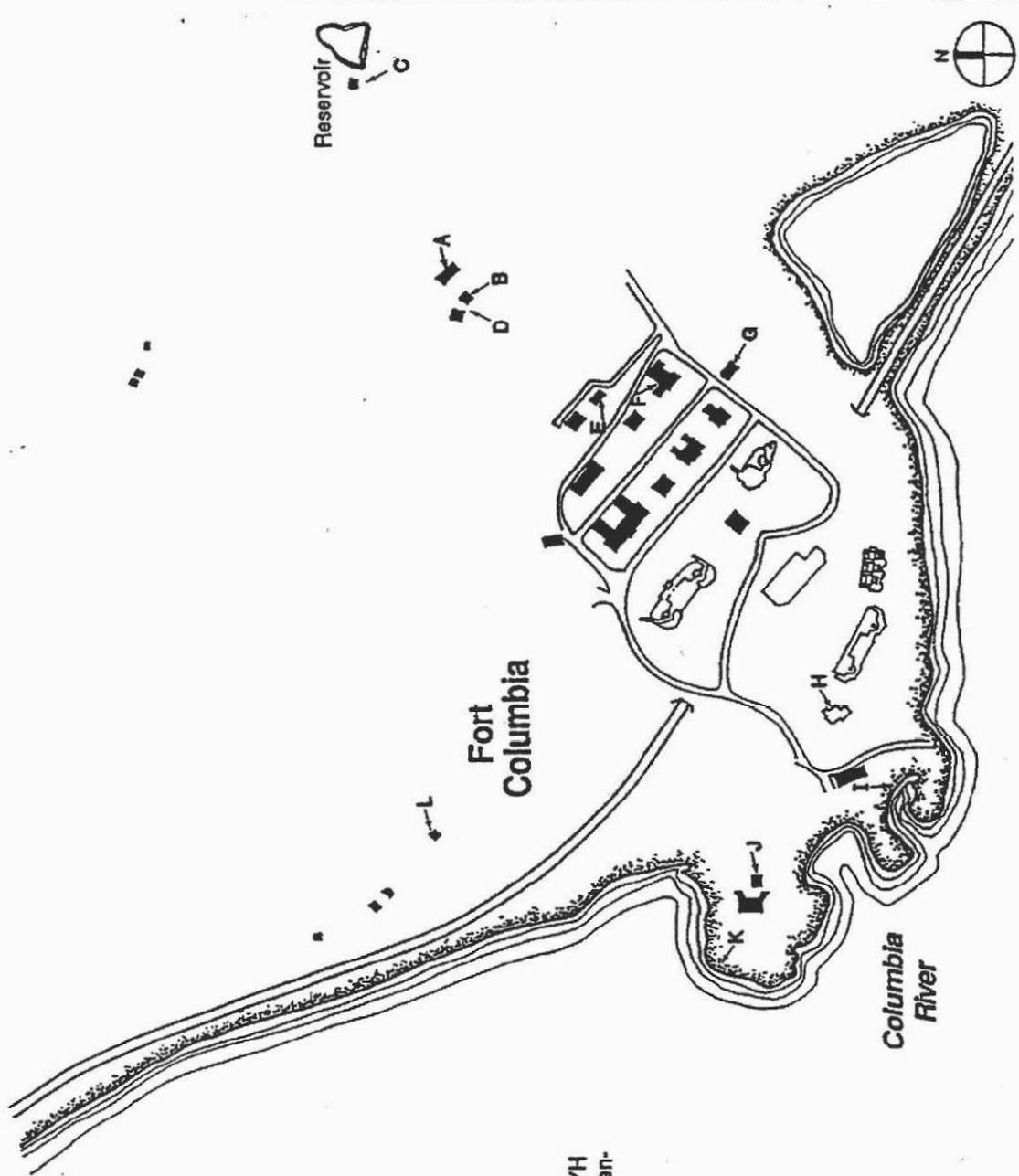
1" = 1440'

Schematic Drawing
Scale is Approximate



SHAPIRO &
ASSOCIATES

Attachment 3b Hazards at Fort Columbia Military Reservation



Key to Hazards

- A Dormitory
- B Observation Station
- C Chlorinator House
- D Open Manhole
- E Steward's House
- F Underground Storage Tank - AYH
- G Underground Storage Tank - Generator Power Plant
- H Old Mine Casemate
- I Open Manhole
- J New Mine Casemate with two Underground Storage Tanks
- K Open Manhole to New Mine Casemate Tunnel
- L Searchlight Powerhouse

Schematic Drawing
Not to Scale

SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS SITE NO. F10WA031400
FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
NOVEMBER 1991

SITE NAME: Fort Columbia Military Reservation (Fort Columbia State Park)

LOCATION: Six miles southeast of Ilwaco, Pacific County, Washington, at the mouth of the Columbia River (see attached map).

SITE HISTORY: Forts Columbia, Canby and Stevens were established during the late 19th Century to defend and protect the entrance to the Columbia River. Property for Fort Columbia, acquired between 1864 and 1941, totaled 769.68 acres. The initial period of major development of the fort began in 1895 and continued until 1904 when the first regular Army garrison was posted to the facility. Principal construction during that time included Batteries Ord, Crenshaw and Murphy, the Old Mining Casement, barracks, a hospital, powerhouse, various other support and residential structures, and an observation post. During World War II, additional structures were constructed including the New Mining Casement, searchlights, and an additional observation post.

Between 1947 and 1953, the fort property with 39 remaining military structures was declared excess. It had dwindled to 633.33 acres since 136.35 acres had been lost to erosion. The Washington States Parks and Recreation Commission obtained 618.56 acres (including 325.46 acres originally conveyed to Washington State University) for Fort Columbia State Park. Pacific County received 13.60 acres of undeveloped waterfront to be maintained for public recreation. The disposition of the remaining 1.17 acres is not known. In 1966, Fort Columbia was included on the National Register of Historic Places as a component of the Chinook Point National Historic Landmark.

Most of the former military structures, all on park property, remain intact, and a number are still in use for various purposes including an interpretive center, art gallery, museum and hostel. Several structures are vacant and some are in a poor state of repair. The Pacific County acreage was not subject to any military construction or development.

SITE VISIT: The site was initially evaluated by Shapiro and Associates, Inc., under contract to the Seattle District in July 1987. The property was re-evaluated by Christine M. Engler, Environmental Engineer with the Seattle District, on 7 November 1991. Site photographs and other pertinent information collected during various site visits are in the project file.

CATEGORY OF HAZARD: CON/HTW.

PROJECT DESCRIPTION: There are seven underground storage tanks (USTs) at four separate locations on the Fort Columbia Military Reservation (see attached map for locations of the four sites and number of UST's identified at each site). These USTs have not been used since the Army vacated the property.

FORT COLUMBIA MILITARY RESERVATION

F10WA031400

AVAILABLE STUDIES AND REPORTS: Various historical records (e.g., Washington State Parks site plans, archive drawings at nearby Fort Canby Interpretive Center, real estate records, etc.)

SEATTLE DISTRICT POC: Jonathan A. Maas, CENPS-EN-GT-HW, (206) 764-6745.

USTs at Fort Columbia Military Reservation



No. USTs/Capacities (gal.)

Site 1: 1-1,000

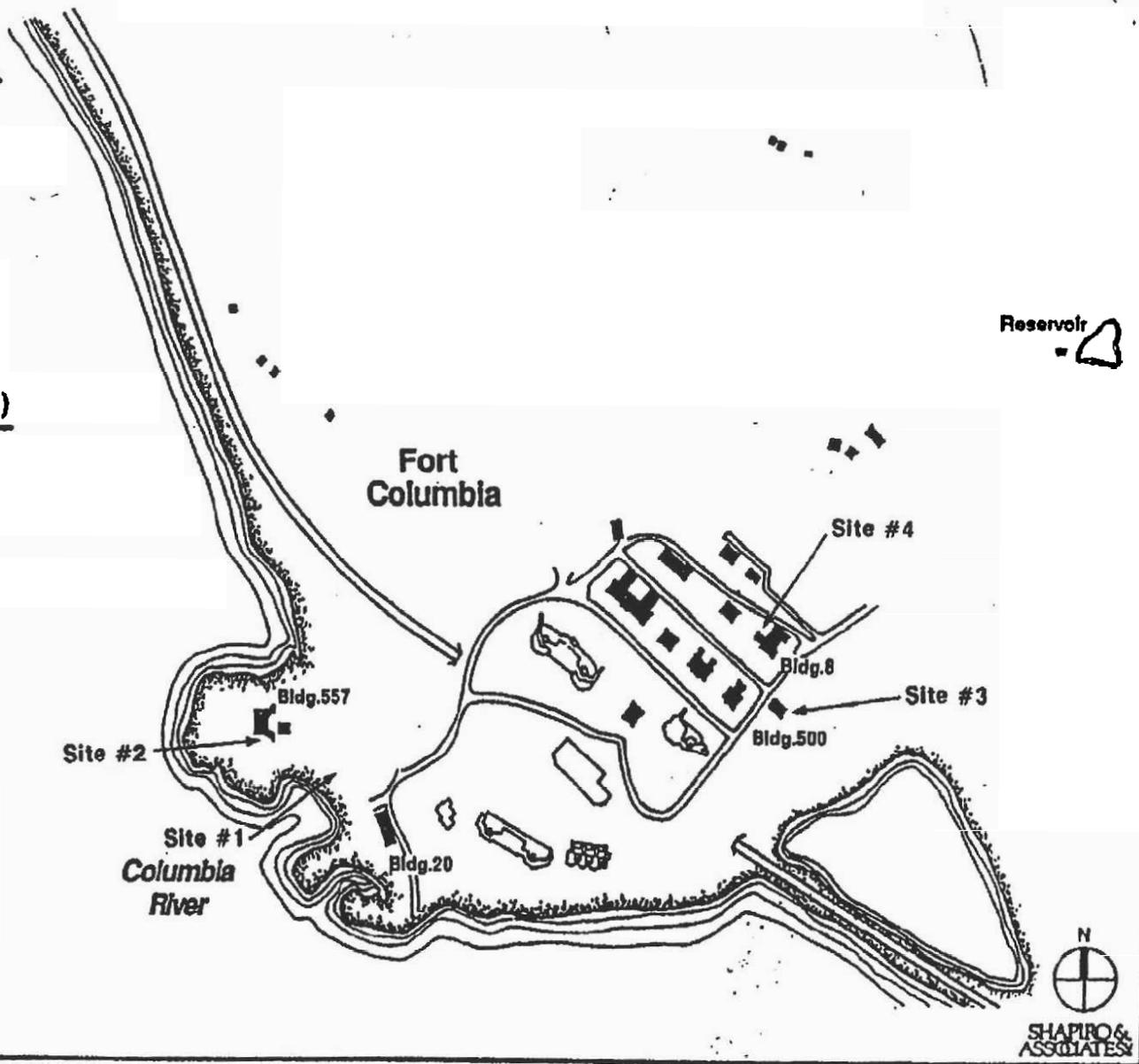
Site 2: 2-350

Site 3: 3-370

Site 4: 1-1,500

E-22

Schematic Drawing
Not to Scale



DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
FORMERLY USED DEFENSE SITES
FINDINGS AND DETERMINATION OF ELIGIBILITY

FORT COLUMBIA MILITARY RESERVATION
SITE NO. F10WA031400

FINDINGS OF FACT

1. The Fort Columbia Military Reservation is located in Sections 9, 15, 16, 21, and 22 of Township 9 North, Range 10 West, Willamette Meridian, about six miles southeast of Ilwaco in Pacific County, Washington. The site consisted of 769.68 acres acquired as follows: 643.20 acres fee by purchase in 1864; 86.15 acres fee by purchase and transfer in 1899; 40.00 acres fee by condemnation in 1941; and 0.33 acre easement by purchase for a cable line in 1941.
2. The site is a former coastal artillery installation used by the Army up until 1950. The War Department began construction at the installation in 1895. Construction continued until 1904, at which time the major structures at Fort Columbia included batteries, a mining casemate, barracks, a hospital, various support facilities and an observation post. Several more buildings were constructed during World War II, including the New Mining casemate, searchlight shelters, and another observation post.
3. In 1947 the entire installation, except for 8.10 acres fee retained for civil activities, and 136.35 acres fee lost to erosion, was declared excess. Effective April 1, 1948, the War Assets Administration (WAA) assumed custody and accountability for 624.90 acres fee and the 0.33-acre cable line easement. In 1953, the 8.10 acres previously reserved were also declared excess. Disposition of the property by the General Services Administration (GSA), successor to the WAA, was as follows: 285.00 acres fee conveyed to the Washington State Parks and Recreation Commission by quit claim deed (QCD) dated 12 May 1950; 13.60 acres fee conveyed to Pacific County by QCD dated 25 January 1954; 325.13 acres fee and the 0.33 acre cable line easement conveyed to the State College of Washington (now Washington State University) by QCD dated 8 September 1955; and 8.10 acres fee conveyed to Washington State by QCD dated 20 June 1954. Subsequently, the Washington State University property was transferred to the Parks and Recreation Commission for inclusion in Fort Columbia State Park. Final disposition of 1.17 acres fee, listed as an exception in the QCD to Pacific County, is not known.

DETERMINATION

Based on the foregoing findings of fact, this site has been determined to be formerly used by the Department of Defense. It is therefore eligible for the Defense Environmental Restoration Program - Formerly Used Defense Sites, established under 10 USC 2701 et seq.

3 April
DATE


ERNEST J. HARRELL
Major General, USA
Commanding

THE FORTS OF WHEREVER, No. 20 - THE COLUMBIA RIVER and WESTERN WASHINGTON By Robert D. Zink

Most Columbia River defense info is from the National Archives, AG411 1/2 - AG 313.6, Annexes to Harbor Defense Project, Harbor Defenses of the Columbia, 27 May 1947, in National Archives, RG407, Entry 366 Box 106. Remainder is from RG77, Entry A52-87, appropriate boxes. Recent "updates", some details, Western Washington data is mostly from Greg Hagge, remainder from RG77, Entry A52-87 appropriate box.

"Loc" identifies a World War II Location number.

COLUMBIA RIVER - From the south end of the defenses:

Inland from Camp Clatsop (Oregon National Guard), about 5 miles south of B Russell, then east to 3300 feet inland from US highway 101, was built a triple FC station (B4/5 S/5, B5/3 S5/3 and B4/1 S4/1), 9 miles north of Seaside, Oregon. In the 1930s, this was Station "X" with dormitory and "Sewell" FCS for Batteries Clark and Mishler (GJH). Loc 17 was on a prominent hilltop, altitude about 200 feet (the river between the highway and the FCS is at 20 feet). Some maps refer to this as "Columbia Beach Military Reservation".

On DeLaura Beach Road, 2 1/2 miles south of B. Russell, was built Loc 15, two FC stations (B2/5 S2/5 and B7/3 S7/3-B5/1 S5/1) and a small power plant, a few hundred yards from the sea.

In 1863, work commenced on the FORT AT POINT ADAMS, the NW point of the state of Oregon. Soon named for Isaac Ingalls Stevens, late Governor of Washington and fallen Civil War General, FORT STEVENS was completed about the time the Civil War ended. Armament included 15", 10" and 8" SB Rodman guns, and 200 pdr Parrott rifles. (part from Army Engineers History of the Portland District).

In 1896, planning and work began on "E" Fort Stevens: Batteries William Clark (8/4-12"M, M1890m1/MC1896m1, 4 to Guenther about 1920); West Btry (later Batteries Lewis + Walker, 4 -10")(still later, briefly, Lewis, 6-10") Battery Meriwether Lewis (2 - 10" M1888 guns on DC, (#1) M1896 (#2) M1894m1), Leverett H. Walker (2-10" M1888 guns on DC, M1894m1) and Lyman Mishler (2- 10" M1888m2 guns on 2 of the only 3 DC, M1896 All Round Fire(ARF) ever built) and nearby, James Pratt (2 - 6" M1897m1 guns on DC, M1898). To the east were built B. Constant Freeman (2 - 6" M1900 guns on pedestal mounts, M 1900 and 1-3" M1898 gun on Masking Parapet Mount, M1898) and farther east, Elias Smur (2-3" M1898 on MP, M 1898). Battery Freeman was built into the old earthwork. Battery David Russell (2 - 10" M1900 guns on DC, M1901) was built well to the south of the rest of the batteries, facing the ocean rather than the Columbia River. WW II Battery 245 (2-6" (T2)M1 on BC, M4) was built just west of B. Mishler, AMTB2 (guns 1 & 2-90mm M1 on M3 fixed mounts, guns 3 & 4 90mm mobile, Loc 9A) was built near the base of the Columbia River south jetty in "Jetty Sands". The HECP-HDCP Signal Station was nearby.

At one time there were plans and provisions for 4-12" railway mortars to operate from the right flank of B. Russell, that railroad track was removed about 1928. It is understood that around 1941, 8 - 12" mortars on railway carriages, part of IX Corps reserve (Fort Lewis), were stored near the coalyard

(GJH). It is also understood that 2-8" MkVIm3A2 guns on M1 railway mounts were stored on Fort Stevens thru part of WW II.

In addition to the standard gauge railroad tracks, there were (1928) 3 foot gauge "mine" tracks connecting mine storehouse and cable tanks (SW of B. Smur) with the mine loading room and mine wharf. Most of this area was Loc 11 in WW II.

Loc 10, M3/4 Mines and the main radio transmitter, were located near Battery Freeman (GJH - the radio station was on FC Hill).

The main group of fire command and control structures were built on "Fire Control Hill" 1000 feet south of B. Russell, from about 1910 thru WW II (as Loc.14 - different buildings at different times). The G1 CP-Op and SCR-296 radar for Battery 245 were also on the hill.

Battery Mishler was disarmed, given a "wood-earth" cover over the guns (GJH) and converted to HECF and HDCP, with HDOP on top; in WW II. Loc 9 included Battery 245. Beginning about 1947, the USAR used the battery as a bombing range control center with radio & radar atop a new concrete cover (GJH).

There was a Navy radio-compass (direction finder?) station 500 feet N of B Russell, 1946.

Locs 13, 12, 11 and 10 included Met and Tide station, switchboard structures, TNT magazines and other Mine Command structures.

Fort Stevens was shot at / near by Japanese submarine in WW II - June 21, 1942, firing at an alleged submarine base near Astoria.

See also FORT STEVENS Historical walking tour, available at the park.

Loc 8A, the Hammond Military reservation, had FCS Bv/2 and B"/3, the east base-end stations for B. Clark and Mishler, later for B. Pratt around WW II. Unknown whether the building stands. (GJH).

The SAND ISLAND Military Reservation (Loc 5B) had been cut in two (by storms, I assume) by 1940 - on the east half was FC station M4/4, a power plant and two small barracks. A mile west, on the west part of the island, was M5/4, a powerhouse and two small barracks.

FORT COLUMBIA (Locs 8,7,6A) is northeast across the river from Fort Stevens, on Chinook Point near Megler, Washington. The primary functions of the fort dealt mostly with minefields and their controls and protection. The fort comprised an area with mine casemate, gun batteries and housing, upstream from the rest of the defenses. The batteries were (around 1905) Jules G. Ord (below), William Murphy (2-6" M1897m1 / DC1898) and Frank Crenshaw (3-3" M1898/MP1898). B. Ord #1 and #2 were (8" M1888m1 on DC, M1886). B. Ord #3 was originally B. William Neary (8" M1888 gun on experimental 8" DC (apparently the prototype from M1894 DC). The concrete was altered to take newer, standard carriage (with gun) (M1888M2 gun on DC, M1896) the "Neary" name was transferred to Fort Hamilton, and B. Ord became 3 8" guns, all on carriages of the same model. Still later, B. Ord #3 was disarmed, the concrete is buried to the left of the rest of the battery. By 1921 B. Murphy was the only armed battery in the fort.

In WW II, Battery 246 (2-6" no guns/BCM4) was added. About 1940, an additional area due north of the west part of the

original area was added, with powerhouse, M2/4 Mines OP, and a few other structures, as Loc 6.

It should be noted that the Washington State Parks Heritage Site leaflet of a few years ago shows only about 1/10 of the area of the original fort and ignores the annex.

On turning left (toward the river) from Highway 101, the last mining casemate is a few feet from the water on its north side, on the point closest to the gate. This, B. 246 and the switchboard room (old mining casemate) are Loc 8.

The battery area covers the hill over and both sides of the old railroad (now highway) tunnel. Quarters are uphill from there, the Mine Command post (Battery 4, MC4), OPs (M1/4) and BC 246 (BC-3) and OP (B1/3 S1/3) are uphill farther, the farthest about 1250 feet directly behind Battery Ord, as Loc 7. There is a S/L controller booth on a dirt trail 1200 feet NNW of B. Ord, uphill and 100 yards from the highway, Loc 6A. GJH: Out the maintenance road from the new parking lot below the interpretive center, trail goes to the searchlights and controller.

FORT CANBY (Locs 5A, 5, 4, 3A, 3, 2) comprises headlands on Cape Disappointment (once called Cape Hancock), and its vicinity, near Ilwaco, Washington. The Civil War vintage batteries (Tower ("Right" in some sources-GJH), Left and Center) were built on a SW facing headland. Fort Cape Disappointment was renamed for Gen. Edward R.S. Canby (killed by Modoc Indians) in 1875. There is still some evidence of the 1864 earthworks. Battery Elijah O'Flyng (2-6" M1905 guns on DC, M1903) is just to the east of the tip, at the 195 foot level, on the site of Center Battery. Pre-WW II OPs were built on the top at the 275 foot level. Battery Harvey Allen (3-6" M1905 on DC, M1903) are 1/4 mile NW of O'Flyng on the next peak, with its BC 500 feet to its NW on a high tip. After WW I, a mortar battery, first called New Mortar, later named Francis L. Guenther, (4-12" M, M1890ml on MC1896ml, from B. Clark at Fort Stevens) was added behind the headland, 1100 feet N of B Allen. The location was given as "behind Coast Guard housing" a few years ago, is now a fenced-off security storage area (GJH).

In WW II, B. 247 (2-6" (T2)M1 on BCM4) was built on McKenzie Head, 1000 yards west of B Guenther. Post-war, the guns and carriages are understood to have been relocated to Milagra Ridge, San Francisco defenses.

Battery AMTB1 (2-90mm M1 guns on M3 fixed mounts) was established out on the sands on the jetty, about 500 yards from the base of the headland, as Loc 5A.

WW II FC stations were located 1000 feet NE of the North Head Lighthouse, a triple "manhole" two stories with the upper a single, the lower a double (side-by-side) station. The SCR-296 radar was 1000 feet east, all in Loc 2. As Loc 5, Gun group 2 CP was just west of B O'Flyng. Loc 3 had BC (247) and its B1/1 S1/1 in a buried station atop the battery. The SCR-682 surveillance radar was located close to North Head LH. B 247's SCR-296 was located (3A) on the headland just SE of the foot of North Jetty.

An FC station (B. Guenther B"/4, 1920s -GJH) is at the west edge of North Head LH parking lot, roof on level with the lot.

Loc 1 was Tioga, N of Long Beach. While most Columbia River defense FC were concrete "manhole" semi-buried or buried, B7/1 S7/1 at Tioga Beach was a one story cottage with a second story

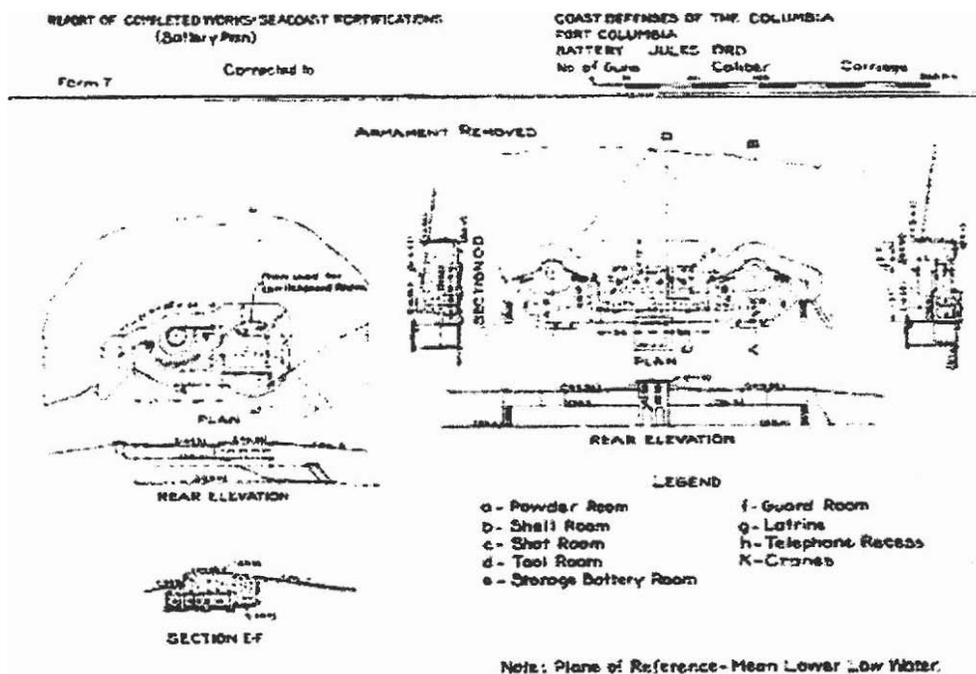
Battery Jules Ord

Battery Name: Jules Ord
 Harbor: Columbia River
 Location: Fort Columbia

Eponym: Lt. Jules G. Ord, killed in action San Juan Hill, Cuba July 3, 1898, GO 194, Dec. 27, 1904

Photographs: (catalog)

Current status: main emplacement partially closed to public, fair condition. Third emplacement buried.



Information from RCW Form 1 (date): June 30, 1921 superceded, Sept. 30, 1926.

Battery commenced: Dec. 1896

Battery completed: Jul. 1898

Date of transfer: July 16, 1898

Material of construction: concrete

Portland or Rosendale cement: portland

Cost to date of transfer: \$137,298.79

Type of data transmission: none

Trunnion elevation in battery: #1&2- 106.20', #3-146.13'

Datum plane: MLLW

Sources of electric current: central power plant

Max. kw. Required for lights: 4.1 kW

Max. kw. Required for motors: none. Not in use.

RCW Form 5 (date): none

Armament: 3 gun emplacements

1: Cal., 8": Length,278.5" : Model, 1888MI: Serial No., 20: Manufacturer, Watervliet: Mounted, ED
" 1: Carriage Type, Dis. LF: Model, 1896: Serial No., 1: Manufacturer, P.M. Tool Co.: Motor, none
1: Hoist Type, Tay.R.: Delivery, back: Serial No., 131397: Maker, Gen.E.Co.: H.P., 3.5: Volts, 110: RPM, 106
Type of control, rheostat: Date of Transfer, Mar. 1908: Remodeled for Long Points, no.

2: Cal., 8": Length,278.5" : Model, 1888MI: Serial No., 23: Manufacturer, Watervliet: Mounted, ED
2: Carriage Type, Dis. LF: Model, 1896: Serial No., 10: Manufacturer, P.M. Tool Co.: Motor, none
2: Hoist Type, Tay.R.: Delivery, back: Serial No., 131565: Maker, Gen.E.Co.: H.P., 3.5: Volts, 110: RPM, 1060:
Type of control, rheostat: Date of Transfer, Mar. 1908: Remodeled for Long Points, no.

3: Cal., 8": Length,278.5" : Model, 1888MII: Serial No., 44: Manufacturer, Watervliet: Mounted, CAC
3: Carriage Type, Dis. LF: Model, 1896: Serial No., 32: Manufacturer, Lake E. Eng. Wks. Motor, none
3: Hoist Type, Tay.R.: Delivery, back: removed by 1920

Historical Notes and Comments: guns removed & shipped away, carriages sold and removed by 1920. Battery was rewired in 1910. No 3 emplacement magazine room and corridor remodeled and used for switchboard room.

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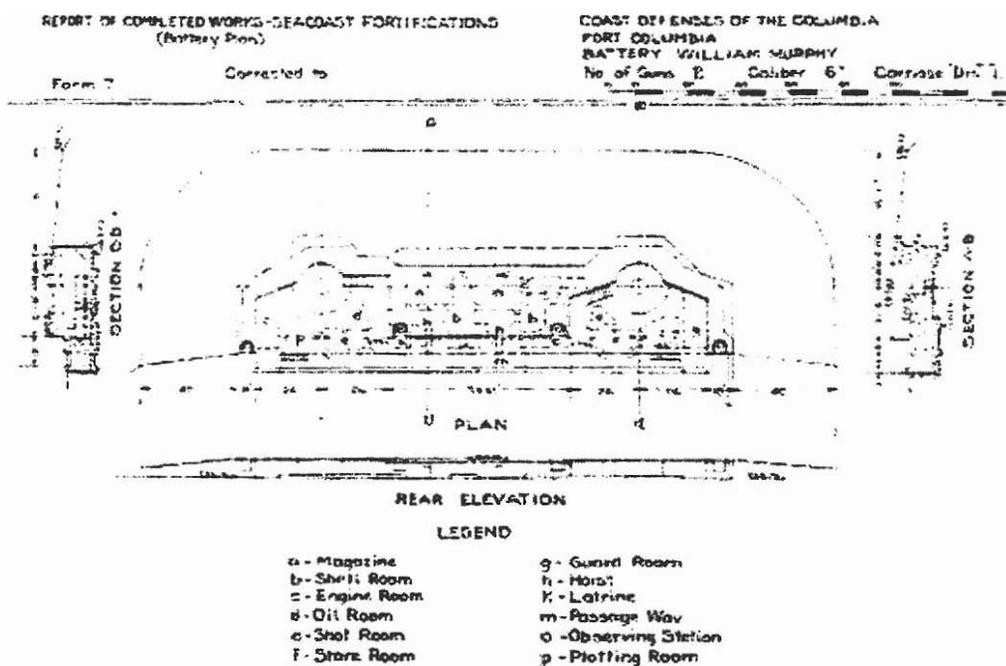
Battery William Murphy

Battery Name: William Murphy
Harbor: Columbia River
Location: Fort Columbia

Eponym: Capt. William C. Murphy, killed in action Aug. 14, 1900 at Tanavan, Batangas I, the Philippines, GO 194, Dec. 27, 1904.

Photographs: (catalog)

Current status: clean, excellent shape, open to the public. The Hodges hoists are being restored and the battery is being wired for lighting.



Note: Plans of Reference—Mean Lower Low Water.

Information from RCW Form 1 (date): June 30, 1921

Battery commenced: Apr. 1899

Battery completed: June 1900

Date of transfer: June 29, 1900

Material of construction: concrete

Portland or Rosendale cement: portland

Cost to date of transfer: \$58,623.82

Type of data transmission: none

Trunnion elevation in battery: #1- 81.56, #2- 81.51

Datum plane: MLLW

Sources of electric current: Central Power Plant or reserve plant in battery

. kw. Required for lights: 3.5 kW

Max. kw. Required for motors: none

RCW Form 5 (date): yes

Comment: 2 gun emplacements

1: Cal., 6": Length, 277.85": Model, 1897MI: Serial No., 15: Manufacturer, Watervliet: Mounted, CAC
1: Carriage Type, Dis. LF: Model, 1898: Serial No., 9: Manufacturer, Watervliet: Motor, none
1: Hoist Type, Hodges: Delivery, back: hand operated.

2: Cal., 6": Length, 277.85": Model, 1897MI: Serial No., 24: Manufacturer, Watervliet: Mounted, CAC
2: Carriage Type, Dis. LF: Model, 1898: Serial No., 10: Manufacturer, Watervliet: Motor, none
2: Hoist Type, Hodges: Delivery, back: hand operated.

Historical Notes and Comments: Eliminated from Harbor Defense Project and equipment ordered to be disposed of 400.93 (Col. River) 137794 8/24/45.

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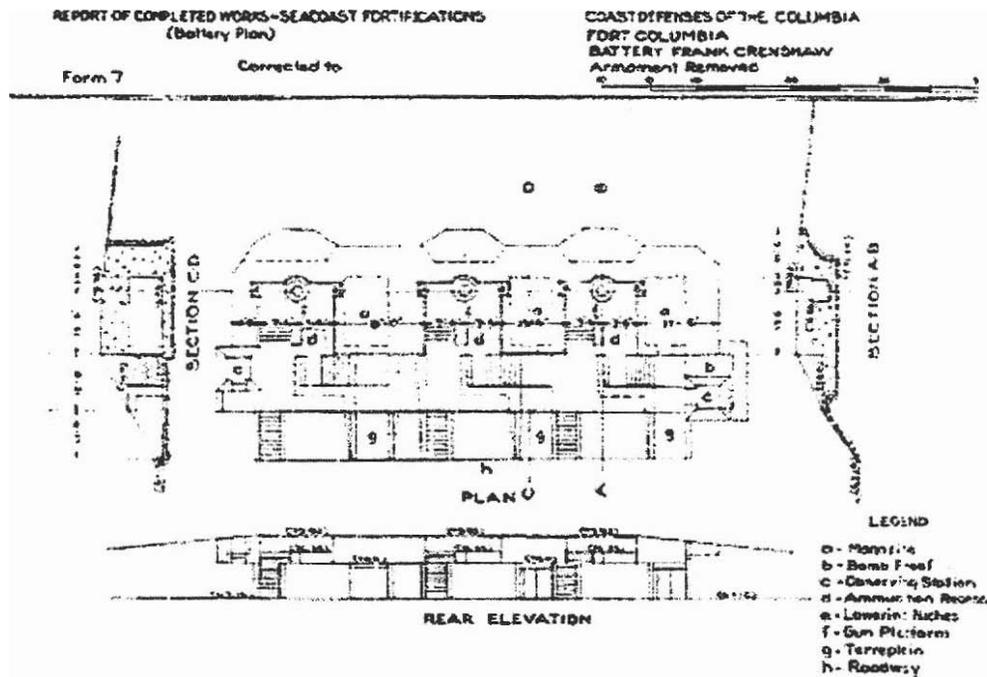
Battery Frank Crenshaw

Battery Name: Frank Crenshaw
 Harbor: Columbia River
 Location: Fort Columbia

Eponym: Capt. Frank F. Crenshaw, died June 5, 1900, of wounds received in action at Payapa, Batagas I., the Philippines, GO 194, Dec. 27, 1904

Photographs: (catalog)

Current status: clean, good shpe open to the public. Collars for carriage remain.



Information from RCW Form 1 (date): June 30, 1921

Battery commenced: Apr. 1899

Battery completed: #1, #2- June 1900, #3- Oct. 1900

Date of transfer: #1, #2- June 28, 1900, #3- Oct. 29, 1900

Material of construction: concrete

Portland or Rosendale cement: portland

Cost to date of transfer: \$15,462.51

Type of data transmission: none

Trunnion elevation in battery: 80.51'

Datum plane: MLLW

Sources of electric current: central power plant or reserve power plant in Battery William Murphy

Max. kw. Required for lights: 0.9 kW

x. kw. Required for motors: none

RCW Form 5 (date): none

Armament: 3 gun emplacements

1: Cal., 3": Length, 154.5": Model, 1898: Serial No., 97: Manufacturer, Driggs-Seabury: Mounted, CAC
1: Carriage Type, Barb. LF (MP): Model, 1898MI: Serial No., 97: Manufacturer, Driggs-Seabury: Motor, none
1: Hoist Type, none

2: Cal., 3": Length, 154.5": Model, 1898: Serial No., 98: Manufacturer, Driggs-Seabury: Mounted, CAC
2: Carriage Type, Barb. LF (MP): Model, 1898MI: Serial No., 98: Manufacturer, Driggs-Seabury: Motor, none
2: Hoist Type, none

3: Cal., 3": Length, 154.5": Model, 1898: Serial No., 104: Manufacturer, Driggs-Seabury: Mounted, CAC
3: Carriage Type, Barb. LF (MP): Model, 1898MI: Serial No., 104: Manufacturer, Driggs-Seabury: Motor, none
3: Hoist Type, none

Historical Notes and Comments: guns removed & shipped away 1918-1920, carriages remained, scrapped after 1921.

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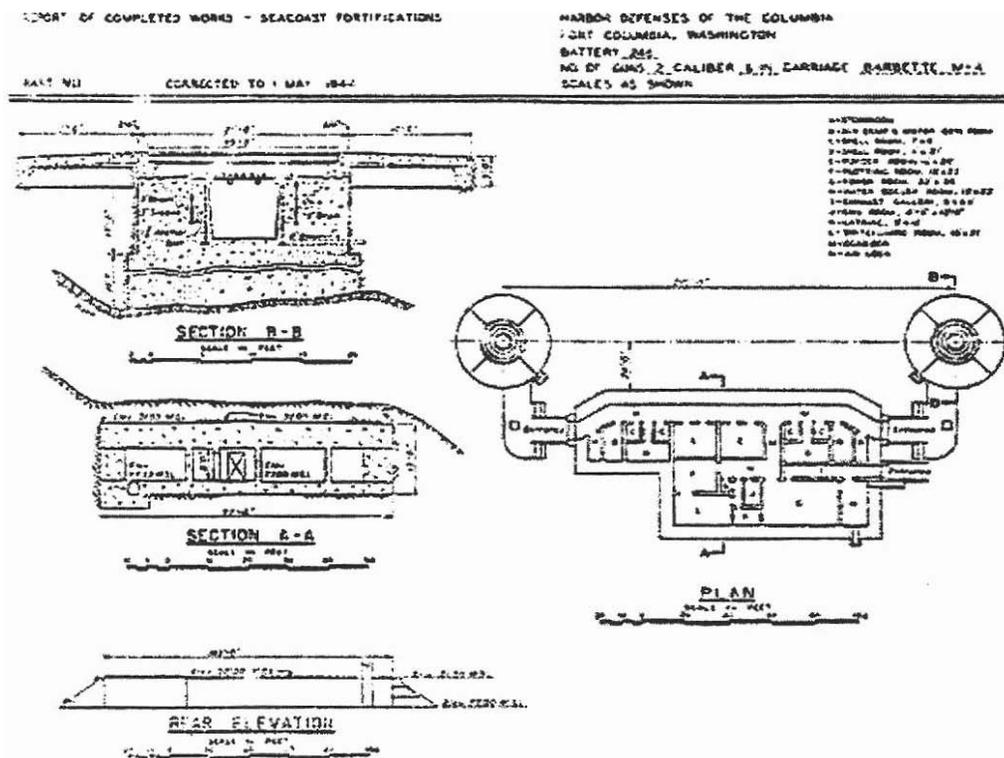
Battery 246

Battery Name: 246
 Harbor: Columbia River
 Location: Fort Columbia

Eponym: not named

Photographs: (catalog)

Current status: -State of Washington retrieved two guns from Fort McAndrews, Argentia, Newfoundland, and restored them, and installed them in Battery 246 in 1994. The battery is in excellent shape. One powder room has an interpretive display complete with powder canisters.



Information from RCW Form 1 (date): April 30, 1945

Battery commenced: Oct. 28, 1942

Battery completed: not completed

Date of transfer: Feb. 2, 1945

Material of construction: reinforced concrete

Cost to date of transfer: \$220,168.76

Type of data transmission: telephones furnished and installed by the Signal Corps.

Trunnion elevation in battery: 82.07 ft.

Datum plane: mean sea level

Sources of electric current: Diesel driven electric generators. Procured and installed by the Ordnance Department.

Capacity: 440 AC, 3 phase, 3 units with a capacity of 125 kW each. Max. 35 kW req. for utilities. Max. 80 kW req. for non-battle conditions. Commercial power provided, capacity 50 kW. No auxiliary power unit provided.

RCW Form 5 (date):

Armament: 2 gun emplacements

1:

1: Carriage Type, barbette: Model, M4: Serial No., 17: Manufacturer, Wellman Eng. Co., Akron, OH: Motor, 10 hp, 70V, DC

2:

2: Carriage Type, barbette: Model, M4: Serial No., 18: Manufacturer, Wellman Eng. Co., Akron, OH: Motor, 10 hp, 70V, DC

Historical Notes and Comments: Constructed by Govt. Forces. Construction authorized by Dir, Cons. No. FS-283 and was designated Job No. Ft. Columbia FS-1. Battery transferred with the following incomplete items: auto-dyne installations; elevating mechanisms; installation of gun tubes and electrical wiring and connections within the shields. Carriages installed. Guns on site. Carriages removed 1946-47 and sent to San Francisco.

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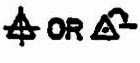
SYMBOLS

FM 4-155, Reference Data (Seacoast Artillery and Antiaircraft Artillery) 1940
 TABLE C.—*Symbols for seacoast artillery fire-control maps, diagrams, and structures*

Part 1.—Basic symbols

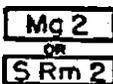
Name	Abbreviation	Symbol
Harbor defense command post	H D C P	
Groupment command post	Gpmt C P	
Fort command post	Ft C P	
Gun group command post	G C P	
Mine group command post	M C P	
Seacoast battery command post	B C P	
Harbor defense observation station	H D O P	
Groupment observation station	Gpmt O P	
Fort observation station	Ft O P	
Gun group observation station	G O P	
Mine group observation station	M O P	
Battery observation station	B O P	
Emergency observation station	E O P	
Antiaircraft observation post	AA O P	
Battery spotting station	S O P	
Separate observation station	O P	

Name	Abbreviation	Symbol
Operations and plotting room	O P R	
Plotting room	P	
Self-contained base range-finder station	R F	
Magazine	Mg	
Shellroom	S Rm	
Temporary or improvised fire-control structures	Imp	
Mine casemate	M C	
Mine loading room	L R	
Searchlight, 60-inch seacoast	S L	
Searchlight, seacoast, other than 60-inch	S L	
Antiaircraft searchlight	A A S L	
Searchlight shelter	S Sh	
Searchlight powerhouse	S P H	
Searchlight controller booth	C B	
Data booth	Data B	
Watchers booth	W Bth	
Meteorological station	M E T	

Name	Abbreviation	Symbol
Tide station	Td	
Signal station	S S	
Fire Control switchboard room	F S B	
Post telephone switchboard room	P S B	
Combined fire-control & post telephone S B room	F S B P S B	
Cable terminal	C Ter	
Powerhouse	P H	
Radio powerhouse	R P H	
Central powerhouse	C P H	
Pumping plant	P P	
Datum point		
Triangulation station		
Intersection point		
Benchmark	B M	
Lighthouse	L H	

Part 2.-Numbers for harbor defense installations.—a. In harbor defense, seacoast artillery installations of each type are numbered consecutively from right to left, facing the center of the field of fire of the harbor defense. Antiaircraft installations pertaining to the harbor defense may be numbered in any convenient sequence.

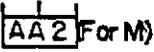
b. Groupments, gun groups, mine groups, batteries, and all installations functioning directly under the harbor defense commander, such as harbor defense observation stations, searchlights, and underwater listening posts, are numbered consecutively, each type in a separate series, beginning with number 1. These numbers normally are shown as subscripts to the letter included in the appropriate symbol. Exceptions are included among the examples that follow.

Name	Abbreviation	Symbol
Harbor defense observation station	H D O P ₃	
Fort observation station	Ft O P ₃	
Antiaircraft observation post	A A O P 2	
Magazine or shell room	Mg 2 or S Rm 2	

c. Groupment, group, and battery observation and spotting stations assigned to a unit are numbered consecutively within the unit, each type in a separate series, beginning with number 1. These numbers are shown as superscripts to the letter included in the appropriate symbol, the unit number remaining as the subscript.

Name	Abbreviation	Symbol
Groupment observation station	Gpmt ₂ O P ₂	
Gun group observation station	G ₂ O P ₁	
Mine group observation station	M ₂ O P ₁	
Battery observation station	B ₁ ¹ O P	
Spotting station	S ₃ ¹ O P	
Emergency observation station	E ₂ ¹ O P	
Temporary or improvised fire control structures	B ₃ ² Imp.	

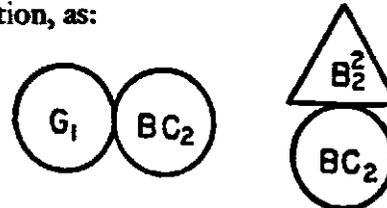
d. In certain cases it is desirable to show additional information regarding an installation, such as its size and whether fixed, portable, or mobile. Such information is placed either in the symbol or to the right thereof.

Name	Abbreviation	Symbol
60-inch seacoast searchlight; fixed, portable or mobile.	SL 2F (P or M)	
Seacoast searchlight other than 60-inch	SL ³⁶ _{3P}	
Antiaircraft gun battery or composite battery, fixed or mobile.	A A No. 2 (F or M)	

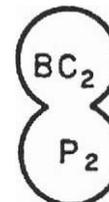
e. Where two stations are combined in one room, the symbols are superimposed one upon the other, and the letters representing each station are inclosed in the combined symbol.

Name	Abbreviation	Symbol
Combined groupment command post and fort command post.	Gpmt Ft Cp	
Combined battery observation and spotting station.	B ² ₁ S ² ₁ O P	
Combined group command post and battery command post.	G ₁ B ₂ C P	
Combined battery command post and battery observation station.	B ₂ C P B ₂ ² O P	

f. Where stations are adjacent in the same structure, the symbols are tangent to each other and are arranged to show the relative location, as:



g. Where communication may be had by voice through a passage, door, window, or voice tube, the symbols are left open at the point of contact, as:



Part 3.—Communications symbols for use on harbor defense fire-control charts and diagrams.

Telephone cable (numerals indicate number of pairs and gage)	<u>26-19</u>
Speaking tube	o o o o
Mechanical data transmission line	— — — — —
Electrical data transmission line	x x x x
Searchlight controller line	-----
Zone signal and magazine telephone line	o x o x o x o
Firing signal line	•••••
Time interval bell line	-----
Submarine cable (numerals indicate number of pairs and gage)	<u>50-19</u>

Part 4.—Abbreviations

Cable gallery	C Gal
Cable tank	C T
Cable hut (commercial cable)	C H
Coast Guard station	C G S
Engineer wharf	Engr Whf
Gasoline tank	G Tk
Guardhouse	G H
Latrine	L
Lighthouse wharf	L H Whf
Mine boathouse	M B H
Mine derrick	M Drk
Mine tramway	M Tmy
Mine wharf	M Whf
Ordnance machine shop	O M S
Private wharf	Pvt Whf
Radio (commercial station)	Rad
Railway' wharf	Ry Whf
Saluting battery	Sl B
Service dynamite room	S D R
Steamship wharf	S S Whf
Quartermaster wharf	Q M Whf
Superseded (for abandoned buildings, etc.)	24 s
Temporary (for all uses except fire-control structures)	19 t
Sunset gun	S G
Tide gage	T G
Torpedo storehouse	T S
Tower	Tw
Water tank	W Tk
Weather bureau	W B

PACIFIC COUNTY ASSESSOR'S OFFICE

ASSESSMENT RECORD

Date of Run : 07/21/2003

RECORD STATUS : ACTIVE

PARCEL # : 4580

MAP #: 091009 E1/2 NE

CURRENT OWNER

CATHLAMET TIMBER COMPANY LLC

ONE SW COLUMBIA ST SUITE 1720
 PORTLAND, OR 97258

PARCEL LOCATION

Street Address :
 Legal Description : SESW; SE

Deeded Acres : 281.760
 Calculated Acres : 281.760

ASSESSMENT INFORMATION

Tax District : 27
 Property Class : T
 DOR Class Code : 88
 Exemption Code : 0
 Exempt Amount : 0
 Taxable Value : 38,895

CURRENT VALUATION

Improvements : 0
 Permanent Crops : 0
 Land Value : 38,895
 Total Assessed : 38,895

MARKET VALUATION

Improvements : 0
 Permanent Crops : 0
 Land Value : 38,895
 Total Assessed : 38,895

CURRENT TAXATION

Tax District : 27
 Assessed Value : 38,895
 Current Tax Rate : 10.782000
 Total Taxes Due : 419.36

PREVIOUS OWNERSHIP

Grantor
 Book & Page #
 Sale Date
 Sale Price

LAST BUILDING PERMIT

Description
 Date Opened
 Date Closed
 Permit Amount

PACIFIC COUNTY ASSESSOR'S OFFICE
ASSESSMENT RECORD
Date of Run : 07/21/2003

RECORD STATUS : ACTIVE

PARCEL # : 4777

MAP #: 091021 SCARBOROUGH DLC

CURRENT OWNER

STATE OF WASHINGTON

PARKS & RECREATION

PARCEL LOCATION

Street Address : 000079 COLUMBIA LN

Legal Description :

Deeded Acres : 0.000

Calculated Acres : 0.000

ASSESSMENT INFORMATION

Tax District : 27
Property Class : AX
DOR Class Code : 97
Exemption Code : 0
Exempt Amount : 0
Taxable Value : 0

CURRENT VALUATION

Improvements : 0
Permanent Crops : 0
Land Value : 0
Total Assessed : 0

MARKET VALUATION

Improvements : 0
Permanent Crops : 0
Land Value : 0
Total Assessed : 0

CURRENT TAXATION

Tax District : 27
Assessed Value : 0
Current Tax Rate : 10.782000
Total Taxes Due : 0.00

PREVIOUS OWNERSHIP

Grantor
Book & Page #
Sale Date
Sale Price

LAST BUILDING PERMIT

Description
Date Opened
Date Closed
Permit Amount



Department of Ecology

Well Logs

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- **Search Criteria Used:** Left Coordinate: 1131130, Right Coordinate: 1132444, Top Coordinate: 359719, Bottom Coordinate: 358405
- There are 1 well logs that match your search criteria.
- The results are sorted by Well Owner Name.

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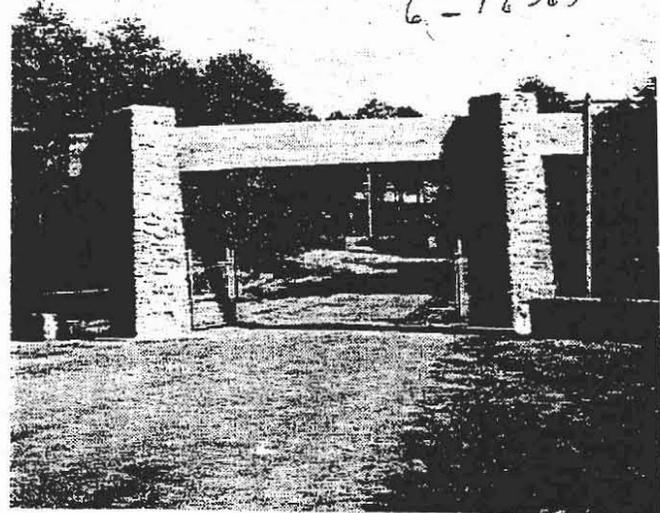
Sort results by: Well Owner Name

1. **KIRK ANDERSON** - { [view PDF](#) | [view TIFF](#) }
 Public Land Survey: SE, NE, S-17, T-09-N, R-10-W, Tax Parcel Number: (blank)
 County: PACIFIC, Well Address: 658 HWY 101, CHINOOK
 Well Log ID: 343244, Well Tag ID: (blank) , Notice of Intent Number: W161254
 Well Diameter: 1.25 (inches), Well Depth: 35 (feet)
 Well Type: Water, Well Completion Date: 7/10/2002, Well Log Received Date: 9/27/2002

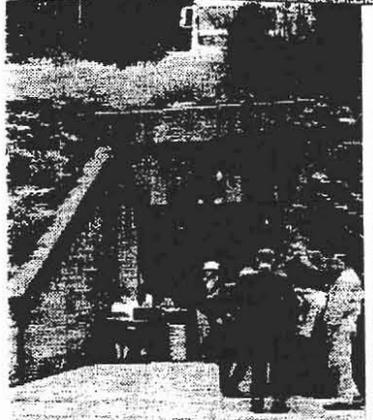
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Fort Columbia State Park
6-18-65



Historical
State Park
Is Popular
Attraction



The concrete underground bunkers at Ft. Columbia were quickly recognized as ready-made air raid shelters and the one above has been designated and equipped as evacuation headquarters for state government officials in case of an enemy attack. A practice exercise was held here last year.

A breath-taking view, comfortable picnic facilities, two museums, and gun emplacements to explore, make Fort Columbia State Park a busy and popular tourist attraction each vacation season.

Fort Columbia, one of three fortifications erected to guard the mouth of the Columbia river in a time when wars were fought only on the ground and the sea, was declared obsolete after World War II. Shortly afterward a large portion of this military reservation was transferred to the Washington State Parks and Recreation Commission as an historic monument. This was desirable because the fort, besides being of historic interest as a military establishment, stands on ground closely associated with many events and men of great historic importance to the Pacific Northwest. To interpret this history, extending back to the days of the explorers, a museum was carefully planned and developed as a center of interest for Fort Columbia.



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

15 MAR 1994

CEMP-RF (200-1a)

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMANDS (EXCEPT
CETAD)

SUBJECT: Defense Environmental Restoration Program (DERP) - Site
Eligibility Policy Clarification for Ordnance and Explosive Waste
(OEW) at Formerly Used Defense Sites (FUDS)

1. Huntsville Division and others, have raised policy issues regarding eligibility of ordnance remediation at sites where ordnance resulted from acts of war, or live fire training exercises or disposal on property which was never owned but was clearly used by DoD.

2. Accordingly, the following clarification was developed and is authorized for implementation:

a. As current policy on DERP-FUDS site eligibility states: "Sites which were used for the disposal of DoD materials or wastes where the installation or activity responsible for the materials or waste is inactive may be considered eligible." However, only "sites within the fifty states, districts, territories, commonwealths, and possessions over which the United States has jurisdiction are eligible for the FUDS program."

b. Sites meeting the above criteria, even though never owned, but obviously used by DoD either for ordnance firing or disposal, are eligible sites and will be added to the DERP-FUDS inventory as discovered. (Note: "off-shore" ordnance sites, beyond 100 yards of mean high tide, will not be added to the inventory database except in special cases where a public exposure pathway exists.)

c. At an eligible site, cleanup of foreign ordnance may be proposed as an eligible project.

d. Sites contaminated by acts of war are not authorized for DoD remediation under DERP, and will not be proposed unless the site was "owned by, leased to, possessed by, or otherwise under the jurisdiction of the Secretary of Defense at the time of activities which resulted in hazard."

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX F

STILL PHOTOGRAPH REFERENCES

APPENDIX F

STILL PHOTOGRAPH REFERENCES

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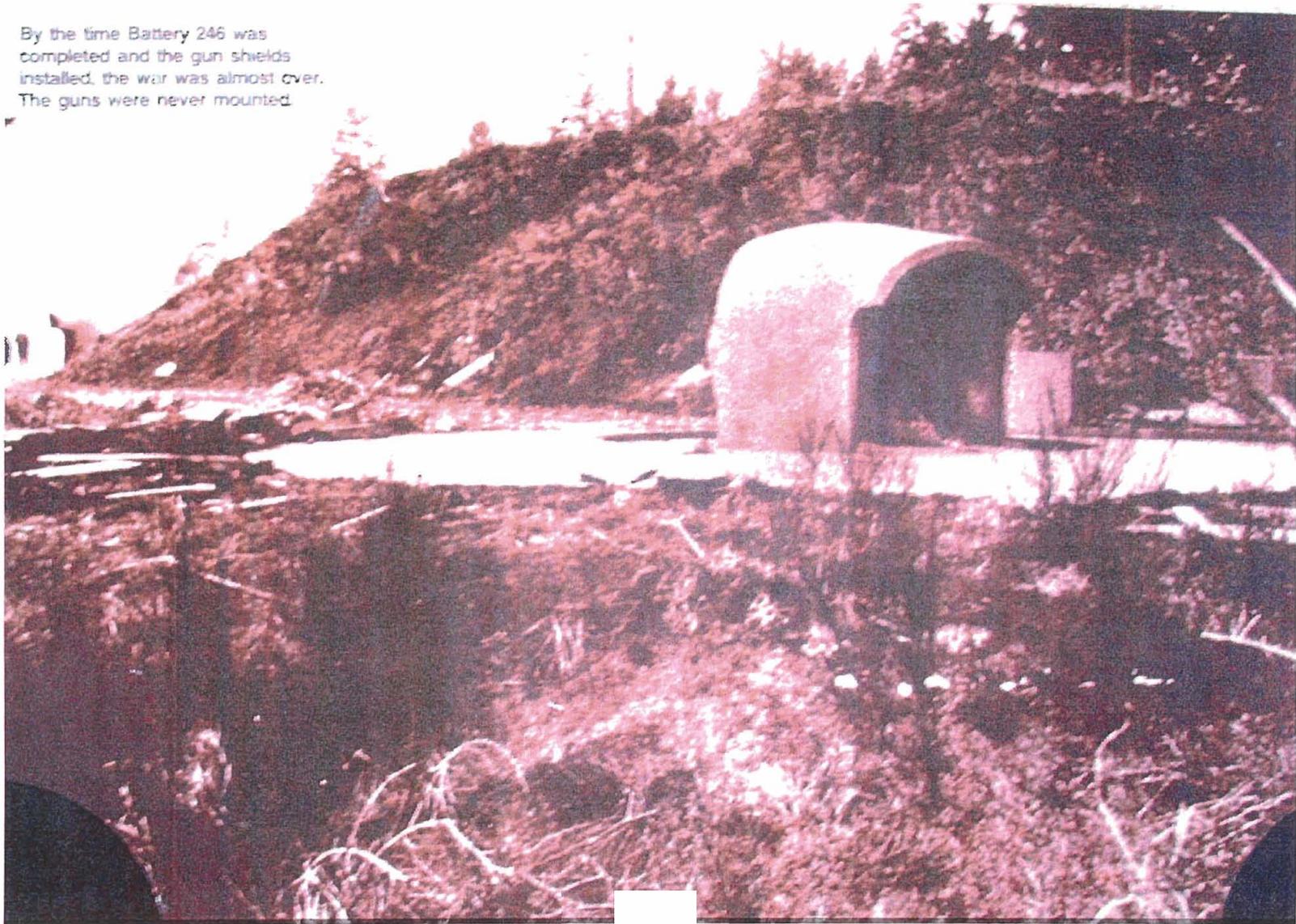
- F-1. Pre WWI, Fort Columbia (B-42).
- F-2. Construction of Battery 246, (B-43).
- F-3. Battery Murphy Gun Crew, (B-44).
- F-4. 1953 Aerial Photograph of Fort Columbia, (B-46).
- F-5. Battery Frank Crenshaw, (B-47).

R-1



Pre-WWI photograph of enlisted barracks, administration building, officer's quarters and commander's quarters from left to right.

By the time Battery 246 was completed and the gun shields installed, the war was almost over. The guns were never mounted.

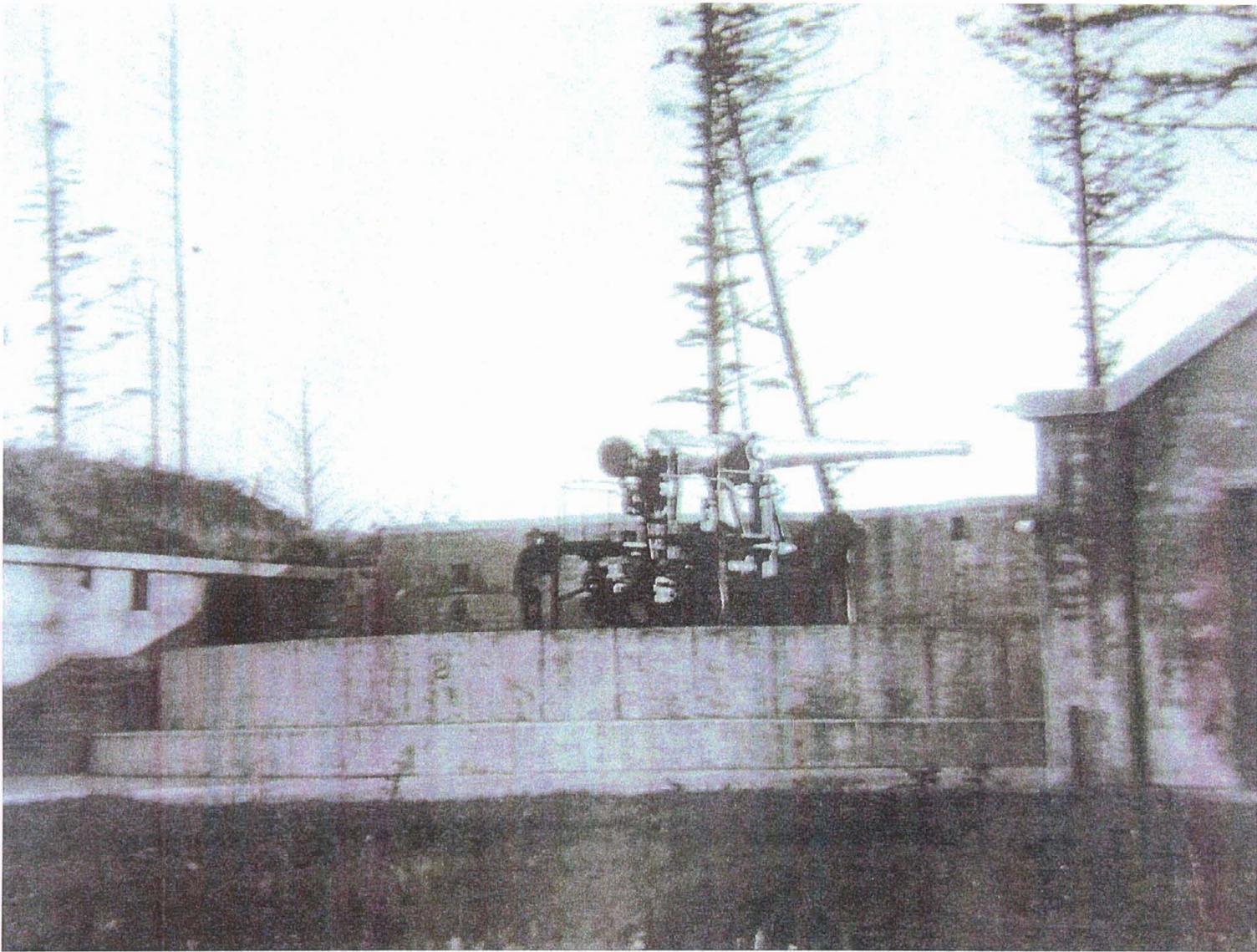


F-2

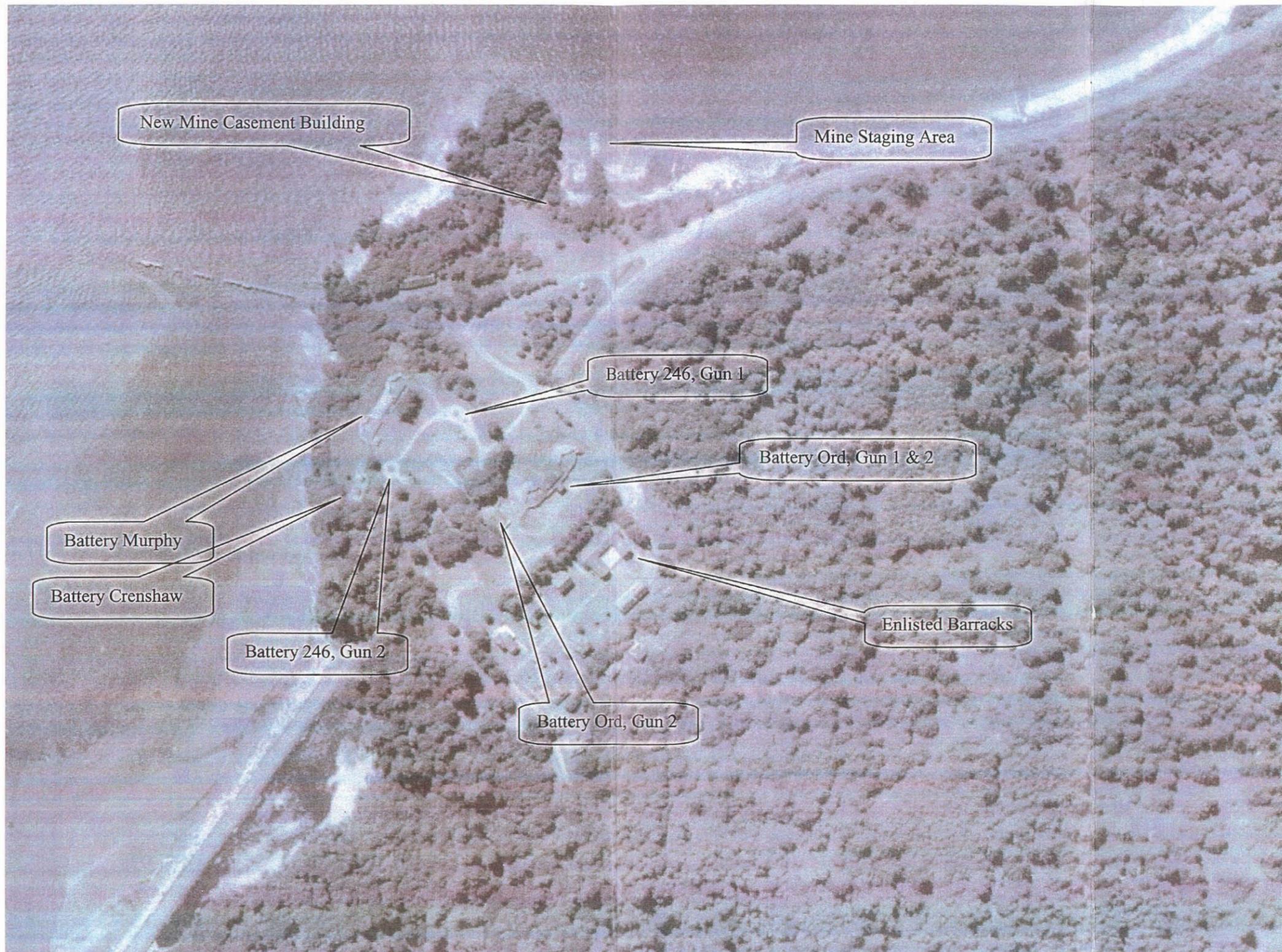
Construction of Battery 246, never ope

al, abandoned as WWII ended.

F-3



Battery Murphy gun crew with their 6-inch Artillery Piece Mounted on its Disappearing Carriage.



1953 Aerial Photograph of Fort Columbia. Locations of former armament facilities and enlisted barracks.

BATTERY FRANK F. CRENSHAW

In honor of Captain Frank F. Crenshaw, 28th Infantry, U.S. Volunteers, who died August 28, 1900, of wounds received in action at Payapa, Philippine Islands, June 5, 1900.



By mid 1898, construction on the first fortifications were completed. Fort Columbia was turned over to Company M, 3rd Artillery. During the next two years, Battery Crenshaw was completed. Three (3 inch) rapid-fire guns were mounted low on the south side of Chinook Point. These guns were used in France during World War I and were never replaced.

Battery Crenshaw was never used at time of war.

F-5

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX G

MAPS/DRAWINGS REFERENCES

APPENDIX G

MAPS/DRAWINGS REFERENCES

Table of Contents

- G-1. Map, Fort Columbia, circa 1921 (B-45).
- G-2. Topographical Map of Fort Columbia area, circa 1938 (B-46).
- G-3. Map, Fort Columbia, circa 1946 (B-47).
- G-4. Map, Real Estate, Fort Columbia, circa 1947 (B-48).
- G-5. Map, Real Estate, Fort Columbia, circa 1953 (B-49).

G-1

LEGEND

EDITION OF APR. 26, 1921.

SERIAL NUMBER

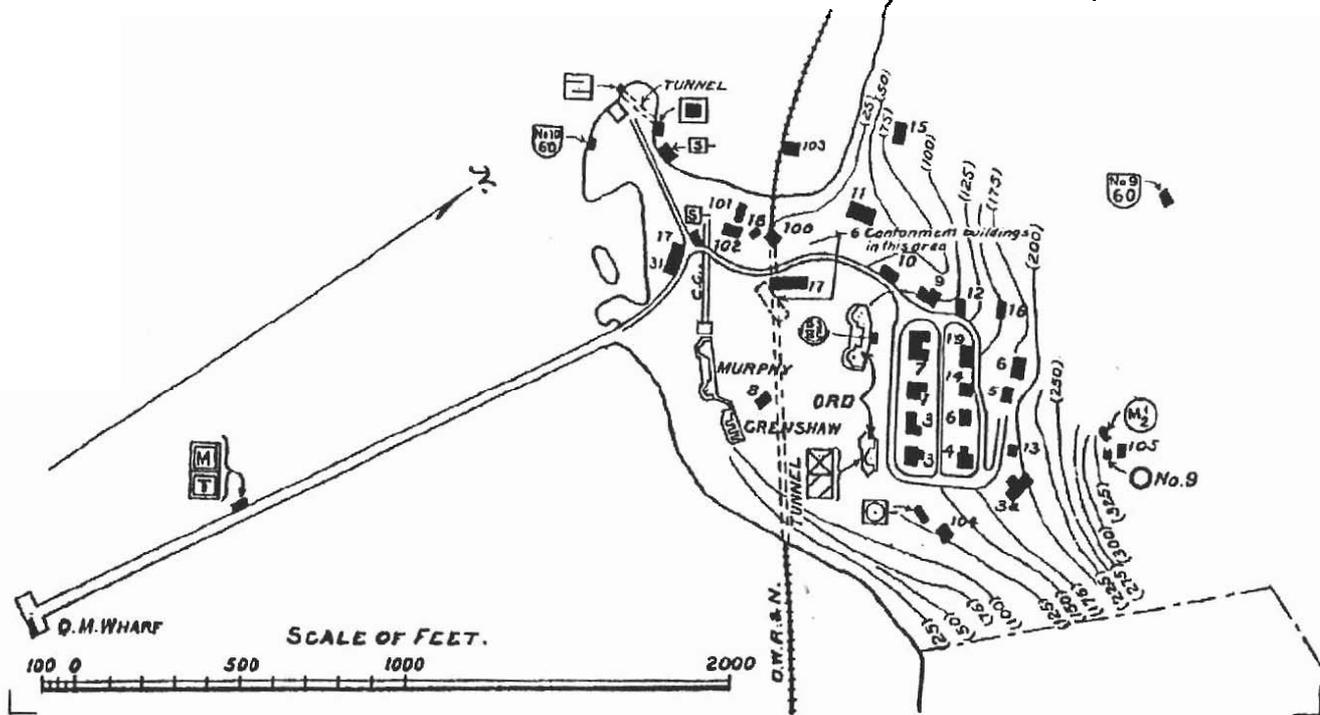
1241

MOUTH OF THE COLUMBIA RIVER
FORT COLUMBIA-D-1.

BATTERIES

- 1 ADMINISTRATION BLDG.
- 2
- 3 OFFICER'S QUARTERS.
- 12 SURGEON'S
- 4 HOSPITAL.
- 5 " STWD'S. QRS.
- 6 N.C. OFFICERS QRS.
- 7 BARRACKS.
- 8 GUARD HOUSE.
- 9 POST EXCHANGE.
- 10 OLD POST EXCHANGE.
- 11 GYMNASIUM.
- 12 FIRE APPARATUS HO.
- 13 RESERVOIR.
- 14 BAKERY.
- 15 LAUNDRY.
- 16 OIL HOUSE.
- 17 COAL SHED.
- 18 SHED.
- 19 STOREHOUSE.
- 100 TEAMSTER'S HOUSE.
- 101 STABLE.
- 102 WAGON SHED.
- 103 DEPOT.
- 104 FORMER SW. BDRM.
- 105 DORMITORY.
- 31 ORDNANCE ST. HO.

- ORD.
- MURPHY..... 2-6" Dis.
- GRENSHAW....



G-1

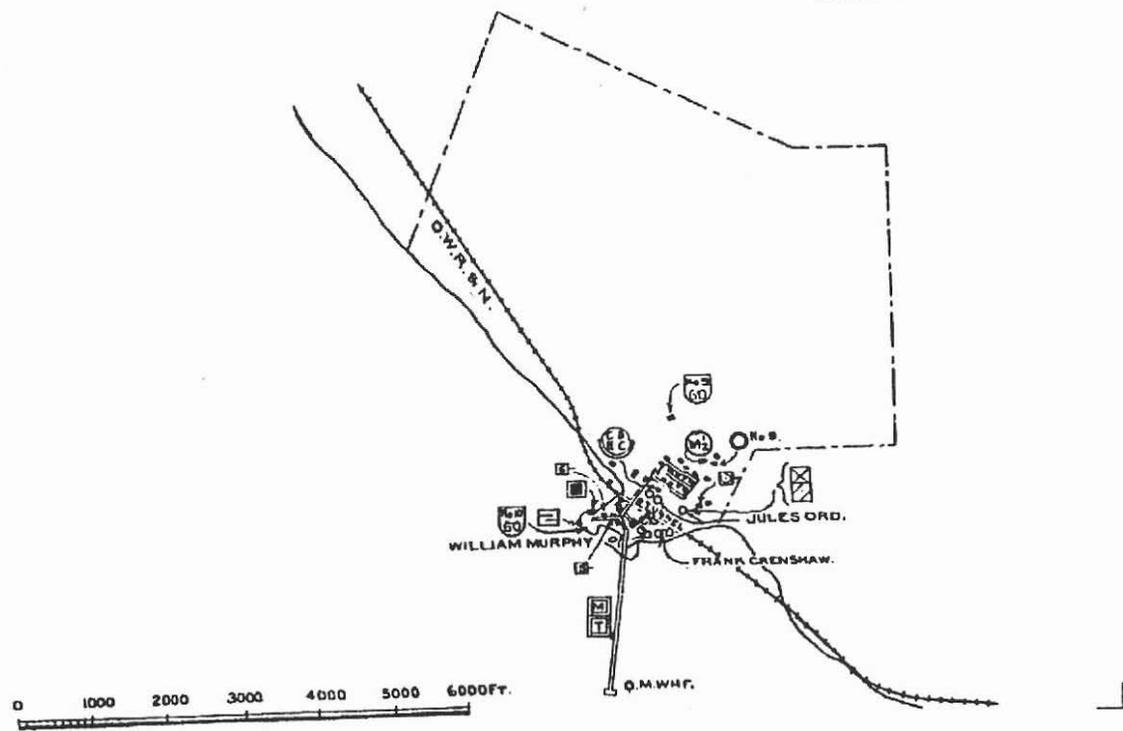
LEGEND.

EDITION OF APR. 23, 1915.
REVISIONS: DEC. 7, 1915;
NOV. 8, 1916; DEC. 15, 1919
APR. 26, 1921.

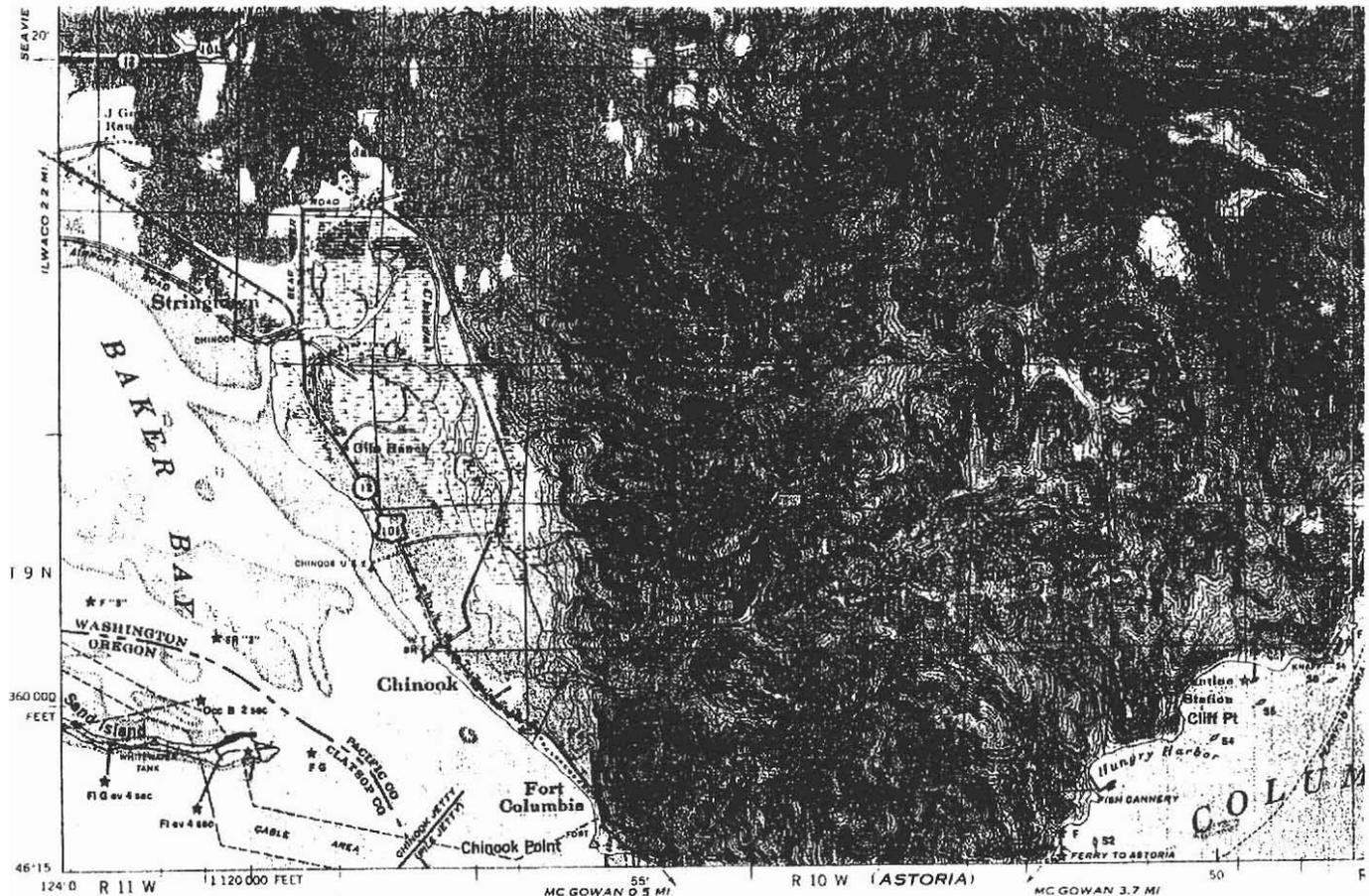
SERIAL NUMBER **124**

MOUTH OF THE COLUMBIA RIVER.
FORT COLUMBIA.
CHINOOK POINT, WASHINGTON.
GENERAL MAP.

BATTERIES
ORD.....
MURPHY.....2-6'
CRENSHAW.....



G-2



Prepared under the direction of the Chief of Engineers, U. S. Army, 1938
 Horizontal control by U. S. Coast and Geodetic Survey, 1925-35 and
 29th Engineers, U. S. Army, 1937
 Vertical control by U. S. Coast and Geodetic Survey, 1934
 and 29th Engineers, U. S. Army, 1937.
 Topography by 29th Engineers, U. S. Army, 1938, from 5-lens
 aerial photographs, using stereo comparagraph and elevation calculators.
 Polyconic Projection, North American Datum 1927.

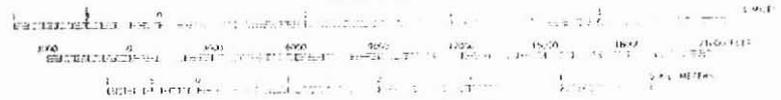
ROAD CLASSIFICATION

Dependable hard surface, heavy-duty road	Loose surfaced, graded, dry-weather road	U. S. Route
Secondary hard surface, all-weather road	Unimproved road	State Route

When more than two lanes indicated by note along road with tick at point of change: **PLANE** **4 LANE**

55' MC GOWAN 0.5 MI
 MEGLER FERRY 4.4 MI

SCALE 1:62500

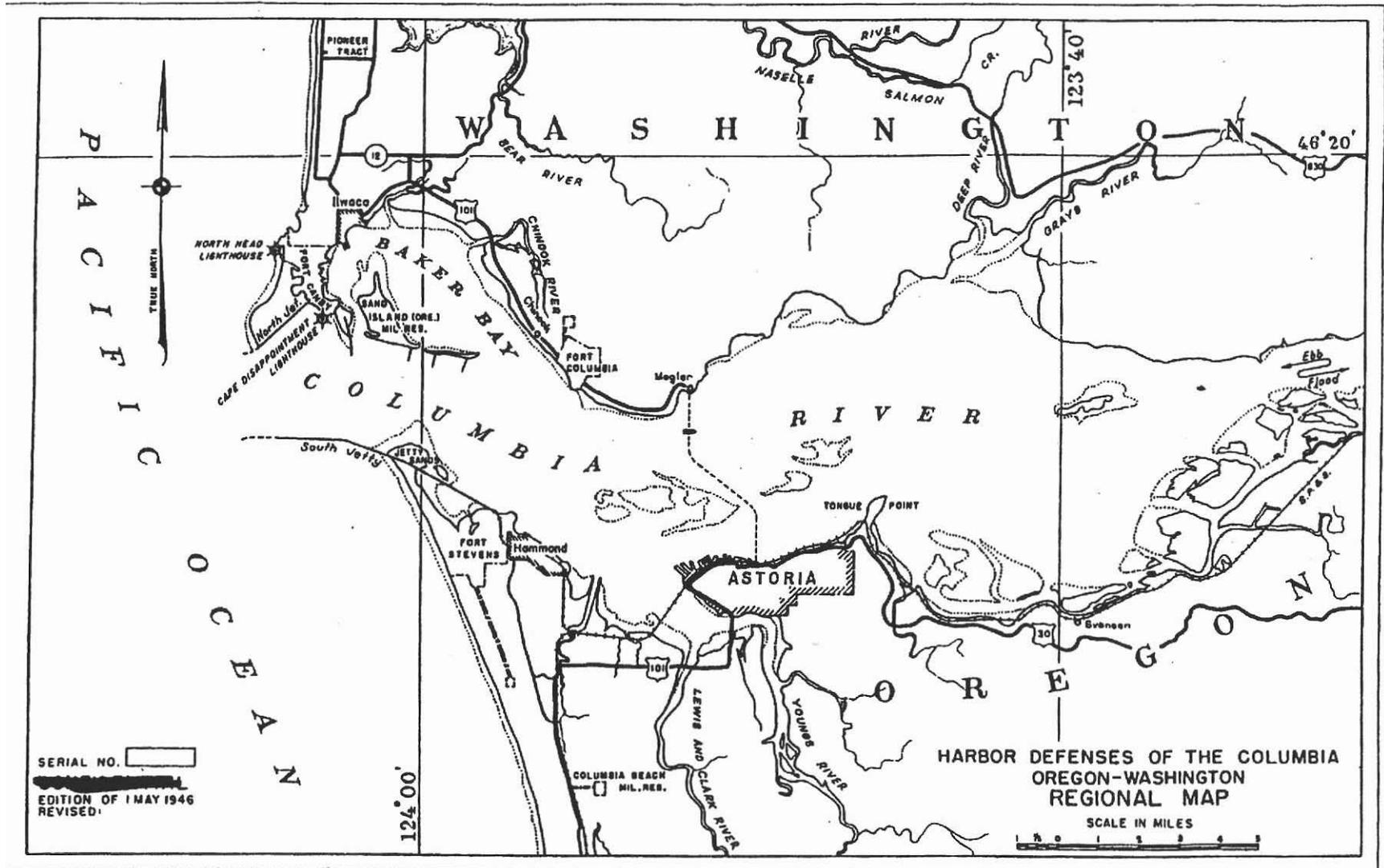


CONTOUR INTERVAL 20 FEET
 DATUM IS MEAN SEA LEVEL

10 000 FOOT GRID TICKS WASHINGTON PLANE COORDINATE SYSTEM SOUTH ZONE SHOWN IN BLACK
 1000 METER GRID TICKS UNIVERSAL TRANSVERSE MERCATOR SYSTEM ZONE 18 SHOWN IN BLUE

1938

G-3



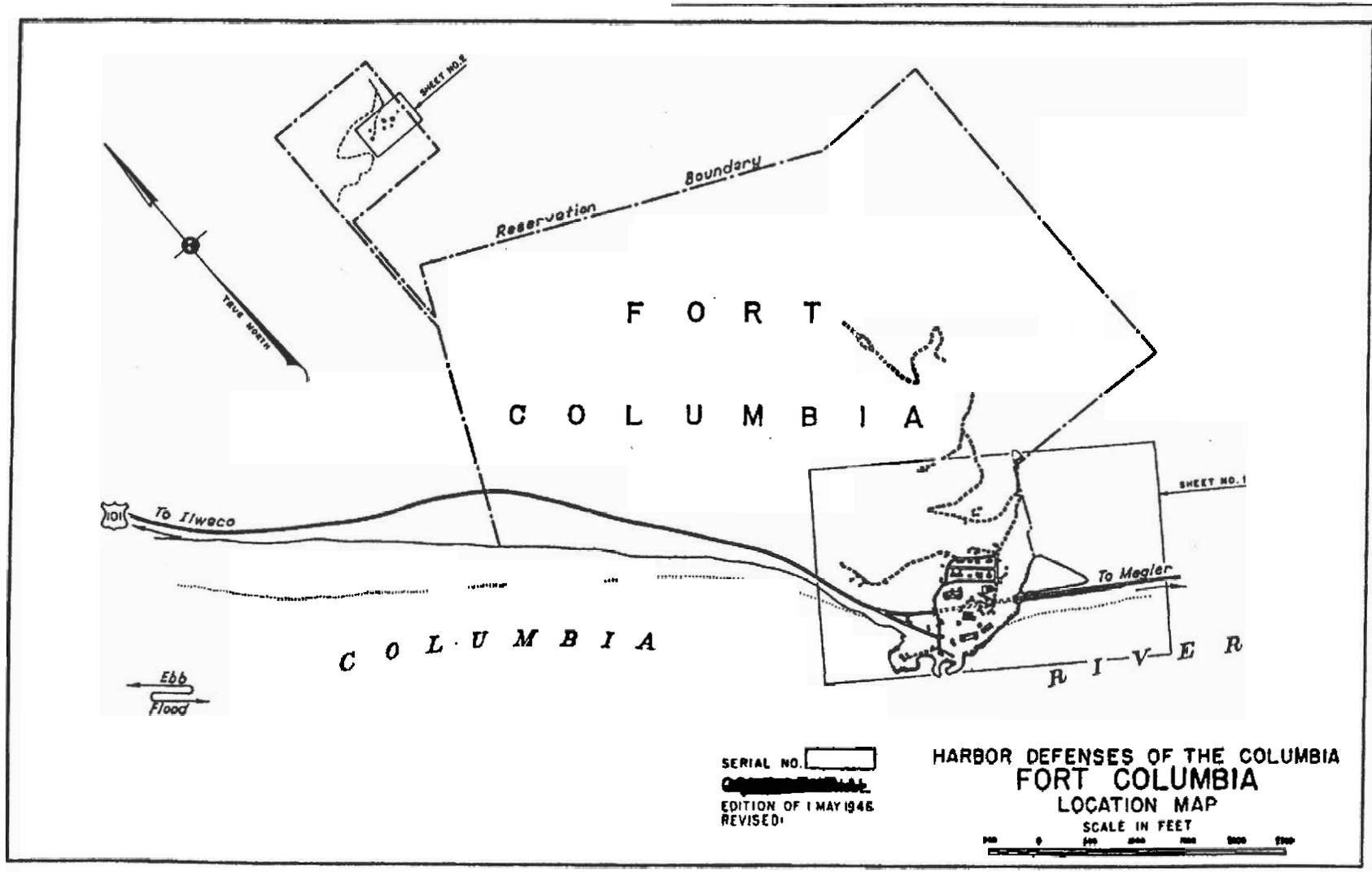
SERIAL NO.
EDITION OF 1 MAY 1946
REVISED

HARBOR DEFENSES OF THE COLUMBIA
OREGON-WASHINGTON
REGIONAL MAP

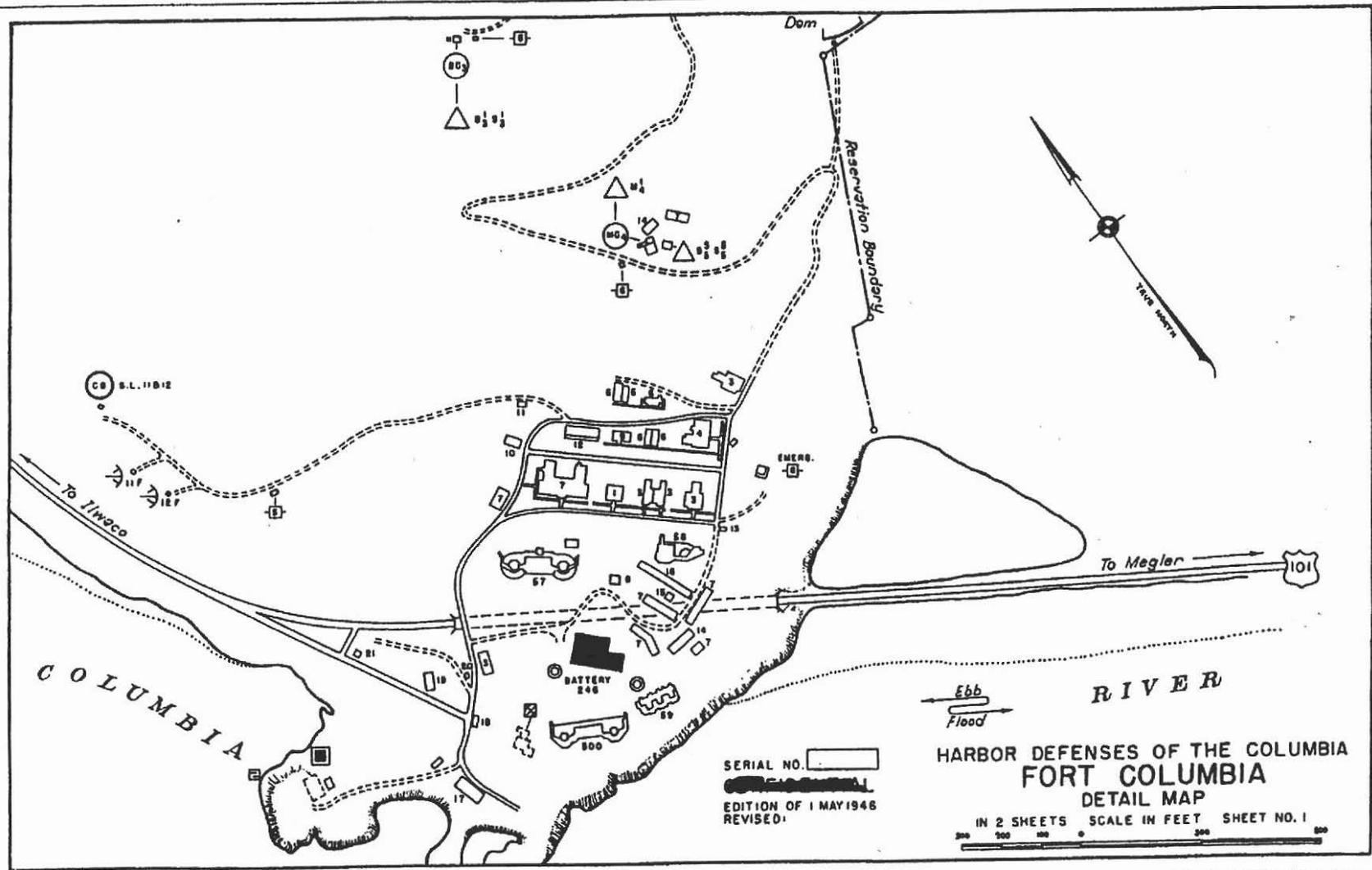
SCALE IN MILES



G-3



G-3



G-3

1. Post Administration Bldg., 1A. 249th Admin. Bldg.
 18. Q.M. Admin. Bldg., 1C. Court Martial Admin. Bldg.
 1D. Misc. Admin. Bldg., 1E. Admin. and Supply.
 1F. Military & Civ. Admin., 1G. Storehouse & Admin.
 1H. Ordn. & Post Engr. Admin., 1J. Art. Engr. Administration.
 2. Commanding Officers' Quarters.
 3. Officers' Qtrs. 3A. Officers' Mess. 3B. Orderly Room
 3C. Bachr. Officers' Qtrs, Mess.
 4. Hospital.
 5. Nurse's Quarters.
 6. Non-Commissioned Officers' Quarters.
 7. Barracks., 7A. Isolation Barracks,
 8. Guard House.
 9. Post Exchange, 9A. P.X. Office, 9B. P.X. Beer Parlor.
 10. Fire Station.
 11. Oil House.
 12. Storehouse.
 13. Garage.
 14. Recreation (Day Room), 14A. Officer's Recreation.
 15. Latrine., 15A. Isolation Latrine
 16. Kitchen - Mess.
 17. Theater.
 18. Artillery Shop.
 19. Repair Shop.
 20. Gasoline Station.
 21. Gate House (Guard).
 22. Wood Shed.
 23. Tool House.
 24. Civilian Personnel.
 25. Bakery.
 26. Dispensary.
 27. Mess.
 28. Office (Btry. "B").
 29. Motor Dispatch Office.
 30. Civilian Bachelor Quarters.
 31. Cistern.
 32. Hose Tower and Shop.
 33. Tool and Blacksmith Shop.
 34. Machine Shop.
 35. Drill Hall and Gym.
 36. Signal Corps Repairs and Storage
 37. Fuel Shed.
 38. Non-Com. Officers Club.
 39. Water Tank.
 40. Post Office.
 41. Motor Transp. Repair Shop.
 42. Central Heating Plant.
 43. Paint Shop.
 44. Grease Rack.
 45. Motor Pool Shop.
 46. Gasoline Storage Tank.
 47. Hydrogen Generator.
 48. Waiting Room.
 49. Dock., 49A. Ferry Slip.

50. Battery Mishler (Disarmed)
 51. Battery Walker "
 52. Battery Lewis "
 53. Battery Pratt "
 54. Battery Smur "
 55. Battery Clark "
 56. Battery Russell "
 57. Battery Ord "
 58. Battery Ord, Gun #3 "
 59. Battery Crenshaw "
 70. Chapel

80. Navy Compass Station
 100. Boat Storage.
 101. Boat House.
 102. Cold Storage Room.
 103. Garbage and Can Washing.
 104. Water Clarifier.
 105. Wash Room.
 106. Shoe Repair Shop.
 107. Typewriter Repair Shop.
 108. Gas Instruction.
 109. Laundry.
 110. Sales Commissary.
 111. Scales.
 112. Indoor Rifle Range.
 113. Camera Tower.

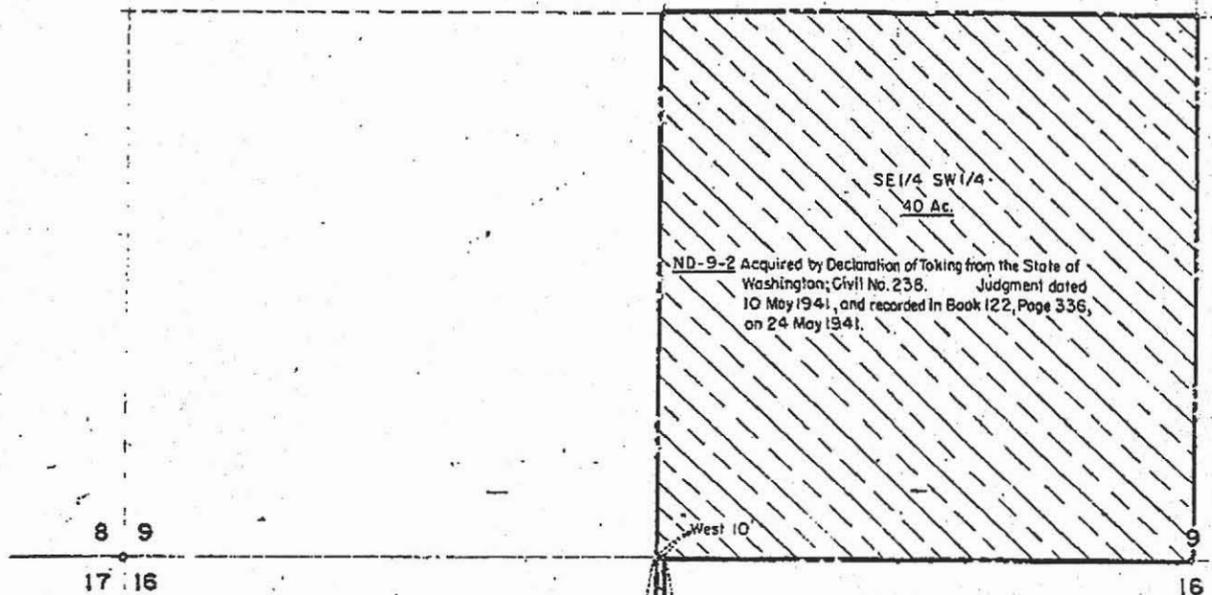
500. Battery Murphy (Disarmed)
 501. Battery O'Flyng "
 502. Battery Guenther "
 503. Battery Allen "
 504. 80mm A.M.T.B. B'ty "
 505. 90mm A.M.T.B. B'ty. "

○	{ HDCP	Harbor defense command post.
○	{ HECP	Harbor entrance command post.
○	{ BC #	Battery command post.
○	{ EBC	Emergency battery command post.
○	CB	Searchlight controller booth.
○	{ B # 5 #	Battery observation post, Spotting post.
△	{ M #	Mine observation post.
□	{ M	Meteorological station.
□	{ T	Tide station.
□	{ SS	Signal station.
□		Mine casemate.
□		Fire-control switchboard room.
□		Combined F-C and post switchboard room.
□		Cable terminal.
□		Power house.
□	{ P	Pumping plant.
□	{ S	Searchlight power house.
□	{ P-G	Pump-Generator house.
□	{ CT	Cable tank.
□	{ LR	Mine loading room.
□	{ R	Radio.
□	{ T	Transmitter.
□	{ S Sh	Searchlight shelter.
□	{ SL	Searchlight, F, fixed, P, portable, M, mobile.
→	SCR	Surface craft detection station.

SERIAL NO.
 EDITION OF 1 MAY 1946
 REVISED

HARBOR DEFENSES OF THE COLUMBIA
 OREGON-WASHINGTON
 LEGEND

T. 9 N., R. 10 W., W.M.

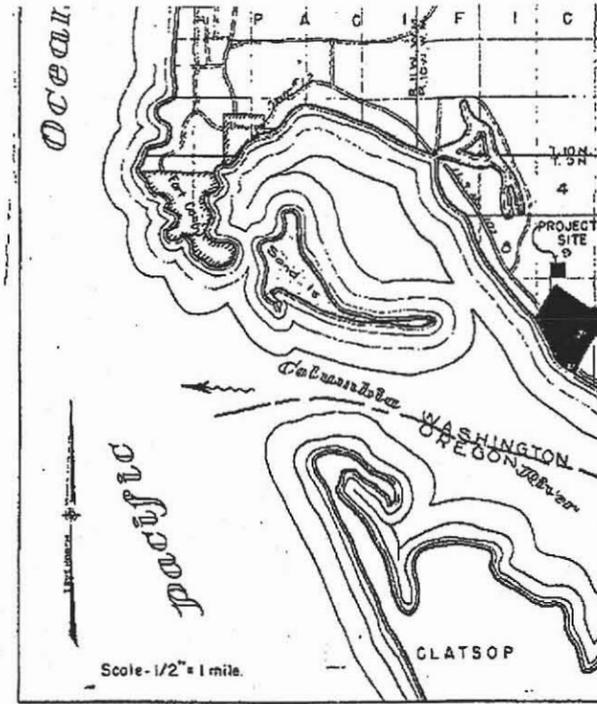


ND-9-2 Acquired by Declaration of Taking from the State of Washington; Civil No. 238. Judgment dated 10 May 1941, and recorded in Book 122, Page 336, on 24 May 1941.

ND-9-1: Acquired from R.J. McGowan & Sons by Easement Deed dated 16 May 1941, and recorded in Book 122, Page 524, on 2 September 1941.



STATE INDEX



VICINITY MAP

STATE WASHINGTON
 COUNTY PACIFIC
 DIVISION PACIFIC
 DISTRICT PORTLAND
 SERVICE COMMAND NINTH HARBOR DEFENSES OF THE COLUMBIA RIVER
 USING AGENCY THE COLUMBIA RIVER
 6 MILES SE OF ILWACO
 1.5 MILES N OF FORT COLUMBIA

TRANSPORTATION FACILITIES
 RAILROAD
 NO. 12 STATE ROAD
 U. S. NO. 101 FEDERAL ROAD
 AIRLINE

ACQUISITION
 TOTAL ACRES ACQUIRED 769.68
 ACRES FEE 736.35
 ACRES LEASED FROM W. D.
 ACRES TRANSFERRED TO W. D. 33.00
 ACRES DONATED TO W. D.
 ACRES LESSER INTERESTS 0.33
 DISPOSALS
 TOTAL ACRES DISPOSED OF 769.68
 ACRES TRANSFERRED TO W.A.A. FEE 591.90
 " " " TRANSFER 33.00
 " " " LESSER INT. 0.33
 ACRES TO GSA FEE 8.10
 ACRES LOST BY EROSION 136.35

LEGEND

BOUNDARY LINE	———
STATE OR PROVINCE LINE	———
COUNTY LINE	———
CIVIL DISTRICT PRECINCT	———
LAND-GRANT LINE	———
CITY, VILLAGE, OR BOROUGH	———
CEMETERY, SMALL PARK, ETC.	———
TOWNSHIP LINE	———
SECTION LINE	———

Scale 1" = 300'

ACQUISITION AUTHORIZATION
 ORIGINAL ACQUISITION
 (ACQUIRED PRIOR TO JULY 1, 1940) 729.35
 UNNUMBERED DIRECTIVE DATED 8 MAR 1941

ACQUIRED PRIOR TO 7-1-40
 FORT COLUMBIA
 MILITARY RESERVATION

729.35 ACRES

TRACT NO.	LAND OWNER	ACREAGE		REMARKS
		FEE	LESSER INTERESTS	
ND-9-1	P.J. MCGOWAN & SONS		0.33	
ND-9-2	STATE OF WASHINGTON	40.00		

ACCOUNTABILITY ASSUMED BY WAR ASSETS ADMINISTRATION ON 625.23 ACRES, 1 APRIL 1948.
 8.10 ACRES REPORTED EXCESS (GSA Form 30) TO GENERAL SERVICES ADMINISTRATION ON 14 OCTOBER 1953.
 WHO CONVEYED 8.10 ACRES BY QUITCLAIM DEED TO THE STATE OF WASHINGTON DATED 20 JUNE 1954.

AUDITED

WAR DEPARTMENT, O.C.E.
 CONSTRUCTION DIVISION
 REAL ESTATE
 FORT COLUMBIA
 MILITARY RESERVATION
 RECOMMENDED: Ernest H. Barrett DATE 25 Nov 45
 ENGINEER
 APPROVED: [Signature] DATE 25 NOV 45
 CHIEF, PORTLAND SUB-OFFICE
 COMPILED: J.G.S. TRACED: J.B.S. CHECKED: F.W.E.
 DATE BY REVISIONS APPR'D:
 11/24/45 L.A. Due to Final Audit 1516
 8/7/50 CMB Changed No. from 0-32235
 SHEETS: 1 OF 1 DRAWING NO. SF-RF-50

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX H

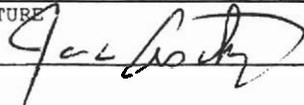
INTERVIEWS

APPENDIX H

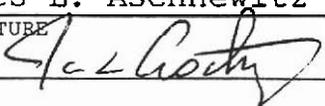
INTERVIEWS

Table of Contents

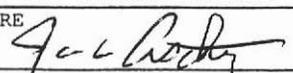
- H-1. Conversation Record, Interview with MS. Gale Hemmen.
- H-2. Conversation Record, Interview with Mr. William Lund.
- H-3. Conversation Record, Interview with Mr. Dave Hanson.
- H-4. Conservation Record, Interview with Mr. Evan Roberts.
- H-5. Conservation Record, Interview with Mr. Trophy Hughes.

CONVERSATION RECORD		TIME 0930	DATE 20 July 2003
TYPE			
<input type="checkbox"/> VISIT	<input type="checkbox"/> CONFERENCE	<input checked="" type="checkbox"/> TELEPHONE	
		<input type="checkbox"/> INCOMING	
		<input checked="" type="checkbox"/> OUTGOING	
NAME OF PERSON CONTACTED Ms. Gale Hemmen	ORGANIZATION Oregon State Park Service	TELEPHONE NO.	
SUBJECT Fort Columbia			
SUMMARY:			
<p>Ms. Gale Hemmen works with the Oregon State Park Service at Fort Stephens which is directly on the other side of the Columbia River from Fort Columbia. She has worked there for over twenty years and is quite familiar with Fort Columbia. She said much of her historical research on the Columbia River defense system also included Fort Columbia. She said that she was unaware of any type of OE related problems at either Fort. Ms. Hemmen said that about ten years ago a fisherman did find an empty floating mine at the very mouth of the Columbia River. She stated that it was never determined where the mine had come from but that it was definitely empty.</p>			
ACTION REQUIRED None			
NAME OF PERSON DOCUMENTING CONVERSATION James L. Aschnewitz	ORGANIZATION CEMVR-ED-DO	TELEPHONE NUMBER 309-794-5186	
SIGNATURE 	TITLE Safety Specialist	DATE 25 July 2003	

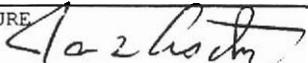
H-1

CONVERSATION RECORD		TIME 1300	DATE 20 July 2003
TYPE			
<input checked="" type="checkbox"/> VISIT		<input type="checkbox"/> CONFERENCE	<input type="checkbox"/> TELEPHONE INCOMING OUTGOING
NAME OF PERSON CONTACTED Mr. William Lund		ORGANIZATION Local Historian	TELEPHONE NO. 503-325-5783
SUBJECT Fort Columbia			
SUMMARY: Mr. Lund is a local historian that specializes in military history. He provided volunteer work at Fort Columbia several years ago and has done extensive research on the subject site. His prime project at Fort Columbia was to renovate the brig, which was completed about four years ago. Mr. Lund said that he has never heard of any ordnance problems on the subject site. Mr. Lund also said that he did not know of any environmental problems such as burial sites.			
ACTION REQUIRED None			
NAME OF PERSON DOCUMENTING CONVERSATION James L. Aschnewitz		ORGANIZATION CEMVR-ED-DO	TELEPHONE NUMBER 309-794-5186
SIGNATURE 		TITLE Safety Specialist	DATE 23 July 2003

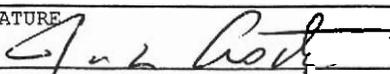
H-2

CONVERSATION RECORD		TIME	DATE 16 July 2003
TYPE			
<input type="checkbox"/> VISIT		<input type="checkbox"/> CONFERENCE	
		<input checked="" type="checkbox"/>	TELEPHONE
		<input checked="" type="checkbox"/>	INCOMING
			OUTGOING
NAME OF PERSON CONTACTED Mr. David Hansen		ORGANIZATION Office of Archeology and Historic Preservation	TELEPHONE NO. 360-902-0930
SUBJECT Fort Columbia			
SUMMARY: Mr. David Hansen works for the State Historical Preservation Office and has done a large amount of research on the Columbia River Defense System. He said that Fort Columbia was one of his favorite historical landmarks in the state of Washington. Mr. Hansen has done work at Fort Columbia researching all aspects of historical and cultural. He said that during the research no problems were ever uncovered with ordnance or explosives.			
ACTION REQUIRED None			
NAME OF PERSON DOCUMENTING CONVERSATION James L. Aschnewitz		ORGANIZATION CEMVR-ED-DO	TELEPHONE NUMBER 309-794-5186
SIGNATURE 		TITLE Safety Specialist	DATE 16 July 2003

H-3

CONVERSATION RECORD		TIME	DATE 21 July 2003
TYPE			
<input checked="" type="checkbox"/> VISIT	<input type="checkbox"/> CONFERENCE	<input checked="" type="checkbox"/> TELEPHONE	
		<input type="checkbox"/> INCOMING	
		<input checked="" type="checkbox"/> OUTGOING	
NAME OF PERSON CONTACTED Mr. Evan Roberts	ORGANIZATION Washington State Park System	TELEPHONE NO. 360-777-8221	
SUBJECT Fort Columbia			
SUMMARY: Mr. Roberts is the Washington State Park Ranger in charge of the Fort Columbia State Park. During the course of this interview Mr. Roberts stated that there has never been any reports of any OE being found on the park property. He added that one battery had been filled in with dirt almost immediately after it was constructed due to a water seepage problem and that he was not sure if anything had been buried during the process. However, he added that since the battery was directly in front of the Commander's house probably only clean fill was used. Mr. Roberts went on to say that he didn't feel that there were any burial sites in the area and that he has never found any evidence to support any other type of chemical contamination. He stated that there was no ordnance in any of the battery shell rooms or in any other structures. Mr. Evans escorted the Site Inspection Team over the entire park. With the exception of several former private homes all the structures on the site were visited.			
ACTION REQUIRED None			
NAME OF PERSON DOCUMENTING CONVERSATION James L. Aschnewitz	ORGANIZATION CEMVR-ED-DO	TELEPHONE NUMBER 309-794-5186	
SIGNATURE 	TITLE Safety Specialist	DATE 28 July 2003	

H-4

CONVERSATION RECORD		TIME 1000	DATE 30 July 2003
<input type="checkbox"/> VISIT	<input type="checkbox"/> CONFERENCE		<input checked="" type="checkbox"/> TELEPHONE <input checked="" type="checkbox"/> INCOMING
NAME OF PERSON CONTACTED Mr. Trophy Hughes	ORGANIZATION Knowledgeable Person	TELEPHONE NO. 360-777-8412	
SUBJECT Fort Columbia			
<p>SUMMARY:</p> <p>Mr. Trophy Hughes, an extremely knowledgeable person on Fort Columbia, was stationed at the fort for several years before and during WWII. Mr. Hughes said that he was trained at Fort Stevens that is just across the river from Fort Columbia. He then reported in for duty at Fort Columbia. Mr. Hughes was assigned to Battery C, 18th Coastal Artillery and later to the 249th Coastal Artillery. Mr. Hughes duties at the fort were food service and serving as a member of the gun crew. He stated that their training with artillery was focused on firing solid projectiles at towed water targets. The rounds fired were 6 inch TP and occasionally 37mm solid practice rounds. He said they checked their accuracy by watching splashes that could be easily seen in the water. Mr. Hughes stated that High Explosive rounds were never fired from the Fort Columbia batteries. He said that there were no anti-aircraft positions on Fort Columbia. Mr. Hughes stated another interesting fact. He said that he pulled the lanyard on the last round fired for training at Fort Columbia. He also said that there was never a round fired from the fort in anger. Mr. Hughes said that they never trained at Fort Columbia for chemical warfare with any type of chemical agents. He said there was no training facility on-site. Mr. Hughes said that he had been all over the fort at one time or another and that there never was a landfill on the property. He said that when the army saw that the United States was rapidly winning the war and that there was no longer threat from enemy attack the coastal batteries were placed in caretaker status and the guns were removed. He said that battery 246 was never completed. Mr. Hughes served for a time during caretaker status of the fort and then was discharged.</p> <p>Mr. Hughes said that all the ammunition was shipped to Fort Stevens and Army munitions depots. He stated that no ordnance or explosives remained at the fort.</p>			
NAME OF PERSON DOCUMENTING CONVERSATION James L. Aschnewitz	ORGANIZATION CEMVR-ED-DO	TELEPHONE NUMBER 309-794-5186	
SIGNATURE 	TITLE Safety Specialist	DATE 2 July 2003	

H-5

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX I

SITE SAFETY AND HEALTH PLAN

APPENDIX I

SITE SAFETY AND HEALTH PLAN

I-1. Site Safety Health Plan dated 18 July 2003 (B-1)

U.S. ARMY CORPS OF ENGINEERS
 ROCK ISLAND
 DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
 for
 FORMERLY USED DEFENSE SITES
 ORDNANCE AND EXPLOSIVES
 APPENDIX A-310
 former
 FORMER FORT COLUMBIA MILITARY RESERVATION
 PROJECT NUMBER F10WA031401

1. PURPOSE

The purpose of this appendix is to provide specific site characteristics of OE potential for the former Fort Columbia Military Reservation, Pacific County, Washington. This appendix supplements the main safety plan.

2. ON-SITE ORGANIZATION/COORDINATION

Members of the inspection/coordination team are shown in Table A-310.1. The number of inspection personnel team members on-site will not exceed 4 per inspection. Guides, property owners, and escorts are not included in this figure; however, the number of personnel present on the site must be kept to a minimum consistent with safe and efficient inspection practices.

TABLE A-310.1 ON-SITE ORGANIZATION/COORDINATION			
Function	Organization	POC	Telephone
Assessment Team	CEMVR-ED-DO	James L. Aschnewitz* UXO Safety Specialist (EOD)	(309) 794-5186
	CEMVR-ED-DO	Tim Holland UXO Safety Specialist (EOD)	(309) 794-5432
Project Engineer	CEMVR-ED-DO	Robert E. Hoffman Civil Engr, P.E.	(309) 794-5504

TABLE A-310.1 Continued
ON-SITE ORGANIZATION/COORDINATION

Function	Organization	POC	Telephone
Geographic District Support	CENWS-PM-HW	Jonathan Maas District POC	(206) 764-6745
Industrial Hygiene	HSXP-RIA	Bob Platt Hygienist	(309) 794-0806
Division Support	CEHNC-OE-S	Wayne Galloway UXO Safety Spec.	(256) 895-1582 (800) 627-3532
* Team leader			

3. SITE DESCRIPTION

The former Fort Columbia Military Reservation, Pacific County, Washington, consisted of approximately 769.68 acres and was utilized by the United States Army for defense of the Columbia River from 1864 until it was declared surplus to the War Departments needs in 1947. The War Assets Administration accepted responsibility of the site in 1953. The former site is located near the Pacific Ocean near the mouth of the Columbia River.

4. LIST OF EMERGENCY TELEPHONE NUMBERS

TABLE A-310.2
EMERGENCY PHONE NUMBERS

Functions	Organization	Telephone
County Sheriff	Pacific County Long Beach, WA 98631	(360) 642-9403
Police	Long Beach City Police Long Beach, WA 98631	(360) 642-3416
Hospital	Ocean Beach Hospital Ilwaco, WA 98631	(360)-642-3181
Safety Office	COE, Huntsville, AL	(256) 895-1582
Explosive Ordnance Disposal	53rd Ordnance Company Fort Lewis, WA, 98901	(509) 577-3376

5. ORDNANCE AND EXPLOSIVE PRESENCE POTENTIAL

Table A-310.3 lists potential ordnance and explosive hazards that may be present at the former Fort Columbia Military Reservation.

TABLE A-310.3 POTENTIAL OEW HAZARDS AND EVALUATION		
OEW	HAZ CL/DIV	POTENTIAL HAZARD
Small Arms Ammunition through .50 cal	1.4	Moderate Fire
6-Inch HE Artillery	1.1	Detonation

6. PERSONAL PROTECTIVE CLOTHING

a. Table A-310.4 includes personal protective equipment that must be readily available should it be required/needed. As each site presents a unique set of circumstances, the determination of "need" shall be based on the information in the following table, and determined by the team leader.

TABLE A-310.4 PERSONNEL PROTECTIVE CLOTHING		
Work Area/Zone	Job Function/Task	Level of Clothing
All Areas	Visual Inspection	Safety Shoes Hard Hat (as Req'd) Eye Protection (as Req'd) Hearing Protection

b. Table A-310.5 lists specialized equipment anticipated for general safety purposes. The team leader is responsible for determining appropriate use of the equipment.

TABLE A-310.5
GENERAL EQUIPMENT

Type	Comments
Global Positioning System (GPS)	Used to determine exact locations of OEW and significant landmarks.
First Aid Kit	Used to treat minor injuries
Cellular Phone	Used to request medical or other assistance (as Req'd)

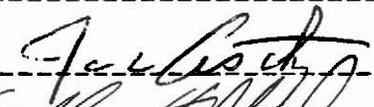
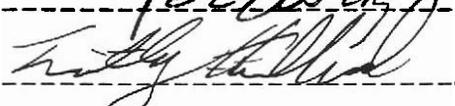
7. SITE SAFETY

a. Standard safety practices will be followed at all times. All personnel accompanying the SI team will be briefed on the team's purpose and the requirement of not disturbing any OE material during the investigation.

b. Intrusive sampling will not be permitted during conduct of inspections. Located ordnance or explosives, as required, will be brought to the attention of the USACE, Huntsville Division Safety Office. Local law enforcement officials will be notified immediately. The handling and disposal of any found ordnance shall be conducted by EOD personnel.

8. SIGNATURES

My signature below signifies that I have read, understand, and will follow the requirements of the above Site Safety Plan for Ordnance and Explosives (OE) Investigation at the former Fort Columbia Military Reservation. Furthermore, I attended and participated in the safety briefing conducted prior to the on-site visit.

Print Name	Signature	Office Symbol/Date
James L. Aschnewitz		309 794 5186
Tim Holland		309 794 5432

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX J

SITE INSPECTION REPORT

APPENDIX J

SITE INSPECTION REPORT

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J-1. Site Inspection Report.

J-2. Site Inspection Route.

APPENDIX J

Site Inspection Report

The purpose of this report is to provide a condensed word picture of the on-site inspection of the former Fort Columbia Military Reservation. The on-site inspection occurred on 20 July 2003. The Site Inspection team (SI team) had previously made an appointment with Park Ranger Roberts for an accompanied inspection of the former military site.

The site inspection began when the SI team met up with Park Ranger Roberts at the old fort firehouse that has been converted for a supply storage area and vehicle parking. Using an all-terrain vehicle the SI team proceeded east past the billeting area and then approximately a quarter of mile north up a heavily forested steep trail to an observation and command post area. This area provided a commanding view of the cantonment and battery area of the camp as well as a panoramic view of the Columbia River. Command post and observation buildings were still standing. This area did not have any record of ordnance presence.

The SI team continued up the trail to the highest observation and communication post. This area had no structures other than a concrete post with telephone line connections. The area is approximately 500 feet above sea level. The highest elevation in the park is approximately 750 feet above sea level. The SI team proceeded back down the hill by another route that had no structures on it at all. This route went along the eastern boundary of the park and ended up back in the cantonment area. No ordnance or CWM areas were noted on the way up the hill or on the way back down the hill.

The SI continued through the billeting and cantonment area not noting anything that had any relevance to ordnance or explosive. Below the former commanding officers quarters is the mounded over battery structure, Battery Ord. This portion of Battery Ord was filled in with dirt shortly after construction because of continual water seepage problems. The area is mounded over with earth and nicely landscaped. A few yards to the west is the surviving portion of Battery Ord that housed the two 8-inch guns. The SI team visually checked the old battery. The old shell, shot and powder rooms were empty. It was obvious to the SI Team that the concrete structure had not been used as a battery since early WWI time period. No evidence of ordnance presence was seen.

The SI team then proceeded on to the remaining three batteries. Battery 246, then Battery Crenshaw and finally Battery Murphy were gone over in the same manner as Battery Ord. Like Ord, these three batteries were thoroughly checked and found to be free of any ordnance presence.

The mine casement buildings were next on the inspection list. The old mine casement building located just west of Battery Murphy was checked inside and out. The SI team then progressed several hundred yards to the west and went through the new mine casement building. This building was also found to be free of ordnance presence. While at this location the SI team also viewed the backside of the casement building where the mine mooring lines exited the building into the river and the adjacent bay where the docks had been for loading mines onto mine laying watercraft. The weathered pilings from the dock were the only remaining evidence of the former operations area.

The SI team then worked their way around a small point along the river edge and viewed the shoreline of the former Fort Columbia. No ordnance presence was found.

After an entire day of visually inspecting the grounds and buildings of the former fort Columbia the conclusion was reached that there was no ordnance presence on the subject site.



SITE INSPECTION ROUTE

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031401

APPENDIX K

PRESENT SITE PHOTOGRAPHS

APPENDIX K

PRESENT SITE PHOTOGRAPHS

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- K-1. Entrance to site.
- K-2. Central cantonment area.
- K-3. Command post and observation post.
- K-4. Interior of observation post.
- K-5. Communication and observation area.
- K-6. Commanding officer's quarters.
- K-7. Battery Ord third gun station.
- K-8. Battery Ord.
- K-9. Fort Columbia tunnel.
- K-10. 6-inch Battery 246.
- K-11. Shell room in Battery 246
- K-12. Entrance to Battery 246.
- K-13. Battery Crenshaw gun mount stations.
- K-14. Battery Crenshaw history.
- K-15. Battery Murphy gun mount stations.
- K-16. Rear view of Battery Murphy.
- E-17. Battery Murphy field of fire.
- K-18. Battery Murphy history.
- K-19. Old mine casement building.

- K-20. New mine casement building.
- K-21. Interior mine casement building.
- K-22. Interior mine casement building.
- K-23. Rear of new mine casement building.
- K-24. Shoreline of Columbia River below Battery Murphy.



K-1. Entrance to Fort Columbia State Park.



K-2. Facing central cantonment area from west of Battery 246.



K-3. Command Post and Observation Post midway up hillside.



K-4. Interior of Observation Post still quite well preserved



K-5. Communications and Observation Area near top of hill overlooking Columbia River



K-6. Former commanding officer's quarters. Photo taken from 3rd gun station (buried) of Battery Ord.



K-7. Battery Ord buried gun station. Completely filled in and landscaped.



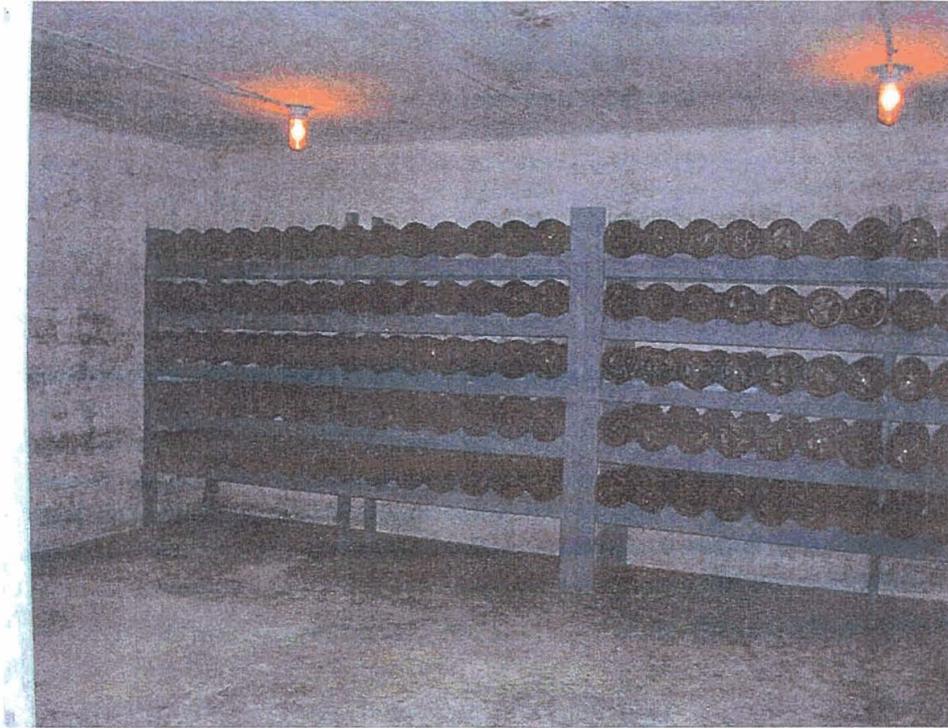
K-8. State park informational sign stating battery was buried soon after construction.



K-9. U.S. Highway 101 tunnels under Fort Columbia, directly under Battery 246.



K-10. 6-inch guns of Battery 246. Center mound is buried shell/power rooms and fire control stations.



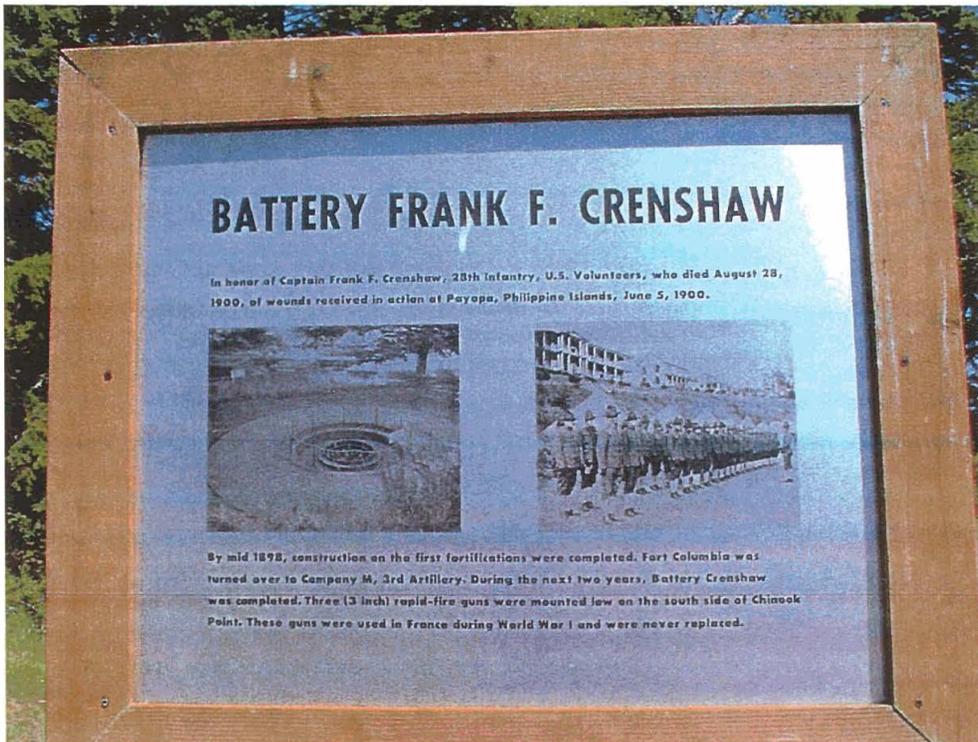
K-11. Shell room inside battery 246 is being restored.



K-12. Entrance to Battery 246. Battery was built to be bomb proof and gas proof. Used as Civil Defense Shelter for state government officials in 1960's.



K-13. Battery Crenshaw's three mounting stations for its 3-inch guns.



K-14. State park informational sign states guns were shipped to France for use in WWI.



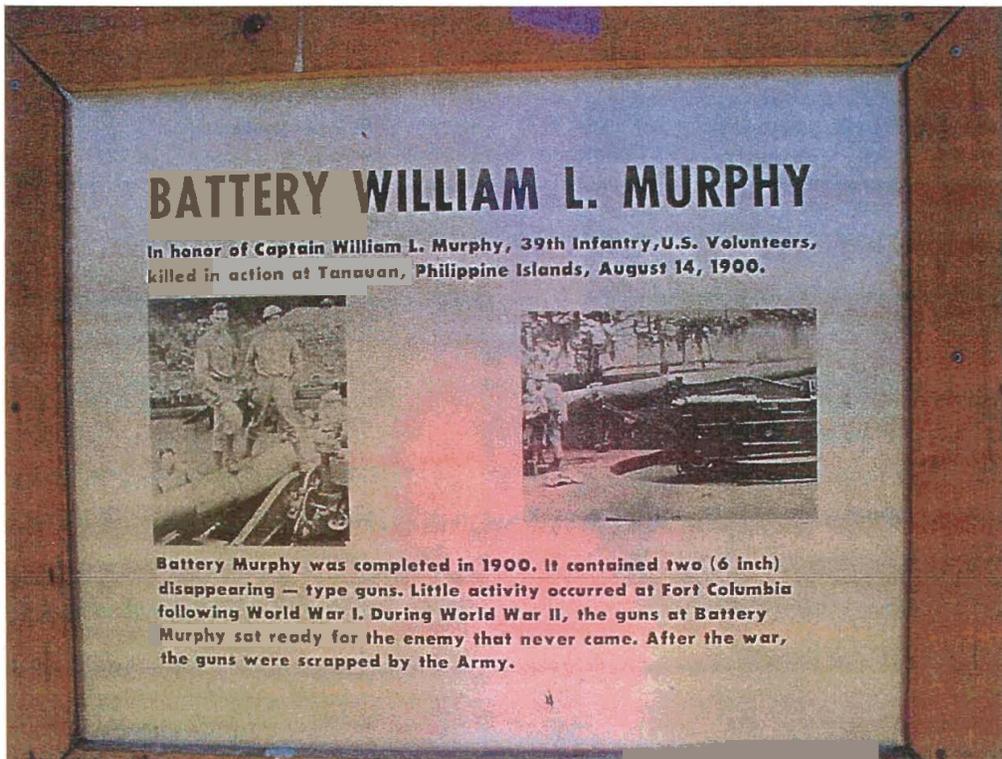
K-15. Battery Murphy had two 6-inch disappearing mount guns. Structure is open and in good condition.



K-16. Rear of Battery Murphy overlooking the Columbia River. Only operational battery during both WWI and WWII.



K-17. Battery Murphy had an excellent field of fire over the Columbia River.



K-18. State park sign provides a history to park visitors.



K-19. Entrance to the old mine casement building. Building is always secured.



K-20. The new mine casement building entrance on the right. This structure was supposed to be bomb proof and gas proof.



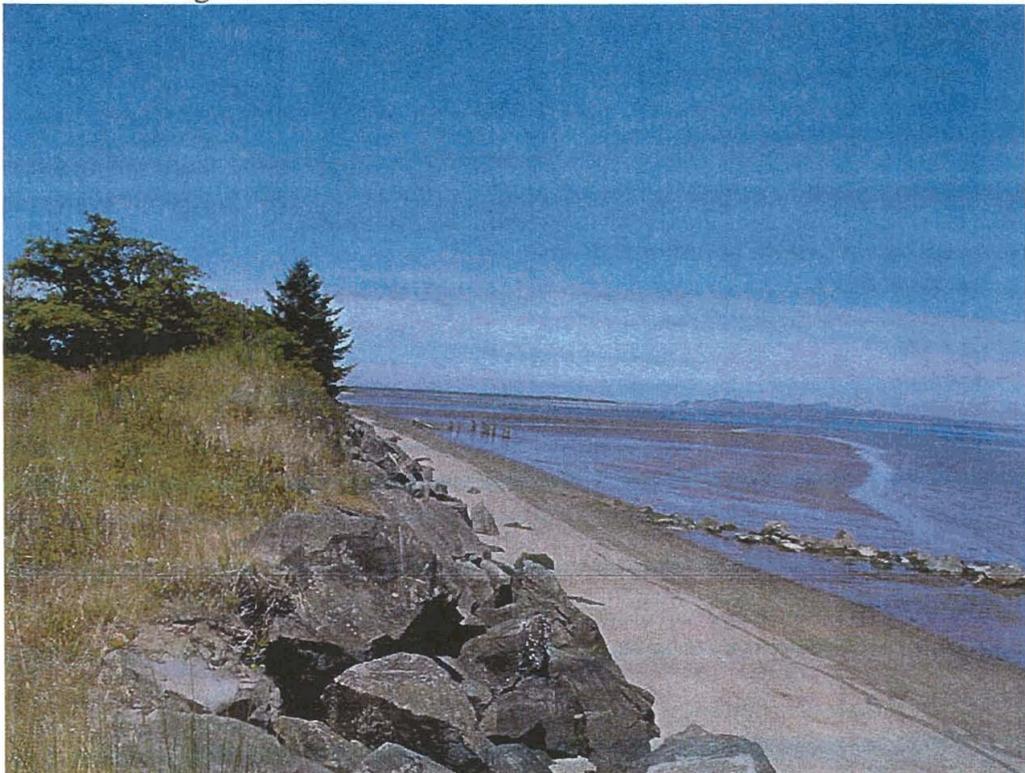
K-21. Interior floor of the new mine casement building. Deteriorated asphalt tiles would require removal prior to park allowing visitors.



K-22. Deteriorating cable and walls within the new mine casement building.



K-23. Riverside view of new mine casement building where the cabling used to exit for securing the mines in the river.



K-24. River directly in front of Battery Murphy. Battery firing practice was directed to towed targets down the center of the river.

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX L

RESPONSE TO COMMENTS

DESIGN REVIEW COMMENTS

PROJECT Fort Columbia Military Reservation F10WA031402

- | | | | |
|---|--|---|---|
| <input type="checkbox"/> SITE DEV & GEO | <input type="checkbox"/> MECHANICAL | <input type="checkbox"/> OE SAFETY | <input type="checkbox"/> SYSTEMS ENG |
| <input type="checkbox"/> ENVIR PROT& UTIL | <input type="checkbox"/> MFG TECHNOLOGY | <input type="checkbox"/> ADV TECH | <input type="checkbox"/> VALUE ENG |
| <input type="checkbox"/> ARCHITECTURAL | <input type="checkbox"/> ELECTRICAL | <input type="checkbox"/> ESTIMATING | <input checked="" type="checkbox"/> OTHER - USA Environmental, Inc. |
| <input type="checkbox"/> STRUCTURAL | <input type="checkbox"/> INST & CONTROLS | <input type="checkbox"/> SPECIFICATIONS | |

REVIEW ASR Review
 DATE 27 February 2004
 NAME Doug Ralston 813-884-5722 x104

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1	General	Draft ASR for Fort Columbia Military Reservation, Pacific County Washington was reviewed for accuracy and completeness. Based on this review the following comments are provided:	
2	General	I concur with the RAC score of 5 for the site. NDAI. as supported by the ASR as written.	

ACTION CODES W - WITHDRAWN
 A - ACCEPTED/CONCUR N - NON-CONCUR
 D - ACTION DEFERRED VE - VE POTENTIAL/VEP ATTACHED

DESIGN REVIEW COMMENTS

F10WA031402

PROJECT DERP FUDS Fort Columbia Military
Reservation

ASR/INPR TEAM

REVIEW ASR TAG OE

DATE 2 August 2004

NAME Daniel Linehan (918)420-8867

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	General	After reviewing this ASR, I concur with the ASR and HNC Safety for a RAC 5. There are no areas of confirmed or potential MEC presence.	
2.	General 5b, Table 5-1	Additional FUDS. Deleting reference to Area B as an area of concern. Public exposure pathway is no longer required to be addressed.	<i>merge g/w gsk</i>
3.	RAC	Changed RAC form, Part II, Section A from "0" to "2". Should MEC be present, it would be subsurface. This increased the Hazard Probability from "Occasional" to "Probable". A revised RAC form is attached.	

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
FOR THE
FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX M

TAG REVIEW FACT SHEET



DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

REPLY TO
ATTENTION OF
CEHNC-OE-CX (200-1c)

30 September 2004

MEMORANDUM FOR Commander, US Army Engineer District, Rock Island (CENCR-ED-D/
Mr. Bob Hoffman), Clock Tower Building, PO Box 2004, Rock Island, IL 61204-2004

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search
Reports (ASRs) and Fact Sheets for Defense Environmental Restoration Program-Formerly Used
Defense Sites (DERP-FUDS)

1. The following ASRs and Fact Sheets have been finalized:

PROJECT NUMBER:

J09CA098303
J09CA019101
J09CA021501
J09CA019001
J09CA069701
J09CA731001
J09CA730901
K06NM45201
K06NM045001
K06OK067801
D01MA024801
F10WA031402
F10AK031903
K06OK011803
D01MA000909
F10AK022506
C03VA017002
D01ME003201
E05IL006201
K06NM044801
E05IL004102
J09CA701901

SITE NAME:

Two Rock Ranch Station - *Vann*
Salton Sea Skip Bomb Target #61 - *Heleg-Gra*
El Segundo Battery Site - *Aschewitz*
Salton Sea Bomb Target (FBT 19) (#60) -
Victory Pier LA Pier of Embarkation, Long Beach, CA - *Aubrey*
Sheep Hole Mountains Sonic Scoring Bomb Target #2 - *Aubrey*
Sheep Hole Mountains Sonic Scoring Bomb Target #1 - *Aubrey*
Kirtland AFB Precision Bombing Range Number S-15 - *Lux*
Kirtland AFB Precision Bombing Range S-13 - *Plante*
Delhi Auxiliary Airfield - *Aubrey*
Tom Nevers Naval Base - *Ofsburn*
Fort Columbia Military Reservation - *Aschewitz*
Gulkana Prepositioning and Army Site - *Heleg-Graza*
Ardmore AFB - *Aubrey*
Camp Edwards Range H - *Ofsburn*
Susitna Gunnery Range - *Heleg-Graza*
AAA Huntley Meadows - *Aubrey*
Property of City of Eastport (Fort Sullivan) - *Ofsburn*
Chicago Aircraft Assembly Plant - *Plante*
Kirtland AFB Precision Bombing Range Number S-11 - *Lux*
Camp Grant - *Vann*
Naval Auxiliary Landing Field Crows Landing - *Churney*

2. Recommended strategy for future actions to be taken by the Project Manager is included in the enclosed fact sheets. Supporting data for TAG decisions are also included with the fact sheets.

CEHNC-OE-CX (200-1c)

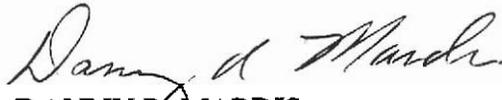
30 September 2004

SUBJECT: Results of the Technical Advisory Group (TAG) Review of Archives Search Reports (ASRs) and Fact Sheets for Defense Environmental Restoration Program-Formerly Used Defense Sites (DERP-FUDS)

3. Fact sheets, supporting data and corrected pages, due to prior reviews, are to be distributed with the subject ASRs.
4. Subject ASRs are recommended to be final when enclosed fact sheets, supporting data and corrected pages are included as a part of the project package.
5. If you have any questions concerning this action, please call me at 256-895-1797, DSN 760-1797, or facsimile 256-895-1798.

FOR THE DIRECTOR OF ORDNANCE AND EXPLOSIVES DIRECTORATE:

22 Encls
as


DANNY R. MARDIS
Archives Search Report Manager
for Ordnance and Explosives Team

**RESTORATION INFORMATION MANAGEMENT SYSTEM
FORMERLY USED DEFENSE SITES (FUDS)
PROJECT FACT SHEET
DATE SEPTEMBER 2003
TAG REVIEW DATE: 17 AUGUST 2004**

1. **SITE NAME:** Fort Columbia Military Reservation

SITE NUMBER: F10WA031400

LOCATION:

City: Chinook
County: Pacific
State: Washington

PROJECT NUMBER: F10WA031402

CATEGORY: MMRP

INPR RAC:

ASR RAC: 5

TAG RAC: 5

2. **POC'S:**

GEOGRAPHIC DISTRICT:

Name Jonathan Maas
Office: CENWS-PM-HW
Phone: 206-764-6745

GEOGRAPHIC DIVISION:

Name: David Nusz
Office: CENWD-MT-MH
Phone: 402-697-2523

HEADQUARTERS:

Name: Dale Moeller
Office: CEMP-RF
Phone: 202-761-4694

ASR/INPR TEAM:

Name: Bradford McCowan
Office: CEHNC-OE-CX
Phone: 256-895-1174

ASR SUPPORT DISTRICT:

Name: James Aschne^vitz
Office: CEMVS-ED-P
Phone: 314-331-5186

ASR TECHNICAL REVIEWER:

Name: Daniel Linehan
Office: SJMAC-ESM
Phone: 918-420-8867

3. **SITE DESCRIPTION:**

a. Fort Columbia Military Reservation consisted of 768.9 acres located approximately 6 miles southeast of Ilwaco, WA overlooking the Columbia River. The site lies atop steep cliffs and is characterized by coastal defense remnants of various levels of restoration, manicured landscape, heavily timbered and overgrown areas, and areas only accessible by ATV.

b. The site inspection team did not observe any MEC presence.

4. **SITE HISTORY:**

a. The property for Fort Columbia Military Reservation was purchased in 1864. The land lay dormant until 1898 because the Spanish-American War inspired new interest in the defense of the Columbia River. MEC related activities included 3", 6", 8" guns and marine mines. Between WWI and WWII the site was in a caretaker status. It was registered as a National Historic Site in 1951. During the Cold War, one dismantled battery served as a civil defense shelter for State Officials.

b. The land was purchased in 1864. It was declared surplus in 1947. In 1948, the War Assets Administration assumed custody and accountability of the site. The State of Washington was granted ownership. In 1951, it was dedicated as a Historic State Park.

c. The land is currently owned by the State of Washington and a timber harvesting company.

5. **PROJECT DESCRIPTION:**

Size, Acres: 769.68

Former Usage: Coastal Defense

Present Usage: Recreation / Forestry

Probable End Usage: Same

MEC Presence:

Confirmed: None

Potential: None

ASR Recommends: RAC 5

HNC Safety: RAC 5

6. **CURRENT STATUS:**

The U.S. Army Corps of Engineers, Rock Island District completed the Archives Search Report for Fort Columbia Military Reservation in September 2003.

7. **STRATEGY:**

NDAI

8. **ISSUES AND CONCERNS:**

a. The archive search uncovered no documentation relating to CWM at Fort Columbia Military Reservation. The archive search team found no indication that the US Army conducted CWM training, storage or disposal at this site.

b. Additional FUDS. Deleting reference to Area B as an area of concern. Public exposure pathway is no longer required to be addressed. (5b, Table 5-1)

c. Changed RAC form, Part II, Section A from "0" to "2". Should MEC be present, it would be subsurface. This increased the Hazard Probability from "Occasional" to "Probable".

d. **The Huntsville Center Technical Advisory Group met and evaluated this ASR on 17 August 2004. The consensus was RAC 5.**

9. **SCHEDULE SUMMARY:**

<u>Phase</u>	<u>Orig.</u>	<u>Sch.</u>	<u>Actual</u>	<u>Orig.</u>	<u>Sch.</u>	<u>Actual</u>
	<u>Start</u>	<u>Start</u>	<u>Start</u>	<u>Comp.</u>	<u>Comp.</u>	<u>Comp.</u>

10. **FUNDING/BUDGET SUMMARY:**

<u>Year</u>	<u>Phase</u>	<u>EXEC</u>	<u>IN House</u>	<u>Contract</u>	<u>Funds</u>
		<u>FOA</u>	<u>Required</u>	<u>Required</u>	<u>Obligated</u>

ORDNANCE AND EXPLOSIVES
ARCHIVES SEARCH REPORT
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FORMER FORT COLUMBIA MILITARY RESERVATION
PACIFIC COUNTY, WASHINGTON
PROJECT NUMBER F10WA031402

APPENDIX N

REPORT DISTRIBUTION LIST

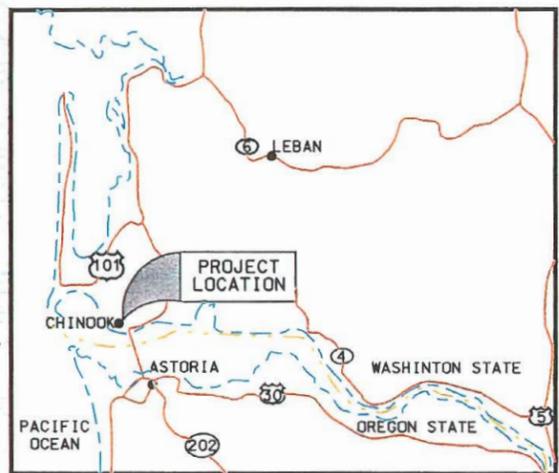
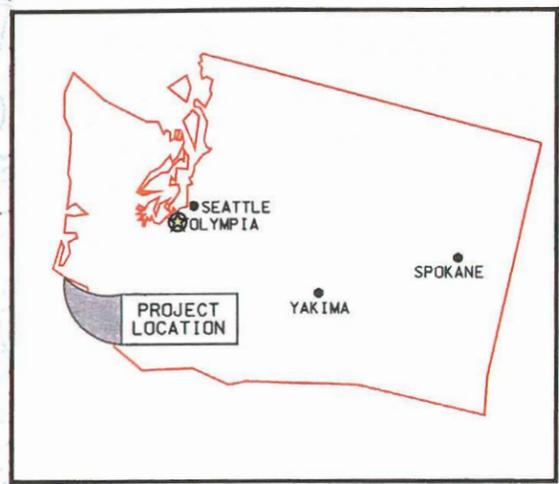
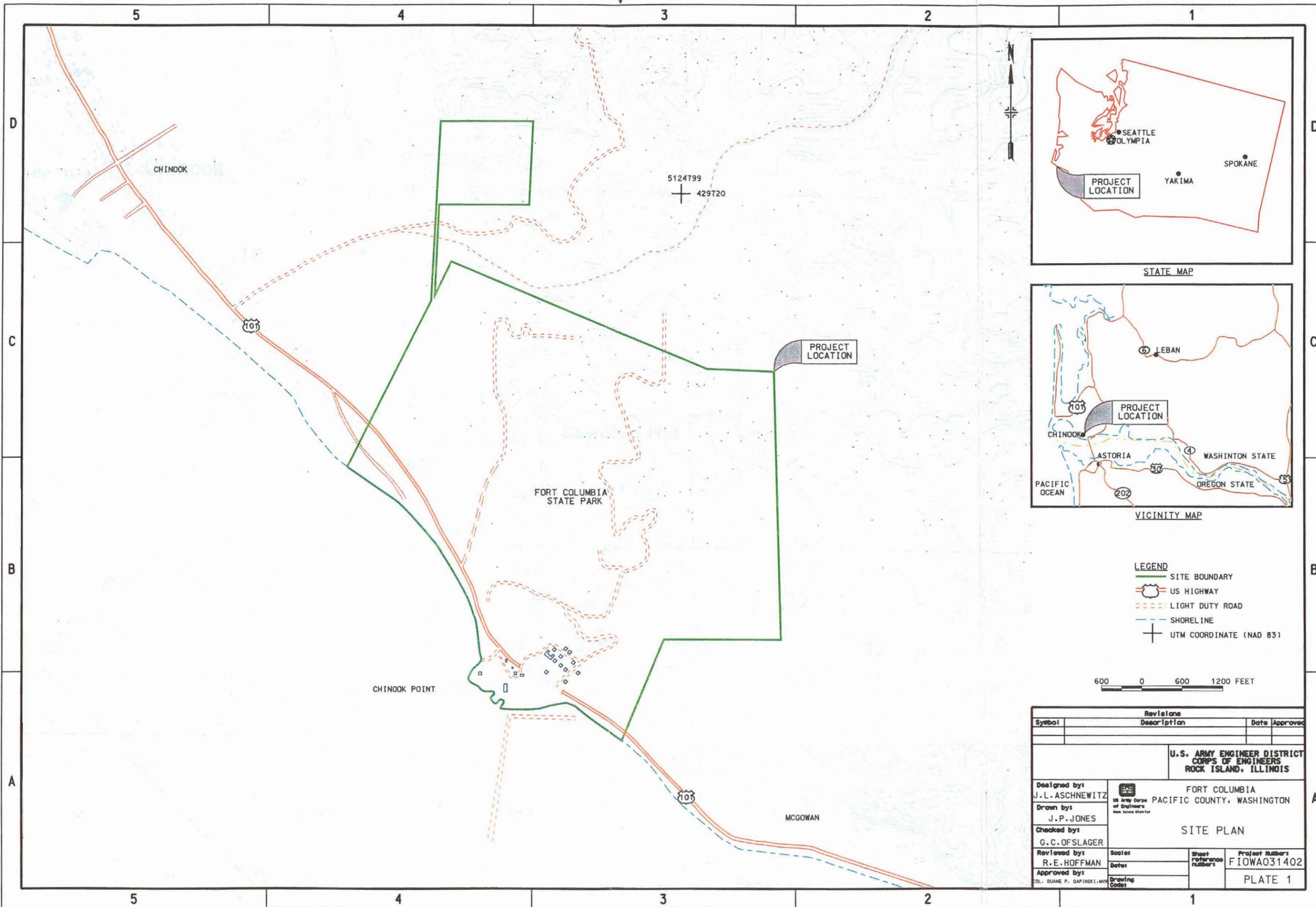
APPENDIX N

REPORT DISTRIBUTION LIST

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Commander, U.S. Army Corps of Engineers Seattle District, ATTN: CENWS-PM-HW (Maas) Post Office Box 3755 Seattle, Washington, 98124-2255	2		

Report Plates

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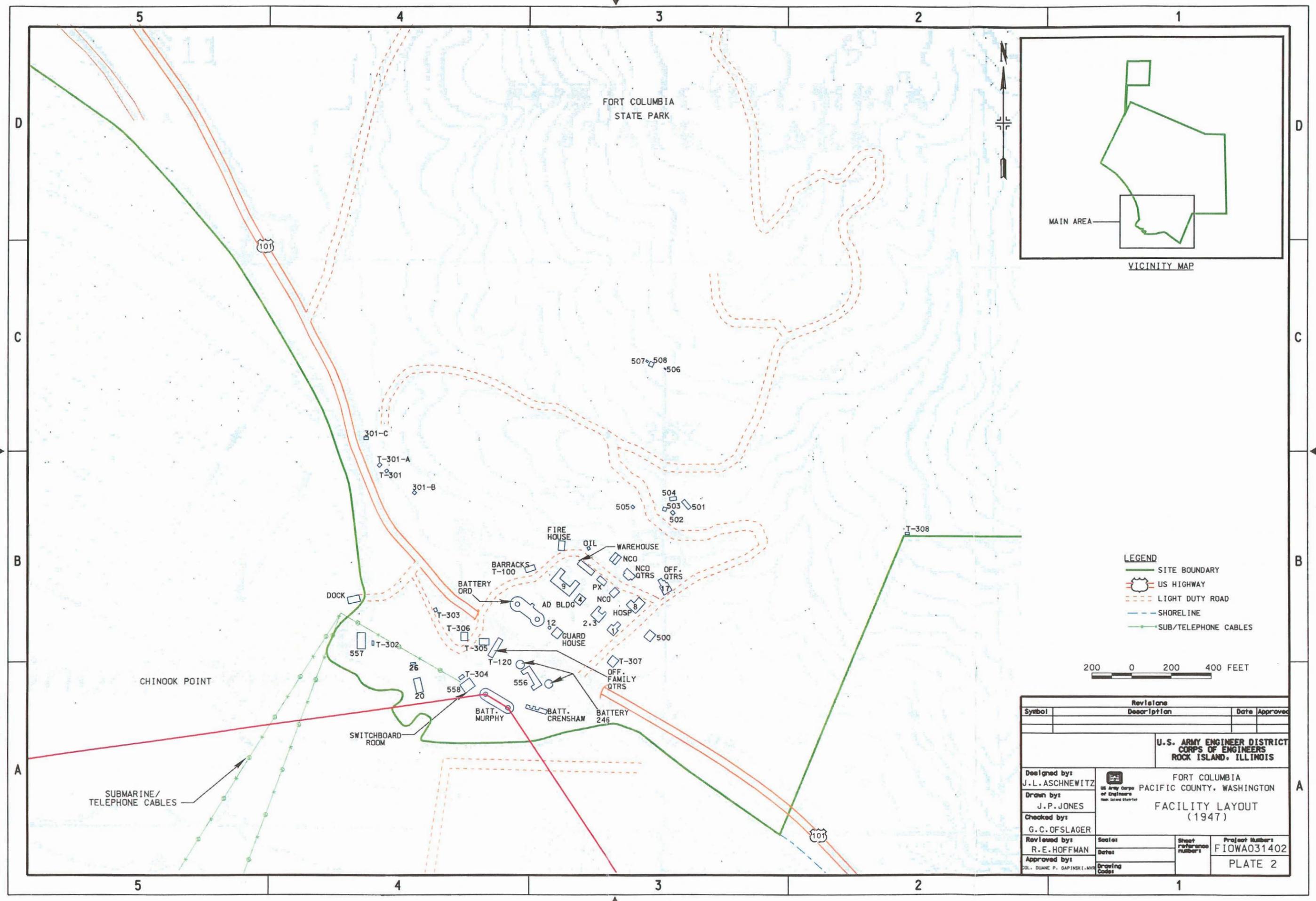


- LEGEND**
- SITE BOUNDARY
 - US HIGHWAY
 - - - LIGHT DUTY ROAD
 - - - SHORELINE
 - ⊕ UTM COORDINATE (NAD 83)



Revisions			
Symbol	Description	Date	Approved
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS			
Designed by: J.L. ASCHNEWITZ Drawn by: J.P. JONES Checked by: G.C. OFSLAGER Reviewed by: R.E. HOFFMAN Approved by: COL. DUANE P. GAPINSKI, MVR	FORT COLUMBIA PACIFIC COUNTY, WASHINGTON SITE PLAN		
Scales: Dates: Drawing Codes:	Sheet reference numbers: F IOWA031402	Project Numbers: PLATE 1	

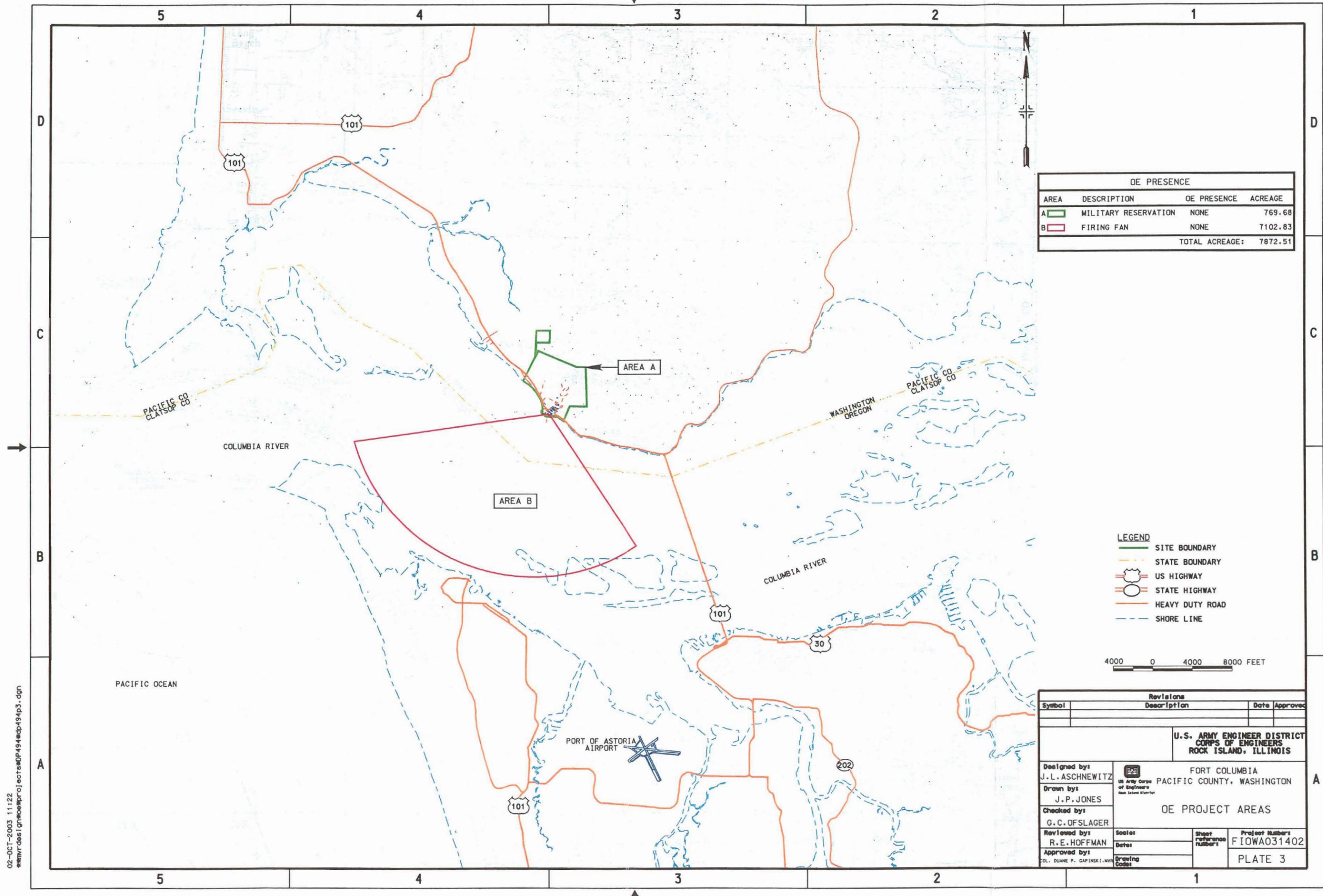
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- LEGEND**
- SITE BOUNDARY
 - US HIGHWAY
 - - - LIGHT DUTY ROAD
 - - - SHORELINE
 - - - SUB/TELEPHONE CABLES

200 0 200 400 FEET

Revisions		Date	Approved
Symbol	Description		
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Drawn by: J.P. JONES	FACILITY LAYOUT (1947)		
Checked by: G.C. OFSLAGER	Scale:	Sheet reference number:	Project Number: FIOWA031402
Reviewed by: R.E. HOFFMAN	Date:	Drawing Code:	PLATE 2
Approved by: COL. DUANE P. GAPINSKI, MVR			



OE PRESENCE			
AREA	DESCRIPTION	OE PRESENCE	ACREAGE
A	MILITARY RESERVATION	NONE	769.68
B	FIRING FAN	NONE	7102.83
TOTAL ACREAGE:			7872.51

LEGEND

	SITE BOUNDARY
	STATE BOUNDARY
	US HIGHWAY
	STATE HIGHWAY
	HEAVY DUTY ROAD
	SHORE LINE



Revisions			
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Drawn by: J. P. JONES		OE PROJECT AREAS	
Checked by: G. C. OFSLAGER		Project Numbers FIOWA031402	
Reviewed by: R. E. HOFFMAN		Sheet reference number: PLATE 3	
Approved by: COL. DUANE P. GAPINSKI, WYR		Drawing Codes	

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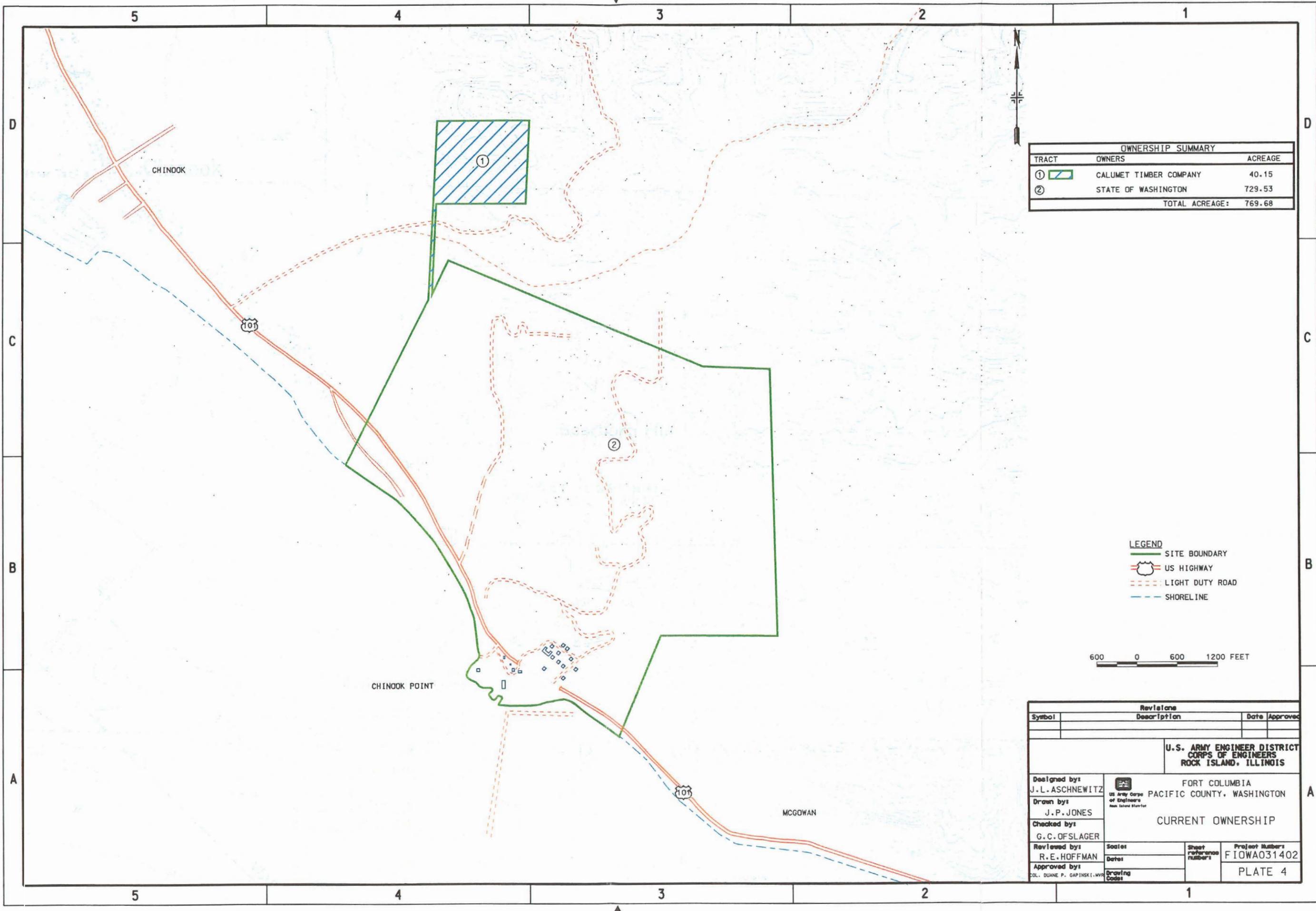
OWNERSHIP SUMMARY		
TRACT	OWNERS	ACREAGE
①	CALUMET TIMBER COMPANY	40.15
②	STATE OF WASHINGTON	729.53
TOTAL ACREAGE:		769.68

LEGEND	
	SITE BOUNDARY
	US HIGHWAY
	LIGHT DUTY ROAD
	SHORELINE

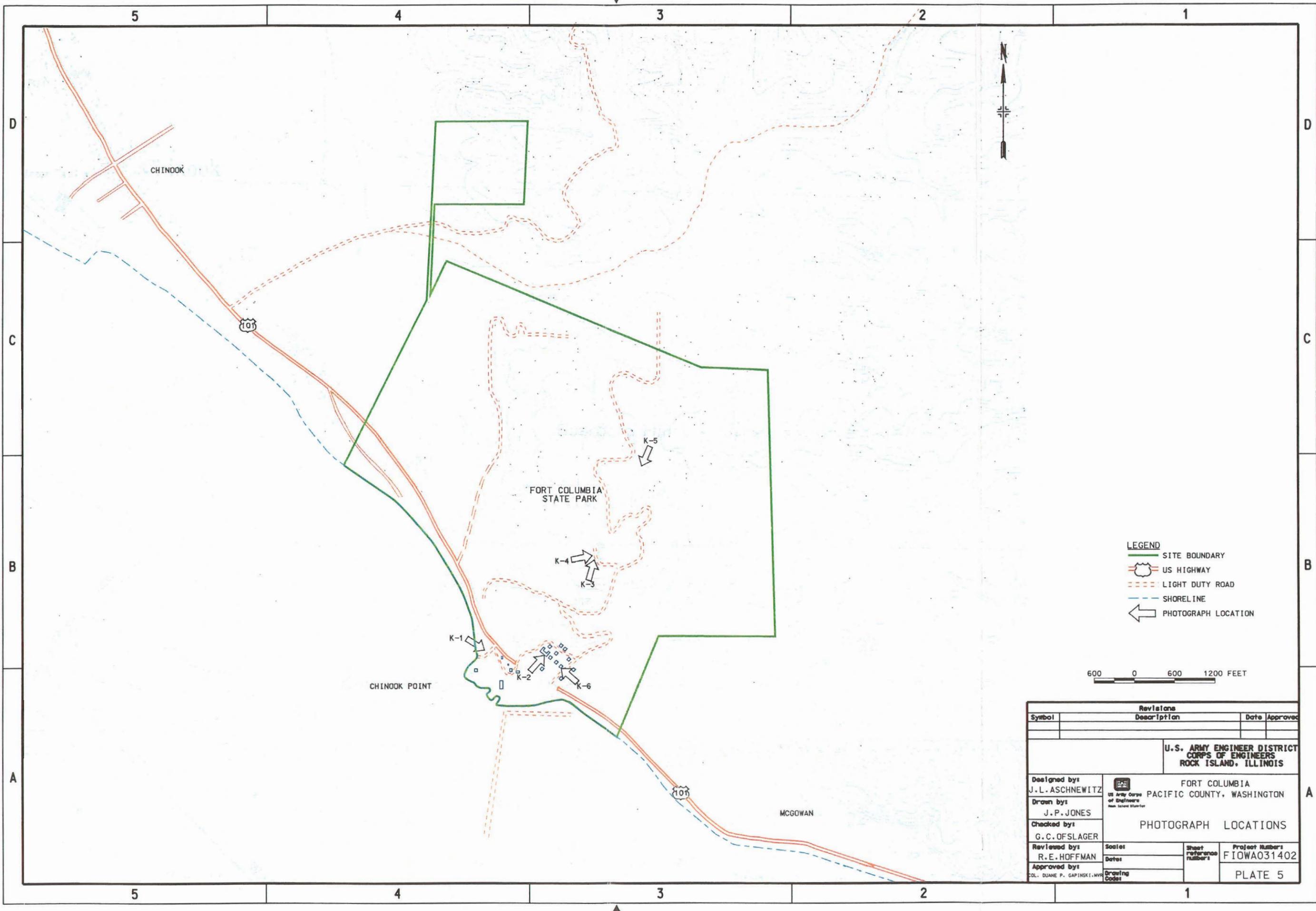


Revisions			
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Drawn by: J.P. JONES		CURRENT OWNERSHIP	
Checked by: G.C. OFSLAGER			
Reviewed by: R.E. HOFFMAN	Scales:	Sheet reference number:	Project Number: FIOWA031402
Approved by: COL. DUANE P. GAPINSKI, MVE	Dates:		PLATE 4
	Drawing Code:		

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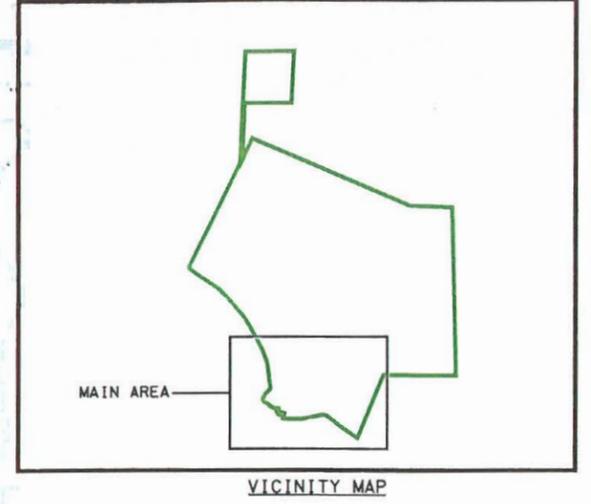
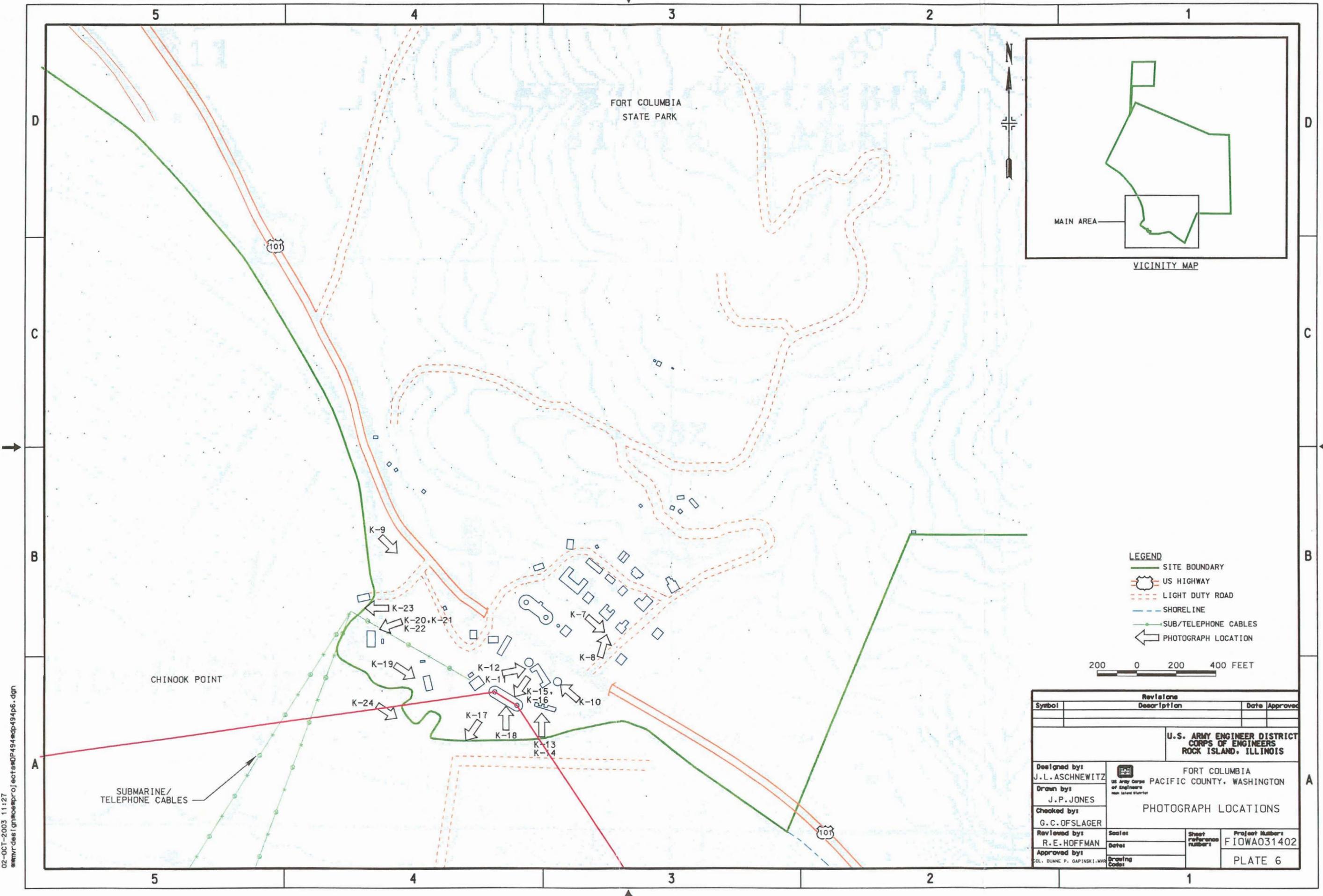


LEGEND

- SITE BOUNDARY
- US HIGHWAY
- - - LIGHT DUTY ROAD
- - - SHORELINE
- ← PHOTOGRAPH LOCATION



Revisions		Date	Approved
Symbol	Description		
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS			
Designed by: J. L. ASCHNEWITZ	FORT COLUMBIA PACIFIC COUNTY, WASHINGTON		
Drawn by: J. P. JONES	PHOTOGRAPH LOCATIONS		
Checked by: G. C. OFSLAGER	Scale:	Sheet reference number:	Project Number: FIOWA031402
Reviewed by: R. E. HOFFMAN	Date:	PLATE 5	
Approved by: COL. DUANE P. GAPINSKI, WYR	Drawing Code:		



- LEGEND**
- SITE BOUNDARY
 - US HIGHWAY
 - - - LIGHT DUTY ROAD
 - - - SHORELINE
 - SUB/TELEPHONE CABLES
 - ← PHOTOGRAPH LOCATION



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Revisions			
Symbol	Description	Date	Approved
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ROCK ISLAND, ILLINOIS			
Designed by: J.L. ASCHNEWITZ		FORT COLUMBIA <small>US Army Corps of Engineers</small> PACIFIC COUNTY, WASHINGTON	
Drawn by: J.P. JONES		PHOTOGRAPH LOCATIONS	
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Reviewed by: R.E. HOFFMAN		Date: 	Project Number: FIOWA031402
Approved by: <small>COL. DUANE P. GAPINSKI, WVR</small>		Drawing Codes: 	PLATE 6