PRELIMINARY DRAFT

CITY OF CLE ELUM SHORELINE MASTER PROGRAM UPDATE – CUMULATIVE IMPACTS ANALYSIS

Ecology Grant No. G1200054

Prepared for:

City of Cle Elum Planning Department

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CHAPTER 1. INTRODUCTION

1.1 Purpose of the Report

The City of Cle Elum is updating its Shoreline Master Program (SMP) in accordance with the Shoreline Management Act (SMA) and implementing regulations[1]. As part of this SMP Update effort, the City is required to evaluate the cumulative impacts of "reasonably foreseeable future development" to verify that proposed policies and regulations for shoreline management are adequate to ensure "no net loss" of shoreline ecological functions. The Washington Administrative Code (WAC) 173-26-186(8) directs that master programs "include policies and regulations designed to achieve no net loss of those ecological functions." The proposed City of Cle Elum Draft SMP (dated XXXX) provides standards and procedures to review, through established permitting processes, subsequent use or development proposals for their potential to impact shoreline resources. The purpose of this report is to assess the cumulative impacts that would result from development and activities in the shoreline over time under the provisions contained in the City's draft SMP. This report is prepared as a requirement of the Kittitas County Regional Comprehensive Shoreline Master Program Update grant agreement with the state funding agency, Washington Department of Ecology (SMA Grant No. G1200054). This report is based upon guidance provided in Ecology's SMP Handbook (accessed at: http://www.ecy.wa.gov/programs/sea/shorelines/smp/handbook/index.html), specifically Chapter 4 – No Net Loss of Shoreline Ecological Functions and Chapter 17 – Cumulative Impacts Analysis (CIA).

The cumulative impacts to be addressed in this report are those expected to result from future development and uses within the SMA shoreline jurisdiction and regulated by the Draft SMP (XXXX 2013). Cumulative impacts that may result from development outside the shoreline jurisdiction are not considered in this report.

This draft analysis will need to be revised if substantial revisions are made to the policies and regulations proposed in the City of Cle Elum Draft SMP.

1.2 State Requirements

According to the state shoreline guidelines outlined in WAC 173-26, Part III, the City of Cle Elum is required to evaluate and consider cumulative impacts of "reasonably foreseeable future development" on the shorelines of the state as follows[2]:

To ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that

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[1] RCW 90.58 and WAC 173-26

[2] WAC 173-26-186(8)(d))

address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities. Evaluation of such cumulative impacts should consider:

- Assessment of current shoreline conditions;
- Reasonably foreseeable future development and use of the shoreline; and
- Beneficial effects of any established regulatory programs under other local, state, and federal laws.

This CIA uses these three considerations as a framework for evaluating the potential long-term impacts on shoreline ecological functions and processes that may result from development or activities under the proposed Draft SMP over a 20-year time frame for consistency with local government Growth Management Act comprehensive plans.

1.3 Report Contents and Methodology

This draft report provides a planning-level assessment of the potential cumulative impacts that can be expected to occur if the proposed Draft SMP is adopted and implemented. The assessment is limited to cumulative impacts of reasonably foreseeable future development in areas subject to SMA jurisdiction. There is approximately 1 mile of regulated shoreline within the City limits of Cle Elum, encompassing portions of the Yakima and Cle Elum rivers.

The shoreline guidelines state that the impacts of "commonly occurring and planned development" should be assessed programmatically "without reliance on an individualized cumulative impacts analysis." In contrast, developments that have unforeseen or uncommon impacts, which cannot be reasonably identified at the time of SMP development should be evaluated via the shoreline substantial development and/or conditional use permit processes to ensure that all impacts are addressed and that there is no net loss of ecological function after mitigation[3]. In addition, the guidelines require evaluation of the cumulative effects caused by:

- Unregulated activities (i.e., timber harvest and certain agricultural uses);
- Developments that are exempt from a shoreline substantial development permit (e.g., single-family residential development); and
- Residential bulkheads, residential piers, and runoff from newly developed properties.

[3] WAC 173-26-201(3)(d)(iii)

Accordingly, this analysis is focused on those uses or developments that have the greatest potential for adverse impacts when considered collectively over a 20-year planning horizon. In Cle Elum, this primarily involves residential and transportation development. Some types of development that are addressed in the SMP, such as signs, dredging, and/or utilities, are not analyzed in detail because of their limited size and effect on shoreline ecological functions or because they will be assessed through the conditional use permit process.

The objective of this analysis is to evaluate whether commonly occurring shoreline uses and developments within the city will result in cumulative impacts to shoreline ecological functions. The analysis assists in determining whether the Draft SMP will result in a *net* loss of shoreline ecological functions compared to 'baseline' conditions. No net loss means that impacts may occur, but adequate measures are in place within the overall shoreline program to mitigate them such that the post development conditions are no worse *overall* than pre-development conditions. For this analysis, the baseline conditions are the conditions that are generally identified and described in the Kittitas County Regional Shoreline Master Program Update-Shoreline Inventory and Characterization Report (ESA, 2013).

Standards and procedures are at the core of any SMP. These are essential for evaluating the effects of specific development actions on a case-by-case basis at the time individual shoreline development proposals are reviewed. These project-level analyses will allow site-scale factors to be considered in the assessment of baseline conditions to supplement the inventory information available for the City. To achieve no net loss, the SMP requires each project to mitigate impacts by avoiding, then minimizing adverse effects, then replacing impacted resources through compensatory mitigation efforts. The SMP requires that avoidance, minimization and compensatory mitigation be employed at the project scale to ensure no net loss of ecological functions on a site-by-site basis.

1.3.1 Methodology

Assessing whether the City of Cle Elum Draft SMP would result in cumulative impacts over time requires a multi-step process:

Step 1: Identify existing shoreline ecological functions.

The concept of ecological functions recognizes that any ecological system is composed of a wide variety of interacting physical, chemical and biological components, that are interdependent in varying degrees and scales, and that produce the landscape and habitats as they exists at any time. Ecological functions are the work performed or role played individually or collectively within ecosystems by these components (WAC 173-26-201).

Existing ecological functions in the county are documented by waterbody and by shoreline segments or reaches per the Inventory and Characterization report (ESA, 2013).

Step 2: Determine reasonably foreseeable future development. A qualitative assessment of potential development within shoreline jurisdiction was conducted, based

on underlying zoning districts and planned projects or improvements. Future foreseeable development is described in Chapter 3 below.

Step 3: Determine potential impacts associated with foreseeable development. Step 2 establishes the amount of development likely to occur along city shorelines. Step 3 examines the typical impacts that could result from such development, as described in Chapter 3.

Step 4: Determine ecological functions at risk. Step 4 compares current conditions and reasonably foreseeable future development to determine ecological functions at risk. Ecological functions at risk are grouped into categories of water quality, habitat, and hydrology. The categories are consistent with WAC 173-26-201(3)(d)(i)(C). A summary of ecological functions at risk is included in Chapter 3.

Step 5: Determine how impacts will be adequately avoided or mitigated. This step describes the regulations in the Draft SMP that would serve to mitigate potential impacts associated with foreseeable development, with a particular focus on ecological functions at risk. Four questions guided this analysis:

- Are the proposed Shoreline Environment Designations (SEDs) protective of existing ecological functions?
- Are the allowed and conditionally allowed uses appropriate for each SED?
- Are the shoreline buffers, setbacks and critical area buffers protective of existing ecological functions?
- What other regulations in the SMP serve to protect ecological functions at risk and are they adequate to address all potential impacts?

Step 6: Evaluate incremental impacts. This analysis addresses incremental impacts anticipated from development and other activities in the shoreline after mitigation is applied. Even with mitigation, development can cause impacts to shoreline functions which cumulatively could have adverse impacts. According to Ecology's SMP Handbook (Ecology, 2010), restoration activities included in the Shoreline Restoration Plan should be considered in determining whether the SMP will prevent cumulative impacts and achieve no net loss.

Step 6: Describe beneficial effects. Various existing local, regional, state and federal plans and programs were reviewed to determine if ecological functions and processes would be restored or improved when new development occurs.

Step 7: Explain how the SMP will deal with unanticipated impacts. The final step describes uses and developments that may have unanticipated or uncommon impacts (e.g. illegal activities) within the shoreline and how the SMP will address such impacts, such as through site-specific analysis or the conditional use permit process.

CHAPTER 2. SUMMARY OF EXISTING SHORELINE CONDITIONS

The following sections describe the current ecological conditions and land uses along the shorelines within Cle Elum City limits (portions of the Yakima and Cle Elum rivers).

2.1 Yakima River

Two segments of the Yakima River are located within City of Cle Elum jurisdiction (Figure 2-1): an approximately 0.4-mile segment at the middle of the City and a wetland area associated with the river at the east end the City. Within the City vicinity, the Yakima River is identified by WDFW (2012) as providing spawning and juvenile rearing habitat for spring Chinook and summer steelhead, and the presence of several other salmonid species is documented. Fish habitat quality within City shoreline jurisdiction has been impacted by upstream conditions and land uses, including an altered flow regime due to irrigation reservoir operations, lack of large woody debris, and the presence of floodplain/channel confining structures. Within City shoreline jurisdiction, Yakima River water quality is listed by Ecology (2009) as impaired for temperature, turbidity, and the presence of toxic compounds (i.e. 4,4'-DDE and DDT).

At the Yakima River segment near the middle of the City, the left bank of the river is directly bordered by I-90. Fireman's Park is located south of the river, along the right bank. The park contains ball fields, a large covered shelter, picnic tables, and a lawn. Some patches of shrub and forest cover remain along the river, but most of the shoreline vegetation has been cleared and the river banks have been armored in the park vicinity. Shoreland areas east and south of the park consist of a mixture of privately owned undeveloped forest land and urban residential development.

The river-associated wetland area located at the east end of the City consists of a pond and adjacent forest land, which is bordered by the I-90 / Oakes Avenue interchange to the west. This shoreline segment is located within a City-owned parcel.

The portions of the Yakima River within City shoreline jurisdiction are located within a mapped channel migration zone and the FEMA 100-year floodplain.

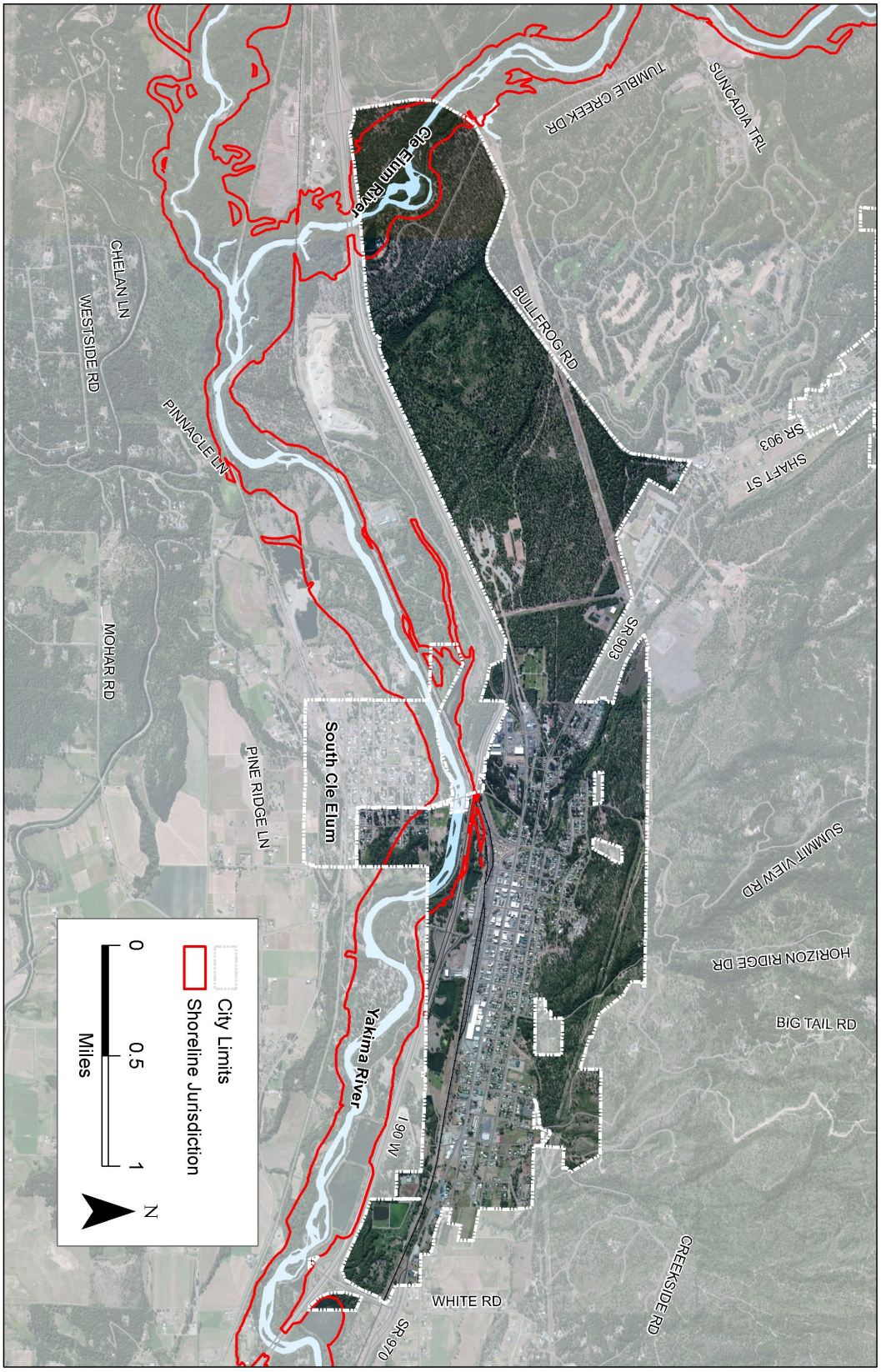

Figure 2-1. Shorelines within City of Cle Elum jurisdiction.

2.2 Cle Elum River

An approximately 0.7-mile segment of the Cle Elum River is located within City shoreline jurisdiction (Figure 2-1). This portion of the river is identified by WDFW (2012) as providing spawning and juvenile rearing habitat for spring Chinook and summer steelhead, and the presence of several other salmonid species is documented. Within City shoreline jurisdiction, water quality is listed by Ecology (2009) as impaired for temperature. Despite the altered flow regime and periodic high water temperatures caused primarily by the upstream Cle Elum Dam and reservoir, this portion of the Cle Elum river is identified as high-quality fish habitat and a high-density spring Chinook spawning area.

Within City shoreline jurisdiction, the majority of the shoreland area consists of relatively unaltered forest habitat that is protected within conservation easements managed by the Kittitas Conservation Trust. A moderate-density residential subdivision (lot sizes of approximately 1-acre) is located in the southeast portion of the segment. The subdivision appears to be fully developed with residences.

The Cle Elum River shoreland area within City shoreline jurisdiction is within a mapped channel migration zone and the FEMA 100-year floodplain.

CHAPTER 3. REASONABLY FORESEEABLE FUTURE DEVELOPMENT, ECOLOGICAL FUNCTIONS AT RISK AND PROTECTIVE SMP STANDARDS

The purpose of this chapter is to identify reasonably foreseeable development for City of Cle Elum SMA shorelines based on underlying zoning districts and planned development. This chapter also describes the shoreline ecological functions most at risk from foreseeable development, based on the findings of the Shoreline Inventory and Characterization report (ESA, 2013), and how foreseeable development would affect ecological functions. The protective provisions in the City of Cle Elum Draft SMP that would serve to mitigate potential impacts associated with foreseeable development are also described.

3.1 Reasonably Foreseeable Future Development

The following section provides an assessment of reasonably foreseeable development along the portions of the Yakima and Cle Elum rivers within Cle Elum City limits. This qualitative analysis was conducted using several sources of information, which include:

- City of Cle Elum zoning map (date?);
- Kittitas County parcel data (2013);
- An internet search for current land development proposals

The potential for future development on publically owned lands was based upon the City's Comprehensive Plan (date?) and draft Transportation Plan (Southern, 2008).

3.1.1 Yakima River

Fireman's Park is zoned for Public Reserve. Only public uses are allowed in this district, including parks, government buildings, hospitals, and schools. However, given that the primary purpose for the park is recreation; it is very unlikely that non-park buildings and facilities would be constructed within the park. There are no major planned improvements for Fireman's Park (city to confirm). Anticipated activities could include routine maintenance to the ball fields and associated structures.

The lands within City shoreline jurisdiction to the south and east of the park are zoned as Residential. The primary allowed use in this district is single-family dwellings and appurtenant accessory buildings. New lots within this district must be 5,000 square feet or greater. Much of residential-zoned area is already fully developed with residences, but there is undeveloped forest land located south of Grant Street and east of 3rd Street. Per zoning allowed densities, approximately 60 more single family residences could be constructed in this area. However, the majority of the undeveloped parcels are located

within the FEMA-mapped floodway, and all are located within the FEMA-mapped 100-year floodplain. Some new homes may be constructed in this area but it is likely that the majority of the area will remove undeveloped, as structures built within floodways are generally not eligible for flood insurance.

In the area within City shoreline jurisdiction at the east end of the City, the Washington State Department of Transportation proposes to improve the I-90 / Oakes Avenue interchange with new westbound-on and eastbound-off ramps (Southern, 2008). Currently, there are no project plans, timeline, or dedicated funding the project. (city to confirm)

3.1.2 Cle Elum River

Most of the land within City shoreline jurisdiction along the Cle Elum River is permanently protected within conservation easements. The existing subdivision in the area appears to be fully built out. In addition, the majority of the homes are set back 100 feet or more from the river, so there is a generally low likelihood of shoreline armoring in the foreseeable future.

3.2 Ecological Functions at Risk

This section summarizes how foreseeable future development would affect shoreline functions within City jurisdiction.

3.2.1 Water Quality

3.2.1.1 Yakima River

Upstream of the City of Cle Elum, the temperature of the Yakima River is elevated (particularly in reaches downstream of storage reservoirs) and elevated concentrations of legacy pollutants (e.g., chlorinated pesticides) have been detected. Within City shoreline jurisdiction, water quality is listed by Ecology (2009) as impaired for temperature, turbidity, and the presence of toxic compounds (i.e. 4,4'-DDE and DDT).

There is potential for limited vegetation clearing within Fireman's Park as facilities are maintained or constructed. Most of the existing shrub and tree vegetation along the shoreline in the park will likely be maintained for bank stability. Therefore, there is low risk of vegetation removal that would result in decreased river shading and subsequent higher water temperatures. Construction of new residences and roads could increase runoff of sediments and pollutants to the river. However, given that the majority of the vacant, Residential-zoned land is located within the FEMA-mapped floodway, there is generally a low likelihood of a significant increase in impervious surfaces.

At the eastern end of the City, the proposed expansion of the I-90 / Oakes Avenue interchange could increase impervious surface levels, and thus could increase the runoff of sediments and pollutants to the Yakima River. However, new road construction would be

required to meet the State's latest requirements for stormwater detention and treatment, so a significant decrease in river water quality would be unlikely.

3.2.1.2 Cle Elum River

Potential for significant water quality impacts to the Cle Elum River resulting from new development are minimal. The majority of the shoreland area within City jurisdiction is protected within conservation easements, and the existing residential subdivision appears to be fully built out.

3.2.2 Habitat

3.2.2.1 Yakima River

Within City jurisdiction, much of the shoreland area along the Yakima River is already developed with residences and a park, and little riparian shrub and tree habitat remains. There is some forested vacant Residential-zoned land south of the river, but much of this area is located within the FEMA-mapped floodway, so significant development and alteration of wildlife habitat is unlikely.

The proposed expansion of the I-90 / Oakes Avenue interchange at the east end of the City could result in the removal of some forest habitat within City shoreline jurisdiction, which would cause a localized reduction in wildlife habitat. It is unknown if the proposed interchange improvements would impact this forest habitat or would be confined to the already-disturbed portions of the existing interchange, which are outside of Cle Elum City limits.

3.2.2.2 Cle Elum River

Potential for significant habitat impacts to the Cle Elum River and adjacent shorelands resulting from new development are minimal. The majority of the shoreland area within City jurisdiction is protected within conservation easements, and the existing residential subdivision appears to be fully built out.

3.2.3 Hydrology

3.2.3.1 Yakima River

It is unlikely that significant alteration would occur within Fireman's Park, as the primary function of the park is ball fields. New structures (residences) could be constructed within the vacant land south of the park, which could exacerbate downstream flooding problems. However, given that much of the undeveloped land is located within the FEMA-mapped floodway, widespread new development in this area is unlikely.

3.2.3.2 Cle Elum River

The majority of the Cle River shoreland area within City jurisdiction is protected within conservation easements, and the existing residential subdivision appears to be fully built out. The majority of the existing structures are set back 100 feet or more from the

shoreline, so there is a low likelihood of new shoreline armoring. Therefore, there is low potential for significant hydrologic impacts.

3.3 Protective SMP Standards

This section describes regulations in the Draft SMP that would serve to protect shoreline ecological functions.

3.3.1 Shoreline Environment Designations

SEDs have been assigned to each shoreline segment based upon an analysis of the existing designation system under Cle Elum's current SMP, the Ecology Guidelines (WAC 173-26-211) and the Shoreline Inventory and Characterization (ESA, 2103) findings. Consistent with the Ecology Guidelines, the proposed SEDs reflect:

- Existing land use patterns;
- The biological and physical character of the shoreline being considered for development; and
- The goals and aspirations of community as expressed through comprehensive plans

The proposed designation criteria were incorporated in Chapter 3-Environment Designations and Management Policies of the Draft SMP. The criteria are included in Table 3-1 summary form and were used to apply designations to shorelines.

Table 3-1. Proposed Shoreline Environment Designation Criteria

Proposed Shoreline Environment Designation	Proposed Designation Criteria
Urban Conservancy	An urban conservancy environment designation was assigned to shoreline areas appropriate and planned for development that are compatible with maintaining or restoring of the ecological functions of the area, that are not generally suitable for water-dependent uses and that lie in commercial or industrial "rural areas of more intense development" if any of the following characteristics applied: • They are suitable for water-related or water-enjoyment uses; • They are open space, flood plain or other sensitive areas that should not be more intensively developed; • They have potential for ecological restoration; • They retain important ecological functions, even though partially developed; or

Proposed Shoreline Environment Designation	Proposed Designation Criteria
	• They have the potential for development that is compatible with ecological restoration. Mineral resource lands were assigned an urban conservancy designation that allowed mining and associated uses in addition to other uses consistent with the urban conservancy environment.
Shoreline Residential	A shoreline residential environment designation was assigned to shoreline areas inside LAMIRDs or "master planned resorts" or in limited rural areas, if they are predominantly single-family or multi-family residential development or are planned and platted for residential development.
Aquatic	An aquatic environment designation was assigned to lands waterward of the ordinary high-water mark.

The most prevalent designation in the proposed designation system is Urban Conservancy. The Residential-zoned land south of Grant River is designated as Shoreline Residential.

For each SED, the City of Cle Elum SMP (Draft SMP Sections 3.10 and 5.21) identifies:

- Permitted uses – These are uses and developments that are consistent with the SMA. Such uses/developments require a shoreline substantial development permit or a letter of exemption. A letter of exemption is required for projects that are considered exempt from shoreline substantial development permits. The letter of exemption process is an added check to ensure that the proposed location and design meets all of the requirements of the SMP. Deviations from bulk, dimensional or performance standards may necessitate a variance permit, which requires Ecology approval.

- Conditionally-allowed uses – Uses that may be authorized provided they meet certain criteria. Conditional use permits also require Ecology approval.

- Prohibited uses – These are uses and developments that are inconsistent with the SMA in the specified SED, and cannot be allowed through any permit or variance.

- Required shoreline buffers and setbacks –Shoreline buffers, side yard setbacks, height, lot frontage and residential density limits are established for each SED. The Aquatic designation only has to conform to side yard setback minimums. Buffers and setbacks are intended to protect shoreline ecological functions and water views while supporting other priority uses of the shoreline.

The SED system is designed so that the uses allowed on each shoreline segment are generally appropriate considering the ecological condition and sensitivity of the land and water, as well as the community land use vision reflected in the zoning. The type and intensity of uses allowed in areas designated Urban Conservancy are more limited than in areas designated Shoreline Residential. This ensures that sensitive areas are adequately protected from future development.

3.3.2 Mitigation Sequencing

Mitigation sequencing is a common hierarchical protocol for avoiding and minimizing environmental impacts. Mitigation sequencing is a requirement per WAC 173-26-201(2)(e) that directs all proposed uses and developments to avoid environmental impacts of a proposal and where unavoidable, include measures to minimize and mitigate those impacts in compliance with the SMP and other applicable regulations. Mitigation sequencing is a requirement in the City of Cle Elum Draft SMP and can be found in Section 4.2 Environmental Protection and Critical Areas, Regulation B.2.

In instances where impacts to ecological functions have the potential to occur, mitigation sequencing requires that all reasonable efforts must be taken to avoid, and where unavoidable, minimize and mitigate impacts such that no net loss of shoreline ecological functions is achieved.

In mitigation sequencing, possible adverse impacts should be avoided altogether by not taking a certain action or parts of an action, or by moving the action. For example, a development project that may impact a wetland might be required to avoid construction activities that will directly impact (e.g. vegetation removal or draining) or indirectly impact (e.g. increased sedimentation or runoff) the wetland habitat. By simply avoiding impacts to critical areas no future compensatory mitigation will be required.

When adverse impacts to ecological functions are unavoidable, the magnitude or severity of the impact resulting from an activity should be minimized. This may include reducing or eliminating the adverse impact by preservation and maintenance operations that occur during the life of the action. Minimizing impacts would include, but not be limited to, installing sediment and erosion control measures and other Best Management Practices to reduce soil erosion and retain water quality in or adjacent to a critical area and retaining natural vegetation, to ultimately reduce or abate the severity of the development action.

When avoiding or minimizing impacts is unfeasible, compensatory mitigation is required to replace the affected resources. This includes monitoring both the impact and mitigation project and taking appropriate corrective measures to ensure that impacts are abated to ensure no net loss. Compensatory mitigation can involve reseeding or replanting impacted areas, restoring water quality and quantity, or otherwise restoring the ecological functions. Other typical mitigation activities include wetland restoration, installation of large woody debris, and floodplain reconnection.

3.3.3 Vegetation Conservation and Shoreline Buffers

According to Ecology Guidelines, master programs must include "planning provisions that address vegetation conservation and restoration, and regulatory provisions that address conservation of vegetation; as necessary to assure no net loss of shoreline ecological functions and ecosystem-wide processes, to avoid adverse impacts to soil hydrology, and to reduce the hazard of slope failures or accelerated erosion" (WAC 173-26-221(5)(b)).

The Draft SMP requires new uses and developments to be located 100 feet landward of the ordinary high water mark of the shoreline, for both the Urban Conservancy and Shoreline Residential SEDs. The SMP also requires shoreline buffers to be maintained in a well-vegetated condition that supports native plant species at densities that would occur in similar undisturbed settings. Clearing or removing vegetation is allowed only when associated with an allowed use or development. These provisions must be met by any use, development, or activity regardless if a shoreline permit is required or not. The focus of these provisions is to establish shoreline buffers and limit development and activities in the buffers.

Protection and restoration of riparian zones is important for improvement of water quality and maintenance of adequate water temperatures. Protection of existing native vegetation and enhancement of degraded riparian areas is a key component in protecting water quality and improving in-stream habitat for aquatic species, including salmonids. Riparian zones also buffer streams and lakes from noise and human activities associated with property use.

3.3.4 Critical Areas Standards

Critical area protections must be included in the SMP per Ecology Guidelines. SMPs are required to incorporate protections for critical areas that assure no net loss of shoreline ecological functions necessary to sustain shoreline natural resources. Critical area regulations for wetlands, aquatic habitat conservation areas, fish and wildlife habitat conservation areas, wildlife habitat conservation areas, geologically hazardous areas, frequently flooded areas, and critical aquifer recharge areas are established in Section 4.2. As an overview, critical area buffers for wetlands and aquatic habitat conservation areas are shown in Table 3-2.

Subdivisions must have lots that contain at least one site, including access and utility locations that is suitable for use or development and is not located entirely within a wetland, aquatic habitat conservation area, floodway, channel migration zone, or landslide hazard area. The new lots must adhere to the standard buffer widths without buffer averaging or reduction.

Table 3-2. Summary of Buffer Requirements for Wetlands and Aquatic Habitat Conservation Areas

Critical Area		Standard Buffer	
		Wetland Type	*Wetland Buffer*
Wetlands	Category I	Natural Heritage Wetlands	190 feet
		Bogs	
		Based on total rating score	150 feet
		Forested	
		Alkali	
	Category II	Vernal Pool	150 feet
		Based on total rating score	75 feet
		Forested	75 feet
	Category III	All types	60 feet
	Category IV	All types	40 feet
			Stream buffer
Aquatic Habitat Conservation Areas	Type S Waters (Shorelines of the State)		100 feet
	Non-Type S Stream (fish bearing)		50 to 200 feet[2]
	Non-Type S Stream (non-fish bearing)		50 feet

[2] If there is credible evidence of historic or current fish use within a non-Type S stream, the Administrator must increase the standard 50-foot, non-Type S water buffer up to a maximum of two hundred feet to protect fish habitat forming processes.

The City also designates wildlife habitat conservation areas, geologically hazardous areas, aquifer recharge areas and floodplains as critical areas and establishes standards and use limitations. Standards and limits on certain uses for these critical areas are described in Table 3-3 below.

Table 3-3. Summary of Requirements for Wildlife Habitat Conservation Areas, Frequently Flooded Areas, Geologically Hazardous Areas and Aquifers

Critical Area	Standards and Use Limitations
Wildlife Habitat Conservation Areas	A habitat management plan (HMP) must be prepared if a proposed use or development is located within 200 feet of a known or suspected wildlife habitat conservation area and there are potential direct or indirect impacts on wildlife species or habitat. The HMP must identify methods and measures to avoid, minimize, or compensate for adverse impacts associated with the proposed development. For unavoidable impacts to wildlife habitat conservation areas, a wildlife habitat management and mitigation plan must be prepared and must demonstrate that when implemented there will be no net loss of ecological function of habitat.
Geologically Hazardous Areas	New shoreline uses and developments must be located, designed, constructed and maintained to avoid geologically hazardous areas. If a severe erosion hazard, mine hazard, or landslide hazard is present, a geologic hazard risk assessment is required. If further analysis is required, a geotechnical report is required that provides recommendations concerning drainage practices, vegetation retention and other mitigation and monitoring measures which may be needed to ensure slope stability.
Frequently Flooded Areas	New uses or developments must not reduce the effective flood storage volume within frequently flooded areas. Compensatory storage must be provided if grading, fill or other activity will occur within a frequently flooded area. Compensatory storage must provide equivalent volume at equivalent elevations to that being displaced; be hydrologically connected to the source of flooding; and designed to prevent fish stranding.
Critical Aquifer Recharge Areas	Activities in critical aquifer recharge areas (CARA) must not cause contaminants to enter the aquifer or significantly adversely affect the recharging of the aquifer. The use or development must comply with water source protection requirements and must be designed and constructed in accordance with stormwater management standards.

3.3.5 Allowed Shoreline and Critical Area Buffer Alterations

Shoreline and critical buffers are generally required to be left undisturbed but there are some exceptions that allow for buffer reduction, buffer averaging and activities and developments within buffers. These allowances provide for minimal infill development while still maintaining or improving existing levels of protection for riparian zones, shoreline vegetation, and associated habitats.

3.3.5.1 Shoreline Buffer Alterations

Shoreline Buffer Averaging

Shoreline buffer widths may be averaged to accommodate a single-family residential development or a water-dependent or water-related development. Buffer averaging is only allowed in those limited instances when adherence to the standard buffer is infeasible or presents a substantial hardship because of site conditions, lot configuration or other circumstances. Residential subdivisions of more than four lots and non-water-dependent and non-water-related developments are not eligible for buffer averaging except through a shoreline variance. The minimum width of the buffer at any given point must be at least 75 percent of the standard buffer or 25 feet, whichever is greater. The net buffer area after averaging (total acreage) must not be less than the standard buffer area. The area that is added to the buffer to offset the reductions must be well-vegetated and may require vegetation enhancement.

Shoreline Buffer Common-Line Setback

PLACEHOLDER—describe common line setback provision in draft SMP

Activities Allowed in Shoreline Buffers

Alterations to the shoreline buffers are allowed to accommodate one of the following uses or developments. It must be limited to the minimum necessary and vegetation enhancement may be required as compensation:

1. Shoreline view corridors limited to 25 feet in width or 25 percent of the width of the lot frontage, whichever is less
2. Private pathways made of pervious materials and no greater than 6 feet in width
3. Hazard tree removal
4. Invasive species management
5. Public trails and other public access improvements
6. Water-dependent or water-related utilities and essential public facilities CONFIRM THIS IN DRAFT SMP

3.3.5.2 Allowed Critical Buffer Alterations

Similar to shoreline buffers, there are some exceptions that allow for critical area buffer alterations including buffer averaging and reduction.

Wetland and Stream Buffer Averaging

Wetland and stream buffer widths may be averaged on a case-by-case basis, when necessary to accommodate a single family residential development or a water-dependent or water-related use or development. The minimum width of the wetland buffer at any given point must be at least 75 percent of the standard buffer or 25 feet, whichever is greater. The minimum width of the standard 50-foot aquatic habitat conservation area buffer must be at least 25 feet. The net buffer area after averaging must be the same as the buffer area without averaging. The area that is added to the buffer to offset the reductions must be well-vegetated and may require vegetation enhancement.

Wetland and Stream Buffer Reduction

Wetland and stream buffers may be reduced on sites that lack well-vegetated buffers to accommodate single-family, water-related or water-dependent use or development. Buffer reduction is only allowed in those limited instances when adherence to the standard buffer is infeasible or presents a substantial hardship because of site conditions, lot configuration or other circumstances. Residential subdivisions of more than four lots and non-water-dependent and non-water-related developments are not eligible for buffer reduction except through a shoreline variance. The width of the reduced wetland buffer must be at least 75 percent of the standard wetland buffer or at least 35 feet for aquatic habitat conservation areas; the reduced portion of the buffer cannot exceed 40 percent of the buffer length on the development property; the reduced buffer is planted and enhanced; and a mitigation plan is prepared and implemented.

Activities Allowed in Wetland Buffers

The following uses are allowed in a wetland buffer without a variance provided they are conducted in a manner that minimizes impacts to the buffer and adjacent wetland, including wetland functions and values:

1. Conservation or restoration activities;

2. Passive recreation facilities (pervious walkways and trails in the outer 25 percent of the buffer, wildlife viewing structures less than 500 square feet in size); and

3. Stormwater management facilities in the outer 25 percent of the buffer of Category III or IV wetlands.

3.3.6 Unregulated and Exempt Activities

Ecology Guidelines identify specific developments and activities as exempt from obtaining a shoreline substantial development permit under the SMP. The developments and activities that are considered exempt and are anticipated to occur along City of Cle Elum shorelines include: vegetation clearing and maintenance and restoration projects.

Exempt developments and activities (per WAC 173-27-040) may have to obtain a conditional use permit when required by a local government's SMP or a variance if the development is not consistent with bulk and dimensional standards (see Section 3.3.9 for information on conditional use permits and variances). For exempt uses not required to obtain a conditional use permit, a letter of exemption must be obtained from the City. A letter of exemption from the City that verifies the project would conform to all SMP goals, policies and regulations is required for all activities considered exempt. For projects that require City permits, including clearing, grading, and most construction, the City reviews the projects for compliance with the SMP before the permit is issued. Other exempt activities are enforced only on complaint basis. By establishing a formal shoreline permit review process for exemptions, the City has reduced the possibility of confusion during building permit review and increased scrutiny for shoreline compliance. Need City review of the paragraph above

3.3.7 Uses Requiring Conditional Use Permits and Variances

Developments that have impacts that cannot be anticipated or are considered uncommon, which cannot be reasonably identified during the SMP planning process, are typically allowed only with approval of a conditional use permit. For example, impacts and effects from riverine gravel mining include sedimentation, loss of riparian habitat, and degradation of fish habitat. Requiring these uses to obtain a conditional use permit would help identify and address such impacts during the permit process. In some cases, activities exempt from shoreline substantial development permits are required to obtain a conditional use permit (per WAC 173-27-040). UPDATE THIS PARAGRAPH, BASED UPON DRAFT SMP. SPECIFY WHAT USES REQUIRE A CUP

Evaluation under the conditional use permit process ensures that all impacts are addressed and that there is no net loss of ecological function after mitigation. Local governments make decisions on shoreline conditional uses, but these decisions need review and approval by Ecology and provide opportunities for citizens to provide input into Ecology's decision and provides for the opportunity to appeal final decisions to the State Shorelines Hearing Board.

Developments that do not comply with bulk and dimensional standards in the SMP, or cannot adhere to the standards in the SMP including the provisions to protect critical areas could only be allowed if a shoreline variance permit is approved. Shoreline variances for new development are very rare [CITY TO CONFIRM]. Variances are typically granted for unusually constrained sites to allow a reasonable level of development as compared with similarly-sized lots in the same SED.

Evaluation under the variance process must ensure that all impacts are addressed through mitigation. The shoreline variance process also elevates final decision-making to Ecology.

3.3.8 Illegal Activities

Illegal actions or violations that may or may not be known or remedied via enforcement often cause significant impacts on ecological functions and processes. A dock built illegally, vegetation removed from a buffer, or unreported spills of pollutants could adversely affect shoreline ecological functions. Illegal grading or construction of bulkheads, or construction of structures without permits or mitigation, can cause harm to shoreline resources. Without enforcement, impacts from such activities would not likely be mitigated. Once identified by the local government, illegal actions are expected to be corrected through enforcement and, it is assumed, after-the-fact mitigation would be required as part of that enforcement.

3.4 Summary of Potential Impacts and SMP Protective Standards by Use Type

The following table summarizes the potential impacts on shoreline ecological functions of uses or developments that are allowed or conditionally allowed in the Draft SMP and outlines the protective regulations proposed in the Draft SMP.

CREATE TABLE BASED UPON USES/DEVELOPMENTS COVERED IN DRAFT SMP

Table 3-4. Summary of Potential Impacts and SMP Protective Standards by Use Type

Use / Development Type	Existing Development	Expected Type and Location of Future Development	Potential Impacts of Future Development on Shoreline Ecological Functions (water quality, habitat, hydrology)	SMP Protective Standards

CHAPTER 4. BENEFICIAL EFFECTS OF ESTABLISHED PROGRAMS

A variety of other regulatory programs, plans, and policies work in concert with the City of Cle Elum SMP to manage shoreline resources and regulate development near the shoreline.

4.1 Local Plans and Regulations

4.1.1 City of Cle Elum Comprehensive Plan

The *City of Cle Elum Comprehensive Plan* (date?) contains goals, policies, and strategies for protection of the city's environmental resources. Several "land use categories" are described in the plan. These categories serve as the basis for more detailed zoning code designations. Land use categories for the City are as follows:

- Residential – includes single-family residential, multi-family residential
- Commercial – includes downtown commercial, general commercial, entryway commercial, planned mixed use
- Parks and open space
- Public facilities
- Urban growth area
- Industrial

During the development of SEDs as part of this SMP update process, Comprehensive Plan designations were examined to determine planned future uses and whether they would be in general alignment with existing shoreline ecological functions. The Comprehensive Plan designations generally aligned with the findings of the Shoreline Inventory and Characterization report (ESA, 2013) findings. Regulating the type and location of land uses in the City of Cle Elum ensures that development occurs in areas that would result in minimal impacts to existing shoreline ecological functions.

4.1.2 Flood hazard management

The Kittitas County area, including Cle Elum, has significant exposure to numerous natural hazards that have caused millions of dollars in past damage. Limited local resources make it difficult to be pre-emptive in risk reduction initiatives, and being able to leverage federal financial assistance is paramount to successful hazard mitigation in the area. In an effort to be proactive in preparedness for the impacts of natural hazards, Kittitas County, the City of Cle Elum and partners developed the *Kittitas County Multi-Jurisdictional Hazard Mitigation Plan* (Tetra Tech 2012), which was approved by the Washington Military Emergency

Management Division and the Federal Emergency Management Agency on July 27, 2012. The plan identifies resources, information, and strategies for reducing risk from natural hazards.

The plan addresses the following hazards of concern: avalanche, dam failure, drought, earthquake, flood, landslide, severe weather, volcano, and wildfire. The hazard mitigation plan is intended to be incorporated by reference in the City's comprehensive plan. This will assure that all future trends in development can be established with the benefits of the information on risk and vulnerability to natural hazards.

Recently, the County formed the Flood Control Zone District (FCZD), which is funded through property taxes. The collected funds will be used to fund flood-related projects and programs within the County and its cities.

4.1.3 CEMC Chapter 13.08 On-site Sewer Regulations

The purpose of Chapter 13.08 is to provide adequate standards for the protection of health and promotion of the community welfare by regulating private sewage disposal systems and connections to the public sanitary sewer system. The chapter requires new developments to connect to the public sanitary sewer system when the public sewer is within 200 feet of the subject lot or parcel. If an existing private system fails or is in need of replacement or repair in excess of fifty percent of its value then the system must be properly abandoned and a direct connection made to the public sewer. When connection to the public sewer is not required, a private sewage disposal system must be installed consistent with regulations established in the chapter.

4.1.4 CEMC Chapter 15.28 Environmental Policy

Most projects requiring a shoreline permit must also demonstrate compliance with the State Environmental Policy Act (SEPA). The SEPA process assures that environmental impacts, including compliance with SMP regulations, are identified, minimized and mitigated, where possible. The City adopts the state's SEPA rules by reference (Chapter 197-11 WAC). Chapter 15.28 outlines general SEPA requirements, categorical exemptions and threshold determinations, procedures for preparing an environmental impact statement, public notice and comment, agency decisions and agency compliance.

4.1.5 CEMC 15.30 Grading, Excavation and Land Filling

The City of Cle Elum has adopted standards to regulate grading, excavation and filling of land in order to minimize erosion and sedimentation of watercourses and wetlands, minimize the need for and maintenance of drainage facilities, minimize adverse effects on ground and surface waters, minimize their potential for earth slides and slippage and maintain the maximum natural vegetation. The chapter prohibits excavation, grading and filling in certain areas, establishes permit requirements, and standards that address design and materials.

4.1.6 CEMC Title 17 Zoning

The purpose of Title 17 is to provide zoning standards that direct uses, building bulk, scale, and location, and other design considerations throughout the city. A subsection of the chapter, Title 17.64 Landscaping Requirements, includes regulations for the purposes of preserving and enhancing the aesthetic character of the city, maintaining existing significant vegetation and reducing impacts of development on drainage systems and natural habitats. These regulations include standards for significant trees in most critical areas, minimum landscape buffer requirements, irrigation and maintenance.

4.1.7 Benefits of Local Regulations

Various sections of the CEMC regulate development in ways that benefits the city's shoreline environments. Regulations are focused on protecting public health through the proper treatment and disposal of sewage, flood damage prevention, clearing and grading activities and land use and development standards.

4.2 State and Federal Regulations

A number of state and federal agencies may have jurisdiction over land or natural elements in shoreline jurisdiction. Local development proposals most commonly trigger requirements for state or federal permits when they propose work in or over waters of the state; impact wetlands or streams; potentially affect fish and wildlife listed under the federal Endangered Species Act (ESA); result in over one acre of clearing and grading; or affect the floodplain or floodway. As with local requirements, state and federal regulations may apply throughout the jurisdiction, but regulated resources are common within the City's shoreline jurisdiction. The most commonly applied state and federal regulations protecting shoreline-related resources are described briefly below.

4.2.1 Endangered Species Act

The federal ESA addresses the protection and recovery of federally listed species. The ESA is jointly administered by the National Oceanic and Atmospheric Administration (NOAA) Fisheries (formerly referred to as the National Marine Fisheries Service), and the United States Fish and Wildlife Service (USFWS).

4.2.2 Clean Water Act

The federal CWA requires states to set standards for the protection of water quality for various parameters, and it regulates fill, excavation, and dredging in waters of the U.S., including wetlands. Certain activities affecting wetlands in shoreline jurisdiction or work in the adjacent rivers may require a permit from the U.S. Army Corps of Engineers and/or Washington State Department of Ecology under Section 404 and Section 401 of the CWA, respectively.

4.2.3 National Flood Insurance Program

Communities that participate in the National Flood Insurance Program receive federally backed flood insurance. In order to participate, a community must adopt and enforce floodplain management regulations to reduce future flood damage. The Federal Emergency Management Agency is responsible for mapping the country's flood hazard areas.

4.2.4 Hydraulic Project Approval

The Washington Department of Fish and Wildlife (WDFW) regulates activities that use, divert, obstruct, or change the natural flow of the beds or banks of waters of the state and which may affect fish habitat. Projects in the shoreline jurisdiction requiring construction below the ordinary high water mark could require an HPA from WDFW. Projects creating new impervious surface that could substantially increase stormwater runoff to waters of the state may also require approval.

4.2.5 Rivers and Harbors Act

Any work or project that may affect or obstruct navigable waters requires a Section 10 permit under the Rivers and Harbors Appropriation Act of 1899. The U.S. Army Corps of Engineers reviews and authorizes projects with either a standard individual permit, letter-of-permission, nationwide permit, or regional permit.

4.2.6 National Pollutant Discharge Elimination System (NPDES)

Ecology regulates activities that result in wastewater discharges to surface water from industrial facilities or municipal wastewater treatment plants. NPDES permits are also required for stormwater discharges from industrial facilities, construction sites of one or more acres, and municipal stormwater systems that serve census-defined Urbanized Areas (more than 50,000 people and population densities greater than 1,000 per square mile).

4.2.7 Benefits of State and Federal Regulations

Regulations focused on preserving in-stream water quality, quantity, and habitat integrity include the Clean Water Act, the Hydraulic Project Approval, the Rivers and Harbors Act, and the National Pollutant Discharge Elimination System. These regulations require that any development or redevelopment must comply with protocol for avoiding or mitigating impacts to streams, creeks, rivers, lakes, wetlands, or other water bodies. For example, projects that will require in-channel work must comply with the protocol of the Hydraulic Project Approval process in addition to the Clean Water Act. In addition, the Endangered Species Act provides a framework for the preservation of endangered or threatened flora, fauna, or fish species and their associated habitat areas. This overarching regulation must be considered for federal projects or projects with a federal nexus (projects funded with federal money or take place on federal lands) that may adversely impact priority species habitat.

The Federal Emergency Management Agency National Flood Insurance Program and the Rivers and Harbors Act address the removal of materials that may exacerbate flood conditions, and/or provide assistance in development or redevelopment in areas subjected to flooding. In addition to protecting public health and property, these measures also assist in promoting preservation and restoration of floodplain habitat.

CHAPTER 5. RESTORATION EFFORTS

Steps are being taken to restore habitats for the benefit of fish and wildlife. Several entities are currently supporting preservation and restoration of shorelines within the City:

INSERT BULLETED LIST OF ENTITIES- PLACEHOLDER

Question for City—are there any ongoing restoration efforts occurring within the City?

Many of the habitat restoration projects currently underway target listed salmonid species and are designed specifically to benefit fish habitat.

5.1 Shoreline Restoration Opportunities

INSERT SUMMARY DESCRIBING OPPORTUNITIES HERE - PLACEHOLDER

Question for City—are you aware of any existing shoreline restoration opportunities? The opportunities that we've identified in the restoration plan are generally limited to projects in the unincorporated County

CHAPTER 6. DRAFT CONCLUSIONS

TO BE PROVIDED

CHAPTER 7. REFERENCES

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