US Army Corps of Engineers
Walla Walla District

Design Memorandum No. 28 - Lower Granite Master Plan

Lower Granite Lake

A master plan for the management of all natural and manmade resources of
Lower Granite Lock and Dam

Summary

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Section 2 - Project Description

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Supporting Data

Exhibits

Exhibit A Letter to Bernard C. Christensen from Mike Werner, Whitman County Park and Recreation Board, dated 29 August 1973, with attached Summary of Recreation Use Patterns

Exhibit B Letter to Colonel Richard M. Connell from Frank C. Leonhardy, Washington State University, dated 16 March 1972

Exhibit C Resolution by Nez Perce Tribal Executive Committee dated 5 January 1971, and subsequent resolution dated 4 June 1971

Exhibit D Letter to Major David R. Spangler from Maurice H. Lundy, Bureau of Outdoor Recreation, dated 22 January 1974

Exhibit E Letter to Colonel Richard M. Connell from Governor Daniel J. Evans, dated 24 April 1972

Exhibit F Letter to Mr. Bernard C. Christensen from Robert E. Reiter, Washington State Parks and Recreation Commission, dated 7 June 1974

Exhibit G Letter to Major David R. Spangler from William G. Hagdorn, Idaho State Parks and Recreation Department, dated 17 January 1974

Exhibit H Letter to Colonel Nelson Conover from Carl C. Moore, Idaho Department of Highways, dated 22 January 1974

Exhibit I Letter to Major David R. Spangler from I.S. "Tony" Weza, Asotin County Commissioner, dated 21 January 1974

Exhibit J Letter to Major David R. Spangler from Armand E. Werle, Lewiston City Manager, dated 23 January 1974

Exhibit K Letter to District Engineer from J. Norvell Brown, Bureau of Sport Fisheries and Wildlife, dated 29 January 1974

Exhibit L Letter to Major David R. Spangler from John Douglas, Washington Department of Game, dated 18 March 1974

Exhibit M Letter to District Engineer from J. Norvell Brown, Bureau of Sport Fisheries and Wildlife, dated 7 November 1973

Exhibit N Letter to Colonel Nelson Conover from Carl C. Moore, Manager, Port of Lewiston, dated 15 January 1974

Exhibit O Letter to District Engineer from W.C. Behrens, Manager, Port of Clarkston, dated 16 January 1974

Exhibit P Letter to Colonel Nelson P. Conover from L.J. Lothspeich, Manager, Port of Whitman County, dated 29 January 1974

SUMMARY

This master plan has been prepared to serve as a guide for the development and management of Lower Granite Reservoir. It cites the laws authorizing and governing development and management of the natural and manmade project resources - recreational, fish and wildlife, industrial, and other. It describes the physical characteristics of the dam, the reservoir, the levees, and other project features. It enumerates the various factors that influence or constrain resource development and management. It summarizes the rather extensive and long-continuing dialogue and coordination with other governmental agencies and interests.

Section 6 delineates the criteria used for the allocation of project lands to the various categories of land use. The basic categories follow those set out in Engineer Regulation 1120-2-400. Extensions and modifications are included to fit the specific needs and situations of Lower Granite Reservoir. Where special circumstances warrant individual consideration, specific guidance is offered.

In Section 7, the development program is described. It deals largely with recreational development, with only a word description of potential industrial development - all of the latter to be by non-Corps interests. Specifics on wildlife development await completion of Architect-Engineer studies currently in progress.

In Section 8, design criteria are discussed. Some special problems are noted in Section 9. Resource management problems to be addressed in detail in master plan appendices are treated briefly in Sections 10 through 14.

Estimated recreation development costs are tabulated in Section 15. The total recreation program involves $5,888,000 for the development of six major park areas (including two state parks) and seven access points.

SECTION 1 - INTRODUCTION

1.01. Project Authorization

The first formal proposal by Congress for the improvement of the Snake River for navigation and other purposes was made in 1902. This was followed by other actions, notably in 1910 and 1935, leading eventually to the Rivers and Harbors Act of 1945, which authorized construction of a series of dams on the reach of Snake River downstream from Lewiston. House Document 531, Eighty-First Congress, Second Session, dated 20 March 1950, proposed a four-dam plan with Lower Granite as the last (or most upstream) unit of the four. Construction funds for Lower Granite were first appropriated under Public Law 89-16, dated 30 April 1965. A more detailed legislative history is furnished in Supporting Data, Item 1.

1.02. Project Purposes

The purposes of the Lower Granite Project, as originally authorized, include navigation, hydroelectric power, and irrigation. Incidental values accrue to flood control and recreation. Average annual benefits, estimated as of July 1973, can be found in table 1-1.

Table 1-1
Average Annual Benefits

	Amount	Percent of Total
Power	$40,131,000	93
Flood Control	754,000	2
Navigation	1,576,000	4
Recreation[1]	633,000	1
Total	**$43,124,000**	**100**

[1] **Visitor-day value:**
a. $2.50 specialized recreation use
b. $1.00 general recreation use

1.03. Purpose of Master Plan

The Lower Granite master plan has been prepared as a guide for the orderly enhancement, preservation, development, interpretation, and management of all natural and manmade resources throughout the life of the Lower Granite Project. As a working plan, it will be subject to periodic revisions as changes occur in resource conditions, management practices, or public interests and needs.

1.04. Prior Design Memoranda

A list of all design memoranda pertinent to the Lower Granite Project is furnished in Supporting Data, Item 2. Both published and unpublished reports are listed.

1.05. Laws Applicable to Resource Development and Management

a. Public Law 534, Seventy-Eighth Congress, Enacted 22 December 1944.

Section 4 of this Law, the 1944 Flood Control Act, as amended in 1946 and 1954, and by Section 207 of the 1962 Flood Control Act (Public Law 87-874), comprises the basic authority under which all initial recreation development work at Lower Granite Reservoir will be accomplished.

b. Public Law 85-624, Enacted 12 August 1958.

This is the 1958 Fish and Wildlife Coordination Act. Its terms and provisions are fully applicable to construction and development of the Lower Granite Project. Under the guidance of this law, the various proposals and concepts set forth in this master plan have been, and will continue to be, coordinated with the fish and wildlife agencies.

c. Public Law 89-72, Enacted 9 July 1965.

This is the Federal Water Projects Recreation Act. Its terms and provisions are not applicable to any of the initial development or related ad ministration of recreational and fish and wildlife resources of Lower Granite. The policies set forth in Appendix I, ER 1120-2-404, dated 14 August 1970, are derived from provisions of Public Law 89-72 and will govern future recreation development on the Lover Granite project.

1.06. Scope of the Master Plan

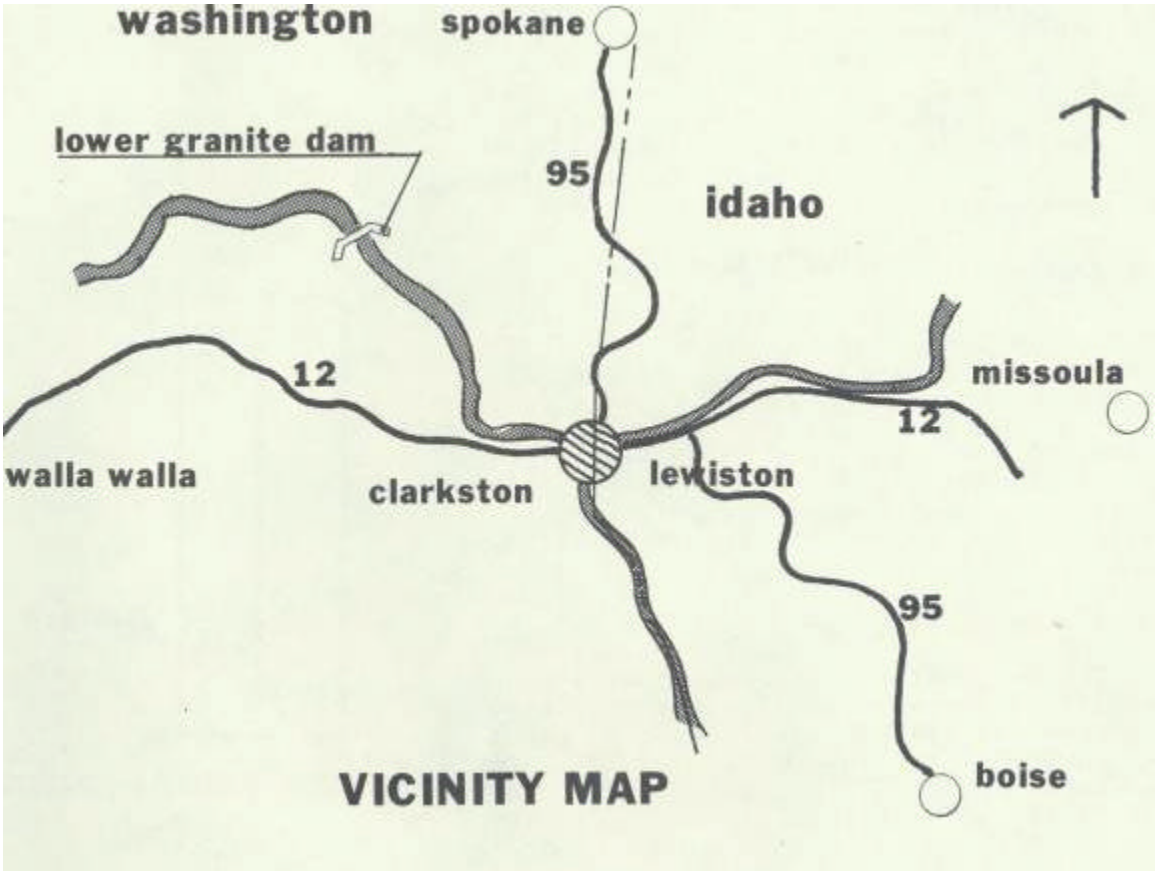
The master plan attempts to address all aspects of conservation, preservation, enhancement, development, management, and beneficial use of the various natural and manmade resources created and/or offered by the project. Its premises are drawn on the basis of office and field studies made during the period of project construction - about 1966 to the present. These studies include numerous onsite field examinations of the project lands; careful analysis of topographic maps, aerial photographs, hydrologic, climatic, and other engineering data; perusal of economic, demographic, sociological, and other statistical data; and continued consideration of the views and desires of other Governmental agencies and the local people. In making these studies and compiling the results in report form, the guidance set forth in ER 1120-2-400 has been followed, except where deviations were considered advisable to better suit the specifics of the Lower Granite Project. For instance, paragraph 12.c of ER 1120-2-400 stipulates that the master plan will be developed in sufficient detail to function as a feature design memorandum. This has not been done for two reasons: 1) this amount of detail would entail such a large volume of material that its inclusion would make the master plan physically cumbersome and awkward to use - so much so as to substantially reduce its effectiveness as a management tool; and 2) in order to get plans developed and approved so that construction can be completed prior to reservoir impoundment, preparation and processing of feature design memoranda ahead of master plan approval is necessary.

SECTION 2 - PROJECT DESCRIPTION

2.01. Location and Accessibility

a. Location.

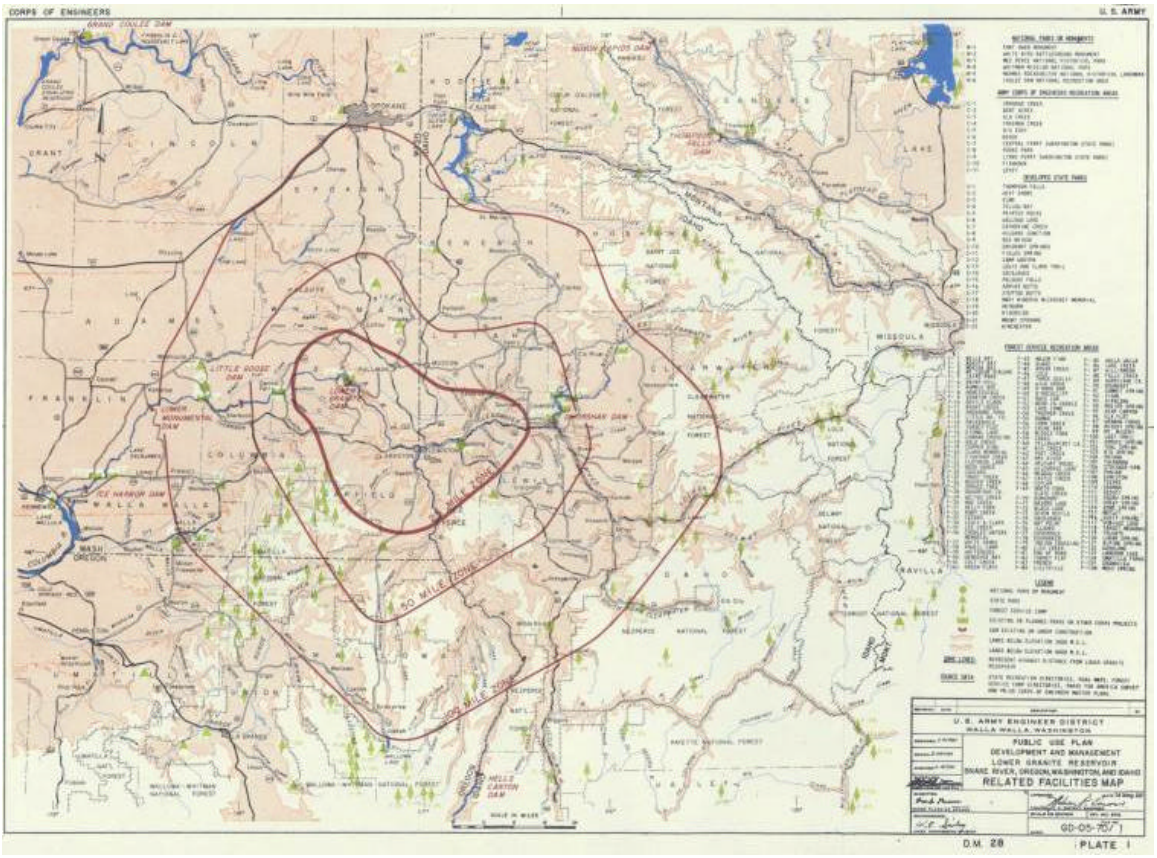
Lower Granite Lock and Dam is located on the Snake River, at River Mile 107.5, 37.2 miles upstream from Little Goose Lock and Dam. The dam and nearly all of the Snake River portion of the reservoir lie in southeast Washington, with the right abutment of the dam in Whitman County and the left abutment in Garfield County. Some 20 miles of the left bank shoreline lie in Asotin County. All of the Clearwater arm, and the 7 or 8 miles of right bank Snake River shoreline upstream from the mouth of the Clearwater River, lie in Nez Perce County, Idaho.



b. Accessibility.

US Highway 12, a major east-west route that enters the Inland Empire from Montana by way of Lolo Pass, traverses the right bank of the Clearwater River coming into Lewiston, Idaho. After passing through Lewiston and crossing both rivers, it passes through Clarkston, Washington, and follows downstream along the left bank of the Snake River for about 9 miles. There it leaves the Snake River Canyon and continues to western parts of the state, connecting with other major highways. US Highway 95, with

a connection to US Highway 195, enters Lewiston and affords access to Lower Granite Reservoir from regions to the north and south. Numerous state and county roads afford local access. The road pattern is shown on plate 1, *Related Facilities Map*. Commercial air transportation is furnished by Hughes Air West, with service to the Lewiston and Pullman-Moscow terminals. Railroad freight service to Lewiston is furnished by the Camas Prairie Railroad. There is no rail passenger service within the project area.

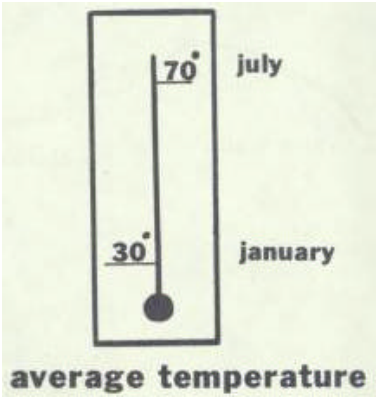


2.02. Project Area Weather

Climatic conditions along the reach of Lower Granite Reservoir are characterized by low precipitation and moderate temperatures. Records of temperature, precipitation, snowfall, wind, and relative humidity are summarized in Supporting Data, Item 3, for stations at Pomeroy, Wawawai, Walla Walla, and Kennewick, Washington; and Lewiston, Idaho.

a. Temperature.

Based on these records, the average monthly temperatures range from about 30° Fahrenheit in January to about 70° Fahrenheit in July and August. The average maximum in July is about 90° Fahrenheit, while in January, the average minimum is about 25° Fahrenheit. Minimum temperatures below 32° Fahrenheit are, on the average, experienced about 100 days per year. On the average, about 4 days each year have temperatures lower than 0°. However, a large percentage of the years have no minimums below 0°, but such low minimums may occur for protracted periods of 1 to 2 (or more) weeks in occasional years. Extreme maximum temperatures recorded are 117°, 112°, and 112° at Lewiston, Pomeroy, and Wawawai; and extreme minimums are -23°, -24°, and -10° at these same stations.



b. Precipitation.

Based on data given in Supporting Data, Item 3, the mean annual precipitation at the Lower Granite damsite is about 18 inches. Average monthly amounts vary from less than half an inch in the late summer to 2 inches or more in the winter. The maximum recorded monthly amount was 7.5 inches. It is not uncommon to have periods of a month or more in the summer without precipitation. Snowfall at the site may occur any time between October and April, but is usually limited to small amounts during late November, December, January, and February. Snow cover on the ground is usually of short duration, and usually does not exceed 3 or 4 weeks each year.

c. Wind and Relative Humidity.

Data on wind and relative humidity, summarized in Supporting Data, Item 3, may not be entirely representative for the damsite because of local effects of topography. They are, in general, characteristic of the area.

For a more in-depth discussion of the Snake River Basin and the Lower Granite area, refer to Design Memorandum No. 1, Section 2, *Hydrology*.

2.03. The Reservoir and its Shoreline

The Lower Granite damsite lies at the base of the steep, basalt cliffs and talus slopes of the Snake River Canyon. Some of these cliffs and slopes rise to a height of 1,700 feet to give birth to Eastern Washington dryland wheat farming regions. Small canyons and ravines tie the Lower Granite pool area and the wheatlands together, providing wildlife habitat for a variety of bird and animal life. The giant rock outcrop, commonly known as Granite Point, lies 6 miles upstream from Lower Granite Dam. This is the formation from which the project derives its name: the downstream or lower of several possible damsites investigated in the vicinity of Granite Point. Rather narrow riparian strips border the Snake River as far as Alpowa, without much change in shoreline character.

At Alpowa, the steep canyon walls lie back and give presence to the broader areas of flat shoreline lands. About 9 miles farther upstream is the confluence with the Clearwater River. Here the twin cities of Lewiston, Idaho, and Clarkston, Washington, occupy most of the flat shoreline lands; and generate a variety of shoreline activities relating to the economy and public need for developed recreation areas. The general character of shorelands above the twin cities to the head of the Lower Granite pool continues much the same as that from Alpowa to Clarkston. The reservoir area is further described in paragraph 3.05., *Environmental and Scenic Qualities*.

2.04. Project Structures

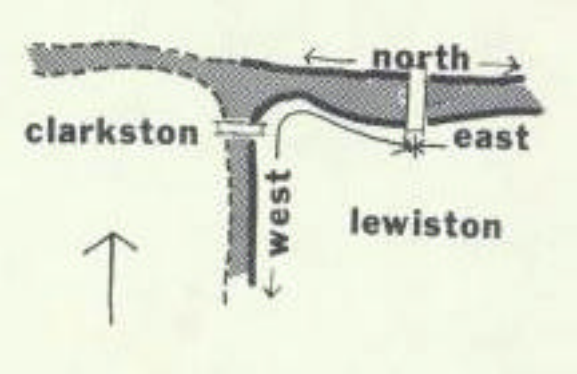
The principal structures associated with Lower Granite project are the dam and all its immediate appurtenances and the approximately 7.6 miles of levees protecting the City of Lewiston from the reservoir backwaters. Filling of the reservoir also requires relocation and/or protection of 20.4 miles of state highway, 24 miles of county roads, and 37.5 miles of mainline railroad.

a. Dam and Appurtenances.

The dam is a straight-line, concrete gravity structure, flanked by a rock and earthfill section comprising the right abutment. The principal elements, listed in order from abutment to the right abutment (right to left on photograph), include: concrete left abutment section; fish ladder; concrete, non-overflow section; 656-foot-long, six-unit powerhouse; 512-foot, 8-bay spillway; 86-foot by 675-foot navigation lock; and the 1,590-foot-long earth embankment section comprising the right abutment.

b. The Lewiston Levees.

The Lewiston Levees lie in two major segments encompassing essentially the entire length of the city waterfront area along both the Snake and Clearwater Rivers. They are shown symbolically on Plates 2 and 3. For construction identity, the levee system is divided into three segments:



(1) North Lewiston Levee.

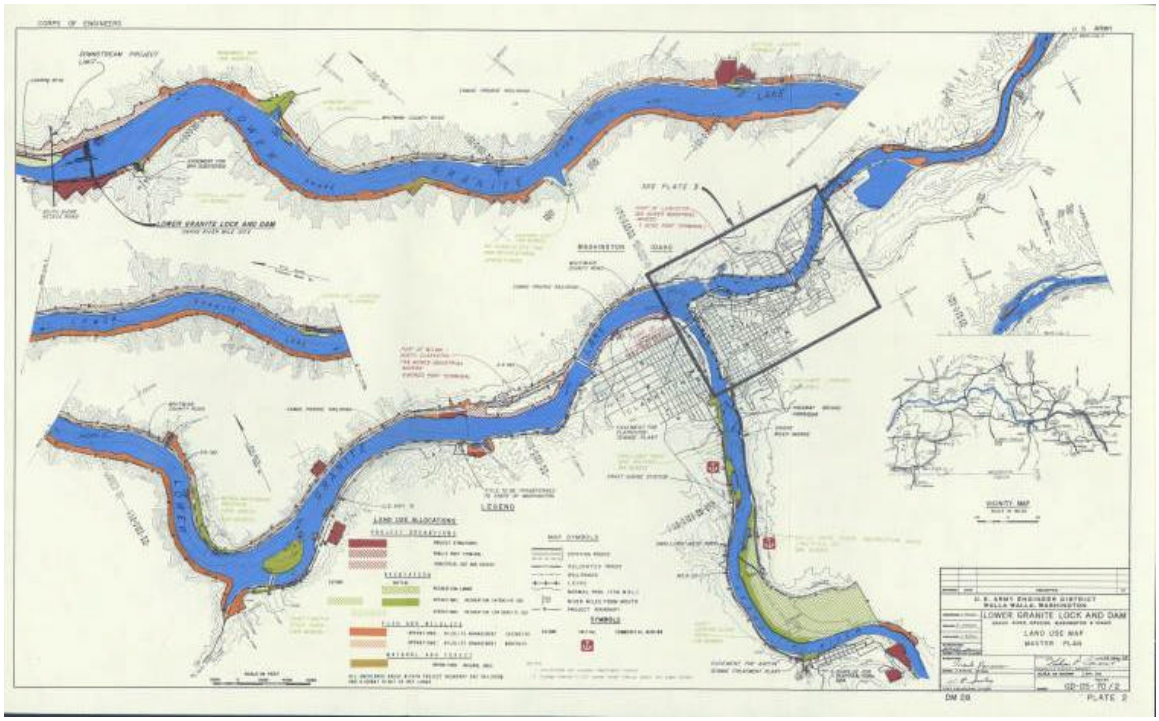
The North Lewiston Levee on the north or right bank of the Clearwater River extends from a high rock promontory near the CPRR bridge upstream about 2.4 miles, to a tie with high ground. It protects all of the commercial-industrial portion of the city known as North Lewiston.

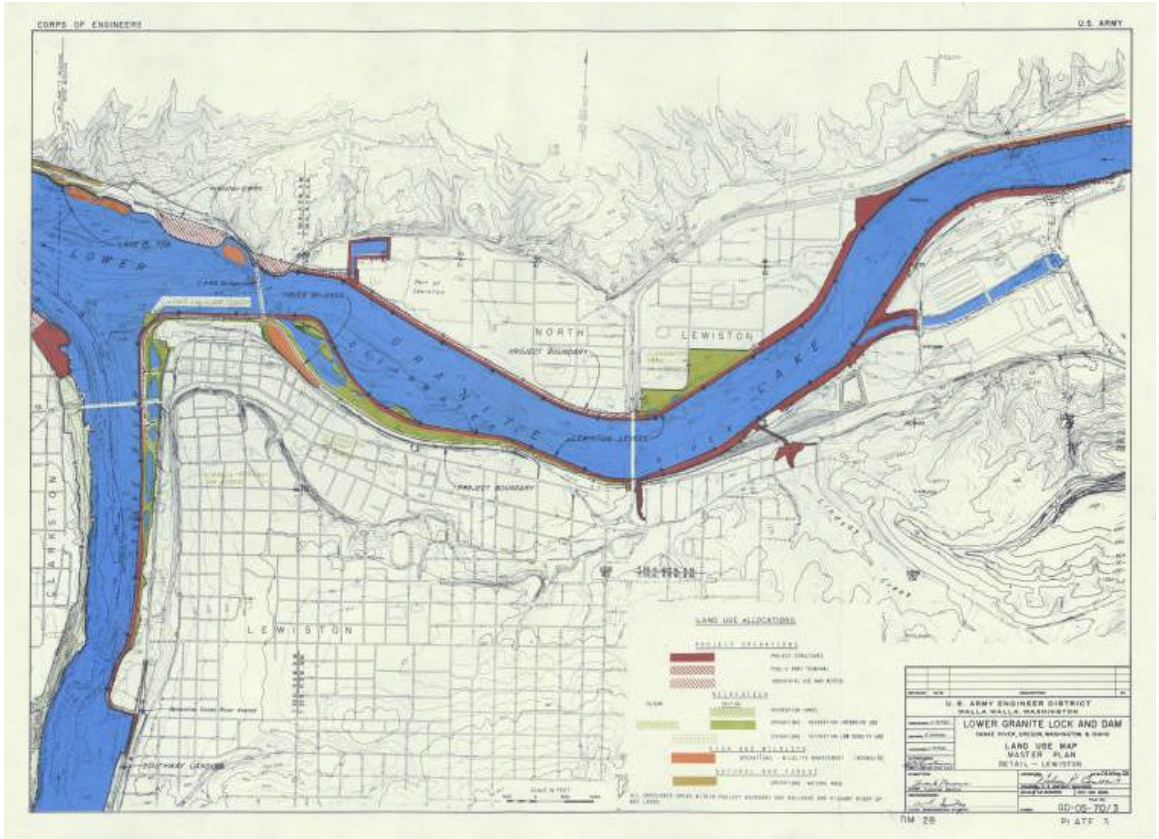
(2) East Lewiston Levee.

The East Lewis ton Levee extends for 2.1 miles along the left bank of Clearwater River from a point near the Pot latch Corporation Tissue Plant downstream to the Memorial Highway bridge, and protects the wood processing complex of PC, the CPRR switch yards, and the city of Lewiston water treatment plant. Provisions are made for emergency construction of an earthfill dam or groin at Memorial Bridge for purposes of segmenting or isolating this segment from the balance of the system in case of threatened levee failure either upstream or downstream.

(3) West Lewiston Levee.

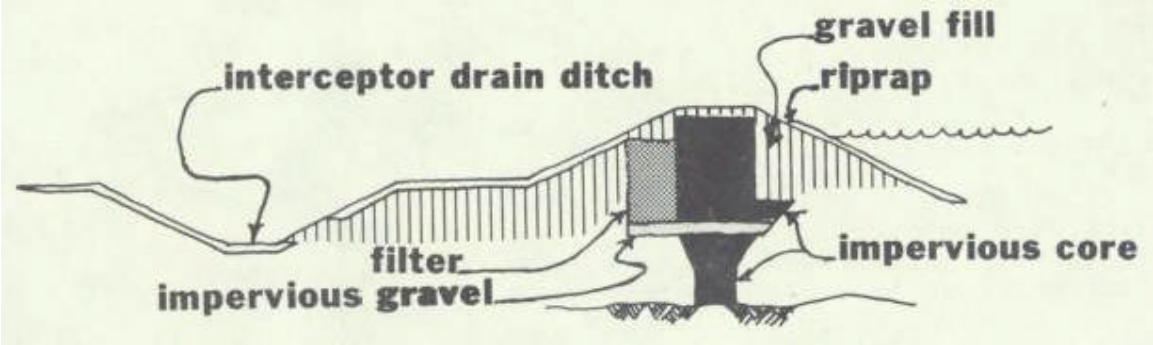
The West Lewiston Levee continues from Memorial Bridge down the left bank of Clearwater River to the confluence with Snake River and then up the right bank of Snake River to a high ground tie-in at approximately 15th Avenue for a length of about 3.1 miles. It encompasses all of the shoreline surrounding the Lewiston business area. Properties adjacent to the levees are all commercial and light industrial in character. Closely parallel to the West Lewiston Levee throughout its length are various operating portions - main line, spur lines, storage tracks, and switchyards - of the CPRR system.


CORPS OF ENGINEERS
LOWER GRANITE LOCK AND DAM
LEGEND
LAND USE ALLOCATIONS
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
LAND USE MAP
MASTER PLAN
02-05-70/2
PLATE 2


CORPS OF ENGINEERS
U.S. ARMY
LEWISTON
NORTH
LEWISTON
CLARKSTON
PROJECT BOUNDARY
LAND USE ALLOCATIONS
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
LAND USE MAP
MASTER PLAN
DETAIL — LEWISTON
02-05-70/3
PLATE 3

c. Character of the Levees.

The levees are constructed as a continuous lineal earthfill dam.



Basic elements include: (1) an impervious, below-ground cutoff extending through the porous shoreline gravels to an impervious underlying strata; (2) an impervious core with (3) filter system and (I) supporting gravel fill sections protected on the water side with (5) riprap; (6) in-built drainage elements; and (7) a system of collector drains, holding ponds, and pumping plants for discharge into the reservoir of seepage water and interior surface runoff.

Flattened landward slopes and extensive planting and other beautification measures are provided through most of the length of the West Lewiston segment of the system. Parkway developments and day-use recreation facilities will be included, partly as a tie-in with the existing city-owned Kiwanis Park. One holding pond area for the North Lewiston Levee lies adjacent to Memorial Bridge. It is designed to function in a dual-purpose manner as a retention pond for flood runoff and normally as a city-operated playfields with ball diamonds, birling pond, and city-developed spectator accommodations.

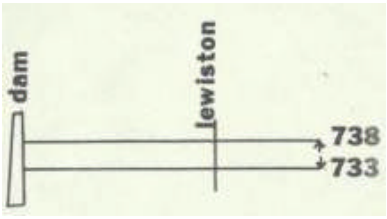
d. Debris Disposal Facilities.

Trapping, handling, and removal facilities for disposal of floating debris are presently planned to be located at Wilma, River Mile 135. A trapping and holding boom will be located on the south bank at River Mile 136. Material will be trapped and stored here for periodic removal by towing to the north shore disposal area. Another trapping boom on the north shore at River Mile 135 will guide the floating material directly into the wet storage holding area. Prom here, all material will be removed to adjacent shorelands for disposal. To the maximum extent possible, material will be disposed of by offering it free to local people for use as firewood. The remainder will be burned.

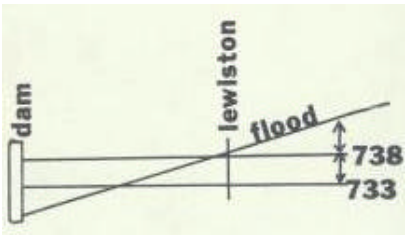
e. Pertinent Data.

Dimensional and other technical data descriptive of the various project structures and the reservoir are set forth in Supporting Data, Item 4.

2.05. Reservoir Operation and Pool Fluctuations



The Lower Granite project will be operated to provide optimum conditions for navigation and for generation of electric power, while also providing the best possible conditions for other project uses. The electrical generation capacity at Lower Granite is initially planned to be 405 mw, with a future capacity of 810 mw. The generators will be operated as power-peaking units and will cause fluctuations in the Lewiston area initially of 1 to 3 feet, with extremes as much as 5 feet. These fluctuations, between Elevations 738 and 733, would occur generally in the low-flow periods of August through March, with the extreme fluctuations occurring during the peak demand months of December and January. After the spring of 1978, with all generators installed, the full 5 feet of fluctuation will be more normal. The pool will be fluctuated at the dam to compensate for the backwater effect of flood flows. The control point for this operation will be Elevation 738 at the confluence of the Snake and Clearwater Rivers. In the event of a forecasted flood, the reservoir will be evacuated enough to insure that the 738 elevation at Lewiston is not exceeded by the flood peak. Supporting Data, Item 5, shows the backwater profiles for both normal pool and drawdown pool and the recurrence intervals for the various flows illustrated on the profiles.



Lewiston - 1948 Flood

2.06. Estimated Visitor Use

The Lower Granite Reservoir will offer important recreational values to residents of the local region. The quantity and quality of facilities which are or should be developed to permit public enjoyment of these values are directly governed by the numbers of visitors expected at the various areas proposed for development. Likewise, an evaluation of recreation benefits assignable to the project requires estimates of visitor use, preferably both with and without the reservoir project. Estimates of visitor use under reservoir conditions have been made and are discussed in detail in Supporting Data, Item 6. Briefly, they indicate total attendance of 700,000 visitor days annually during the initial years of project operation. This would grow to 1,200,000 by the end of the 100-year project life. Visitor-days use annually for each of the developed areas is projected as follows:

	Visitor Use	
	Initial	**100th Year**
Hells Gate State Recreation Area	300,000	400,000
Chief Timothy State Park	100,000	200,000
Chief Looking Glass Park	20,000	76,000
Swallows Park and Marina	200,000	250,000
Blyton Landing	5,000	20,000
Sugarloaf Landing	5,000	20,000
Wawawai Bay	15,000	40,000
Wawawai Landing	5,000	15,000
Offield Landing	2,000	7,000
Knoxway Bay	1,000	2,000
Clearwater Park	17,000	30,000
Lewiston Levees	30,000	140,000
Total	**700,000**	**1,200,000**

2.07. Facilities Capacity

The projected visitor attendance, as covered in paragraph 2.06, is based upon the desire of the public to use Lower Granite Lake, given the attractions of the various areas and development of adequate facilities. A land capacity study was undertaken to determine whether the areas and the planned facilities were adequate to comfortably accommodate this projected need. The study results should indicate any overdevelopment and crowding, common pitfalls of the practice of continuously expanding facilities in any one park in an attempt to keep up with demand. No park should be developed to a point where the landscape is taxed beyond its capacity to offer a pleasant, uncrowded recreation experience. summarized results of the study show visitor-use capacity for each area as follows:

Area	**Initial**	**100th Year**
Hells Gate State Recreation Area	333,000	464,500
Chief Timothy State Park	99,600	140,000
Chief Looking Glass Park	86,700	86,700
Swallows Park and Marina	193,200	239,400
Blyton Landing	12,500	24,200
Sugarloaf Landing	17,500	34,200
Wawawai Bay	27,800	53,100
Wawawai Landing	12,500	22,900
Offield Landing	5,100	9,000
Knoxway Bay	1,000	1,000
Clearwater Park	47,100	41,100
Lewiston Parkways	147,200	147,200
Southway	57,800	57,800
Sub-Total	**1,035,000**	**1,321,000**
Total	**1,035,000**	**1,321,000**

2.08. Construction Status

The following are significant dates relating to construction progress on Lower Granite project:

a. Construction Start.

Lower Granite project was authorized on 2 March 1945. Funds for start of construction were appropriated on 30 April 1965. The first-stage construction contract was awarded in July 1965. Construction was interrupted because of lack of funds from the summer of 1967 until award of the main construction contract in May 1970.

b. Current Status.

The latest tabulation available, dated 1 April 1974, indicates, on the basis of funds expended, that 89 percent of Lower Granite project is completed. Following is a breakdown of work into features and the percent of total completion of each feature.

Feature	Item	Percent Complete
.01	Lands and damages	98
.02	Relocations	93
.03	Reservoir	42
.04	Dam	99
.05	Lock	99
.06	Fish and wildlife facilities	82[1]
.07	Power plant	96
.08	Roads	98
11.	Levees	85
13.	Pumping plant	69
14.	Recreation facilities	7
19.	Buildings and grounds	50
20.	Permanent operating equipment	15
30.	Engineering and design	86
31.	Supervision and administration	63

[1]Exclusive of mitigation measures.

c. Scheduled Completion Dates.

The present schedules are based upon filling of the reservoir during the period from November 1974 to February 1975, depending upon the winter runoff pattern of Snake River. By April 1975, the basic project will be complete, with first power on the line. The two additional generating units will be completed in May and June 1975. Beautification measures on the Lewiston Levees will be accomplished during the calendar years of 1975 and early 1976. Completion dates for the major recreation areas are scheduled as follows:

Area	Fiscal Year	Calendar Year
Hells Gate State Recreation Area	1st qtr., 1976	3rd qtr., 1975
Swallows Park and Marina	4th qtr., 1975	2nd qtr., 1975
Chief Looking Glass Park	4th qtr., 1975	2nd qtr., 1975
Chief Timothy State Park	1st qtr., 1975	3rd qtr., 1974
Offield, Wawawai, Sugarloaf, Blyton	3rd qtr., 1975	1st qtr., 1975

This recreational development schedule is predicated upon the availability of funds to complete the work on a normal construction routine.

SECTION 3 - RECREATIONAL AND ENVIRONMENTAL RESOURCES OF THE PROJECT AREA

3.01. Geologic Character

The Snake River Canyon is a deeply incised gorge cut into an unknown thickness of lava formations which underlie much of Idaho and southeastern Washington. The course of the river is generally controlled by the structure of the rocks. upstream of Lewiston Basin, in the reach of Asotin to the confluence of Grande Ronde River, the course of Snake River is controlled by a sequence of older rocks. Within Lewiston Basin, snake River is controlled by the folding and faulting which caused the basin, and downstream it is controlled by the regional dip of the basalt strata and the structure of the Blue Mountains. Within the project area three individual geologic features warrant description and explanation.

a. Granite Point.

Granite Point is a topographic name for a well known erosional remnant. To begin with, very little is known about the surface on which the basaltic rocks were deposited. All that is known is that which can be seen on the marginal edges of the basalts in the Columbia Plateau, and those materials which protrude through the basalts. Granite Point is such a condition. where erosion has removed several hundred feet of basalts to expose the granitic rock. Close examination reveals it to be more gneissic than true granite. It is crudely foliated. In this sense it is probably more closely related to gneissic rocks of Belt series which crop out farther to the east and north both in Washington and Idaho. Its geologic age would then be 500 million years, or Pre-Cambrian age.

b. Lewiston Basin.

The Lewiston Basin is approximately 12 miles in length in an east-west direction and four miles in width in a north-south direction. The basin area is the direct result of structural deformation of the basalt rocks. This rupturing of the earth's crust is best viewed from Silcott looking to the northeast. one sees the folded and faulted edges of the basalt strata as they rise to the skyline.

c. Swallows Nest.

Swallows Nest is the name of another topographic feature comprising an erosional remnant. It is a basalt stratus eroded to its present unique shape. This basaltic rock is intracanyon basalt, quite recent, geologically; probably being less than one million years in age.

3.02. Archaeological Resources

The Snake River has long been a means of transportation and a source of food, as well as a place of meeting. Evidence of life along the river has been found in archeological deposits on the river banks and in the recorded history of the Lewis and Clark Expedition and other pioneers and explorers who used the river. Findings by archeologists have dated prehistoric man back thousands of years in this area. Archeological study in the area is becoming increasingly widespread.

a. Archeological Salvage Operations.

Federal laws, as cited and interpreted in ER 1105-2-12, dated 15 May 1972, stipulate that investigation of archeological resources and salvage of artifacts including obtaining of funds for all such work, shall be the responsibility of the National Park Service and the Smithsonian Institution. Under contracts between the National Park Service and Washington State University, archeological salvage operations were conducted at three locations on the Lover Granite Reservoir.

In 1970, the site at the mouth of Offield Canyon was explored by Dr. Leonardy and a group from Washington State University. The results are covered in a report called Wespusnime (45GA61) Preliminary Report Information and artifacts pertaining to the Cascade phase (6000 BC - 4500 BC and the Piqunin phase (1300 AD - 1750 AD) were gathered. The Cascade phase site was a workshop area, and information was gathered about tool manufacture in that period. The Piqunin phase site was a winter village of the Nez Perce and yielded data on the summer village - winter village cycle.

In 1971, the site at the mouth of Wawawai Canyon was explored. The results of this exploration are contained in a report entitled *Component 1 at Wawawai (45WT39): The Ethnographic Period Occupation*. It was submitted to the Corps on 8 June 1972 by the National Park Service. In the investigation, artifacts relating to the early presence of white men were recovered, and material was gathered which was useful in estimating the everyday use of items given to the Nez Perce by white settlers.

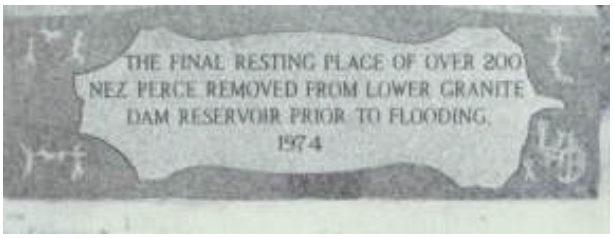
Excavation of the three sites at the mouth of Alpowa Creek was begun in the summer of 1972 and continued in the summer of 1973. The main expectation was to obtain data on the development of winter villages along the river, effects on the villages due to introduction of the horse, and effects of early Euro-American settlements on Indian cultural patterns. A progress report was submitted to the National Park Service in October 1973.

b. Petroglyphs.

Local archeologists and historical enthusiasts have expressed a desire to have specimens of Indian petroglyphs salvaged before being flooded by the reservoir. These would then be displayed in a park area, museum, or other appropriate location. Petroglyphs have been found at three locations in Lower Granite Reservoir[1]. One of these was photographed before being destroyed by railroad construction activities. One is above pool level and will not be disturbed under present plans for highway construction in the area. The third location will not be affected by construction activities but will be flooded when the pool is filled. Salvage is not feasible because of the fractured character of the rock. Plastic cast copies may be possible although none of the images are deeply incised. The present plans are to attempt the plastic peels but also to make photographic copies prior to flooding. These actions are based upon evaluations made by Dr. Leonhardy (Exhibit B).

c. Indian Burial Removals.

Indian remains and burial artifacts from 20 Nez Perce burial sites have been or are to be excavated and examined. The remains have been or will be reinterred at a location chosen by the Nez Perce Tribal Executive Committee[2]. The artifacts are behind cataloged, photographed, and studied and will be stored at the University of Idaho for ultimate use by the Indians for museum and other purposes. At construction sites throughout the project, caution has been maintained to assure that Indian burial grounds are not inadvertently destroyed.



3.03. Historical Resources

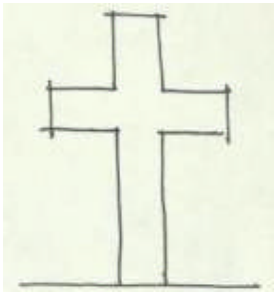
The region surrounding Lower Granite Reservoir is rich in history of both local and national significance. There will be interesting materials for development of interpretive programs in the parks and other visitor- oriented areas. The brief overview of historical events described in this section furnishes a general listing of events which may warrant interpretation. Details can be found in the historical references listed in the bibliography. Several of the more significant events and locations have been noted on the Resource Maps, Plates 4 through 20.

a. Snake River Country.

The Snake River country holds tenuously to its past. Long before the coming of white men to the area, the Nez Perce Indians roamed the hills and valleys hunting, fishing, visiting with other tribes, and holding councils on the banks of the Clearwater and Snake Rivers. What evolved from these councils to change the lives of the Nez Perce in a significant manner is now locked in the rocks and graves along the river. Recent explorations have cast some meaning on this era of Indian habitation, but for the most part events are forgotten. Only a short time back (1804 to 1806), the Lewis and Clark party floated down the Clearwater River and ushered in an unheralded era of change. Two sites on which the expedition camped are adjacent to the river in the project area, but are presently not identified with markers. (See proposal in Section 7, Paragraph 7.09) Lewis and Clark were soon followed by trappers, missionaries, miners, and settlers.

b. Missionary Era.

Henry Spaulding, an early missionary, chose a site for his mission at the foot of Thunder Mountain, near Lapwai, Idaho, circa 1836. Later, a branch mission was started at Red Wolf's Village or, as it is called now, Alpowa (Sabbath, Day of Rest). Chief Timothy was the first Indian leader converted to Christianity. It has been proposed that the park at Alpowa (Silcott) be named for him. This park is a logical location for telling the pioneer-Indian history associated with Red Wolf's Village, along with other stories such as John Silcott's early-day ferry, which was an important element in the local transportation system.



c. Trapping.

The years 1820 to 1830 were called *The Golden Age of Trapping* in Idaho. Fabulous fortunes were made in the fur trade of those days. The average trapping life of the trappers was only about three years. Treacherous accidents took their toll as did disease and starvation. The Northwest Fur Company, later to be incorporated into the Hudson Bay Company, was active in this region.

d. Gold.

Although fur trappers and missionaries were among the first settlers in the Lewiston area, the early growth and settlement of the territory were due almost entirely to the discovery of gold in 1860 in Northern Idaho. Something then had to be done about transportation of supplies into and gold out of the gold fields. In May 1861, the *Colonel Wright*, the first steamboat, was brought in. She was sailed by E. W. Baughman, the pilot, and Captain Leonard P. White up Columbia and Snake Rivers from Wallula to Lewiston and on up Clearwater River to Big Eddy, a few miles below Orofino. Because of the difficulties in navigating on the Clearwater, Lewiston was chosen as the jumping-off place in the 1860's for the miners. It seems inevitable, with the influx of gold seekers on Indian treaty lands, that hostility would break out. The Nez Perce Indian War took place in 1877, causing the retreat of Chief Joseph into Montana and the decline of an inveterate way of life for the Indians.

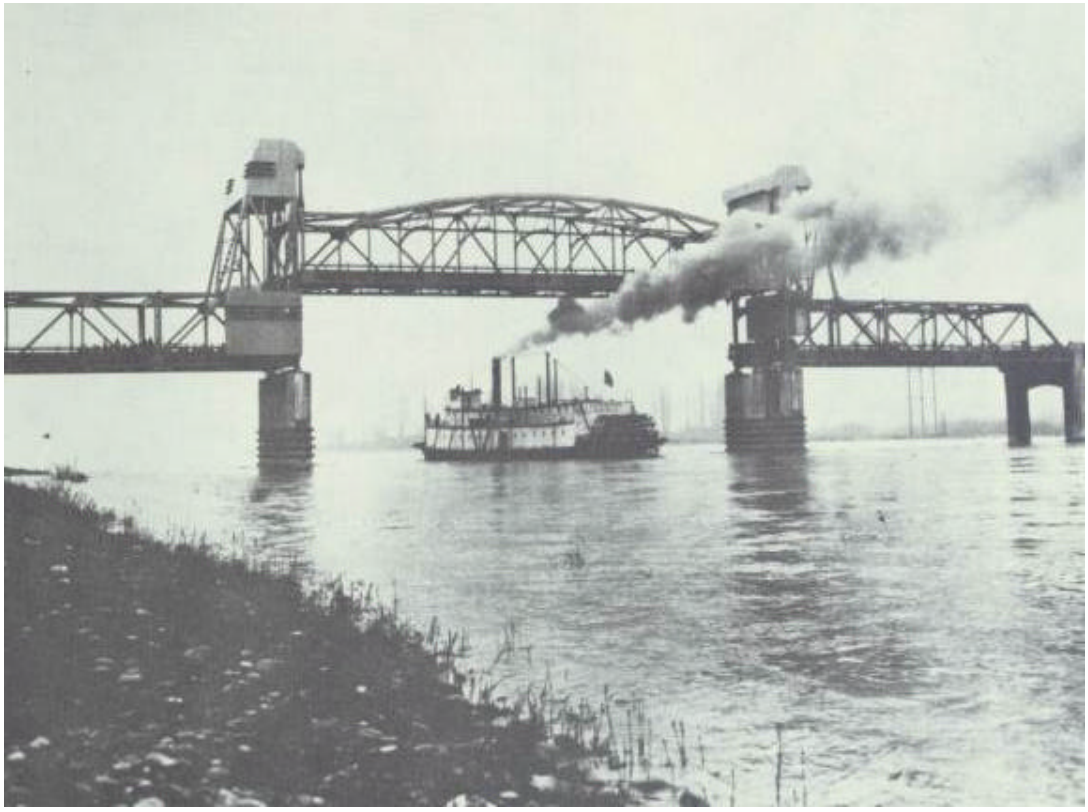
Luna House Guest Register - 1863

e. Agricultural Era.

About 1875, the first white settlers trickled down the Snake River toward Wawawai. They occupied their time first with raising livestock, but later the mild climate proved so favorable to fruit production that orchards sprang Up on every bar and hillside. What with the fruit in the valley and the acres of wheat on the rolling hills above, the steamboats were soon carrying a new cargo of "edible" gold. The settlement at Wawawai became an important fruit and grain shipping point, with post office, warehouses, and store. Fruit houses, grain warehouses, and grain tramways were developed at various spots along the river. Shallow-draft paddle wheel steamboats used the river to transport commodities and passengers, although difficulties were not unusual The era of the sternwheeler had fully arrived on the Snake River in 1861, along with the birth of Lewiston, Idaho, as a result of gold mining interest Upstream in the Clearwater region of Idaho. To overcome difficulties of getting grain into the canyon to the sternwheel boats, wooden chutes over ½ mile long were built, and by 1881 at least five of these descended the banks of Snake River at critical landing points. After the turn of the century, a branch line of the Snake River Valley Railroad was chiseled through the river canyon from Riparia to Lewiston, by men of Japanese, Chinese, and Italian descent. This gave steady competition to the river steamers. The sternwheelers *Lewiston* and *Spokane* were destroyed in a fire at Lewiston in 1922, and the steamboat era came to a close. Until construction of Lower Granite Dam, little has happened in the last 50 years along the river to alter the flow of time.

Fruit Orchards at Wawawai

Mayview Grain Tram



f. Pioneer Architecture.

An existing building of historical interest on the project land is the Full Gospel Church, built in 1899, in the community of Asotin. It is situated within the area of Chief Looking Glass Park and has been included on the National Register of Historic Places. Pursuant to authority received in March 1974, the building and the 1/4-acre of land on which it stands have been declared surplus to GSA for disposal to the town of Asotin. The town will be responsible for its preservation, care, maintenance, and operation in a manner appropriate to its status on the National Register of Historic Places. The disposal deed will have two restrictions: 1) flowage rights as related to reservoir operation will be reserved to the Government; and 2) the building must continue to be used for the stated purposes or title reverts to the Government.

3.04. Ecological Character of the Project Area

The semi-desert ecology of the Snake River Canyon through the reach of the Lower Granite project will be significantly affected by creation of the reservoir. Most of the riparian growth along the river bank will be destroyed, wildlife will be disturbed, and the free-flowing river will become a slackwater pool. The existing ecological conditions and the project's impacts thereon are described in detail in Supporting Data, Item 8. Terrestrial ecology is summarized with treatment of the canyon flora, native versus introduced species, and fauna, including upland birds, waterfowl small animals, big game, reptiles, and vectors. A discussion of aquatic ecology includes sedimentation, vascular aquatics, fish - both river and reservoir, as well as anadromous - pool fluctuations, and insects. Impacts upon the ecology are treated in regard to industrial land use, recreational land use, and wildlife land use.

3.05. Environmental and Scenic Qualities

Both manmade and pseudo-natural environmental qualities are present in the area of tower Granite Reservoir. While there are no truly pristine expanses of unspoiled wilderness, no scenic display of breathtaking grandeur, and DO manmade edifices of major renown, there are scenic characteristics of considerable attraction and developments of interest to visitors. Further description of the reservoir area, particularly prior to reservoir impoundment, is found under in section 2.03, *The Reservoir and its Shoreline*.

a. Natural and Pseudo-natural Area.

The 23-mile reach of the Snake River Canyon from the dam to Alpowa has essentially the appearance of unspoiled natural terrain. Only the relocated railroad and county road traversing the right bank intrude significantly upon the solitude of the desert canyon. The wheat fields and other farming activities on the rolling hills above are not apparent from the canyon bottom. The boaters on the reservoir will see instead the steep, rugged canyon slopes, with heavy outcrops of basalt, deeply incised canyons, occasional patches of brush, and small trees in lower or sheltered areas, and generally sparse vegetative cover. To some, this outlook will be barren and uninteresting, if not uninviting. To many other visitors, though, the scale and character of the land forms, the sturdy ruggedness of the canyon gorge, the marked variation in outlook occurring with changes in light conditions, weather, and season, all combine to create an atmosphere satisfying a need for escape to the out-of-doors -- a change from the oppression of urban or community life. Similarly, from the headwater areas of the reservoir above Asotin on the Snake River Arm, the visitor enjoys first views of the canyon which further upstream becomes the Hell's Canyon of the Snake. In short, the canyon has its scenic attractions and extensive areas of natural-appearing environment ostensibly undisturbed by man.

North Shore

South Shore

b. Man's Culture.

Between Alpowa and Asotin, little of the original natural environment remains. Manmade features predominate roads, highways, bridges, streets, residential development, Governmental and other public buildings, commercial and industrial development, service utilities, and some agricultural activities dominate the landscape. These features are, for the most part, devoid of outstanding visual or scenic qualities. The community facilities are quite typical of small Northwestern towns.

(1) Traffic.

The traffic in downtown Lewiston is more than ordinarily congested with logging trucks, heavy freight trucks, and other industrial and commercial traffic intermingled with automobiles and pedestrian traffic. Essentially all of the waterfront is occupied by light and heavy industry and associated railroad lines, spurs, and storage tracks.

(2) Potlatch Corporation (P.C.).

The developed valley and particularly the Lewiston area is dominated visually and economically by the wood processing and paper pulp complex of Potlatch Corporation, occupying a large area of shorelands beside the Clearwater River.

(3) Highway 95.

The Lewiston Grade - Highway 95, going north out of Lewiston - winds its sinuous, climbing way up the steep, rolling hills north from Lewiston. It affords the motorists, particularly those southbound into Lewiston. commanding and all-encompassing views of the developed valley - Lewiston. Clarkston, and the two rivers.

(4) Potential Waterfront Development.

With the filling of Lower Granite Lake, barge traffic to Lewiston is expected and shoreline developments are planned. Port facilities at North Lewiston, at Clarkston, and at Wilma- North Clarkston, together with the docks, barges, moorage structures, and loading, unloading, handling, and storage facilities, will cause a major change in the land use pattern and the visual outlook in the areas developed- primarily the right bank areas on Clearwater and Snake Rivers near the confluence.

SECTION 4
FACTORS INFLUENCING AND CONSTRAINING RESOURCES DEVELOPMENT AND MANAGEMENT

4.01. Basic Authorities

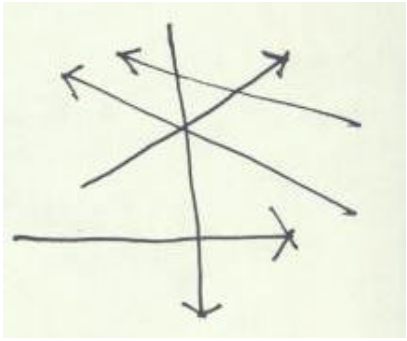
The legislative authorities under which the Corps develops, operates, and maintains the Lower Granite Lock and Dam project provide an overall framework of influence and constraint. The authorized project purposes constitute the general parameter within which development and management objectives must be formulated. Thus, the hydroelectric power, irrigation, and navigation features carry a first- priority position with controlling influence upon master plan formulation. When project lands or waters or other project resources are needed for: 1) production and transmission of hydroelectric power; 2) utilization of water for irrigation purposes; or 3) on-loading, off-loading, handling, storage, and transport of waterborne freight, these needs must be satisfied ahead of others. This priority does not extend to indirect or associated needs or activities, such as manufacturing activities which may incidentally utilize or be benefited by the power production and navigation features of the project. Corps' authority to develop and maintain recreation and fish and wildlife resources is contained in other laws, particularly Section 4 of the 1944 Flood Control Act, as amended, and the 1958 Fish and Wildlife Coordination Act, as amended. These authorities are broad and emphasize protection of the rights and privileges of the general public, as contrasted to the interests of individuals, special groups, commercial entities, or other non-public factions.

4.02. Mitigative Objectives

Construction of the project has profound impacts upon many existing resources and activities, especially resources relating to or comprising the natural environment of the reservoir region. A major design objective is to mitigate adverse impacts whenever this is reasonably possible. Thus, where a choice exists, priority must be accorded to possible mitigative measures ahead of many, if not most, other resource development possibilities.

4.03. Factors and Resources Involved

There are many factors of various nature which influence and/or constrain resource development and management. Industrial resources, recreational resources, and wildlife resources are all affected. Sometimes the factors bear on each of the resources in the same way; sometimes in opposing ways. Sometimes the effect is one of interaction, where development of one resource generates the influence upon the others. Collectively, these factors determine in large measure what, where, and how much development is warranted. They fall generally under such feature and condition headings as: Project Topography; Railroad and Highway Relocation; Levee Construction; Soils and Geology; Climate; Reservoir Operation; Accessibility; Population Characteristics and Distribution; Related Resources off the Project; Water Quality; Recreation Preferences; Quality and Character of Environmental and Ecological Features; and policies governing recreation development and management, including impact of Public Law 89-72.

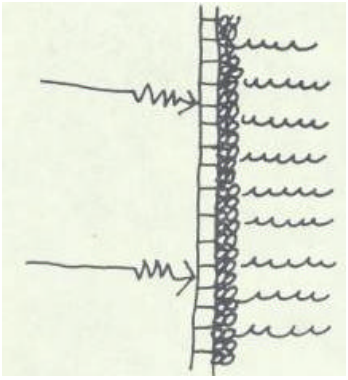


a. Project Topography.

Of all the factors which bear on and influence development potential, the nature of the topography is probably the most limiting. The steep, rugged terrain characteristic of more than two-thirds of the reservoir shoreline effectively limits development of major public recreation facilities, shoreline industry, or preservation and enhancement of wildlife habitat. Usable land space just does not exist in the reach downstream from Alpowa Creek and is limited in extent in upstream areas.

b. Railroad and Highway Relocation.

The severely limiting effect of the project topography is greatly extended by necessary road and railroad relocations. The steep terrain dictates the location of relocated railroads and roads within extremely narrow corridors paralleling the reservoir shoreline. These transportation arteries effectively isolate small land areas from the reservoir and, of course, occupy many small, otherwise attractive shoreline reaches which could possibly have been developed for recreation purposes or for riparian wildlife habitat. The heavily revetted waterside slopes generally preclude foot traffic or other activities along the water's edge. The revetment also precludes establishment of any significant shoreline vegetation.



c. Levee Construction.

In a similar manner, the levees create an effective lineal barrier along the entire Lewiston city waterfront. Efforts toward overriding the adverse effects of the levees are described briefly in Section 7 and set forth in detail in DM 29.7, *Lewiston Levee Parkways*.

d. Soils and Geology.

Deep, rich soils are non-existent on the project. Soil on the steeper slopes, if any, is shallow. The deepest deposits can be found on benches along the river on level to moderate slopes. Most of these soils will be flooded by as the pool. Organic content, even in the deepest soils, is low. This condition presents no problem to construction but does require attention to nutrient and water-holding capacity when used to support plant life.

"The soil of these prairies is of a light yellow clay, intermixed with small smooth grass; it is barren, producing little more than a bearded grass about three inches high, and a prickly-pear, of which we found three species."

Wm. Clark, Oct. 10, 1805

e. Climate.

The whole of the Lower Granite project lies within the "banana belt" of eastern Washington and central Idaho. This belt of comparatively mild winters extends from Hood River to Lewiston and is slightly lower in elevation than the surrounding terrain. This fact, combined with the influence of Pacific air that spills over the Cascades and through the Columbia Gorge, moderates most winters. Summers are warm to hot, and dry, with plenty of sunshine. These conditions make for a slightly lengthened, water-related recreation season. However, the same dry summers with the added impact of winter winds cause concern from the horticultural standpoint. Lawns, trees, and shrubs require irrigation from spring to fall. Spring and fall winds are often strong and gusty and can whip up waves of four and five feet on exposed reaches of the reservoir system. However, the local wind exposure on Snake River above Interstate Bridge is not so severe as on the Columbia or other Snake River locations.

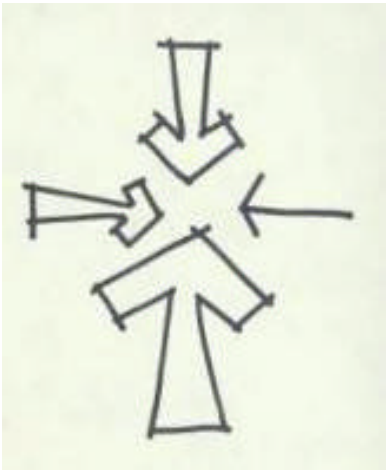
f. Reservoir Operation.

The operation pattern for Lower Granite Reservoir was described in paragraph 2.05. The relatively stable condition of the pool and the limited magnitude of the water level fluctuation, particularly in the Lewiston-Clarkston area, are conducive to complete utilization of all of the project resources. The fluctuations of greater magnitude occur at the upper and lower ends of the reservoir and require that some facilities be developed for this wider fluctuation. This is applicable primarily to the Offield Landing and Wawawai Landing areas and to Chief Looking Glass Park area at Asotin. Overall, no great developmental or operational problems are anticipated because of pool fluctuation.

g. Accessibility.

Although not located on any major tourist routes, Lewiston and Clarkston are served by regional north-south and east-west highways. U. S. 195, a two-lane road, connects the project with Pullman and Spokane to the north, and Boise to the south. U. S. 12, also a two-lane road, joins Lewiston with Missoula to the east and Walla Walla to the west. Whitman County Road 900 from Wawawai Canyon to Steptoe Canyon, and SR 193 which ultimately will come from U.S. 195 at Colton down Steptoe Canyon to Clarkston and Lewiston, are being relocated above the effects of the lake and upgraded by the Corps. There is no direct road access from the reservoir area to the dam. All traffic must use roundabout routes over sometimes low-roads. otherwise, there is no indication that the project will be hampered by inadequate access.

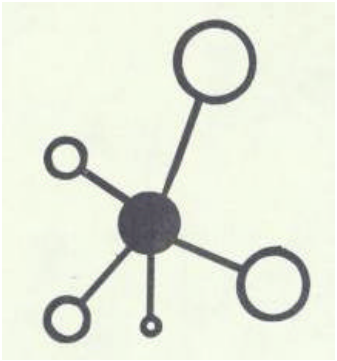
h. Population Characteristics and Distribution.



Major influences upon land use classification are numbers and distribution of population within the day-use area of the project. The largest concentrations of people affecting Lower Granite Project are the communities of Lewiston-Clarkston-Asotin, with a combined population in 1970 of 33,000. These communities are located directly on the lake and generate the largest demand for day-use facilities. Hells Gate State Recreation Area, Chief Looking Glass Park, Swallows Park and Marina and, to a lesser extent, Lewiston Parkways and Clearwater Park, will serve this need. Pullman, Washington, and Moscow Idaho, make up another center of population, with a combined total of 35,000. Day-use demand from these cities is expected to be divided among the north shore recreation sites, with the heaviest use at Wawawai Bay, Wawawai Landing, and Boyer Park and Marina, located 1½ miles below Lower Granite Dam on Lake Bryan.

i. Related Resources off the Project.

Resource development on Lower Granite project is influenced to a major extent by the availability of similar resources at other locations off the project. This is particularly true in the area of recreation resource development. Plate 1 has been prepared to show the location, nature, and extent of other recreational opportunities in the region surrounding Lower Granite Reservoir. The availability of these other opportunities is a major factor which has been taken into consideration in derivation of visitor attendance estimates. Insofar as the industrial developments are concerned, the nearest waterfront industry would be the Almota terminal facilities on Little Goose pool and, next downstream, the facilities at Central Ferry. These facilities are not considered particularly competitive with any facilities developed in the Lewiston-Clarkston area, since they relate primarily to handling and transport of grain for export and import of petroleum and fertilizer products, all of which relate to specific local Product and service areas.



j. Water Quality.

The University of Idaho and Washington State University, under contract with the Corps of Engineers, made a two-year study of probable water quality in Lower Granite Reservoir. A resume of the conclusions drawn from this study is furnished as Supporting Data, Item 9. The views expressed in this paragraph are based upon those conclusions.

(1) Pool.

Water quality has a major impact upon recreation. As discussed in paragraph k. following, recreation on Lower Granite is principally day use and water-oriented. Particularly affected are water contact sports such as swimming, water skiing, and boating. Algae and aquatic, vascular plant growth can either be a nuisance to swimmers at low concentrations or a serious deterrent at high concentrations. Dermatitis can result from contact with blue-green algae and an upset stomach if much water is swallowed. Pathogenic bacteria, however, cause the greatest threat to health. Feedlot and municipal wastes are the largest source of pollution on Lower Granite. Other sources of pollution are domestic wastes from Lewiston, Clarkston, and Asotin: industrial effluents from Potlatch Corporation, Smith Frozen Foods, and Twin City Foods: and storm runoff. River Mile 139, at the confluence of the Clearwater and Snake Rivers, is most subject to heavy pollution loading. Water quality, with the exception of shoal areas, is not expected to inhibit water contact sports on Lower Granite. This statement is based upon implementation of more rigid standards for municipal and industrial waste treatment. By 1975, all effluents from treatment plants on Lower Granite will be subjected to secondary treatment. Furthermore, the State of Idaho is working on legislation to control pollution from feedlot operations on Snake River and its tributaries.

(a) Problem Areas.

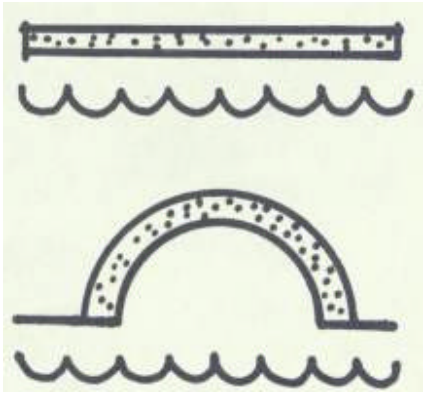
Shoal areas (0'-10' water depth) and embayments where water flow is reduced are price areas for aquatic growth. Sigh concentrations of nutrients and bacteria are most often found near inlets of creeks, and oil films nauseating to swimmers can occur downstream of marinas.

(b) Chief Timothy State Park.

The embayment may be a problem area for aquatic growth. Water depth is shallow and flow is slow behind the island. ID addition, wildlife concentrations induced by the creation of islands above the large island could increase the nutrient levels flowing into the embayment. These factors may prove to be troublesome for the swimming beach at Chief Timothy State Park.

(c) Hells Gate State Recreation Area.

Tammany Creek empties into the Snake at this location, bringing large quantities of pollutants from cattle operations along the creek. To head off the problem of high bacteria levels at the swimming beach, the creek channel will be relocated so as to empty downstream of the beach. The beach will be built directly on the shoreline. Beaches built in the past have often been recessed to afford wave protection. These pockets were soon to become areas of stagnant water.



(2) Tailwater.

Some froth and foam production is likely to occur below Lower Granite Dam. This condition should be short- lived and noticed only during spillage in the first year after filling.

(3) Drinking Water.

Water quality in the lake should not place any constraints on drinking water which will be obtained from either treated municipal sources or from wells.

k. Anticipated Recreation Preferences.

The recreation habits and preferences of the using public must obviously influence the type of recreation facilities planned for the project and the amount of land reserved for future expansion. Recreation preferences under river conditions, however, are not a true gauge of what they say become when the river is inundated to form a

lake. Experience at older projects, such as McNary on the Columbia and Ice Harbor on the Snake River offers guidance in this respect. The future enshrouds a number of factors, such as economy, education, and technology any one or all of which say influence recreation preferences. The program presented in this Master Plan is influenced in part by past experience and existing project conditions and by judgment prognostications about future social changes.

(1) The Present.

The existing uses of the river and project area are principally sightseeing, hunting, and fishing. Camping is a minor activity, a spinoff from hunting and fishing. Initial intensive-use recreation areas are being developed primarily for the day-use market. Past experience at Columbia Park on McNary indicates that day-use activities such as boating, picnicking, swimming, bicycling, sightseeing, *etc.*, are most popular. Campers from the Lower Granite project region are accustomed to camping in the mountainous reaches of Washington, Oregon, and Idaho. This preference is not expected to change, even with developed campgrounds on Lower Granite. Campgrounds will be developed at only two sites - Chief Timothy State Park and Hells Gate State Park. Both parks will have state park status, with appeal to the more distant visitor. Chief Timothy is located off U. S. 12 and should be a popular stopover for east-west travelers. Sportsmen attracted to the flowing river above Asotin and tourists taking boat excursion trips into Hell's Canyon will find the campground at Hells Gate State Park convenient.

(2) The Future.

The future is always a question. Two factors - environmental awareness and energy shortage - would point towards an even greater emphasis on day-use activities such as picnicking, swimming, and hiking. Sailboating and bicycling may surpass in popularity motorboating and the "Sunday drive." There are opportunities for additional bicycle trails: 1) landward of U. S. 12 between Clarkston and Chief Timothy; 2) along the total north shore on Whitman County Road 900 and S. R. 193; and 3) along WSR 129 tying Swallows Park with Chief Looking Glass.

(a) Quality and Character of Environmental and Ecological Resources.

The character of the Lower Granite Reservoir area - its attractiveness and suitability to recreational activities is a prime factor influencing recreation development. Not having some of the inherent recreational qualities such as timbered mountain slopes, clear, flowing tributary streams, colorful scenery, etc., the project must depend heavily for its attractiveness upon development of quality facilities. Picnicking, camping, *etc.*, will be attractive in direct proportion to the scope and quality of facilities offered to accommodate these activities. Given well-developed facilities, especially effective landscape treatment, the project will be unusually attractive, since it will offer pleasant respite from the hot, dry summer weather of the local region. Thus, the developments are essential to public utilization and enjoyment of the recreation attractions of the Lower Granite Project.

m. Cost Sharing.

As explained in paragraph 1.05, the principles of Public Law 89-72 are not applicable to the initial development program on Lower Granite but will be imposed upon any future efforts undertaken with Code 710 funds. This influences the project principally in two ways: 1) on areas to be managed by the Corps, it is important that the magnitude of initial need is not underestimated, since future development by the Corps is precluded; and 2) on areas to be managed by non-Corps' interests the local agencies are understandably anxious to have the scope of development extended as far as is reasonably possible.

SECTION 5 - COORDINATION WITH OTHER AGENCIES

5.01. Federal Agencies

a. Coast Guard.

The Coast Guard began discussions in 1966 with the Corps concerning a location for the Coast Guard station in the Lewiston-Clarkston area. Their Kennewick facility, which offers land space for Coast Guard buildings, parking and storage, and sheltered water affording protection from wave action and debris, was used as an example of their needs. The Coast Guard first showed interest in locating at Holbrook Island on the Clearwater River but later, in 1968, they decided that a station located within the Swallows Marina on the Clarkston frontage would be more satisfactory. Discussions since then have dealt with the landside and water space requirements for the station within the marina and responsibilities for financing development of the facility. At a meeting in October 1970, the Coast Guard agreed to pay for filling and grading work for the Station done by the Corps which is other than incidental to the grading for Swallows Marina. The Coast Guard will independently fund, design, and construct all of its own development. Corps' involvement other than grading will be limited to review of plans to assure compatibility with Corps' and other non-Corps' development and activities. Use of project lands by the Coast Guard will be by permit rather than by transfer of jurisdiction.

b. Department of Housing and Urban Development (HUD).

In November 1967, the Walla Walla District received confirmation from OCE that the Lewiston Levees had been selected nationally as a "... pilot project for participation with HUD in a joint Corps-DUD waterfront beautification project." Efforts over a 3-year period to formulate a program responsive to this charge were unsuccessful, basically for two reasons: 1) the authorities and objectives of the two agencies were not adequate to cover the nature and magnitude of development required; and 2) the physical separation of the City from its waterfront, as imposed by the mainline railroad and spur tracks, the truck bypass as desired by the City, and the proposed levee, was so severe as to preclude any meaningful tie between the shoreline lands and the related City area.

c. National Park Service (NPS).

(1) Archaeology.

Following interagency discussions which began in 1967, a contract was signed between the National Park Service and Washington State University for the exploration of archeological sites within the Lower Granite Reservoir area. Subsequent contracts followed with WSU for salvage work as sites became known. Of the 84 reported sites, at least 10 were considered worthy of extensive excavation. (This salvage work is discussed in paragraph 3.02.) All contracted work within the project lands, such as road and railroad relocations, which might disturb archeological remains has first been cleared with the NPS or the University. Under a separate contract with the University of Idaho a group of known ancestral burials at the mouth of Alpowa Creek was removed and reinterred in the cemetery at Spalding Mission.

(2) History.

In compliance with Executive Order 11593, the Walla Walla District has coordinated its inventory of historical and archeological sites on all project lands with the Rational Park Service. The Park Service has been helpful in providing guidance in the execution of the inventory and documentation of findings.

d. Bureau of Outdoor Recreation (BOR).

It is the responsibility of the Bureau of Outdoor Recreation under Public Law 88-29, to cooperate with and provide technical assistance to Federal departments and agencies and to promote coordination of Federal plans and activities generally relating to outdoor recreation. A preliminary draft of the Master Plan was offered for review by BOR. Their comments are furnished in Exhibit D.

5.02. State Agencies

a. State of Washington.

In June 1970, the members of the Washington State Parks and Recreation Commission made an on-site inspection of the Silcott Island area and expressed informally the view that this would make a desirable addition to the state parks system. Extensive coordination with the professional staff of the Parks Commission has been carried on during the past two years. The design concepts, scope, and quality of development set forth in the Master Plan program of development are in accord with the States' views. While formulating plans for the Chief Timothy State Park area, two conflicting interests developed. The Washington state Department of Game felt that the island should be managed exclusively for wildlife benefits, while the State Parks Commission envisioned a state park on the island. In 1972, this conflict of views was presented to the Governor of the State of Washington. In reply, Governor Evans suggested that the Corps work with the State Parks Commission toward development of the island as a state park (see Exhibit E). The State Park people have reviewed the Master Plan in preliminary draft form and furnished comments as set out in Exhibit F.

b. State of Idaho.

(1) Parks and Recreation Department.

First contacts with the Idaho state Parks and Recreation Department with respect to possible state park development at Bells Gate (Tammany) State Recreation Area were made in December 1970. A number of meetings with the state Parks people and local public meetings were held, leading to the official action by the State Parks Board favoring creation of a state park at the Tammany Creek site. These early and coordination are discussed in detail in Supplement No. 1 to the *Preliminary Master Plan*. Extensive coordination has been continued since approval of the Preliminary Master Plan. The design concepts and quality of development, as set forth in the development program of the Master Plan, are in accord with the State's views, although the scope is not as extensive as the State desires. The State has reviewed the draft version of the Master Plan (see Exhibit G).

(2) Department Of Highways.

At a number of meetings with local interests, officials of the Idaho Department of Highways have explained problems related to development and improvement of state highway routes through Lewiston. The volume of traffic on Interstate Bridge and improvement of traffic patterns-both highway and rail-at the Lewiston end of the bridge are of major concern. The new bridge corridor mentioned in Exhibit H relates to this problem.

"My concern is that if no mention is made of a future bridge at this location, the land-use plan would block construction of the abutments and approaches on the Washington end of the proposed bridge."

5.03. Local Agencies

a. Asotin County - City of Clarkston.

Discussions with the local officials, county commissioners, and city councilmen of Asotin County and Clarkston, Washington, concerning park development along the Clarkston frontage (the Swallows site) were initiated in 1967. Over the years, there have been numerous meetings with the county commissioners, the Asotin County Parks and Recreation Board, the Clarkston City Council, and various interested local officials and individuals. The program for Swallows Park, as outlined in the Master Plan, has been formulated to meet as many as possible of the local desires and recommendations concerning the park at this location. Some features (*i.e.*, overnight camping and more extensive beach and day-use development) desired by local officials have not been included because of funding limitations and other factors. The County's views, based on a review of the preliminary draft of the Master Plan, are set forth in Exhibit I.

"We trust that the people of Asotin County will gain a complete development of the full potential of these natural resources, and in this we ask your continued cooperation and pledge ours."

b. Town of Asotin and Asotin Schools.

Coordination with officials of the town of Asotin, and particularly with the Superintendent of Schools, concerning the development of Chief Looking Glass Park, was initiated in 1969 and has continued until the present time. Substantial portions of the park have already been developed by the City and the School District at a cost of $55,000, of which $36,000 was funded by the Washington State Interagency Committee for Outdoor Recreation. Some grading and related work was accomplished by the Corps. A lease on the park area was issued to the town of Asotin on 10 February 1972. The local interests plan further development as a non-Corps effort, again with assistance from the Interagency Committee on a 25-percent local and a 75-percent State matching-funds basis. The application for $68,000 from the IAC was approved on 3 May 1974, with 2 years allowed for accomplishment of the work.

c. City of Lewiston and Nez Perce County.

Officials of Nez Perce County and, particularly, of the city of Lewiston, have, over the years, demonstrated an intense and sustained interest in various planning, design, and construction aspects of the Lower Granite Project. This interest understandably centers largely on pool operation plans, the levees, Hells Gate State Recreation Area, and various waterfront facilities, particularly marinas. Numerous meetings with local officials - many including the general public - have been held to discuss plans for project development, including such aspects as levees and levee beautification, a truck bypass, small-boat marinas, various city facilities affected by project construction, and allocation of project lands. To ensure thorough coordination of project activities with city interests, the Lower Granite Project coordinator has, for the past 2 years, attended City Council meetings on a regular basis on the first Monday of each month. The city's comments, based on review of the preliminary draft of the Master Plan, are furnished in Exhibit J.

d. Whitman County and the Universities.

There have been numerous informal discussions and planning meetings among Corps' representatives and local people of Whitman County interested in recreation opportunities on the Snake River. These have centered largely around the desire to preserve and continue the usual and accustomed river shoreline activities (*i.e.*, picnicking, sunbathing, swimming, hiking, fishing, *etc.*), all on an informal, unorganized basis and carried on without benefit of formal facilities. Favored locations include Wawawai and the several natural shoreline beaches. Most active interest has been among students from the two universities: Washington State University and the University of Idaho, and such groups as the local historical society. While it was apparent that this interest was present, no official expression or proposal was forthcoming from local people until August 1974. The Whitman County Park and Recreation Board then submitted results of a recreation study of the Lower Granite Reservoir area in support of their request for a park at Wawawai Bay (see Exhibit A).

5.04. Fish and Wildlife Agencies - Federal and State

Because Lower Granite Dam affects interstate runs of anadromous salmonids, Pacific salmon, and steelhead trout, valued both as commercial and sport fish, seven Federal and state fish and wildlife agencies have taken part in the assessment and recommendation of compensatory measures for losses of fish resources resulting from the project. These agencies are the US National Marine Fisheries Service, the US Fish and Wildlife Service, the Washington State Department of Game, the Washington State Department of Fisheries, the Idaho Fish and Game Department, the Oregon Wildlife Commission, and the Fish Commission of Oregon. Details beyond those discussed in the following paragraphs regarding development and management measures are treated in sections 7 and 13. Comments of the fish and wildlife agencies, based on review of the Master Plan preliminary draft, are set forth in Exhibits K and L.

"We consider fish and wildlife to provide the basis for major recreation values and strongly urge your support of nonconsumptive wildlife use on your recreation lands."

a. Special Reports on the Lower Snake River Dams.

Acting as the lead agency for the fish and wildlife agencies, the US Fish and Wildlife Service prepared reports on the impacts of the four lower Snake River dams during planning stages of each project. Three of these reports were received, as follows: 1) *A Detailed Report on Fish and Wildlife Resources, Ice Harbor Lock and Dam Project, Snake River, Washington*, May 1, 1959; 2) *A Detailed Report on Fish and Wildlife Resources Affected by Lower Monumental Lock and Dam Project, Snake River, Washington*, September 1960; and 3) *A Detailed Report on Fish and Wildlife Resources Affected by Little Goose Lock and Dam Project, Snake River, Washington*, May 7, 1963. Upon receipt of a similar report in draft form for Lower Granite Lock and Dam, the District requested, by letter of 11 April 1966, that the US Fish and Wildlife Service prepare a report on the effects of all four lower Snake River dams as a unit. The US Fish and Wildlife Service and National Marine Fisheries Service furnished a report to the District in November 1972, entitled *A Special Report on the Lower Snake River Dams, Ice Harbor, Lower Monumental, Little Goose, Lower Granite, Washington and Oregon*, dated September 1972. In addition to the fish passage facilities provided with the construction of each dam for upstream migrant adult salmonids and downstream migrant juvenile salmonids, this report recommended compensation measures including the construction of fish hatcheries; acquisition of fisherman access on tributary streams; supplemental stocking of trout; development of wildlife habitat on project lands; acquisition of hunter access on off-project lands; and construction of a game farm to provide pheasants for supplemental stocking. The capital cost to achieve the recommended compensation was estimated at $40 million, and the annual operation and maintenance cost was estimated at $2.4 million.

b. The Lower Snake River Fish and Wildlife Mitigation Report.

Based on the report prepared by the US Fish and Wildlife Service and National Marine Fisheries Service, and supplemental data furnished by state fish and wildlife agencies, the District prepared a draft *Lower Snake River Fish and Wildlife Mitigation Report* for submittal to higher authority. The District report directly reflected the recommendations of the fish and wildlife agencies, with minor changes based on the supplemental information.

c. Processing of the Mitigation Report.

In accordance with established procedures, public meetings (four in all) were held to present the proposed mitigation to the public. Conservationists, sports groups, commercial fishing interests, and fish and wildlife agencies supported the plan, while local landowners and farm groups strongly objected to any additional acquisition of land in fee or by easement by the Government. The proposed mitigation report is now being reviewed by independent fishery and wildlife experts, and the District is having a Design Memorandum prepared for the development of wildlife habitat on project lands. This document is also being prepared by an independent firm, and it is anticipated that these independent reviews will resolve some of the objections to the proposed actions. The final draft of the mitigation report, and an accompanying environmental impact

statement, will be submitted to higher authority in December 1974. Pending this submittal, it should be noted that implementation of the US Fish and Wildlife Service's recommendation for all lower Snake River projects will require substantive acquisition of off-project lands and substantial additional facility construction. Such land acquisition, as a portion of the plan, will require separate Congressional authorization and funding. However, as many of the other recommendations as possible are planned to be implemented at an early date on existing project lands.

d. Interim Mitigative Measures.

In addition to the construction of fish passage facilities for upstream migrant adult salmonids, as well as for downstream migrant juvenile salmonids, the District has attempted in planning and relocation construction to create or preserve conditions that will be beneficial to the development of fish and wildlife habitat after pool raise. Onsite surveys were made of the project in the summer and fall of 1973 with representatives of the Idaho Fish and Game Department, the Washington State Department of Game, and US Fish and Wildlife Service to locate potential areas for habitat development (see Exhibit M). As a result of this coordination, several islands will be created along US Highway 12 near Chief Timothy State Park, and several subimpoundments landward of the highway will be developed for warmwater fisheries. An island will be formed on the north shore near Granite Point as a consequence of railroad and county road relocation. Fisheries will be established in borrow areas landward of Blyton and Sugarloaf recreation sites. Last-minute changes in an encapsulated waste fill on the north shore at the confluence of the Clearwater and Snake Rivers will create an island at the downstream end of the fill. Lot 12 Island, located about 8 miles up the Clearwater River and immediately downstream from Hog Island, will be acquired for public recreation and access, and will be reserved for its continuance as a goose nesting area. In clearing the reservoir, all shoreline vegetation and vegetation to be inundated by the pool, except that removed in the navigation channel, will be preserved to provide warmwater fish habitat. The navigation channel to be cleared includes that portion of the pool at depths below 728 mean sea level (msl). All trees and brush between elevation 728 and elevation 738 msl, except shorelands fronting on intensive use recreation areas, will be left intact to provide fish habitat.

5.05. Port Commissions

Coordination with the Port Commissions of Lewiston and Clarkston, and Whitman County has continued throughout the period of project construction. This coordination has involved many aspects of the Master Plan studies: allocation of project lands; relocation of highways, railroads, and utilities; access from roads and railroads to potential port properties; details of levee construction, particularly the North Lewiston Levee; progress of project construction efforts; and the preparation of environmental impact statements relating to the total project and to potential port terminal and industrial waterfront lands. Negotiations are currently underway for the sale of available shorelands to the Port of Whitman County and the Port of Clarkston. Also in progress are measures leading to the granting of permits and easements required by the Port of

Lewiston to facilitate the development of facilities and handling of commodities over the levee from Port-owned lands to barge tie-up points on the reservoir. Coordination with the Port of Garfield has been limited to the furnishing of a draft copy of the *Lower Granite Master Plan* for their review and comment. Except at Offield Canyon, none of the nearly 20 miles of Port of Garfield shoreline on Lower Granite Reservoir are suitable to port terminal or industrial use. The Offield Canyon area has been allocated to more critical and appropriate uses. Comments on the draft of the Master Plan, as offered by the three involved Port Commissions, are furnished as Exhibits N, O, and P.

SECTION 6 - ALLOCATION OF PROJECT LANDS

6.01. Basis of Classification

The project-owned lands around Lower Granite Reservoir are extremely limited in extent and are obviously inadequate for collateral uses, not only during early years of project life but particularly when considering possible long-range future demands. This limitation does not result directly from restricted land acquisition but, rather, is imposed by other factors: the steep, rugged terrain along the reservoir; the relocated roads and railroads that lie at the water's edge throughout at least 48 miles of the total 90-mile-long shoreline; the 7.6 miles of levee surrounding Lewiston; and the fact that most of the adjacent flat or gently sloping usable lands are already occupied by the developed communities. This extreme paucity of usable project land emphasizes the need for a sound and judicious plan for allocation of lands to the various uses. The categories of land classifications, as used on plates 2 and 3, conform to Engineer Regulation (ER) 1120-2-400, *Investigations, Planning and Development of Water Resources*, Change 1, dated 1 November 1971. Full consideration has been given to the guidance in Engineer Manuals and supplemental instructions, as well as to all Federal laws governing development and management, as cited in section 1.05, *Laws Applicable to Resource Development and Management*. Land use assignments have been determined with a view to assuring utilization of the various resources of the project area under the objective of maximum sustained benefits to the greatest number of people.

6.02. Land Use Allocations

Descriptive criteria and conditions pertaining to each category of land use are given in the following paragraphs.

a. Project Operations.

These are lands acquired and allocated to provide for safe, efficient operation of the project for those authorized purposes other than recreation and fish and wildlife. There are three subcategories in this allocation.

(1) Project Structures.

These lands are required for operation and maintenance of project structures or for care and management of the project. Low-density recreation or wildlife habitat management, either intensive or moderate, will be permitted when not in conflict with the basic project requirements.

(2) Public Port Terminal.

These are shoreline frontage areas determined to be essential to utilization of the navigational resources of the project. Their prime purpose is to afford space for on-loading, off-loading, handling, storage, and transfer of waterborne freight. Lands are reserved for public port terminal sites at appropriate intervals along the shoreline, at points strategically located in relation to established communities and existing and potential industrial tributary production areas and logically related to the road system serving these areas. With appropriate restrictions as required to satisfy project operational requirements and site limitations, these lands may be made available for conveyance to states, political subdivisions thereof, port districts, or port

authorities, under provisions of Section 108 of Public Law 86-645 (74 Statute 486), for development of public port facilities. The conveyance deed will provide for the reversion of title to the Government in case the land is used for purposes other than intended. Low-density recreation use or wildlife habitat management, either intensive or moderate, will be permitted on an interim basis on public port terminal lands, provided such interim use will not adversely affect the basic public port terminal values and so long as title to such lands remains with the Government. Lands designated as retained are presently owned by the Federal Government. Conveyed lands have been sold under the provisions described above.

(3) Industrial Use and Access.

These are areas of project lands determined by the Corps to be not required and not suitable for project operation, public recreational use or access, public port terminals, natural areas, or fish and wildlife habitat. With appropriate restrictions, as required to satisfy project operational requirements and site limitations, they may be made available for conveyance to states, political subdivisions thereof, port districts, or port authorities, under provisions of Section 108 of Public Law 86-645, for development of private terminal facilities or industrial uses requiring close association with the water area of the reservoir, or they may be leased directly to such industrial users in those instances where conveyance under referenced Section 108 of Public Law 86-645 is not feasible or practical. The conveyance deed or lease will provide for reversion of title or cancellation of lease in case the land is used for purposes other than intended. Low-density recreation use or wildlife habitat management, either intensive or moderate, will be permitted on an interim basis on these lands. Agricultural use may be permitted on an interim basis when not in conflict with use for authorized purposes, industrial use, recreation use, or wildlife habitat management. All interim uses will terminate when industrial development becomes imminent after conveyance or outlease. Lands designated as conveyed have been sold to a non-Federal entity by the process described above. Retained lands are presently owned by the Federal Government.

b. Operations: Recreation - Intensive Use.

These lands have been acquired for project operations (generally within 300 feet of full-pool shoreline), and are allocated for use as developed public-use areas for intensive recreation activities by the visiting public, including areas for concession and quasi-public development. Intensive use recreation areas are defined as lands on which facilities have been or will be provided to accommodate the recreation needs of visitors in concentrated numbers, and such adjacent or associated lands without facilities as required for open space purposes to make a whole recreation unit. These lands, including developed facilities thereon, will be administered by the Corps of Engineers, or will be administered under lease agreements by state or local agencies or commercial concessionaires. Private or long-term, exclusive group use of these public recreation lands will not be permitted. Licenses, permits, or easements will not be issued on intensive use recreation lands for such incompatible manmade intrusions as pumping plants, underground or exposed pipelines, cables, overhead transmission lines, non-project roads, or dredging or filling operations. Exceptions to this restriction may be

made where necessary to serve a demonstrated public need in those instances where no reasonable alternative is available. Measures leading to habitat improvement for the benefit of wildlife may be accomplished on intensive-use recreation lands not actually occupied by formal facility development. All intensive-use recreation lands have been designated for either initial or future development.

(1) Initial Development.

These are recreation lands on which facilities are developed to an extent adequate to meet the recreation visitor needs, as projected to the third year of full project operation, or to a minimum of two-thirds their ultimate potential, whichever is greater. Except for wildlife habitat improvement measures, no joint use of these lands is to be permitted.

(2) Future Development.

These are lands having the same use capabilities and development potentials as lands designated for initial development, but which are reserved for future development as recreation needs warrant. Wildlife habitat improvement will be permitted as a joint use. Low-density recreation and fish and wildlife management may be permitted on an interim basis, provided such use will not adversely affect the basic recreation values. This interim use must be of such a nature that it can be terminated and the land made available for the purpose for which it is reserved. No agricultural uses are permitted on these lands, except on an interim basis for terrain adaptable for maintenance of open space and/or scenic values.

c. Operations: Recreation - Intensive Use - Off-Road Vehicles (ORV).

These are lands acquired for project operations (normally within 300 feet of full-pool shoreline), and are allocated specifically and exclusively for recreational use by off-road vehicles. They are not suitable, and are not particularly required, for other types of recreational activity or wildlife habitat management. Development on ORV lands will be limited to enclosure fencing, automobile parking, vault toilets, regulatory and directional signing, benches, sun shelters, and any minor structures appropriate to ORV activities.

d. Operations: Recreation - Low-Density Use.

These are lands acquired for project operations (normally within 300 feet of full-pool shoreline), and are allocated for low-density recreation activities by the visiting public. They are required to provide open space between intensive recreational development, or to provide buffer zones between intensive recreational development and land which, by virtue of its use, is incompatible with recreational development and would detract from the quality of public use. Such incompatible land may be located either on the project or adjacent to the project. Development on low-density lands will be kept to the minimum necessary to allow a dispersed visiting public, with non-motorized access through the area, to participate in nature-related activities. These activities will include, but not be limited to, ecological workshops and forums, hiking, horse and bicycle trails, primitive camping, or similar low-density activities that play a significant role in shaping public understanding of the environment. Limited facilities (*i.e.*, benches, tables, sun shelters, vault toilets, and waste receptacles) will be allowed. Except possibly in urban areas, utilities (electricity, water, and sewer) will not be provided for these facilities in low-density areas. All such facilities will be in harmony with the natural surroundings, so as not to be intrusive to the environment. Landscaping or restoration,

when necessary, will utilize plants native or naturalized to the area. Manmade intrusions (*i.e.*, pumping plants, pipelines, transmission lines, non-project roads, or dredging or filling operations) will be permitted with appropriate controls as necessary to minimize the adverse visual or other impact on the natural character of the areas. No agricultural uses are permitted on these lands except on an interim basis for terrain adaptable for the maintenance of open space and/or scenic values. Measures leading to habitat improvement for the benefit of wildlife will be a management objective. Hunting and fishing on and from these lands will be permitted. Low-density lands will, as a general rule, be administered by the Corps of Engineers.

e. Recreation Lands.

These are lands acquired specifically for recreation purposes (generally located beyond the 300-foot operational lands), and are allocated for any recreation use. They are located in areas that have been selected for major recreation developments, and are normally adjacent to project operation lands allocated as "Recreation-Intensive Use." They are designated for either initial or future development. No grazing or other agriculture uses will be permitted on the initial areas, and no such use will be permitted on future areas, except on an interim basis for terrain adaptable for the maintenance of open space and/or scenic values.

f. Fish and Wildlife.

In accordance with the provisions of Section 3 of the Fish and Wildlife Coordination Act of 1958 (Public Law 85-624), selected areas of project lands may be reserved for the development and management of fish and wildlife resources at the project. These lands are selected jointly by the Bureau of Sport Fisheries and Wildlife, as well as the appropriate state fish and wildlife agency or agencies, from those lands determined by the Corps of Engineers to be available for such use.

(1) Operations: Wildlife Management - Intensive.

These lands have been acquired for project operations (generally within 300 feet of full-pool shoreline), and are allocated for the propagation of wildlife species. Intensive wildlife management lands are defined as lands that are set aside for wildlife management because of their inherent value as wildlife habitat, or because of their potential for specific management practices of an intensive nature that have been or will be implemented to improve and/or maintain habitat beneficial to desirable forms of wildlife - both game and non-game. These lands, including developments and improvements thereon, will be administered by the Corps of Engineers, or will be administered under cooperative agreements or license agreements by Federal or state fish and wildlife agencies. Private or exclusive group use of these wildlife lands will not be permitted. Licenses, permits, or easements will not be issued on intensive management wildlife lands for such non-compatible manmade intrusions as pumping plants, underground or exposed pipelines or cables, overhead transmission lines, non-project roads, or dredging or filling operations. Exceptions to this restriction may be made where

necessary to serve a demonstrated public need in those instances where no reasonable alternative is available. Intensive management lands will be available, generally on a continuous basis, for selected non-consumptive low-density recreation activities (*i.e.*, hiking, primitive camping, nature study, nature photography, bird watching, and other related activities). Consumptive activities (*i.e.*, hunting and fishing) will be allowed only as commensurate with management objectives.

(2) Operations: Wildlife Management - Moderate.

These lands have been acquired for project operations (generally within 300 feet of full-pool shoreline), and are allocated for the development and management of habitat for fish and wildlife or for the propagation of such species. Moderate wildlife management lands are defined as lands that are valued for fish and wildlife management, but which will not sustain intensive management practices. Moderate management practices have been, or will be, implemented to improve and/or maintain habitat beneficial to desirable forms of wildlife - both game and non-game. These lands, including developments and improvements thereon, will be administered by the Corps of Engineers. Private or exclusive group use of these wildlife lands will not be permitted. Licenses, permits, or easements will be issued on moderate management wildlife lands for such manmade intrusions as pumping plants, underground or exposed pipelines or cables, overhead transmission lines, non-project roads, or dredging or filling operations. Such outgrants will include appropriate controls as required to preclude or minimize the adverse visual or other impacts on the natural character of the areas. Moderate management lands should be continuously available for low-density recreation activities (*i.e.*, hiking, primitive camping, hunting, fishing, nature study, nature photography, bird watching, and other related activities.

g. Operations: Natural Areas.

These lands are acquired for project operations, and are allocated for the preservation of scientific, ecological, botanical, historical, archaeological, or visual values. Lands managed to protect rare and endangered species of flora and fauna will be allocated as natural areas. Normally, limited or no development is contemplated on land in this allocation. Simple hiking and bridle trails and primitive camping may permitted as long as their impact is not detrimental to the purpose for which the area is being protected. Vehicles, benches, shade shelters, waste receptacles, utilities, or other structures not directly related to access or control of access through the area will not be allowed. Interpretive facilities and signs should be restricted to the periphery of the area, or should be subdued and kept to a minimum. Preservation will be the primary objective in the management of these lands, will all other uses being regulated to serve this end. Narrow bands of project land located between the normal recreation pool and the project boundary may fall within this category. Project operational lands may be a dual allocation. No agricultural uses are permitted on this land.

6.03. Commercial Marina Concessions

The number and location of commercial small-boat marinas to be permitted on the project are to be deliberately limited and controlled by the Government. The objective of this control is to achieve quality, dependable boating services for the public. Such services will be available on a dependable, continuing basis with the use of commercial operators only if the operations are financially viable. Based on past use of the river with

six commercial operators, only one of which was independently viable, it is quite apparent that the Lower Granite Project can initially support two, but not more than two, commercial marina operations of the scope outline in section 7. No future sites are indicated. If needed and warranted, sites can be later designated at Chief Timothy State Park and, with major construction, at Chief Looking Glass Park.

6.04. Special Allocations

There are four small areas classified for special uses that warrant mention. Each has been shown in the Project Structures allocation, for want of a more applicable category. In each case, the facility has been directly affected by, or is directly related to, construction and/or operation of the Lower Granite Project.

a. Bonneville Power Administration (BPA) Substation.

This is a small area, 13.8 acres of project land, on the left bank, about 1 mile upstream from the dam. A permit has been granted to BPA for the construction and operation of their substation serving the Lower Granite-Dworshak high-voltage transmission line. Necessary project operational privileges are reserved to the Corps.

b. Sewage Treatment Plants.

The filling of Lower Granite Reservoir requires relocation of two sewage treatment plants--one at Clarkston and one at Asotin, Washington. In each case, the facility has been, or is to be, relocated on project land. A perpetual easement on a 6-acre area has been granted to the city of Clarkston, and rights have been reserved to the Government as necessary for the operation and maintenance of the Lower Granite Project. A similar easement will be given to the city of Asotin, covering about 1.2 acres.

c. Coast Guard Station.

The US Coast Guard has chosen a site at the upstream end of Swallows Marina for the development and operation of their Clarkston Station. A permit is to be issued to the Coast Guard transferring administrative control over approximately 3 acres of land and appropriate areas of associated water space. Again, the permit will reserve necessary privileges to the Corps for project operational activities.

6.05. Some Specific Restrictions

There are some instances where special project requirements, site peculiarities or limitations, in-built commitments, or other conditions exist that warrant specific recitation for administrative guidance.

a. Port of Lewiston Waterfront.

The main area where the Port of Lewiston facilities are planned lies behind the North Lewiston Levee. In this situation, there are no project lands that can be conveyed to the Port under the provisions of Section 108 of Public Law 86-645. It is intended, however, that the Port and its tenants or assigns be allowed to operate freely over the levee, in order to carry out and perform all reasonable activities associated with or necessary for the utilization of navigation features of the project. These privileges will be arranged by means of appropriate navigation permits and other necessary permits or easements, in all cases reserving to the Corps of Engineers the controls, privileges, and safeguards necessary for project operation and various operation and maintenance activities.

b. Encapsulated Fill Area.

The right bank shoreland area shown as Industrial Use and Access on plate 3, downstream from the Camas Prairie Railroad Bridge, is an area of land created by the deposition of toxic and other waste material removed from the area of levee construction. Deposition has been accomplished in a manner specifically designed to preclude escapement of toxic materials into the waters of the reservoir. It is essential that the blanket of earthen materials that surrounds and confines the toxic wastes remain intact. This precludes the use of driven piling; deep trenches or other excavation; major grading (other than added fill); subterranean disposal of liquid wastes, or other such actions. The nature of the fill will require specific attention to the design of foundations for any structures of consequence. All development plans will be specifically and carefully scrutinized by the Corps of Engineers prior to the granting of Corps approval for construction.

c. Southway Bridge Corridor.

One of the serious needs in the Lewiston-Clarkston area is for a new highway bridge crossing of the Snake River, connecting the two communities. The obviously desirable location for a new bridge, and the one favored by local people, is at the foot of Southway (around River Mile 141.2). The shorelands on the right bank (Lewiston side) of the Snake River, from near the end of the levee to Hell's Gate State Recreation Area, are allocated for Operations: Recreation Low-Density use. Similarly, on the left bank (Clarkston side), the shorelands in the reach extending upstream from Nave Pit to Swallows Marina are allocation for Operations: Recreation--Intensive-Use--Initial. On plate 2, *Land Use Map*, a bridge corridor is designated at the Southway location. It is the intent of this corridor designation to reserve space for a future highway bridge. The corridor, as shown, extends 2,900 feet along the right bank (Lewiston shorelands) and 1,900 feet along the left bank (Clarkston shorelands), in order to reserve ample space for the selection of the most efficient and desirable bridge alignment. Once the bridge is definitely located, the corridor width will be reduced to coincide with the actual highway right-of-way width. The recreation classifications, both Low-Density and Intensive Use, are to be considered completely subordinate to the land area requirements for the bridge. This reservation is made deliberately to avoid the necessity of obtaining a permit or other clearance, as might otherwise be required by the terms of Section 4(f) of the Department of Transportation Act of 1966, as amended.

d. Knoxway Bay.

The land at Knoxway Bay is allocated for low-density recreation use. This would normally permit manmade intrusions, as provided in paragraph 6.02. To preserve and protect the pristine recreational amenities of the Knoxway area, as well as to foster the types of recreational activities for which the area is reserved, the restrictions against manmade intrusions, as set out in paragraph 6.02, will be applicable to the shorelands surrounding Knoxway Bay.

e. Visual Quality of Waterfront Area.

Major efforts are included in project designs toward the creation and maintenance of an attractive appearance on all project lands, especially in those areas closely associated with the developed communities. In furtherance of this effort, it will be District policy to encourage quality developments by all users of project lands. This will be particularly important in all port and industrial areas, especially the Port of Lewiston lands in North Lewiston and the Port of Clarkston frontage in North Clarkston - both adjacent to or near residential and/or commercial parts of the communities. This policy will be explained to the port commissions and other involved agencies requesting their cooperation and support. The policy will be recognized, and will influence District action on all applications for navigation permits, or other permits, easements, and licenses.

6.06. Allocation of Project Lands by Acres

The 4,706 acres of project lands above normal full pool are allocated among the several categories of use, as shown by color symbols on plates 2 and 3. These categories of use are shown by letter-numeral symbols on the Resources Maps (see list below). These larger-scale maps will be used as authority concerning allocation boundaries. The acreages by area, with totals by category, are tabulated in table 6-1.

Table 6-1
Allocation of Project Lands

NOTE: The following format is used for classifications throughout this page:

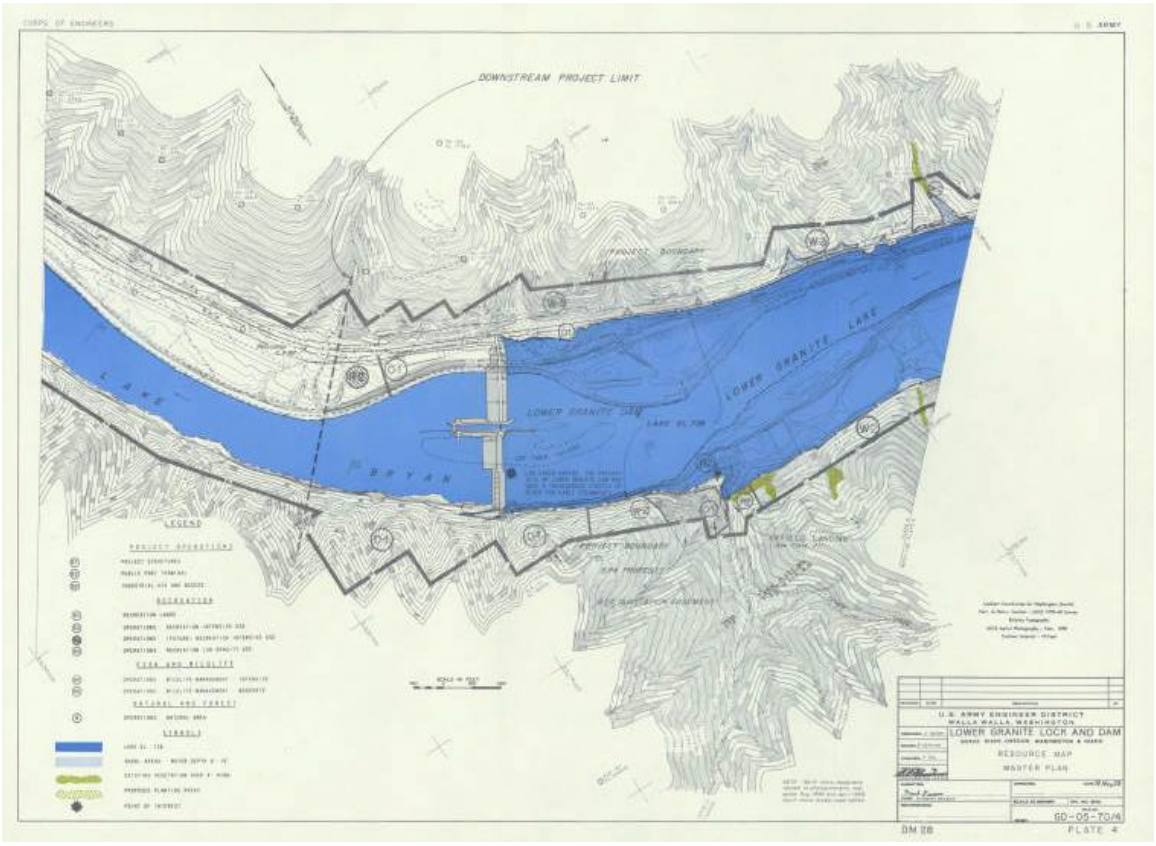
LAND CLASSIFICATION

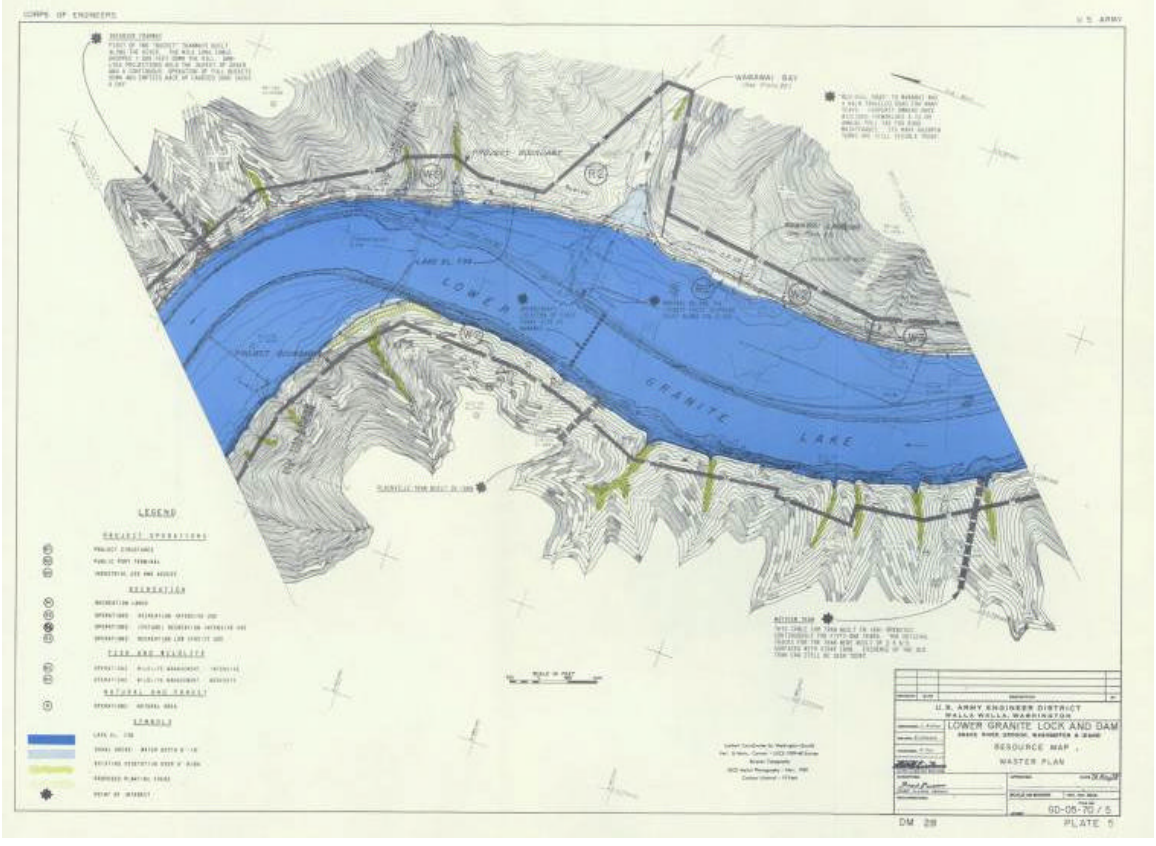
Subclass

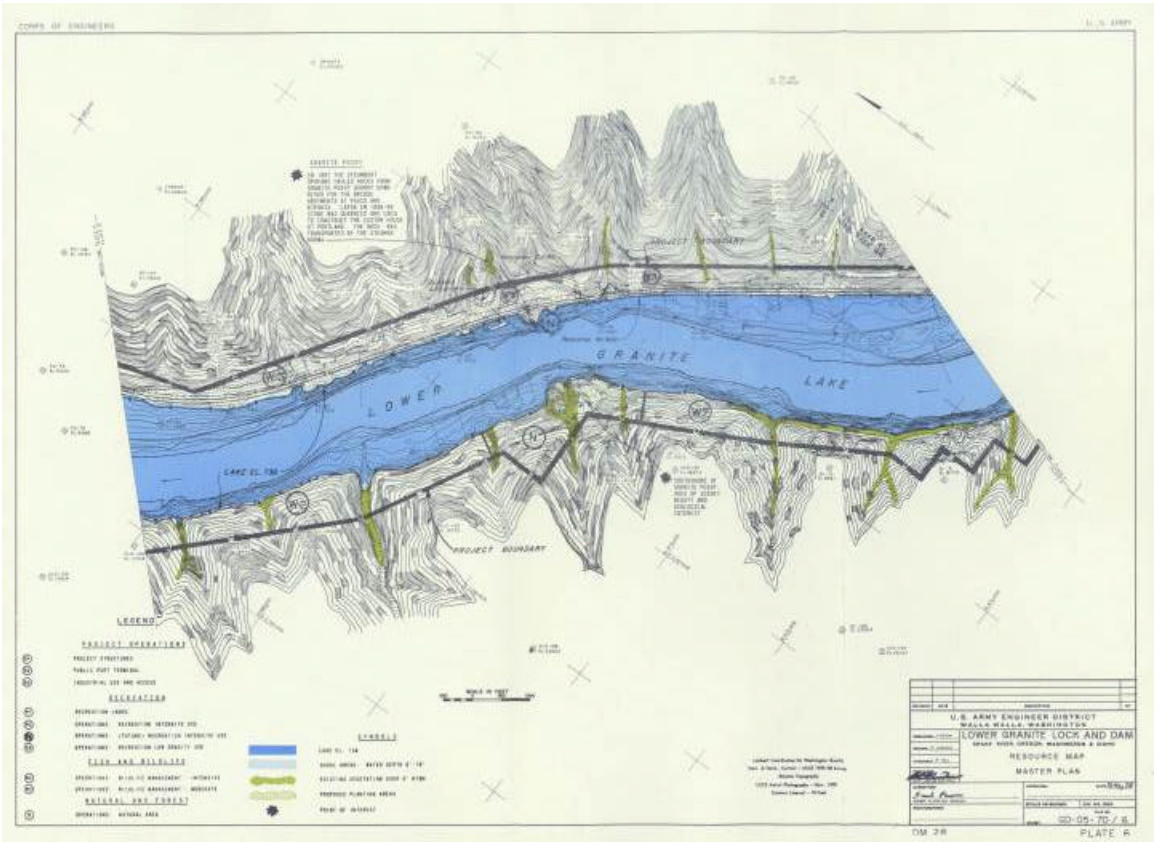
CENPW Classification

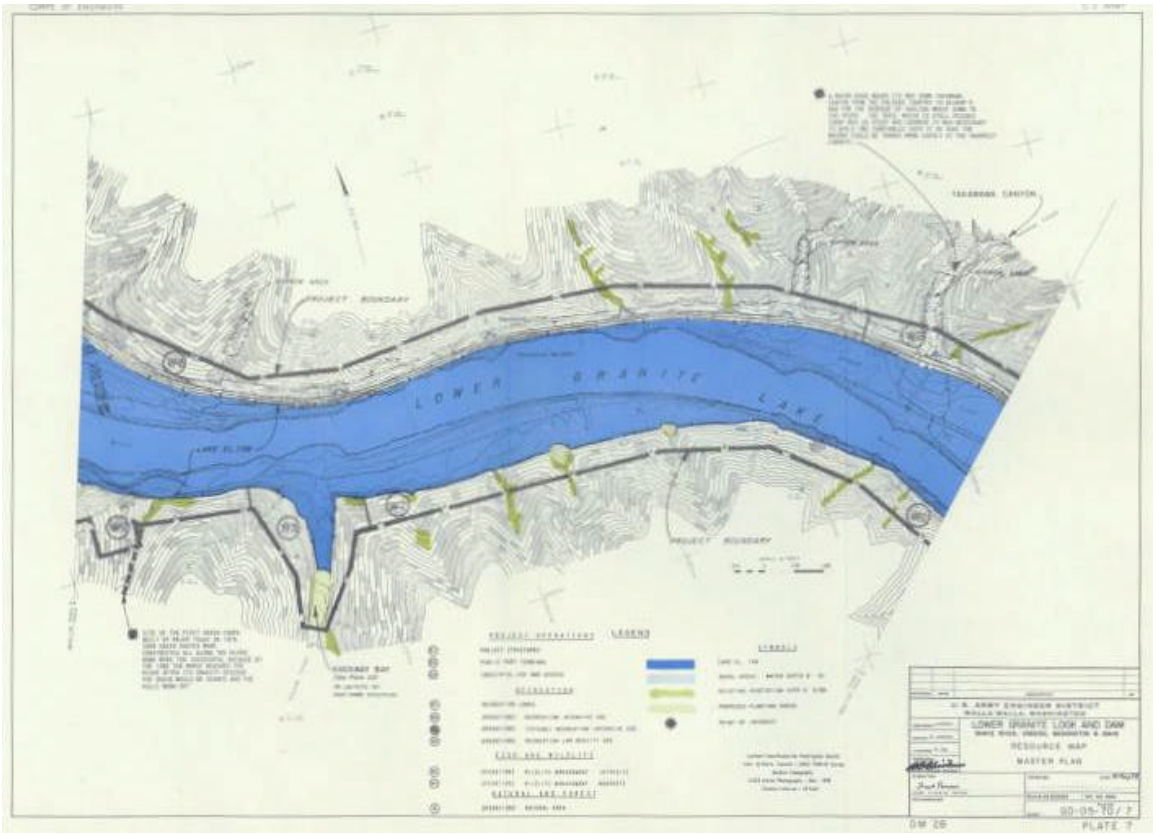
PROJECT OPERATIONS			**704.4**
Project Structures (O-1)		**518.6**	
Public Port Terminal (O-2)		**9.4**	
	Port of Lewiston	1.4	
	Port of Wilma	8.0	
Industrial Use and Access (O-3)		**176.4**	
	Port of Lewiston	21.2	
	Port of Clarkston	60.8	
	Port of Wilma	94.4	

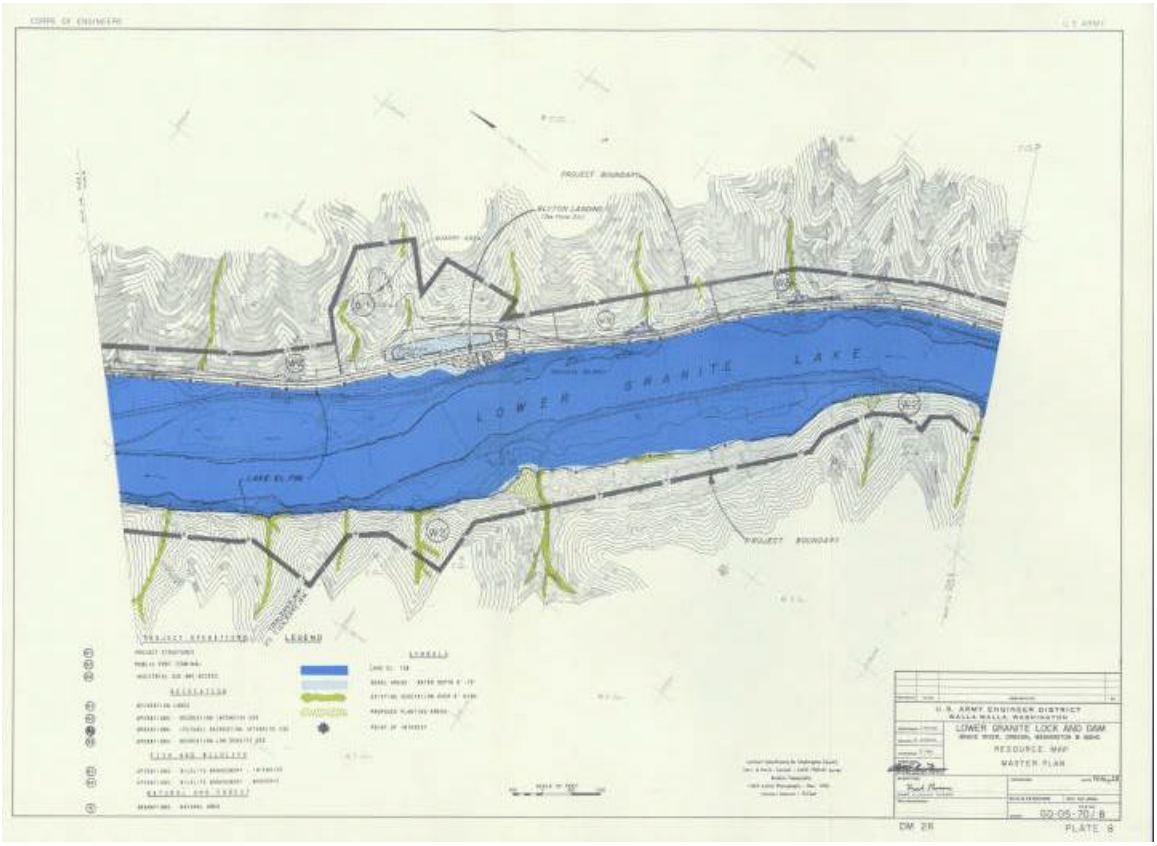
RECREATION				**1,546.5**
Recreation Lands (R-1)			**765.5**	
	Hell's Gate	765.5		
Operations - Recreation Intensive Use (R-2)			**520.1**	
	Offield Landing	9.8		
	Wawawai Bay	68.0		
	Wawawai Landing	2.6		
	Blyton	3.4		
	(Initial 1.7)			
	(Future 1.7)			
	Sugarloaf	8.3		
	(Initial 4.0)			
	(Future 4.3)			
	Chief Timothy	142.4		
	Swallows	64.0		
	Looking Glass	17.0		
	Hell's Gate	124.6		
	Clearwater Park	14.6		
	Clearwater Parkway	26.0		
	Kiwanis Parkway	19.9		
	Boyer (Future 19.5)	19.5		
Operations - Recreation Intensive Use-ORV (R-2 ORV)			**20.1**	
Operations - Recreation Low-Density Use (R-3)			**240.8**	
	Knoxway Landing	43.0		
	Southway Landing	2.9		
	Hell's Gate	43.3		
	Unnamed Areas	151.6		
WILDLIFE				**3,648.1**
Operations Wildlife Management Intensive			**1,710.9**	
Operations Wildlife Management Moderate			**693.5**	
Operations Natural Area			**50.3**	
TOTAL LOWER GRANITE PROJECT LANDS				**4,705.6**

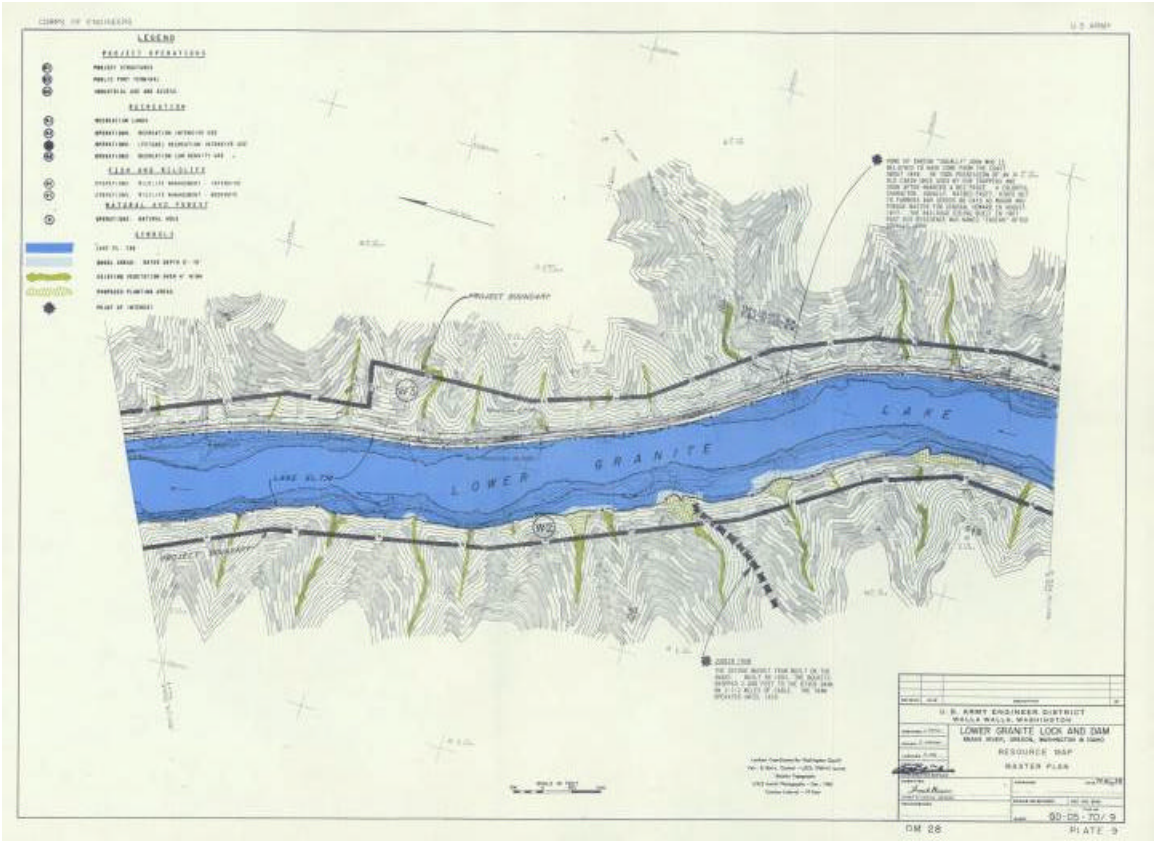

CORPS OF ENGINEERS
U.S. ARMY
DOWNSTREAM PROJECT LIMIT
PROJECT BOUNDARY
LOWER GRANITE LAKE
LOWER GRANITE DAM
LAKE EL. 738
SNAKE RIVER
BRYAN
LEGEND
PROJECT OPERATIONS
RECREATION
FISH AND WILDLIFE
NATURAL AND FOREIGN
LANDS
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
GD-05-70/4
DM 28
PLATE 4

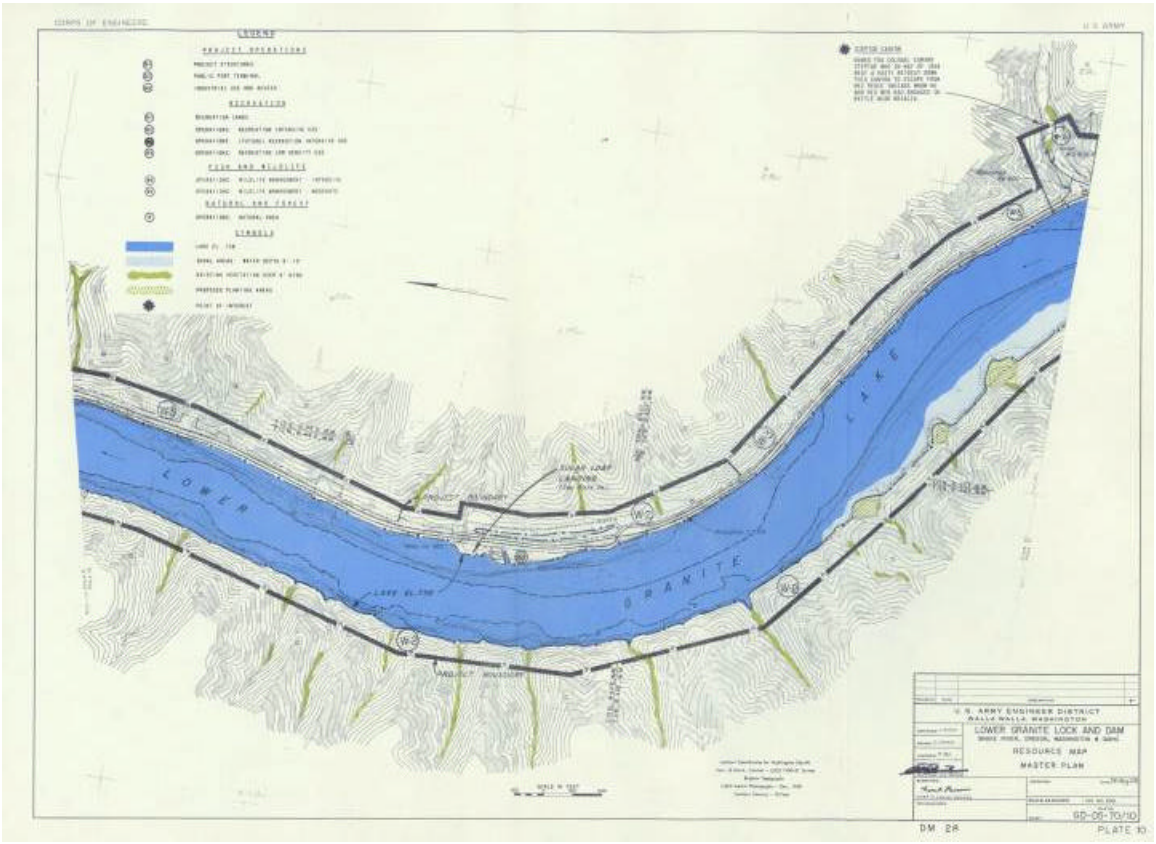

CORPS OF ENGINEERS
U.S. ARMY
WAWAWAI BAY
PROJECT BOUNDARY
LOWER GRANITE LAKE
LEGEND
PROJECT OPERATIONS
RECREATION
FISH AND WILDLIFE
NATURAL AND FOREIGN
LANDS
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
GD-05-70/5
DM 28
PLATE 5

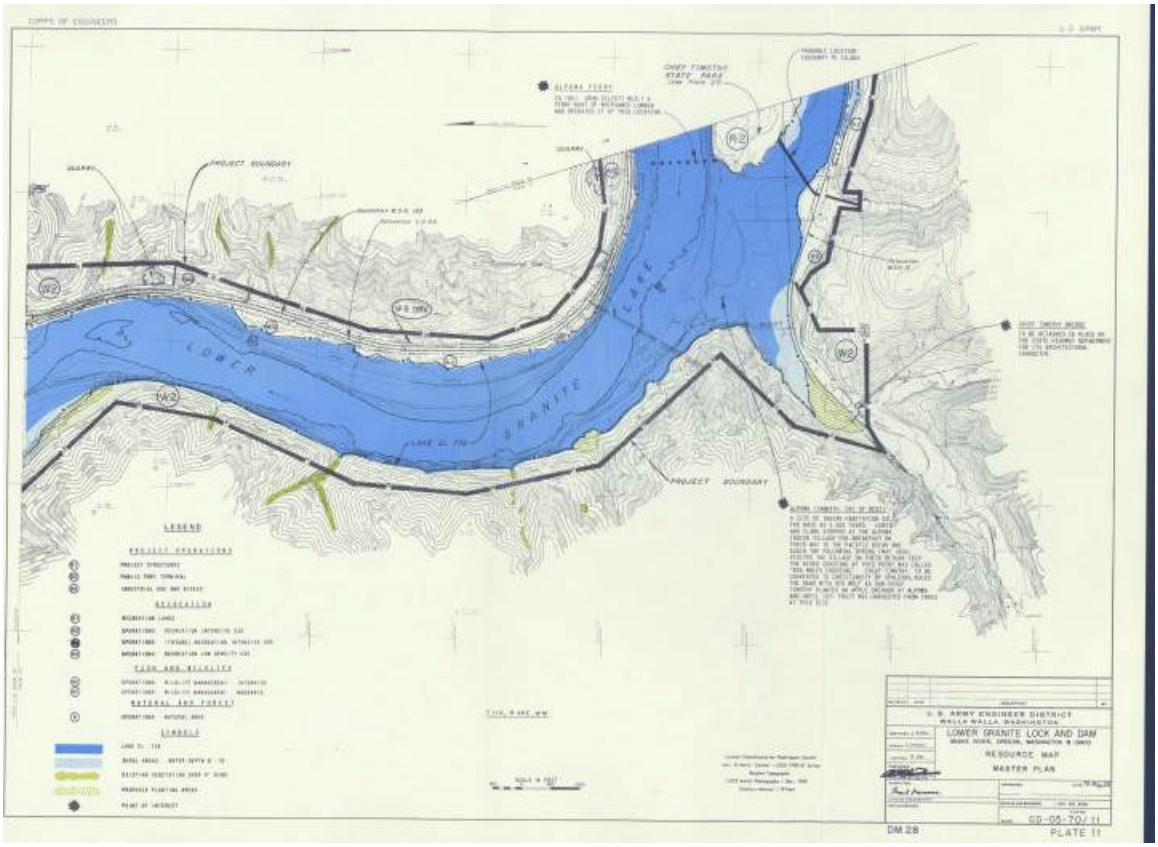

PROJECT BOUNDARY
LOWER
GRANITE
LAKE
LAKE EL. 738
PROJECT BOUNDARY
LEGEND
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
DM 2R
PLATE 6

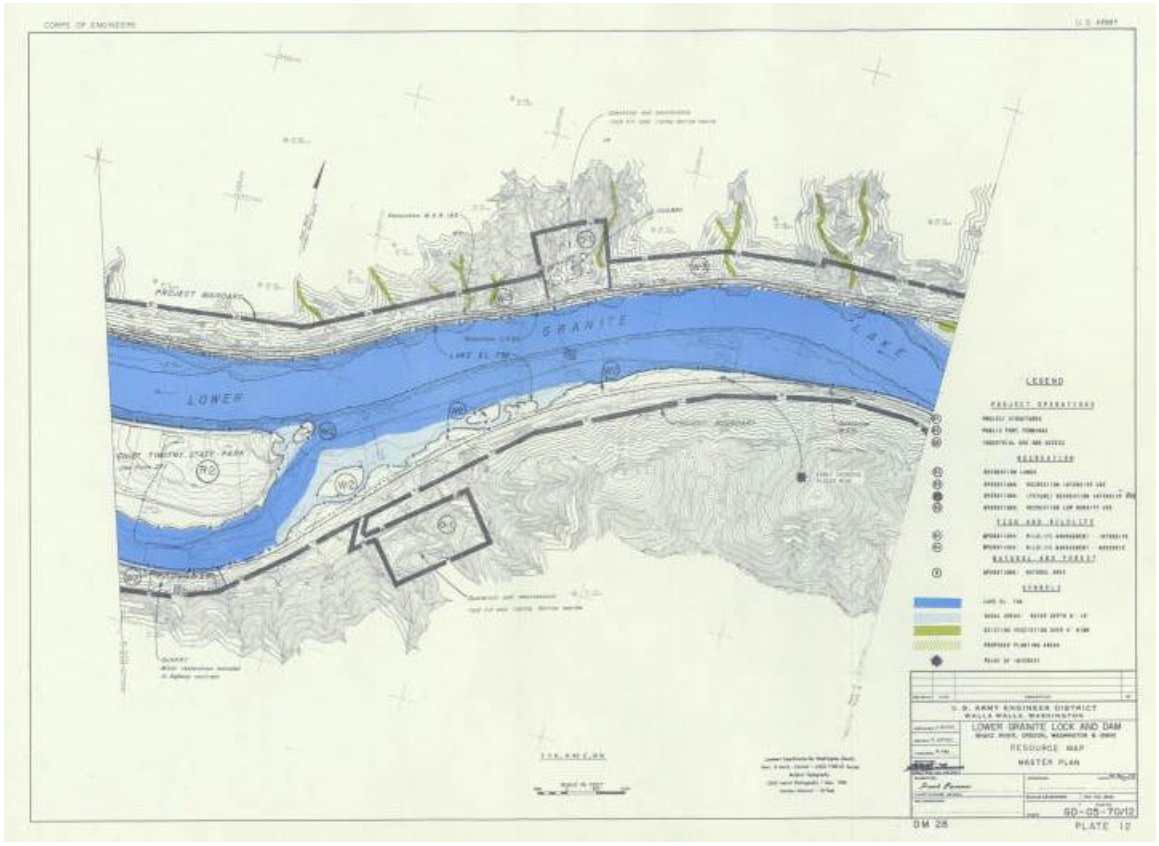

TENMILE CANYON
PROJECT BOUNDARY
LOWER
GRANITE
LAKE
LAKE EL. 738
PROJECT BOUNDARY
LEGEND
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
DM 2R
PLATE 7

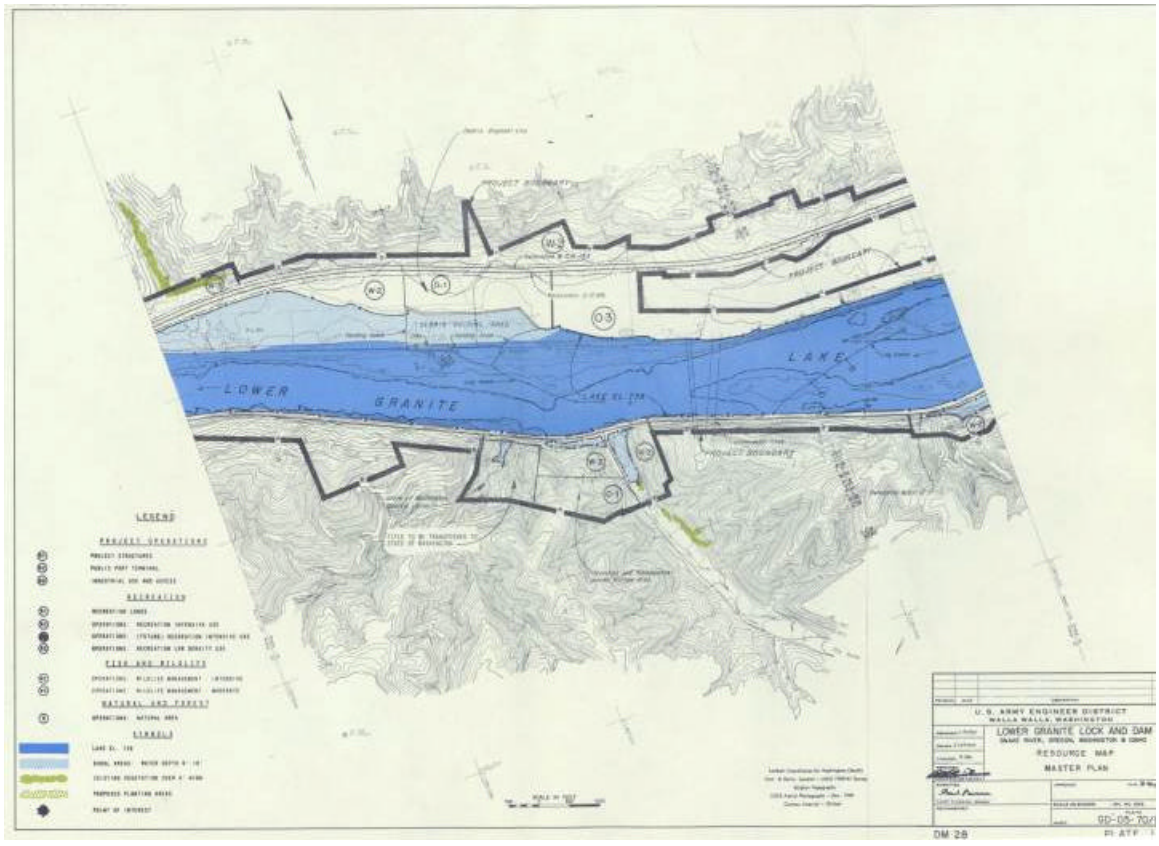

PROJECT BOUNDARY
LOWER GRANITE LAKE
LAKE ELTON
PROJECT BOUNDARY
LEGEND
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
DM 28
PLATE 8

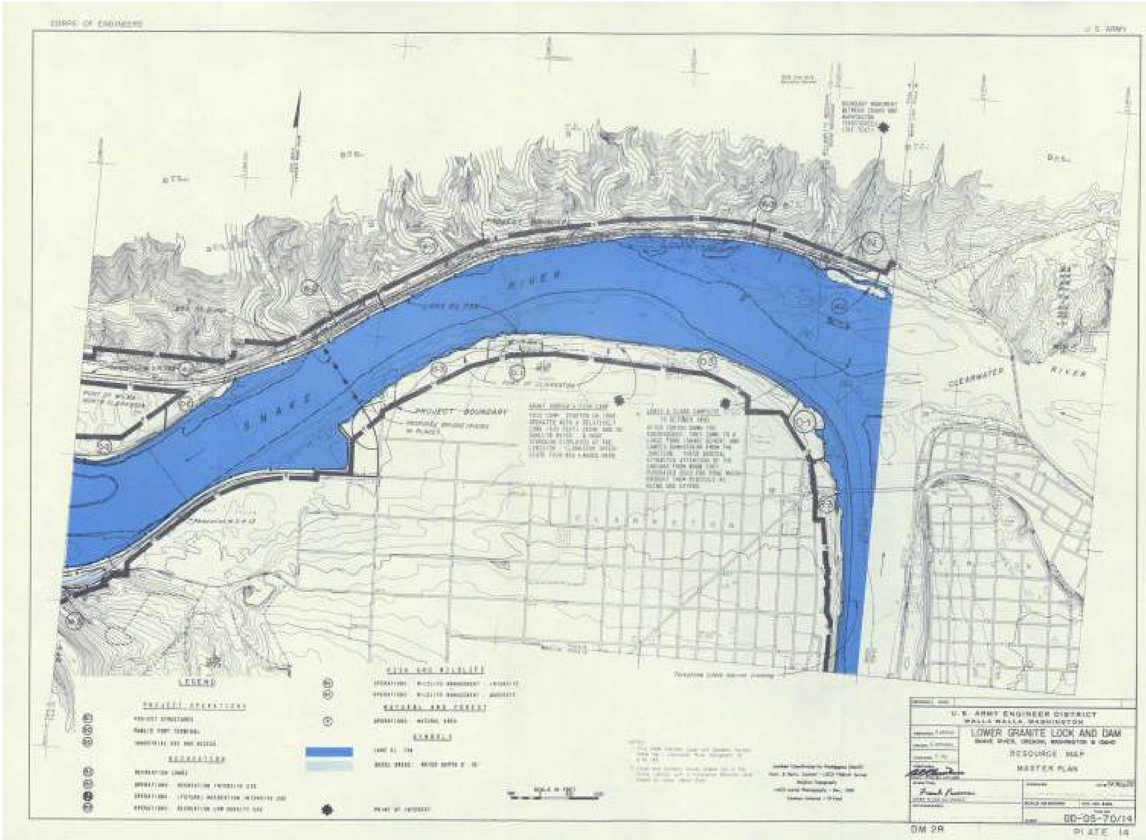

LEGEND
PROJECT BOUNDARY
LOWER GRANITE LAKE
LAKE ELTON
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
DM 28
PLATE 9

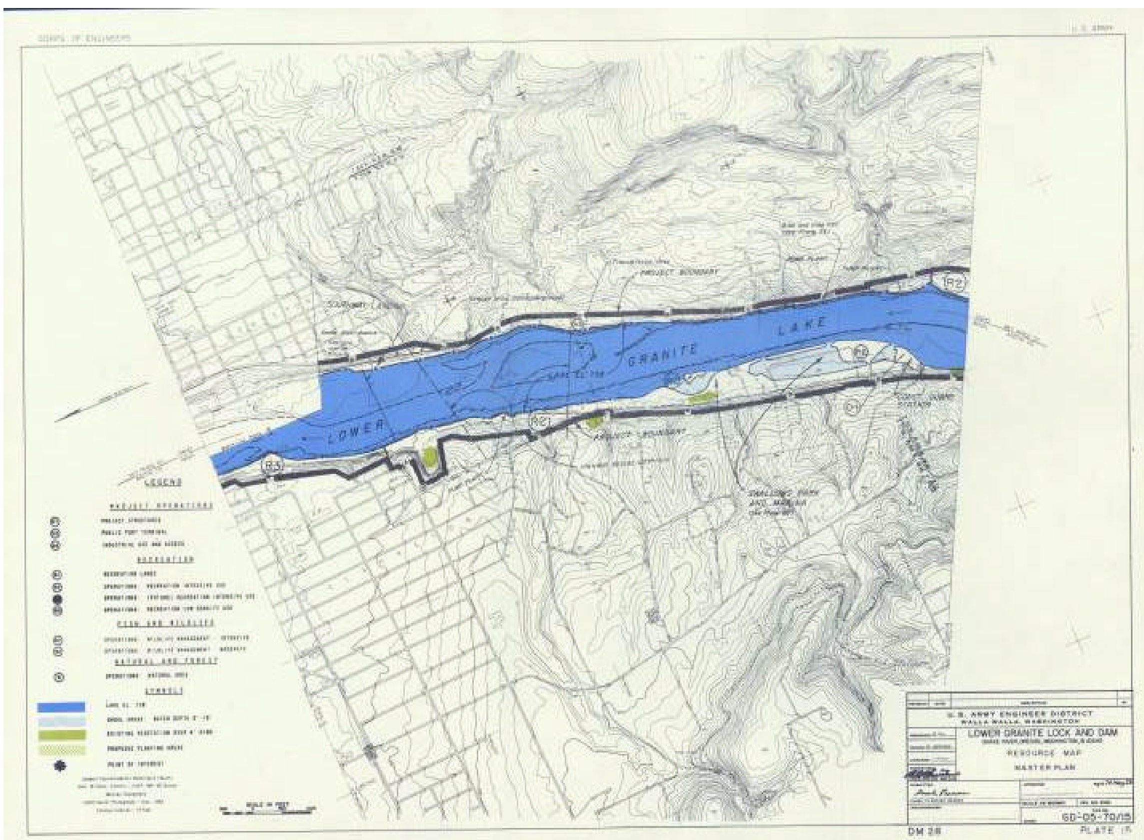

LEGEND
PROJECT OPERATIONS
RECREATION
FISH AND WILDLIFE
NATURAL AND FOREST
LOWER
GRANITE
LAKE
PROJECT BOUNDARY
U. S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
GD-05-70/10
DM 28
PLATE 10

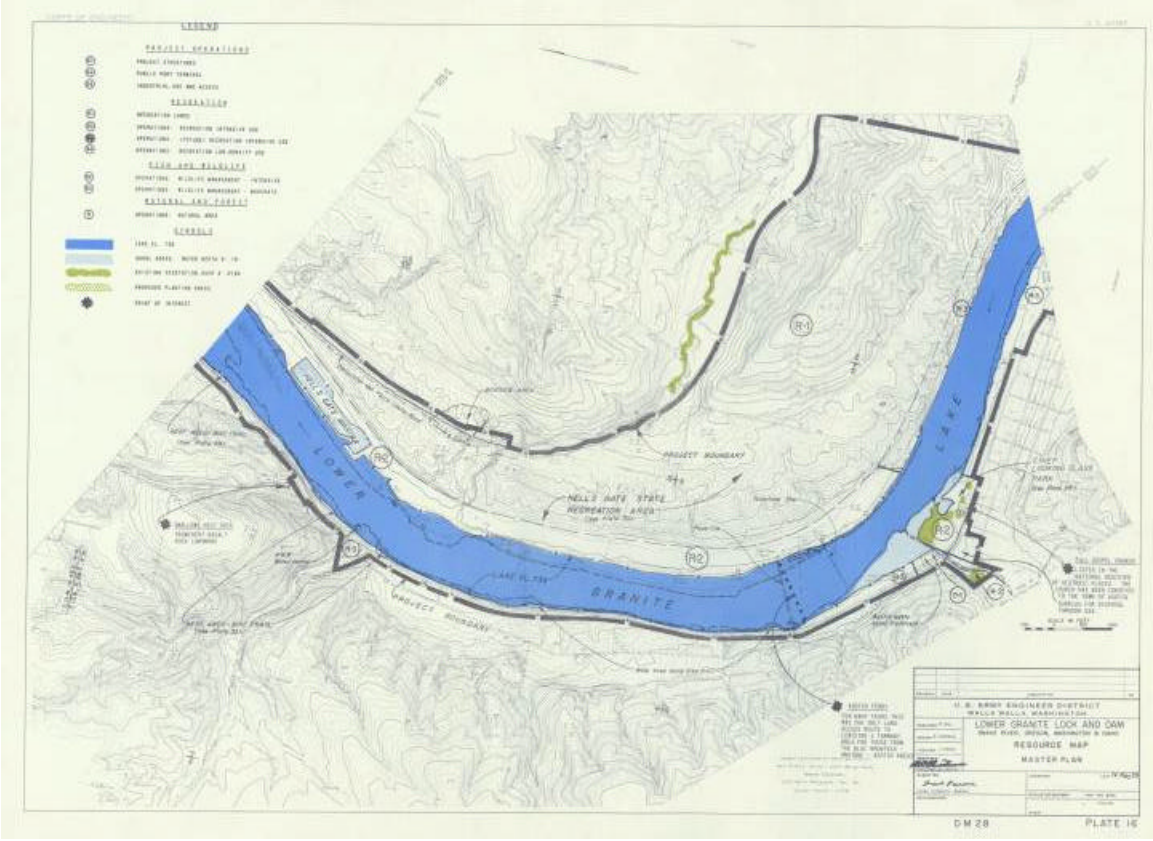

LEGEND
PROJECT OPERATIONS
RECREATION
FISH AND WILDLIFE
NATURAL AND FOREST
LOWER
GRANITE
LAKE
PROJECT BOUNDARY
U. S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
GD-05-70/11
DM 28
PLATE 11

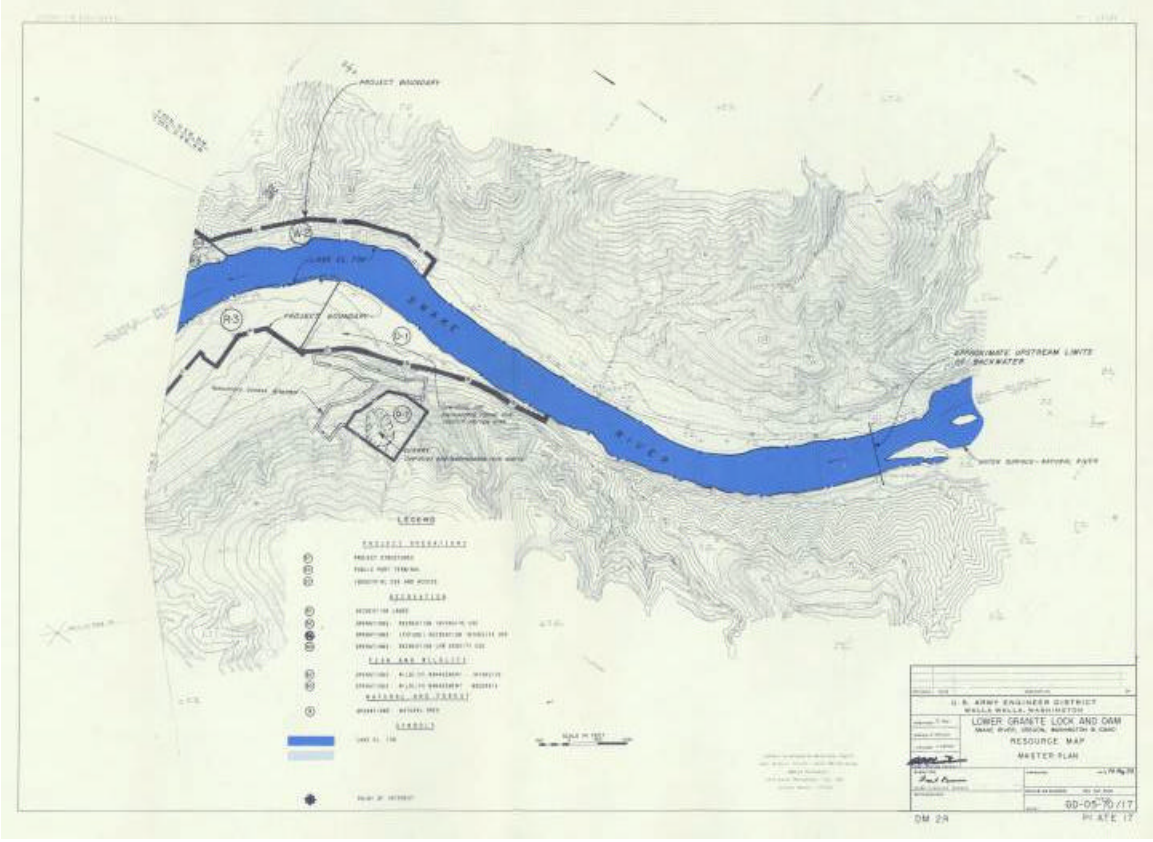

LOWER
GRANITE
LAKE
PROJECT BOUNDARY
LEGEND
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
GD-05-70/12
DM 25
PLATE 12

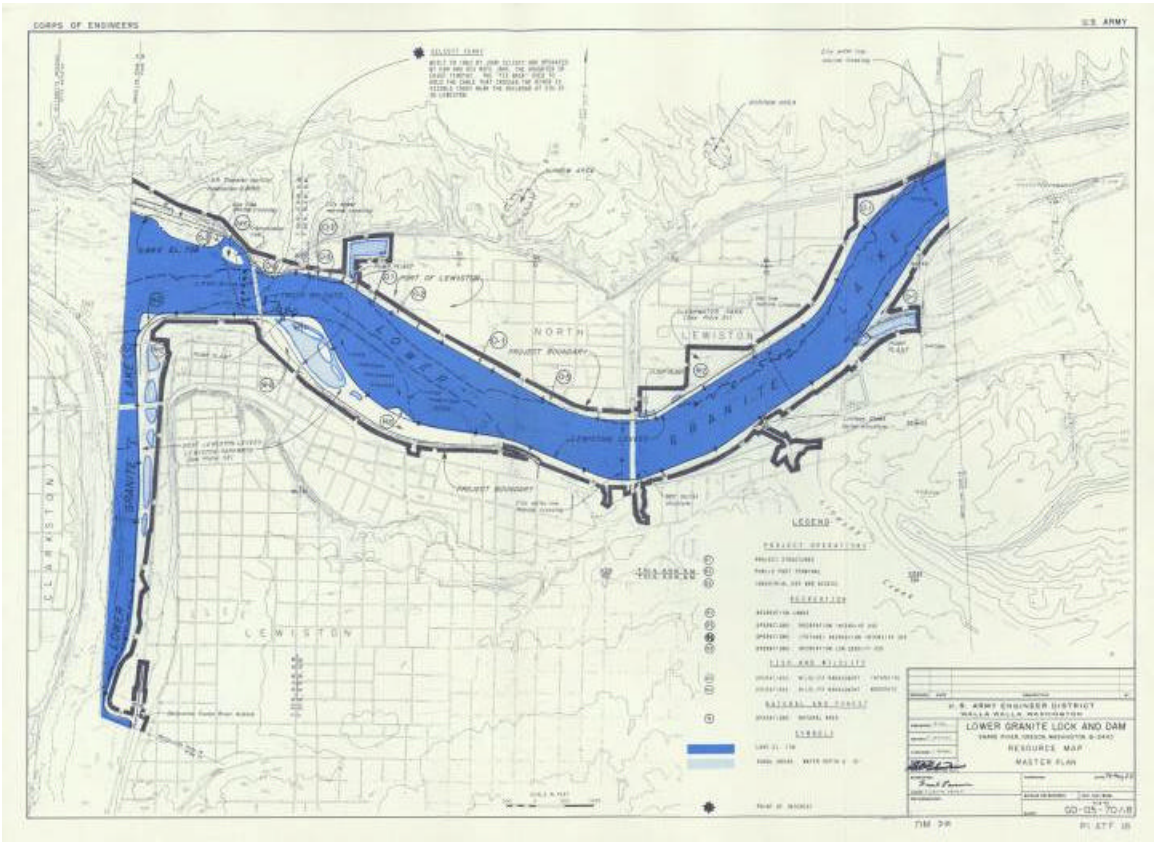

LOWER
GRANITE
LAKE
PROJECT BOUNDARY
LEGEND
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
DM 28

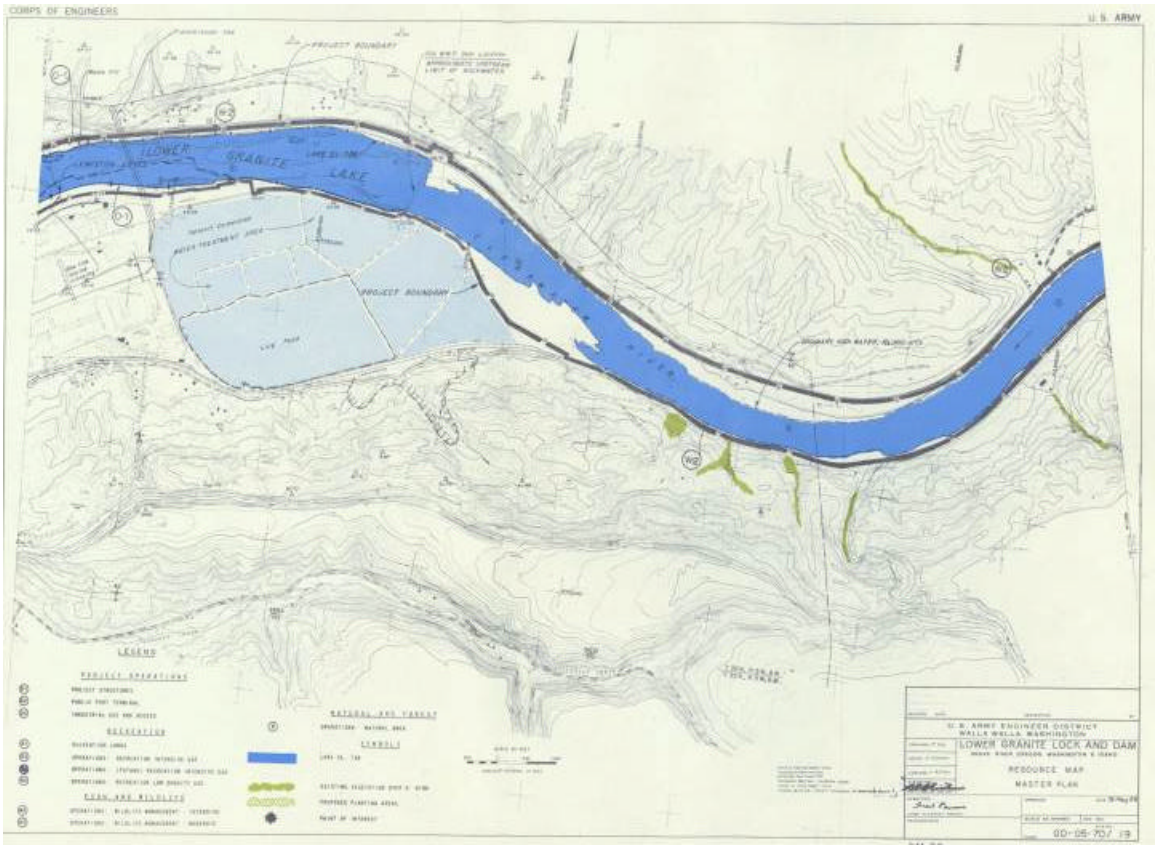

CORPS OF ENGINEERS
U.S. ARMY
SNAKE
RIVER
CLEARWATER
RIVER
PROJECT BOUNDARY
LEGEND
PROJECT OPERATIONS
RECREATION
FISH AND WILDLIFE
NATURAL AND FOREST
SYMBOLS
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
GD-05-70/14
DM 28
PLATE 14


CORPS OF ENGINEERS
U.S. ARMY
LOWER
GRANITE
LAKE
PROJECT BOUNDARY
LEGEND
PROJECT OPERATIONS
RECREATION
FISH AND WILDLIFE
NATURAL AND FOREST
SYMBOLS
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
GD-05-70/15
DM 28
PLATE 15


LEGEND
PROJECT BOUNDARY
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
DM 28
PLATE 16

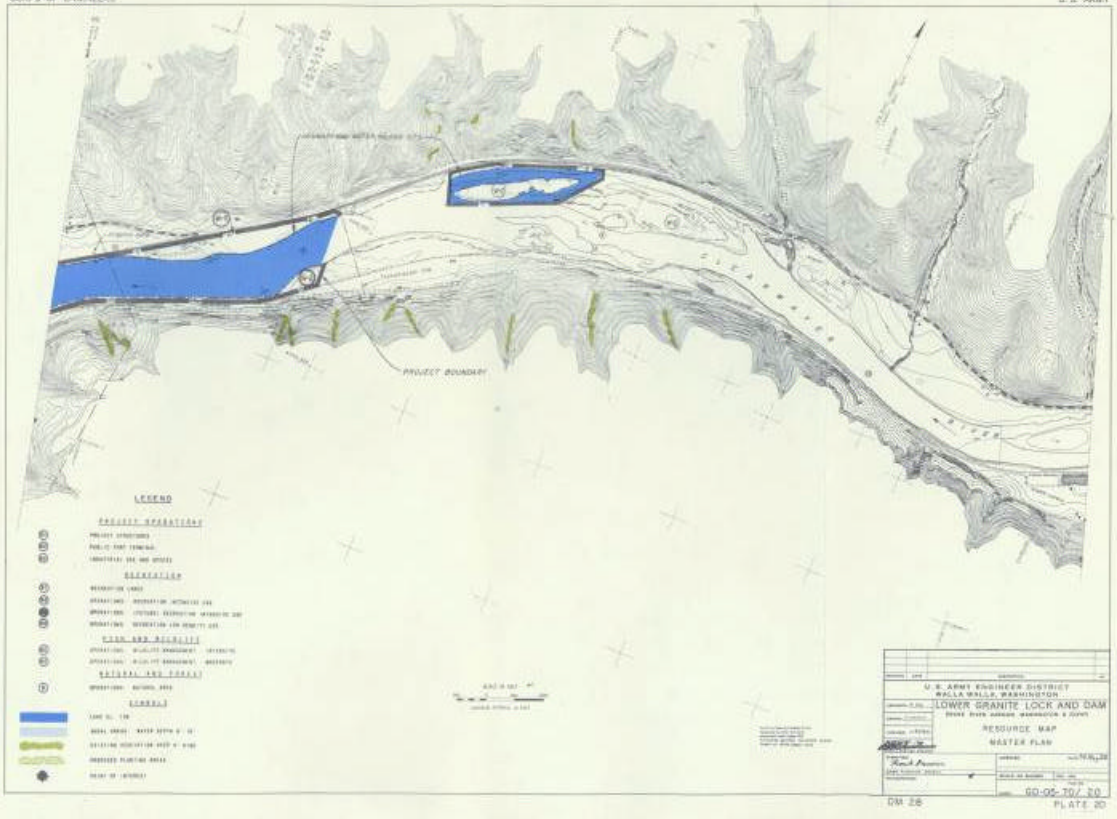

PROJECT BOUNDARY
APPROXIMATE UPSTREAM LIMITS OF BACKWATER
LEGEND
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON
DM 29
PLATE 17


CORPS OF ENGINEERS
U.S. ARMY
LOWER GRANITE LAKE
SNAKE RIVER
NORTH LEWISTON
LEWISTON
CLARKSTON
PROJECT BOUNDARY
LEGEND
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
00-05-707-18


CORPS OF ENGINEERS
U.S. ARMY
LOWER GRANITE LAKE
SNAKE RIVER
PROJECT BOUNDARY
LEGEND
U.S. ARMY ENGINEER DISTRICT
WALLA WALLA WASHINGTON
LOWER GRANITE LOCK AND DAM
RESOURCE MAP
MASTER PLAN
00-05-707-19

CORPS OF ENGINEERS

U.S. ARMY



LEGEND

PROJECT OPERATIONS

RECREATION

FISH AND WILDLIFE

NATURAL AND SCENIC

OTHER

U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON

LOWER GRANITE LOCK AND DAM

RESOURCE MAP
MASTER PLAN

DM 28

GO-05-70/ 20

PLATE 20

SECTION 7 - PLAN OF DEVELOPMENT

7.01. Agency Involvement

In section 6, the basis for allocation of project lands to various uses was explained. Those allocations are shown on plates 2 and 3, and are further detailed on plates 4 through 20. This section explains the plans for development on lands throughout the project, treating Corps' development in some detail and outlining non-Corps' development in general terms. Corps developments involve principally recreational facilities and fish and wildlife habitat improvement. All port terminal and industrial access facilities will be developed by local port authorities, with Corps approval of development plans. Some description of proposed non-Corps' work is furnished where qualified state and local agencies have indicated a willingness and capability toward participation and management of recreation areas and in the improvement of wildlife habitat.

7.02. Recreation Development Program

a. Work Accomplished.

Essentially all of the recreation development work is yet to be done. The few features of work already completed include: 1) grading and paving of launching ramp, installation of piling for handling dock, and placement of riprap at Offield Landing; 2) grading of roads, boat ramps, and parking areas; placement of rock slope protection; and grading of small, day-use areas at Wawawai, Blyton, and Sugarloaf (all accomplished in connection with railroad relocation work); 3) partial development of Looking Glass Park as a joint Corps-city effort; and 4) grading of marina basin at Hells Gate as accomplished in connection with levee borrow operations. Layout drawings showing the general arrangement of facilities at each recreation are shown on plates 21 through 31 (see list below). Elements of the development are color coded to differentiate the various phases of development: Existing, Initial, Future, *etc.*

b. Summary of Initial Recreation Development.

Proposed initial sites discussed herein are designed to accommodate visitor use during the first three years after pool impoundment. The major parks are located near the population center of Lewiston-Clarkston-Asotin. Fully developed state parks at Chief Timothy and Hells Gate will be administered by the States of Washington and Idaho, respectively. Chief Looking Glass Park (at Asotin) and Swallows Park and Marina (on the Clarkston frontage) - city-county oriented parks - will be administered by the city of Asotin and Asotin County, respectively. The city of Lewiston will administer Clearwater Park as a city ballpark and playground. The Corps will maintain the Lewiston Levee Parkways (possibly with city involvement at Kiwanis Parkway), as well as minor facilities associated with low-density recreation areas (*i.e.*, bicycle paths, trailside shade shelters, overlooks, *etc.*). The remainder of the recreation sites located at the downstream end of the lake (Offield, Wawawai, Knoxway, Blyton, and Sugarloaf) will be developed as minor day-use parks and access points. These sites will also be administered by the Corps,

with the possible exception of Whitman County involvement at Wawawai Bay, and will draw their use primarily from Whitman and Garfield Counties. County Road 900, with SR 193 to Wilma, will continue to offer scenic attractions for those who drive for pleasure. A full description of planned development at each site is provided in later paragraphs of this section. Complete details are furnished in Design Memoranda 28.1, Part 2; 28.2; 28.3; and 28.4

c. Summary of Future Sites.

An important objective in long-range recreational planning is to assure that ample land is available to permit the expansion of areas and facilities commensurate with projected future use throughout the project life. This objective is beyond reach at Lower Granite because of the extreme paucity of usable shorelands. Developed facilities are required initially at each of the four major recreation sites and the six minor recreation access areas, as well as at the five locations associated with the levees at Lewiston (Kiwanis Parkway, Southway Ramp, Clearwater Parkway, Clearwater Park, and Clearwater Ramp. All of these facilities will be utilized under the annual 700,000 visitor-days use projected for initial years of project operation. To accommodate the increase use (1,200,000 visitor days use at the 100th year), additional facilities must be provided by the expansion of facilities within the initially-developed park units. While some expansion is possible at each of the several sites, most of it must occur at the three largest areas - Hells Gate State Recreation Area, Chief Timothy Park, and the marina portion of Swallows Park and Marina. The facilities capacity study (Supporting Data, Item 7) expresses a relationship between the magnitude of development and visitor capacity for each of the areas.

7.03. Offield Landing

This small area of 9.8 acres, situated on the left bank nearly a mile upstream from the dam, is required principally as a launching access point for project personnel. It will also be open to use by the public for boat launching and associated recreation activities. The usable part of the site, about 1.2 acres, is now occupied by office buildings and other facilities of the dam construction contractor, all of which are to be removed by the contractor. Access will be afforded by Wawawai Grade Road and by County Road 486 from the dam. Both roads are gravel.

a. Existing Development.

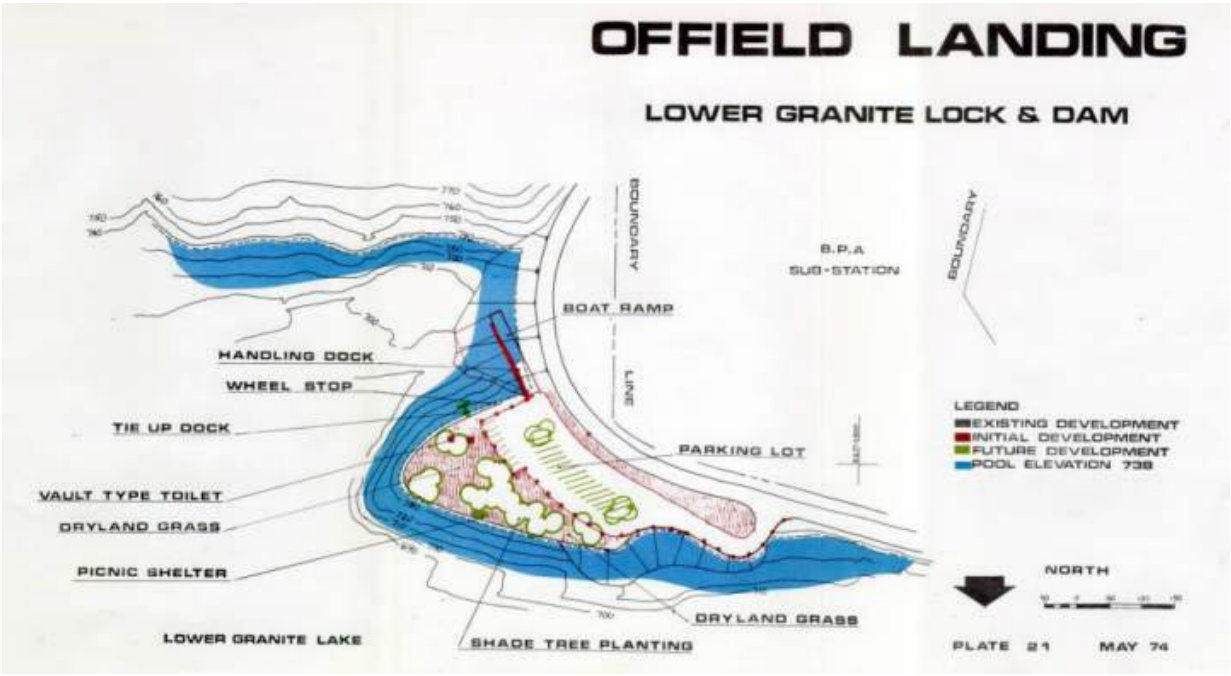
Those elements of the work affected by pool impoundment have been incorporated by change order into the dam construction contract, and are essentially complete. These include grading and paving of the single-lane launching ramp, installation of piling for the handling dock, and placement of riprap protection on the picnic area shoreline.

b. Initial Work.

Initial development will include installation of the handling dock, construction of a small, gravel-surfaced parking area for 15 car and trailer units and 10 cars, two vault-type toilets, wheel stops, dryland grass seeding, and entrance and directional signs.

c. Future Work.

As funds allow, additional work will include the planting of trees and shrubs in the picnic area, addition of a picnic shelter and tie-up dock, and the installation of a simplified irrigation system.



7.04. Wawawai Bay

This site encompasses the lands at the mouth of Wawawai Canyon on the north shore, about 3 miles upstream from the dam. It comprises a major portal to the reservoir from the Pullman-Moscow-Colfax communities. Of the 68 acres, only about 10 acres are usable. The rest of the area is too steep to permit development and use. A small embayment lies landward from the railroad embankment. This would be an attractive recreational feature, were it to remain a sheltered embayment. It is expected, however, that sediment deposits will soon fill the water area, thus destroying any opportunity for direct visual or physical relationship between the landside developments and the waters of the reservoir. The day-use and minor camping facilities proposed here are needed, have been designed, and will be used even without the attraction of open water in the embayment. This has, through the years, been a traditional access point on the river for the people of Whitman County. Loss, by reservoir impoundment, of the many miles of usable river shoreline will make the remaining small areas - especially Wawawai Bay - critically important in the recreation access picture. Notwithstanding the sedimentation outlook and the hazard of flash floods in the canyon, the local people, principally the Whitman County Park and Recreation Board and Washington State University officials, desire development of day-use recreational facilities and minor camping at Wawawai Bay (see Exhibit A).

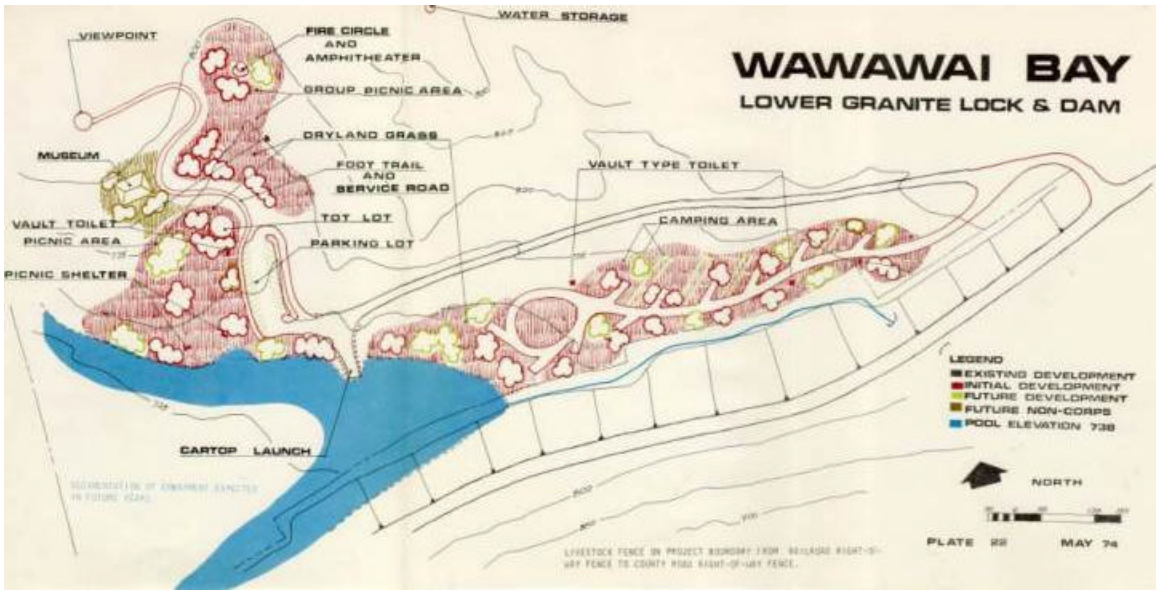
"On the basis of the study results and my professional knowledge of the recreation uses and users of the Snake River, I would strongly recommend immediate consideration be given to a recreation facility at Wawawai in the embayment which is on the Corps of Engineers 'take' land."

a. Initial Work.

Proposed initial development includes day-use facilities for family and group picnicking and limited overnight camping. The old county road, with a new connection to the relocated county road, will afford access to a small, gravel-surfaced parking area serving the picnic facilities. A "tee" intersection on the old road will be retained for cartop and canoe launching until such activities are precluded by sediment in the embayment. The family picnic area near the embayment shoreline will initially include two picnic shelters, one vault toilet, and plantings of trees, shrubs, and grass. In the group picnic area, located in a sloping swale above and landward from the family picnic area, will be two fire circles, a vault toilet, and tree, shrub, and grass plantings. The overnight camping area will include a gravel-surfaced road and loop turnaround, gravel-surfaced back-in stalls, two vault toilets, and tree, shrub, and grass plantings. No individual hookups will be provided. Water supply for both the day-use and camping areas will be by gravity lines from a storage tank supplied from an existing spring. A pressure irrigation system utilizing reservoir water will be installed. Fencing on the project boundary will be provided to exclude livestock. A short section of new fence along the relocated county road needs to be relocated to the toe of the slope, or be removed so as to open the stream bed area to camping activities.

b. Future Work.

Future work at Wawawai Bay will involve expansion and upgrading of initial facilities, generally within the same land area limits. The extent and nature of the additional work will be governed by the demand experience, as effected by sediment deposit in the embayment. Roads and parking areas will be paved. Flush-type toilets will be considered. Additional camping stalls will be developed; and tree, shrub, and grass plantings will be intensified and extended. The irrigation system will be extended. The Wawawai Canyon area is important in the local history of activities on and related to the river. The local historical society hopes to construct and operate an historical museum in the canyon area utilizing granite stone salvaged from the historical quarry at Granite Point. As sedimentation occurs, studies will be undertaken to determine the feasibility of keeping a small channel of open water to permit boat access to the shoreline at the day-use area.



7.05. Wawawai Landing

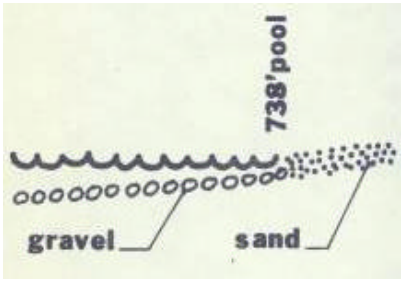
This site is situated about 3½ miles upstream from the dam on the north shore of the reservoir. It lies outboard from the relocated County Road 900, about ½ mile from the Wawawai Bay area. It will be the principal point of boat launching access on Lower Granite for boaters from the Pullman-Moscow-Colfax communities. Its 2.6 acres are essentially all created land, achieved by filling and regarding sloping shorelands adjacent and parallel to the county road.

a. Existing Development.

Work already completed as part of the railroad relocation contract includes: grading by cut and fill to create a small, sheltered boat tieup basin; a two-lane launching ramp within the sheltered basin; parking space for 27 car and trailer units and 28 cars; and 400 feet of shoreline picnic area with riprap slope protection. The sandy gravel materials, with which the area was filled, provide an adequate base for finished gravel surfacing in the parking areas.

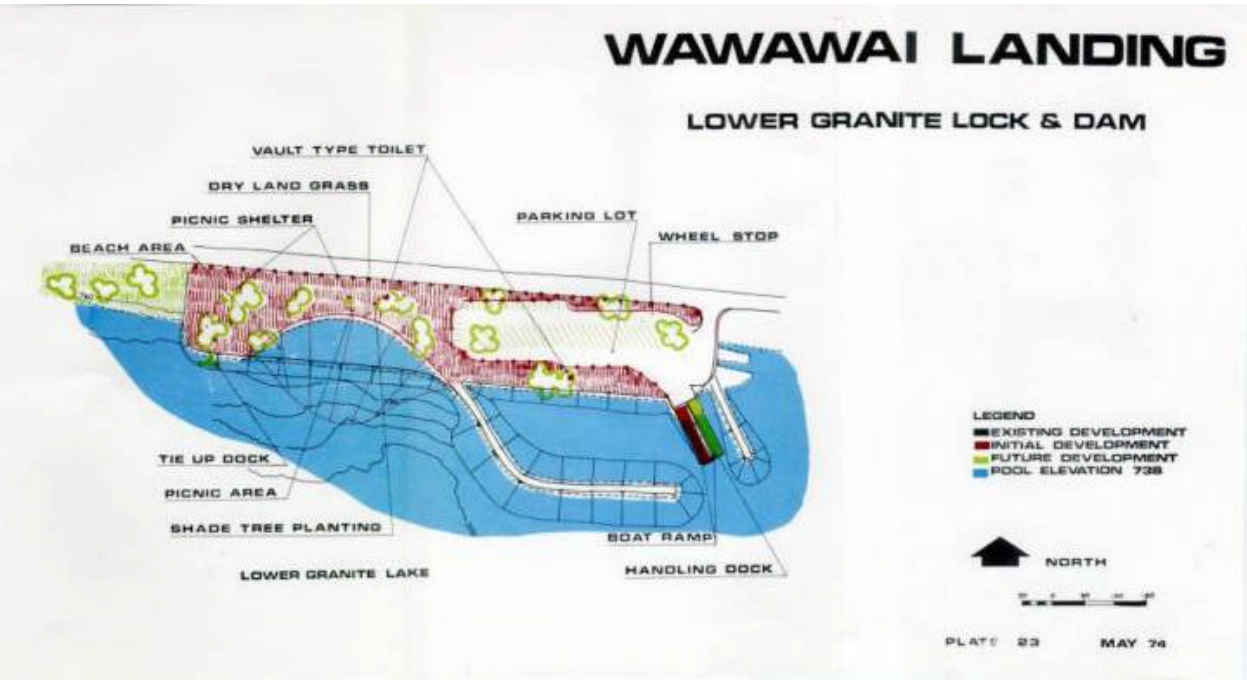
b. Additional Initial Development.

To complete the area, the following additional work is needed: paving of one lane of the launching ramp; installation of handling dock; installation of two vault toilets; topsoiling; planting of dryland grass; installation of wheel stops for control of vehicular traffic; and installation of entrance and directional signs. Also proposed is regarding of a section of the shoreline in the picnic area to create a gravel beach, and sanding of a strip of shoreland by this beach for sunbathing. This regrading involves only rearrangement of materials already in place. The sand will be hauled from existing natural sand beaches along the river or from natural deposits of basaltic sand in the area. In either case, the hauling must be done before pool impoundment.



c. Future Work.

As warranted by visitor-use experience, the Wawawai Landing development will be expanded and upgraded by paving of parking areas; paving of the second lane of the launching ramp; planting of trees, shrubs, and grass, including extension of the picnic area on natural shorelands downstream; and installation of a simplified irrigation system, to be operated by a portable pump drawing water from the reservoir.



7.06. Knoxway Bay

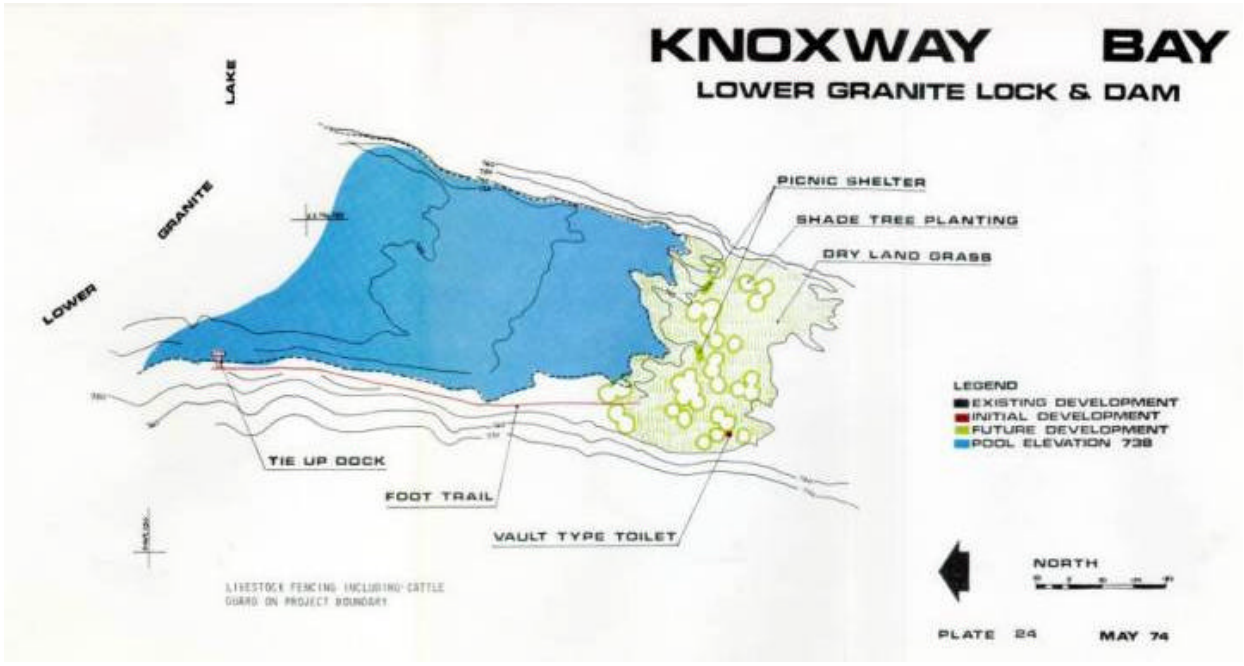
There are no all-vehicle roads on the left or south bank of the reservoir in the reach from Offield Canyon to Alpowa Bay, a distance of about 22 miles. Knoxway Canyon lies at about the lower third point of this reach. Garfield County plans one or more jeep-trail-type hunter access routes as a replacement of the access formerly afforded by a single-lane dirt road along the river from Offield Canyon to Knoxway Canyon. Except for this planned sportsman's trail, access to Knoxway Bay will be by boat only, which makes it unique from other sites. There will be a small, sheltered embayment with about 7 acres of associated canyon bottom lands within the project boundary. The other 36 acres of the area at Knoxway are comprised of steeply sloping hillsides, suited only to such activities as hiking or nature study.

a. Initial Development.

This will include the installation of a small tieup dock, construction of an unsurfaced foot trail, installation of one single-unit vault toilet, fencing on the project boundary to exclude livestock, a cattle guard to facilitate sportsman's entry, and space for terminal unsurfaced parking at the end of the jeep trail. The tieup dock location and length of the trail have been deliberately selected to forestall early problems with sedimentation in the shallower areas of the embayment.

b. Future Work.

As warranted by visitor use, additional work should include two picnic shelters; planting of trees, shrubs, and dryland grass; and installation of a simplified irrigation system.



7.07. Blyton Landing

This 3.4-acre site is located on the north shore, about 12 miles upstream from the dam. County Road 900 traverses the right bank of the reservoir from Wawawai to Steptoe Canyon. From Steptoe, State Highway 93 continues on to Wilma, where a proposed new bridge will eventually cross the reservoir from Wilma to Clarkston. These roads afford access to the reservoir for people from the Pullman-Moscow-Colfax communities, as well as from Lewiston and Clarkston. Minor day-use and access facilities will be developed initially at Wawawai, Blyton, and Sugarloaf.

a. Existing Development.

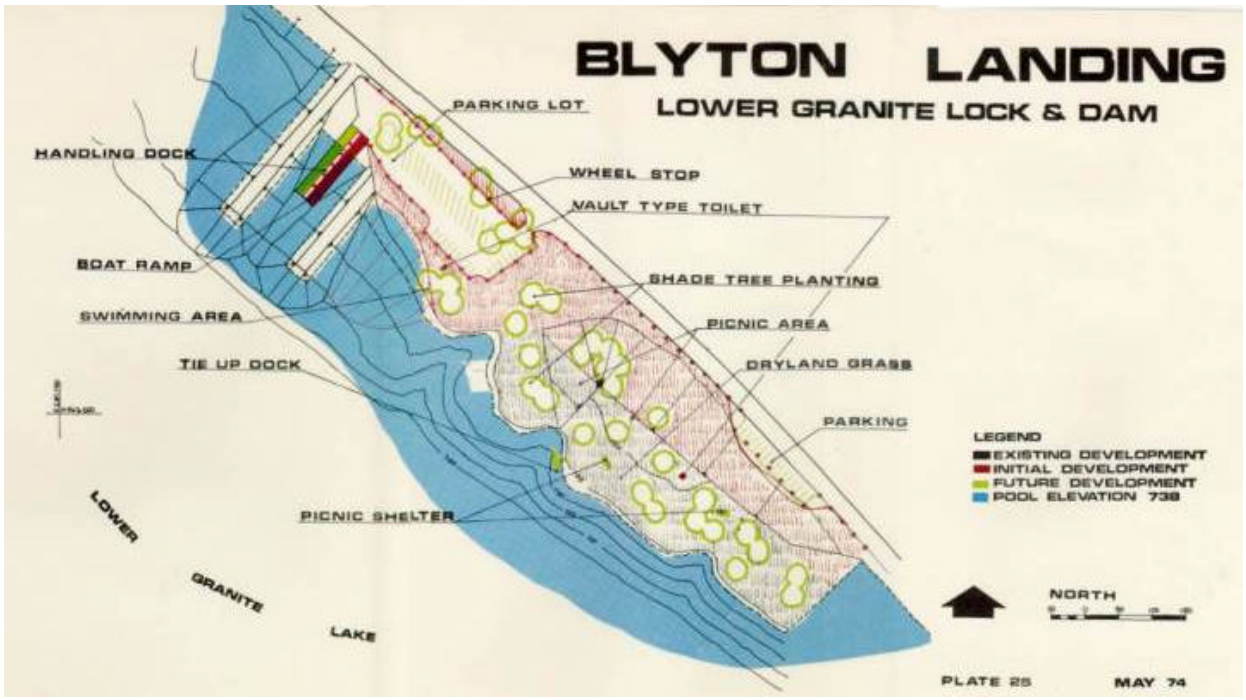
At Blyton, all basic grading work has been done, having been included in the railroad and county road relocation contract. This includes general grading (by control of borrow activities) for about 700 feet of shoreline picnic area; a two-lane launching ramp; and parking space for 17 car and trailer units and 19 cars. The in-place materials afford adequate base for finish gravel surfacing of the parking areas. Also included and completed was construction of two riprapped protective groins affording semi-shelter for the launching ramps.

b. Initial Work.

Other work yet to be done initially includes paving of one ramp, installation of handling dock, graveling of the parking area, installation of two single-unit vault toilets, provision of wheel stops for traffic control, topsoiling, seeding of dryland grass, and the installation of entrance and directional signs. Also needed is minor regarding of a section of shoreline upstream from the ramp to provide a gravel beach and sanding of an adjacent trip of shoreland for sunbathing. Again, the sand must be hauled before pool impoundment.

c. Future Work.

Features to be added in the future, as warranted, include paving of parking areas; paving of the second lane of the launching ramp; picnic shelters; tieup docks; planting of trees, shrubs, and grass; and the installation of a simplified irrigation system.



7.08. Sugarloaf Landing

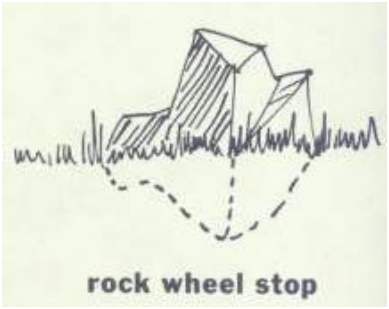
This site, comprising about 8.3 acres and located on the north shore about 3 miles downstream from Steptoe Canyon, is nearly identical in character and scope to the Blyton site.

a. Existing Development.

Already completed in connection with the railroad and county road relocation contract are the basic grading and shoreline protection. By controlled borrowing of earthen materials, steep terrain was changed to usable land area extending along more than 1,400 feet of shorelands. This affords space for a picnic and general day-use area; a two-lane, sheltered launching ramp; and parking space for 18 car and trailer units and 45 cars. Deposited waste material makes possible an enlargement of the area along a 100-foot-wide strip of created land extending about 700 feet downstream. Some topsoil has been stockpiled for restoration of the borrow area. As at Blyton and Wawawai, the in-place materials afford adequate base for finish gravel surfacing of the parking area.

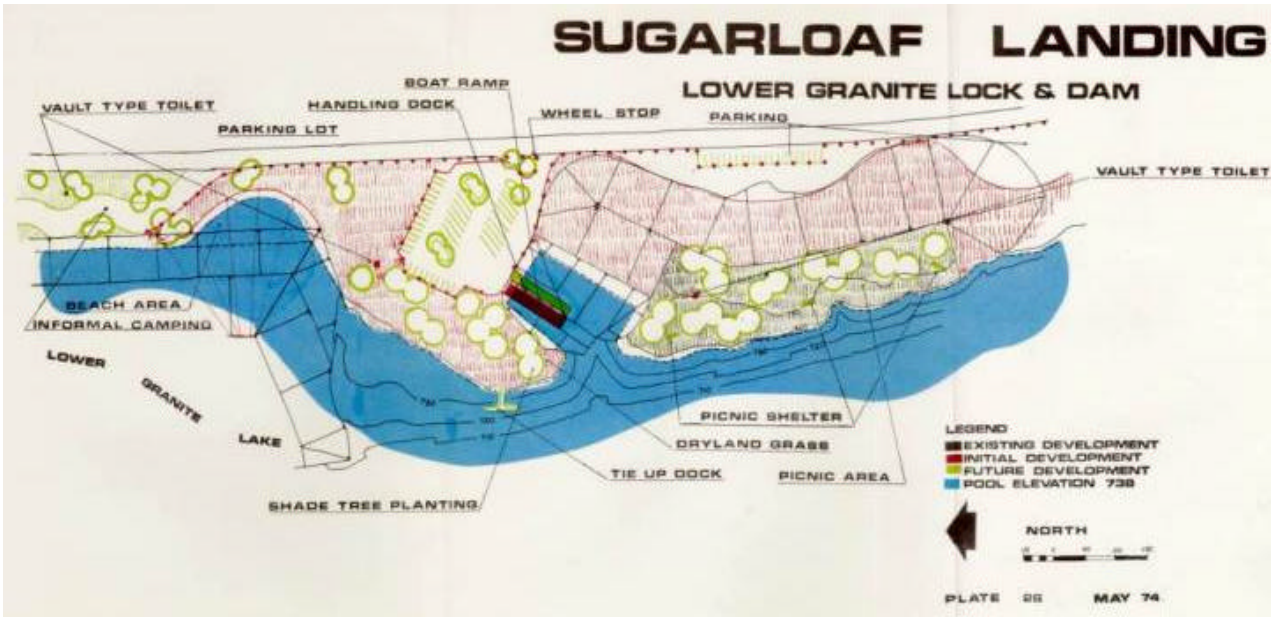
b. Initial Work.

Again, the initial program calls for the paving of one ramp, installation of handling dock, graveling of parking area, installation of two single-unit vault toilets, provision of wheel stops for traffic control, topsoiling, seeding of dryland areas, and installation of entrance and directional signs. Similar to proposals at Blyton and Wawawai, there is included some regarding of a short section of shoreline on the waste fill area to provide terrain suitable for a beach and sanding of the adjacent strip of shoreland for sunbathing.



c. Future Work.

Additional work, as warranted by the use experience, will include paving of parking area; paving of second lane of the launching ramp; installation of picnic shelters and tieup docks; planting of grass, trees, and shrubs; and the development of a simplified irrigation system.



7.09. Chief Timothy State Park

This park, located about 9 miles downstream from Clarkston, will be developed as a major recreation area, and is planned to be leased for operation and maintenance by the Washington State Parks and Recreation Commission. The total site contains 143 acres: 126 acres on a large island, 5 acres on the water side of WSR 12, and 12 acres of project land on the land side of the highway. All of the island is gently-to-moderately sloping and usable, except the steep, narrow strip comprising the shoreline on the Snake River or main reservoir side (the north side). The south side slopes easily to the water, especially at the west end. The south and west parts of the island have been

recently cultivated, while the north and east parts have a cover of native and naturalized, dryland-type vegetation. Similar to most other sites on Lower Granite Reservoir, the Chief Timothy area is devoid of trees (except for a few black locust on one of the small islands). The soils are generally light and sandy, varying in depth, and underlain with gravel. The water area between the island and the south shore is moderately shallow, ranging generally from 5 to 20 feet. As previously noted, the general site has several elements of historic importance: Indian burials, Indian villages, pioneer settlement, ferry landing, pioneer fruit orchards, *etc.* The remnant locations of these activities are actually on grounds lying below the pool level. The general setting and scenic outlook associated with this site will be recreationally attractive - an island a short distance from the shoreline highway at a picturesque bend in the Snake River at the mouth of Alpowa Canyon where the reservoir lies still within the high, steep, rocky slopes of the Snake River Canyon. Washington SR 12 affords direct access to the area, with entrance to the park over a combination causeway and bridge. All of the public park facilities will be on the island. The 12 acres landward of the highway will be used for park maintenance headquarters. That part of the 5-acre area on the reservoir side of the highway not utilized for access road and park entrance is to be available to the Washington State Department of Highways. That agency plans enlargement of the area by filling to create space for a future highway rest stop.

a. Existing Development.

Some development measures have been incorporated in the highway relocation contract. Borrow activities have been engineered to achieve the removal of topsoil from the shallow shoreline area. This will help to reduce the volume of nutrient-rich soil from the lake bottom, thereby lessening a potential aquatic weed problem. Some of this topsoil was stockpiled in the area for use in park development. (Another large stockpile was located at the upstream end of the island for use in levee beautification work at Lewiston.) Additional grading is planned under which the causeway portion of the island approach road is being built with waste material from WSR 12 construction. Project acquisition of the orchard and ranch properties in the Chief Timothy area included acquisition of numerous farm and ranch buildings, most of which have been or will be removed to permit pool impoundment and highway construction. However, the main residence, a garage, and a barn are above pool level and outside of the highway construction area. These are being retained for use as part of the park administrative complex. The residence is of good size and quality, and is planned to be the park superintendent's quarters. The associated landscaping is being maintained. The garage and barn will be used for shop and equipment storage.

b. Initial Development.

Planned initial development is intended to provide a completely developed and usable park, offering day-use and overnight camping opportunities. It will be a major recreation unit on the reservoir; a developed unit of the Washington State parks system; and a destination area for day-use, weekend, and vacation use. Local history and Snake River environmental character will be interpretive objectives of the development. Major elements of work include roads and parking, entrance complex, boat launching ramp, general grading, beach development, picnic facilities, overnight camping facilities, restrooms, water supply, sewage disposal system, power distribution, landscaping, and signs and markers.

The access and circulatory roads, all parking areas, camp loop roads, and camp stalls will be surfaced with asphaltic concrete pavement. The entrance road bridge will be a low-profile, reinforced concrete structure. Concrete curbing will define island areas of the entrance complex and planting islands in the parking areas.

The park entrance complex will follow the standard layout used by the Washington State Parks and Recreation Commission.

The launching ramp will be two lanes wide, both paved, and will have a floating handling dock.

Some grading will be required in day-use and camping areas for the development of roads, parking areas, camp loops, and camp stalls. In all cases, effort will be made to hold this to a minimum to avoid unnecessary scarring of the landscape and to minimize construction costs. (Some of the grading, particularly in the camping areas depicted in DM 28.4, is excessive and will be examined during the preparation of final plans, with a view to fitting the development better on the natural terrain.)

Beach grading is arranged to utilize natural terrain to the maximum extent possible. The beach will be sanded, both above and below the normal pool shoreline.

The main picnic area is associated with the beach and swimming area. An auxiliary area lies on the opposite side of the entrance road, utilizing a shoreline reach near the boat ramp. (Again, the grading, as shown in DM 28.4, is excessive along shoreline reaches on each side of the launching ramp. Modifications can be made in final plans to utilize much more of the natural terrain.)

Four different types of camping facilities are included: 1) pinwheel or pull through-type, camper-trailer groups with complete hookups (40 units); 2) group camper-trailer pads with hookups, designed to accommodate trailers in door-to-door groups of two or three, and possibly four units per group (six or seven pads for 12 to 20 camp units); 3) tent camping areas (informal, turfed areas without individual stalls); and 4) primitive, hike-in camping areas.

Flush-type toilets, based on standard plans of the Washington State Parks and Recreation Commission, are proposed at three locations within the park: 1) a small unit in the day-use area near the launching ramp; 2) a combination restroom-changehouse in the beach area (the plan for this unit will be modified to delete the hot showers from the dressing rooms and provide outdoor sand or rinse-off shores instead); and 3) a combination restroom-shower-utility building in the camping area.

Water for domestic and irrigation purposes will be supplied from two drilled wells equipped with pumps, pressure tanks, and chlorination equipment.

Sewage disposal will be handled by septic tanks, lift stations, and drain fields. Besides the three comfort stations and the individual hookups in the camping area, there will be a trailer dump station near the entrance complex and a boat pumpout unit at a nearby point on the reservoir shoreline.

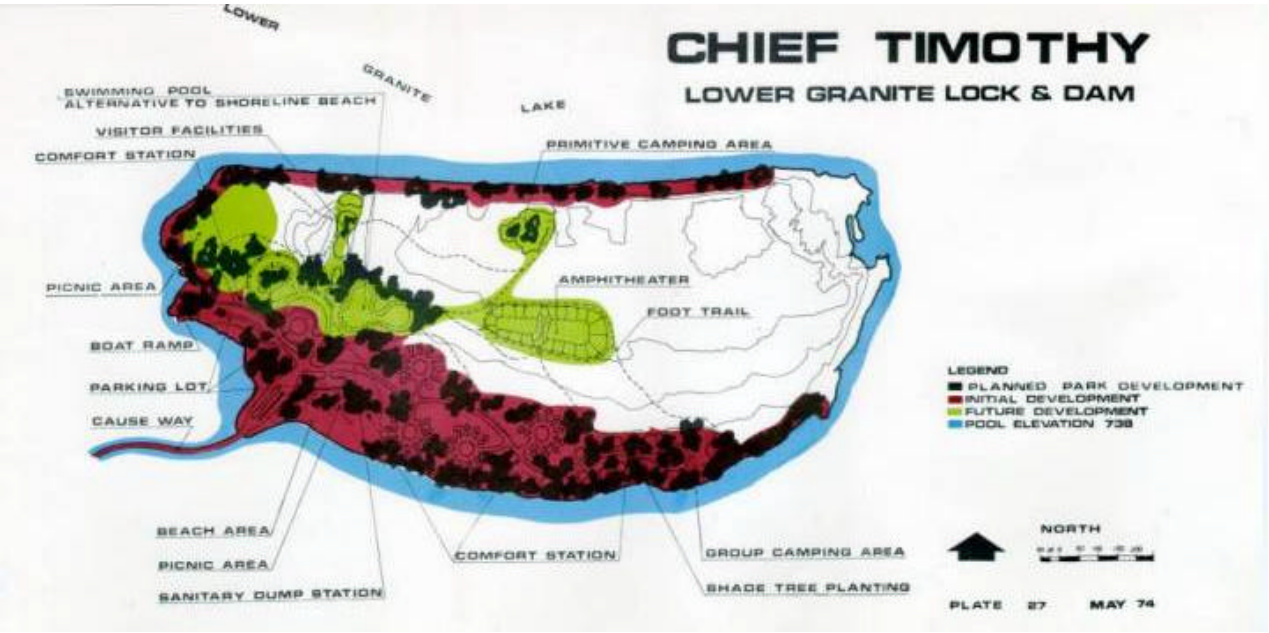
Electric power will be supplied to the park by overhead lines, with all distribution within the park being underground.

All intensive-use areas within the park (picnic and camping areas) will be planted to trees, shrubs, and grass, with complete underground irrigation systems. A total of 31.5 acres is involved. In the non-intensive areas, the effort will be towards the reestablishment and maintenance of hardy, native-type, drought-tolerant, semi-desert-type vegetation.

Signs will conform to motifs and designs used by the Washington State Parks and Recreation Commission. Where the State has no established standard, the Walla Walla District *Sign Guidelines Manual* will be consulted for guidance. A standard Lewis and Clark marker, as illustrated in the *Sign Guidelines Manual*, will be installed at an appropriate location in the park.

c. Future Work.

As required to meet the public need, day-use facilities will be expanded by extension of the development onto adjacent land areas of the park, generally the areas shaded in green on plate 27. The interpretive center should be developed, including the visitor building, with all displays, nature trails, historic markers, *etc*. The outdoor amphitheatre will be developed at the appropriate time. Similarly, the landside swimming pool would be constructed if water quality problems preclude continued use of the natural beach area.



7.10. Swallows Park and Marina

Swallows Park and Marina extends along about 1¾ miles of left bank Snake River shoreline, immediately upstream from Clarkston. It will offer a fully developed marina and facilities for picnicking, swimming, and associated day-use activities. It encompasses about 64 acres, including a small, 1-acre island about 200 feet offshore in the area of the swimming beach. The island and several acres in the area of the beach and launching ramp will be created land, resulting from proposed beach grading and deposit of materials from the proposed marina basin excavation. There are some steep lands around and near Nave Pit, but probably 50 acres of the total are completely

usable. State Highway 129 lies adjacent to the park area throughout the upstream mile of its length, affording direct access at any desired point or points. On the higher ground by the highway, there is a band of trees and ornamental shrubs, remnants of former residential landscaping efforts, which is being retained and maintained for incorporation in park landscaping. An excellent description and map layout of proposed development is provided in DM 28.2.

a. Existing Development.

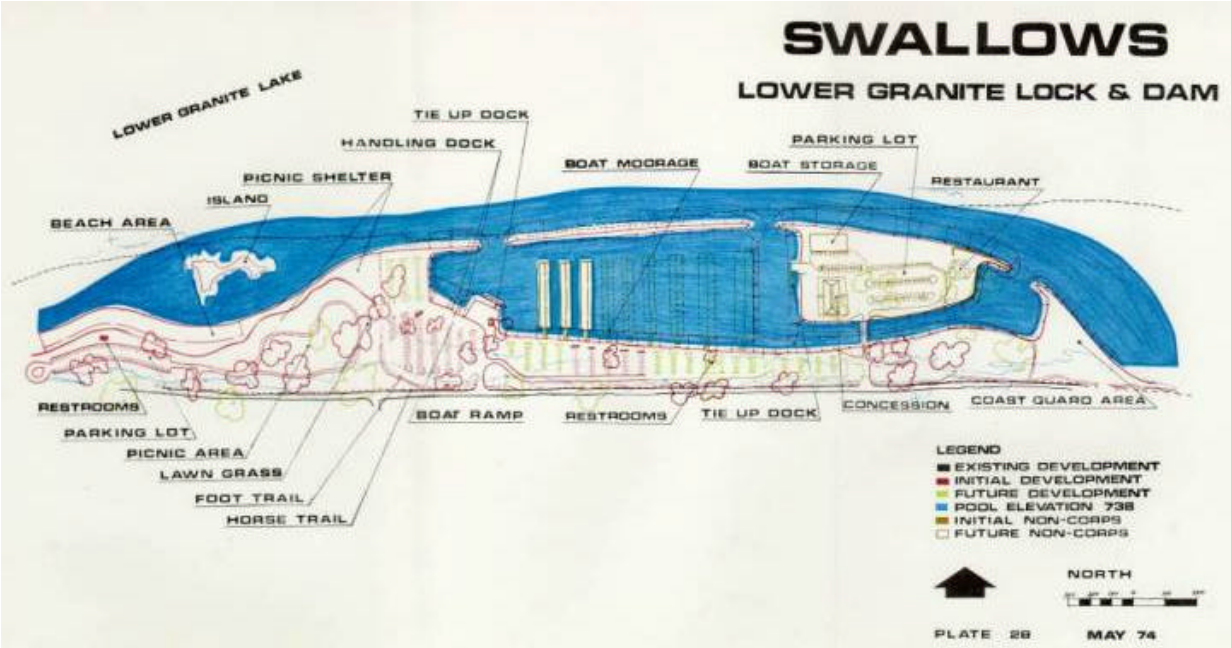
Two residential structures acquired with the land have been retained for park use: one as a park superintendent's quarters and one, a picturesque house of native rock at Nave Pit, as an arts and crafts center. (Serious vandalism is being suffered on the Nave Pit house, but efforts are continuing to preserve it as well as possible.) Small segments of the existing Riverside Drive will be usable as part of the park road to Nave Pit. Some trees and shrubs, as mentioned above, are being retained for park use.

b. Initial Development.

Initial work by the Corps will include basic site grading; roads, walks, and parking areas; launching ramps and handling docks; beach development; picnic facilities; restrooms; sewage disposal system; water supply; power distribution; landscaping, including irrigation systems; and signs and markers. The marina basin will be constructed to afford sheltered water space for wet moorage of as many as 400 boats. The launching ramp will be graded wide enough for eight lanes, with four lanes being paved and two handling docks being installed initially. Parking space appropriate to the facility will be provided initially. A sanitary boat pump-out unit will be provided (see DM 28.2 for details). Initial non-Corps development includes all commercially-oriented facilities in the marina: moorage docks; fuel dock and dispensing facilities; sales and service building; mechanical launching and retrieval devices; landside dry storage for boats, *etc.*

c. Future Development.

Swallows Park will be developed initially to almost its capacity. Future work would include paving of the additional four lanes of the launching ramp, the addition of two other handling docks, and the enlargement of the parking area. Non-Corps work in the future will be associated with the marina: additional moorage docks, more dry storage, and restaurant-motel-convention center development.



7.11. Chief Looking Glass Park

This is a small community park and playground, located at the mouth of Asotin Creek within the Asotin city limits. Total area includes 17.0 acres, essentially all of which offers flat or gently sloping terrain. Only a small part of the area is high enough to be completely safe from flooding. The area between the field track and the Snake River is low, and will be subject to rather frequent flooding from flood backwaters on the reservoir. There are quite extensive tree and shrub groupings on the property. Those on the high land near the street are remnants of residential land endeavors. Woody growth on low ground near the river includes willows, hackberry, mulberry, and various other native and pseudo-native varieties. In general, tree growth is adequate on substantial parts of the park. As explained in section 5, a lease has been issued to the city of Asotin for operation and maintenance of the park. Substantial development has already been completed.

a. Existing Development.

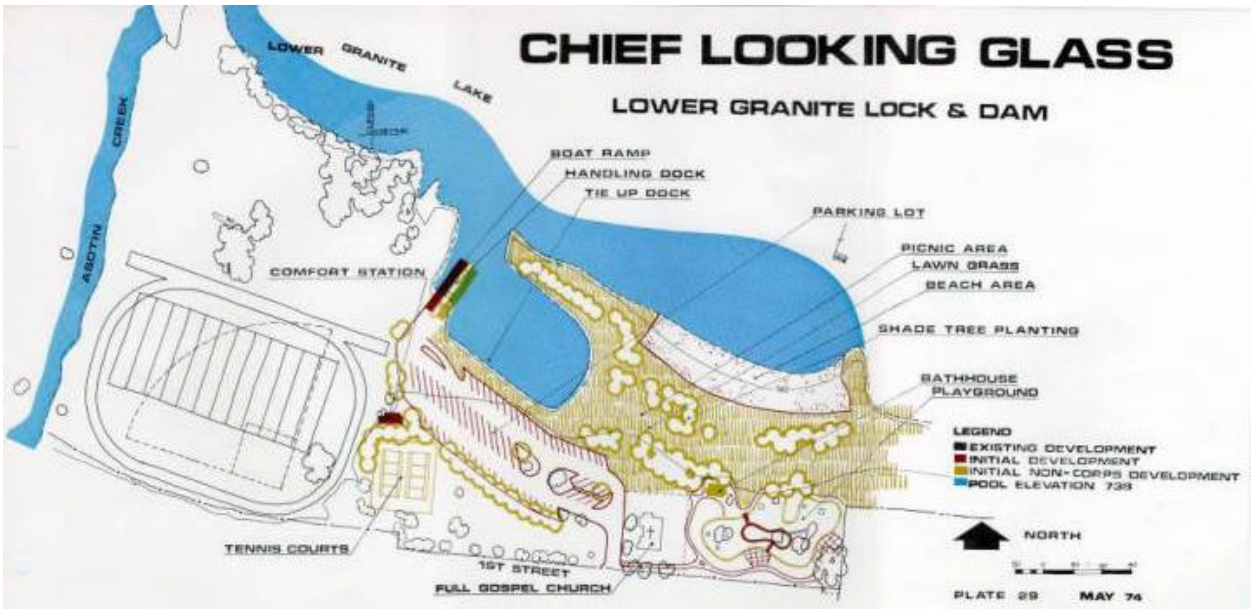
With the help of the Washington State Interagency Committee for Outdoor Recreation (IAC), the city, the school district, and the Corps, work has been completed as follows: filling and grading for the athletic field; temporary, gravel-surfaced parking area; purchase and installation of playground equipment; and mound grading in the playground area.

b. Initial Development.

Both the Corps and the city will participate in the balance of the work needed to complete the initial phase of development. Features to be added by the Corps include general site grading; grading and bituminous paving on road and parking area; grading two-lane launching ramp; pave one lane; grading and gravel surfacing of the swimming beach; comfort station with connection to city sewer; playground paving and equipment; underground sprinkling system; and signs and markers. The city, with assistance from IAC, plans to provide a restroom-changehouse in the swimming-picnic area; pave the second lane of the launching ramp; install handling dock; construct combination tennis and basketball court; and plant trees, shrubs, and grass.

c. Future Work.

Other features of work are needed for complete park development, but have been scheduled for future accomplishment due to limitations on initial program funds. These include trail and pathway systems; wildlife area interpretation; athletic field irrigation system; tie-up dock; and moorage docks.



7.12. Hells Gate State Recreation Area

Located 5 miles upstream from Lewiston on the Snake River, Hells Gate State Recreation Area is the largest park, in terms of land area and expected attendance on Lower Granite. The park will be leased to the Idaho State Parks and Recreation Department for operation and maintenance. The total park area includes 933.4 acres, of which 167.9 acres were acquired for reservoir flowage and allocated to recreational use, and 765.5 acres were acquired specifically for recreation purposes. The park area and its development potential are discussed in detail in DM 28A, *Preliminary Master Plan, Land Requirement Plan - Public Use, Supplement No. 1*. Briefly, the area offers the potential for a fully-developed state park with swimming, picnicking, boating, hiking, riding, overnight camping, and other related outdoor recreational activities. A major element is the boat basin, affording sheltered water space with associated usable land area for the development of a large-sized small-boat marina.

a. Land Quality of the Park Area.

The character and condition of the land areas within the park vary greatly. Undisturbed, steeply sloping, almost barren and semi-arid range lands characterize the high ground upstream from Tammany Creek. Flat, moderately sloping, green, irrigated pasture lands lie along the Snake River, also upstream from Tammany Creek. Once well-groomed and heavily landscaped grounds surround the former Duthie Ranch residence and building group, still being maintained for future park use. Greatly disturbed and drastically torn-up areas typify the formerly moderately sloping pasture land and steeply rolling, dry, grassy areas situated between the relocated county road and the river downstream from Tammany Creek.

b. Disturbed Ground Surfaces.

The disturbance on the latter area results from two things: 1) the silty residues from the several settling basins constructed and used by the nearby commercial gravel operation prior to acquisition of the land by the Government; and 2) the various borrow, processing, storage, and construction activities of the Lewiston Levee Contractor. Some of this disturbance will, of course, be cleaned up as the levee work progresses. Major restoration measures are, however, the necessary next phase of the recreation development effort. The processed riprap rock stored in the area should be used up or removed per agreement. Silt from the settling ponds stored landward from the marina basin will have to be removed or rearranged to fit parking area design. Settling basins in and along Tammany Creek will need extensive regrading and restoration. Large piles of reject material (silts, gravels, and large rocks) will have to be reshaped, hauled away, or somehow obliterated. Extensive areas will need topsoil treatment and revegetation. Such restoration work, however, will be a levee feature construction cost, rather than a recreation development cost, since the actions and uses that created the conditions were permitted in the name of major savings to the levee project.

c. Existing Development.

The upper end of the marina basin was completed, developed, and used as a temporary marina under a borrow operation in another Lewiston area related contract. Some other work (water supply, power service, telephone service) has also been provided, some of which may be of value in the ultimate marina development. The main area of the marina basin, including the protective berm forming the closure on the river side, has been or will be completed under the levee contract. Topsoil has been salvaged and stockpiled in the area for use in completing the landscape development, particularly in the areas disturbed by the levee construction activities. The Duthie building complex, including the main residence, an auxiliary residence, and a barn, all are being retained and preserved for use in the park administrative complex.

d. Initial Development.

The first work required in the initial program is, of course, the cleanup and restoration of the area involved in the various levee construction activities. This should include the removal of stockpiled waste from the old settling basins so as to restore the grades for the marina parking area; removal and/or reshaping of various deposits of reject materials; regrading and restoration of various settling basin areas in and along Tammany Creek; and general cleanup of the total area. In general, all waste material should be deposited in the waste disposal area upstream from the marina, as designated on the levee contract drawings. Since much of the waste is fine-grained, erodible material, it should be placed behind a protective dike or berm constructed of

the natural river gravels in place in the waste disposal area. All of the waste area should be brought to an elevation appropriate to the reservoir levels with backwater effect - probably Elevation 747 msl. Once the restoration is accomplished, other initial development work can be undertaken. The principal features are described in detail in DM 28.1, Part 2; and include the following:

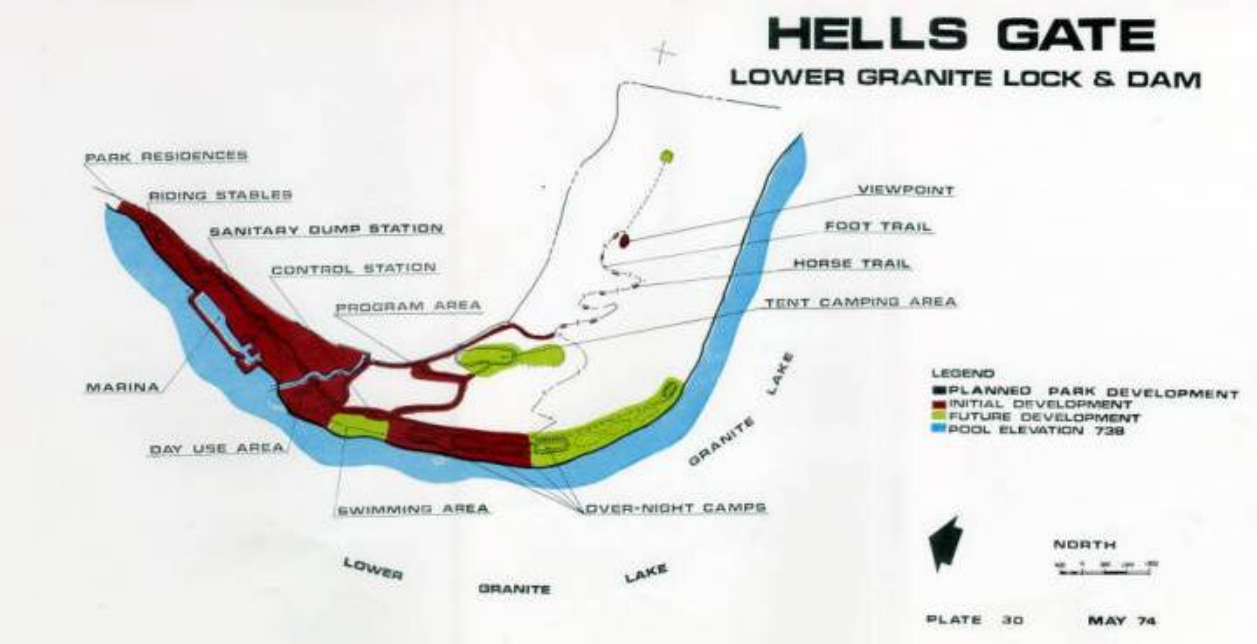
- Site grading around the marina for the walkways, roads, parking areas, building sites, and general landscaping, including the modification of the marina entrance.
- Paving of walkways, roads, and parking areas around the marina; including walls, curbs, and stairs, as required for the development of terraced parking areas required to fit the sloping terrain.
- Grading of launching ramp to eight-lane width, paving of four lanes, installation of two handling docks, and the relocation of tie-up docks.
- Site grading in the day-use area for roads, walkways, parking areas, beach, Tammany Creek channel relocation, and building sites.
- Paving of roads, walks, and parking areas in the day-use area, including concrete curbs around planting islands.
- Sand and gravel surfacing on the swimming beach area.
- Installation of beach equipment (floating marker line and diving float).
- Installation of foot bridges.
- Installation of day-use area equipment, including picnic tables, garbage cans, fireplace grills, fire circle, and playground equipment.
- Construction of restroom near the marina and a restroom-changehouse near the beach.
- Installation of irrigation system throughout day-use and marina areas.
- Topsoiling and planting of grass, trees, and shrubs throughout day-use and marina areas.
- Site grading in the camping area for roads and camp stalls.
- Paving of roads and camp stalls.
- Development of camp units: 62 with hook-ups and 29 without hook-ups.
- Installation of irrigation system throughout the camping area.
- Planting of grass, trees, and shrubs throughout the camping area.
- Site development for interpretive center: road, parking area, irrigation, and landscaping.
- Construction of interpretive center.
- Construction of sanitary dump station.

- Development of campground entrance complex.
- Development of domestic water system throughout the park. It is possible for this to be supplied through a metered connection to the city of Lewiston water system, provided that satisfactory arrangements can be made with the city.
- Development of sewage disposal system throughout the park, to be fed by gravity and pump lift stations to the city of Lewiston sewer system and including a boat pumpout facility at the marina.
- Development of electrical distribution system throughout the park with all local distribution lines underground.
- Development of unsurfaced bridle path, including wood-fenced corral and staging area.
- Development of asphalt-paved foot and bicycle trail.
- Development of park maintenance area, including maintenance shop, paved storage and work area, and security fencing.
- Seeding of dryland grass and native perennial species in disturbed areas throughout the park.
- Boundary fencing for control of livestock.

Non-Corps' efforts in the initial program will center in the marina - the moorage docks, dry boat storage, fuel dock and equipment, mechanical launching and retrieval equipment, boat rentals, and concession building or buildings for boat and motor sales and service, sale of recreation supplies and equipment, and snack bar and/or restaurant, *etc*. The marina will be the service headquarters and take-off point for the upriver mail boat and several commercial cruise boats.

e. Future Work.

Nearly all elements of development within Hells Gate State Recreation Area can be expanded as required to meet growing public need. Such expansion is indicated by dotted line patterns on the drawings in DM 28.1, Part 2, for roads, parking areas, camping areas, and recreation structures. In line with current Corps' policy, this additional work would be done on a 50-50 cost-sharing basis by the Corps and the lessee - Idaho State Parks and Recreation Department.



7.13. Clearwater Park

This is a small area, 14.6 acres, comprised entirely of the ponding area for North Lewiston pumping plant No. 5-B, situated just upstream from the north end of Memorial Bridge. The recreation use is strictly a joint use, entirely subordinate to the primary use of the area for short-term storage of storm runoff water. All development in the area is part of the levee beautification project, and is chargeable to the levee feature. Its description and discussion are included here simply to provide a total picture of public use resources of the Lower Granite Project. Very minor changes in the configuration of the ponding area basin were made to fit the recreational use. These were:

- Retention of some high ground and flattening of adjacent basin-side slopes to provide space and setting for a small restroom.
- Flattening of basin-side slopes along the north side of the basin to lend character and accommodate landscape treatment.
- Additional excavation adjacent to the drainage ditch to provide water area for a birling pond.

A lease will be issued to the city of Lewiston for the operation and maintenance of the areas as a community playfield.

a. Existing Development.

All rough grading is being done as part of the levee contract.

b. Initial Development.

The Corps will provide the following:

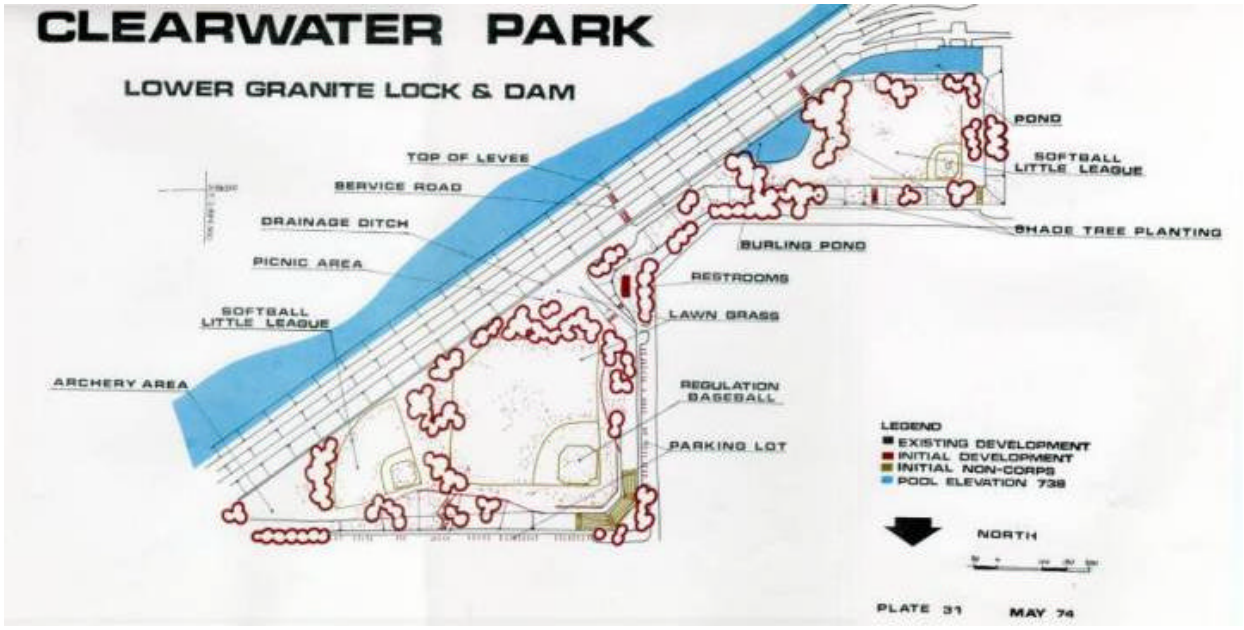
- Paved parking areas along the landside periphery of the ponding area - 130 acres, including curb or wheel stops.
- Small restroom at street level, with connection to the city sewer system.
- Access stairs and service ramp.
- Water supply, supplied by a metered connection to the city system.
- Topsoiling of all planting areas.
- Irrigation system utilizing water from the ponding area.
- Electrical distribution system and area lighting.
- Planting of grass, trees, and shrubs, using varieties tolerant of limited short-term flooding.

The city will provide the following:

- All playground equipment, ball diamond marking, bases, backstops, *etc*.
- All spectator accommodations.
- Field lighting for nighttime use, if needed.
- Birling pond equipment.
- Archery targets and ranges, *etc*.
- All utility costs - lights, water, and sewer.

c. Future Development.

The city indicates an intent to explore ice skating pond possibilities. No other future work is anticipated.



7.14. Clearwater Parkway - Kiwanis Parkway

The beautification measures proposed in DM 29.7 for the West Lewiston Levees will afford important public access opportunities. Again, these features are costs chargeable to the levee project, but are discussed here to provide a complete development picture in the Master Plan. The work will be done as a last phase of the levee project, and is scheduled to be complete and ready for public use by the summer of 1976.

a. Existing Development.

None of the work is yet complete, but all basic grading (placement of all earthen materials except the final layer of topsoil) is included in, and will be done as a part of, the levee construction contract.

b. Initial Development.

To be included in the overall levee beautification contract to be awarded in the fall of 1975 are the following:

- Restroom in Clearwater Parkway with connection to the city sewer system.
- Domestic water outlets throughout the parkways for drinking fountains and restroom supplied from the city system.
- Electrical distribution and lighting system, with underground lines throughout the parkways.
- Display structures, including all interpretive and historical displays, at Clearwater Landing and at the Lewis and Clark Center.

- Grading and paving for access road and parking area at the Lewis and Clark Center.
- Underpass and overpass structures for pedestrian access to the parkways.
- Complete system of footpaths and bikeways, extending the length of the West Lewiston levee system, with connections at each end to bikeways extending to other areas. The connection at Memorial Bridge will have a bike ramp from the tope of the levee to the bridge sidewalk.
- Complete system of shoreline fishing pads, seating areas, and sunshelters.
- Small landing or tieup docks to accommodate access to the parkways by boat.
- Placement of topsoil.
- Installation of complete irrigation system.
- Planting of all grass, trees, and shrubs.

c. Non-Corps' Development.

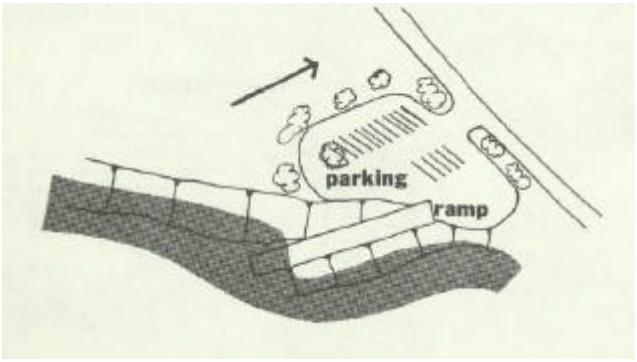
The City will sponsor all extensions and additions to Kiwanis Park lying outside of the project boundary. The possibility is being explored, in response to the city's request, of doing both city and Corps' work under one contract, with the city paying for all work on their land.

7.15. Clearwater and Southway Ramps

The Clearwater Ramp on the right bank of the Clearwater River (about River Mile 3.1) was proposed in DM 29 as an operation and maintenance ramp for use primarily by Government personnel. Not withstanding current plans to develop the operation and maintenance facilities at Clarkston rather than at North Lewiston, there will still be some operational value to a ramp on the Clearwater River. More importantly, there is an obvious and pronounced need for a public ramp at this location to serve the up-river bound boater-fisherman traffic. Similarly, at Southway (on the Snake River), there is a need for minimum launching accommodations to serve Lewiston residents - especially those with down-river boating destinations.

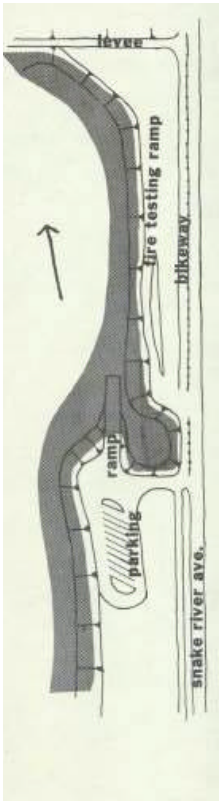
a. Existing Development.

All basic grading for the Clearwater Ramp is included in, and will be accomplished as part of, the levee construction contract. At Southway, a haul road running off the downstream end of the shoreline waste disposal area can, with very minor grading adjustments, be used as the base for the single lane ramp needed here.



b. Initial Development.

Work needed at the Clearwater location includes paving of the single-lane ramp up to about Elevation 7352, and grading and gravel surfacing of a small parking area for about 15 car and trailer units. Grading and parking arrangements should be done with onsite materials and with surface grades meeting the grade of the top of the rock bank protection (about Elevation 752). The ramp at Southway is to be a minimum access facility: a single-lane, concrete plank ramp and gravel parking area for about 10 car and trailer units. Design of the Southway Ramp parking area must be such that it does not interfere with the development of the walkway and bikeway (and possibly a bridle trail) to extend from the levee bikeway to Hells Gate. Some minor tree planting should be done at this location.



c. Non-Corps' Development.

When warranted on the basis of demonstrated public use, handling docks should be installed at each site, and parking areas at each site should be paved.

7.16. Swallows Greenbelt

The Swallows Greenbelt extends north from Nave Pit to a point about 600 feet (revised from 1,000 feet, cited in DM 28.2) north from the Interstate Bridge. It includes all lands between the reservoir shoreline and the project boundary, and is allocated for operations: recreation low-density use. It is, for the most part, steeply sloping hillside abutted by residential developments on rather level bench lands above the slope. Much or most of the area has light sandy, unstable soils with mostly annual weeds and grasses that become dormant and dry in early mid-summer. The city-county road known as Riverside Drive runs the length of the area, sometimes below pool level and sometimes above. Except for the walkway-bikeway development and the minor facilities proposed at the City Beach site and Nave Pit, no recreational opportunities are offered by this shoreline strip. Its principal value is for Greenbelt or waterside parkway development, for which it is proposed to be used. The area will be operated and maintained by the Corps.

a. Existing Development.

No work has been done. Some segments of the existing road will be salvaged for incorporation in the combination walkway-bikeway-single lane park service road.

b. Initial Developments.

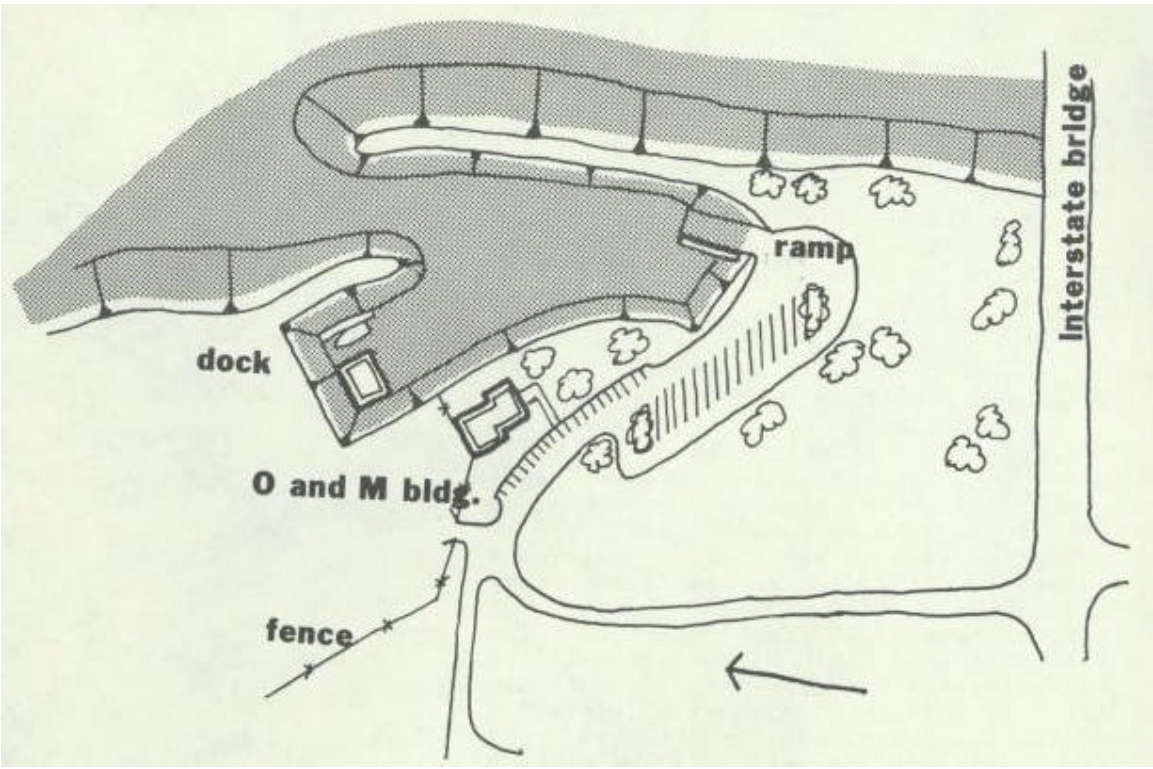
A 50-foot-wide strip of the Greenbelt will be developed initially. This will be on the more gently sloping land near the reservoir shoreline, and will include an 8-foot-wide asphalt paved walkway-bikeway, generally with 2-foot-wide shoulders; a single irrigation line to operate a string of 50-foot-diameter sprinkler irrigation units; and a minimum of tree, shrub, grass, and perennial forbs plantings. A clipped turf treatment will be carefully and deliberately avoided. Much reliance will be placed on natural vegetation and revegetation, as induced and influenced by the moderate but consistent irrigation.

c. Future Development.

The ultimate objective along the Greenbelt area will be to extend the irrigation system to cover all of the project lands, and to add such plant materials as are needed to create a total parkway effect.

7.17. Operation and Maintenance Headquarters

Design Memorandum 29 proposed that the operation and maintenance facilities for the Lewiston levee system be located in North Lewiston at the upstream end of the North Lewiston Levee. Various factors have induced a reexamination of this proposal. As a result, another location has been selected on the Clarkston (west shoreline), a short distance north from Interstate Bridge. An area of 9 acres has been allocated on the Land Use map for Operations: Project Structures to accommodate these facilities. While the prime function of the development will be the accommodation of operation and maintenance activities, some public uses will also be permitted--specifically, use of the launching ramp and parking areas.



- **Initial Development.**

Layout and development plans are now in progress. Facilities to be provided include operation and maintenance building, with space for shop and vehicle storage, tool room, office and vehicle storage, tool room, office and employee rest rooms; chemical (pesticide) and flammable storage building; paved and fenced outdoor storage area; 12-car paved parking area for employees and the public; a single-lane paved launching ramp with handling docks; parking space for 10 car and trailer units; tie-up docks for Government boats; and tree, shrub, and grass plantings. Site grading in this area is proposed in DM 28.2, under a concept of no facilities except a small parking area for public access to the walkway-bikeway and the greenbelt. About the same amount of grading will be required for operation and maintenance use, but configurations of the shoreline terrain will be adjusted to suit the activities involved. A small, sheltered water area will be created within which will be the ramp, handling dock, and moorage docks for the Government boats. All features will be provided initially (the car and trailer parking area will be changed to Feature 14).

7.18. Off-Road Vehicle Area

On plate 2, *Land Use Map*, and plate 11, *Resources Map*, and area of about 20 acres has been allocated for Operations: Recreation Intensive Use--ORV. This allocation has been made with consideration of instruction contained in Engineer Regulation 1130-2-400, and is responsive to demonstrated need and locally expressed interest. It is as yet only a tentative allocation, and is subject to study and acceptance by the local people. The physical potential of the area will be evaluated, and possible impacts of ORV use will be studied with interested agencies, groups, and individuals. On the basis of cursory studies made so far, it appears that there is terrain suitable to use by minibikes, trail bikes, and all-terrain vehicles (ATV's) within the area. With favorable response and no major adverse impacts, Corps involvement might include the construction of gravel surfaced parking and staging area or areas; enclosure fencing; vault toilets; and regulatory and directional signs. Benches, sun shelters, or other minor structures may be warranted.

7.19. Bikeway-Walkway-Trail System

Relocation and construction features of the Lower Granite reservoir create unusually attractive and pragmatic possibilities for construction of an integrated system of foot trails, bikeways, and bridle trails. This is illustrated in concept on plate 33. Some segments of this system fall logically within the scope of Corps-sponsored recreational development - the major park areas. These are shown in red and black symbols on plate 33, and have been discussed in paragraphs 7-10, 7-11, 7-12, 7-14, and 7-16. Other segments of the system lie along the reservoir shoreline, but are not so logically within any major unit of the park and recreation development program. Elements of highway relocation work are such that they afford space for bikeway development and, to some extent, provide basic grading so that all that is required is the surface treatment. Local involvement toward completion of the bikeway system is reasonable and desirable, particularly in view of the availability of Highway Department funds for bikeway development.

a. Swallows to Asotin Bikeway.

Along WSR 129, from Swallows to Asotin, bank protection work is being accomplished to protect the roadway from the erosive effects of the reservoir. In some areas, this involves widened, flat slope areas to be developed with roadside tree plantings as an aesthetic mitigation measure. These afford ample space for bikeway construction. In the intervening areas, a berm used as a construction haul road for placement of rock protection, affords space for the bikeway. A part of this bikeway potential, in the Swallows to Asotin reach, is being utilized for construction of experimental test sections of bikeway surfacing. With the several miles of bikeway-walkway construction scheduled in the major park areas (Swallows, Hells Gate, Looking Glass, and the Lewiston Levees), these tests are needed to determine the most feasible and satisfactory pavement surfaces. Each 8-foot-wide test section ranges from about 1,500 to 2,000 feet in length, involving a total of 5,138 feet. (The work has been added to the WSR 129 bank protection contract.) One section will be of Class A bituminous surface treatment. The other two will be soil cement mixed to a 3-inch depth; one using 7-percent cement by weight, and one using 4-percent cement by weight. The remaining part of the Swallows-Asotin bikeway surfacing should be accomplished by local effort, utilizing available State Highway Department bikeway funds.

b. Clarkston to Chief Timothy Bikeway.

Relocation of SR 12 from Alpowa to Clarkston results in a strip of useable land, on the landward side of the highway, between the highway shoulder and the steep hillside slopes. Highway Department staff people have indicated that this could be used for bikeway purposes. Its development by local interests, with the assistance of State Highway Department bikeway funds, should be encouraged.

c. Asotin Service Road and Bikeway.

Not shown clearly on plate 33 is a section of bikeway extending upstream from the developed part of Chief Looking Glass Park. A trunk line of the Asotin sewer system is being relocated along this 2,400-foot-reach of project property adjacent to the project boundary. As a part of the sewer line relocation work, a gravel-surfaced service road is required that will also be used to provide access for project personnel in policing and maintaining this strip of project shore land. Development of a service road at or near the project boundary is desirable as a means of defining the limits of Government property and controlling encroachments from adjacent residential properties. In lieu of a gravel-surfaced service road, it is proposed that an 8-foot-wide pavement of bituminous surface treatment be provided through this reach.

d. Lewiston to Spaulding Bikeway.

Local cycling enthusiasts are actively working toward the development, with Highway Department help, of a bikeway along the Clearwater River from North Lewiston to Spaulding, Idaho. The logical origin of this project would be at the end of the North Lewiston bikeway system at the site of the old Washington Water Power Dam.

7.20. Wildlife Habitat Development

The creation of islands on the reservoir, and other efforts toward wildlife habitat development and management have been previously mentioned. Important wildlife resources have been, and will be, lost or adversely affected by the formation of Lower Granite Lake. Earnest endeavors are warranted toward the mitigation of these losses by whatever means are possible and feasible. A number of things have been or are being done relative to this objective: retention of vegetation in the pool area for the improvement of fish habitat, creation of islands for the benefit of bird life, creation of subimpoundment or isolated water areas for the development of fishery areas, and the culture of woody and herbaceous plant growth on project lands for the improvement of wildlife habitat.

a. Retention of Vegetation in Pool Area.

Plans, as first formulated for clearing of the reservoir area, provided for complete removal of tree growth from the entire pool area. On the basis of recommendations and requests from the fish and wildlife agencies and follow-up studies by District Staff, these plans were modified with a view to the retention of woody and other vegetative growth in the pool area as a source of nutrients and aquatic food organisms and sheltered habitat for fish, particularly bass and croppie. Clearing plans were altered to provide for the retention of all woody growth on the ground above Elevation 728. This allowed for complete clearing of the navigation channel. It has no adverse impact on recreation

areas, since clearing along park area frontages has been or will be done as an incidental to other construction work (*i.e.*, borrowing, filling, general grading, *etc.*). This effort results in some savings in cost of clearing, and involves no added costs. After pool impoundment, tied-down brush piles may be added as a means of providing additional fish shelter and nutrients.

b. Creation of Islands.

Judicious management of borrow for waste disposal actions, related to various project construction activities, has made the creation of a number of small islands possible. These will be improved and managed as predator-free waterfowl nesting and brooding areas. Each of these islands is allocated for Operations - Intensive Wildlife Management on plate 3, *Land Use Map*. Six small islands are shown: one on the right bank at Granite Point (about River Mile 113.7); three on the left bank near Chief Timothy Park (about River Mile 132.0); one on the right bank at approximately the confluence with the Clearwater River and near the Washington-Idaho state line (River Mile 139.3); and one on the right bank of the Clearwater River near the Camas Prairie Railroad Bridge (about Clearwater River Mile 0.5). The last island does not exist as yet. Efforts are being made to build this island by locally grading up material to extend the mound that now comprises the right bank approximately to the contractor's construction bridge. Such grading, in addition to creating the island, will deepen some otherwise shallow, aquatic weed-producing water areas that could cause water quality problems. These islands will e intensively managed, utilizing those management principles designed for maximum improvement of the wildlife habitat, such as planting forage crops and constructing artificial nesting sites.

c. Creation of Subimpoundments and Isolated Water Areas.

Highway and railroad relocation work has created several isolated water areas or subimpoundments. Five such areas are allocated on plate 3, *Land Use Map*, for Operations: Intensive Wildlife Management. Two are on the right bank; one each near Blyton and Sugarloaf. Each of these are borrow areas on the land side of the relocated railroad and county road. Three other areas are located on the left bank between Alpowa and Clarkston, on the land side of the relocated state highway. The first is opposite Chief Timothy State Park, and is a long, narrow pond of questionable value because of its shallow depth. The second, at Dry Gulch (River Mile 135.0), is being created by borrow activities, and is intended to be deep and quite suitable as a put-and-take trout fishery. The third, about 1 mile upstream from Dry Gulch, is a natural low spot, and should also be deep and quite suitable for fishery development. At each of these subimpoundment areas, minimum access facilities are being developed: roadside parking, foot trail, access, and single, vault-type toilets. Management practices will be aimed initially at providing a put-and-take trout fishery by restricting access of non-game fish through equalizing culverts in the land bridge between the ponds and river. If this is not feasible, management will be directed toward a warm-water fishery for bass and crappie.

d. Cultivation of Woody and Herbaceous Plant Growth.

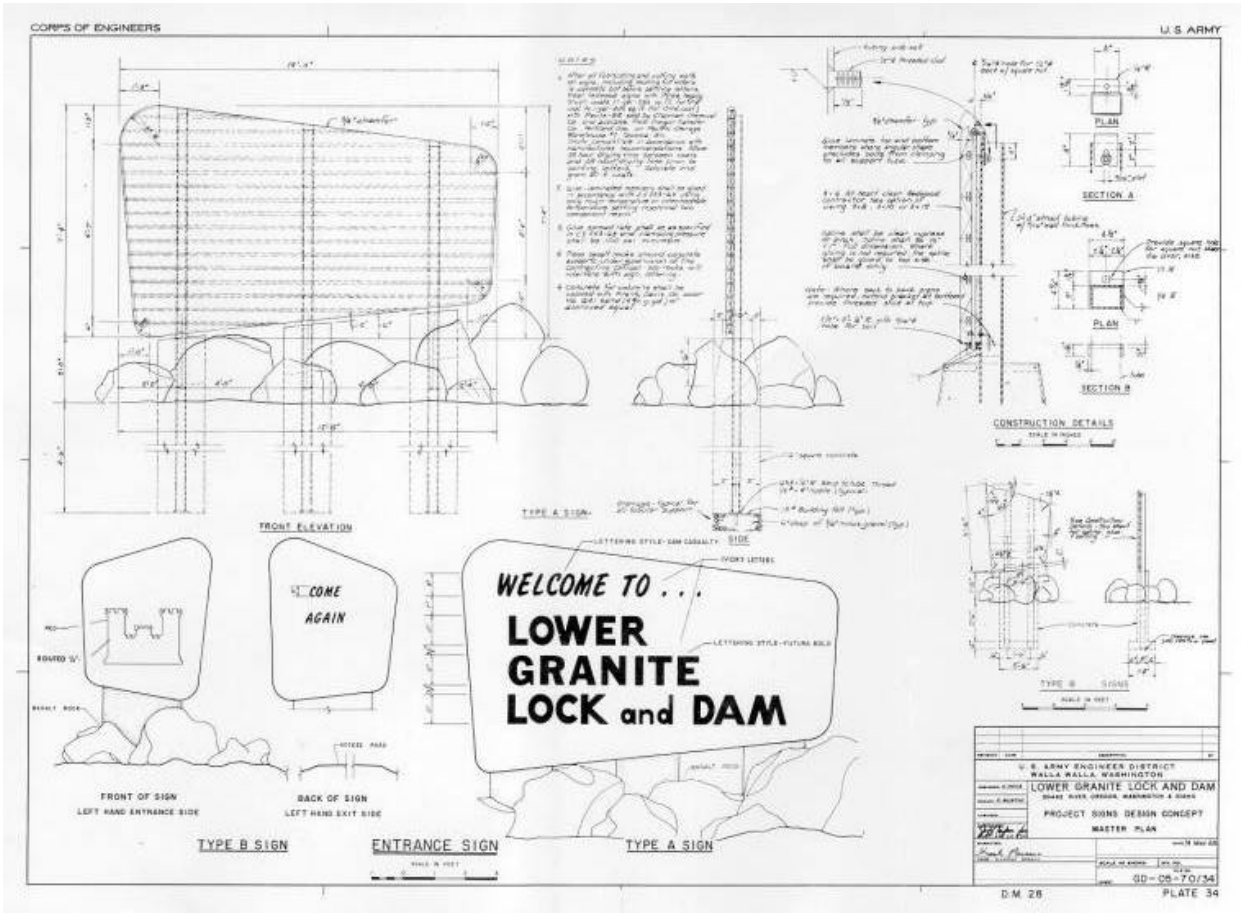
This endeavor will extend throughout the reservoir area. Important segments will be the islands and subimpoundments, but far more significant, in terms of land area and total productivity of plant growth, will be all the shoreline reaches where terrain permits the establishment of natural riparian growth.

With regard to all of this development and management effort, little is yet decided in terms of specific things to be done. However, studies are underway and programs are being formulated, the details of which will be set forth in the *Wildlife Master Plan Appendix*.

A design memorandum is currently being developed by an AE to survey the project lands and recommend management criteria for wildlife, such as areas suitable for development for specific species of wildlife or wildlife in general, means of enhancement of areas by vegetative plantings and watering devices to extend the range of certain bird species. Recommendations of this plan will be incorporated in the management of fish and wildlife on project lands.

e. Boundary Fencing.

In areas where forage benefits will accrue to any form of wildlife, fencing along the project boundary, to exclude wildlife, will be accomplished whenever justified by probable benefits.



f. Recreational Area Tree and Shrub Plantings.

In formulation of plant lists for landscaping in developed recreational areas, selections will include varieties of trees and shrubs beneficial to wildlife.

7.21. Port Terminal and Industrial Development

Corps' authorities and responsibilities related to the development and operation of public port terminals, or of industrial use and access lands, are limited to those administrative measures and actions necessary to, or associated with, the making of project lands available for these uses. These include:

- Formulation of the project Master Plan.
- Determination of specific areas available for public port terminals and industrial use and access.
- Preparation of Environmental Impact Statements pertaining to the conveyance of project lands to non-Federal ownership or administration.
- Securing of official "Determination of Availability" from the Secretary of the Army for disposal.
- Preparation and execution of quit-claim deed or lease instrument, with appropriate reservations to protect project needs.
- Continued administration of those interests in the land, as retained by the Government for project purposes.
- Review and approval of port development plans to ensure compliance with terms of the deed or the lease, and with regulations regarding work in navigable waters.

Port districts are created by a vote of the people within the areas encompassed by the district boundaries, pursuant to provisions of State law; in Washington, WSC53.04.020, and in Idaho, IC70-101 and subsequent sections. In each state, the law stipulates that the port commission must prepare, and present to the people at a public hearing, a comprehensive plan of development. Once officially adopted, this comprehensive plan becomes the guide for all port development. Copies of these comprehensive plans for each port district are on file in the Land Use and Environmental Section of the Walla Walla District office.

a. Port of Lewiston.

The Port of Lewiston, with boundaries coinciding with the boundaries of Nez Perce County, Idaho, was created in November 1958; and a Board of Port Commissioners was duly elected by a vote of the people in Nez Perce County. The Board engaged the firm of Bovay Engineers to prepare a comprehensive plan, which was completed on 26 November 1960. This plan was approved and officially adopted by a vote of the electors within the district in December 1960. The comprehensive plan was officially amended by resolution of the Board on 11 December 1973. This amendment was presented at a public hearing on that date and incorporated the development proposals set forth in the report of January 1967, as prepared by Cornell, Howland, Hayes, Merryfield, and Hill. It also deleted from the original plan Areas L and HI: the Snake River industrial frontage and the Holbrook Island industrial area. The plan, as now constituted, shows industrial waterfront area for the Port of Lewiston as being situated entirely on the right bank of the Clearwater and Snake Rivers in the Lewiston area. This is essentially in agreement with the allocations shown in the Master Plan.

b. Port of Clarkston.

The Port of Clarkston, with boundaries coinciding with those of Asotin County, Washington, was created by a vote of the people on 9 September 1958. By official action of the Board, a comprehensive plan was prepared by Bovay Engineers and officially adopted on 1 December 1961, following a public hearing on the same date. Two amendments to the comprehensive plan have been officially adopted: one on 17 December 1971, setting aside 10 acres for access road purposes; and the second on 7 September 1973, creating an industrial development district. An addendum to the comprehensive plan was approved on 6 January 1969, providing for the Port of Clarkston's joint endeavors with the Port of Whitman County in development of the Port of Wilma-North Clarkston. This addendum was prepared by Mr. E.N. Klemgard, then Manager of the Port of Whitman County; Mr. William F. Johnson, Engineer; LTC William C. Behrens, Manager of the Port of Clarkston; and Mr. Larry R. Sale, County Planner, Southeastern Washington Regional Planning Commission. The comprehensive plan, as now constituted, is in essential agreement with the land use allocations shown in the Master Plan. The principal remaining difference is that a short section of shoreline extending downstream from the Interstate Bridge is included as industrial area in the Port's comprehensive plan, but is shown as Low-Density Recreation land on plate 3, *Land Use Map*.

c. Port of Wilma-North Clarkston.

The Port of Whitman County, with boundaries coinciding with those of the County, was created on 4 November 1958; and a Board of Port Commissioners was duly elected by vote of the people in Whitman County. The Board contracted with Bovay Engineers for preparation of a comprehensive plan of development, which was officially adopted on 4 January 1962 after presentation to the people at a public hearing. This plan was officially amended on 6 February 1960 and by seven subsequent amendments, the latest dated 10 October 1972. It treats port development at Riparia on the Lower Monumental reservoir; Central Ferry, Penawawa, and Almota on the Little Goose reservoir (Lake Bryan); and at Wilma-North Clarkston on the Lower Granite reservoir. For areas on the Lower Granite pool, the plan currently shows all right bank shorelands from the downstream end of the Wilma recreation area, at River Mile 133.4, to the Washington-Idaho state line at River Mile 139.3, as industrial frontage. The public port terminal and industrial use and access frontage, as shown in the Master Plan, extends from River Mile 135 to the proposed new highway bridge at River Mile 137.4. The prime usable lands, however, are found in the reach reserved in the Master Plan for port terminal and industrial use. Upstream from the proposed highway bridge, there are no emergent lands outboard from the railroad. The downstream area is reserved for recreation use. Here offshore areas are shallow, and emergent lands are limited in extent and subject to extensive erosion.

d. Port of Garfield.

The Port of Garfield county, with boundaries coinciding with those of the county, also has shoreline frontage on the Lower Granite reservoir. The Port's comprehensive plan was prepared by Cornell, Howland, Hayes, and Merryfield in 1965; and was adopted the same year. The plan shows development at the south side Central Ferry site on the Little Goose pool in the Deadman Creek-Meadow Creak area of the reservoir. No development is shown on the Lower Granite reservoir. None of the Lower Granite shoreland areas within the Garfield Port District are usable. The only road access is to the mouth of Offield Canyon, where the only usable shoreland space is completely utilized by the boat launching ramp and associated parking area, and by the BPA substation.

SECTION 8 - FACILITY LOAD AND OTHER DESIGN CRITERIA

8.01. Completed Design Memoranda

Criteria for the design of recreation and related facilities are set forth in various Engineer Regulations and Engineer Manuals, and form the basis for preparation of feature design memoranda and contract plans and specifications. Engineer Regulation 1110-2-400 furnishes specific guidance for the design of recreation facilities. Feature recreation design memoranda have already been prepared and submitted for essentially all elements of the Lower Granite initial recreational development program. (Items not so covered are the Wawawai Bay development, some details of the walkway-bikeway system, and minor developments in the off-road vehicle area.) These design memoranda furnish detailed data and represent design response to the instructions furnished in the EM's and ER's. Citation again of all this detail in the Master Plan would be quite redundant and without meaning insofar as the initial development program is concerned. As guidance for future development, specific criteria can best be provided as the Master Plan is updated. Thus, this section offers only some general discussion expressing planning philosophies of the District, plus some District policies supplementary to the EM's and ER's.

8.02. Siting

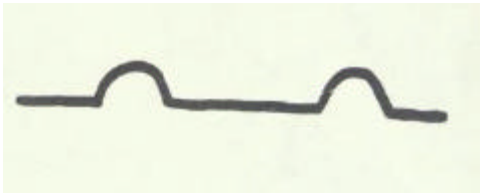
Location of various recreational facilities in relation to pool levels and flooding hazards has been, and will be, governed by criteria adopted and published in September 1970 in the Walla Walla District (see Supporting Data, Item 10). Siting of facilities with regard to factors other than flooding hazard will be governed by principles set forth in ER 1110-2-400, paragraph 5. In all instances, preservation and enhancement of the scenic and natural qualities of the area will be prime objectives.

8.03. Roads

In terms of negative, manmade impacts on the environment, roads are often the greatest offenders. Consideration should be given to visualizing how the road will appear in the landscape and how the landscape will appear form the road. A road that blends and moves with the land is well worth striving for. The alignment of access roads to recreational or operational sites has a marked influence on the attitude the visitor takes toward the site. The expression, "First impressions are the most lasting," applies directly to the planning of an access road and associated entrance signs. Road alignment within a park is a major consideration of the site plan. Roads can unite individual use areas or become undesirable barriers, as when they are placed between a beach and picnic area. Roads can be used to define spaces when they circumvent an area or form desirable separations, such as between day-use and overnight facilities.

8.04. Parking Areas

The design and siting of parking areas are important aspects of the site plan. The parking area forms the terminus for the access road. The ease with which the visitor is able to enter and leave the parking area is important. The parking area is essentially a holding area for vehicles and, without forethought, it can be not only expensive but unsightly, hot, and confusing. The following principles should influence parking area design:



- Highly visible terrain on the site should be ruled out as a location for parking.
- Mounds, hedges, or recessed lots are helpful in reducing the visibility of the parking area.
- Trees can be used within the lot to provide shade. Shrubs help in reducing the apparent size of a large lot.
- The layout should consider pedestrians leaving and entering the lot. The pedestrian walkway should be identified by a change of materials, a change in elevation, planters, railing, *etc.*
- Grassing, rather than paving overflow areas, should be considered as a means of reducing expanses of normally unused, paved parking.
- Two or more smaller lots are often easier to site than one large lot with uniform grading.

8.05. Playground Facilities

A playground should be included in the design for all major intensive-use recreation areas. Each playground should be designed individually as an integral part of the site plan. Consideration should be given to locating the playground in relation to parking, beach, day-use, and camping. Provisions for informal supervision, including seating and shade for parents and the elderly, are to be designed into the plan. The design should consider indigenous material on or near the site, which could include wood, water, brick, mounds, and plants. Playgrounds should be creative play areas in which the child is stimulated by his environment to imagine a world of his choosing.

8.06. Trails

There are opportunities for foot trails on Lower Granite for various purposes, including fisherman access, access to scenic and historical points of interest, or as linkages between recreation areas such as Lewiston Levee Parkways and Hells Gate State Recreation Area. Design of trails will depend much upon the land use through which the trail is built. Generally, a trail will fall within two categories.

a. Informal.

Trails in natural areas, low-density recreation areas, wildlife areas, or other areas of minimum development, will be designed as simple access routes with no build-up base or surfacing. Trails should be little more than a 2- or 3-foot-wide defined path across the terrain, be that terrain rock, gravel, or soil.

b. Formal.

Foot trails built in intensive-use recreation areas must be capable of withstanding use from a concentration of visitors. Consequently, the trail may take on a different appearance than the informal trail. It may be necessary to provide surfacing to prevent excessive wear, to suppress dust, or to accommodate bicycles when joint walkway-bikeway use is planned. The trail is then a formal walk, and materials used in surfacing should relate to other natural or manmade elements in the plan.

8.07. Swimming Beach

The swimming beach is assured of being populated during the hot summer days characteristic of the Lower Granite region. Typically, the beach is the center of activity in any day-use area, and is a popular pastime for campers as well. The beach is also an important locus for people-watching by all ages.

a. Water Quality.

Obviously, the most important feature of a beach is good, clean water. Experience at beaches built elsewhere in the District has proved that a beach recessed into the shoreline, built to thwart wave action, does not allow for adequate water exchange. Beaches within the District, including Lower Granite, will be built directly on the shoreline.

b. Design.

Since a shoreline beach is exposed to wave action, provisions must be taken to prevent excessive erosion. Lining the beach with gravel or paving the area below the waterline are two approaches that will be tried on Lower Granite. In both cases, sand for sunbathing, which is most susceptible to erosion, will be placed back from the shoreline away from frequent wave action. Optimum slopes for underwater portions of the beach are in the range from 1 vertical on 15 horizontal to 1 vertical on 20 horizontal. Landside portions can be as steep as 1 vertical on 10 horizontal if wave exposure is very minimal. It is desirable to separate the sanded area from the turf with a simple concrete curb, 6 to 18 inches high. The higher curb is helpful in fitting on steep terrain. Seating areas with shade should be placed close to the beach for swimming supervision by parents and for passive recreationists.

8.08. Landscaping

The primary aim of all planting design should be to use plants to solve functional problems, making the landscape more habitable and pleasurable.

a. Natural Landscaping.

The most logical approach, and usually the most successful in terms of plant survival, is to choose plants that are growing in the area and to plant them in situations to which the are accustomed. For example, a weeping willow should be planted near water rather than on a dry hillside. Native vegetation at Lower Granite more than 4 feet in height, except along the shoreline and in ravines, is very rare.

b. Urban Landscaping.

Intensive-use recreation areas adjacent to urban areas (*i.e.*, Swallows Park and Marina and Lewiston Levee Parkways) might logically be developed with clipped lawn and exotic plantings. In these cases, the parks would relate to the city rather than to the natural landscape.

c. Mixed Landscaping.

A third approach, such as well be used at Hells Gate State Recreation Area, is a compromise between a natural and an urban landscape. Clipped lawn will be kept to a minimum. Dryland grass, and preferably native species, will be planted over the majority of park; and will be irrigated to maintain vitality. Trees and shrubs, while not native, will be chosen for their ability to adapt to climatic conditions of the site.

8.09. Elderly and Handicapped Visitors

Consideration should be given to the elderly and handicapped at all major public use areas and visitor facilities. They are a forgotten segment of the visiting public at most Corps' installations. Today, with increased mobility and affluence, they are getting out in groups, pairs, or with families to picnic at a park or visit a dam. Many of these visitors have senses dulled by age and a dwindling reserve of stamina. Forethought in planning can make a visit more enjoyable. The following are a few suggestions:

a. Visitor Facilities.

(1) Radio Transmitter.

Low-wattage radio messages explaining the facility can be transmitted from the visitor center and picked up on a car radio. The visitor need not leave the car.

(2) Parking Lot Window Speaker.

Several parking stalls in a lot might be designated for the handicapped or elderly. Speakers on stands, similar to those in an outdoor movie theatre, could be installed and messages recorded to entertain the visitor who would prefer to remain in the car.

(3) Shuttle System and Elevators.

Where horizontal or vertical walking distances are extreme, elevators and shuttle systems should be considered.

(4) Swimming Beach.

A small section of the beach could be paved underwater so that a wheelchair could be wheeled into the water and the occupant could enjoy the water at first hand.

(5) Passive Recreation.

All active recreation areas (ball fields, swimming beaches, *etc.*) should have facilities (benches and shade) for passive recreation.

b. Parks - Camping Area.

(1) Paved Camp Site.

One or two camp sites located closest to the restrooms could be developed for visitors in wheelchairs. The total site might be paved so that the wheelchair can be maneuvered easily from tent to table, fire pit, water, and trash can.

(2) Paved Paths.

The camp sites for the handicapped should be joined to the restroom and day-use area by paved paths so that wheelchairs can be moved at ease through the park.

(3) Picnic Table.

One side of the picnic table in the handicapped camp sites should be left without a bench so that a wheelchair can be moved up to the table.

(4) Parking Lots.

A parking space or two should be signed for handicapped parking. Provisions for cutaway curb or a ramp up the curb should be made.

(5) Mini Tours.

Short tours can be planned to visit one or more of the most interesting features at the dam, thereby reducing walking distances.

(6) Waiting Areas.

Shaded, comfortable waiting areas might be provided near the parking lot or entrance to the visitor building where the elderly may sit while the remainder of the party tours the facility. Play areas might be designed in conjunction with this waiting area, both for the enjoyment the elderly visitors would receive from watching the youngsters and for the supervision they offer.

c. Parks - Day-Use.

(1) Fishing Pads.

Level fishing pads can be built on riprapped slopes or other embankments difficult to traverse for the elderly. Portable lawn chairs can be set up on these pads.

(2) Game Areas.

Shuffleboard courts, horseshoe pits, *etc.*, might be located near playgrounds or tot lots.

8.10. Camping Areas

Major changes in camping patterns have occurred in recent years, arising from changes in income status, travel habits, amount of leisure time, and especially from changes and improvements in the design of outdoor recreation vehicles and camping equipment.

a. Fact or Fiction?

Are the following statements fact or fiction? People camp:

- To come in contact with nature.
- To get away from their fellow man, and find some peace and quiet.
- To rough it.

Are these statements more factual? Many campers:

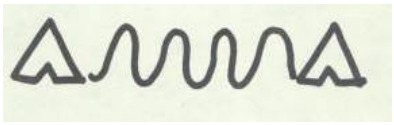
- Are not interested in nature. They want only visual contact with nature, such as from a viewpoint or car window.
- Are actually looking for social contact. Studies indicate that many campers are traveling in groups of two or more families, or are elderly and traveling in caravans with other elderly people, or are merely enjoying a non-binding contact or conversation with other campers.
- Are not camping to rough it. With exceptions, campers will spend as much for comfort as they can afford, be it tent or trailer camping.

b. Design Criteria.

Because of the increasing popularity of camping and the demand for recreation lands, campgrounds must be designed to maximize all available space and satisfy the varying needs for privacy or group sociability. These needs, it should be recognized, vary according to the amount of privacy the camper can provide for himself, which in turn depends on his mode of camping and duration of stay. The trailer camper has the privacy of his trailer, in which he may find both visual and audio privacy; whereas the tent offers no audio privacy, and visual privacy only as long as the camper can endure the cramped confines. Thus, camp units should be appropriately designed for different modes of camping.

(1) Formal Tent Camping.

Since the tent camper spends much time outside his tent cooking, eating, and relaxing, he requires the largest activity space and an audio buffer space between his unit and the next. Thus, units should be spaced at 75- to 100-foot intervals. Each unit should have a table, fire circle, and level tent pad consisting of sand, pea gravel, or grass.



(2) Informal Tent Campers.

In order to provide the maximum in flexibility, a simple, grassed, open area can be set aside in each campground for informal camping. Tenters would be given the option to pitch their tent at random or in groups. Several fire circles will be spotted and portable tables provided. This area could also serve as an overflow area for trailer campers.

(3) Trailer Camper - Extended Visit.

The trailer camper has different space requirements than the tenter mentioned above. Most trailer campers do spend some time outside, and would appreciate a table and fire circle. It is not necessary to provide an audio buffer area as for the tent unit. As a minimum, a small, level pad (12 feet by 15 feet), screened by fence and/or shrubbery, with a table and fire circle, should be provided on this pad. Utility hook-ups are optional.

(4) Overnight Trailer.

Higher-density camping can be developed for trailer campers spending only one evening in the campground. They have little time to "set up" out of doors. Units can be placed fairly close to each other, separated by a fence or planter. The space saved by this consolidation can be allocated as joint open space and picnic area. Tables and a fire circle could be located in this joint area for each five or ten units. Utility hook-ups are optional.

(5) Multi-Trailer Unit.

Units should be provided for trailer campers traveling in groups of two families or more. The utility hook-ups, fire circle, and tables should be located to accommodate trailers arranged in door-to-door groups.

8.11. Signs

Directional and informational signs are an important aspect of the visitor program, since signs are often the first and last impression a visitor has of a project. A number of general questions must be answered about signs.

- Are signs visible and legible, but not obtrusive?
- Are there enough signs or too many?
- Have the signs been designed along with other features of the project, or as an afterthought?
- Should the format of signs be different from project to project, or should one style of sign be adopted for the whole District?

SECTION 9 - SPECIAL PROBLEMS

9.01. Introduction

In planning for proper and beneficial development and management of the natural and manmade resources of the Lower Granite project, many varied problems are encountered. The earlier sections of this Master Plan have attempted to identify and evaluate these problems and offer workable solutions. Some of these problems warrant further mention because of their unique character, or because no clearly satisfactory solutions have been worked out.

9.02. Natural Resource Preservation

One of the resources of the Lower Granite pool area is the semi-desert-type fauna typical of most of the project shorelands. To preserve this usually fragile vegetative cover, while still accommodating a reasonable degree of public entry and use of the lands, is a special problem. Its resolution will require continuing efforts on the part of project management personnel, an effective educational and interpretive program to obtain the cooperation of the public, physical control measures such as the fencing of selected areas against encroachment, and policing to control various activities that are particularly destructive of the landscape (off-road vehicle use, deliberate vandalism, fire, and theft). A basic approach is, of course, proper planning for all development and management, which is the aim and, hopefully, the achievement of this Master Plan.

9.03. Loss of Shoreline Beaches

One of the most attractive and popular recreational resources offered by the Snake River has been the natural sand beaches. These beaches, occurring at intervals along both shorelines, are cleaned and replenished each year by the natural floods, and are heavily used by local people. Numerous requests have been submitted seeking salvage of the shoreline sands and reestablishment of beach areas along the shorelines of the reservoir. A limited amount of such work is proposed at three locations: Wawawai Landing, Blyton Landing, and Sugarloaf Landing. This replaces only a small part of the original total beach area. Loss of the major part of the natural beach resource remains an unresolved problem.

9.04. Debris Disposal

Earlier concepts of debris collection and disposal were based upon collections at points on the Snake and Clearwater Rivers at/or upstream from the upstream limits of the reservoir. This would have provided debris-free water areas throughout the total reservoir. Present plans propose collection and disposal at the Wilma site, about River Mile 135 to 136. This poses some very serious problems.

- The reach of the Snake River from the mouth of the Clearwater River to the head of the reservoir above Asotin will not be protected from floating debris. This is definitely the area of heaviest boating activities: the site of two marinas, the takeoff area for most upriver boating excursions, and the area of easiest access for people living in the Lewiston-Clarkston-Asotin communities. It is also an area directly exposed to view from the communities where the debris will have an adverse visual impact.

- The trapping and holding booms in the Wilma-Clarkston area will cause major inconvenience to movement of barge traffic on the reservoir.

- The collection, holding, and disposal facilities and operations will be directly visible from WSR 12 and SR 193: a visually offensive impact on the local landscape.

9.05. Cost Sharing on Future Recreation Development

There should be no problem regarding future developments at Hells Gate, Swallows, Looking Glass, and Timothy. Each of these areas is expected to be administered under lease agreement by a state or local agency of government. Cost sharing by the lessees is entirely logical, and appears practical and feasible. This is not true of the down-reservoir areas (Offield, Wawawai, Blyton, and Sugarloaf). At each of these areas, future development is included in the plans. Current policies, however, preclude future Corps' development without cost sharing. The Whitman County Park and Recreation Board has recently indicated a willingness to administer the area and facilities at Wawawai Bay. There is, however, no offer from the County to become involved in the other areas and, at this point, no evidence of county capability to handle all areas. Thus, there remains a problem of Master Plan proposals of future Corps' development contrary to Corps' policy of no development without cost sharing.

SECTION 10
PROJECT RESOURCE MANAGEMENT

10.01. General

Detailed information on project resource management is to be provided in the *Project Resource Management Plan*, Appendix A to the Master Plan. A brief general description of project resource management is given in this section.

10.02. Resource Management Responsibility

Navigation, irrigation, and hydroelectric power production are authorized purposes of the Lower Granite Lock and Dam project. Incidental values accrue to flood control and recreation. Wildlife conservation and the protection of natural resources are also authorized by law. The *Project Resource Management Plan* prescribes management and methods by which all project lands other than those required for project structures are to be managed to meet resource management goals. Resource management is the responsibility of the Resource Management Section, which is under the supervision of the Project Engineer of the combined Little Goose-Lower Granite Project. Although full responsibility for the operation and maintenance of Lower Granite Lock and Dam will not be assumed by the Project Engineer until 1975, a Resource Manager and staff are now assigned to the Lower Granite area, and are presently operating through a temporary office in Lewiston.

10.03. Resource Management Goals

The goals of resource management at Lower Granite are to implement the proposals set forth in the Master Plan, and to protect the natural and manmade resources of the project by providing safe and enjoyable recreation facilities, by encouraging public recreational use of project lands and waters, within the carrying capacity of the resources, and by discouraging encroachments that are damaging to the resources.

10.04. Project Resources

Developed recreation sites will be provided at Chief Timothy State Park and Hells Gate State Recreation Area in the Lewiston-Clarkston area; Chief Looking Glass Park near Asotin; Swallows Park and Marina near Clarkston; Clearwater Park in Lewiston; the Levee Parkways in Lewiston; and recreation areas at Offield Canyon, Wawawai, Knoxway, Blyton, and Sugarloaf farther down the reservoir. More complete descriptions of these recreation areas and some details on the mode of their management are provided in section 7. Natural resources include fish and wildlife management areas along the reservoir shorelines and the natural area at Granite Point.

10.05. Resource Management Section Staff and Facilities

The Resource Management Section for the Little Goose-Lower Granite project will have resource management responsibility for the Lower Monumental reservoir above Lyons Ferry, the Little Goose Reservoir, and the Lower Granite reservoir. To meet these management responsibilities, the Resource Management Section staff will be divided

between the project office and the Resource Management Office in Lewiston. A Resource Ranger, foreman, and management crew will be required at the project office; while a Resource Manager, foreman, management crew, and levee maintenance crew will be required in the Lewiston-Clarkston area. Maintenance and storage facilities to support the two staffs will be provided as required.

10.06. Duties of the Resource Management Section

The Resource Management Section will be responsible for the operation and maintenance of all Corps-operated recreational facilities and the Lewiston Levees, and for coordination of Corps' interests, will all facilities operated by cooperating agencies. The Manager and Ranger will have patrol responsibility for their respective land and water areas, and will be responsible for protecting the resources of the project and ensuring safe conditions for employees and the public. They will be responsible for detecting and correcting any type of encroachment and implementing corrective measures. They will be responsible for monitoring noxious weeds and insect and vector populations, and for controlling these pests through biological or environmentally-approved mechanical or chemical methods. In-service training will be provided for special education in these and other areas to ensure safety to employees, the public, and the resources.

10.07. Summary

The Resource Management Section will, for the most part, be the Corps' representatives to the public on Lower Granite project lands and waters. It is important that personnel in the Section know the resource management goals, execute the management programs, and maintain public awareness of the Corps' role in the field.

SECTION 11 - VEGETATIVE MANAGEMENT

11.01. General

Detailed information on vegetative management for the Lower Granite reservoir area is to be provided in the *Vegetative Management Plan*, Appendix B to the Master Plan. A brief general description of vegetative management on project lands is given in this section.

11.02. Physical and Ecologic Characteristics

The Lower Granite reservoir lies at the bottom of the 1,000- to 2,000-foot-deep Snake River Canyon. The area is typified by hot, arid summers and cold, dry winters. Vegetative types can be broadly classified as steppe and shrub-steppe communities; the first community typifying the open slopes and the second typifying the riparian zone and the many sidedraws. The shallow loessal soils and profusely scattered basalt outcroppings are not conducive to dense vegetative stands and, interspersed with snowberry or serviceberry shrub communities, bunchgrass or cheatgrass communities prevail. Much of the vegetation of the pool area consists of common weeds, cultivated crops, and fruit or ornamental plans left on abandoned farms.[3]

11.03. Treatments Required

Vegetative restoration and landscape enhancement on the Lower Granite project will be accomplished by use of plants endemic to the reservoir area. This will be accomplished by propagating and planting the non-domestic species presently inhabiting undisturbed portions of the reservoir basin. These same types of plants will be used in plantings made for wildlife. Weed and pest control will be practiced as required in developed recreation areas, but such measures will be used on fish and wildlife lands only after careful consideration of environmental factors.

11.04. Personnel and Facilities

Vegetative management will be the responsibility of the Resource Management Section. However, most of the plantings at developed recreation areas, and on fish and wildlife lands, will be accomplished through contracts. Maintenance pruning and large-scale weed control programs will also be accomplished through contracts. The Resource Manager will be responsible for preparing an annual work program for vegetative management, and will maintain records of completed work.

common sunflower

silver maple

wheatgrass

SECTION 12 - FIRE PROTECTION PLAN

12.01. General

Detailed information on fire protection is to be provided in the *Fire Protection Plan*, Appendix C to the Master Plan. A brief general description of project fire protection is given in this section.

12.02. Cooperative Agreement

Local firefighting units, county and/or city, are available to extinguish major fires.

12.03. Personnel and Equipment

Little Goose-Lower Granite personnel will undergo periodic organizational training. Tools and firefighting equipment are available at Little Goose Dam and at the Lewiston Resource Management Office. Two four-wheel-drive, pickup-truck-mounted pumps are available for grass fire suppression: one at Little Goose Dam and the other at the Lewiston office. Each pumps water directly from the lake. A similar pump system is available on the project patrol boat.

12.04. Fire Prevention

During the dry summer months, a mowing and irrigation program is practiced in the urban Lewiston-Clarkston area to lessen the possibility of fires by reducing available fuel. Such practices will also be used around developed recreation areas. On fish and wildlife lands, careful consideration will be given to the effect of fire on habitat. Burning may be required for the rejuvenation of habitat, but cover forage species will be protected as required.

SECTION 13 - FISH AND WILDLIFE MANAGEMENT

13.01. General

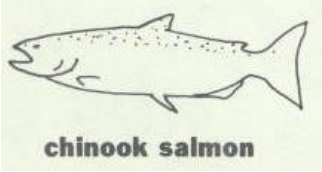
A detailed description of fish and wildlife management activities and techniques to be employed on the Lower Granite Lock and Dam project will be presented in Appendix D to the Master Plan. Finalization of the details in Appendix D depends on finalization of the *Lower Snake River Mitigation Report*. As described in paragraph 5.04. of this report, the mitigation report will be finalized after independent experts have reviewed the report and recommended any changes they feel are justified, and after an independent consulting firm has prepared a design memorandum for wildlife management on project lands. However, many of the concepts and details of fish and wildlife management have been developed, and a brief summary of fish and wildlife management is presented here.

13.02. Fisheries

Fisheries resources in the Lower Granite project area can be divided into the two categories of life history and management requirements.

a. Anadromous Fish.

These are fish that spawn in freshwater streams, but migrate to the ocean to grow to adulthood. They include spring, summer, and fall chinook salmon, steelhead trout, coho salmon, and sockeye salmon. Fish passage facilities for upstream migrant adults and downstream migrant juveniles have been provided at Lower Granite Dam for these species. Research facilities have been provided for monitoring the fish runs. Fish counting will be a project responsibility, as at other Corps' dams, and research facilities will be open to fishery agencies. Hatcheries, to compensate for project-incurred losses to anadromous fish, are proposed in the mitigation report; and construction of these hatcheries await approval of that report and subsequent funding.



b. Resident Fish.

These are fish that complete their life cycle in the same river, stream, or lake area. They include trout, bass, and other warmwater game fish; sturgeon; and a variety of minnows, suckers, and others that are not valued commercially or as sport fish. Management for resident fish is primarily a matter of providing habitat that is conducive to the development of a combination of species that provide a viable population capable of sustaining a sport fishery. Steps that have been taken in the Lower Granite project area to provide this habitat include leaving all brush and trees in the pool from 728 to 738 msl to provide habitat for warmwater fish, to provide habitat for insects and forage fish upon which warmwater fish feed, and development of pond areas behind highway or railroad fills for warmwater fisheries or put-and-take trout fisheries. Additional habitat for warmwater fish will develop as aquatic vascular plants become established in shallow areas of the reservoir. Steps recommended in the mitigation report to compensate for the loss of resident fisheries include a hatchery to provide trout and the acquisition of fisherman access on 150 lineal miles of tributary streams. These measures are pending until the approval of the report and budgeting by Congress.

13.03. Wildlife

Wildlife resources in the Lower Granite project area include big game, migratory game birds, upland game, and non-game birds, mammals, and reptiles. Mitigation requirements for these species are outlined in the mitigation report. These requirements are being reviewed by an independent expert. A design memorandum for wildlife management on project lands is being prepared by an independent consulting firm.

a. Big Game.

Mule deer and whitetail deer reside on the canyon rims and walls, and in the draws that will border the Lower Granite pool. They utilize the riparian habitat now present and, in severe winters, they may be dependent on it for survival. Replacement of riparian habitat lost during pool raise will be impossible in many areas where the pool comes up to rock cliffs or riprapped fills, and extremely difficult in other areas. Where possible, every effort will be made to replant shorelines with plant species naturally occurring in the canyon, and project boundaries will be fenced to prevent competition from encroaching cattle.

b. Migratory Game Birds.

Ducks, geese, and mourning doves nest in the Lower Granite pool area, and use the area as a wintering and resting area during migration. Islands that have been created during construction will partially mitigate for the loss of islands and gravel bars flooded at pool raise. Floating or other artificial nest structures will provide further mitigation for lost nesting habitat. Food crops for wildlife will be provided for nesting and migrating birds. Further details will be provided in the design memorandum now under preparation, as well as in studies recommended in the mitigation report.

c. Upland Game.

Upland game in the project area includes ringnecked pheasant, California quail, chukar partridge, Hungarian partridge, and cottontail rabbits. Food and cover plots will partially compensate for the loss of riparian habitat resulting from pool raise. Maintaining brush and natural vegetation on shorelands and in draws will help perpetuate remaining populations. The mitigation report recommends the establishment of a game farm for pheasants, acquisition of off-project hunter access and nesting areas, and the establishment of upland game watering devices on off-project easement lands. Fencing of project boundaries will be required to prevent encroachment of grazing cattle, and to protect food and cover plantings.

d. Non-Game.

A variety of non-game mammals, birds, and reptiles inhabit the project area. Generally, these species will benefit from food and cover plots established for game species. Special attention will be given to protecting the nesting sites of raptorial birds, eagles, hawks, and falcons. Predator control will not be practiced on project lands so that natural animal populations will prevail.

13.04. Fishing and Hunting Activities

All project lands and waters will be open to public fishing and hunting sanctioned under local, state, and Federal fishing and hunting laws. These activities will only be restricted in areas where such restrictions are in the interest of public safety. Fishermen and hunters will be afforded all access privileges available to the general public.

13.05. Endangered Species

No endangered species of fish or wildlife are listed for the Lower Granite pool area. Although the peregrine falcon is an endangered species in Southeastern Washington, none have been recorded as nesting in the pool area.

SECTION 14 - PROJECT SAFETY PLAN

14.01. General

Detailed information on project safety is to be provided in the *Project Safety Plan*, Appendix E to the Master Plan. A brief general description of the project safety program is provided in this section.

14.02. Administrative Facilities

Administrative facilities are provided at Little Goose Dam, Lower Granite Dam, and at the Lewiston Resource Management Offices. Each provides office, maintenance, and shop areas that have been designed and will be maintained to provide safe working conditions. Safe boat moorage facilities will be provided at each facility, and each will be maintained to provide safe facilities for personnel and equipment.

14.03. Recreation Facilities

Toilet facilities, shelters, bath houses, and concession buildings are designed to provide safe conditions for employees and the public. At Corps-owned facilities, Corps' personnel will inspect structures and maintain safe conditions. At facilities operated by cooperation agencies, the Resource Manager will inspect facilities to ensure the safety of the public.

14.04. Sanitation

Potable water provided to employees and the public will be monitored frequently to ensure that it meets safe drinking water standards. Sewage disposal systems are designed to meet safety requirements, as are recreation vehicle dump stations. Solid waste disposal will be accomplished through municipal facilities. Insect vectors, noxious weeds, and poisonous plants will be controlled for the safety of the public and adjacent landowners. Pesticides will be used only as registered and directed, and these materials will be stored in designated areas. Materials and containers will be disposed of in an approved manner only.

14.05. Access

Roads, trails, bridges, and parking areas will be designed to provide safe access. Traffic control devices will be used to maintain safe traffic patterns. Camping and picnic areas will be provided with safety-approved equipment. Such areas will be patrolled and maintained to provide safe use. Swimming areas will be provided with deep-water markers and retaining buoys. In urban areas, cooperating agencies may provide lifeguards. Boat ramps and marinas will be designed to provide safety to equipment and the public.

14.06. Public Information

Potential hazards will be clearly marked, and public access will be limited in unsafe areas. Guard rails and safety fences will be used on roadways and trails, as required. The use of firearms will be restricted in recreation and urban areas. Generally, hunting will be allowed on all other project lands, as regulated by state and Federal hunting laws.

14.07. Control of Public Use

The Resource Manager and Ranger will have citation authority, and will have enforcement authority for Title 36 regulations. Local law enforcement agencies will be available to cooperate in crowd control and the enforcement of civil disturbances.

SECTION 15 - COST ESTIMATES

15.01. Work Covered

The costs furnished in this section cover all work chargeable to Feature .14, *Recreation Facilities*, plus some recreation-related work chargeable to Feature .19, *Buildings and Grounds*, and Feature .03, *Reservoir*, and Feature .11, *Levees*. The initial program costs are taken for the most part directly from feature design memorandum studies. Future program costs, both Corps and non-Corps, are estimated without benefit of design or layout studies, and are indicative only of the probable general magnitude of the work involved. Price levels are cited as of July 1973. (Some bid experiences of recent weeks indicate drastic cost increases not reflected in these calculated price levels.)

15.02. Adjustments From Feature Design Memorandum Studies

At the conference in NPD in June 1973, a total recreation development program of $5,444,000 was approved. The combined estimates set forth in feature DM's 28.3 and 28.4, $1,583,300, is within the approved $1,733,000 for these recreation sites. The estimates in DM 28.2 for Swallows Park and DM 28.1 Part 2, Hells Gate State Recreation Area, exceed the approved program costs for these sites by $288,000 and $73,000, respectively, as explained in the DM's. The combined total estimate of the four DM's exceed the program, as approved in June 1973, by $211,300.

The estimates cited in tables 1 through 14 (see below) in this section conform to the DM costs for all items except those qualified by footnote references. The footnotes explain that some items are adjusted from DM estimates, and other items were not included in the DM estimates. The adjusted items involve minor changes, usually net reductions resulting from quantity reductions and/or minor design changes. Certain items were not covered in the recreation DM, but are essential for minimum park development. These involve added costs, and include wheel stops for traffic control, beach grading and sanding, fencing, topsoil, and directional signs. Table 3 lists costs for items of work at Wawawai Bay. This site is not covered in DM 28.4, and is completely above and beyond the approved $5,444,000 total initial recreation development program. The development is seriously needed to serve the Pullman-Moscow-Colfax communities. This is explained in Exhibit A, and will be further discussed and explained in the transmittal correspondence. One other adjustment merits discussion. The Wilma site was part of the $5,444,000 program. It has been entirely deleted from the recreation and development program, due to plans for use of the shorelands and off-shore area for debris disposal activities and functions. This means that about $33,000 of the approved program is available toward funding of Wawawai Bay development or other adjustments.

15.03. Wildlife Development Costs

No estimates have been made of costs involved in the implementation of wildlife development and management proposals. These will be included in the DM currently under preparation by an A-E firm, covering all lower Snake River projects.

Table 15-1
Summary Cost Estimate - Recreation Areas

	Initial		Future	
Area	**Corps**	**Non-Corps**	**Corps**	**Non-Corps**
Offield Landing				
Feature .14 Rec.	--	--	$28,000	--
Feature .19 B & G	$53,000	--	--	--
Wawawai Bay				
Feature .14 Rec.	166,000	--	96,000	$137,000
Wawawai Landing				
Feature .14 Rec.	40,000	--	46,500	--
Knoxway Bay				
Feature .14 Rec.	30,500	--	27,000	--
Blyton Landing				
Feature .14 Rec.	30,500	--	27,000	--
Sugarloaf Landing				
Feature .14 Rec.	51,000	--	72,000	--
Chief Timothy				
Feature .03 Res.	351,000	--	--	--
Feature .14 Rec.	1,300,000	28,000	360,000	603,000
Swallows				
Feature .03 Res.	629,000	--	--	--
Feature .14 Rec.	1,288,000	232,000	217,000	1,130,000
Looking Glass				
Feature .14 Rec.	167,000	68,000	29,000	29,000
Hells Gate				
Feature .11 Levees (Trails)	20,000	--	--	--
Feature .14 Rec.	2,784,000	137,000	816,000	1,116,000
Clearwater Park				
Feature .11 Levees	145,000	--	--	--
Feature .14 Rec.	--	95,000	--	31,000
Southway and Clearwater Ramp				
Feature .14 Rec.	17,000	--	--	--
Feature .20 O&M	--	--	16,000	--
Operations and Maintenance Headquarters				
Feature .14 Recreation (car-trailer parking only)	9,000	--	--	--
Grand Total				
Feature .14 only	**$5,887,500**	**$560,000**	**$1,749,500**	**$3,046,000**
Called	**$5,888,000**	**$560,000**	**$1,750,000**	**$3,046,000**

Table 15-2
Offield Landing (1.2 Acres)
Price Level 1 July 1973

			Initial Development			Future Development		
Item	**Unit**	**Unit Price**	**Quantity**	**Corps**	**Non-Corps**	**Quantity**	**Corps**	**Non-Corps**
Access Road								
Embankments	CY	$1.00	1,322	$1,322	--	--	--	--
Base course	CY	7.50	110	825	--	--	--	--
Leveling course	CY	8.50	44	374	--	--	--	--
Guardrail	LF	7.00	120	840	--	--	--	--
Total Access Road				**$3,361**				
Parking Area								
Excavation	CY	1.00	1,490	1,490	--	--	--	--
Base course	CY	7.50	409	3,068	--	--	--	--
Leveling course	CY	8.50	164	1,394	--	--	--	--
Asphalt paving	SY	1.70	--	--	--	3,666	6,232	--
Wheel stops	LF	5.00	750	3,750*	--	--	--	--
Total Parking Area				**$9,702**			**$6,232**	
Picnic Area								
Excavation	CY	1.25	1,515	1,894				
Riprap	CY	8.00	1,610	12,880**				
Dryland grass	Acre	1,000.00	0.7	700	--	--	--	--
Trees	Each	34.00	--	--	--	25	850	--
Shrubs	Each	11.00	--	--	--	50	550	--
Picnic shelters	Each	5,300.00	--	--	--	1	5,300	--
Irrigation system	Acre	2,500.00	--	--	--	1	2,500	--
Vault toilets	Each	1,500.00	2	3,000	--	--	--	--
Total Picnic Area				**$18,474**			**$9,200**	
Ramp and docks								
Embankment	CY	$1.00	1,109	1,109*	--	--	--	--
Launching ramp	Job	2,500.00	1	2,500*	--	--	--	--
Handling dock	Job	10,000.00	1	10,000	--	--	--	--
Tie-up dock	Job	7,000.00	--	--	--	1	$7,000	--
Total Ramp and Docks				**$13,609**			**$7,000**	
Signs								
Entrance	Each	500.00	1	500	--	--	--	--
Directional	Each	100.00	2	200**	--	--	--	--
Total Signs				**$700**				
Sub-Total				**$45,846**			**$22,432**	
Contingencies (12%)				**6,877**		**Contingencies (25%)**	**5,608**	
Total				**$52,723**			**$28,040**	
Called				**$53,000**			**$28,000**	

*Work already completed.
**Not in feature DM.

Table 15-3
Wawawai Bay (68 Acres)
Price Level 1 July 1973

Item	Unit	Unit Price	Initial Development			Future Development		
			Quantity	Corps	Non-Corps	Quantity	Corps	Non-Corps
Access Road								
Excavation	CY	$3.00	482	$1,446	--	--	--	--
Base course	CY	7.50	339	2,543	--	--	--	--
Leveling course	CY	8.50	130	1,105	--	--	--	--
1½-inch asphaltic concrete paving	SY	1.70	--	--	--	2,444	$4,155	
Total Access Road				**$5,094**			**$4,155**	
Parking Area								
Excavation	CY	3.00	300	900	--	--	--	--
Base course	CY	7.50	255	1,913	--	--	--	--
Top course	CY	8.50	100	850	--	--	--	--
1½-inch asphaltic concrete paving	SY	1.70	--	--	--	2,400	4,080	--
Total Parking Area				**$3,663**			**$4,080**	
Picnicking Area								
Excavation	CY	3.00	300	900	--	--	--	--
Picnic unit	Each	350.00	10	3,500	--	10	--	$3,500
Picnic shelters	Each	3,300.00	2	6,600	--	--	--	--
Vault-type toilet	Each	1,500.00	2	3,000	--	--	--	--
Flush-type toilet	Each		--	--	--	1	--	45,000
Total Picnicking Area				**$14,000**				**$48,500**
Group Picnic Area								
Tot-Lot and paths	Job	$1.00	1	$14,000	--	1	--	$4,400
Excavation	CY		460	460	--	--	--	--
Fire circle (with amphitheatre)	Job		1	10,000				
Fire circle	Job		1	1,000	--	--	--	--
Vault toilets	Each	1,500.00	1	1,500	--	--	--	--
Museum building	Job		--	--	--	1	--	50,000
Total Group Picnic Area				**$26,960**				**$54,400**
Landscaping								
Trees	Each	$34.00	125.0	4,250	--	60	1,020	1,020
Shrubs	Each	11.00	250.0	2,750	--	100	550	550
Dryland grass	Acre	1,000.00	5.3	5,300	--	--	--	--
Total Landscaping				**$12,300**			**$1,570**	**$1,570**
Water Supply								
Irrigation system	Job			$21,200	--	--	$4,000	--
Distribution lines	Job			8,000	--	--	--	$2,000
Storage tank and well	Job		1 1	8,500	--	--	--	--
Pumphouse	Each	$6,000.00	1	6,000	--	--	--	--
Total Water Supply				**$43,700**			**$4,000**	**$2,000**

Overnight Camping Area								
Excavation	CY	$3.00	800	$2,440	--	200	--	$600.00
Base course	CY	7.50	485	3,638	--	10	--	75.00
Leveling course	CY	8.50	200	1,700	--	5	--	42.00
Asphaltic concrete pavement	SY	1.70	--	--	--	4,100	$6,970	--
Total Overnight Camping Area				**$7,738**			**$6,970**	**$717.00**
Restrooms								
Vault-type toilet	Each	$1,500.00	2	$3,000	--	--	--	--
Flush-type toilet	Each	45,000.00	--	--	--	1	$45,000	--
Total Restrooms				**$3,000**			**$45,000**	
Signs								
Entrance	Each	$500.00	1	$500	--	--	--	--
Directional	Each	100.00	10	1,000	--	3	--	$300.00
Total Signs				**$1,500**				**$300.00**
Lighting								
Camp hookups	Each	$1,000.00	10	$10,000	--	4	$4,000	--
Area lighting	Job			20,000	--		7,000	$2,000.00
Total Lighting				**$30,000**			**$11,000**	**$2,000**
Sub-Total				**$147,955**	**--**	**Contingencies (25%)**	**$76,775**	**$109,487**
Contingencies (12%)				**17,755**	**--**		**19,144**	**27,372**
Total				**$165,710**	**--**		**$95,969**	**$136,859**
Called				**$166,000**	**--**		**96,000**	**$137,000**

Note for Wawawai Bay Estimate:

All work at this site is over and above the $5,444,000 approved cost for total recreation development at Lower Granite. The Wilma site has been deleted from the program, which frees $33,000 for use toward the Wawawai Bay work.

Table 15-4
Wawawai Landing (2.6 Acres)
Price Level 1 July 1973

			Initial Development			Future Development		
Item	**Unit**	**Unit Price**	**Quantity**	**Corps**	**Non-Corps**	**Quantity**	**Corps**	**Non-Corps**
Parking Area								
Leveling course	CY	$8.00	706	$5,648*	--	--	--	--
Asphalt paving	SY	1.70	--	--	--	5,000	$8,500	--
Wheel stops	LF	5.00	1,400	7,000**	--	--	--	--
Total Parking Area				**$12,648**			**$8,500**	
Picnic Area								
Dryland grass	Acre	$1,000.00	1.6	$1,600*	--	.5	500	--
Trees	Each	34.00	--	--	--	50	1,700	--
Shrubs	Each	8.00	--	--	--	200	1,600	--
Irrigation	Acre	2,500.00	--	--	--	1.6	4,000	--
Vault toilets	Each	1,500.00	2	3,000	--	--	--	--
Topsoil	CY	2.00	1,074	2,148**	--	314	628	--
Shade shelters	Each	5,300.00	--	--	--	2	10,600	--
Total Picnic Area				**$12,500**			**$9,500**	
Boating Area								
Paving ramp	Job	$2,500.00	1	$2,500	--	1	$2,500	
Handling dock	Each	10,000.00	1	10,000	--	--	--	
Tie-up dock	Each		--	--	--	1	7,000	
Total Boating Area				**$12,500**			**$9,500**	
Beach Area								
Sand	CY	$5.00	600	$3,000**	--	--	--	--
Grading	CY	1.00	916	916**	--	--	--	--
Total Beach Area				**$3,916**				
Signs								
Entrance	Each	$500.00	1	$500	--	--	--	--
Directional	Each	100.00	2	200**	--	--	--	--
Total Signs				**$700**				
Sub-Total				**$36,512**			**$37,028**	
Contingencies (12%)				**4,381**	**Contingencies (25%)**		**9,257**	
Total				**$40,893**			**$46,285**	
Called				**$40,000**			**$46,500**	

*Adjusted from Feature DM.
**Not in Feature DM.

Table 15-5
Knoxway Bay (7 Acres)
Price Level 1 July 1973

Item	Unit	Unit Price	Initial Development			Future Development		
			Quantity	Corps	Non-Corps	Quantity	Corps	Non-Corps
Boating Area								
Excavation	CY	$12.00	365	$4,380	--	--	--	--
Tie-up dock	Each	14,000.00	1	14,000	--	--	--	--
Total Boating Area				**$18,380**				
Picnic Area								
Vault toilet	Each	$1,750.00	1	$1,750	--	--	--	--
Picnic shelter	Each	5,300.00	--	--	--	2	$10,600	--
Fencing	LF	2.00	400	800**	--	--	--	--
Cattle guard	Job		1	1,500**	--	--	--	--
Trees	Each	35.00	--	--	--	34	1,190	--
Shrubs	Each	11.00	--	--	--	20	220	--
Dryland grass	Acre	1,000.00	--	--	--	7	7,000	--
Irrigation system	Acre	2,500.00	--	--D	--	1	2,500	--
Total Picnic Area				**$4,050**			**$21,510**	
Foot Trail								
Embankment	CY	$4.00	96	$384	--	--	--	--
Excavation	CY	12.00	293	3,516	--	--	--	--
Total Foot Trail				**$3,900**				
Signs								
Entrance	Each	$500.00	1	$500*	--	--	--	--
Directional	Each	100.00	3	300**	--	--	--	--
Total Signs				**$800**				
Sub-Total				**$27,130**			**$21,510**	
Contingencies (12%)				**3,255**	**Contingencies (25%)**		**5,378**	
Total				**$30,385**			**$26,888**	
Called				**$30,500**			**$27,000*** **	

*Adjusted from Feature DM.
**Not in Feature DM.
***Illustrates total level of potential future development. Non-Federal cost-sharing on this small site (as per implementation of Public Law 89-72) is doubtful.

Table 15-6
Blyton Landing (3.4 Acres)
Price Level 1 July 1973

Item	Unit	Unit Price	Initial Development Quantity	Initial Development Corps	Initial Development Non-Corps	Future Development Quantity	Future Development Corps	Future Development Non-Corps
Parking Area								
Excavation	CY	$3.00	91	$273	--	--	--	--
Embankment	CY	2.00	655	1,310	--	--	--	--
Leveling course	CY	8.50	468	3,978*	--	--	--	--
Asphaltic concrete paving	SY	1.70	--	--	--	3,111	$5,288	--
Wheel stops	LF	5.00	550	2,750**	--	--	--	--
Total Parking Area				**$8,311**			**$5,288**	
Picnic Area								
Topsoil	CY	$2.00	1,462	$2,924**	--	1,203	$2,406	--
Vault toilets	Each	1,500.00	2	3,000	--	--	--	--
Dryland grass	Acre	1,000.00	1.7	1,700*	--	1.7	1,700	--
Irrigation system	Acre	2,500.00	--	--	--	3.4	8,500	--
Picnic shelters	Each	5,300.00	--	--	--	3	15,900	--
Trees	Each	34.00	--	--	--	50	1,700	--
Shrubs	Each	11.00	--	--	--	100	1,100	--
Total Picnic Area				**$7,624**			**$31,306**	
Boating Area								
Ramp paving	Each	$2,250.00	1	$2,250	--	1	$2,250	--
Handling dock	Each	10,000.00	1	10,000	--	--	--	--
Tie-up dock	Each	7,000.00	1	--	--	1	7,000	--
Total Boating Area				**$12,250**			**$9,250**	
Beach Area								
Buoys	Job			$1,000	--	--	--	--
Beach sand	CY	$5.00	218	1,090**	--	--	--	--
Excavation	CY	1.00	666	666**	--	--	--	--
Total Beach Area				**$2,756**				
Signs								
Entrance	Each	$500.00	1	$500**	--	--	--	--
Directional	Each	100.00	5	500	--	--	--	--
Total Signs				**$1,000**				
Sub-Total				**$31,041**			**$45,844**	
Contingencies (12%)				**3,724**		**Contingencies (25%)**	**11,461**	
Total				**$34,765**			**$57,305**	
Called				**$35,000**			**$58,000**	

*Adjusted from Feature DM.
**Not in Feature DM.

Table 15-7
Sugarloaf Landing (8.3 Acres)
Price Level 1 July 1973

			Initial Development			Future Development		
Item	**Unit**	**Unit Price**	**Quantity**	**Corps**	**Non-Corps**	**Quantity**	**Corps**	**Non-Corps**
Parking Area								
Leveling course	Acre	$7.50	496	$3,720*	--	--	--	--
Wheel stops	LF	5.00	2,200	11,000**	--	--	--	--
Asphalt paving	SY	1.70	--	--	--	4,222	$7,177	--
Total Parking Area				**$14,720**			**$7,177**	
Picnic Area								
Vault toilets	Each	$1,500.00	2	$3,000	--	--	--	--
Dryland grass	Acre	1,000.00	4	4,000	--	1.4	$1,400	--
Topsoiling	CY	2.00	3,240	6,480**	--	1,092	2,184	--
Trees	Each	34.00	--	--	--	60	2,040	
Shrubs	Each	11.00	--	--	--	30	330	--
Picnic shelters	Each	5,300.00	--	--	--	3	15,900	--
Irrigation system	Acre	2,500.00	--	--	--	8	20,000	--
Total Picnic Area				**$13,480**			**$41,454**	
Boating Area								
Launching ramp	Job	$2,250	1	$2,250	--	1	$2,250	
Handling docks	Job	10,000	1	10,000				
Tie-up docks	Job	7,000	--	--	--	1	7,000	
Total Boating Area				**$12,250**			**$9,250**	
Beach Area								
Excavation	CY	$1.00	2,000	$2,000**	--	--	--	--
Sand	CY	5.00	333	1,665**	--	--	--	--
Total Beach Area				**$3,665**				
Signs								
Entrance	Each	$500.00	1	$500	--	--	--	--
Directional	Each	100.00	5	500**	--	--	--	--
Total Signs				**$1,000**				
Sub-Total				**$45,115**			**$57,692**	
Contingencies (12%)				**5,413**	**Contingencies (25%)**		**14,420**	
Total				**$50,528**			**$72,112**	
Called				**$51,000**			**$72,000**	

*Adjusted from Feature DM.
**Not in Feature DM.

Table 15-8
Chief Timothy Park (143 Acres)
Price Level 1 July 1973

Item	Unit	Unit Price	Initial Development			Future Development		
			Quan	Corps	Non-Corps	Quantity	Corps	Non-Corps
Access Road								
Excavation	CY	$.90	6,300	$5,670	--	1,000	$450	$450
Embankment	CY	.45	4,345	1,955	--	200	45	45
Base course	CY	6.50	1,360	8,840	--	300	975	975
Top course	CY	7.00	610	4,270	--	100	350	350
1½-inch asphaltic concrete paving	SY	1.70	6,510	11,067	--	1,500	1,275	1,275
Guard rail	LF	5.50	1,000	5,500	--	--	--	--
Total Access Road				**$37,302**			**$3,095**	**$3,095**
Causeway								
Embankment	CY	$.45	17,760	$7,792	--	--	--	--
Bridge	Job		1	261,000	--	--	--	--
Riprap	CY	8.00	2,166	17,328	--	--	--	--
Total Causeway				**$286,320**				
Entrance Facilities with Dump Station								
Embankment	CY	$.45	4,815	$2,167	--	--	--	--
Base course	CY	6.50	385	2,503	--	--	--	--
Top course	CY	7.00	155	1,085	--	--	--	--
1½-inch asphaltic concrete paving	SY	1.70	2,215	3,766	--	--	--	--
Concrete curb	LF	4.50	200	900	--	--	--	--
Water supply	Each	490.00	1	490	--	--	--	--
Sewage disposal	Each	2,200.00	1	2,200	--	--	--	--
Total Entrance Facilities				**$13,111**				
Parking Areas								
Excavation	CY	$.90	7,380	$6,642	--	3,000	$1,350	$1,350
Embankment	CY	.45	1,920	864	--	500	112	112
Base course	CY	6.50	1,685	10,953	--	400	1,300	1,300
Top course	LF	4.50	1,610	7,245	--	250	563	563
1½-inch asphaltic concrete paving	CY	7.00	850	5,950	--	2,500	8,750	8,750
Concrete curb	SY	1.70	9,680	16,456	--	1,000	850	850
Total Parking Areas				**$48,110**			**$12,925**	**$12,925**
Picnicking and Swimming Area*								
Embankment	CY		3,485	$1,568	--	--	--	--
Beach sand	CY	$.45	1,655	8,275	--	--	--	--
Lawn grass	Acre	5.00	3.7	4,070	--	3	$3,300	--
Irrigation	Acre	1,100.00	3.7	14,800	--	3	12,000	--
Playground equipment	Job	4,000.00	1	10,000	--	1	--	$5,000
Picnic units	Each		60	20,100	--	50	8,375	8,375
Picnic shelters	Each	335.00	8	40,000	--	6	30,000	--
Sewage disposal	Job	5,000.00	1	8,800	--	1		8,800
Comfort stations	Job		1	45,000	--	1	--	45,000
Water supply	Job		1	2,270	--	1	2,270	--
Total Picnicking and Swimming Area				**$154,883**			**$55,945**	**$67,175**
Boating Area								
Total Boating Area				**$77,842**				
Camping Area								
Total Camping Area				**$420,609**				
Pumphouse								
Total Pumphouse				**$62,000**				

Landscaping								
Total Landscaping				**$49,028**				**$18,200**
Signs								
Major	Each	$2,500.00	1	$2,500	--	--	--	--
Minor	Each	500.00	10	5,000	--	--	--	--
Total Signs				**$7,500**				
Area Lighting	Job		1	$5,000	--	--	--	--
Total Area Lighting				**$5,000**				
Visitor Area								
Total Visitor Area					**$25,000**		**$216,000**	**$381,000**
Sub-Total				**$1,161,805**	**$25,000**	**Contingencies**	**$287,965**	**$482,395**
Contingencies (12%)				**139,416**	**3,000**	**(25%)**	**71,991**	**120,598**
Total				**$1,301,221**	**$28,000**		**$359,956**	**$602,993**
Called				**$1,300,000**	**$28,000**		**$360,000**	**$603,000**

*Much of the grading in this area is not shown in the listing. It is being done for water quality purposes and charged to Feature 03, Reservoir. The estimate for such grading totals $351,000.

Table 15-9
Swallows Park and Marina (64 Acres)
Price Level 1 July 1973

			Initial Development			Future Development		
Item	**Unit**	**Unit Price**	**Quantity**	**Corps**	**Non-Corps**	**Quantity**	**Corps**	**Non-Corps**
Earthwork								
Excavation	CY	$.75	386,000	$289,500	--	--	--	--
Embankment	CY	.40	328,000	131,200	--	--	--	--
Total Earthwork				**$420,700**				
Slope Protection								
Riprap	C.Y.	$8.75	42,000	$36,750	--	--	--	--
Gravel	C.Y.	1.50	29,700	44,550	--	--	--	--
Rock fill	C.Y.	5.50	8,750	48,125	--	--	--	--
Sand	C.Y.	4.50	4,000	18,000	--	--	--	--
Total Slope Protection				**$147,425**				
A.C. Paving								
Roads - new	S.Y.	$3.30	4,700	$15,510	--	--	--	--
Pathways - (new 6")	L.F.	2.50	4,500	11,250	--	--	--	--
Parking areas	S.Y.	3.80	21,000	79,800	--	$27,000	$51,300	$51,300
Launching ramp	S.Y.	4.75	800	3,800	--	3,200	7,600	7,600
Total A.C. Paving				**$110,360**			**$58,900**	**$58,900**
Landscaping								
Trees	Each	$50.00	440	$22,000	--	100	12,500	12,500
Shrubs	Each	20.00	500	10,000	--	100	20,000	20,000
Lawn	Ac.	3,500.00	11	38,500	--	--	--	--
Dryland seeding	Ac.	900.00	18	16,200	--	--	--	--
Total Landscaping				**$86,700**			**$32,500**	**$32,500**
Park Buildings								
Comfort station	L.S.	$25,000.00	2	$50,000	--	--	--	--
Comfort station	L.S	50,000.00	1	50,000	--	--	--	--
Picnic units	Each	550.00	20	11,000	--	15	--	$8,250
Picnic shelters (group)	Each	4,500.00	2	9,000	--	2	$9,000	--
Maintenance bldg.	L.S.	30,000.00	1	30,000	--	--	--	--
Total Park Buildings				**$150,000**			**$9,000**	**$8,250**
Utilities								
Water system	Job	$22,000	1	$22,000	--	--	--	--
Sanitary sewers	Job	25,000	1	25,000	--	1	20,000	--
Electrical dist. & lights	Job	66,200	1	66,200	--	--	10,000	--
Irrigation	Job	65,000	1	65,000	--	--	--	--
Storm drainage	Job	18,600	1	18,600	--	--	--	--
Total Utilities				**$196,800**			**$30,000**	
Floats, Docks, and Concession Buildings								
Launch ramp	Each	$9,000.00	2	$18,000	--	4	$18,000	$18,000
Tie-up	S.F.	20.00	1,000	20,000	--	500	5,000	5,000
Dry storage		1,500.00			--	130	--	225,000
Handling dock		10,000.00			--	2	20,000	--
Motel, restaurant, *etc.*	Each	L.S.	--	--	--	--	--	225,000
Total Floats, Docks, and Concession Buildings				**$38,000**			**$43,000**	**$473,000**

Moorage Docks								
1-24-40' Boats	Each	$2,298	1	--	$55,125	--	--	--
2-32-30' Boats	Each	2,298	1	--	73,536	--	--	--
3-34-30' Boats	Each	2,298	1	--	78,132	--	--	--
4-24-40' Boats								
20'	Each	2,298	--	--	--	6	--	$330,912
Total Moorage Docks				**$206,793**			**$330,912**	
Sub-Total				**$1,149,985**	**$206,793**	**Cont.**	**$173,400**	**$903,562**
Contingencies (12%)				**138,015**	**24,815**	**(25%)**	**43,350**	**226,405**
Total				**$1,228,000**	**$231,608**		**$216,750**	**$1,129,967**
Called				**$1,228,000**	**$232,000**		**$217,000**	**$1,130,000**

Table 15-10
Chief Looking Glass Park (17 Acres)
Price Level 1 July 1973

			Initial Development			Future Development		
Item	**Unit**	**Unit Price**	**Quantity**	**Corps**	**Non-Corps**	**Quantity**	**Corps**	**Non-Corps**
Excavation	C.Y.	$1.00	18,400	$18,400	--	--	--	--
Embankment	C.Y.	.60	20,100	12,060	--	--	--	--
Topsoil	C.Y.	3.50	4,900	17,150	--	--	--	--
Beach gravel	C.Y.	6.50	1,700	11,050	--	--	--	--
Base course	C.Y.	8.00	1,000	8,000	--	--	--	--
Top course	C.Y.	8.50	500	4,250	--	156	$1,326	--
Double bituminous paving	S.W.	1.00	5,900	5,900	--	--	--	--
Stripe painting	L.F.	.20	2,100	420	--	--	--	--
Boat ramp	S.Y.	10.00	150	1,500	--	150	--	1,500
Dock	Each	5,000.00	1	--	$5,000	--	--	--
Pipe trenching and backfill	C.Y.	5.00	400	2,000	--	--	--	--
6-inch sanitary sewer	L.F.	12.00	165	1,980	--	--	--	--
10-inch storm drain	L.F.	8.00	185	1,480	--	--	--	--
Sanitary manhole	Job	L.S.	1	600	--	--	--	--
Storm drain manhole	Job	L.S.	1	600	--	--	--	--
Underground sprinklers	Job	L.S.	1	15,000	--	--	--	--
Playground equipment	Job		1	5,400	--	--	--	6,00
Restroom/changehouse	Job		1		44,000	--	--	--
Comfort station	Job		1	44,000				
Tie-up docks	Job		--	--	--	1	3,000	--
Moorage docks	Job		1	--	--	--	--	8,000
Trees	Each	34.00	51	--	1,734	30	--	1,020
Shrubs	Each	11.00	80	--	880	--	--	--
Grass	Acre	1,000.00	3.75	--	3,750	--	--	--
Irrigation system	Acre	4,000.00	--	--	--	3.7	14,800	--
Hiking trails and bridges	L.S.		--	--	--	--	1,000	3,000
Asphaltic concrete paving	S.Y.	1.70	--	--	--	1,073	1,824	--
Tennis court	Job		--	--	--			4,000
Wildlife interpretation	Job		--	--	5,350		1,500	--
		Sub-Total		**$149,790**	**$60,714**	**Conting.**	**$23,450**	**$23,520**
		Contingencies 12%		**17,975**	**7,286**	**25%**	**5,862**	**5,880**
		Total		**$167,765**	**$68,000**		**$29,312**	**$29,400**
		Called		**$167,000**	**$68,000**		**$29,000**	**$29,000**

Table 15-11
Hells Gate State Recreation Area (960 Acres)
Price Level 1 July 1973

Item	Unit	Unit Price	Initial Development			Future Development		
			Quantity	Corps	Non-Corps	Quantity	Corps	Non-Corps
Access Roads								
Excavation	C.Y.	$1.00	57,000	$57,000	--	20,000	$20,000	--
Embankment	C.Y.	.75	7,200	5,400	--	4,000	3,000	--
Base Course, 6"	C.Y.	5.00	4,600	23,000	--	2,000	10,000	--
Top course, 3"	C.Y.	6.00	2,200	13,200	--	1,000	6,000	--
Surface, double bituminous	S.Y.	1.25	29,200	36,500	--	12,000	15,000	--
Culvert, 84", CSP, 10-gallon	L.F.	115.00	240	27,600	--	--	--	--
Culvert, 24", CSP, 16-gallon	L.F.	18.00	240	4,320	--	100	1,800	--
Striping	L.F.	.15	7,725	1,159	--	3,000	450	--
Total Access Roads				**$168,179**			**$56,250**	
Parking Areas								
Grading	C.Y.	$1.00	175,000	$175,000	--	2,500	$2,500	--
Base course, 6"	C.Y.	5.00	6,300	31,500	--	600	3,000	--
Top course, 3"	C.Y.	6.00	3,100	18,600	--	300	1,800	--
Surface, double bituminous	S.Y.	1.25	37,800	47,250	--	1,200	1,500	--
Concrete curb	L.F.	1.35	12,500	16,875	--	1,000	1,350	--
Striping	L.F.	.15	13,000	1,950	--	4,000	600	--
Trees	Each	34.00	200	6,800	--	--	--	--
Shrubs	Each	11.00	275	3,025	--	--	--	--
Lawn grass	Acre	1,500.00	0.2	300	--	--	--	--
Footbridge	Job		1	300	--	--	--	--
Total Parking Areas				**$301,600**			**$10,750**	
Picnicking and Swimming Areas								
Excavation	C.Y.	$1.00	222,800	$222,800	--			--
Embankment	C.Y.	.75	20,000	15,000	--	--	--	--
Beach sand	C.Y.	5.00	2,400	12,000	--	2,400	$12,000	--
Beach gravel, ¼"	C.Y.	5.50	14,300	78,650	--	5,000	27,500	--
Lawn grass	Acre	1,000.00	10	10,000	--	1,000	--	$10,000
Footbridge	Job		1	15,000	--	--	--	--
Diving dock	Job		1	2,500	--	2	2,500	2,500
Playground equipment	Job		1	10,000	--	--	--	--
Picnic shelters	Each	5,300.00	5	26,500	--	5	--	26,500
Floating marker line	Job		1	5,000	--	1	--	5,000
Picnic tables	Each	210.00	55	11,550	--	55	--	11,550
Fire circle	Each	2,750.00	1	2,750	--	1	2,750	--
Fireplace	Each	75.00	30	2,250	--	30	--	2,250
Garbage can	Each	50.00	30	1,500	--	30	--	1,500
Trees	Each	34.00	250	8,500	--	200	3,400	3,400
Shrubs	Each	11.00	350	3,850	--	100	--	1,100
Wood corral fence	L.F.	3.50	290	1,015	--	--	--	--
Concrete curb	L.F.	1.35	800	1,080	--	300	405	--
Group center	Job		1	40,000	--	--	--	40,000
Fence	L.F.	8.00	700	5,600	--	--	--	--
Total Picnicking and Swimming Areas				**$475,545**			**$48,555**	**$103,300**
Boating Area								
Launching ramp lanes	Each	$10,000.00	4	$40,000	--	4	$20,000	$20,000
Handling docks	Each	3,500.00	2	7,000	--	3	5,250	5,250
Move tie-up docks	Job		1	7,000	--	--	--	--
Gravel fill	C.Y.	.75	24,500	18,375	--	--	--	--
Riprap	C.Y.	4.50	2,300	10,350	--	--	--	--
Rock fill	C.Y.	2.50	1,000	2,500	--	--	--	--
Marina docks	Job		1		80,000	1		100,000
Concession facilities	Job		1		25,000	1	--	40,000
Total Boating Area				**$85,225**	**$105,000**		**$25,250**	**$165,250**

Camping Area								
Excavation	C.Y.	$1.00	4,700	$4,700	--	8,000	$4,000	$4,000
Embankment	C.Y.	1.00	4,800	4,800	--	7,000	3,500	3,500
Base course, 6"	C.Y.	5.00	3,400	17,000	--	5,600	14,000	14,000
Top course, 3"	C.Y.	6.00	1,800	10,800	--	2,800	8,400	8,400
Surface, double bituminous	S.F.	1.25	12,700	15,875	--	20,000	12,500	12,500
Camp units-hookups	Each	1,530.00	62	94,860	--	150	114,750	114,750
Lawn grass	Acre	1,000.00	8.5	8,500	--	12	6,000	6,000
Trees	Each	34.00	175	5,950	--	150	--	5,100
Shrubs	Each	11.00	420	4,620	--	450	--	4,950
Concrete curbs	L.F.	1.35	720	972	--	1,000	1,350	--
Camp units without hookups	Each	700.00	29	20,300	--	100	--	70,000
Total Camping Area				**$188,377**			**$164,500**	**$243,200**
Comfort Stations								
35 PB	Each	$55,000.00	1	$55,000	--	5	$110,000	$165,000
35 SD-S	Each	60,000.00	1	60,000	--			
23 SD-S	Each	45,000.00	3	135,000	--	1	45,000	--
Total Comfort Stations				**$250,000**			**$155,000**	**$165,000**
Interpretive and Information Center								
I/I Center	Job		1	$100,000	$5,000			$10,000
Total Interpretive and Information Center				**$100,000**	**$5,000**			**$10,000**
Park Area								
Large signs	Each	$4,600.00	1	$4,600	--	1	$4,600	--
Small signs	Each	210.00	25	5,250	--	20	2,100	2,100
Dryland grass	Acre	350.00	42	14,700	--	60	10,000	11,000
Topsoil spreading	C.Y.	1.75	40,000	70,000	--	--	--	--
Sanitary dump station	Job		1	850	--	--	--	--
Irrigation system	Job		1	165,000	--	1	90,000	90,000
Domestic water	Job		1	122,300	--	1	20,000	20,000
Sewage disposal	Job		1	232,000	--	1	48,000	50,000
Electrical system	Job		1	156,750	--	1	18,000	22,000
Total Park Area				**$771,450**			**$192,700**	**$195,100**
Bridle Trail - 4-Foot-Wide								
Grading with truck access	C.Y.	$.25	13,300	$3,325	--	--	--	--
Leveling course with truck access	C.Y.	20.00	280	5,600	--	--	--	--
Leveling course without truck access	C.Y.	50.00	230	11,500	--	--	--	--
Foot Trail - 6-Foot-Wide								
Grading	C.Y.	$.50	14,400	$7,200	--	3,000	--	$1,500
Leveling course	C.Y.	25.00	550	13,750	--	150	--	3,750
Asphaltic concrete paving, 1½"	S.Y.	4.00	5,700	22,800	--	1,500	--	6,000
Total Bridle and Foot Trails				**$64,175**		**$4,650**		**$11,250**
Maintenance Area								
Main Building, 1,500 S.F.	Job		1	$60,000	$10,000	--	--	--
Paint/lube bldg, 1,300 S.F.	Job		1	6,000	2,000	--	--	--
Security fence, 6'	L.F.	$5.00	540	2,700				
Gate, 20', double	Each		1	350	--	--	--	--
Paved parking area	S.Y.	350.00	2,100	7,350	--	--	--	--
Kiosk building	Job	3.50	1	5,000	--	--	--	--
Total Maintenance Area				**$81,400**	**$12,000**			

Levee Trail System (Cost Account 11)								
Top course	C.Y.	$8.00	500	$4,000	--	--	--	--
Asphaltic concrete, 1½"	S.Y.	2.00	7,000	14,000	--	--	--	--
Total Levee Trail System				**$18,000**[1]				
Sub-Total				**$2,503,951**	**$122,000**	**Contin.**	**$653,005**	**$893,100**
Contingencies 12%				**300,474**	**14,640**	**25%**	**163,251**	**223,275**
Total				**$2,804,425**	**$136,640**		**$816,256**	**$1,116,375**
Called				**$2,804,000**	**$137,000**		**$816,000**	**$1,116,000**

[1]This figure plus 12 percent contingencies equals $20,000

Table 15-12
Clearwater Park (14.6 Acres)
Price Level 1 July 1973

			Initial Development			Future Development		
Item	**Unit**	**Unit Price**	**Quantity**	**Corps**	**Non-Corps**	**Quantity**	**Corps**	**Non-Corps**
Parking Area, 130 cars								
Base course	C.Y.	$7.50	216	$1,620	--	--	--	--
Leveling crse, 3"	C.Y.	8.50	216	1,836	--	--	--	--
1½ A.C. paving	S.Y.	1.70	2,600	4,420	--	--	--	--
Wheel stops	L.F.	2.00	1,170	2,340	--	--	--	--
Total Parking Area				**$10,216**				
Landscaping								
Irrigation	Acre	$4,000.00	8	$32,000	--	--	--	--
Lawn grass	Acre	1,100.00	8	8,800	--	--	--	--
Trees	Each	34.00	176	5,984	--	--	--	--
Shrubs	Each	11.00	300	3,300	--	--	--	--
Top soil	C.Y.	2.00	7,750	15,500	--	--	--	--
Total Landscaping				**$49,000**				
Restrooms & Stairs								
Restrooms	Job		1	$45,000	--	--	--	--
Stairs/Ramps	Each	$500.00	8	4,000	--	--	--	--
Total Restrooms & Stairs				**$49,000**				
Lighting								
Ballfields	Job		1		$60,000	--	--	--
Area Lighting	Job			$5,000		--	--	--
Total Lighting				**$5,000**	**$60,000**			
Playground and Recreation								
Equipment	Job				$15,000	--	--	$25,000[1]
Bleachers					10,000	--	--	--
Total Equipment					**$25,000**			**$25,000**
Sub-Total				**$129,800**	**$85,000**	**Contingencies**		
Contingencies 12%				**15,575**	**10,200**	**25%**		**$6,250**
Total				**$145,375**	**$95,200**			**$31,250**
Called				**$15,575**	**$95,000**			**$31,000**

[1]Possible ice-skating facilities

Table 15-13
Southway Ramp and Clearwater Ramp
Price Level 1 July 1973

Item	Unit	Unit Price	Initial Development Quantity	Initial Development Corps	Initial Development Non-Corps	Future Development Quantity	Future Development Corps[1]	Future Development Non-Corps
Southway Ramp								
Ramp Area								
Base course	C.Y.	$7.80	20	$156	--	--	--	--
Leveling course	C.Y.	8.90	20	178	--	--	--	--
Concrete ramp	Job		1	2,870	--	--	--	--
Handling docks	Each	5,000.00	--	--	--	1	$5,000	--
Parking								
Base course	C.Y.	$7.50	177	$1,328	--	--	--	--
Leveling course	C.Y.	8.50	177	1,505	--	20	$170	--
½-inch asphaltic concrete paving	S.Y.	1.70	--	--	--	800	1,360	--
Signs and Trash Receptacles								
Receptacles	Job		1	$1,000	--	--	--	--
Sub-Total Southway Ramp				**$7,037**			**$6,530**	
Contingencies 12%				**844**	**Contingencies 25%**		**1,632**	
Total				**$7,881**			**$8,162**	
Called				**$8,000**			**$8,000**	
Clearwater Ramp								
Ramp Area								
Leveling course	C.Y.	$8,50	31	$264	--	--	--	--
Concrete ramp	Job		1	2,870	--	--	--	--
Handling docks	Each	5,000.00	--	--	--	1	$5,000	--
Car and Trailer Parking								
Leveling course	C.Y.	$8.50	416	$3,536	--	20	$170	--
1½-inch asphaltic concrete paving	S.Y.	1.70	--	--	--	800	1,360	--
Signs and Trash Receptacles								
Receptacles	Job		1	$1,000	--	--	--	--
Sub-Total Clearwater Ramp				**$7,670**			**$6,530**	
Contingencies 12%				**921**	**Contingencies 25%**		**1,632**	
Total				**$8,597**			**$8,162**	
Called				**$9,000**			**$8,000**	
Combined Totals - Both Areas				**$17,000**			**$16,000**	

[1]Future docks and paving to be charged to the Operations and Maintenance account.

Table 15-14
Operations and Maintenance Headquarters
Price Level 1 July 1973

			Initial Development			Future Development		
Item	**Unit**	**Unit Price**	**Quantity**	**Corps**	**Non-Corps**	**Quantity**	**Corps[1]**	**Non-Corps**
Parking and Launching Ramp[1]								
Base course	C.Y.	$7.50	49	$367	--	--	--	--
Leveling course	C.Y.	8.50	49	416	--	--	--	--
½-inch asphaltic concrete paving	S.Y.	1.70	2,597	4,414	--	--	--	--
Concrete ramp	Job		1	3,000	--	--	--	--
Sub-Total Parking and Launching Ramp				**$8,197**				
Contingencies 12%				**984**				
Total				**$9,181**				
Called				**$9,000**				

[1]All other features at the site, including the grading, operations building, employee parking, landscaping, and signs will be charged to Feature 20, *Permanent Operating Equipment*

SECTION 16 - CONCLUSIONS AND RECOMMENDATIONS

16.01. Conclusions

A concerted effort has been made toward formulation of a viable and effective plan for development and management of the Lower Granite reservoir, in such manner as to assure accrual of maximum public benefits on a continuing basis. This effort has extended over many months time, required numerous contacts and meetings with local interests and officials of local government, extensive site studies, assistance of A-E firms in DM studies, careful appraisal of the natural and manmade resources of the project, and examination of various environmental considerations. Weaknesses will undoubtedly be found in the plan - no claim is made to perfection. It is concluded, however, that implementation of the plan is warranted and will achieve realization of the objectives set forth in paragraph 1.03.

16.02. Recommendations

It is recommended that this Master Plan be approved, and that its proposals be implemented in an expeditious manner. Of the total $5,888,000 initial program, $5,444,000 are included in the currently approved budget, PB-2A, Lower Granite Project, dated 19 July 1973. It is recommended that the additional $444,000 ($288,000 for Swallows, $73,000 for Hells Gate, and $83,000 in other additive items footnoted in tables 2 through 7) be added to the project costs and processed for budgetary approval.

SUPPORTING DATA

The information assembled and furnished in this segment of the Master Plan consists of various statistical and tabulated data and detailed study backup information relevant to, and supportive of, the basic premises set forth in the master plan. It is presented in this manner to allow brevity in, and easy use of, the main report, while still having the back-up material readily available for field staff or others who may need it. Each item is numbered for easy reference and is self-explanatory.

Item 1 - Legislative History

The legislative history leading to authorization of Lower Granite Lock and Dam is lengthy, dating back to 1902, when the first formal proposal for the improvement of the lower Snake River was adopted by Congress. The Rivers and Harbors Acts of 1910 and 1935 authorized channel improvement along the Snake River, providing a channel dimension of 60-foot width and 5-foot depth. A synopsis of subsequent important legislation and related actions has been prepared to afford an understanding of events leading to the construction of Lower Granite Lock and Dam.

a. Rivers and Harbors Act of 1945.

Public Law 14, Seventy-Ninth Congress, First Session, authorized construction of four locks and dams at River Miles 4, 57, 93, and 135 on the Snake River, supplemented by open-channel improvement to provide a minimum depth of 5 feet over a bottom width of 150 feet outside the pools. The authorized plan was presented in the earlier House Document 704, Seventy-Fifth Congress, Third Session, which proposed that the open-river improvement be replaced by six locks and dams, when justified.

(1) Washington, D.C., Public Hearings.

Proponents of House Document 704 held a public hearing in Washington, D.C., in 1945, where they presented voluminous data in support of immediate slackwater navigation to Lewiston; and the economic consequences to the nation and the region which would be caused by any delay.

(2) Local Public Hearings.

At that time, local interests in general wanted the adoption of a comprehensive plan in the interest of navigation for the coordinated development of the Columbia and Snake Rivers, through a series of locks and dams from The Dalles, Oregon, to Lewiston, Idaho.

(3) Fishing Interests.

The fishery interests, in general, did no oppose the adoption of a comprehensive plan of improvement, but desired that further developments on the Columbia and Snake Rivers be held in abeyance until the effect on the fishing industry of Bonneville and Grand Coulee Dams was determined.

b. House Document 531.

At the request of Congress, the Corps of Engineers undertook a complete review of the original reports on the Columbia River and tributaries. Studies for that review were carried on during the last half of the 1940's, and resulted in House Document No. 531, Eighty-First Congress, Second Session, dated 20 March 1950. That report, which is the basis for much of the water resource development that has taken place in the Columbia River Basin during the past two decades, considered four lower Snake River dams at River Miles 9.7, 44.7, 72.2, and 113.1; and they became a part of the overall plan of development. In House Document 531, Lower Granite, at River Mile 113.1, had a reservoir elevation of 715.

c. House Document 403.

In 1955, Congress requested a view of House Document 531. That review was completed in 1958, adopted by Congress, and ordered to be printed as House Document 403 in May 1962. That review report again summarized the four lower Snake River dams, and proposed that the Lower Granite reservoir be raised form Elevation 715 to 735. Little Goose Design Memorandum No. 1, *Site Selection and Pool Determination*, was published 13 February 1961; and moved the Lower Granite Dam location downstream from River Mile 113.1 to River Mile 107.5.

d. Public Works Appropriation Act of 1962.

This law appropriated funds for the initiation of detailed planning of Lower Granite, based on the project described in House Document 403. This detailed planning led to the publication of Lower Granite Design Memorandum No. 2, *Upper Pool Determination*, dated 12 April 1963, which increased the reservoir level from Elevation 735 to 738.

e. Public Law 89-16, Dated 30 April 1965.

This legislation appropriated funds for the start of construction of a project at the head of the Little Goose pool, approximately 107.5 miles upstream from the mouth of the Snake River, with a reservoir at Elevation 738.

Item 2 - List of Design Memoranda

No.	Title	Cover Date
1	Hydrology	December 1963
2	Upper Pool Determination	12 April 1963
3	General Design Memorandum (4 Volumes)	
	Supplement 1 - Boundary Surveys and Marking	13 March 1964
4	Concrete Aggregate Investigations	21 January 1966
5.1	South Shore Access Road	18 November 1965
	Supplement 1 - Road Completion	13 November 1969
5.2	North Shore Access Road	10 December 1969
6	First-Step Cofferdam and Diversion Channel	5 April 1965
7	Resident Office Facilities	12 January 1966
8	Part 1 - Real Estate	3 November 1964
	Part 2 - Real Estate	30 June 1965
	Letter Supplement 1	29 September 1970
	Part 3 - Real Estate	8 July 1966
	Part 4 - Real Estate	27 October 1966
	Part 5 - Real Estate	1 December 1967
9.1	Grading and Drainage Camas Prairie Railroad Relocation Almota to Wawawai, and Damsite Shoofly	8 March 1965
9.2	Camas Prairie Railroad Relocations, including Supplement 1	9 August 1966
9.3	Clearwater Bridge, Camas Prairie Railroad	28 February 1967
	Supplement No. 1 - Preliminary Designs and Cost Estimates	February 1972
10	Permanent Operators' Quarters	6 June 1966
11	Deleted	
12	Relocation Whitman County Road No. 900	31 October 1966
	Supplement 1 - Design and Cost Revisions	23 November 1971
13	Nez Perce County Roads	21 December 1971
14	Washington State Route 12	24 March 1972
14.1	Washington State Route 129, Clarkston to Asotin	13 January 1972
15	Idaho State Highway	
16	Lewiston City Streets	
17	Deleted	
18.1	Deleted	
18.2	Utility Modifications, City of Clarkston	15 January 1971
18.3	Utility Modifications along the Snake and Clearwater Rivers	27 March 1972
18.4	Utility Modifications, City of Lewiston	11 May 1971
18.5	Utility Modifications, City of Asotin	15 July 1971
18.6	Clarkston Sewage Treatment Plant	12 June 1969
18.7	Relocation of Power and Telephone Facilities, RM 108 to RM 117	22 January 1970
18.8	Utility Modifications, RM 119 to RM 137	
18.9	Relocations of Hatwai Irrigation Pumping Plant	6 February 1973
19	Spillway	24 February 1966

20	Navigation Facilities	7 April 1966
	Supplement 1 - Miter Gate Operating Machinery	11 August 1966
	Supplement 2 - Stability Analysis, Upper Gate Bay Monolith No. 4	22 April 1968
21	Fish Facilities	16 December 1969
	Supplement 1 - Fish Ladder Revisions	
22	Concrete Non-Overflows	30 March 1966
23	Powerplant, Preliminary Design Report	November 1965
23.1	Powerplant, Architectural	
23.2	Powerplant, Structural	
23.3	Powerplant, Mechanical	
23.4	Powerplant, Electrical	
23.5	Powerplant, Control Equipment	
24	Foundation Grouting and Drainage	12 June 1967
25	Deleted	
26	North Abutment Embankment and Second-Step Cofferdam	21 January 1966
27	Domestic Water Supply System	29 April 1970
28A	Preliminary Master Plan	2 April 1965
	Preliminary Master Plan, Supplement #1	2 July 1971
28	Master Plan	
28.1	Part 1 - Temporary Marina, Tammany State Park	12 September 1972
	Part 2 - Recreation Facilities and Permanent Marina, Tammany Creek State Park	
28.2	Swallows Park and Marina	
28.3	Chief Looking Glass Park and Marina	
28.4	Chief Timothy State Park at Silcott; Wilma Site; Wawawai Site; and Offield Canyon Site	
29	Lewiston Levee Operation and Maintenance Facilities	3 December 1968
29.1	East Lewiston Levee	4 August 1972
29.2	West Lewiston Levee	28 April 1972
29.3	North Lewiston Levee	18 September 1970
29.4	Clarkston Levee	
29.5	Clarkston Bank Protection	14 July 1972
29.6	Concrete Aggregate Investigation Levee Area	13 July 1972
29.7	Levee Beautification	May 1972
29.8	Levee Instrumentation	26 February 1973
29.9	Washington Water Power Tailrace Plug Dike	13 June 1972
29.10	Modification, Clarkston Golf Course	11 April 1973
30	Aircraft Landing Strip	12 October 1965
31	Buildings, Landscaping, and Grounds	
32	Architectural Treatment	16 November 1965
33	Lake Clearing	
34	Debris Disposal Facilities	
35	Offield Bar Cemetery	14 February 1967
36	Isolated Burials at Silcott	11 September 1968
37	CPRR and State Route Realignment, Steptoe to Wilma	5 November 1970

38	Removal of Spillway, Washington water Power Company Dam	18 April 1972
39	Sedimentation Ranges, Lower Granite Lake	
40	Lake Gages	7 February 1973

Item 3 - Tabulated Climatic Data (Representative for Lower Granite Dam)

Temperature - °Fahrenheit														
Station	**Record**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual**
Climatological Element: Long-Term Mean														
Lewiston 2S[1]	56 years	30.0	37.0	42.2	50.3	58.3	65.1	73.3	71.3	63.2	51.3	39.5	35.2	51.4
Pomeroy[2]	59 years	31.7	35.9	42.5	50.0	56.5	62.1	69.5	67.9	61.2	51.7	40.2	54.9	50.5
Wawawai 2NW[3]	24 years	34.4	38.6	48.0	54.8	61.6	67.4	76.6	74.8	66.8	56.7	43.0	38.0	55.0
Climatological Element: Average Maximum														
Lewiston 2S	56 years	36.9	44.9	51.9	62.2	70.8	78.3	89.2	86.8	77.9	62.5	47.4	41.6	62.5
Pomeroy	53 years	38.8	43.5	52.2	61.4	68.8	76.1	86.8	85.7	75.4	63.8	48.9	40.8	61.9
Wawawai 2NW	16 years	41.3	47.0	56.7	67.5	75.7	81.4	92.1	90.6	81.6	67.5	50.2	44.2	66.3
Climatological Element: Average Minimum														
Lewiston 2S	56 years	23.0	29.0	32.5	38.4	45.7	51.9	57.4	55.8	48.5	40.0	31.6	28.7	40.2
Pomeroy	53 years	24.7	28.2	33.5	38.6	44.1	49.8	55.1	52.9	46.5	39.4	31.8	27.6	39.4
Wawawai 2NW	16 years	28.3	31.2	37.2	42.7	48.0	53.3	60.3	58.6	53.0	45.0	35.5	32.1	43.8
Climatological Element: Highest Recorded														
Lewiston 2S	56 years	66	65	76	87	96	102	117	115	103	85	71	60	117
Pomeroy	59 years	67	70	80	94	96	102	112	108	102	93	78	72	112
Wawawai 2NW	24 years	64	71	78	96	103	109	112	110	105	94	77	69	112
Climatological Element: Lowest Recorded														
Lewiston 2S	56 years	-22	-15	2	22	23	34	41	43	30	21	-3	-23	-23
Pomeroy	59 years	-24	-17	-4	11	27	31	31	33	23	5	-7	-16	-24
Wawawai 2NW	24 years	-10	-6	16	19	35	39	45	42	29	11	9	-2	-10

Precipitation - Inches														
Climatological Element: Long-Term Mean														
Lewiston 2S	56 years	1.15	.91	1.02	1.10	1.78	1.76	.49	.66	.83	1.19	1.24	1.15	13.28
Pomeroy	64 years	2.09	1.84	1.79	1.27	1.51	1.26	.42	.39	.92	1.35	2.13	2.19	17.06
Wawawai 2NW	21 years	2.28	1.87	2.12	1.23	1.35	1.83	.33	.23	1.05	1.75	2.32	2.68	18.74
Climatological Element: Maximum Year														
Lewiston 2S	1940	2.04	2.47	1.78	1.84	1.38	.25	.96	T	4.37	3.24	1.47	1.53	21.33
Pomeroy	1899	2.38	6.31	2.15	1.34	.87	.49	.01	2.32	1.32	2.08	4.53	2.09	25.89
Wawawai 2NW	1933	3.87	2.01	1.38	.65	1.28	.85	.39	.23	.64	3.24	1.74	7.52	23.80
Climatological Element: Minimum Year														
Lewiston 2S	1935	.55	.18	.84	1.73	.41	.67	.38	.15	.24	1.32	.63	1.30	8.40
Pomeroy	1922	1.30	.35	1.59	1.56	.37	.17	.25	.75	.25	.15	1.47	.19	8.40
Wawawai 2NW	1952	1.57	1.35	.96	.79	.79	2.84	.00	.00	.56	.00	.33	2.14	11.33
Climatological Element: Maximum Monthly														
Lewiston 2S	56 years	3.12	2.48	4.07	2.81	4.80	4.70	2.59	2.10	4.37	3.24	4.15	3.99	--
Pomeroy	64 years	6.13	6.31	4.27	3.07	3.95	4.38	1.80	2.32	4.71	4.56	5.50	5.48	--
Wawawai 2NW	21 years	7.31	3.94	5.48	2.83	5.00	4.40	1.49	.79	4.57	3.54	5.26	7.52	--
Climatological Element: Minimum Monthly														
Lewiston 2S	56 years	.27	.13	.30	.05	T	.13	T	.00	.04	.02	T	.20	--
Pomeroy	64 years	.49	.20	T	.09	T	.02	.00	.00	.00	.00	T	.19	--
Wawawai 2NW	21 years	.17	.32	.59	.38	.15	.22	.00	.00	.11	.00	.04	.34	--
Climatological Element: Maximum 24-Hour														
Lewiston 2S	72 years	1.40	0.99	2.34	0.93	1.65	1.39	1.87	1.45	1.54	0.91	1.27	1.06	2.34
Pomeroy	55 years	1.71	1.69	2.25	0.94	1.72	2.58	1.40	1.27	1.45	1.09	1.59	1.75	2.58
Wawawai 2NW	18 years	1.47	1.61	2.50	1.15	1.26	2.00	.80	.75	2.08	1.40	1.82	1.64	2.50

Snowfall - Inches														
Climatological Element: Long-Term Mean														
Lewiston 2S	50 years	5.9	3.2	.6	.1	0	0	0	0	T	T	.7	2.5	13.0
Pomeroy	44 years	7.8	5.6	2.4	.2	T	0	0	0	0	.2	2.2	4.7	23.1
Wawawai 2NW	17 years	2.4	1.5	.3	T	0	0	0	0	0	T	.2	1.6	6.0
Climatological Element: Maximum Year														
Lewiston 2S	1916	21.8	27.2	2.5	0	0	0	0	0	0	0	.4	9.0	60.9
Climatological Element: Minimum Year														
Lewiston 2S	1935	T	T	0	0	0	0	0	0	0	T	T	0	T
Climatological Element: Maximum Monthly														
Lewiston 2S	56 years	26.1	27.2	9.7	2.8	T	0	0	0	0	1.0	15.9	20.6	--
Wind Speed - Miles Per Hour														
Climatological Element: Prevailing Direction														
Lewiston 2S	30 years	E	E	E	E	E	E	E	E	E	E	E	E	E
Pomeroy	32 years	W	W	W	W	W	W	W	W	W	W	W	W	W
Kennewick[4]	35 years	SW	SW	SW	SW	SW	SW	SW	SW	W	SW	W	W	SW
Walla Walla[5]	45 years	S	S	S	S	S	S	S	S	S	S	S	S	S
Climatological Element: Average Speed														
[6]	73 years	7	7	8	9	9	8	8	8	8	7	6	6	7.6
Climatological Element: Highest Speed														
[6]	69 years	56	54	56	50	40	60	57	50	40	56	54	70	--

Mean Relative Humidity in Percent														
Climatological Element: 04:00 a.m. P.S.T.														
[7]	[7]	80	80	70	68	66	64	55	55	62	70	82	80	--
Climatological Element: 10:00 a.m. P.S.T.														
[7]	[7]	76	72	60	50	48	44	36	38	46	60	73	76	--
Climatological Element: 04:00 p.m. P.S.T.														
[7]	[7]	74	64	46	38	35	34	22	22	34	50	68	74	--
Climatological Element: 10:00 p.m. P.S.T.														
[7]	[7]	84	82	72	65	62	60	46	46	58	74	84	85	--

[1]Lewiston, Idaho, elevation 1413 feet, located about 26 miles southeast of the damsite.
[2]Pomeroy, Washington, elevation 1805 feet, located about 16 miles southwest of the damsite.
[3]Wawawai, Washington, elevation 657 feet, located on Snake River about 2 miles southeast of the damsite.
[4]Kennewick, Washington, elevation 510 feet, located about 88 miles southwest of the damsite.
[5]Walla Walla, Washington, elevation 949 feet, located about 60 miles southwest of the damsite.
[6]Based on US Weather Bureau records at Spokane, Yakima, and Walla Walla, Washington.
[7]Developed from charts using 13 years of record at Yakima, 66 years of record at Spokane, and 25 years of record at Walla Walla, Washington; 13 years of record at Lewiston, Idaho; and 20 years of record at Pendleton, Oregon.

Item 4 - Pertinent Data

GENERAL

Stream miles from mouth of Snake River	107.5
River miles upstream from Little Goose Dam	37.2
Drainage area, square miles	103,500
Length of dam at crest, feet	3,200
Height upper reservoir, elevation to tailwater	100

Discharges in cubic feet per second:

Minimum of record, September 1958	6,660
Mean annual flow	49,210
Average annual peak flow	199,000
Maximum of record, June 1894	409,000
Maximum of record, June 1894, had it been controlled by existing projects	340,000

Standard project flood (controlled by existing projects, including Dworshak):

Snake River below Clearwater River	420,000
Snake River above Clearwater River	295,000
Clearwater River above Snake River	150,000

Spillway design flood	850,000

ESTIMATED COST

21 July 1973	$298,000,000

LAKE

Elevations:

Maximum, at dam, for spillway design flood	746.5
Normal operating range (at Clearwater confluence)	738-733

Emergency drawdown at dam	710

Length, miles:

Snake River (to Asotin damsite)	39,0
Clearwater River	4.6

Area at Elevation 738 (flat), acres	8,900
Lake capacity below Elevation 738, acre-feet	483,800
Lake capacity below Elevation 733, acre-feet	440,200

Relocations:

Railroad, miles	37.5
State highway, miles	20.4
County road, miles	24
Railroad bridge modifications, miles	1

LEVEES

Top width, feet	12
Normal slopes, waterside and landside	1V on 2H
Landscaped slopes, landside	1 on 3 - 1 on 5
Materials	Gravel and earth fill with impervious core
Top elevation	5 feet above backwater profile
Embankment length, miles	7.6
Installed pump0ing capacity, gpm	140,000

SPILLWAY

Number of bays	8
Overall length, feet (abutment centerlines)	512
Deck elevation	751
Ogee crest elevation	681

Control gates:

Type	Tainter
Size, feet	50 x 59

Stilling basin length, feet	188
Stilling basin elevation	580
Maximum design capacity, cfs	850,000
Bridge crane (Joint use with powerhouse), capacity, tons	100

POWERHOUSE

Length, overall, feet	656
Spacing, feet:	
Units 1 through 5	90
Unit 6	96
Erection and service bay	110
Width overall, transverse section, feet	243.17
Intake deck elevation	751
Tailrace deck elevation	656
Maximum height (Draft tube invert to intake deck), feet	228
Maximum head, feet	105
Turbines:	
Type	Kaplan, 6-blade
Runner diameter, inches	312
Revolutions per minute	90
Rating horsepower	212,400
Generators:	
Rating (nameplate), kilowatts	135,000
Power factor	0.95
Kilovolt ampere rating	142,100
Units installed complete initially	3
Skeleton units provided initially	3
Ultimate unit installation	6
Initial plant capacity, nameplate rating, kva	405,000
Ultimate plant capacity, nameplate rating, kva	810,000
Crane capacities, tons:	
Intake (joint use with spillway	100
Powerhouse bridge	600
Draft tube gantry	50

NAVIGATION LOCK AND CHANNELS

Net clear length, lock chamber, feet	674
Net clear width, lock chamber, feet	86
Minimum water depth over sills	15
Maximum operating water surface elevation in chamber	738
Upstream gate:	
Type	Submersible tainter
Height, feet	23
Downstream gate:	
Type	Miter
Height, feet	122
Maximum operating lock lift, feet	105
Lift, feet (river flow 300,000 cfs, practical navigation limit)	88.2
Length of guide walls (from face of gate), feet:	
Upstream	750
Downstream	700
Downstream approach channel:	
Width, feet	250
Bottom elevation	617

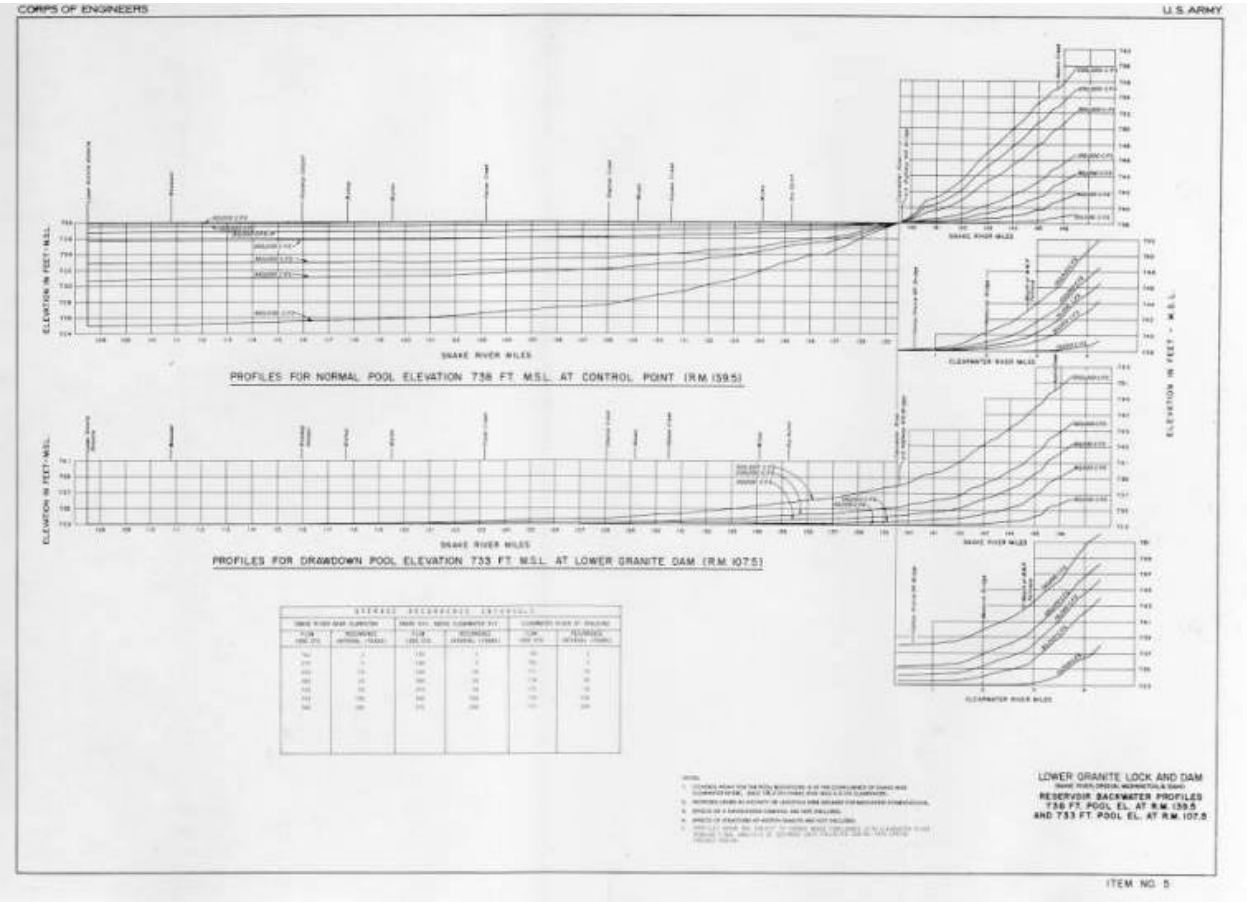
ABUTMENT EMBANKMENT

Embankment length, feet	1,590
Embankment elevation	756
Embankment top width, feet	45
Material	Rock and gravel fill with impervious core
Slope, upstream	1V on 2H
Slope, downstream	1V on 2H

FISH FACILTIES

Maximum design river flow, cfs	225,000
Number of fish ladders	1
Slope	1 on 10
Ladder clear width, fee	20
Pumps for fish attraction water:	
Number	3
Capacity, cfs	3,150
Normal minimum operating pool level	733
Minimum operating pool level with alternate channel	710

Item 5 - Backwater Profiles



Item 6 - Visitor Use Projections

The Lower Granite reservoir will offer important recreational values to residents of the local region. The extent to which facilities are or should be developed to permit public enjoyment of these values is directly governed by anticipated volume of visitor use.

a. Pre-Project Visitor Use.

Prior to reservoir impoundment, the Snake River, through the reach of the Lower Granite reservoir, has been used quite extensively for a wide variety of recreational activities. The most popular of these include driving and sightseeing, fishing, hunting, and some picnicking.[4] No records have been kept of the magnitude of past use. Meaningful estimates are not possible without onsite visitor-use surveys, which have not been made. The number of presently-developed sites is limited by the attractions and potentials, and they are inadequate for public recreation needs in the Lower Granite region.

b. Preliminary Master Plan Estimates.

Estimates of visitor attendance at the Lower Granite reservoir, as first made for the Preliminary Master Plan in 1965, projected visitor use as follows:

Initial	200,000 visitor days annually
End of 50 years	400,000 visitor days annually
End of 100 years	600,000 visitor days annually

Substantial increases in these projections are indicated by the estimates made in 1971 for visitor use at Hells Gate (Tammany) State Park. Visitors on the total reservoir, with the alternate "A" development at Hells Gate, were then projected at:

First 3 years	330,000 visitor days annually
End of 50 years	580,000 visitor days annually
End of 100 years	1,000,000 visitor days annually

c. Current Estimates of Visitor Use.

(1) Initial Use.

Projections of initial visitor use, third year after project completion (1978), have now been redone following estimating methods and procedures prescribed in ER 1120-2-403, and detailed in Technical Report No. 2, *Estimating Initial Reservoir Recreation Use*. Using the Navarro Mills project in Texas as the most similar and comparable project to Lower Granite, projections were derived as follows:

County	1970 Population	Growth Rate (Percent)	1978 Projected Population	Per Capita Use	Day Use Recreation Days
Nez Perce	30,376	+1.20	32,198	12.0	387,576
Whitman	37,900	+2.10	41,880	.8	33,504
Asotin	13,799	+.60	14,213	12.0	170,556
Garfield	2,911	+.22	2,591	.2	518
Latah	24,891	+1.76	27,081	.3	8,124
	Total Day Use				599,078
	Camping Use 599,078 ÷ (1.00-.151/100) - 599,078				105,719
	Total Initial Use				**704,797**
	Called				**700,000**

(2) Growth Pattern.

It is anticipated that increases in visitor use will follow a normal growth pattern, with a rapid increase in attendance during the first few years of operation, followed by moderate growth throughout the remainder of project life. Attendance in early years, although on the rise, will fluctuate due to adjustments in user patterns. This period is a time of discovery as the public becomes familiar with the newly-created facilities, and adjusts from river-oriented recreation to slackwater recreation. After 3 to 5 years of operation, per capita use patterns should stabilize, after which attendance will depend in large part on population growth and the manner in which facilities are expanded to meet this growth.

(3) Population Projections.

It is extremely difficult to anticipate technological and socioeconomic changes which will occur over the next 50 to 100 years, and which could have significant effect on the population of the Lower Granite area. The counties making up the Lower Granite area experienced spiraling growth rates of 2 and 3 percent per annum during the years 1940 to 1960. The development of trade and commerce in the Lewiston-Clarkston areas accounted for most of this growth. During the decade of 1960 to 1970, growth was more moderate.

County	1960	1970	Percent of Change per Year
Asotin	12,909	13,799	.69
Garfield	2,976	2,911	-.22
Latah	21,170	24,891	1.76
Nez Perce	27,066	30,376	1.20
Whitman	31,263	37,900	2.12
Overall average growth per year			**1.52**

The factors which have the most significant impact on population growth are a declining birth rate and industrial growth in the local region.

(a) Birth Rate.

Recently published data indicate significant reduction of birth rates in the United States in recent years. The 1965 forecast for 1980 projected 117 live births per 1,000 women in the childbearing age group. Increased emphasis on smaller-sized families and improved birth control measures have brought about a 1971 corrected forecast of 84 live births per 1,000. Similarly, the Office of Program Planning and Fiscal Management for the State of Washington projects an annual growth rate of .5 percent for Whitman County, .2 percent for Asotin County, and -1.3 percent for Garfield County until the year 2000.

(b) Port and Industry.

Industrial growth centering around the Ports of Lewiston, Clarkston, and Wilma will have a positive effect on the job market; and will induce some population growth in the next decade or so. How far-reaching this effect might be, and whether industry continues to expand after 50 or 75 years, is quite conjectural.

(4) Future Use.

Considering the counterbalancing effects of industrial growth and a declining birth rate, visitor attendance projections for the 50th and 100th year have been calculated at 0.5 percent per annum increase throughout the project life. On this basis, future visitor use for the entire project would be: 50th year, 900,000 visitor-days use; and 100th year, 1,200,000 visitor-days use.

(5) Visitor Use by Areas.

For purposes of recreation facility development, site-by-site estimates of visitor use have been projected as follows:

	Visitor Use	
	Initial	**100th Year**
Hells Gate State Recreation Area	300,000	400,000
Chief Timothy State Park	100,000	200,000
Chief Looking Glass Park	20,000	76,000
Swallows Park and Marina	200,000	250,000
Blyton Landing	5,000	20,000
Sugarloaf Landing	5,000	20,000
Wawawai Bay	15,000	40,000
Wawawai Landing	5,000	15,000
Offield Landing	2,000	7,000
Knoxway Bay	1,000	2,000
Clearwater Park	17,000	30,000
Lewiston Levees	30,000	140,000
Total	**700,000**	**1,200,000**

Item 7 - Area and Facility Capacity Study

The projected visitor attendance, as cited in paragraph 2.06., is based on the desire of the public to use Lower Granite Lake, given adequate facilities. A second study was completed to determine whether planned facilities are adequate to comfortably accommodate this projected need. This second method is an application of what is commonly known as the *Land and Facility Capacity Method*, which simply asks for a stipulated level of development: what use can the land support? The objective is to avoid overdevelopment and crowding, which were the pitfalls of the practice of continuously expanding facilities in any one park to keep up with demand. No park should be developed to a point where the landscape is taxed beyond its capacity to offer a pleasant, uncrowded recreation experience. The site plans for intensive recreation use areas in this Master Plan were designed following standards of ER 1110-2-400, which are based on present, acceptable levels of density. The formula used is as follows:

$$ARD = \frac{RD \times N}{W \times M}$$

AD = Activity Days (extent x density x turnover)

ARD = Annual Recreation Days

RD = Recreation Days

N = 8.66 (weekend days during peak month)

W = 0.66 (percent of visitation over weekend in peak months)

M = 0.24 (percent of yearly visitation during peak month)

R = 1.33 (ratio of duplication of activities

Initial Development				
Park/Facility	**Extent**	**Density/ People**	**Turnover**	**AD**
Offield Landing				
Boat launching	1 lane	2.5	50	125
Sub-Total				**125**
Wawawai Bay				
Boat launching	1 lane	2.5	50	125
Picnicking	4 acres	80	1.6	512
Camping	10 units	4	1	40
Sub-Total				**677**
Wawawai Landing				
Boat launching	1 lane	2.5	50	125
Swimming beach	4,500 S.F.	1/75 S.F.	3	180
Sub-Total				**305**
Knoxway Bay				
Picnicking	1 acre	15	1.6	24
Sub-Total				**24**

Blyton Landing				
Boat launching	1 lane	2.5	50	125
Swimming beach	4,500 S.F.	1/75 S.F.	3	180
Sub-Total				**305**
Sugarloaf Landing				
Swimming Beach	7,500 S.F.	1/75 S.F.	3	300
Boat launching	1 lane	2.5	50	125
Sub-Total				**425**
Chief Timothy State Park				
Boat launching	2 lanes	2.5	50	250
Picnicking	5.2 acres	80	1.6	665
Camping	67 units	4	1	268
Swimming Beach	31,000 S.F.	1/75 S.F.	3	1,240
Sub-Total				**2,423**
Swallows Park and Marina				
Boat launching	4 lanes	2.5	50	500
Picnicking	13 acres	80	1.6	1,664
Swimming beach	54,000 S.F.	1/75 S.F.	3	2,160
Marina	150 slips	2.5	1	375
Sub-Total				**2,423**
Chief Looking Glass Park				
Boat launching	1 lane	2.5	50	125
Picnicking	1 acre	80	1.6	128
Swimming beach	24,500 S.F.	1/75 S.F.	3	980
Playfield	1 field	350	2.5	875
Sub-Total				**2,108**
Hells Gate State Recreation Area				
Boat launching	4 lanes	2.5	50	500
Picnicking	20 acres	80	1.6	2,560
Swimming beach	70,000 S.F.	1/75 S.F.	3	2,800
Marina	150 slips	2.5	1	375
Camping	93 units	4	1	372
Trails (2)	3.7 miles	60	4	888
Interpretive Center	1	25	24	600
Sub-Total				**8,095**
Clearwater Park				
Playfield	1 complex	500	2	1,000
Sub-Total				**1,000**
Lewiston Levee Parkways				
Picnicking	5 acres	80	1.6	640
Bicycling and pedestrian	3-mile route	80	6	1,440
Lewis and Clark Interpretive Center	1 unit	25	24	600
Clearwater Landing	1 unit	25	36	900
Sub-Total				**3,580**
Southway Ramp and Trails				
Boat launching	1 lane	2.5	50	125
Trails	2-mile route	80	8	1,280
Sub-Total				**1,405**
Total AD				**25,171**
ARD =	**25,171 x 1.33**	**8.66 .66 x .24**	**= 1,034,693**	
Total Initial ARD				**1,034,693**
Called				**1,035,000**

Future Increment				
Park/Facility	**Extent**	**Density/ People**	**Turnover**	**AD**
Offield Landing				
Picnicking	.75 acre	80	1.6	96
Sub-Total				**96**
Wawawai Bay				
Camping	4 units	4	1	16
Museum	1	25	24	600
Sub-Total				**616**
Wawawai Landing				
Picnicking	1 acre	80	1.6	128
Boat launching	1 lane	2.5	50	125
Sub-Total				**253**
Blyton Landing				
Picnicking	1.24 acres	80	1.6	159
Boat launching	1 lane	2.5	50	125
Sub-Total				**284**
Sugarloaf Landing				
Picnicking	2.2 acres	80	1.6	282
Boat launching	1 lane	2.5	50	125
Sub-Total				**284**
Chief Timothy State Park				
Picnicking	3 acres	80	1.6	384
Interpretive Center	1 unit	25	24	600
Sub-Total				**984**
Swallows Park and Marina				
Boat launching	4 lanes	2.5	50	500
Marina	250 slips	2.5	1	625
Sub-Total				**1,125**
Hells Gate State Recreation Area				
Boat launching	6 lanes	2.5	50	750
Picnicking	8 acres	80	1.6	1,024
Marina	250 slips	2.5	1	625
Camping	200 units	4	1	800
Sub-Total				**3,199**
Total AD				**6,964**
ARD =	**6,964 x 1.33**	**8.66 .66 x .24**	**= 286,269**	
Total Future Increment Called				**286,269 286,000**
Initial Capacity Plus Future Increment				**1,035,000 286,000**
Total Future Capacity				**1,321,000**

Item 8 - Ecosystems of Lower Granite Lake

1. Summary of Terrestrial Ecological Conditions.

Existing ecosystems in the canyon have been extensively affected by past human activities in the region. Remnant shorelands to be managed after the creation of Lower Granite Lake are essentially steeply sloping, with basalt outcroppings and dryland vegetation. Vegetative cover on these extensive dry upland areas is characterized by generally low-growing, desert-type shrubs, such as sagebrush and rabbitbrush, interspersed with grasses and occasional forbs. Although dry and brown in summer, the hillside vegetation in the past has provided spring and fall grazing for cattle. Side canyon drainages support varied amounts of medium-to-tall brush growth. Upon impoundment of the lake, it will be these remnant side drainages that will retain the important wildlife habitat and ecological values of the existing terrestrial species, especially until new shoreline plant growth is established.

a. Canyon Flora.

With some exceptions adjacent to former cultivated areas and side drainages, the south, or left, bank of the canyon, with its north-facing slope, generally exhibits a greater amount of vegetation and some slight differing of plant species relationships than the north, or right bank. This is due largely to the microclimatic effects related to greater daily shade and seasonal moisture retention on the north-facing slope. By comparison, the south-facing slopes have a more harsh summertime exposure, with resultant very dry conditions. A listing of some of the more common flora found in the project area is included in the following table. In a botanical study carried out prior to impoundment, a total of 236 different species was identified. Some of these species were eliminated as the riparian vegetation was cleared, but they could be reestablished along the new lake shore at some locations.

Table 8-1 Partial Listing of Flora in the Lower Granite Area of the Snake River Canyon	
Botanical Name	**Common Name**
Setaria glauca	Yellow Foxtail
Agropyron (spp.)	Bunchgrass or Wheatgrass species
Echinochloa crusgalli	Barnyard Grass
Festuca idahoensis	Bunchgrass or Blue Bunch Fescue
Lepidium perfoliatum	Peppergrass
Poa (spp.)	Bluegrass species
Bromus tectorum	Cheat Grass
Koeleria cristat	June Grass
Elymus cinereus	Giant Wild Rye Grass
Xanthium pennslyvanicum (or *strumarium*)	Cocklebur
Verbena bracteata	Vervain
Helianthus annuus	Annual or Common Sunflower
Solidago lepida	Goldenrod
Salsola Kali (or *pestifer*)	Russian Thistle or Tumbleweed
Onopordum acanthium	Onopordum Thistle
Opuntia polyacantha	Prickly Pear Cactus
Convolvulus arvensis	Morning Glory
Verbascum thapsus	Mullein or Woolly Mullein
Rumex crispus	Yellow Dock
Chrysothamnus nauseosus	Rabbitbrush
Artemisia dracunculus	Wormwood
Artemsia ludoviciana	Sage or Wormwood
Celtis reticulata (or *douglasii*)	Netleaf Hackberry
Typha latifolia	Cattail
Salix (Spp.)	Willow species (Sandbar, Dusky, *etc.*)
Rosa woodsii	Wild Rose
Rubus leuodermis	Wild or Western Black Raspberry
Dipsacus sylvestris	Wild Teasel
Prunus virginiana	Chokecherry
Rhus glabra or (*cismontana*)	Sumac or Squaw Bush
Amelanchier alnifolia	Serviceberry
Sambucus cerulea	Blue Elderberry
Alnus rhombifolia or (*tenuifolia*)	Native Alder
Crataegus douglasii	Black Hawthorn
Juglans nigra	Black Walnut
Acer saccharinum	Silver Maple
Acer glabrum	Maple or Mountain Maple
Populus trichocarpa (or *angustifolia*)	Cottonwood
Populus nigra var. italica	Lombardy Poplar
Robinia pseudoacacia	Black Locust

b. Native vs. Introduced Species.

It is noted and generally recognized by botanists studying the canyon that a large percentage of the plant genera and species now present has been introduced, either intentionally or by accidental seed transport, as a result of human activities in the region over the past 50 to 100 years. Most trees are not native to the canyon area. Rare or unique species of plants are not known to exist in the project area.

c. Fauna.

The presence of wildlife in the Snake River Canyon in the Lower Granite pool area has undoubtedly been greatly affected by man's actions.

(1) Upland Birds.

The climatic and habitat type that exists in the canyon is generally classified as Upper Sonoran. Birds that are commonly associated with the Upper Sonoran life zone are the eared grebe, Western grebe, black-crowned night heron, Canada goose, cinnamon teal, ruddy duck, ferruginous hawk, marsh hawk, California quail, American coot, American avocet, horned owl, poor-will, Western kingbird, ash-throated flycatcher, marsh wren, loggerhead shrike, yellow-breasted chat, redwing, Bullock oriole, Brewer blackbird, lazuli bunting, house finch, Savannah sparrow, lark sparrow, sage sparrow, and sage thrasher. None of these birds are included on either the national or state listing of rare or endangered species. Several species of game birds - the California quail, the mourning dove, the Chinese ringnecked pheasant, the Hungarian partridge, and the chukar partridge - are associated with the river vegetation at various times of the year. The pheasant, chukar, and Hungarian partridge are introduced species. Osprey, red-tailed hawks, and sparrow hawks also have been sighted in the area. Historically, the peregrine falcon, now an endangered species, was found in the general project area, as was the prairie falcon, but the presence of these two species in the canyon at this time is questionable.

(2) Waterfowl.

Numerous ducks and geese use the area for resting and feeding in connection with migratory flyway patterns. Prior to the project, as many as 100-plus geese and a few ducks nested in the Lower Granite project area. However, with the creation of the lake only a few geese can nest on rocky ledges along the shoreline.

(3) Small Animals.

As with the birds, some characterization of the various animal species, which are normally associated with Upper Sonoran zones, is also possible. Common residents in these areas are the black-tailed jackrabbit, Nuttall cottontail, Townsend ground squirrel, Gambel deer mouse, Western harvest mouse, Ord kangaroo rat, Great Basin pocket mouse, and Northern pocket gopher. It is also known that other small mammals such as raccoon, weasels, skunks, badgers, marmots, and porcupines live in the Lower Granite area. Fur-bearing reside3nts of the area are beaver, muskrat, mink, and river otter.

(4) Big Game.

The only big game species present is deer. It is estimated that 30 to 40 mule and white-tailed deer live in the side drainages of the canyon, with others possibly migrating into the area during hunting seasons and/or during periods of severe winter at higher elevations.

(5) Reptiles.

In addition to the birds and mammals living in the area, reptiles are also found there. Examples of reptilian life are the Western fence lizard, sagebrush lizard, side-blotched lizard, short-horned lizard, Western skink, Northern alligator lizard, rubber boa, ringnecked snake, blue racer, gopher snake, garter snake, and Western rattlesnake. Past human activities in the canyon bottom have influenced reptile populations near the river, but those living on the higher canyon slopes and in rough rock outcrops have been relatively undisturbed.

(6) Vectors: Spiders, Insects, and Rodents.

Spiders, flies, and other insects are present in the canyon and along the river. With the impoundment, it is expected that a slight overall decrease in land-based insect populations will occur as a result of the decrease in land area habitat. Terrestrial vectors are present, such as ticks, mites, fleas, and flies. Rodents, such as ground squirrels, rats, mice, and chipmunks are also present. These are capable of transmitting several diseases, such as Rocky Mountain spotted fever, tularemia, plague, bacillary dysentery, and typhoid. Measures that would prevent these vector problems are especially important in the developed recreation sites.

d. Specimen Areas.

Significant specimen areas for dryland plant and animal species are rather limited, being potentially found in a few of the side drainages and among the more isolated basalt cliff and outcrop areas where past human activities and cattle grazing have been minimal. There are no major areas that could be characterized as completely pristine or removed from past human influence.

2. Summary of Aquatic Ecological Conditions.

Elsewhere in this report, the aquatic setting is discussed in identifying water quality aspects. Certainly, water quality imposes a basic influence on other elements of the aquatic systems.

a. Sedimentation.

In addition to chemical and biotic water characteristics, the aquatic environment is influenced by soil (turbidity) which enters the lake. Sediment accumulation will occur in the inlets and draws that drain agricultural land on the rim of the river canyon as soil erosion occurs during the ongoing farming activities of the region. As the eroded soil is carried into the slackwater of Lower Granite Lake, it will build up in the tributary drainages, creating bars or deltas that will become covered with rushes, willows, and other associated vegetation to provide wildlife habitat. The average yearly accumulation of sediment in Lower Granite Lake, with no additional upstream impoundments, is estimated at 3,700 acre-feet. Approximately this amount of sediment deposition is now occurring in downstream impoundments that (with the creation of Lower Granite Lake) will subsequently be reduced. Sedimentation ranges will be established on both the

Clearwater and Snake River segments of the Lower Granite impoundment to monitor silt buildup conditions. Due to the large amount of water flow, complete siltation behind the dam is not expected to occur. In the long-range view--1,000 to 2,000 years-- much of the lake surface may be displaced by sediment buildup, resulting in a slackwater river channel bordered by a long-term expectancy at Lower Granite regarding siltation is very much dependent on regional and upstream activities that influence erosion and/or sediment inflow reduction.

b. Vascular Aquatics.

Within the water quality ranges of the lake, high potential for vascular aquatic vegetation growth is possible in any water depth less than 10 feet. Such plant development has been observed at similar projects downstream.[1] Ultimate depth of vascular plant development is dependent on light penetration in the water. Extremely dense beds of *Elodea* and *Najus* (Southern Naiad) are found in 3 to 5 feet of water at the upper end of Meadow Creek Bay, near Central Ferry on the Little Goose Project. Aquatic plant beds are also found developing along shallow shoreline areas where former orchards were removed and/or where grazed pasture land immediately adjoins shallow water areas. Clumps of *Elodea*, *Najus*, and *Potamogeton* (Pondweed) have developed in 1 to 2 feet of water in these areas of nutrient-rich mud bottoms. About 356 acres of shallow, potential aquatic weed growth areas exist at Lower Granite Lake.

c. River Fish.

Principal resident game fish of the river in the Lower Granite area are small mouth and large mouth bass, white sturgeon, and channel catfish. Other species less important to the fishery are rainbow and Dolly Varden trout, brown bullhead, mountain whitefish, white crappie, and bluegill. Non-game fish include carp, squawfish, suckers, chiselmouth, shiners, and others. Rare or unique species of fish are not known to be present, although the white sturgeon is a rather distinct fish in terms of its evolutionary position.

d. Reservoir Fish.

Lower Granite Lake will provide favorable habitat for large mouth bass and other warmwater fish, but is generally regarded as being detrimental to most other species present (*i.e.*, small mouth bass and white sturgeon) and to anadromous fish.

e. Effect of Water Level Fluctuations.

The aquatic environment for aquatic vascular plants and resident warmwater fish can be influenced by fluctuations. Increased frequency of fluctuation during dry weather (April through October) could slightly reduce the growth of rooted aquatic vegetation (*Elodea, Najus, Potamogeton*) in the shallow portions of the lake.[6] Depending on the season and daily timing, fluctuations can create adverse or beneficial effects on fish spawning for perch, bass, and carp. Minimum fluctuation during April, May, and June is beneficial for perch and bass, while carp production can be reduced by intentional daily fluctuation during July. Since July is a month of high recreation use (boating, swimming, *etc.*), lake fluctuations for fishery purposes, as well as power production during that month, would influence recreation shoreline conditions. Rising or receding lake levels would alter the amounts of exposed beach available for swimming and related uses. Increased fluctuation frequency during the recreation season should facilitate water exchange in the swimming areas, thus reducing algal concentrations, bacteria build-up, and turbidity created by high local use.

f. Fluctuation and Vector Problems.

Lake fluctuation also may have an influence on aquatic and semi-aquatic insect populations. At the request of the Corps of Engineers, studies of possible vector problems were conducted by the U.S. Public Health Service in conjunction with both the Washington and Idaho Departments of Health in 1963. Aquatic vector problems are not expected to increase as a result of project construction and operation. However, some possibility for vector-borne disease does exist due to the known occurrence of certain of these diseases in the counties surrounding the project. Encephalitis, commonly known as sleeping sickness, occurs in the project area, as does equine encephalitis. The major vector for these diseases, the mosquito *Culex tarsalis*, does occur in the area. There have been no major outbreaks of either of the diseases in the area in recent years and, with continued use of proper precautions, no problem is likely to occur. Somewhat more of a problem may be caused by several species of the *Aedes* mosquito, which are vicious biters and, at times, can develop populations large enough to make outdoor recreation very unpleasant. These mosquitoes do not usually carry disease, but secondary infections often occur, especially in children, due to scratching of the bites. In addition to the annoyance to humans, mosquitoes can also cause severe economic losses by lowering meat and milk production, by reducing the efficiency of agricultural and industrial workers, by interfering with recreational enterprises, and by lowering the value of real estate. Since the major part of the shoreline of the Lower Granite area will be steep, with sparse vegetation and exposure to wave action, there should be no problem with mosquito production in the main reservoir area. The ditches behind the levees in the Lewiston-Clarkston area will provide necessary drainage to prevent occurrence of mosquito-breeding habitat. The five drainage ponding areas behind the levees will be shaped to minimize mosquito-breeding conditions. Supplemental control is possible with mosquito fish (*Gambusia*) or limited chemical application, as may be desired.

g. Other Aquatic-Associated Insects.

Total populations of other aquatic-associated insects, such as caddis flies, will likely remain about the same as now present, although some species and subspecies change may occur as a result of impoundment conditions.

h. Anadromous Fish.

Of special note is the anadromous fish cycle, as related to the Lower Granite project and the Snake River system. Anadromous fish such as salmon and steelhead spend a portion of their life at sea, but must have access to their spawning grounds in the rivers and streams in order to complete their life cycle and perpetuate their kind. The anadromous fisheries of the Columbia and Snake Rivers are recognized as valuable for recreation and commercial purposes. An estimated annual average 77,000 chinook salmon and 71,000 steelhead trout use the Snake River as a route to upstream spawning areas. The Snake River fish represent about 22 percent of the chinook salmon and 50 percent of the steelhead trout that are counted in the Columbia River at Bonneville Dam. Most of the salmon and about 60 percent of the steelhead trout that reach the Lower Granite area continue up the Snake River. A few salmon and about 40 percent of the steelhead trout enter the Clearwater River, a tributary of the Snake River. Steelhead and salmon spawning does not occur in impounded waters such as Lower Granite Lake. Two other species of salmon also pass through the Lower Granite area. These are coho, with an estimated average run of 3,000 adult fish; and sockeye, with an average run of an estimated 700 adult fish.

i. Migration Patterns.

Fish ladders and other fish facilities enable the fish to pass downstream dams in migrating to the upriver areas. Young salmon and steelhead migrate downstream during April, May, and June; while the principal migration of the adult fish occurs in May, September, and October, with lesser numbers in other months. Steelhead fishing in similar downstream lakes is generally unproductive.[7] Studies show that the anadromous fish have a definite travel route through the lakes, and swim in 5 to 30 feet of water depth.

3. Summary of Land Use Impacts and Related Conditions.

The land use plan for Lower Granite shorelands and subsequent development for the designated uses will influence ecological conditions and environmental quality. Environmental effects of the three principal land uses (industry, recreation, and wildlife) are described in the following paragraphs.

a. Industrial Land Use.

All of the project lands classified for this use (176 acres) are located in the Lewiston-Clarkston vicinity, where the natural ecology has already been drastically altered by human development. Consequently, the industrial land use will have little effect on terrestrial ecosystems. Industrial shoreland use in relation to the aquatic ecosystem involves primarily liquid waste discharges and/or chemical-petroleum spill potentials.

(1) Potential Industrial Uses.

At this time, it is difficult to predict exactly which forms of industry would ultimately settle at the project, but the following types are most likely:

(a) Grain Handling and Storage Facility.

The use of this type of facility is already demonstrated in the area, with several grain elevators located at similar projects downriver. Some of the grain elevators are served by rail transportation, and some by the lower Snake River waterway. The potential for development of grain-handling facilities is relatively high. The "Palouse region" is well noted for the vast quantities of wheat produced each year. Much of this is exported to national and foreign markets. Long-term trends in worldwide grain use and production indicate that this commodity will increase in future years. The possibility also exists whereby grains from Montana will be brought to the Lewiston area by truck for transfer to the navigation system.

(b) Farm Chemical Handling and Distribution.

Since the economy of the region is largely farm oriented, it appears that there is opportunity for barge transport, handling, and distribution of bulk fertilizers and other farm chemicals. This activity could be developed at one or more of the designated industrial sites.

(c) Petroleum Handling.

Importing bulk liquid fuel to the local area is a potential activity that may occur. Barge fuel transports presently occur with several large installations located about 130 miles downstream on the Columbia-Snake River waterway. Extension of this activity upriver is a likely future prospect.

(d) General Cargo.

A general-purpose public dock would satisfy public port terminal needs, allowing for barge transport and interchange of a wide variety of materials on an occasional or frequent schedule. Such materials might include special large construction parts and materials, farm and other mechanical equipment, containerized shipping pack goods, and similar items. Warehouse facilities may be developed for onsite storage.

(e) Manufacturing and Processing.

Some potential exists for industrial development that would use the waterway for the importation of bulk-run materials and/or export of processed or finished products. Such activities would make use of the local labor force and hydroelectric power, but would be primarily dependent on the logistics of materials and products.

(2) Site Developments.

Industrial site development would require considerable earthwork in shaping the waterfront area and providing for the installation of buildings and other structures. Disposal of dredged material or borrow of fill would be a part of the overall earthwork design of the site. Water and power supplies would also be required. Water and power supplies would also be required. Water would probably be obtained by drilling wells, although water could be pumped form Lower Granite Lake for certain industrial uses. Electric power would involve a transmission line connecting the nearest adequate capacity line of the local system. A sewage system for human wastes would be included if restroom facilities are provided. Increased human activity at the various port and industrial sites would have an influence on the adjacent areas, but the nature and severity of such influence cannot be predicted at this time, as it would depend on the disruption, noise, and potential pollution factors of the particular activity. Actual design of site plans and the structure would be dependent on the specific needs and desires of the development interests. Since all of these interests are not yet identifiable, this is in part a future determination. The local port district administrators would be largely responsible for selecting the type of industrial uses that would occur at each of the sites.

(3) Air Quality.

An important factor in industrial land use development relates to air quality. Present air quality in the Lewiston-Clarkston area is affected by emissions from the paper manufacturing plants. Since the Lewiston area is confined by canyon hillsides, air pollution under certain atmospheric conditions (*e.g.*, surface inversion) tends to frequently remain in the area, rather than becoming rapidly dispersed. Improved air pollution control measures would be required for any industrial facility. For example, if an industrial processing plant

were to use the site, potential for air pollution may exist, depending on regulatory control requirements. All facilities would be subject to local, state, and Federal laws and regulations regarding work in navigable waters, effluent waste discharges, and other aspects of air pollution, water pollution, safety, *etc.* In this connection, it would be particularly important to prevent water pollution or structural development, which would create blockage for migratory fish.

(4) Cultural Aspects.

In a cultural sense, the industrial land use and development can have an obvious effect on the communities, both socially and aesthetically. Social aspects would be related to the industrial facilities as work places, with employee traffic, community relations, and work skills required. In development and operation, the industrial facilities would involve a high degree of visual impact, including earthwork, structures, and barge activities. Depending on the exact nature of the facilities that may be developed and the design controls applied, this may be a positive or negative visual influence. From an aesthetic point of view, some people may be of the opinion that any additional industrial development is an adverse foreign influence on the Lewiston-Clarkston waterfront.

(5) Noise and Population Growth.

Two other potential effects of industrial development would be: 1) increase in truck traffic, noise, and vehicle exhaust fumes on existing roads in the local area; and 2) possible population growth in the Lewiston-Clarkston area. Such growth in the community would be a local socioeconomic benefit, but it would need to be carefully considered in terms of other community goals and desires. To the extent to which any population growth in the Lewiston-Clarkston area reduced urban concentrations in the major large cities of the nation, this could represent a beneficial population distribution effect.

b. Recreation Land Use.

As described in section 6 of this Master Plan, recreation areas are to be developed on project shorelands. These areas will occupy 1546 acres of land, with a varied intensity of facility construction. High-use areas will involve a nearly complete alteration of existing terrestrial ecological conditions to provide structures, pavement, lawn grass, and trees. Other portions of designated recreation areas will be left in a relatively undisturbed condition as peripheral buffer zone and "natural" landscape.

(1) Manmade Environments.

Certain land areas affected by placement of facilities, such as parts of the Swallows and Hells Gate sites, have in the past been altered from former natural conditions and previously used for private development purposes. Therefore, the recreation development will in some ways afford opportunity for an enhanced setting for these disturbed landscape portions.

(2) Control to Achieve Environmental Preservation and Enhancements.

The plan for each recreation facility is, in itself, an environmental design that will provide opportunities for social and outdoor experiences for the public. In keeping with this, it is intended that, in the detailed design, construction, and operational effort, attention be given to several important environmental quality systems. These include the following:

- Minimizing disturbance to existing hillside slopes and vegetative cover. This is intended to be accomplished by careful selection of grading criteria to provide a "grass roots" design insofar as possible, and to define "off limits" areas where contractor entry and visitor vehicular traffic are unnecessary and prohibited.

- Seeding and planting for the restoration of landscape scars near the areas of facility construction, and proper landscape maintenance practices to reduce erosion and/or improve aesthetic conditions.

- Careful consideration in power service planning to avoid obtrusive poles and transformers and prompt cleanup and disposal of litter and other waste. Waste and sewage facilities at the recreation areas will be designed and installed consistent with applicable pollution control standards. Garbage and litter collected in recreation areas will be deposited in established city or county disposal areas, or in an appropriate manner at another approved disposal site.

- Careful planning and installation of park signs to provide information and guidance without visual clutter.

- Harmonious architectural treatment of all park buildings and other structures.

(3) Plantings.

Provision of irrigated lawn, trees, and shrubs will increase the vegetative productivity of the recreation sites as the plants mature, which will provide ecological conditions suitable for song birds and other species tolerant or semi-tolerant to frequent human presence.

(4) Options for Developed or Undeveloped Conditions.

With or without developed recreation areas, the shorelands and the lake will be used by the citizenry for leisure-time outdoor activities. Development of refined recreational areas will encourage and accommodate increased usage and a degree of user agglomeration. The general social-psychological impact of such grouping is difficult to simply assess, as the density-quality relationship for recreational experiences is largely a matter of personal conditioning, situation expectations, and use convenience. High attendance levels at existing recreational areas at other projects suggest that large numbers of the general

public do not insist upon solitude for an enjoyable recreation experience. Those who do wish to recreate at other than the developed areas are free to do so on the public Lower Granite shorelands, particularly with almost unlimited mobility on the lake by use of boat access. There are several areas available for this type of use, particularly on the south bank of the lake.

(5) Boat Moorage and Service.

Marinas on the lake possibly will have total initial berths for 480 boats, and an ultimate capacity of 1,000 to 1,500 boats, all fully protected from current and wave action. These marinas will be equipped with waste-handling facilities to prevent pollution. Waste discharge regulations for boat operators are being adopted by state and Federal pollution control agencies.

(6) Noise, Oil, and Safety.

Vehicle and boat traffic and noise generated by the recreation activities will be highest near boat launching ramps and parking areas. Where possible, these facilities are separated from picnicking, camping, and swimming areas to minimize the adverse effects. Motorboats will induce noise, oil spills, and a hazard to swimmers, but designated swimming areas will be marked to minimize the possible user conflict.

(7) Construction Controls.

During recreation facilities initial construction or subsequent expansion, controls will be required to minimize adverse effects. The environmental protection specifications of work contracts will include requirements such as dust control, avoidance of damage to trees to be preserved, and prevention of oil spills or other such pollution. Timing of any work that may be necessary in the river, such as filling or excavation, will be controlled to avoid the primary anadromous fish migration period (March, April, September, and October).

c. Wildlife Land Use.

Designation of lands for wildlife use involves 2,404 acres. Most of this acreage will be retained in the existing ecological condition, preserving the upper Sonoran ecosystem features previously described.

(1) Natural Areas.

In the more remote and inaccessible areas of the project, such as the steep slopes and rocky cliffs and ledges, the existing dryland habitat will remain relatively undisturbed.

(2) Mitigation Efforts.

As part of the program for fish and wildlife mitigation for the lower Snake River projects[8], created islands and certain small areas designated for wildlife in proximity to the shoreline may be developed, with special naturalistic plantings and food crops for improved wildlife habitat. An increased wildlife-carrying capacity of upland birds, big game, furbearers, and non-game wildlife should result after the habitat is developed. This vegetation and animal life should make the area more aesthetically pleasing, as well as increase the opportunity for recreation in the form of hunting, trapping, and animal watching. Trees placed

near the shoreline will create shaded stopping areas for recreational boaters. A vegetational shift from dryland to other botanical types should occur as the small habitat development areas are planted with food and cover species. Irrigation systems that may be developed to aid in habitat growth will involve pump facilities and sprinkler systems. During operation, the systems will require power and water sources. Any new access road development associated with the construction and/or operation of the irrigated habitat sites will have negative environmental effects. However, it is anticipated that habitat improvement sites will be selected where new access road construction would be unnecessary or minimal.

(3) Increased Hunting.

With the wildlife habitat improvement and the attendant increase in game bird and animal populations, hunting success should increase. This will result in a greater harvest of wildlife. The increased number of people (hunters and others) entering and using the wildlife lands could be considered a negative ecological-aesthetic factor. Depending on the care and attitude of each hunter, the non-game wildlife resources and other landscape values may or may not be disturbed by hunter activities.

Item 9 - Resume of Water Quality Study

The following is an estimate of the water quality conditions expected after impoundment of Lower Granite Lake. Quality of the lake water, however, is contingent upon the ability of the cities of Lewiston and Clarkston, and the Potlatch Corporation, to meet secondary treatment standards, and the application of best available treatment for new waste sources discharging into the lake.

"Expected Post Impoundment Conditions in Lower Granite Reservoir

1. Lower Granite probably will not show significant thermal stratification to the point of retarding mixing between water masses.

2. Low oxygen water is not expected in the Lower Granite pool. An exception could be the wide area at the Clearwater-Snake confluence, where low current velocity could permit accumulation of industrial and sewage wastes.

3. Algal levels in the Lower Granite pool should not exceed current Little Goose levels, even with the proximity to nutrient sources if all point-pollution sources have secondary treatment.

4. Aquatic vascular plant development is expected to attain nuisance proportions in the shoal areas of the Lower Granite reservoir.

5. The possibility of hydrogen sulfide accumulation in the Lower Granite reservoir is very small. Although sulfate reducing bacteria, sulfate, and suitable organic substrate will all be present in sufficient amounts for the production of hydrogen sulfide, accumulation of measurable quantities will not be possible in the open water of the Lower Granite reservoir if oxygen levels remain above 60-percent saturation, a condition always met in the Little Goose reservoir during this study.

6. Some froth and foam production is likely to occur below Lower Granite Dam because of inundation of former farmland, concentrations of industrial and domestic waste effluents, and dissolved organic matter produced by algae. This condition should be short-lived and parallel to that which occurred at Little Goose Dam after closure (*i.e.*, during spillage in the first year after filling).

7. Experimental bioassays showed nitrate addition to have the greatest average stimulatory effect (26 percent) on short-term carbon uptake. Kraft effluent had an average stimulatory effect of 21 percent. Kraft and sewage effluents, combined with nitrates, produced stimulatory effects from 0 to 40 percent, depending on the algal community present and nutrient base load.

8. The highest nutrient loading other than that contributed by PFI comes from the cities of Asotin, Lewiston, and Clarkston. The nutrient loadings of Lewiston, Clarkston, and PFI occur near the head of the reservoir, so it is imperative that all pollutional control processes be operating at high efficiency, especially through the critical months of July through October. Especially critical are the nitrogen loading of both background and pollution additions.

9. Reduced stream velocities and the reduced recreation expected after impoundment will create a more favorable environment for *Sphaerotilus*. However, the projected reduction in organic wastes with secondary treatment should, in our judgements, reduce *Sphaerotilus* growth to less than those observed in 1970 and 1971 in the Lower Granite area."

"Aquatic Vascular Development

Two areas in Lower Granite are of particular concern from the standpoint of potential aquatic vascular development.

The Wilma site, at River Mil 135, right bank, is a 65-acre area of orchard soil to be under 0 to 10 feet of water.

The Chief Timothy recreational site, at River Mile 130, is a potential weed bed of 95 acres. This site (as not planned) is particularly susceptible to weed growth, since it offers all of the above-mentioned characteristics for optimal weed development...shallow depth, rich soil, protection from current or wind action, and high nutrient content of overlying water. We expect high growth in these areas."

Item 10 - Policy on Structure Locations in Floodplain Areas

1. References:

a. Executive Order 11296.

b. EM 1110-2-400, 1 September 1971, *Recreation Planning and Design Criteria*, and ER 1110-2-400, *Design of Recreation Sites, Areas, and Facilities*.

c. *Proposed Flood Hazard Evaluation Guidelines for Federal Executive Agencies*, September 1969, U.S. Water Resources Council.

d. NPWEN, multiple-addressed Disposition Form of 1 November 1967, subject, *Policy on Structure Locations in Flood Plain Areas*.

2. The following criteria are to be used in determining the locations of structures constructed by us and others on lands over which we have control. These criteria supersede that of reference d., above. The objective of these guidelines is to prevent uneconomic and unnecessary floodplain development, and avoid operation and navigation problems that might occur with improper development along reservoir shorelines. At the same time, it is realized that river and reservoir shorelines are valuable resources, and proper developments should not be overly restricted. In general, these criteria provide only minimum elevations and, more restrictive design should be used where needed to meet the guideline objectives.

3. Certain facilities, particularly those required for boating and water recreation, need to be located near the water; and require considerations of utilization, topographic features, and other design factors. Because of the judgement required, no specific elevation related to flood frequency can be specified. Facilities in this category include:

- Sea walls, bulkheads, breakwaters, windbreaks, and other protective devices, fixed or floating; and designed to withstand overtopping.
- Picnic areas and improved beaches, excluding permanent facilities that would be damaged by flooding or subject to floatation.
- Davits, monorails, duorails, hoists, elevators, marine railways, and similar boat launching and retrieving facilities, provided all machinery that would be damaged by water is located above the 100-year flood level and, further, that all facilities are sufficiently anchored to avoid being washed away by a flood of this magnitude. Also, it is highly desirable to have these facilities fully operable for floods of the 5-year flood magnitude.
- Service piers and docks, launching docks, and handling piers, provided they are operable for the 5-year flood and will not be washed away by the 100-year flood.
- Gasoline-dispensing facilities, exclusive of storage.

4. The following facilities should be located above the level of the 5-year flood:

- Picnicking facilities that would be subject to flood damages or floatation.
- Bottom of pit-type toilets and latrines, or an adequate seal to 5-year flood level, provided this meets State standards.
- The lowest 50 percent of parking areas can be located between the 5- and 10-year flood level provided this is at least 1 foot above maximum normal pool in protected areas and a significant wave height above maximum normal pool in areas exposed to wave actions.
- Tops of boat launching ramps, provided these are at least 1 foot above maximum normal pool in protected areas and 3 feet above maximum normal pool in areas exposed to wave action.
- Access roads to boat launching ramps, and picnic areas. The general rule for access roads is that they should be safely usable any time the facilities served are usable.

5. The following facilities should be located above the level of the 10-year flood:

- At least 25 percent of parking area, provided this is at least 3 feet or a significant wave height above maximum normal pool.
- Overnight camping areas.
- All pumps.
- Water supply wells should be usable to the 10-year flood level.

6. The following facilities are to be located above the 50-year flood:

- Bath-change shelters and bathhouses.
- All sanitary facilities except pit-type toilets.
- At least 25 percent of parking areas, provided this is at least 3 feet or a significant wave height above maximum normal pool.
- Roads to buildings for human occupancy.

7. The following facilities must be located above the level of the 100-year flood:

- Warehouses and storage facilities, excepting those used for storage of inflammable liquids or gases, provided they are flood proofed to the higher of the following: 1) on the Snake and Columbia Rivers, respectively, 3 and 5 feet above maximum normal pool; or 2) level of the standard project flood.
- Sales and service buildings associated with commercial marinas having permanent fixtures that would be damaged by floods with flood proofing to the higher of the following: 1) on the Snake and Columbia Rivers, respectively, 3 and 5 feet above maximum normal pool; or 2) level of the standard project flood.

8. The following structures, improvements, and facilities must be located a minimum of 3 and 5 feet above the maximum normal operating pool on the Snake and Columbia Rivers, respectively, or above the level of the Standard Project Flood, whichever is higher:

- Warehouses without flood proofing.
- Sales and service buildings associated with commercial marinas without flood proofing.
- Facilities for the storage of inflammable liquids or gases, provided they are flood proofed 3 feet above SPF level.
- Buildings for human habitation. (Consideration may be given to allowing occupation of existing facilities located at about the 100-year flood elevation if the occupancy is controlled by the Corps.)
- Museums, and buildings containing valuable historical, legal, medical, financial, Governmental, literary, or scientific documents or data, provided they are flood proofed 3 feet above SPF level.

9. The following criteria are proposed for minimum elevations on the floodplains of rivers and streams:

- Finished floor elevations of buildings subject to flood damage by water, or whose contents may be subject to damage by water, should be located 1 foot above the level of the 100-year flood. Lower floor elevations may be permitted where flood proofing would provide protection for water levels 1 foot above the 100-year flood.
- The minimum finish grade at buildings should be such that they will not be adversely affected by a 50-year flood.
- Necessary access roads to buildings for human occupancy should be adequate to allow the passage of emergency vehicles for the 50-year flood.
- Every effort should be made to locate beyond the floodway zone where a constriction would cause an increase in the upstream water surface. Where such construction is necessary, the rise in water surface caused by the constriction should be limited to 1 foot for floods up to the magnitude of the 100-year flood.

10. Definitions.

a. A certain frequency flood refers to conditions on the Columbia River, with storage provided under the Canadian Treaty, Libby, and all existing regulation. In addition, for the Snake River and the Columbia River below the Snake River, Dworshak storage is included in the flow considerations.

b. The following tables are discharges for the various flood frequencies and the Standard Project Floods to be used with these regulations in the indicated reaches:

Snake River

Grande Ronde to Clearwater River	
Frequency	**Discharge (cfs)**
5-year	140,000
10-year	160,000
25-year	185,000
50-year	210,000
100-year	240,000
SPF	295,000
Backwater curves for determining control elevations should start at Elevation 738.0 at Snake River Mile 139.5 for this reach of the river.	

Snake River Below Clearwater River to Mouth	
Frequency	**Discharge (cfs)**
5-year	215,000
10-year	250,000
25-year	290,000
50-year	320,000
100-year	355,000
SPF	420,000

McNary Reservoir Above Snake River	
Frequency	**Discharge (cfs)**
5-year	360,000
10-year	400,000
25-year	465,000
50-year	485,000
100-year	525,000
SPF	540,000

Columbia River Snake River to John Day Dam	
Frequency	**Discharge (cfs)**
5-year	450,000
10-year	520,000
25-year	600,000
50-year	660,000
100-year	715,000
SPF	810,000

c. Elevations for various frequency floods are those that will occur with the designated flow and the maximum normal operating pool.

d. Elevations for maximum normal operating pools are contained in the following table:

Project	Maximum Normal Operating Pool Elevation Feet MSL
John Day	268.0
McNary	340.0
Ice Harbor	440.0
Lower Monumental	540.0
Little Goose	638.0
Lower Granite at Clearwater Confluence*	738.0
*These three items revised unofficially 17 June 1974.	

EXHIBITS

Exhibit A - Letter to Bernard C. Christensen from Mike Werner, Whitman County Park and Recreation Board, dated 29 August 1973, with attached Summary of Recreation Use Patterns

WHITMAN COUNTY

Park and Recreation Board

Rt. 1, Box 190
Palouse, Washington 99161

August 29, 1973

Mr. Bernard C. Christenson, Chief
Rservoir Planning Section
U. S. Army Corps of Engineers
Box 206
City-County Airport
Walla Walla, Washington 99362

re: Snake River Recreation Study
and recreation development
in Whitman County

Dear Mr. Christenson:

This letter is the result of our meeting of August 23 in Walla Walla. I am writing it in two parts; the first will discuss the results of the year long recreation study which Professor Shew and I have conducted on the Snake River, and the second part will apply the results of this study and my knowledge of the area to recreation planning and a set of recommendations for future development.

Part I:

The recreation study entitled "Recreation Use Patterns and User Attitudes on the Snake River" was conducted over an entire year from July 10, 1971 to July 9, 1972. The study area involved nearly 36 miles of the Snake River from Ilia (River Mile 105) to DeChennes's Marina (River Mile 141) south of Clarkston. A total of 123 randomly selected study days were assigned to various entrance/exit corridors to the area: Ilia, Almota, Wawawai, Steptoe, Washington-Idaho Border, DeChenne's Marina, and Silcott. During the year-long study, 3239 questionnaires were distributed to recreationists using the area at these corridor stations. 2006 questionnaires were returned; representing slightly less than two-thirds of the total population of the study. The results of our study are primarily based on the responses recreationists made. The two major objectives in initiating this research project were: (1) to provide a recreation data base which could serve as a basis for comparison in future studies completed after the construction of Lower Granite Dam; and (2) to assist managers by providing current recreation data on the recreation users and uses of the area for immediate planning and administration of recreation within this area.

It is not our intention, at this time, to discuss all of the data from the study; but to point out some of our more significant findings in hopes that it will be utilized to provide the best combinations of recreation opportunities and facilities to compliment both the resource and the future recreationists.

Study Results

The top seven recreation activity preferences are listed in the table below. A total of 18 activities were identified during the study. The recreationists often listed more than one activity which explains why the total exceeds 100 percent.

ACTIVITY	PERCENT REPRESENTATION
Driving for Pleasure/Sight-seeing	36.5%
Fishing	33.3%
Hunting	12.5%
Picnicking	7.6%
Swimming	6.8%
Resting/Relaxation	6.7%
Boating	5.6%

Only part of this list indicates the need for water oriented facilities. The present Corps of Engineer plans call for basic boat launching areas and limited picnic facilities with vault toilets on the Whitman County side of the reservoir. Considering the types of user groups which utilize the area, notably; sportsmen, families, and college students, other types of areas should be provided to avoid conflicts between user groups and to increase the enjoyment of the area and the facilities.

Over 75 percent of the recreationists believed that the present recreation opportunities were fair to excellent. 18 percent rated the present opportunities as poor to very poor.

Fifty-five percent of the recreationists surveyed, indicated that the Lower Granite reservoir would detract or greatly detract from their recreational enjoyment of the area. Less than one-quarter felt that the dam and reservoir would improve to greatly improve their recreational enjoyment of the area.

The recreationists were asked to rate a list of seven items as to how important each was to their enjoyment of the area. They were asked to select the three items most important. The following percentages were found:

ITEM	PERCENT REPRESENTATION
Scenery	41%
Wildlife/Fish	38.2%
Lack of other People (Solitude)	34.5%
Convenience of Location	29.4%
Freedom to do as I please	20%
Lack of Development	17%
Climate	13%

A general category "other" was included, however, the responses proved to be insignificant. The only item which will be improved by the Lower Granite project, immediately, will be convenience of location because of the better access roads. The other items on the list may or may not improve, depending on the proper planning and development of the area through consideration and blending of the resources, the types of use, and the user groups.

The recreationists also rated a list of ten facilities and improvements on the basis of greatly improve to greatly detract. The top five facilities and improvements people would most like to have in the area are:

FACILITY/IMPROVEMENT	PERCENT REPRESENTATION
Beaches	61%
Picnic Areas	56%
Campsites	55%
Surfaced Roads	54%
Rest Rooms	53%

These percentages are based on the ratings of improve to greatly improve. Cycle trails and marinas represented the other extreme with 53% and 43% percent respectively. This data suggest that the recreationists would like to have basic facilities and improvements in the area for their use and enjoyment; however, they would prefer that the developments be simple.

Analysis of the traffic data and use patterns strongly indicates that the north side of the river receives the highest use. Nearly 80 percent of the use recorded during the study entered from the north side utilizing the corridors of Almota, Wawawai, and Steptoe Canyons, and the county road at the Washington-Idaho border. Wawawai was the major entrance corridor with 25 percent of the total traffic entering at this point. The area between Almota and Steptoe Canyons received the highest use.

The socioeconomic data shows that almost 93 percent of the recreationists departed from their home to reach the study area and that 88 percent of the recreation users live within the 0 to 2 hours driving zone of the study area. The recreation clientele is composed largely of local people.

Part II:

The results of the study clearly show the need for several types of recreation facilities and improvements. I would doubt if the recreation clientele presently using the area will change significantly after completion of the Lower Granite project. Since the vast majority of the present use is by the local people of Whitman County and the surrounding area I would like to make several recommendations.

(1) On the basis of the study results and my professional knowledge of the recreation uses and users of the Snake River, I would strongly re-

commend immediate consideration be given to a recreation facility a. Wawawai in the embayment which is on the Corps of Engineer's "take" land. The data suggest that driving for pleasure is the number one recreation activity within this area and with the increase in improved roads this activity will continue to increase. The major use patterns in this area will be routes down Wawawai Canyon and upriver to Steptoe Canyon or out the road at the Washington-Idaho border, or the reverse of these patterns. Presently the Corps Master plans call for a series of water oriented facilities including boat launching areas, parking areas, picnic tables, and vault toilets. With the highest use coming at the Wawawai area and the north side of the river, a developed park at the Wawawai embayment is easily justified. This could compliment the existing launching area planned at Wawawai on the reservoir.

(2) One of the greatest losses in the study area after impoundment will be the natural beaches. Provisions should be made now, to stockpile some of this sand for future use in development of a series of mini-beaches near Wawawai, Steptoe, and the Washington-Idaho border. The sand could be preserved for years by using your suggestion to pave or put in concrete to the water line and the natural sand on the shore.

(3) The recreationists of this area seem to prefer natural areas. With proper planning and development, this area could keep some of its natural charm and attraction. By development of the major recreation areas at the extremes of the area or close to the entrance/exit corridors, and leaving the middle portions relatively undeveloped, this naturalness could be saved, e.g., the area between Wawawai Canyon and Steptoe Canyon on the north side of the river and the area between Lower Granite Dam and Silcott on the south side of the river.

(4) College students comprise 20 percent of the user groups in this area. Large picnics, social outings, and keggars are their primary activities in the area. The area has provided places for this type of use in the past; however, the construction activities and the impoundment will eliminate most of these areas. A well-designed group use area is badly needed.

(5) The Wawawai area park should include comfort stations with flush toilets, picnic areas for family groups and possibly for group use, drinking water, parking area, access, hiking trail to scenic viewpoint, some landscaping, and possibly fencing. A small museum has been mentioned as a very worthwhile addition to this area. The museum could interpret the natural history of the area, archeological findings, and the history of white settlement.

(6) At the Wawawai embayment there exists a unique opportunity with the proper planning. There may be some sedimentation and pollution problems within the embayment as a result of the drainage down Wawawai Canyon. Provisions should be made to reduce the chance of additional pollution sources by restricting power boats in the embayment. Further

studies could be made to determine if future water-oriented, swimming facilities could be developed within the embayment after the embayment was in existence. In the meantime, this area could be used as a sheltered area for canoeing or nature study free of conflict with the boating-type user groups. This area should also provide excellent smallmouth bass fishing and may be one of the few areas where shore fisherman may have the opportunity for fishing without the above mentioned conflict. Small docks could be constructed to increase the shore fishermans enjoyment. Basically, the embayment area has great potential for a diversity of uses and would be relatively free of conflict with boaters if access was restricted. Motor boats have the entire reservoir for use, one area should be set aside for those who do not have this type of equipmant.

(7) With the vast amount of relocation work presently being done, the sportsmen will need temporary facilities near Wawawai and Steptoe for this years fall fishing and hunting and also in 1974. The main facility needed is a launching area at these two locations and access to them.

(8) The planned recreation facilities on the south side of the river and in the Lewiston-Clarkston should adequately satisfy the recreation needs of that area. By comparison, however, such facilities, above Boyer Marina on the Little Goose Pool, are lacking on the north side of the river.

I have discussed these findings with the Whitman County Commissioners and they have given their preliminary approval and interest in pursuing the possibility of a park within the Wawawai embayment. The basic development of the park would be the responsibility of the Corps of Engineers; however, Whitman County would strongly consider leasing it from the Corps for maintenance and operation as a county park within the Whitman County Park System.

Professor Shew and I would be very willing to discuss the total results and implications of our research project with you again. Please contact us if we can be of further assistance.

Thank you for your consideration of our findings and recommendations. Please keep us informed on the status of our recommendations.

Sincerely,

Mike Werner

Mike Werner, Superintendent and Park Planner
Whitman County Parks and Recreation

cc: Whitman County Commissioners
Port of Whitman
Whitman County Regional Planning Office
Whitman County Road Department

SUMMARY OF RECREATION USE PATTERNS
AND USER ATTITUDES ON THE SNAKE RIVER
BY DEPARTMENT OF FORESTRY AND RANGE MANAGEMENT, WSU
1971-1972

The Department of Forestry and Range Management of Washington State University, in cooperation with Asotin, Garfield, and Whitman Counties, undertook this recreation study during 1971-1972. The study area encompassed 36 miles of river from Illia (2½ miles below Lower Granite Dam) to what will be Swallows Marina on the Clarkston frontage. A total of 123 randomly selected study days were assigned to various entrance/exit corridors to the river: Illia, Almota, Wawawai, Steptoe Canyon, Washington-Idaho border, DeChenne's Marina on the Clarkston frontage, and Silcott. 3,239 questionnaires were distributed to recreationists using the area at the corridor stations. Some of the conclusions of the study are:

a. 88 percent of the visitors questioned lived within two hours driving distance of the river.

b. Three activities - driving for pleasure or sightseeing, fishing, and hunting - were selected by 72 percent questioned as a first-preference activity and by 82 percent as a second preference. (See tabulation for a complete listing.)

c. Over 75 percent of the recreationists believed that Lower Granite Lake would detract from their recreational enjoyment of the area.

d. The four features most attractive about the existing river are its scenery, wildlife, fishing, and pristine solitude. Some recommendations of the researchers are:

(1) A park facility should be developed on Corps' lands adjacent to the water embayment behind the railroad at Wawawai, in addition to the boat launch and picnic area already planned by the Corps outboard of the railroad. Driving for pleasure being the number one activity and Wawawai Canyon Road the most popular entrance/exit corridor are cited as justifiable reasons for a major park at Wawawai.

(2) Recreationists seem to prefer natural areas. Retaining the natural beauty should be an objective of planning and development.

(3) One of the greatest losses along the river is the natural sand beaches. Some of this sand should be salvaged prior to impoundment and several beach areas reestablished.

(4) Twenty percent of the user group consists of college students. A group-use area should be provided for their social outings.

Snake River - Illia to Swallows Recreation Preferences		
Activity	**First Activity (Percent)**	**Second Activity (Percent)**
Driving for pleasure	33.30	3.20
Fishing	28.90	4.40
Hunting	9.70	2.50
Picnicking	4.70	2.90
Resting	4.20	2.50
Boating	3.70	1.90
Swimming	3.50	3.30
Collecting	2.60	1.20
Hiking	1.50	2.20
Camping	1.30	1.30
Target Shooting	1.30	.20
Water-Skiing	1.20	1.30
Motorcycling	1.20	.15
Photography	.70	.70
Climbing	.70	.10
Birdwatching	.30	.05
Trapping	.05	.05
Horseback Riding	.00	.05

Exhibit B - Letter to Colonel Richard M. Connell from Frank C. Leonhardy, Washington State University, dated 16 March 1972

WASHINGTON TATE UNIVERSITY
PULLMAN, WASHINGTON 99163

DEPARTMENT OF ANTHROPOLOGY
Office: (509) 335-8556

LABORATORY OF ANTHROPOLOGY
Office: (509) 335-8556

March 16, 1972

Colonel Richard M. Connell
District Engineer
United States Corps of Engineers
Building 602, City County Airport
Walla Walla, Washington 99362

Dear Colonel Connell:

Following our telephone conversation and your formal request of 23 February 1972, I am transmitting herewith my evaluation of the petroglyph panels in the Lower Granite Reservoir area, Snake River, Washington. In the course of our surveys and explorations in the area, we have recorded only two localities in the Lower Granite Reservoir area where there are now, or have been, petroglyphs. One of these sites, 45WT49, located on the right bank of the river near the Lower Granite Dam axis, was recorded by photograph in 1965. This locality has since been destroyed by railroad relocation. The second site in our records, 45AS7, is located opposite the mouth of Steptoe Canyon on the left bank of the Snake River. The petroglyphs here are on a rather extensive panel next to the river below the county road. At this time they do not seem to be endangered by any construction activity.

The Asotin County Historical Association and other interested citizens in the Lewiston-Clarkston area have expressed an interest in salvaging these petroglyphs before the reservoir floods. According to our normal working arrangements with the National Park Service, we have always considered photography as adequate for recording petroglyphs before they are inundated in reservoir pools. On occassion, however, there have been efforts to salvage and move petroglyphs for public display and for preservation. Such relocation is normally beyond the responsibility of the National Park Service and, further, is normally beyond our monetary resources.

Because of the nature of the basaltic rock, removing the petroglyph panels and transporting them is a difficult engineering undertaking. The panels cannot be freed from the rock by blasting because the fractured nature of the rock is such that the explosion would literally blow it into thousands of tiny fragments. Slabbing the rock with saws is so expensive that it probably is not feasible. In my estimation, the most reasonable way to preserve these petroglyphs for public display would be to make plastic peels from rock faces. Molds could be made and the actual face of the rock duplicated by casting. This method has some advantages. First, it would not be exorbitantly expensive; second, the techniques for making plastic peels of rock faces have been developed over the course of years here at WSU and other institutions; third, multiple copies could be made and the orginal peels stored and preserved for further use or further reference. Still, in view of the budgetary limitations imposed upon the National Park Service and on our contracts for archaeological salvage in the Lower Granite Reservoir, Washington State University could not undertake this project. Therefore, if such a relocation project is undertaken,

it would have to be financed either by other public agencies or by private agencies.

There is one other panel of rock art in the Lower Granite Reservoir area to which we have not yet assigned a site number. It is well above pool level, adjacent to the highway between Clarkston and Silcott. It would be damaged only if highway relocation is accomplished by cutting further back into the rock face rather than by relocating the highway on a fill. The art work here is of a type known as pictographs. They are paintings, rather than engravings, in the rock surface. I do not foresee any immediate danger to these panels. We have, on occassion, heard rumors of other small panels located in various side canyons along the Snake River but have not yet found them or recorded them. Therefore, to the best of our knowledge at this time, the only rock art in the region is that which I have described above.

I hope this evaluation will be of use to you. Again, as far as I know, no rock art of any kind will be destroyed in the course of additional road and railroad relocation on the right bank of the Snake River.

Sincerely,

Frank C. Leonhardy

Frank C. Leonhardy
Assistant Professor

FCL/jem

Exhibit C - Resolution by Nez Perce Tribal Executive Committee, dated 5 January 1971, and subsequent resolution dated 4 June 1971

RESOLUTION

WHEREAS, the Nez Perce Tribal Executive Committee has been empowered to act for and in behalf of the Nez Perce Tribe, pursuant to the Revised Constitution and By-Laws, adopted by the General Council of the Nez Perce Tribe, on May 6, 1961 and approved by the Acting Commissioner of Indian Affairs on June 27, 1961; and

WHEREAS, the Nez Perce Tribe, for the last several years, has urged the Corps of Engineers to relocate, at the Corps expense, Nez Perce ancestral burials within the Lower Granite Reservoir; and

WHEREAS, the Nez Perce Tribal Executive Committee has in past year, passed various resolutions concerning the relocation of these burials, and

WHEREAS, the Corps of Engineers has now expressed a willingness to relocate these burials upon certain terms and conditions; and

WHEREAS, the University of Idaho has been designated by the Nez Perce Tribal Executive Committee to represent them in the accomplishments of this project,

NOW, THEREFORE, BE IT RESOLVED, that the Nez Perce Tribal Executive Committee agrees with the Corps of Engineers on the following terms for the relocation of these ancestral burials:

1. That the Nez Perce Tribe affirms its authority and jurisdiction over the ancestral burials in the Lower Granite Reservoir.

2. That the Nez Perce Tribal Executive Committee authorizes and directs the University of Idaho to accomplish the relocation of ancestral burials in accordance with the plans to be submitted by Dr. Roderick Sprague of the University.

3. The Nez Perce Tribal Executive Committee agrees to cooperate with the University of Idaho in providing information as necessary to determine the location of graves.

4. That the Nez Perce Tribal Executive Committee agrees to provide the site for reburial of the ancient Nez Perce graves as previously agreed to and will maintain this site without further consideration from the Lower Granite project.

5. That the Nez Perce Tribal Executive Committee agrees that the proposed relocation includes all presently known Indian burials within the project area.

6. That the Nez Perce Tribal Executive Committee specifically waives United States District Court approval of the location plan and the need for formal condemnation proceedings of the grave sites before and after the fact of relocation.

7. That the Corps of Engineers shall solely be responsible for all expenses in the location and reburial of Nez Perce ancestral burials within the Lower Granite Reservoir.

CERTIFICATION

The foregoing resolution was duly adopted by the Nez Perce Tribal Executive Committee meeting in special session December 14, 1970, in the Tribal Conference Room, Lapwai, Idaho, a quorum of its members being present and voting.

ATTEST:

By: _____
Allen P. Slickpoo, Secretary

_____
Richard A. Halfmoon, Chairman

DEC 1970 RECEIVED

NOTED:

_____
Bill Bryan, Acting Field Administrator
Northern Idaho Agency
January 5, 1971

RESOLUTION

WHEREAS, the Nez Perce Tribal Executive Committee has been empowered to act for and in behalf of the Nez Perce Tribe, pursuant to the Revised Constitution and By-Laws, adopted by the General Council of the Nez Perce Tribe, on May 6, 1961 and approved by the Acting Commissioner of Indian Affairs on June 27, 1961: and

WHEREAS, the NPTEC has previously passed various resolutions, including NP 71-82, concerning the relocation of Nez Perce ancestral burials within the Lower Granite reservoir; and

WHEREAS, the NPTEC has previously authorized and directed the University of Idaho, and particularly Dr. Roderick Sprague of the University to act as its representative in negotiating with the Corps of Engineers for the relocation of these ancestral burials, as well as in the actual relocation of the ancestral burials, and

WHEREAS, the Corps of Engineers has now agreed to relocate these burials upon the terms and conditions approved by the Nez Perce Tribal Executive Committee; and

WHEREAS, the Corps of Engineers has now requested further clarification of its agreement with the Nez Perce Tribal Executive Committee in respect to the burial rights relinquished by the Tribe,

NOW, THEREFORE, BE IT RESOLVED, that the NPTEC agrees to convey to the United States, all its burial rights, and those interests directly arising from such burial rights within the Lower Granite project on behalf of the Nez Perce Tribal members, and further waives the right to visitation or preservation of burial grounds in the project area. It is explicitly understood that no rights other than those solely arising from burials are hereby conveyed or relinquished to the United States.

C E R T I F I C A T I O N

The foregoing resolution was duly adopted by the Nez Perce Tribal Executive Committee meeting in regular session

May 13, 1971, in the Tribal Conference Room, Lapwai, Idaho, a quorum of its members being present and voting.

ATTEST:

By: Allen P. Slickpoo
Allen P. Slickpoo, Secretary

Richard A. Halfmoon
Richard A. Halfmoon, Chairman

NOTED:

Roger D. Bernhardt
Acting Superintendent
Northern Idaho Agency
June 4, 1971

Exhibit D - Letter to Major David R. Spangler from Maurice H. Lundy, Bureau of Outdoor Recreation, dated 22 January 1974

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION
NORTHWEST REGION
1000 SECOND AVENUE
SEATTLE, WASHINGTON 98104

IN REPLY REFER TO:

JAN 22 1974

Major David R. Spangler
Acting District Engineer
Walla Walla District
Corps of Engineers
Building 602, City-County Airport
Walla Walla, Washington 99362

Dear Major Spangler:

We have reviewed the preliminary draft master plan of the Lower Granite Lock and Dam. Although we do not normally review master plans, we did review this one as it relates closely to our participation in the Columbia River and Tributaries Study (CR&T).

A major emphasis of the CR&T study is to analyze the impact of current and future Columbia River system operations on other uses of the river. The master plan neglects mention of the impact of future system operations on recreational sites and facilities being planned for the Lower Granite project. For example, the master plan states that all swimming beaches will be located directly on the shoreline of the pool rather than recessed in order to avoid water quality problems experienced on other reservoirs. Some discussion should be included to describe measures which can be taken to protect these beaches under future power peaking operations. The same would apply to the placement and design of other facilities at recreation sites along the pool.

The CR&T study is also exploring the acceptability of a concept for an overall recreational, cultural, and educational theme for the Columbia River and its tributaries. This master plan should make mention of this effort and its possible ramifications.

We suggest the first sentence in Section 6.01.d be reworded as follows:

> "It is the responsibility of the Bureau of Outdoor Recreation, under Public Law 88-29, to cooperate with and provide technical assistance to Federal departments and agencies and to promote coordination of Federal plans and activities generally relating to outdoor recreation."

Also, we suggest deleting the last sentence of Section 6.01, since it does not appear relevant to the preceding discussion.

We appreciate the opportunity to comment on this plan and hope our input will be of some assistance.

Sincerely yours,

Maurice H. Lundy
Regional Director.

E. E. Allen, acting

Exhibit E - Letter to Colonel Richard M. Connell from Governor Daniel J. Evans, dated 24 April 1972

STATE OF WASHINGTON
OFFICE OF THE GOVERNOR
OLYMPIA

DANIEL J. EVANS
GOVERNOR

April 24, 1972

Colonel Richard M. Connell
District Engineer
U. S. Army Corps of Engineers
Walla Walla District
Building 602, County-City Airport
Walla Walla, Washington 99362

Dear Colonel Connell:

Reference is made to your March 7, 1972 letter directed to me relative to Silcott Island (Chief Timothy Park), located in Asotin County, Washington. Your letter notes views regarding two possible conflicting aspects of planning for use of shoreland areas associated with the Lower Granite Lock and Dam project.

You mentioned that representatives from our Washington State Department of Game as well as the State Parks and Recreation Commission had both expressed keen interest regarding the use of the land for their respective agencies. I am in receipt of a letter from Charles Odegaard, Director of the Washington State Parks and Recreation Commission, dated April 18, 1972, which I feel clarifies any conflicting interest that might exist between the two state agencies. In essence, both State Parks and Game feel that jurisdiction of the Silcott Island property should exist with State Parks.

I concur with the above recommendation and therefore suggest that you work closely with representatives of the State Parks and Recreation Commission to effect an overall development which will provide yet another high quality State of Washington recreation facility.

Sincerely,

Daniel J. Evans
Governor

DJE:kd

cc: Carl Crouse, Director, Department of Game
Charles Odegaard, Director, State Parks and Recreation Commission

Exhibit F - Letter to Mr. Bernard C. Christensen from Robert E. Reiter, Washington State Parks and Recreation Commission, dated 7 June 1974

WASHINGTON STATE
PARKS & RECREATION COMMISSION
REGION III
EASTERN REGION
960 N. MAIN ST.
EAST WENATCHEE, WASHINGTON 98801
PHONE 884-7144

June 7, 1974

Corps of Engineers
Walla Walla District
Building 602
City-County Airport
Walla Walla, Washington 99362

Attention Mr. Bernard C. Christensen

Chief Timothy Site - Resources Development

Gentlemen:

We have reviewed your preliminary draft of the lower granite master plan. In view of our potential involvement at the Chief Timothy site, we have confined our review to this area of the plan. In general the material in the plan reflects previous planning and discussions between the Corps and various State Parks staff. The following comments may be of value to you in developing a more complete plan.

Sections 4.02 and 4.03

We know that several archaeological digs have been conducted in areas at the Chief Timothy site that will be flooded when the dam is completed. Our question is, are there any potential dig sites on the island itself that may still need to be dug and if so, will they be dug soon or will they possibly hold up development at a later date?

Section 10.04

Part B of this section deals with the Chief Timothy site and the anticipated poor water quality of the 95 acres of shallow water between the island and the south shore. It is stated, "Acquatic growth in these areas can be expected unless some corrective action is taken." We feel that a complete plan to correct this condition should be set forth in this master plan. It would appear that this is essential in order to properly plan the development of the Chief Timothy site.

We look forward to continuing the fine effort towards the eventual development of the Chief Timothy site, and should you have any questions in regards to the above comments, please don't hesitate to contact us.

Sincerely,

Robert E. Reiter
Regional Planner

cc: William A. Bush, Chief, Research and Planning

Exhibit G - Letter to Major David R. Spangler from William G. Hagdorn, Idaho State Parks and Recreation Department, dated 17 January 1974

Idaho State
PARKS & RECREATION DEPARTMENT
STATEHOUSE MAIL - 2263 WARM SPRINGS AVE., BOISE, IDAHO 83720
PHONE: (208) 384-2154

STEVEN W. BLY, Director
R. P. Peterson, Deputy Director

January 17, 1974

Major David R. Spangler
C.E. Acting District Engineer
Dept. of the Army
Walla Walla Dist. Corps of Engineers
Building 602
City/County Airport
Walla Walla, WA 99362

Re: Lower Granite Master Plan
Preliminary Draft Form

Dear Major Spangler:

We have just completed our initial review of the Lower Granite Master Plan - Preliminary Draft.

Our only comment at this time concerns Section 10 - Special Problems. On Page 10-1, reference should be made to the fact that interpretation will also be part of the program development at Hell's Gate State Recreation Park just outside of Lewiston, Idaho. The Corps has programmed approximately $100,000 for this development.

One of the main priorities outlined by our Department, submitted to the Corps of Engineers, was the development of an interpretive education center as part of the initial development of the State Park. It is our present understanding that this was included in the final plans by the U.S. Army Corps of Engineers.

Secondly, the proposed drawing of the Hell's Gate State Recreation Park has changed somewhat, and these changes have been presented to the Corps. Particular attention should be given to the location of the interpretive education area and also the peninsulas that appear to be projecting out from the initial campground development area and the day-use area.

Thank you for the opportunity to submit comments on this master plan.

Sincerely,

FOR THE DIRECTOR

William G. Hagdorn

William G. Hagdorn, Chief
Resources & Development

Exhibit H - Letter to Colonel Nelson Conover from Carl C. Moore, Idaho Department of Highways, dated 22 January 1974

STATE OF IDAHO

DEPARTMENT OF HIGHWAYS

P.O. BOX 7129
BOISE, IDAHO 83707

January 22, 1974

Colonel Nelson Conover
Corps of Engineers
Building 602, City-County Airport
Walla Walla, Washington 99362

Dear Colonel Conover:

This is with reference to the draft copy of the Lower Granite Lock and Dam Master Plan. Some years ago the Urban Transportation Committee of the communities of Lewiston and Clarkston concurred in a joint plan for an interstate bridge on the Snake River, the location of this bridge to be just upstream of the point where Southway reaches the Snake River.

In examining Plate 2 of the Master Plan it would appear that on the Idaho side of the Snake River the land use plan would permit construction of the bridge abutments and the approaches. However, on the Washington side it appears that the area is zoned for intensive recreation use. My concern is that if no mention is made of a future bridge at this location the land use plan would block construction of the abutments and approaches on the Washington end of the proposed bridge. It would appear that there should be some mention in the Master Plan of this proposed future construction.

Sincerely yours,

Carl C. Moore

Carl C. Moore, Chairman

ep
cc Honorable Leonard Williams, Mayor
of the City of Lewiston
Vic Richardson, State Highway Engineer

Exhibit I - Letter to Major David R. Spangler from I.S. "Tony" Weza, Asotin County Commissioner, dated 21 January 1974

LEONARD LAHTI, CHAIRMAN
COMMISSIONER, SECOND DISTRICT
LARKSTON, WASHINGTON

ROBERT SHINN
COMMISSIONER, THIRD DISTRICT
CLARKSTON, WASHINGTON

Asotin County

TONY WEZA
COMMISSIONER, FIRST DISTRICT
CLARKSTON, WASHINGTON

LaDORIS SMITH, AUDITOR
CLERK OF BOARD
ASOTIN, WASHINGTON

P. O. BOX 216
ASOTIN, WASHINGTON 99402
PHONE (509) 243-4165

January 21, 1974

David R. Spangler, Major, C.E.
Acting District Engineer
U. S. Army Corps of Engineers
Bldg. 602, City County Airport
Walla Walla, Washington 99362

Dear Major Spangler:

Re: Lower Granite Lock and Dam Master Plan Design Memo No. 28.

We are in receipt of the Lower Granite Lock and Dam Master Plan Design Memo #28 noted as a guide for the development, management, and operation of the Lower Granite project.

We have, thru and with our Asotin County Parks and Recreation Board, reviewed the plans with particular attention to those areas in which we are affected.

The fullest development of our potentials in the best public interest is of prime concern to us; and in this light we are pleased to give you our reactions:

In a general sketch manner, we note where Asotin County is concerned, the projects included are: Swallows Park and Marina and Beach, the Green Belt, Chief Looking Glass Park, and Chief Timothy State Park. We are pleased with these inclusions.

However, since comprehensive detailed plans for Swallows Park and Marina are not included, we are not in a position to comment except that we shall anxiously await these plans now being prepared by CH2M, and as we understand, will be available for review approximately the middle of February 1974. We are interested in as much basin and facility development as is possible with your projected funds. Although Asotin County suffers funding limitations due to low tax base and tax limitations laws, the Asotin County Commission has budgeted in the 1974 budget an item of $5000.00 for facitity study.

At this point, we note that there are no plans for temporary and emergency ramps or docking facilities as shown in previous plans. We would request that your department provide temporary facilities for the 1974 boating and fishing seasons as this area is used by a great many people of Asotin County and a large area of this and neighboring

Asotin County

P. O. BOX 216
ASOTIN, WASHINGTON 99402
PHONE (509) 243-4165

states. With the present private marina operations eliminated due to your construction processes, the demand for temporary facilities will be great.

We recommend, further, that you give study to a sewer and water system as related and for possible tie-ins with the Asotin County plans.

We trust that the people of Asotin County will gain a complete development of the full potential of these natural resources and in this we ask your continued cooperation and pledge ours.

Sincerely yours,

Tony Weza

I. A. "Tony" Weza
Asotin County Commissioner
Exofficio Parks & Recreation Board

Exhibit J - Letter to Major David R. Spangler from Armand E. Werle, Lewiston City Manager, dated 23 January 1974

IDAHO'S ONLY SEAPORT
POST OFFICE BOX 617
LEWISTON, IDAHO 83501
208-746-3671

ARMAND E. WERLE
CITY MANAGER

January 23, 1974

Major David R. Spangler
Acting District Engineer
Walla Walla District Corps
of Engineers
Bldg. 602, City-County Airport
Walla Walla, Washington 99362

Dear Major Spangler:

Thank you for the opportunity to review the draft copy of your Lower Granite Lock and Dam Master Plan. I would like to present these comments for your consideration.

1. Omission of Boating Facility. The colored map that has been on display in our City Hall for the past year or so shows a boat launching and tie-up (day use) area just south of the Lewiston Pre-Mix Plant where the levee ties in to the existing river bank. This is not discussed at all in your Master Plan Draft. Within the past two weeks both Colonel Conover and Ferd Swenson responded to direct questions that the facility is still part of the plan. It should therefore be included in the Master Plan document if we are to believe the presentation made by the Corps of Engineers.

2. "Southway Bridge". Although the exact location of a second east-west bridge crossing the Snake River in the vicinity of Southway has not been determined, the City asks that your proposed developments do not preclude such future construction.

3. Chapter 13 on Fire Protection states that local firefighting units are summoned to extinguish fires but that no cooperative agreement exists. Lewiston policy is not to fight fires outside the City limits unless we have such a contract. This could affect the Hell's Gate Marina.

4. We hope that a cooperative project can be undertaken with respect to the design, construction and maintenance of the Kiwanis Parkway area. We are currently discussing this possibility along with the possible use of some of this area for industrial use.

I feel that the Master Plan is well written and quite complete with the exceptions noted above. I would be happy to discuss this with you at your convenience.

Sincerely,

Armand E. Werle
City Manager

AEW/mkm
cc: Senator Mike Mitchell

Exhibit K - Letter to District Engineer from J. Norvell Brown, Bureau of Sport Fisheries and Wildlife, dated 29 January 1974

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

Reference: RBS

River Basin Studies
P. O. Box 1487
Olympia, Washington 98507

January 29, 1974

District Engineer
Walla Walla District, Corps of Engineers
Building 602, City-County Airport
Walla Walla, Washington 99362

Dear Sir:

This is in response to your January 8, 1974 letter concerning our views on your Lower Granite Master Plan presently in preliminary draft form.

We are confining our remarks to aspects of the draft report related to wildlife and resident fish resources. Section 3 - Project status indicates fish and wildlife facilities as 39 percent complete. Possibly, this figure relates to fish passage facilities. We are unaware of any significant wildlife mitigation at this project.

Section 4 entitled "Recreational and Environmental Resources of the Project Area" fails to point out anticipated severe fish and wildlife losses from project effects as described in the Special Report on the 1972 Lower Snake River Dams issued by the National Marine Fisheries Service and Fish and Wildlife Service. The statement "Most of the riparian growth along the river bank will be destroyed, and wildlife will be disturbed and the free-flowing river will become a slackwater pool," is inadequate in this respect. Project-incurred destruction and/or modification of floodplain and riverine environment will in fact, result in major losses of dependent fish and wildlife. Additionally, we note a disproportionate amount of space in Section 4 devoted to geologic, archeological and historical considerations. The half-page treatment of ecological aspects compared with the several pages given to each of the other areas of concern gives the impression that environmental aspects, including fish and wildlife, are minor project concerns.

Section 5 - We suggest inclusion of fish and wildlife management as a factor influencing other resource management and development. Your land use plan map shows most of the reservoir shoreline dedicated to wildlife management.

On page 8, Section 5, we note that you predict project recreation will not be sight-seeing, hunting, and fishing - the present major activities.

You envision picnicking, swimming, bicycling, etc. - major activities at existing Snake River-Columbia River projects. This change in recreational activity appears contradictory to implications of the extensive fish and wildlife plan presented in our Lower Snake River Dam report. We believe major fish and wildlife developments anticipated for this project will result in substantial fish and wildlife recreation opportunities. We are concerned that you have not mentioned this type recreation potential.

Section 6 - Coordination With Other Agencies. We are uncertain as to why this agency was omitted from the list of Federal agencies since we have participated in your planning process by providing fish and wildlife assistance from time to time.

Section 7, page 6, 7, paragraph 2. Recommendations in our mitigation report also include control of off-project lands for wildlife management.

Section 7, page 4. We note that wildlife habitat improvement is provided for under (1) Initial development but wildlife use is provided only on an interim basis under Future development if such use does not adversely affect the basic recreation values. We consider fish and wildlife to provide the basis for major recreation values and strongly urge your support of nonconsumptive wildlife use on your recreation lands.

This type use has been integrated into your plans at other parks on Lower Snake River. Limited potential areas for intensive wildlife management along Lower Granite areas is an essential reason for inclusion of wildlife in your present master plan.

On page 5 of Section E, under Big Game, deer population estimates are far below estimates of the wildlife agencies as presented in the Lower Snake River Dams mitigation report. Their estimate is a harvest of 400 deer from lands affected by the four projects. Deer populations are highest in the Lower Granite pool area.

On page 28 of Section E, under plantings, reference is made to wildlife benefits from suitable vegetation. This general idea should be defined specifically in detailed descriptions and inclusion of wildlife planting locations in park plan drawings.

We are pleased to be of assistance in your master plan formulation. Feel free to call upon us for any additional assistance.

Sincerely yours,

J. Norvell Brown

J. Norvell Brown
Field Supervisor

Exhibit L - Letter to Major David R. Spangler from John Douglas, Washington Department of Game, dated 18 March 1974

DEPARTMENT OF GAME

600 North Capitol Way / Olympia, Washington 98504

March 18, 1974

Major David R. Spangler, C. E.
Acting District Engineer
Department of the Army
Walla Walla District, Corps of Engineers
Building 602, City-County Airport
Walla Walla, Washington 99362

Dear Major Spangler:

On 8 January 1974 you mailed this office a copy of the Lower Granite master plan in preliminary draft form. Your cover letter requested our review and comments by 20 January, if possible.

By letter of 24 January our Mr. Hoffman acknowledged receipt of a second report copy. This copy was to be used by field biologists for their review and more knowledgeable comment.

Please accept our apologies for the lateness of the response; due to the untimely death of Mr. Hoffman we are only now able to complete some of his unfinished work. Therefore, please consider the following comments as our impressions of the Lower Granite Master Plan.

Generally speaking, we find the sections contradictory in many instances. For example, Section 5 presents a rather realistic view of project conditions and prospects whereas Section 9 design criteria seem intent on replacing wildlife-oriented recreation with a more urban-oriented recreation.

The proliferation of recreational developments - some listed for areas needed for wildlife - is not warranted by local studies (Section 19, Exhibit A). The relative importance of wildlife-oriented recreation, solitude, and natural aesthetics indicated by this study contrasts the facilities outlined in Section 9. It is unlikely that residents of this region will accept ballparks, playgrounds, shuffleboard and horseshoe pits as a substitute for hunting and fishing.

We cannot assume that fish and wildlife will be found in its usual and accustomed places after the project is complete. Responsible agencies have agreed upon a mitigation plan and a major element of this plan must be satisfied on project land. The best project lands offer best opportunities for habitat development success. Large amounts of fish and wildlife, with documented recreation capacities and economic values, are being destroyed by this project and the obligation is established to replace them. No parks are being destroyed, but effort is basically oriented to park development in this plan.

Is is not true that the individual effect of Snake River Projects was"too small" to warrant individual wildlife mitigation (page 10-2). The problem, rather, was one of total assessment of resource damages and recognition of the magnitude of the task to replace them. Mitigation sites located behind railroad or highway fills, riprap, or intensely developed parks stand little chance of successfully replacing wildlife. Woody, riparian edge should be a component of every wildlife mitigation site.

Exhibit E implies that certain small areas (page 22) after development will increase wildlife carrying capacities and result in greater harvests of wildlife (page 23). It should be made clear that small areas will not replace former populations or "increase" harvests. Neither are they likely to satisfy the dominant recreationist (fishermen and hunters) in this region. The statement that the presence of increased numbers of hunters could be considered a "negative ecological aesthetic factor" (Exhibit E, page 23) is surprising and confusing in view of high attendance levels predicted for park-type facilities where they are considered a positive factor.

A recent meeting with Walla Walla Corps was held to discuss project features, particularly those relating to reservoir clearing. We received tentative agreement at this meeting that standing trees would not be removed except within the main navigation channel. These emergent trees would have high values for non-game wildlife. This information contradicts the statement on page 6-9 which calls for removal of all vegetation over 4 inches in diameter. Anchored brush piles, on shore and in the pool, were tentatively agreed upon as habitat facilities for fish and wildlife.

It is impossible to make page by page review comment because various authors and interests are represented. Why not include the wildlife mitigation plan as part of this report? This would tend to balance the subjective park plans set forth in this report.

Thank you for the opportunity to review and comment on the Lower Granite Master Plan. We hope you find it possible to incorporate these comments in your final plan.

Sincerely,

THE DEPARTMENT OF GAME

John Douglas

John Douglas, Deputy Chief
Environmental Management Division

JD:jb
cc: Wendell Oliver
Duane Eldred
Jack Kirkendall

Exhibit M - Letter to District Engineer from J. Norvell Brown, Bureau of Sport Fisheries and Wildlife, dated 7 November 1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

River Basin Studies
P.O. Box 1487
Olympia, Washington 98507

November 7, 1973

District Engineer
Walla Walla District, Corps of Engineers
Building 602, City-County Airport
Walla Walla, Washington 99362

Dear Sir:

This concerns our meeting with Washington Department of Game and members of your staff at your office on November 1, 1973, concerning potential fish and wildlife mitigation measures for development during Lower Granite project construction. These measures include development of borrow pits, highway cutoff areas and embayments as subimpoundments, island construction, and retention of selected vegetation in the pool area.

We understand the most urgent consideration relative to your construction schedule is the vegetative clearing plan. It was agreed that navigation channels would require elimination of woody vegetation. However, participants at the meeting were in general agreement that all other woody vegetation including trees in the pool area would be retained. Of particular concern is preservation of emergent shrubs and trees in embayments and other reservoir shoal areas. Additionally, cut woody vegetation should be retained for use in artificially constructed habitat along the reservoir. Your staff appears to have worked out a good approach to this general concept. We will be pleased to assist in this planning.

It was agreed that further study would be required concerning subimpoundment modifications, and public use related to their fish and wildlife values. Upon receipt of requisite drawings and related data, we will work with Washington Department of Game to provide information for your use in project formulation.

The importance of islands to the overall wildlife planning for lower Snake River was discussed. We believe your plans for island formation near Wilma are commendable initial action relative to this habitat type at Lower Granite project.

We are pleased to be of assistance in planning for fish and wildlife affected by Lower Snake River Dams and anticipate continuing cooperative efforts with your staff and State fish and wildlife agencies.

Sincerely yours,

J. Norvell Brown

J. Norvell Brown
Field Supervisor

Exhibit N - Letter to Colonel Nelson Conover from Carl C. Moore, Manager, Port of Lewiston, dated 15 January 1974

PORT COMMISSIONERS:
B. H. (BOB) WITTMAN, PRESIDENT
MEREL STONEBRAKER, VICE-PRESIDENT
JAMES H. KAYLER, SECRETARY

PORT OF LEWISTON
COUNTY OF NEZ PERCE
STATE OF IDAHO

LEWISTON, IDAHO 83501

CARL C. MOORE, MANAGER
THOMAS W. FEENEY, COUNSEL

513 MAIN STREET
TELEPHONE 743-5531

January 15, 1974

Colonel Nelson Conover
Corps of Engineers
Building 602, City-County Airport
Walla Walla, Washington 99362

Dear Colonel Conover:

This letter is with reference to your letter of January 8 with which was enclosed preliminary draft of the Lower Granite Lock & Dam Master Plan. We received this Master Plan January 14 with the request that comments be received by January 20. Because of this time limitation we have given the Master Plan only a cursory examination and may very well have overlooked some pertinent material.

However, in Section 7, "Allocation of Project Lands", there is some material which causes us immediate and serious concern. On Page 7-2 reference is made to public port terminal land. On the following page under the same paragraph is the following statement: "Low density recreation use or wildlife habitat management will be permitted on an interim basis on public port terminal lands."

Paragraph 3 on Page 7-3 refers to industrial use and access land. On this same page the statement permitting low density recreation use and wildlife habitat management on an interim basis appears with reference to industrial use and access land.

On page 7-5, in Paragraph C, which continues on Page 7-6, considerable description is devoted to low density recreation use. The obvious implication is that if such use is permitted on land zoned for port terminal and industrial use the future development of these lands will be placed in jeopardy.

It is significant that in Paragraph 2 at the top of Page 7-5 a specific protection against such encroachment is written in for recreation land. The sentence reads as follows: "This interim use must be of such a nature that it can be terminated and the land made available for the purpose for which it is reserved." No such protective language is provided for other than land reserved for recreation.

The entire document is so voluminous and contains such a tremendous amount of detail that it cannot be adequately reviewed within the time specified. It

would be our request that at least an additional month be allowed so that our limited staff at Pacific Northwest Waterways Association might also have the opportunity to review the various provisions.

Sincerely yours,

PORT OF LEWISTON

Carl C. Moore, Manager

ep
cc H. Calvert Anderson
William Behrens
Larry Lothspeich

Exhibit O - Letter to District Engineer from W.C. Behrens, Manager, Port of Clarkston, dated 16 January 1974

PORT OF CLARKSTON

ASOTIN COUNTY PORT DISTRICT • 435 5th St., Clarkston, Washington 99403

16 January 1974

District Engineer
Corps of Engineers
Walla Walla, Washington 99362

Attention: Colonel Conover

Dear Colonel Conover:

Reference is made to the preliminary Lower Granite Lock and Dam Master Plan and your request for our comment thereon.

Our comments follow:

A. Section I --- No comment.

B. Section II --- Plate #1 is missing.

C. Section III --- No comment.

D. Section IV --- Page 4-13, Paragraph (4), Potential Waterfront Development should include: "Port facilities at North Lewiston, Clarkston, and Wilma-North Clarkston .....confluence."

E. (1) Section V. Page 5-2, Paragraph B, Railroad and Highway Relocation. Line 6 --- Suggest this addition: "..... otherwise attractive shoreline reaches which could have been developed for commercial and/or recreation purposes."

(2) Page 5-4 G, Accessibility, Line 10. ".....and SR 193 which ultimately will come from U.S. 195 at Colton down Steptoe Canyon to Clarkston and Lewiston are being ....."

(3) Page 5-6 (1) Pool, Line 9. Suggest line 9 read as follows: "Feed lots and municipal wastes are the largest .....Granite." Delete the next sentence as there is no feed lot at River Mile 150 above the project.

(4) Page 5-9 (2), Line 7. U.S. 193 should read SR 193.

Note: If Section 5 is considered to be the recreation section of the Master Plan, I find little to quarrel about. If, however, Section 5 pertains to resource development, then the requirements for commercial industrial land use should have equal weight with the recreation. Wasn't that the reason for the construction of a lock in the dam at some expense to the taxpayers? Attached for your review is another copy of the Tri-Ports' efforts to prevent degradation of air and water quality commented upon by the Master Plan drafter.

F. Section VI --- No comment.

G. Section VII --- General comment: Your preliminary Master Plan is an excellent effort to assure creation, continuity, protection and development of recreation uses for project lands. No such reservation and protection is provided project lands shown for commercial and industrial use adjacent to port districts ownership. The reverse is true, as these commercial and industrial project lands can be used on an interim basis for low density recreation and wildlife management operations. These low density uses of commercial and industrial frontage (Page 7-3, Paragraph 3) may include hiking, horse and bicycle trails, camping and similar low density activities that shape the public understanding of the environment (Pages 7-5 and 7-6). Your attention is invited to Pages 1-3 and 1-4, Project Purposes. Please note that navigation provides 4% of the project benefits as compared to 1% for recreation. Logically then, the commercial and industrial classification should receive four times the protection, reservation, and emphasis in your Master Plan. We strongly disagree with the permissive recreational use of project lands classified for commercial and industrial uses.

Experience has clearly shown that once project lands are used for recreation, their diversion to commercial and industrial uses is extremely difficult and involves an adverse public relations reaction.

We again reaffirm our many prior written and verbal requests to the District Engineer for reservation of project lands for commercial and industrial use. In summary, these Port of Clarkston requirements are reaffirmed:

A. Reservation of land for Port of Clarkston acquisition for commercial and industrial use. The land area requested is north and west

of the Interstate Bridge, outboard of the present Port ownership, and includes project landsto their junction with U.S. 12. These project lands will:

1. Permit construction of Port Drive and access to the SR 193 Bridge.

2. Permit Port construction of a public dock in an area between the present Meats, Incorporated plant and the City of Clarkston sewer plant.

3. Permit Port of Clarkston access to the Lower Granite Pool along the present Port-owned north boundary.

B. Request that the District Engineer take the following action:

1. Amend Plate #2 to show a small public dock area on project lands adjacent to the Port of Clarkston per A-2 above and plans previously sent to your office.

2. Include in Section 7 of the Master Plan an explicit general description of project lands reserved for commercial and industrial use by port districts.

3. Delete any reference to interim use of commercial industrial lands for recreation or wildlife propagation uses. Provide the same protection to commercial and industrial project lands that has been so amply detailed for recreation, fish and wildlife, marina, natural areas and other lands reserved to shape the public understanding of the environment.

Please note these comments:

A. The Port District on 09 July 1968 initiated the action to reserve the current Clarkston sewer plant site, waiving any Port District future needs for that site.

B. As previously pointed out, the Port District plans to acquire project-owned lands on a piecemeal basis due to budget constraints. The first area needed will be that portion of project lands west of the sewer plant and east of Meats, Inc. so that we can construct a public port terminal "in the dry".

The foregoing comments are forwarded as our preliminary comment to be responsive to your 20 January 1974 deadline. On 15 January 1974, I informed Major Spangler that Copy 15 of your Master Plan was incomplete. Major Spangler indicated that the missing plates (#1 and #4 through #21) might be forwarded if available. Request ten days additional time for comments to you subsequent to our receipt of the missing plates.

Sincerely yours,

W. C. Behrens
Manager

WCB/df

cc: Port of Lewiston
Port of Whitman County
Pacific Northwest Waterways Association (Cal Anderson)

Exhibit P - Letter to Colonel Nelson P. Conover from L.J. Lothspeich, Manager, Port of Whitman County, dated 29 January 1974

PORT OF WHITMAN COUNTY

Telephone: Area Code 509 EXbrook 7-3791

W. 105 Island Street
~~208 South Main Street~~
COLFAX, WASHINGTON 99111

29 January 1974

Colonel Nelson P. Conover, CE
District Engineer
U. S. Army Corps of Engineers
City-County Airport Bldg. 602
Walla Walla, Wa. 99362

Subject: Lower Granite Lock and Dam-
Master Plan - Draft.

Attn: Mr. B. C. Christensen, Chief
Reservoir Planning Section.

Dear Colonel Conover:

The draft copy No. 14 of the Lower Granite Lock and Dam Master Plan has been reviewed by this office.

We are quite familiar with the completed plan, as your office has kept us up to date with preliminary planning through the years.

The only general remark for the entire report seems to be that it is apparently misnamed. From the percentage of the report devoted to recreation a more proper title would be'the Lower Granite Lock and Dam Recreation Master Plan'. With average annual recreational benefits estimated as having a value of only 1% of the entire project, the plan is out of perspective with some 90% of the verbiage allocated to recreation projects.

The low density recreational use of public port or terminal lands as outlined may be realistic for an interim use as long as this land is in Government ownership. This public use aspect is spelled out in several places in the report and may well lead to serious problems of access control for public entities during and after industrial development. This Corps attitude for public usage seems so important to even be treated as a reservation or restriction in the proposed quit claim deed as outlined in the Draft-Environmental Impact Statement for the Lewiston-Clarkston area Industrial Site.

Why convey lands and then tell the purchasing entities how to deal with the public as regards their use?

Colonel Nelson P. Conover, C.E.
U. S. Army Corps of Engineers
Walla Walla, Wa. 99362

Subject: Lower Granite Lock and Dam-
Master Plan - Draft.

Attn: Mr.BC.Christensen, Chief.

Item 1. 8.03 Offield Canyon Recreation Site.

Sentence 4. "Access will be afforded by the Wawawai Grade Road and by County Road 486 from the dam both gravel roads".

This remark is confusing. Wawawai and the Wawawai Canyon are in Whitman County. If a Wawawai grade exists in Garfield County we are not aware of it.

Waste Disposal

a. Garbage Disposal Sentence 2. "It is anticipated that the contract would be extended to take in the Corps maintained recreation sites on the middle and lower end of the Lower Granite Reservoir etc.". The extension of the garbage contract from the Lower Granite Dam to Wawawai would require a road trip of 26-miles, unless a connecting road from the dam to Wawawai were constructed before Pool.

Item 2.

The design on Plate 23 shows an embayment throat open to the current of the river which in our estimation will collect debris during periods of run-off. We realize that Wawawai is near the dam and some thirty miles from the free flowing rivers. It has been our observation that each spring the Collier slough at Central Ferry becomes entirely full of floating logs, chips and other debris even though it is some 23.3-miles from the free flowing Snake River. During the run-off of January 1974, the Collier slough area at Central Ferry was nearly completely filled with logs and other debris.

The Penawawa embayment also fills through the small railroad bridge opening. It would seem practical to re-design the breakwater or provide boom protection to minimize the entrance of this floatsum material. A log boom at Penawawa was very effective in protecting the embayment from debris until it was removed and towed away by persons unknown.

The design of Blyton and Sugarloaf in our estimation will have similar debris problems in May and June.

The Port Commissioners and I appreciate the opportunity to screen the Master Plan in the present form, knowing that it is the result of many years of dedicated work by your staff.

Yours very truly,

PORT OF WHITMAN COUNTY

L. J. Lothspeich

L. J. Lothspeich, Manager

LJL/lc

Footnotes

[1]Letter from Dr. Frank C. Leonardy to Colonel Richard M. Connell, dated 16 March 1972 (see exhibit B).
[2]Resolution Number NP 71-82, dated 5 January 1971, by the Nez Perce Tribal Executive Committee (see exhibit C).
[3]*Vegetation Inhabiting the Lower Granite Reservoir Basin*, Clegg, Ferris L., Master's Thesis, 1973.
[4]Study made in 1971-172 by Washington State University (see Exhibit A).
[5]In September 1970 and 1971, crews from the University of Idaho, under contract with the Corps of Engineers, surveyed existing rooted vascular aquatic vegetation at Little Goose (Lake Bryan), Ice Harbor (Lake Sacajawea), and McNary (Lake Wallula).
[6]The growth of these plants would be limited by the dehydration which could occur with an exposed littoral zone and/or by water depth (greater than about 5 feet), which would inhibit sunlight needed for photosynthesis.
[7]In 1969, a fishing experiment was carried out at Lake Sacajawea (Ice Harbor) to identify ways to catch adult steelhead as they passed through the lakes. Although 22 fish were caught in the lake during the experiment, the catch rate per effort expended was much lower than experienced in the open river. Until sport fishermen develop more successful techniques for harvesting steelhead in such lakes, there will e very few steelhead fish caught in Lower Granite Lake. The steelhead fishing activity will be concentrated below the dam and at the upstream end of the project.
[8]Entire program for fish and wildlife mitigation for the Lower Snake River (Ice Harbor, Lower Monumental, Little Goose, and Lower Granite) is covered in a separate report.

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
BLDG. 602, CITY-COUNTY AIRPORT
WALLA WALLA, WASHINGTON 99362

NPWEN-DB

11 October 1977

SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 1 to DM 28, Allocation of Project Lands

Division Engineer, North Pacific

1. The purpose of this letter supplement is to obtain approval to reallocate 34 acres from project structures to wildlife management intensive. The tract is located on the north side of the subject reservoir at river mile 135.

2. The site described above was reserved in the original Master Plan for the location and construction of a debris removal facility. Being only four miles downstream from the confluence of the Snake and Clearwater Rivers, the facility was intended to collect and dispose of debris at this upper reach of the reservoir which would have substantially reduced the debris problem downstream through the remaining 27 miles of reservoir. This decision has been reversed and it is no longer intended to use this site for that purpose.

3. Adjacent land downstream from the subject tract is currently allocated for wildlife management intensive. It is smaller than the subject tract (contains a total of 20 acres) and somewhat isolated from other intensive wildlife lands. The combination of the two would make an area large enough for active management practices. Bordering the upstream boundary of the 34-acre tract are approximately 140 acres of shoreline land which have been sold under two separate transactions to Whitman County for industrial use and access. This is not reflected on the attached land use maps since the most recent sale took place in early 1977 and the land use map was not revised. They have several developments on these lands; however, the developments are located far enough away and are of the type that would not be detrimental to wildlife activities. The Camas Prairie Railroad is on the landward side of the 34-acre plot.

4. The area is well suited for wildlife management as it gently slopes toward the reservoir and the lower part is subirrigated. Management will be aimed at providing winter cover for upland game and spring brood pasture for geese. In their study of wildlife of the lower Clearwater River, the University of Idaho found that geese produced on Hog Island, located nine

miles upstream from Lewiston on the Clearwater River, travel downstream to the Wilma-North Clarkston area to brood their young. Also, an artificial island constructed near Wilma offers additional potential for wildlife in the area. It is proposed that pasture be provided along the shoreline and irrigated cover vegetation be planted on the drier uplands.

5. Attached are five copies of the map showing the 34-acre tract and adjoining lands. Your approval of this requested change will be noted and the necessary adjustment will be made at the next revision of the map.

1 Incl (quint)
As stated

E. J. ALLAIRE
Colonel, CE
District Engineer

NPDPL-ER (11 Oct 77) 1st Ind

DA, North Pacific Division, Corps of Engineers, P.O. Box 2870, Portland, Oregon 97208 16 January 1978

TO: District Engineer, Walla Walla

The letter supplement is approved subject to the clarification in paragraph 2 that an alternative debris disposal plan has recently been submitted and approved.

FOR THE DIVISION ENGINEER:

Incl
nc

VINCENT E. BROWNELL
Executive Assistant

MASON:3829:JMG

NPDPL-ER (21 Apr 83) 3rd Ind
SUBJECT: Approval of Land Classification Change, Lower Granite Lock and Dam
Letter Supplement 1.1 to DM 28
DA, North Pacific Division, Corps of Engineers, P. O. Box 2870,
Portland, OR 97208 12 July 1983

TO: Commander, Walla Walla District

1. Your proposed land use classification change is approved subject to the following comments.

2. Although paragraph 5 of your basic letter discusses the use of volunteers to develop and maintain the site, please be advised that the Corps of Engineers has no statutory authority to use volunteers. OCE has informally notified this office that proposed legislation that would authorize volunteerism at Corps projects is being considered; however, no specific legislation has yet been introduced to Congress.

3. As a follow-up to this change in land use, a revision to the wildlife acreage data for the Lower Granite project should be submitted to NPD pursuant to instructions provided by previous correspondence on this matter dated 17 April 1981, subject: Acreage of Lands Managed for Wildlife Purposes, North Pacific Division.

4. A wildlife management plan for the Asotin Slough should be prepared and submitted to NPD for review and approval prior to initiating development and management activities in that area.

5. Approval provided herewith is specific to the land use classification change and does not constitute approval of Lower Granite DM 34, Part A. However, based on this approval, you are requested to delete Asotin Slough from further consideration as a debris disposal site in conjunction with the Snake River debris boom recommended in DM 34, Part A, and focus instead upon one of the alternative locations.

FOR THE COMMANDER:

SIGNED

JAMES H. HIGMAN
Colonel, Corps of Engineers
Deputy Commander

cf:
NPDEN
NPDCO
NPDRE

MFR: NPD 1st Ind withheld approval of land use change pending final disposition of Snake River debris boom discussed in Lower Granite DM 34, Part A. It further chastised NPW for submitting two divergent recommendations for the same parcel of land to NPD for concurrent review. Despite what appears to be an expected unfavorable public reaction to placement of a disposal site at Asotin Slough, NPW still proposes to classify the lands for wildlife management and also retain the area as the recommended debris disposal site. Under the circumstances, NPW is being advised to delete the site from further consideration as a disposal site.

NPWEN-DB (21 Apr 83) 2d Ind
SUBJECT: Approval of Land Classification Change, Lower Granite Lock and Dam

DA, Walla Walla District, Corps of Engineers, Bldg. 602, City-County Airport, Walla Walla, WA 99362 5 July 1983

TO: Commander, North Pacific Division
ATTN: NPDPL-ER (Owen Mason)

1. We were somewhat surprised at the position taken in your 1st Indorsement. We had discussed this matter with your office and thought you agreed, that because of the public response to the Asotin Slough land use study, we have no other recourse other than to reclassify the Asotin Slough area from project structures to wildlife management intensive. It is requested that approval be granted for this reclassification.

2. Lower Granite DM 34, part A, being reviewed by your office, is strictly a feasibility study. Although the report did recommend the Upper Reservoir Booms alternative, it also states the plan "is contingent upon a satisfactory environmental assessment and a favorable public reaction." This stipulation will apply regardless of the official land use classification. We request that the feasibility study also be approved realizing that the environmental assessment may preclude the facility being located at the Asotin site. If so, one of the other alternatives will be examined.

ROBERT B. WILLIAMS
Colonel, Corps of Engineers
Commanding

CF:
Proj Mgr
Ch, Planning Div

NPDPL-ER (21 Apr 83) 1st Ind
SUBJECT: Approval of Land Classification Change, Lower Granite Lock and Dam
letter Supplement 1-1 to DM 28

DA, North Pacific Division, Corps of Engineers, P. O. Box 2870,
Portland, OR 97208 7 June 1983

TO: Commander, Walla Walla District

1. Approval of land classification change at subject project is being withheld at this time pending final disposition of the upper Snake River debris boom discussed in Lower Granite D.M. 34, Part A, now under review in NPD.

2. We are dismayed to find two separate pieces of correspondence from your office under concurrent review in NPD that put forth divergent recommendations for the same parcel of project land. One proposes to classify and manage the parcel for wildlife. The other recommends that the same parcel become a debris disposal site in conjunction with a proposed Snake River debris boom. The need for internal coordination to resolve this matter is essential before considering a change in the land use classification. Should the decision be made not to use the area for debris disposal, you should again submit the proposed land classification change to this office for approval.

FOR THE COMMANDER:

Incls
wd

JAMES H. HIGMAN
Colonel, Corps of Engineers
Deputy Commander

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEER
BUILDING 602, CITY-COUNTY AIRPORT
WALLA WALLA, WASHINGTON 99362

ER

REPLY TO
ATTENTION OF:

NPWEN-DB

21 April 1983

SUBJECT: Approval of Land Classification Change, Lower Granite Lock and Dam

Project No. [illegible]

Commander, North Pacific Division
ATTN: NPDPL-ER (Owen Mason)

1. In July of 1982, we received an application from Asotin County for lease of an area known as Asotin Slough. The area is located on the Snake River at river mile 147 near the city of Asotin. The County's lease application was requesting the area be made available for use as an Off-Road Vehicle Park. The site is currently classified as Project Structures anticipating that Asotin Dam would one day be authorized, and this area would be needed for construction purposes.

2. Following receipt of the County's application, we began receiving numerous responses from local citizens expressing their concern for the area being used as an ORV park. The majority wanted the area retained for wildlife uses. We likewise received letters from those who supported the County's use of the area.

3. With two separate groups supporting conflicting uses, it became apparent that a decision would be required to settle the land use issue. It was concluded the decision should be based on four factors; public input, environmental assessment, input from agencies and officials, and staff recommendations. A brief summary of the findings in each of these four areas follows:

a. Public Input. Response from the public was gained from four different sources; letters, a public meeting, response cards distributed at the meeting, and petitions. A total of 477 responses was received. Fifty-seven responses were in favor of the area being used for ORVs and 420 were opposed to that use. Attached are two matrix charts summarizing the results of these responses.

b. Environmental Assessment. It was found that numerous adverse impacts such as soil compaction, reduced air quality, noise polution, and destruction of vegetation would occur if the ORV use proposal was approved.

c. Input from Agencies and Officials. Letters requesting input were sent to eight public agencies and officials who had involvement in the Asotin Slough area. All letters returned expressed opposition to the proposed ORV area, with the exception of one. Attached is a list of those who were queried and who responded.

d. Staff Recommendations. All NPW staff members representing the natural resource and planning disciplines for the study were against the site being used as an ORV area.

4. In a letter dated 8 October 1982, the Asotin County Commissioners were informed of the results of our study and our decision to deny their application.

5. During the above study, the value of the area for wildlife purposes was greatly reinforced. Since conclusion of the study, we have received letters from several local residents expressing their willingness to assist with planting the area and organizing work parties of volunteers to help our resource managers care for the site. We feel this public involvement would enhance the creditability of our organization as well as assist our management program.

6. Our future plans for the site are to develop it as a wildlife park such as the one at McNary Dam and at the mouth of the Yakima River. It is near a major population center, the Lewiston/Clarkston area, and currently receives substantial use from bird watchers and other outdoor enthusiasts. The site is well suited for this type of use and has the natural characteristics that attract wildlife.

7. We request approval for reclassification of 49.2 acres as shown on the attached map from project structures to wildlife management intensive.

FOR THE COMMANDER:

3 Incl
1. Matrix charts
2. List of queries & responses
3. Map

M. G. BRAMMER, P.E.
Chief, Engineering Division

NPDPL-ER (19 Jul 84) 1st Ind
SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 2 to Design Memorandum No. 28, Reclassification of Portion of Hells Gate State Recreation Area

DA, North Pacific Division, Corps of Engineers, P. O. Box 2870, Portland, OR 97208 20 August 1984

TO: Commander, Walla Walla District

The subject Letter Supplement is approved.

FOR THE COMMANDER:

3 Incls
nc

JAMES R. FRY
Colonel, Corps of Engineers
Deputy Commander

NPWEN-DB 19 July 1984

SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 2 to Design Memorandum No. 28, Reclassification of Portion of Hells Gate State Recreation Area

Commander, North Pacific Division

1. Hells Gate State Recreation Area is located 4 miles upstream from the city of Lewiston on the right bank of the Snake River in the State of Idaho.

2. The facility was originally constructed by the Corps in 1978. It is leased to the Idaho Parks and Recreation Department. The area contains 960 acres of which about 100 are developed. The development includes 93 campsites, day use area, and marina. Currently, all lands within the lease are classified "Recreation-Intensive" use.

3. It is proposed to reclassify 650 acres to the east and south of the campground to "Wildlife Management-Intensive" (see Inclosure 1). The purpose of this reclassification is to facilitate mitigation for wildlife losses caused by inundation of lands due to the construction of the Lower Granite Dam. Dr. W.L. Pengelly studied the State of Idaho's mitigation demands and stated in a report furnished to the Corps in 1978: "The dedication of the undeveloped acreage at Hells Gate State Park to wildlife should be adequate compensation." In 1983, a Memorandum of Agreement was prepared by the Corps and signed by the Idaho Parks and Recreation Department and the Idaho Department of Fish and Game. In this Memorandum of Agreement, the Idaho Department of Fish and Game agreed that additional mitigation would not be requested if the subject lands were developed according to the management plan. Reclassification of this land would thereby eliminate the need to acquire additional lands to meet mitigation requirements.

4. A recently prepared supplement to the Design Memorandum for wildlife habitat development on project lands was prepared to describe the future development and management of the Hells Gate Habitat Management Unit. These mitigation developments were authorized by the Lower Snake River Fish and Wildlife Compensation Plan.

NPWEN-DB 19 July 1984

SUBJECT: Lower Granite Locka nd Dam, Letter Supplement No. 2 to Design Memorandum No. 28, Reclassification of Portion of Hells Gate State Recreation Area

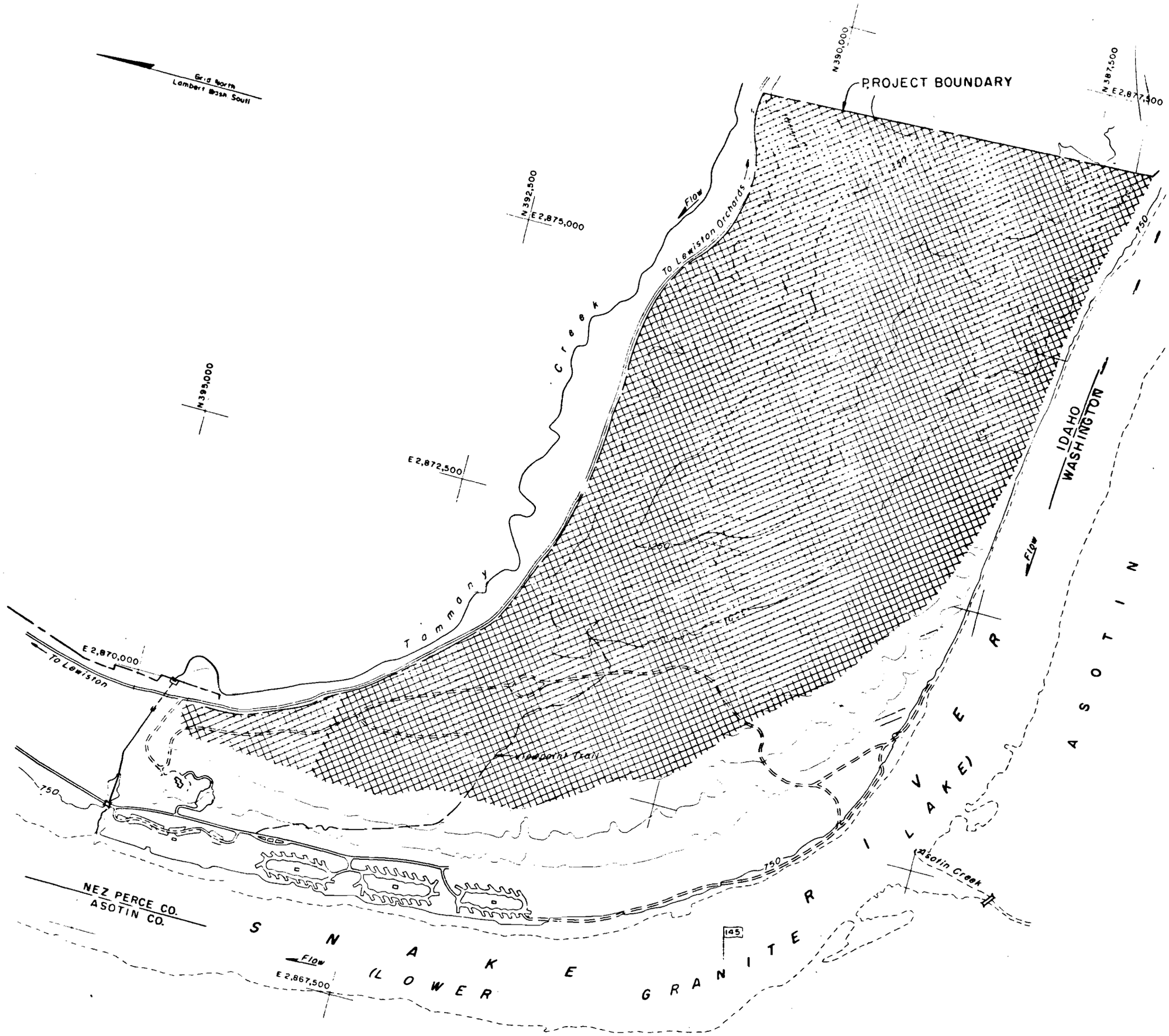
5. The lands were originally acquired for a buffer to park activities, an equestrian riding corridor, and day use (Design Memorandum No. 28A, Preliminary Master Plan Requirements, Supplement 1, Land Requirements, Tammany State Park, 2 July 1971). Although this land would be reclassified as "Wildlife Management-Intensive," it would remain allocated to recreation and continue to meet recreation needs while at the same time satisfying mitigation requirements. This land will also be used to compensate for lost public recreation opportunities by providing additional hunting lands for the public of Idaho. Appropriate measures will be taken to ensure a safety zone between hunting and park activities.

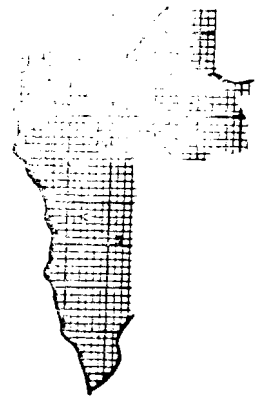
6. A portion of the remaining "Recreation-Intensive" lands has been set aside for future camping. According to the 1983 SCORP Report for the State of Idaho, the demand for camping will increase approximately 70 percent (or 65 camping spaces) by the year 2000 in Nez Perce County. Hells Gate State Park has the potential to expand to more than double its existing capacity, thereby exceeding the projected demand without utilization of the proposed reclassified lands. When expansion is necessary, it will be accomplished on the remaining acres of the park that will not be reclassified from "Recreation-Intensive" (see inclosure).

7. Approval is requested for reclassification of this area as shown on Inclosure 1 from "Recreation-Intensive" to "Wildlife Management-Intensive." Both the Idaho Parks and Recreation Department and the Idaho Department of Fish and Game have signed a Memorandum of Agreement with the Corps agreeing to this change. It has also been coordinated with the Nez Perce County Planner's Office and local park board (see Inclosures 2 and 3) as well as Real Estate and Operations Divisions within the District.

3 Incls
1. Hells Gate Mgmt Unit Map
2. Ltr fm Nez Perce County dtd 14 Dec 83
3. Ltr fm Dept of Parks & Recreation dtd 19 Dec 83

ROBERT B. WILLIAMS
Colonel, CE
Commanding


Grid North
Lambert Mash South
N 390,000
PROJECT BOUNDARY
N 387,500
E 2,877,500
N 392,500
E 2,875,000
Flow
To Lewiston Orchards
Creek
N 393,000
E 2,872,500
IDAHO
WASHINGTON
ASOTIN
RIVER
Tammany
E 2,870,000
To Lewiston
Viewpoint Trail
750
NEZ PERCE CO.
ASOTIN CO.
SNAKE (LOWER GRANITE LAKE)
Flow
E 2,867,500
Asotin Creek
145



NEZ PERCE COUNTY

Office of the County Planner

Planning & Zoning Commission

P. O. Box 896 Lewiston, Idaho 83501

December 14, 1983

District Engineer
Walla Walla District
U.S. Army Corps of Engineers
Building 602,
City-County Airport
Walla Walla, Washington, 99362

Dear Sir:

I have recently received a briefing from Dr. Michael Passmore, wildlife biologist from your agency, in company with a representative from the Idaho Department of Fish and Game, in regard to a proposed change in land use designation of a portion of Hells Gate State Park. The proposed change in designation is from "Recreation Lands" to "Wildlife Management".

The proposed change retains in the "Recreation Lands" category all of the area presently used for intensive recreation, and also in that category a fairly large buffer zone between the main recreation area and the proposed "Wildlife Management" area.

It is my opinion that this proposal fairly reflects the manner in which this area is actually being used by the public and managed by the state, and is an appropriate change in the land use plan for the area.

The area of the proposed change is included in the portion of Nez Perce County lands designated as "River Corridor Lands", indicating that land use policies are oriented in the direction of protection of the river resource. The redesignation of the area concerned is clearly not in contravention of that policy. Nez Perce County therefore interposes no objection to the proposed redesignation of this area from "Recreation Lands" to "Wildlife Mangagement".

Sincerely,

Robert L. Brown
Planning and Zoning Administrator

RLB:bb

cc: BCC

Parks Director Michael C. Moon
Recreation Director Lynn C. Moss

Clarkston

Lewiston

DEPARTMENT OF
PARKS & RECREATION
Post Office Box 617 - Lewiston, Idaho 83501
(208) 746-2313

December 19,1983

District Engineer
U.S. Army Corps of Engineers
Attn: Dr. Michael F. Passmore
Wildlife Biologist
Building 602
Walla Walla, Wa. 99362

Dear Dr. Passmore:

The City of Lewiston supports the proposed change of certain portions of Hellsgate State Park from current use designation as Recreation Area to a new designation as Wildlife Management Area as resently discussed with our departmental staff.

Cordially yours,

Michael C. Moon
Director of Parks

CENPD-PL-ER (CENPW-PL-PF/11 Sep 87)(1105-2-10c) 1st End Mr. Mason/kkh/221-3829
SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 3 to Lower Granite Master Plan - Design Memorandum No. 28, Reclassification of Project Operations Lands to Recreation Intensive Use

DA, North Pacific Division, Corps of Engineers, P.O. Box 2870, Portland, Oregon 97208-2870 20 OCT 1987

FOR: Commander, Walla Walla District

1. Your request to reclassify certain lands on the subject project is approved.

2. Approval provided herewith is limited to the requested land use reclassification and should not be construed as approving the specific recreation development plans for the Port of Clarkston. Ultimate development plans for the area in question will require separate approval. Such plans must be fully justified, coordinated with other involved agencies, and be in accordance with the project Master Plan. In that regard, we request you prepare and submit a Master Plan supplement at such time as the Port of Clarkston's recreation development plans are more firm.

3. Early and continuing coordination with the Port of Clarkston should be maintained regarding the known archeological site located on the lands in question. Past experience with similar situations within the North Pacific Division indicates that early attention to the archeological concerns is necessary to avoid delays in development activities.

FOR THE COMMANDER:

13 Encls

JAMES R. FRY
Colonel, Corps of Engineers
Deputy Commander

CENPW-PL-PF (1110-2-1150a) 11 September 1987

MEMORANDUM FOR: Commander, North Pacific Division, ATTN: CENPD-PL

SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 3 to Lower Granite Master Plan – Design Memorandum No. 28, Reclassification of Project Operations Lands to Recreation Intensive Use

1. Location: T. 11. N., R. 48 E., along the south shore of the Snake River at the confluence of the Snake River, within the city of Clarkson and Asotin County, Washington (enclosure 1).

2. Acreage. 24.5.

3. Land Use Allocation: Operations.

4. Current Classification: Project Operations (industrial use and access).

5. Proposed Classification: Recreation Intensive Use.

6. Background:

a. The Port of Clarkston (the Port) requested that lands set aside for future Port and Industrial use at the confluence of the Snake and Clearwater Rivers be reclassified to Recreation Intensive use (enclosure 2). Upon approval from the Corps, the Port will enter into agreement with the Corps for development of land for park and recreation activities. Their conceptual plans are for continuation of the greenbelt with a public park, amphitheater, RV park with 34 hookups, a 9-hole golf course, and continuation of the waterfront trail.

b. Existing industrial and Port facilities development, diking, and roadways occupy a majority of the waterfront suitable for the proposed recreational facilities, limiting the number of alternative sites in the vicinity of Clarkston.

c. The area contains an archaeological site and would require a survey by a qualified university or firm prior to development. These concerns were communicated to the Port (enclosure 11) and accepted (enclosure 12).

7. Current Condition: Undeveloped and covered by native vegetation, because of the site's proximity to the Clearwater River and prevailing river currents, silt is building up at the shoreline, making it unsuitable for Port and Industrial development with river transportation facilities. Archaeological site 45-AS-99 is located within the subject tract of land.

8. District Coordination. The proposed change has been coordinated with OCR Division, Real Estate Division, and Engineering Division.

CENPW-PL-PF (1110-2-1150a)
SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 3 to Lower Granite Master Plan – Design Memorandum No. 28, Reclassification of Project Operations Lands to Recreation Intensive Use

9. Agencies' Input and Coordination: Enclosed are letters of support from the Asotin County Parks and Recreation Board, City of Clarkston, Washington Interagency Committee for Outdoor Recreation, Washington State Parks and Recreation Commission, and Asotin County (enclosures 3 through 8). Also included is a letter from Idaho Department of Parks and Recreation (enclosure 10). Idaho Department of Parks and Recreation strongly opposes construction of a 34-RV campground due to underutilization of similar existing campground facilities in the Lewiston-Clarkston environs.

10. Conclusion: The recreation facilities would help meet state recreation goals specified in the Washington SCORP Report, improve and expand access to the waterfront, and allow the expansion of the waterfront trail system developed by the Corps. The proposed development would provide a transition between the shoreline and industrial use to the west. The proposed RV campground should not be approved until a need can be shown. Development within the archaeological site will be coordinated to properly protect the resource.

11. Recommendation: It is requested that approval be granted to change land classification of the described parcel from Project Operations (industrial use and access) to Recreation Intensive.

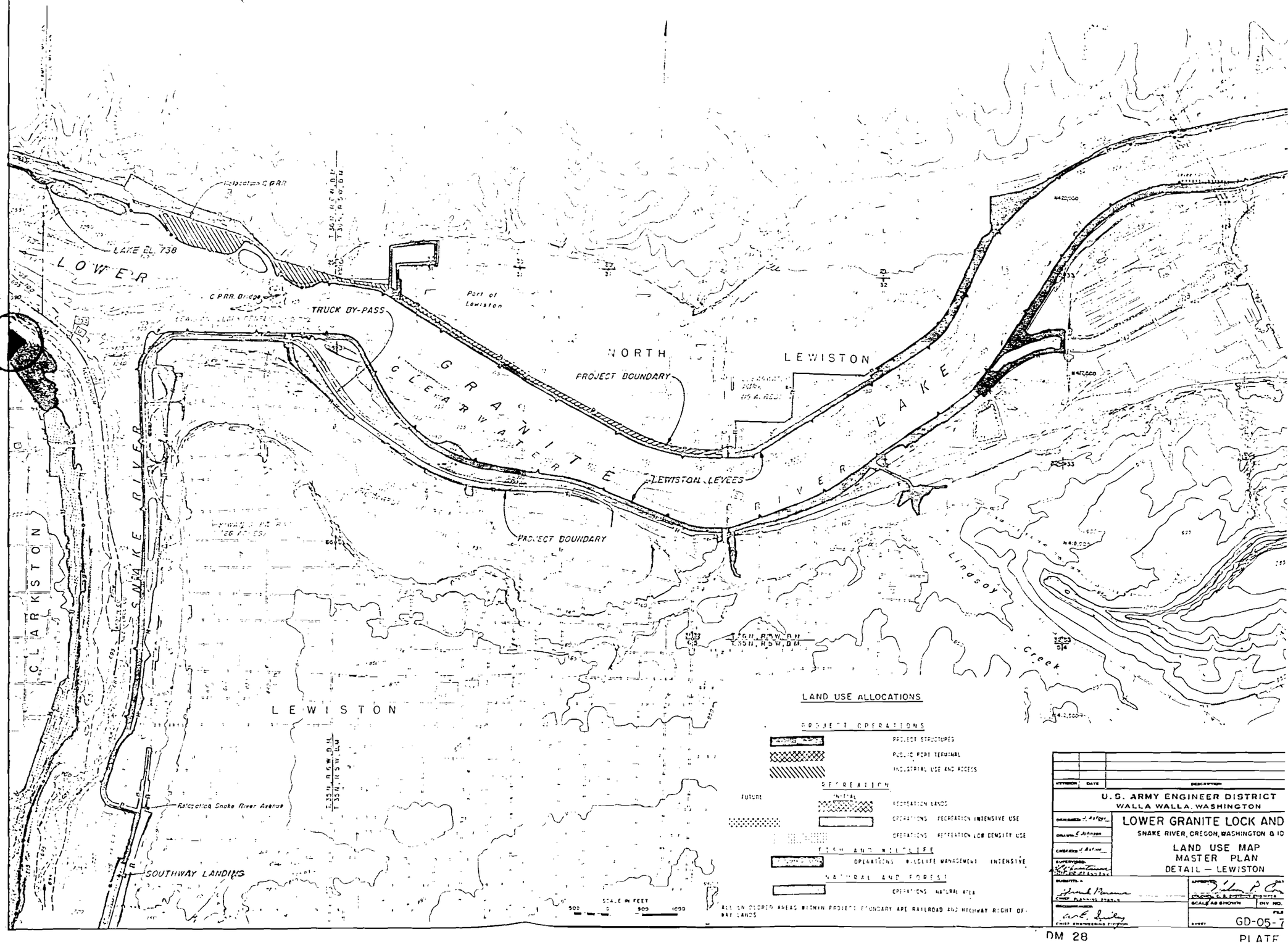
13 Encls

JAMES B. ROYCE
Colonel, CE
Commanding

CF:
Proj Engr, G-G
RM, Clarkston Res Ofc
C, CENPW-RE-MD
C, CENPW-OP-NR
Proj Mgr (D. Johnson)

CORPS OF ENGINEERS

US A



LAND USE ALLOCATIONS

PROJECT OPERATIONS

- PROJECT STRUCTURES
- PUBLIC PORT TERMINAL
- INDUSTRIAL USE AND ACCESS

RECREATION

FUTURE	INITIAL	RECREATION LANDS
	OPERATIONS	RECREATION INTENSIVE USE
	OPERATIONS	RECREATION LOW DENSITY USE

FISH AND WILDLIFE

	OPERATIONS WILDLIFE MANAGEMENT	INTENSIVE

NATURAL AND FOREST

- OPERATIONS NATURAL AREA

ALL UNCOLORED AREAS WITHIN PROJECT BOUNDARY ARE RAILROAD AND HIGHWAY RIGHT OF-WAY LANDS

NO.	DATE	DESCRIPTION

U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON

LOWER GRANITE LOCK AND
SNAKE RIVER, OREGON, WASHINGTON & ID

LAND USE MAP
MASTER PLAN
DETAIL — LEWISTON

DESIGNED J. Aston
DRAWN E. Johnson
CHECKED J. Aston
SUPERVISED
CHIEF, ENGINEERING DIVISION
SUBMITTED
CHIEF, PLANNING BRANCH
RECOMMENDED
CHIEF, ENGINEERING DIVISION
APPROVED
CHIEF, E & P BRANCH
SCALE AS SHOWN
DWG. NO.
SHEET
GD-05-7

DM 28

PLATE

CORPS OF ENGINEERS

U S AR

DOWNSTREAM PROJECT LIMIT

LOWER GRANITE LOCK AND DAM
SNAKE RIVER MILE 107.5

LOWER GRANITE LAKE

SNAKE RIVER

CLEARWATER RIVER

WASHINGTON IDAHO

SEE PLATE 3

PORT OF LEWISTON
(22 ACRES INDUSTRIAL ACCESS
1 ACRE PORT TERMINAL)

PORT OF WILMA - NORTH CLARKSTON
(94 ACRES INDUSTRIAL ACCESS
0 ACRES PORT TERMINAL)

CLARKSTON

LEWISTON

WHITMAN COUNTY ROAD

CAMAS PRAIRIE RAILROAD

SR 193

U.S HWY 12

EASEMENT FOR BPA SUBSTATION

SOUTH SHORE ACCESS ROAD

EASEMENT FOR CLARKSTON SEWAGE PLANT

SWALLOWS NEST ROCK AND MARINA
(10.4 ACRES)

COAST GUARD STATION

HIGHWAY BRIDGE CORRIDOR

SNAKE RIVER AVENUE

TITLE TO BE TRANSFERRED TO STATE OF WASHINGTON

HELLS GATE STATE RECREATION AREA
(691 ACRES)

EASEMENT FOR ASOTIN SEWAGE TREATMENT PLANT

ASOTIN

SURPLUS LDR DISPOSAL THRU GSA

VICINITY MAP
SCALE IN MILES
20 0 20

LEGEND

LAND USE ALLOCATIONS

PROJECT OPERATIONS
- PROJECT STRUCTURES
- PUBLIC PORT TERMINAL
- INDUSTRIAL USE AND ACCESS

RECREATION
- FUTURE / INITIAL — RECREATION LANDS
- OPERATIONS RECREATION INTENSIVE USE
- OPERATIONS RECREATION LOW DENSITY USE

FISH AND WILDLIFE
- OPERATIONS WILDLIFE MANAGEMENT INTENSIVE
- OPERATIONS WILDLIFE MANAGEMENT MODERATE

NATURAL AND FOREST
- OPERATIONS NATURAL AREA

ALL UNCOLORED AREAS WITHIN PROJECT BOUNDARY ARE RAILROAD AND HIGHWAY RIGHT-OF-WAY LANDS

MAP SYMBOLS
- EXISTING ROADS
- RELOCATED ROADS
- RAILROADS
- LEVEE
- NORMAL POOL (738 M.S.L.)
- 110 — RIVER MILES FROM MOUTH
- R — PROJECT BOUNDARY

SYMBOLS
FUTURE / INITIAL — COMMERCIAL MARINA

NOTES
1. Coordinates ... Washington (South)
2. Contour ... at ... ft. or lesser interval where the scale allows

SCALE IN FEET
2000 0 2000 4000 6000

U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON

LOWER GRANITE LOCK AN
SNAKE RIVER, OREGON, WASHINGTON &

LAND USE MAP
MASTER PLAN

DRAWN J. Astor
DESIGN E. Johnson
CHECKED J. Astor
SUPERVISED A.C. Short
CHIEF, LANDS DIV.
SUBMITTED Frank Parsons
CHIEF, PLANNING BRANCH
W. E. Lindley
CHIEF, ENGINEERING DIV.
APPROVED John P. Cu
CHIEF, E. DISTRICT ENGINEER
SCALE AS SHOWN
ENV
SHEET GD-05-

DM 28

PL

Encl

PORT OF CLARKSTON

435 FIFTH STREET
CLARKSTON, WA 99403
PHONE (509) 758-5272

the proud port

August 28, 1986

Corps of Engineers
Attn: Colonel James Royce
Building 602
Walla Walla Airport
Walla Walla, Washington 99362

Dear Colonel Royce;

I have been authorized by the Commissioners of the Port of Clarkston to request that the land set aside for future Port and industrial use at the confluence of the Snake and Clearwater Rivers be re-classified to park and recreational use. The Port would also at the same time, enter into a long term lease agreement with the Corps of Engineers for the purpose of park and recreation activities on the same property.

We have identified concepts that would be allowable under the new classification for use of this area. Our use is a public park and outdoor amphitheatre. Another use is a R.V. park and a third use is a 9-hole golf course.

Please proceed with the necessary paperwork to accomplish the changes we are requesting. I have enclosed a map of the specific area we are wanting to reclassify.

Sincerely,

Gary Neal
Manager

GN:mg
enclosed

Encl 2

SNAKE RIVER

WASH. IDA.

WHITMAN CO.
NEZ PERCE CO.

Sheet No. 4

Ordinary High Water

PORT OF CLARKSTON
1030 ac.

Normal Pool EL. 738

PORT OF CLARKSTON
(N.F.O. 5.93 ac.)

LOT 7

LOT 6

LOT 8

24.5 acres land
3.2 acres water
27.7 acres total

PORT OF CLARKSTON
8.92 ac.

ASOTIN COUNTY 1.58 ac.

EXISTING COUNTY ROAD 1.17 ac.

SEWAGE TREATMENT PLANT
6.58 ac.

LOWER GRANITE PROJECT BOUNDARY LINE

LOT 5

PORT OF CLARKSTON
1.72 ac.

BOUNDARY LINE

17 16
20 21

Asotin County Airport

LOT 1

LOT 2

Normal Pool EL. 730

Lambert coordinates for Washington (South)
Photogrammetric topography from USCE
aerial photography Dec 1965

NOTE
10' interval contours above EL 735

T. 11 N., R. 46 E., W.M.

PLAN

SCALE IN FEET

CITY OF PERSONAL SERVICE
CLARKSTON, WASHINGTON
BANANA BELT CAPITAL

CITY of CLARKSTON

CITY HALL, 830 FIFTH STREET, CLARKSTON, WASHINGTON 99403 • (509) 758-5541

October 10, 1986

Mr. John Givens, President
Board of Commissioners
Port of Clarkston
849 Port Way
Clarkston, WA. 99403

RE: Port's Park and Recreation Plan

Dear Mr. Givens:

The purpose of this letter is to express the City of Clarkston's support for the Port's recent adoption of a Comprehensive Park and Recreation Plan for port-controlled land, and the Port's efforts to proceed with implementation of the Plan.

The City is especially supportive of the Port's plans to develop a public park at the North end of 5th Street, adjacent and oriented to the Snake River.

The porposed amphitheater will provide a community facility not presently duplicated anywhere in the area, which will complement and stimulate local recreational and cultural activities. The proposed bikepath will provide an additional link in the community's waterfront trail system.

The City applauds the Port of Clarkston's efforts to assist in meeting the community's recreational needs.

Sincerely,

Joe J. Cassetto

Joe J. Cassetto
Mayor

JJC:vh

Encl 4

ROBERT L. WILDER
Director

STATE OF WASHINGTON

INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION

4800 Capitol Blvd. KP-11 • Tumwater, Washington 98504-5011 • (206) 753-7340 • (SCAN) 234-7340

October 13, 1986

Gary Neal, Manager
Port of Clarkston
435 Fifth Street
Clarkston, Washington 99403

Dear Gary:

The Planning Division of the Interagency Committee for Outdoor Recreation has reviewed the Comprehensive Park and Recreation Plan for the Port of Clarkston, and finds the plan meets all the comprehensive planning requirements as specified in our Participation Manual #2.

The IAC is, therefore, pleased to inform you that the Port of Clarkston is eligible to participate in the Grant-in-Aid Program until September of 1991.

It should be noted that to retain grant-in-aid eligibility in future years, it is essential that the IAC be notified of any major amendments to the plan as they occur. Your plan is used in the evaluation of any projects submitted for funding. An incorrect or incomplete plan could cause a reduced evaluation score during the project evaluation process.

If the IAC can be of further assistance relative to your park and recreation planning program, please feel free to contact us.

Sincerely,

Gerald W. Pelton

GERALD W. PELTON, Chief
Planning Services Division

GWP:LMF:ah

Encl 5

IAN D. EDEN
Director

STATE OF WASHINGTON
WASHINGTON STATE PARKS AND RECREATION COMMISSION
7150 Cleanwater Lane KY-11 • Olympia, Washington 98504-5711 • (206) 753-5755

November 25, 1986

72-5600-1655

Gary Neal, Manager
Port of Clarkston
City Hall, 830 Fifth Street
Clarkston, WA 99403

Re: Approval of Proposed Port District Recreation Improvements

Dear Mr. Neal:

Under the provisions of Chapter 53.08.260 and 270, RCW, Washington State Parks has reviewed the Port District's proposed plan for recreation improvements.

We find no conflict with either local or state projects for the service area, and therefore approve the proposed plan. The original copy of your approved application is enclosed for your records.

Should you have any question or need additional information, please contact me in Olympia at SCAN (234-2017) or (206) 753-2017.

Sincerely,

William A. Bush, Chief
Research and Long Range Planning

Enclosure - Approved Application

Encl 6

APPLICATION FOR APPROVAL

OF

PORT DISTRICT RECREATION FACILITIES

****

Under 53.08.260 and 53.08.270 RCW, the Port of Clarkston _____ requests approval to undertake the following described plan for the acquisition and/or operation of park or recreational facilities:

Gateway Park, including leasing of par 3 nine hole folf course proposed r.v. park and Port developed public park - consisting of approximately 6.5 acres of land with amphitheatre to accomodate 3,000 people for special events a boat tie-off and public restrooms, with picnic areas.

U.S. Army Corps of Engineers' I.D.# (_____) if assigned.

I hereby certify that the herein described facilities are necessary to more fully utilize boat landings, harbors, wharves and piers, air, land, and water passenger and transfer terminals, waterways, and other port facilities authorized by law pursuant to the port's comperhensive plan of harbor improvements and industrial development.

Gary Neal — Name; Manager — Title; 10-7-86 — Date

Pursuant to 53.08.270 RCW I hereby certify that I have examined the port's proposed plan as herein described and approve the plan, finding that there will be no conflict with local park and recreation plans for the same area.

City of Clarkston — Name; Title Attached — Title; 10-10-86 — Date

Asotin Co. — "Agency; " — "; 8-7-86 — Date

Pursuant to 53.08.270 RCW I hereby certify that I have examined the port's proposed plan as herein described and approve the plan, finding that there will be no conflict with state park and recreation plans for the same area.

Director — Nov. 17, 1987

COMPREHENSIVE PARK AND RECREATION PLAN

FOR THE PORT OF CLARKSTON

The Port of Clarkston was created in 1958, slackwater arrived at the location in 1975, which enabled shipments from the area. The Port is the farthest inland port in Washington State. The Port of Clarkston started with 120 acres of land, which the majority has been leased and improved with roads and utilities. With the slackwater into the area and recreational activities available throughout the year, the Port of Clarkston has been involved with tourism to the valley.

The Port of Clarkston's property being close to and adjoining the Snake River lends itself to be an excellent location for certain recreational activities.

Prior to slackwater which was created in 1975 when Lower Granite Dam was completed, Clarkston enjoyed two large marinas consisting of 80 slips for boat morrage. There were boat marinas on the Idaho side of the Snake River also. Since 1975 there is only one marina for boats, which is Hellsgate Marina in Idaho consisting of 120 slips. Another recreational activity that has developed since slackwater is sailboating. There are approximately 100+ sailboats that enjoy the vast amount of slackwater in our area, and no where to moor their boats. Hellsgate Marina is not used by the sailing people because of the Interstate Bridge height in relation to where the sailing takes place. With the continued increase in demand for additional boating facilities, the Port of Clarkston's goal in this regard is to assist and facilitate the development of a boat marina in Clarkston that will also be utilized by sailboats. There are as many as 3,000 boats between Clarkston and Dworshak Dam.

Another area that the Port of Clarkston has control over is owned by the U. S. Army Corps of Engineers, and is set aside for future Port use. This area consists of approximately 25 acres of land on the confluence of the Snake and Clearwater Rivers.

The Port is looking at it's long range development and has determined that the property mentioned above is not usable for barge river traffice tie-ups because of the tremendous silt problems in that area.

Over the past several years, this area has been used for recreational events that the community has developed. There is an annual limited hydroplane race held here. We have had other requests for the use of this property relating to recreational activities.

The property adjoining this area is optioned for the development of a motel-convention center, and the privately owned property adjoining this area is going to be developed for a major retirement center.

The Port has had a request to lease a part of the 25 acres for a recreational vehicle park. This R.V.facility would be in an ideal location to take advantage of the nearby Corps owned boat launch ramp for the excellent fishing activities in the area. There is only one R. V. camping facility in Asotin County and it is located approximately 10 miles West of Clarkston, state owned Chief Timothy Park.

The location of this 34 unit R. V. facility is ideal and would be condusive with the other proposed activities in the general area. This R. V. facility is identified on the attached map. (see attachment A).

Another goal would be to extend the greenbelt and bike-walking path that currently exists and have it continued to the west end of the 25 acre park and recreation development of this proposed area.

There is also a great need for an amphitheatre, outdoor seating area, that could be utilized for hydro races, boat parages, fire-works display, concerts, and many outdoor group theatre activities. The need has been identified in the past and the area discussed would be ideally suited for this type of activity.

In addition to the amphitheatre, temporary boat tie-up docks would compliment this area in the development of a park around the amphitheatre and restrooms for the public use.

In the total 25 acre park and recreation development, another proposed sub-lease development that would greatly enhance the proposed motel-convention center is a 9-hole golf course. proposed by the developers of the convention center. The area identified for this project is the far west end of the 25 acres. This would also establish a buffer between the existing Port development consisting of a grain terminal at that point.

The Development of the 25 acres would be all for public use, two acres for a fee and the park area around the amphitheatre and the bike, walk path would be free use. These developments would take up the entire 25 acres.

The other area identified for the marina is at the far west end of the Port controlled land. At the present time and 5 years projection, these are the only two areas the Port would wish to develop in the park and recreation comprehensive plan. All other lands owned by the Port are identified for different uses.

PORT OF CLARKSTON

OBJECTIVES

Goal #1: Boat Marina Development in Clarkston at site under the control fo the Port. This site has been identified as an ideal location for a boat marina. In order to accomplish this goal, the Port would identify a private developer for this project and lease the property out to the developer. We would also assist in any potential permit requirements. This facility would be open to the public and the slips would be rented for a fee.

Goal #2: Development of 25 acres of Port controlled land at the confluence of the Snake and Cearwater Rivers for recreational activities. specifically:

A: An R. V. Park with 34 hookups consisting of approximately 6.5 acres of land. Identify a private developer to construct and operate this R.V. park. (This has been accomplished).

B: Develop a park with amphitheatre for outside preformances and a boat tie-off for temporary use of the public park area. This area would involve approximately 7 acres of land.

C: Develop a golf course (9-hole) that would be tied in with the motel-convention center project that is being proposed on adjoining property. This area would be privately developed and would consist of approximately 12 acres of land. (developer has been identified).

PORT OF CLARKSTON

ACTION PROGRAM

Two of the four goals will be satisfied by complete private sector funding and development. (Golf course and R.V. Park). The third will consist of a joint partidipation of private and grant monies involving the boat marina project. The fourth goal will be accomplished through public - port and grant funds.

The boat marina project will be implimented in 1986. There will be construction of the initial phase of this project which will include 60 boat slips, boat launching ramp, 8 transient slips, fuel sales, dry storage, and a convenience store-snack bar. Private investment will pay for all but the boat ramp and the 8 transient slips. These will be paid for with 75% I.A.C. grant monies. Construction will begin in the winter permit window period.

The amphitheatre and park will be implemented in the spring of 1987. Included in this project also is a public boat tie-off and restroom facilities.

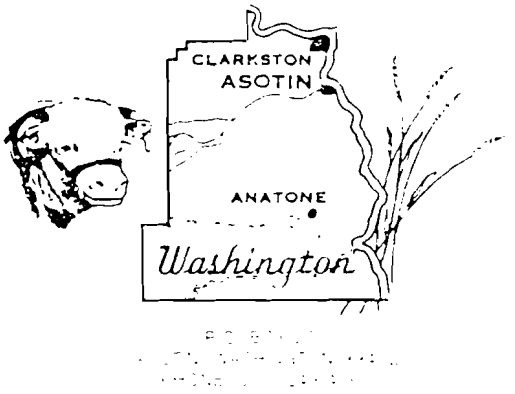
The Port will apply for I.A.C. grant matching funds to help implement this project. Also the Port will use sublease rents and inkind services to come up with their share of the grant requirements.

Maintenance and upkeep of this area will be through sub-lease revenues, and future potential participation of civic organizations using the amphitheatre.

MARK A. KAMMERS
COMMISSIONER FIRST DISTRICT
CLARKSTON WASHINGTON

EIL C. AUSMAN
COMMISSIONER SECOND DISTRICT
CLARKSTON WASHINGTON

Asotin County



HARLEY L. WILLIAMS
COMMISSIONER THIRD DISTRICT
CLARKSTON WASHINGTON

CINDY SPEARS
ADMINISTRATIVE ASSISTANT
CLERK OF THE BOARD

February 18, 1987

Col. James B. Royce
Army Corp. of Engineers
Building 602
Walla Walla, Washington 99362-8265

Dear Col. Royce:

This will serve as notification the Asotin County Board of Commissioners support the proposal submitted by the Port of Clarkston in changing the land use designation of the property at the confluence of the Snake River and Clearwater River from port use to recreational use.

It is our understanding due to the silt deposited at the confluence this area could not be used to port barges, etc.

If you have any questions regarding this matter, please do not hesitate to contact this office.

Very Truly Yours,

Neil C Ausman

NEIL C. AUSMAN, Chairman
Asotin County
Board of Commissioners

NCA/cjs

Encl 7

CITY of CLARKSTON

CITY HALL, 530 FIFTH STREET, CLARKSTON, WASHINGTON 99403 * (509) 758-5541

February 25, 1987

Col. James Royce
U.S. Corps of Engineers
Bldg. 602
Walla Walla, WA. 99362-9265

RE: Port of Clarkston's Request For Land Use Change

Dear Col. Royce:

The purpose of this letter is to express the City of Clarkston's support for the Port of Clarkston's request for a change in land use designation from Industrial to Recreation Intensive. The subject area is located along the south bank of the Snake River immediately downstream from the confluence of the Clearwater River, and is currently undeveloped and covered by native vegatation. Because of it's proximity to the Clearwater River and prevailing river currents, the waterfront is experiencing severe siltation buildup making it unsuitable for development with water transport facilities. Existing industrial and port facility development, diking and roadways occupy a majority of the waterfront suitable for the proposed recreational facility development, limiting the number of alternative sites, particularly in the vicinity of Clarkston.

If the land use change is approved, the subject area is proposed to be developed with an RV campground, a public park with an amphitheater, and a small nine-hole executive golf course. These facilities would improve and expand public access to the waterfront, would complement the annual powerboat races held in July, and would provide for an extension of the waterfront trail system developed by the Corps. The proposed change would also assist in the establishment of transitional uses between the shoreline and industrial uses to the west.

Encl 8

The City of Clarkston therefore requests that the Corps of Engineers approve the requested land use change.

Sincerely,

Gary Mabley

Gary Mabley, Director
Planning & Community Development

GM:vh

cc: Blaise Grden✓
Gary Neal, Port of Clarkston

April 8, 1987

Planning Division

Mr. Todd Graeff, Resource Specialist
Idaho Department of Parks and Recreation
State House Mail
Boise, Idaho 83720

Dear Mr. Graeff:

The Port of Clarkson has requested that 27.7 acres currently classified Port and Industrial be reclassified to Recreation Intensive Use. The land is located along the south shore of the Snake River at the confluence of the Clearwater River, within the city of Clarkson, and Asotin County, Washington (see enclosed maps). This action must be approved by North Pacific Division through a letter supplement.

Upon approval from the Corps, the Port of Clarkson proposes to enter into an agreement with the Corps for development of the land for park and recreation activities. Their conceptual plans are for continuation of the greenbelt with a public park, outdoor amphitheater, RV park with 34 hookups, a 9-hole golf course, and extension of the waterfront trail.

The subject parcel is undeveloped and covered by native vegetation. Because of its proximity to the Clearwater and prevailing river currents, the waterfront is experiencing severe siltation buildup, making it unsuitable for development with transportation facilities. Existing industrial and port facilities development, diking, and roadways occupy a majority of the waterfront suitable for the proposed recreational facilities development, limiting the number of alternative sites in the vicinity of Clarkson.

Enclosed are letters of support from the city of Clarkston (dated October 10, 1986, and February 25, 1987), Asotin County Board of Commissioners, Asotin County Parks and Recreation Commission, and Interagency Committee for Outdoor Recreation.

It is requested that you review the proposed action and provide comments no later than April 23, 1987. Please call Mr. Blaise Grden at 509-522-5541 if there are questions regarding this subject.

Sincerely,

Gary G. McMichael
Acting Chief, Planning Division

Enclosures
CF (see NPWPL-PF DF dtd 24 Mar 87 for encls):
OCR-RM
RE Div
Env Res Br
Clarkston Res Mgr (Hixson)

IDAHO DEPARTMENT of PARKS & RECREATION

Cecil D. Andrus, Governor

Robert L. Meinen, Director

May 6, 1987

Mr. Gary G. McMichael, Acting Chief
Planning Division
U. S. Army Corps of Engineers
Walla Walla District
Building 602, City-County Airport
Walla Walla, WA 99362-9265

Dear Mr. McMichael:

I am responding to your letter of April 8 regarding the part of Clarkston's plans for developing recreation facilities on the Snake River. Please excuse my slowness in responding; I've been out of the office for the past couple of weeks. I made these same comments in conversation to Blaise Grden on or around April 20.

We do not oppose the major portion of the proposed development. We are, however, strongly opposed to the "RV park with 34 hookups". The campground at Hells Gate State Park, which is located very near the site of the proposed campground, is not now used to capacity, but is, by itself, a viable unit. This proposal is likely to cause an over supply of RV camping facilities in the Lewiston-Clarkston area, creating two uneconomic, underutilized campgrounds. We are concerned that the new marina in Clarkston will have such an effect on the Hells Gate Marina. We hope that the Corps will not participate in creating another such situation.

Thank you for allowing us to comment on this proposal.

Sincerely,

Todd Graeff
Resource Staff Specialist

3401d

Statehouse Mail, Boise, Idaho 83720 • (208) 334-2154 • (Street Address) 2177 Warm Springs Avenue

Encl 10

July 8, 1987

Real Estate Division

Mr. Gary Neal, Manager
Port of Clarkston
849 Port Way
Clarkston, Washington 99403

Dear Mr. Neal:

As discussed with you in a phone conversation on July 6, 1987, with Jim Clay and Ken Moss of this office, the District is prepared to go forward to our Division office for the reclassification of lands, proposed by the Port of Clarkston, from port and industrial use to park and recreation use.

Three pertinent matters that need to be brought to your attention before we go to our Division office for subject land use change are:

a. The Port of Clarkston must agree to have an archaeological survey conducted on the reclassified lands by a university or firm acceptable to the Corps before any recreational development takes place.

b. The construction of a 34 unit RV campground cannot be approved as part of your proposed recreational development because of concerns that an additional campground in the Lewiston-Clarkston area would create a negative impact on existing campgrounds not now being fully utilized. The Corps does approve the Port's other proposed recreational development as previously submitted. Again all final plans must be approved by the Corps.

c. If our Division office approves the proposed land use change from port and industrial use to recreation intensive use, and the recreation as proposed is not developed, it is very unlikely it would be changed back in the future to port and industrial use.

Please discuss the above matters with the Port Commissioners and, if they are agreed upon, a letter to that effect signed by you and the Commissioners would be appreciated before we continue with the process of the reclassification change.

Encl 11

If you have any questions or problems regarding subject proposal, please contact Jim Clay, phone (509) 522-6792.

Sincerely,

Richard Carlton
Chief, Real Estate Division

CF:
CENPW-OP-RM (Ardner)
CENPW-PL-PF (Grden)
CENPW-OP-GG (John)
CENPW-OP-GG (Hixson)

PORT OF CLARKSTON

849 PORT WAY
CLARKSTON, WA 99403
PHONE (509) 758-5272

the proud port

July 30, 1987

Department of The Army
Mr. Richard Carlton
Chief, Real Estate Division
Walla Walla District, Corps of Engineers
Building 602, City-County Airport
Walla Walla, Washington 99362-9265

Dear Mr. Carlton:

I have circulated your letter to the Port Commissioners and they have authorized me to respond to your comments regarding the three areas you have addressed.

1) Archeological Survey: We are aware of the survey completed by the Corps of Engineers. I have a copy of that report. Our concept is to not disturb the areas that are identified for further study; except to possibly plant grass and some shrubs with assistance and input from the university or firm in the archeological field. The other areas we would like to continue to develop.

2) As I discussed with you on the telephone, I would like a copy of the letter objecting to this facility so that we may understand what their position is and why. We may be able to present a case to resolve the objections. Also as long as the reclassification does not restrict an R.V. use, we understand that you have to review any Recreational uses requested such as the R.V. facility and at this time we would have to show you the justification for such a facility.

3) We are aware of the long term impact of the reclassification request and feel that the benefits in this direction are well justified.

Encl 12

Please contunue to reclassification process and the lease program that would follow.

Sincerely,

Gary Neal, Manager
Port of Clarkston

Don Zirbel, President
Port of Clarkston

September 2, 1987

Real Estate Division

Mr. Gary Neal, Manager
Port of Clarkston
849 Port Way
Clarkston, Washington 99403

Dear Mr. Neal:

This letter refers to your letter of July 30, 1987 and your subsequent conversation with Jim Clay on my staff and John Leier, District Archaeologist in Planning Division, regarding clarification of the archaeological study and proposed RV park as it relates to your request to have a portion of the Lower Granite Lock and Dam project land reclassified from port and industrial use to park and recreational use.

As you were advised by Mr. Clay and Mr. Leier, an archaeological survey would be required within the area surrounding Archaeological Site 45-AS-99, not the entire area proposed for reclassification and not immediately but only in the event that development were to ultimately take place within the boundaries of the archaeological site. Development in this instance would include the seeding of grass over the site. In that regard we suggest a meeting on the site to delineate the boundaries of the archaeological site to ensure that development does not inadvertently take place within the site. Please contact Jim Clay, phone (509) 522-6792 and he will coordinate with Operations, Construction, and Readiness Division, Mr. Leier, and the Clarkston Field Office on a date and time for a meeting.

In planning for activity of any type within the archaeological site an appropriate response to cultural resource concerns will be needed which will include providing the District Archaeologist sufficent lead time to allow for proper coordination with the State of Washington and the Port in deciding the appropriate level of response to the proposed action. No level of activity will be permitted in the location of Site 45-AS-99 until the agreed upon cultural resouce response is completed.

With regard to the proposed RV park, we need to clarify the statement made in our letter dated July 8, 1987. The statement that we would not approve the development of an Rv park was not intended to infer a permanent ban on development of such a facility. The decision not to permit development of an RV park was based on information available at that time and the comments provided by the Idaho Department of

Encl 13

Park and Recreation, and we wanted to make you aware of these concerns in the event your plans to incorporate an RV park into the development of the site was a major factor in your decision to request the reclassification of the land. The Corps would be open to reviewing the decision at such time as we felt an RV park could be properly justified as part of the development.

Concerning your request for a copy of the letter objecting to the development of an RV park, you were furnished a copy of the letter by Jim Clay and Ken Moss on a recent visit to your office.

I hope the above information will clarify the Corps' position and alleviate your concerns regarding the archaeological survey and the proposed RV park.

Based on the clarification of the above points in your converation with Mr. Clay and Mr. Leier, we will proceed with the reclassification process.

Sincerely,

Richard Carlton
Chief, Real Estate Division

CF:
CENPW-PL-ER (Leier)
CENPW-OP (Winborg)
CENPW-OP-RM (Ardner)
CENPW-OP-GG (John)
CENPW-OP-GG (Hixson)

CENPD-PL-ER (CENPW-PL-PF/23 Jun 88)(1105) 1st End Mr. Mason/kh/221-3829
SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 4 to Lower Granite Master Plan - Design Memorandum No. 28, Reclassification of Project Operations to Recreation Intensive Use

DA, North Pacific Division, Corps of Engineers, P.O. Box 2870, Portland, Oregon 97208-2870 AUG 8 1988

FOR: Commander, Walla Walla District

1. Your request to reclassify certain lands on the subject project is approved.

2. Approval provided herewith is limited to the requested land use reclassification and should not be construed as approving the specific recreation development plans of Nez Perce County. Ultimate development plans for the area in question will require separate approval. Such plans must be fully justified, coordinated with other involved agencies, and be in accordance with the project Master Plan. Also, development by Nez Perce County should not adversely impact use of the existing trail system that parallels the river.

Encl
/d

JAMES R. FRY
Colonel, Corps of Engineers
Acting Commander

CF:
CENPD-RE
CENPD-CO-R

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
WALLA WALLA, WASHINGTON 99362-9265

ER
DIAGS

REPLY TO
ATTENTION OF:

CENPW-PL-PF (1110-2-1150a) 23 June 1988

MEMORANDUM FOR: Commander, North Pacific Division, ATTN: CENPD-PL

SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 4 to Lower Granite Master Plan - Design Memorandum No. 28, Reclassification of Project Operations to Recreation Intensive Use

1. Location: T. 36 N., R 5 W., B.M., section 29, south of State U.S. Highway 95 and 12, north shore of the Clearwater River across the river from Potlach Corporation Mill (see enclosure 1).

2. Acreage: Approximately 7.53

3. Land Use Allocation: Project Operations

4. Current Land Use Classification: Project Operations

5. Proposed Land Use Classification: Recreation Intensive

6. Background:

a. Nez Perce County has requested that an additional 4.38 acres be added to their public park and recreational lease. The original lease (No. DACW68-1-87-36) covered approximately 3.15 acres of land. The land currently under lease and the proposed additional lands are classified Project Operations.

b. Upon approval from the Corps, Nez Perce County proposes landscape development: additional parking; utilities including water, sewer, and lighting for parking and ramp area; Recreational Vehicle dump site, fish cleaning station, picnic tables, and barbecue stands; plantings of trees, shrubs, and lawn (see enclosures 2 and 3).

c. The site was originally designated Project Operations as the proposed site for the resource building. The resource building has since been constructed in Clarkston.

7. Current Condition: The subject parcel currently has a paved boat ramp and a gravel road with an informal parking area. The North Lewiston Levee runs along the shoreline along with the Clearwater and Snake River National Recreation Trail. The remainder of the site is covered with native grasses/forbs, introduced noxious weeds, and a few large trees (see enclosure 4).

8. District Coordination: The proposed change has been coordinated with Operations Division, Real Estate Division, and Engineering Division.

9. Conclusion: The Master Plan states that there is an obvious and pronounced need for a public ramp at this location to serve the upriver boating traffic. The Idaho SCORP Report shows a need for boat ramps and picnicking in Nez Perce County. It is estimated that statewide there will be a 64 percent increase in demand for picnicking and a 77 percent increase demand for boating by the year 2000.

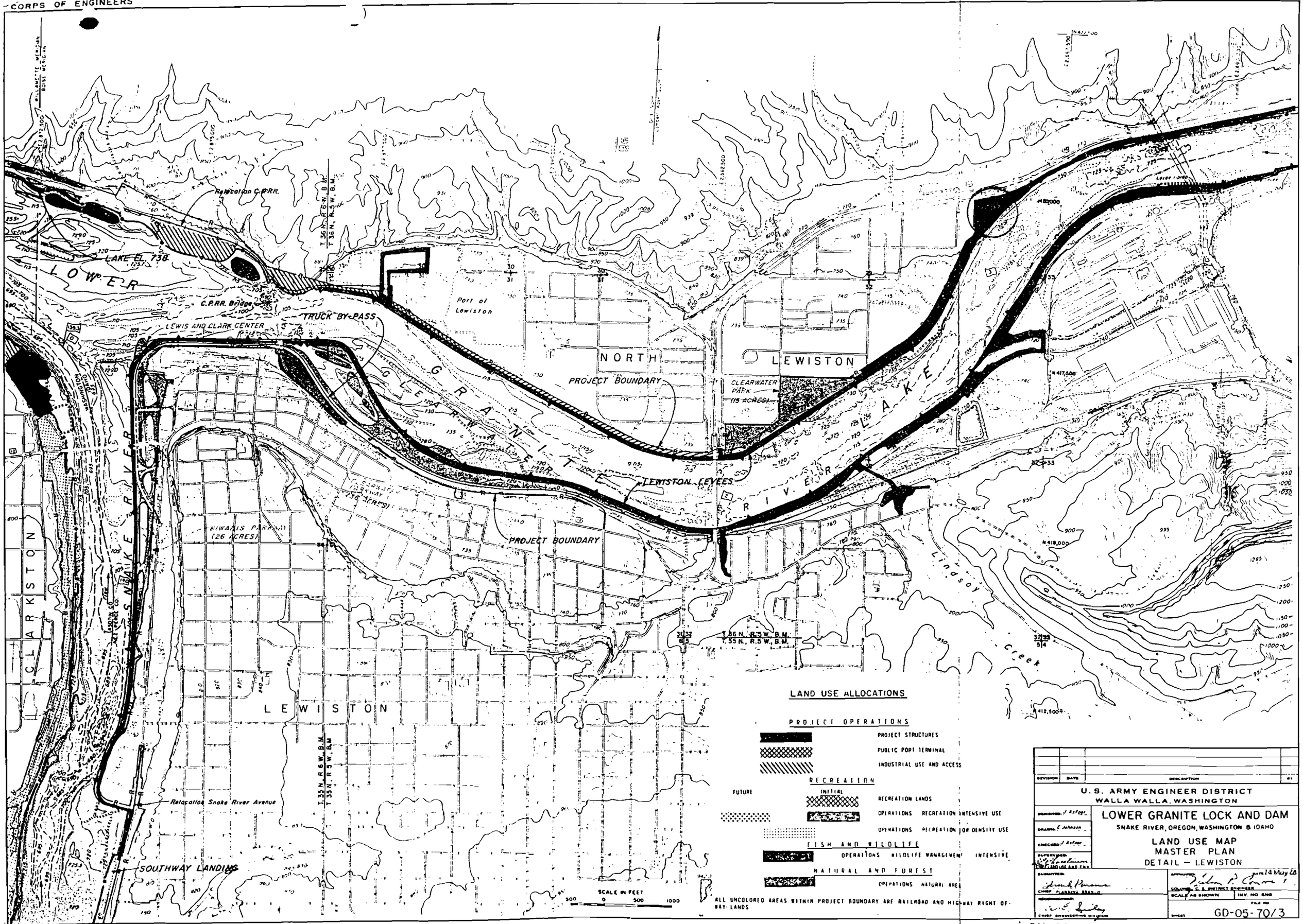
10. Recommendation: To meet the existing and proposed uses it is necessary to reclassify these lands to Recreation Intensive. It is requested that approval be granted to change land use classification of the described parcel from Project Operations (project structures) to Recreation Intensive.

4 Encls

JAMES B. ROYCE
Colonel, CE
Commanding

CORPS OF ENGINEERS

U.S. ARMY



LAND USE ALLOCATIONS

PROJECT OPERATIONS

- PROJECT STRUCTURES
- PUBLIC PORT TERMINAL
- INDUSTRIAL USE AND ACCESS

RECREATION

- FUTURE / INITIAL — RECREATION LANDS
- OPERATIONS RECREATION INTENSIVE USE
- OPERATIONS RECREATION LOW DENSITY USE

FISH AND WILDLIFE

- OPERATIONS WILDLIFE MANAGEMENT INTENSIVE

NATURAL AND FOREST

- OPERATIONS NATURAL AREA

ALL UNCOLORED AREAS WITHIN PROJECT BOUNDARY ARE RAILROAD AND HIGHWAY RIGHT OF-WAY LANDS

REVISION	DATE	DESCRIPTION	BY

U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON

DESIGNED J. Astor
DRAWN E. Johnson
CHECKED J. Astor
SUPERVISED

LOWER GRANITE LOCK AND DAM
SNAKE RIVER, OREGON, WASHINGTON & IDAHO

LAND USE MAP
MASTER PLAN
DETAIL — LEWISTON

SUBMITTED: CHIEF, PLANNING BRANCH
APPROVED: 14 May 28
CHIEF, ENGINEERING DIVISION
SCALE AS SHOWN
INV. NO. 6NB
FILE NO. GD-05-70/3
SHEET

DM 28

PLATE 3

NEZ PERCE COUNTY
BOARD OF COUNTY COMMISSIONERS

1225 Idaho Street
P. O. Box 896
Lewiston, Idaho 83501
(208) 799-3090

January 22, 1988

Department of the Army
Walla Walla District
Building 602, City-County Airport
Walla Walla, WA 99362-9265

Dear Sir:

To complete our project on the Clearwater River, North Lewiston ramp and dock area, we desire an additional lease agreement with the Corps. I am enclosing two sketches of the area in question. I have marked the area under the present lease in black outline and the additional area needed in red outline. The area upriver or to the east end will be added parking area, and the area downriver or to the west will be landscaped with added trees, lawn and shrubs. Also water and sewer lines will be run in for a RV dumpsite and fish cleaning station. We also are planning on picnic tables, barbeque stands and lighting for park and ramp area.

We have some funds now and have applied for a grant for some of the improvements which will have a deadline.

Your prompt attention to this matter will be greatly appreciated.

Sincerely,

L. Bud George
Nez Perce County Commissioner

LBG:psd
cc: Phil Hixson
Don Appleford

Enc

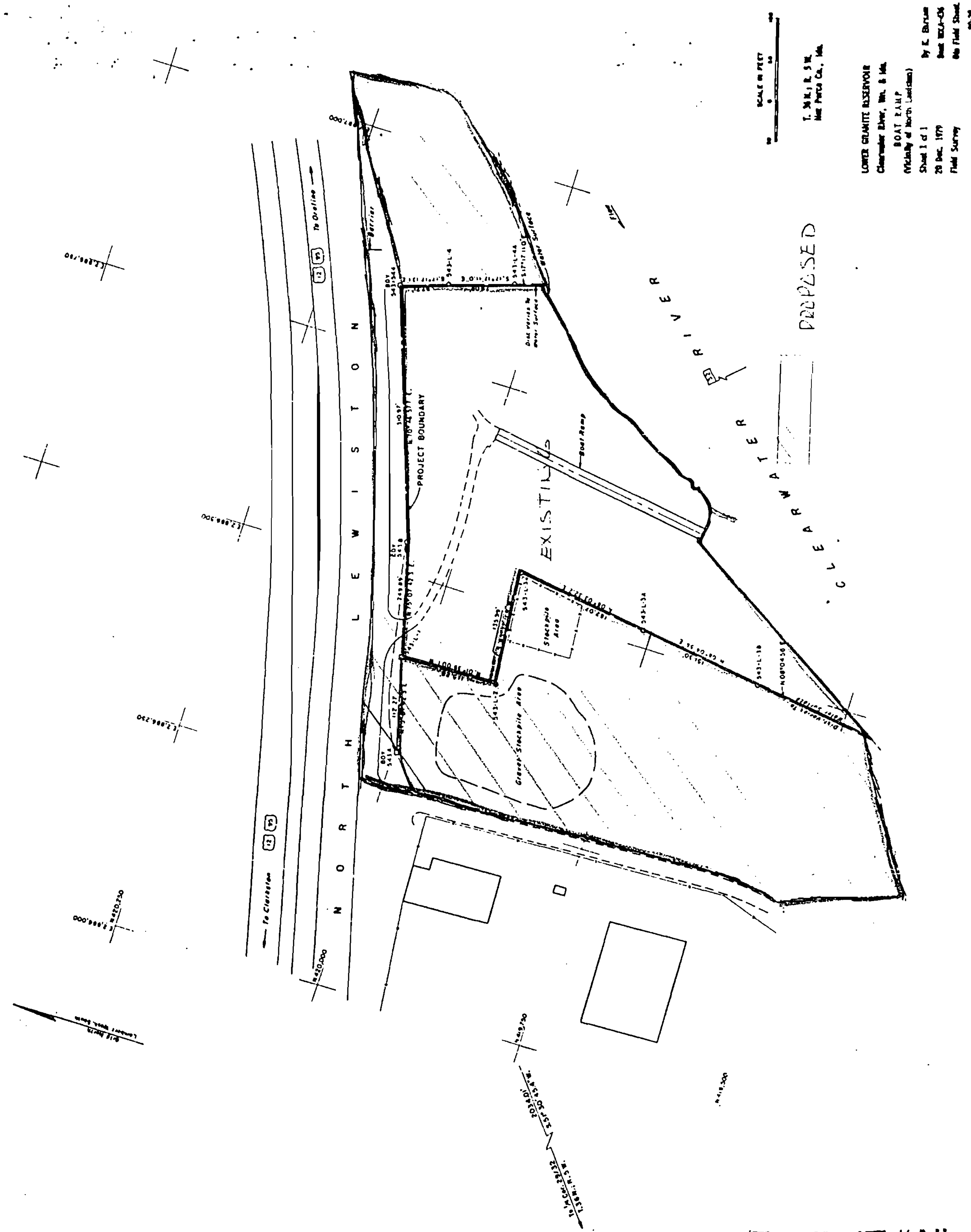

LOWER GRANITE RESERVOIR
BOAT RAMP
(Vicinity of North Lewiston)
Sheet 1 of 1
20 Dec. 1979
Field Survey
SCALE IN FEET
NORTH LEWISTON
CLEARWATER RIVER
PROJECT BOUNDARY
Boat Ramp
Stockpile Area
Gravel Stockpile Area
EXISTING
PROPOSED
To Clarkston
To Orofino

EXHIBIT "A"

FIGURE 8

INDUSTRIAL

U.S. 12

GRAVEL ROAD

CORPS TAKE LINE

FENCE

BOAT RAMP

OPEN SPACE CORRIDOR

30-40%

VIEW OF RIVER VALLEY

INDUSTRIAL

10-20%

NORTH LEWISTON LEVEE TRAIL SYSTEM

PANORAMIC VIEW RIVER VALLEY

ALSO POTLATCH

CLEARWATER RIVER

NORTH

50' 0 25' 50'

SCALE

LEGEND

- SCRUB GRASSES
- TREES
- PATH
- SLOPE
- VIEW

NORTH LEWISTON Site Analysis

WASHINGTON STATE UNIVERSITY

SPRING 1984

LEWISTON-CLARKSTON WATERFRONT
COMMERCIAL RECREATION AND TOURISM PLAN

Encl 4

CENPD-PL-ER (CENPW-PL-PF/31 Mar 89) 1st End Mr. Tyger/rm/326-3829
SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 5 to Lower Granite Master Plan--Design Memorandum No. 28, Coast Guard Station Site, Reclassification of Project Operations to Recreation

CDR, North Pacific Division, Corps of Engineers, P.O. Box 2870, Portland, OR 97208-2870

FOR Commander, ~~Walla Walla District~~ Jan 12 May 89

1. We have reviewed the proposed reclassification of the site from Project Operations to Recreation in order that the U.S. Forest Service (USFS) may develop an office and informational center for the Hells Canyon National Recreation Area.

2. It appears that the proposed use will jointly benefit the USFS and the Corps. As such your request is approved.

3. Approval provided herewith is limited to the requested land use reclassification and should not be construed as approving the specific development plans of the U.S. Forest Service. Ultimate development plans for the area in question will require separate approval. Such plans must be fully justified and coordinated with other involved agencies. The proposed U.S. Forest Service development should not impact the existing trail system that parallels the river.

4. Appropriate modifications to the Master Plan should be made when updated.

James B Royce

PAT M. STEVENS IV
Brigadier General, USA
for Commanding

4 Encls
wd all encls

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
BUILDING 602, CITY-COUNTY AIRPORT
WALLA WALLA, WASHINGTON 99362-9265

REPLY TO
ATTENTION OF

CENPW-PL-PF (1110-2-1150a) 31 March 1989

MEMORANDUM FOR Commander, North Pacific Division,
ATTN: CENPD-PL

SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 5 to Lower Granite Master Plan--Design Memorandum No. 28, Coast Guard Station Site, Reclassification of Project Operations to Recreation

1. Location: The site is located along the Snake River at RM 142.5 in Asotin County 1 mile from Clarkston and 3 miles from Asotin, Washington; Section 4, T. 10N, R. 46 E, WM (see enclosure 1).

2. Acreage: Approximately 3.8

3. Land Use Allocation: Project Operations

4. Current Land Use Classification: Project Operations

5. Proposed Land Use Classification: Recreation

6. Background:

a. The U. S. Department of Agriculture, Forest Service (USFS), Hells Canyon National Recreation Area (HCNRA), has requested a 25-year permit through Real Estate Division for development of an office and information center on the extreme end of Swallows Park (see enclosures 2 and 3). This will be the major information center of the HCNRA. Approximately 3.0 acres of the proposed site are currently classified Recreation and 3.8 acres are classified Project Operations (see enclosure 4). To allow the proposed use by the USFS, the Project Operation land use classification will have to be changed to Recreation. Stated in ER 1130-2-1, Project Operations classification is defined as lands required solely for the operation of the project.

b. Upon approval from the Corps, the USFS will construct the facilities in phases, first move in a temporary office and information center and begin landscape development (grass, shade trees, signs, paved parking, and walkways). Next the USFS will modularly construct a permanent office, warehouse, and visitors center. The visitor information services provided at this

office will include the HCNRA as well as other National Forest facilities surrounding the Lewis-Clark Valley. It also will provide information on National Park Service and Corps of Engineers projects, such as Lower Granite and Dworshak. The HCNRA boat patrol will be based at the site. Detailed development plans will be subject to CENPW approval.

c. The area was classified in Lower Granite Master Plan as Project Operations for the U. S. Coast Guard's Clarkston Station. However, a letter dated 26 August 1983 from the Coast Guard stated they now did not see any future need to develop a Coast Guard Station on the site and released any claim to the site.

7. Current Condition: The subject parcel includes non-irrigated dryland grass, a boat basin, and portion of the Clearwater and Snake River National Recreation Trail.

8. District Coordination: The proposed change has been coordinated with Operations Division, Real Estate Division, and Engineering Division.

9. Conclusion: Reclassification action must be approved prior to the issuance of the permit. The proposed use of the site by the USFS is similar in use to the U. S. Coast Guard, with additional opportunity for the public to be better served by this location versus the current location at Hells Gate State Park. Also, the Corps has the opportunity to participate in the future visitor center. This site is located on an entrance to the HCNRA (water and road).

10. Recommendation: It is recommended that approval be granted to change land use classifications of the described parcel from Project Operations to Recreation. Please call Blaise Grden, Master Plan Study Manager, at ext. 6541 if there are any questions regarding this subject.

4 Encls

JAMES A. WALTER
LTC, EN
Commanding

CENPW-PL-PF
SUBJECT: Lower Granite Lock and Dam, Letter Supplement No. 5 to Lower Granite Master Plan--Design Memorandum No. 28, Coast Guard Station Site, Reclassification of Project Operations to Recreation

GRDEN/PL-PF/sg

CF: (w/encls)
District Engineer
C, CENPW-EN-DB
C, CENPW-EN-GB
C, CENPW-OP-RM
CENPW-OP-GG (Hixon)
C, CENPW-PL-ER
C, CENPW-RE-MD

McMICHAEL/PL-PF

ARMACOST/PL

BRAMMER/EN

CARTLTON/RE

WINBORG/OP

TURNER/EA

KURKJIAN/DE-D

IM-SM

EN

CORPS OF ENGINEERS — U S ARMY

DOWNSTREAM PROJECT LIMIT

EASEMENT FOR BPA SUBSTATION

SOUTH SHORE ACCESS ROAD

LOWER GRANITE LOCK AND DAM
SNAKE RIVER MILE 107.5

LOWER GRANITE LAKE

CAMAS PRAIRIE RAILROAD

WHITMAN COUNTY ROAD

WHITMAN CO. / GARFIELD CO.

SEE PLATE 3

WASHINGTON IDAHO

NORTH LEWISTON

LEWISTON

CLARKSTON

ASOTIN

CLEARWATER RIVER

SNAKE RIVER

SR 193

EASEMENT FOR CLARKSTON SEWAGE PLANT

SNAKE RIVER AVENUE

COAST GUARD STATION

WSR 129

EASEMENT FOR ASOTIN SEWAGE TREATMENT PLANT

SURPLUS FOR DISPOSAL THRU GSA

TITLE TO BE TRANSFERRED TO STATE OF WASHINGTON

U.S. HWY. 12

VICINITY MAP
SCALE IN MILES
20 0 20

LEGEND

LAND USE ALLOCATIONS

PROJECT OPERATIONS
- PROJECT STRUCTURES
- PUBLIC PORT TERMINAL
- INDUSTRIAL USE AND ACCESS

RECREATION
- INITIAL / FUTURE
- RECREATION LANDS
- OPERATIONS RECREATION INTENSIVE USE
- OPERATIONS RECREATION LOW DENSITY USE

FISH AND WILDLIFE
- OPERATIONS WILDLIFE MANAGEMENT

NATURAL AND FOREST
- OPERATIONS NATURAL AREA

SYMBOLS
- FUTURE / INITIAL — COMMERCIAL MARINA

- EXISTING ROADS
- RELOCATED ROADS
- RAILROADS
- LEVEE
- NORMAL POOL (738 M.S.L.)
- 110 — RIVER MILES FROM MOUTH
- R — PROJECT BOUNDARY

SCALE IN FEET
2000 0 2000 4000 6000

REVISED	DATE	DESCRIPTION

U.S. ARMY ENGINEER DISTRICT
WALLA WALLA, WASHINGTON

DESIGNED: J. Astor
DRAWN: E. Johnson
CHECKED: J. Astor
SUPERVISED: CHIEF, LAND USE PLANNING
SUBMITTED: CHIEF, PLANNING BRANCH

LOWER GRANITE LOCK AND
SNAKE RIVER, OREGON, WASHINGTON & IDAH
LAND USE MAP
MASTER PLAN

DATE
SCALE AS SHOWN
INV. NO.
FILE NO.
SHEET GD-05-70

DM 28 Encloser 1

PLAT

United States Department of Agriculture
Forest Service
Hells Canyon National Recreation Area
3620-B Snake River Avenue, Lewiston, ID 83501

Reply to 7310

Date September 2, 1987

Jim Clay
U.S. Army Corps of Engineers
Building 602
City County Airport
Walla Walla, WA 99362

Dear Jim,

Enclosed are two copies of the latest sketch of our proposed facilities at the Swallows Park site.

I met with Bill Ruchert of the Washington Department of Transportation yesterday and it appears that we will have to use the existing entrance, rather than the separate entrance shown on the first drawing. The safety problems associated with the separate entrance are too great.

While viewing the site on the ground it appeared that the bike path was in a different location than that shown on the site plan. On one of the sketches I've noted a rough location for the actual path.

Utilizing the existing entrance means that we will be occupying more ground than I had originally thought. I would hope that we could hold options open for the architect to design facilities within the area from the Island Access Road up-river to the point where the land ends against the highway right-of-way. This area is cross-hatched on one of the sketches.

We have completed a study of office options in the Lewiston-Clarkston area. Of the six alternatives considered, this location appeared to be the best and has been recommended to the Forest Supervisor. I expect a decision soon and hope we can keep this option open.

Sincerely,

Arthur L. Seamans

ARTHUR L. SEAMANS
Assistant Project Manager

cc Seamans
Defler

Enclosures

Enclosures 2

United States Department of Agriculture

For
Se.

Hells Canyon Nati al Recreation Area
3620-B Snake Rive. Avenue, Lewiston, ID 83501

Reply to 7310

Date April 20, 1988

Jim Clay
U.S. Army Corps of Engineers
Building 602
City County Airport
Walla Walla, WA 99362

Dear Jim,

We hope that arrangements may be satisfactorily made for the U.S.D.A. Forest Service, Hells Canyon National Recreation Area Office to occupy the waterfront area on the South end of Swallows Park. Please amend our original proposal to include the water area of the adjacent boat bay as per our conversation at the site on March 23, 1988.

Our use of that site for an office, work station and public contact point should mutually benefit our agencies in many ways. The following list provides some examples but is by no means complete:

1) There will be a substantial savings to the United States. Land already federally owned will be used for a federal office that serves the public. This site has outstanding attributes to enhance that service.

2) A parcel of presently undeveloped ground adjacent to COE operated recreation facilities will be attractively landscaped with grass, shade trees, signs, paved parking and walkways. The beauty of Swallows Park will be enhanced by a facility compatible with its recreation objectives.

3) Visitor information services provided at this office are not limited to the Hells Canyon National Recreation Area. It serves as a service center for National Forests surrounding the Lewis-Clark Valley. It also carries recreation information (maps, brochures, etc.) on National Parks and Corps of Engineers Projects such as Lower Granite and Dworshak.

4) The office serves as a sales outlet for the Pacific Northwest National Parks and Forests Association. The Association's emphasis is on the sale of interpretative and informational materials. These include Corps of Engineers navigation charts and could be expanded to include other COE materials.

5) The office complex will include a lighted exterior orientation/ information center that will provide recreation information to visitors full time, even when the office is closed. We would hope this attractive and functional center would include information on the levee parkway and bike trails.

Enclos. 3

6) Recreation organizations and agencies in the Lewis-Clark Valley have an unusual level of cooperation. Our use of this site will further that spirit of cooperation.

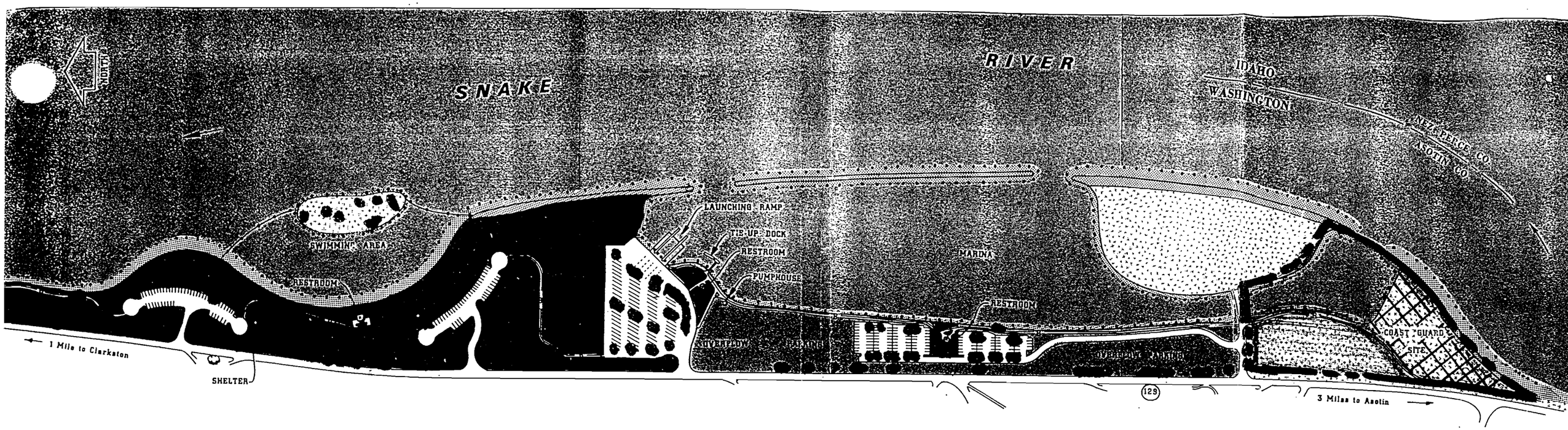
7) On a more functional level, our agencies cooperate in maintenance of navigation aids and permit inspection on the Snake River in Hells Canyon. The Forest Service provides transportation for Corps of Engineers personnel and keeps them informed of events in the canyon. The patrol boat will be based at this site.

I would hope these significant benefits to the overall Corps of Engineers mission in the Lewis-Clark Valley would allow a permit to be issued without a land use fee. Savings would be significant if it was not necessary to transfer funds from one agency to the other.

Sincerely,

Arthur L. Seamans

ARTHUR L. SEAMANS
Assistant Area Ranger



LAND USE CLASSIFICATION

Recreation

Project Operations

DESIGNED AND CONSTRUCTED BY

WALLA WALLA DISTRICT CORPS OF ENGINEERS

OPERATED BY

COUNTY OF ASOTIN

SWALLOWS PARK

SCALE IN FEET

200 0 200 400 600

JAN 89

ENCLOSURE 4