DREDGED MATERIALS LANDFILL

OPERATIONS AND CLOSURE PLAN

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1.0 INTRODUCTION

1.1 PURPOSE

The Dredged Materials Landfill Operations and Closure Plan has been prepared to satisfy the requirements of WAC 173-350-400(4). The purpose of the plan is to establish standards for the proper handling and disposal of dredged materials from the Camas Slough so that the public health is protected; land, air, and water pollution are prevented; and the state's natural resources are conserved. These standards shall be strictly enforced. The mill will ensure compliance through vigilant self-monitoring and the continued training, education, encouragement and, where necessary, discipline of employees at all levels.

The regulations governing solid wastes are contained in WAC 173-350, "Solid Waste Handling Standards." Selected definitions from this chapter of the code and other pertinent sources are presented in Section 1.3. This plan will be distributed to the Clark County Health Department (CCHD), the Washington Dept. of Ecology (WDOE), and appropriate Lady Island Operators. It will be updated every three years or as needed to reflect changes in regulations, wastes, permitting status, or operating procedures.

1.2 MILL DESCRIPTION

The Camas Mill is a 656-acre pulp and paper manufacturing complex established in 1883 as the Columbia River Paper Company. It began as a pioneer newsprint mill and has evolved into a 1000 ton/day integrated business papers and tissue paper mill. Current products include business papers, toweling and tissue papers. The mill site is bounded on three sides by the City of Camas. Approximately 180 acres of the mill site lie north of the Camas Slough (an arm of the Columbia River) and are heavily developed. Buildings, tanks, and pavement cover most of the area. Lady Island is situated directly south of the slough and covers some 476 acres. The island is only partially developed, but hosts the wastewater treatment system, the dredged materials landfill, and the Lady Island landfill.

1.3 **DEFINITIONS**

AGRICULTURAL WASTES – Wastes on farms resulting from the raising or growing of plants and animals including, but not limited to, crop residue, manure, animal bedding, and the carcasses of dead animals weighing each or collectively in excess of 15 pounds.

ASSET AVAILABILITY LEADER – Evaluates and prevents production losses.

BENEFICIAL USE – The use of solid waste as an ingredient in a manufacturing process, or as an effective substitute for natural or commercial products, in a manner that does not pose a threat to human health or the environment.

BUSINESS AREA – In the current organizational lexicon, a business area is the term used to describe groupings of employees and equipment as related to their product manufacturing roles. Examples at the Camas Mill are as follows:

Business Area	Equipment/Process Role
Consumer Products	No. 11 Paper Machine, Product Converting, Production Planning, Shipping, Unitizing
Fiber	Bleach Plant, Pulp Dryer, Pulp Mill, Stock Distribution, Wood Processing, Yard
Maintenance	Maintenance
Paper Business	Additives (Stock Preparation), No. 20 Paper Machine, Will Sheeters
Technical	Dams, Engineering, Environmental, Product Development, Product Quality, Safety, Solid Waste Disposal, Technical, Wastewater Treatment
Utilities	Chemical Recovery, Process Air and Water, Steam

CAMAS MILL DATUM – The Camas Mill datum plus 0.96 feet equals the U.S. Geological Survey mean sea level datum (also known as the NGVD or National Geodetic Vertical Datum). The Camas Mill datum minus 2.54 feet equals the Columbia River datum (CRD) near the Camas Mill. The CRD is referenced to the river bottom which rises as you travel upstream. Groundwater elevations on Lady Island are strongly influenced by Columbia River elevations.

CCHD – Clark County Health Department.

CLEAN DREDGED MATERIAL – Dredged material that does not contain contaminants at concentrations which could negatively impact the existing quality of air, waters of the state, soils, or sediments, or pose a threat to the health of humans or other living organisms.

CLEAN SOILS – Soils that do not contain contaminants at concentrations which could negatively impact the existing quality of air, waters of the state, soils, or sediments, or pose a threat to the health of humans or other living organisms.

CLOCKROOM – The location at the Camas Mill which houses the employees who take calls and make notifications pertaining to environmental and safety emergencies.

CLOSURE – Those actions taken by the owner or operator of a solid waste handling facility to cease disposal operations or other solid waste handling activities, to ensure that all such facilities are closed in conformance with applicable regulations at the time of such closure and to prepare the site for the post-closure period.

CLOSURE PLAN – A written plan developed by an owner or operator of a facility detailing how a facility is to close at the end of its active life.

CMD – Camas Mill datum.

COD – Chemical oxygen demand.

CONTAMINANT – Any chemical, physical, biological, or radiological substance that does not occur naturally in the environment or that occurs at concentrations greater than natural background levels.

CONTAMINATE – The release of solid waste, leachate, or gases by solid waste, such that contaminants enter the environment at concentrations that pose threat to human health or the environment, or cause a violation of any applicable environmental regulation.

CONTAMINATED DREDGED MATERIAL – Dredged material that contains contaminants at concentrations which could negatively impact the existing quality of air, waters of the state, soils or sediments, or pose a threat to the health of humans or other living organisms.

CONTAMINATED SOILS – Soils that contain contaminants at concentrations which could negatively impact the existing quality of air, waters of the state, soils or sediments, or pose a threat to the health of humans or other living organisms.

COVER MATERIAL – Soil or other suitable material approved by the Clark County Department or the Washington Department of Ecology as a cover for solid wastes.

DANGEROUS WASTES – Any solid waste designated as dangerous waste under WAC 173-303, the Dangerous Waste Regulations.

DISPOSAL – The discharge, deposit, injection, dumping, leaking, or placing of any solid waste into or an any land or water.

EPA – U. S. Environmental Protection Agency.

FACILITY – All contiguous land (including buffers and setbacks) and structures, other appurtenances, and improvements on the land used for solid waste handling.

FREE LIQUIDS – The measurable liquid derived from any sludge or semisolid material in the Paint Filter Liquids Test, Method 9095, of EPA Publication No. SW-846.

GARBAGE – Animal and vegetable waste resulting from the handling, storage, sale, preparation, cooking and serving of food.

GATEKEEPER – Determines equipment repair and preventative maintenance needs.

GRAVEL – Soil with a particle size of 4.75 to 75 mm.

GROUNDWATER – That part of the subsurface water which is in the zone of saturation.

HDPE – High density polyethylene.

HYDROSTRATIGRAPHIC UNIT – Any water-bearing geologic unit or units hydraulically connected or grouped together on the basis of similar hydraulic conductivity which can be reasonably monitored; several geologic formations or part of a geologic formation may be grouped into a single hydrostratigraphic unit; perched sand lenses may be considered a hydrostratigraphic unit or part of a hydrostratigraphic unit, for example.

INCOMPATIBLE WASTE – A waste that is unsuitable for mixing with another waste or material because the mixture might produce excessive heat or pressure, fire or explosion, violent reaction, toxic dust, fumes, mists, or gases, or flammable fumes or gases.

INDUSTRIAL WASTE – Solid waste generated from manufacturing operations, food processing, or other industrial processes.

INERT WASTES – The following solid wastes are defined as inert wastes, provided that they have not been tainted through exposure to chemical, physical, biological, or radiological substances, such that they present a threat to human health or the environment greater than that inherent to the material:

- Cured concrete that has been used for structural and construction purposes, including embedded steel reinforcing and wood, that was produced from mixtures of Portland cement and sand, gravel or other similar materials;
- Asphaltic materials that have been used for structural and construction purposes (e.g., roads, dikes, paving) that were produced from mixtures of petroleum asphalt and sand, gravel or other similar materials. Waste roofing materials are not presumed to be inert;
- Brick and masonry that have been used for structural and construction purposes;
- Ceramic materials produced from fired clay or porcelain;
- Glass, composed primarily of sodium, calcium, silica, boric oxide, magnesium oxide, lithium oxide or aluminum oxide. Glass presumed to be inert includes, but is not limited to, window glass, glass containers, glass fiber, glasses resistant to thermal shock, and glass-ceramics. Glass containing significant concentrations of lead, mercury, or other toxic substance is not presumed to be inert; and
- Stainless steel and aluminum.

Inert waste shall have physical characteristics that meet the following criteria;

Not be capable of catching fire and burning from contact with flames;

- Maintain its physical and chemical structure under expected conditions of storage or disposal including resistance to biological and chemical degradation; and
- Have sufficient structural integrity and strength to prevent settling and unstable situations under expected conditions of storage or disposal.

Inert waste shall not contain chemical, physical, biological, or radiological substances at concentrations that exceed the following criteria. Inert waste shall not:

- Be capable of producing leachate or emissions that have the potential to negatively impact soil, groundwater, surface water, or air quality;
- Pose a health threat to humans or other living organisms through direct or indirect exposure; or
- Result in applicable air quality standards to be exceeded, or pose a threat to human health or the environment under potential conditions during handling, storage, or disposal.

INERT WASTE LANDFILL – A landfill that receives only inert wastes.

LANDFILL – A disposal facility or part of a facility at which solid waste is permanently placed in or on land including facilities that use solid waste as a component of the fill.

LEACHATE – Water or other liquid that has been contaminated by dissolved or suspended materials due to its contact with solid waste or gases.

LIME MUD – Lime mud collects in the bottom of the kraft process white liquor clarifier, is dewatered on the mud filters, and is fed to the lime kiln. It has the following approximate composition: calcium carbonate 21-62%, calcium hydroxide 6-17%, sodium hydroxide 1-8%, magnesium carbonate <1-6%, miscellaneous <1-10%, and water 15-70%.

LIMITED PURPOSE LANDFILL – A landfill which is not regulated or permitted by other state or federal environmental regulations that receives solid wastes limited by type or source. Limited purpose landfills include, but are not limited to, landfills that receive segregated industrial solid waste, construction, demolition and land-clearing debris, wood waste, ash (other than special incinerator ash), and dredged material. Limited purpose landfills do not include inert waste landfills, municipal solid waste landfills regulated under WAC 173-351, Criteria for municipal solid waste landfills, landfills disposing of special incinerator ash regulated under WAC 173-306, Special incinerator ash management standards, landfills regulated under WAC 173-303, Dangerous waste regulations, or chemical waste landfills used for the disposal of polychlorinated biphenyls (PCBs) regulated under 40 CFR 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.

LIQUID – A substance that flows readily and assumes the form of its container but retains its independent volume.

LIQUID WASTE – A solid waste which is deemed to contain free liquids as determined by the Paint Filter Liquids Test, Method 9095, in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*," EPA Publication SW-846.

LOWER EXPLOSIVE LIMIT (LEL) – The lowest percentage by volume of a mixture of explosive gases that will propagate a flame in air at twenty-five degrees centigrade and atmospheric pressure.

MERT – Mill Emergency Response Team.

MUNICIPAL SOLID WASTE (MSW) – A subset of solid waste which includes unsegregated garbage, refuse and similar solid waste material discarded from residential, commercial, institutional and industrial sources and community activities, including residue after recyclables have been separated. Solid waste that has been segregated by source and characteristic may qualify for management as a non-MSW solid waste, at a facility designed and operated to address the waste's characteristics and potential environmental impacts. The term MSW does not include.

- Dangerous wastes other than waste excluded from the requirements of WAC 173-303, Dangerous waste regulations, in WAC 173-303-071 such as household hazardous wastes;
- Any solid waste, including contaminated soil and debris, resulting from response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. 9601), chapter 70.105D RCW, Hazardous waste cleanup—Model Toxics Control Act, WAC 173-340, the Model Toxics Control Act cleanup regulation or a remedial action taken under those rules; nor
- Mixed or segregated recyclable material that has been source-separated from garbage, refuse and similar solid waste. The residual from sourceseparated recyclables is MSW.

NATURAL BACKGROUND – The concentration of chemical, physical, biological, or radiological substances consistently present in the environment that has not been influenced by regional or localized human activities. Metals at concentrations naturally occurring in bedrock, sediments and soils due solely to the geologic processes that formed the materials are natural background. In addition, low concentrations of other persistent substances due solely to the global use or formation of these substances are natural background.

NUISANCE ODOR – Any odor which is found offensive or may unreasonably interfere with any person's health, comfort, or enjoyment beyond the property boundary of a facility.

NULL HYPOTHESIS – The assumption that there is no difference between two sample populations.

ONE HUNDRED YEAR FLOOD PLAIN – Any land area that is subject to one percent or greater chance of flooding in any given year from any source.

OPEN BURNING – The burning of solid waste materials in an open fire or an outdoor container without providing for the control of combustion or the control of emissions from the combustion.

OPTIMIZER – Plans production and assists operators in troubleshooting and resolving day-to-day issues.

PERMEABILITY – The ease with which a porous material allows liquid or gaseous fluids to flow though it. For water, this is usually expressed in units of centimeters per second and termed hydraulic conductivity.

PLAN OF OPERATION – The written plan developed by an owner or operator of a facility detailing how a facility is to be operated during its active life.

POINT OF COMPLIANCE – A point established in the groundwater by the jurisdictional health department as near a possible source or release as technically, hydrogeologically and geographically feasible.

POST CLOSURE – The requirements placed upon disposal facilities after closure to ensure their environmental safety for at least a twenty-year period or until the site becomes stabilized (i.e., little or no settlement, gas production, or leachate generation).

POST CLOSURE PLAN – A written plan developed by an owner or operator of a facility detailing how a facility is to meet the post-closure requirements for the facility.

PTM – PTM stands for performance tracking manager. This system allows anyone in the mill to generate a work request. Once approved by the appropriate Gatekeeper, the work request flows into Passport for execution. Access to PTM is as follows: on a mill computer, click Mill home page, Mill and Corporate Systems, and then PTM.

PVC – Polyvinyl chloride.

PUTRESCIBLE WASTE – Solid waste which contains material capable of being readily decomposed by microorganisms and which is likely to produce offensive odors.

RECYCABLE MATERIALS – Those solid wastes that are separated for recycling or reuse, including, but not limited to, papers, metals, and glass, that are identified as recyclable material pursuant to a local comprehensive solid waste plan.

RUN-OFF – Any rainwater, leachate, or other liquid that drains over land from any part of the facility.

RUN-ON – Any rainwater or other liquid that drains over land onto any part of a solid waste facility.

SAND – Soil with a particle size of 0.075 to 4.75 mm.

SCAVENGING – The removal of materials at a disposal facility, or intermediate solid waste-handling facility, without the approval of the owner or operator and the jurisdictional health department.

SEWAGE SLUDGE – The solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated.

SILT – Soil with a particle size of 0.002 to 0.075 mm.

SOIL – An aggregate of loose mineral and organic particles. This definition distinguishes soil from rock, which exhibits strong and permanent cohesive forces between mineral particles. This program uses the ASTM method D2488 soil classification criteria.

SOLID WASTE – All putrescible and nonputrescible and semisolid wastes, including but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, contaminated soils and contaminated dredged material, and recyclable materials.

SOLID WASTE HANDLING – The management, storage, collection, transportation, treatment, use, processing or final disposal of solid wastes, including the recovery and recycling of materials from solid wastes, the recovery of energy resources from such wastes or the conversion of the energy in such wastes to more useful forms or combinations thereof.

STANDARD METHODS – "Standard Methods For The Examination of Water and Wastewater, 20th Edition", American Public Health Association, Washington, D.C., 1998

STORAGE – The holding of solid waste materials for a temporary period.

SURFACE WATER – All lakes, rivers, ponds, wetlands, streams, inland waters, salt waters and all other surface water and surface water courses within the jurisdiction of the state of Washington.

t-test — William Sealy Gosset, a brewer by profession, wrote many statistical papers under the pseudonym of "student." He created the statistic *t* for populations of normal distribution. The statistic is defined as follows:

$$t = \frac{\overline{x} - \mu}{S\overline{x}}$$

Where: \overline{X} = the sample mean.

 μ = the population mean.

 $S\overline{x}$ = the standard deviation of the sample means.

TOC – Total organic carbon.

TSD FACILITY – A site where a hazardous or dangerous waste is treated, stored, or disposed. Treatment, storage, and disposal (TSD) facilities are regulated by EPA and the states under the Resource Conservation and Recovery Act (RCRA).

TWENTY-FIVE YEAR STORM – A storm of twenty-four hours duration and of such intensity that it has a four percent probability of being equaled or exceeded each year.

UNIVERSAL WASTES — Universal wastes are defined in WAC 173-303, Dangerous Waste Regulations. They include, but may not be limited to, dangerous waste batteries, mercury-containing thermostats, and universal waste lamps generated by fully regulated dangerous waste generators of CESQCs.

VADOSE ZONE – That portion of a geologic formation in which soil pores contain some water, the pressure of that water is less than atmospheric pressure, and the formation occurs above the zone of saturation.

VECTOR – A living animal, including, but not limited to, insects, rodents, and birds, which is capable of transmitting an infectious disease from one organism to another.

WETLANDS – Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

WOOD DERIVED FUEL – Wood pieces or particles used as a fuel for energy recovery, which contain paint, bonding agents, or creosote. Wood derived fuel does not include wood pieces or particles coated with paint that contains lead or mercury, or wood treated with other chemical preservatives such as pentachlorophenol, copper naphthanate, or copper-chrome-arsenate.

WOODWASTE – Solid waste consisting of wood pieces or particles generated as a by-product of waste from the manufacturing of wood products, construction, demolition, handling and storage of raw materials, trees and stumps. This includes but is not limited to, sawdust, chips, shavings, bark, pulp, hogged fuel, and log sort yard waste, but does not include wood pieces or particles containing paint, laminates, bonding agents or chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenate.

YARD DEBRIS – Plant material commonly created in the course of maintaining yards and gardens and through horticulture, gardening, landscaping or similar activities. Yard debris includes, but is not limited to, grass clippings, leaves, branches, brush, weeds, flowers, roots, windfall fruit, and vegetable garden debris.

ZONE OF SATURATION – That part of a geologic formation in which soil pores are filled with water and the pressure of that water is equal to or greater than atmospheric pressure.

2.0 LANDFILL DESIGN AND OPERATIONS PLAN

2.1 LANDFILL DESIGN

2.1.1 <u>Site Description</u>

The Dredged Materials Landfill (projected capacity: 191,400 cubic yards) occupies an area of approximately 5 acres on the northwest coast of Lady Island in Camas Washington (northwest quarter of Section 15 and a small portion of Section 16, Township 1N, Range 3 East, Willamette Meridian). The landfill is separated from the mill proper by the Camas Slough and is northwest of the secondary wastewater treatment system. Access to the site is accomplished by means of a barge landing in the slough and a dirt road which joins the aerated stabilization basin perimeter road. The Camas Mill has owned the land for over 100 years and it lies entirely within the City of Camas. Location maps (Drawings LO-31658 and SKC 20252) are presented in the Appendix. Prior to its industrial service, Lady Island was used for agricultural, grazing and forestry. There are no known sites of archeological, historical, or cultural significance on this portion of the island.

2.1.2 Construction

The landfill consists of two waste storage piles separated by roadway access to the Camas Slough. It was initially projected that upon completion the eastern pile is expected to rise to an elevation of 85 feet and the western pile to an elevation of 150 feet (please see Drawing LO-32000 in the Appendix). A survey was completed in September 2014 during which the existing storage piles were analyzed and the projected slope of the storage pile upon completion was recalculated. Based on that survey, the final top elevation of the two storage pile was revised to be 60 feet (eastern pile) and 95 feet (western pile). The landfill is confined by a compacted subgrade of low permeability native clay and topographical features. It has been constructed over a four decade period by placing, shaping, and hydroseeding lifts of dredged materials. The bowl shaped contour of the current deposit retains storm water on site.

2.2 OPERATIONS PLAN

2.2.1 Waste Description

The Dredged Materials Landfill accepts dredged material from the waterways immediately adjacent to the Camas Mill. The principal areas to be dredged are in the Camas Slough near wood processing/storage, the Peco Dock, the Riverbank Pump House, barge tie-up dolphins, and the navigation channel. These locations routinely silt up due to sedimentation from the Washougal, and to a lesser extent, Columbia Rivers. The dredged material consists of sand, silt, gravel, rock, wood chips, metal, tires, and miscellaneous debris usually of vegetable origin (bark, leaves, trees, etc.). Of these, the wood and metal are recycled. Antropogenic trash is collected and transported to a municipal landfill.

Once cleaned, the dredged materials are analyzed to verify that they are <u>not</u> a dangerous waste or a hazardous waste. As such, they have value as engineered fill, top soil, soil amendment, or potting soil. In 2003, for example, the mill used 21,980 cubic yards of dredged materials as engineered fill in the No. 3 Warehouse Reclamation Project. This was a direct substitution for off-site mined sand and gravel. To preserve the reusable nature of dredged materials, the landfill does not accept agricultural waste (animals, crops, manure, etc.), asphalt (which should be recycled), brush, chemicals, concrete (which should be recycled), dangerous waste, demolition waste, garbage, hazardous waste, industrial waste, liquid waste, medical waste, metal, paper, petroleum waste, plastic, public waste, putrescible waste, rubber, or sewage sludge.

2.2.2 Waste Placement

The dredged materials landfill is an uncontained pile that has received river sediment, soil, and organic debris for more than 35 years. The contents of the landfill are not materially different from the slough shore or the soil under the deposit. Even though this material is benign, the goal of landfill management is to produce a stable pile that does not exceed its historical footprint. This will prevent the return of sediment to the slough on the north bank and the loss of wildlife habitat on the west and east boundaries. To aid in waste placement, the site boundaries have been demarcated with signs on old snags that mark the historical limits of the fill. The landfill has a design holding capacity of 191,400 cubic yards. At our historic placement rate, it was initially calculated for the landfill to close in 2015. In September 2014, the mill conducted a volume analysis and remaining volume calculation which concluded that the landfill has adequate capacity to operate beyond 2015. A letter requesting extension of the closure date to 2025 was submitted to the permitting agency in November 2014. The request was approved by the permitting agency on January 6, 2015.

The weight capacity of the landfill depends on the ultimate density of the solids placed there. Since that is unknown until the landfill is completed, we can only provide a range of possibilities based on the following densities:

	Dry Densi	ty – lbs/yd³	Landfill Cap	acity – tons
Material	Minimum	Maximum	Minimum	Maximum
Gravel – sand	3105	3645	297,149	348,827
Sand – silt	2700	3375	258,390	322,988
Sand – clay	2835	3375	271,310	322,988
Organic silt – clay	2700	3240	258,390	310,068
Organic – clay	1755	2700	167,954	258,390

Our plan (see Drawing SKC-20252 and LO-32000 in the Appendix) calls for the placement of additional materials to produce a twin peaked pile with a dirt road to the slough between them. The road will provide access for landfill management and emergency response activities (particularly oil spills in the slough). Our engineers recommend a pile side slope of 1:2 (vertical:horizontal) which is consistent with earth dam construction benchmarks. With this approach, we expect to place an additional 74,000 yd3 in the landfill (based on the volume analysis and remaining capacity determination completed in September 2014). To achieve the desired placement, we intend to continue the placement approach that has been utilized to date. Specifically, the material is dredged and placed on a barge. The barge is moored at the north shore of the landfill and the material is moved with a clamshell crane. As materials are laid on the working face of the fill, the extraneous materials (such as metal bands, cables, trash, etc.) are removed and the residual is spread across the top of the pile in an even lift. The extraneous debris is then hauled back to the mill for sorting and proper disposal. Since the dredged material is damp during handling, dust generation is negligible.

2.2.3 Inspection

2.2.3.1 Waste Inspection

WAC 173-300 requires that all solid waste landfill operators be certified by the Washington Department of Ecology. The state considers landfill operation to be of such importance that it holds both the company and the operators personally responsible. Violations of the applicable regulations carry a maximum penalty of \$5000 and jail time of up to one year per violation. A key requirement for landfill operators is to ensure that only permitted materials are placed in the landfill. If there is any doubt about the material's acceptability, the waste must be held for further analysis (contact the Environmental Group) or returned to its point of origin. For examples of acceptable and unacceptable wastes, see Section 2.2.1.

2.2.3.2 Landfill Inspection

The Dredged Materials Landfill has always been operated by contractors because dredging involves specialized equipment and the dredging campaigns are widely separated in time. Nevertheless, when activities do occur at the landfill, the facility must be operated under the supervision of a certified operator and all of the incoming waste must be inspected. The inspection criteria are summarized in Section 2.2.3.1. In addition to these requirements, the landfill should receive routine (weekly during operating periods, monthly during dormant periods) visual inspections. Key observations should be recorded on the Dredged Materials Landfill Visual Checklist (see the Appendix). The inspection checklists shall be retained for regulatory review for a minimum of three years. For serious problems, file an emergency work request in PTM and then notify the Utilities Team Leader, the Utilities Optimizer, and the Steam/Power/Recovery Leader. The key elements of the visual inspection are as follows:

<u>Slope Stability</u> – The slopes of the landfill are subject to erosion and failure due to excessive moisture or differential settlement. Failures on the exterior slopes are of concern because the material can flow over the bank and into the slough on the north side or into wildlife areas on the west and east boundaries.

A slope stability evaluation was completed in September 2014. There were no obvious indications of deep-seated slope instability, sloughing, or other slope deformation. Minor sloughing was observed at the top of the fill slope in the northwestern portion of the landfill which will be addressed during the summer months.

<u>Mechanical Equipment</u> – Obviously, successful placement of solids in the landfill depends on the continued operation of cranes, caterpillar tractors, and other equipment. In all but emergency situations (safety hazards, spills, fires, etc.), they are the responsibility of the respective contractor.

Roads and Shore – Access to the landfill is provided by a road from the south and the shoreline to the north. Regular use of these areas will eventually cause deterioration of the transportation surface, so maintenance will be required at appropriate intervals.

<u>Security</u> – Site security will be provided by a locked gate and roving mill emergency response team personnel. The operator should examine the condition of gates, warning signs, traffic barriers, locks, and fencing. Broken fencing, vandalism, theft, or the presence of unauthorized personnel should be reported to the clockroom (telephone extension 5555) immediately.

<u>Vegetation</u> - Traditionally, the landfill has been hydroseeded between dredge events. In recent years, we have chosen grass seed mixtures that provide both erosion control and the proper nutrition for indigenous wildlife. Ultimately, we will landscape the areas to meet the needs of the landfill and our wildlife stewardship objectives. In the interim, we will remove undesirable vegetation (blackberry vines, trees, scrubs, etc.) as necessary.

<u>Other</u> – Undoubtedly, we have overlooked items that vigilant operators will notice and bring to the company's attention.

2.2.4 Emergencies

2.2.4.1 Fires

Industry and mill experience indicate that dredged materials landfills seldom encounter fires. The fires that do occur are usually associated with mobile equipment such as bulldozers or loaders. The fire potential is greatly diminished by regular cleaning and maintenance of mobile equipment, especially engine

compartments and radiators. If a fire or other emergency were to occur, employees are directed to call the clockroom either by radio or by mill telephone (extension 5555). The clockroom will dispatch the mill emergency response team (MERT), fire, medical, or environmental personnel as needed. Additional resources are available from the City of Camas. Since the mill controls the generation, transportation, and placement of dredged materials, the operation of the landfill can be interrupted in an emergency.

2.2.4.2 Floods

The elevation of the Columbia River is directly proportional to river flow and peaks most years in June. The low typically occurs in September or October. River levels had never been a problem for landfill operations until February 1996 when the mill experienced a once-in-thirty-plus years flow. The Columbia River crested at 29.6 feet CMD (Camas Mill datum) causing significant flooding on Lady Island and the shutdown of the mill. The Dredged Materials Landfill access road was flooded and there were several bank failures on the slough shore.

In most cases, severe Columbia River flooding is preceded by sufficient warning that preventative measures (sandbagging, slope armoring, waste diversion, etc.) can be taken to avoid catastrophic failures. To aid in the prioritization of these protective measures, we have assembled the following flood and Lady Island equipment elevations. The data are expressed in feet relative to the Camas Mill datum (CMD plus 0.96 feet equals U.S.G.S. mean sea level datum).

		Elevation Feet, CMD
Flood Events:	June 1948	37.90
	December 1964	29.90
	February 1996	29.63
Lady Island:	Camas Slough, Low Water	10.00
	Camas Slough Bank, East	25.00
	South ASB Outlet Weirs (3)	26.70
	Sough ASB Normal Level	27.50
	Dredged Materials Landfill Access Road	29.00
	Camas Slough Bank, West	31.00
	ASB Berms (Original Construction)	33.00

2.2.4.3 Leaks/Slope Failures

Some landfill conditions require immediate attention to avoid a system failure. Some examples are severe landfill slope erosion, extreme settlement, significant river bank sluffing, or leakage of materials out of the landfill. If these situations occur, the operator is instructed to do the following:

- Report the incident to the clockroom (dispatch) at telephone extension 5555.
- Notify the Environmental Department, the Fiber and Utilities Production Leader, and the Utilities/Lady Island Optimizer.
- File an emergency work request in PTM.

2.2.5 Noise

The landfill permit requires a discussion of methods to control noise problems at the facility. Current methods of noise suppression include daylight operation of heavy equipment and mufflers on mobile equipment. In the four decade history of the facility, there has never been a citizen complaint about noise.

2.2.6 Permits

The Camas Mill has dredged the Camas Slough and adjacent areas for more than 100 years. The most recent U. S. Army Corps of Engineers permit (issued February 21, 2013) and the Washington Department of Fish & Wildlife Hydraulic Project Approval (issued November 14, 2013) are proved in the Appendix.

A portion of the area scheduled for dredging is leased from the Washington Department of Natural Resources (WDNR). Dredged materials derived from these locations are subject to an "Agreement For Deposit, Sale, And Use of State-Owned Dredged Material No. 31-076041". The agreement runs until October 31, 2034, and requires among other things the following:

- Annual deposition reports (due by March 1 of the following year).
- Annual sale and use reports (due by March 1 of the following year).
- Indemnity and insurance covering the handling, sale, and use of dredged materials.
- Royalty payments to the state of \$0.60/cubic yard of materials sold.

In addition to these permits, the landfill is covered by a solid waste handling permit (Lady Island Landfill) from the Clark County Health Department (CCHD). This permit is renewed every five years and can be found in the appendix.

2.2.7 Recordkeeping, Reporting, and Recording

Material placement in the landfill is highly variable due to permit requirements and the temporal nature of sediment deposition in the slough. Since the dredge volumes are only approximations, the best method for determining the placement rate in the landfill is to periodically survey the deposit. Given the cost of surveying, it seems logical to survey the site at five year intervals (if dredging has been conducted) and at closure. This information could support annual reporting. Each year the mill prepares an annual report of landfill activities for Clark County Health Department and the Washington Department of Ecology. The report is due by April 1 and includes the following key items:

- The name and address of the facility.
- The calendar year covered by the report.
- The annual quantity and type of waste accepted in tons or cubic yards with an estimate of density in pounds per cubic yard.
- Applicable financial assurance review and audit findings in accordance with WAC 173-350-600.
- A summary of significant events such as construction, site contouring, landscaping, stormwater control, structural failures and repairs, etc.

In addition to the annual reporting obligation, the "Solid Waste Handling Standards" also require a final site report. Within three months of final closure of the site, a map and a statement of fact concerning the location of the landfill will be recorded as a part of the deed for the property with the Clark County Auditor. Records of the location, waste quantities, and the period of operation shall also be submitted to the City of Camas (the local zoning authority).

2.2.8 Site Safety/Security

The Dredged Materials Landfill is operated by Utilities personnel with technical support from the Environmental Group. They are subject to Camas Mill and work group specific safety rules. Since the landfill is an "on demand" site, it is open only when dredged material is being placed or the landfill is being inspected. At all other times, the vehicle entrance gate is locked. Operators are instructed to notify the Clockroom (dispatch) at telephone extension 5555 of any "unauthorized visitors'. The operator presence is supplemented by roving mill emergency response team patrols. In addition, police from the City of Camas will respond to reports of illegal entry, arson, hunting, trespassing, dumping, theft, or vandalism.

2.2.9 Vectors

The solids placed in the Dredged Materials landfill do not support the disease vectors (insects, mice, rats, etc.) associated with household garbage. As a consequence, the facility has never experienced a vector propagation problem. If one were to occur we would engage a licensed exterminator to eliminate the infestation while we corrected the underlying cause.

2.2.10 Dust Suppression

The mill has developed steps to prevent significant amounts of dust from becoming airborne during drier periods of the year. Vehicles driving along access roads in the landfill area will keep the speed of their vehicle at a minimum in order to reduce the amount of dust generated by vehicular traffic. If slower vehicle speeds are not sufficient in deterring significant airborne dust, a watering vehicle will be utilized to wet down access roads and any other dusty areas.

3.0 CLOSURE AND POST-CLOSURE

3.1 <u>CLOSURE</u>

3.1.1 General Requirements

WAC 173-350-400 specifies that 180 days in advance of facility closure the owner or operator of the landfill shall notify the health department, and where applicable the financial assurance provider, of the pending closure. The facility, or any portion thereof, shall be closed in a manner that (a) minimizes the need for further maintenance, (b) controls, minimizes, or eliminates threats to human health and the environment from the post-closure escape of solid waste constituents, leachate, landfill gases, contaminated run-off, or waste decomposition products to the ground, groundwater, surface water, and the atmosphere; and (c) prepares the facility, or any portion thereof, for the post-closure period. Limited purpose landfills shall be closed in accordance with a design that:

- Prevents exposure of waste;
- Minimizes infiltration (at a minimum, the design will prevent the generation of significant quantities of leachate to eliminate the need for leachate removal by the end of the post-closure period);
- Prevents erosion from wind and water;
- Is capable of sustaining native vegetation;
- Addresses anticipated settlement, with a goal of achieving no less than two to five percent slope after settlement;
- Provides sufficient stability and mechanical strength and addresses potential freeze-thaw and desiccation;
- Provides for the management of run-on and run-off, preventing erosion or otherwise damaging the closure cover;
- Minimizes the need for post-closure maintenance;
- Provides for collection and removal of methane and other gases generated in the landfill. Landfill gas shall be purified for sale, used for its energy value, or flared when the quantity and quality of landfill gases will support combustion. Landfill gases may be vented when they will not support combustion. The gas collection and removal system shall include a monitoring system capable of collecting representative samples of the gases generated in the landfill; and
- Meets the requirements of regulations, permits and policies administered by the jurisdictional air pollution control authority or the WDOE under RCW 70.94, the Washington Clean Air Act and Section 110 of the federal Clean Air Act.

Additional closure requirements are as follows:

- The owner or operator shall commence implementation of the closure plan in part or whole within thirty days after receipt of the final volume of waste and/or attaining the final landfill elevation at part of or at the entire landfill as identified in the approved facility closure plan unless otherwise specified in the closure plan.
- The owner or operator shall not accept waste, including inert wastes, for disposal or for use in closure except as identified in the closure plan approved by the health department.
- The owner or operator shall develop, keep, and abide by a closure plan approved as part of the permitting process. At a minimum, the closure plan shall include a description of the final closure cover, the methods and procedure to be used to install the closure cover, sources of borrow materials for the closure cover, and a schedule or description of the time required for completing closure activities.
- The projected time intervals at which sequential partial closure and final closure are to be implemented. A description of the activities and procedures that will be used to ensure compliance. Identify closure cost estimates and projected fund withdrawal intervals for the associated closure costs, from the approved financial assurance instrument.
- The owner or operator shall submit final engineering closure plans, in accordance with the approved closure plan and all approved amendments, for review, comment, and approval by the health department.
- When landfill closure is complete in part or whole, the owner or operator shall submit the following to the health department: landfill closure plan sheets signed by a professional engineer registered in the State of Washington and modified as necessary to represent as-built changes to final closure construction for the landfill, or a portion thereof, as approved in the closure plan; and certification by the owner or operator, and a professional engineer registered in the State of Washington, that the landfill, or a portion thereof has been closed in accordance with the approved closure plan.
- The owner or operator shall record maps and a statement of fact concerning the location of the disposal facility as part of the deed with the county auditor not later than three months after closure.
- The health department shall notify the owner or operator, the Washington Department of Ecology, and the financial assurance provider, of the date when it has verified that the facility, or a portion thereof, has been closed in accordance with the specifications of the approved closure plan and the closure requirements of WAC 173-350-400.

3.1.2 Dredged Materials Landfill Closure Plan

At our historic placement rate, it was initially calculated for the landfill to close in 2015. In September 2014, the mill conducted a volume analysis and remaining volume calculation which concluded that the landfill has adequate capacity to operate beyond 2015. A letter requesting extension of the closure date to 2025 was submitted to the permitting agency in November 2014. The request was approved by the permitting agency on January 6, 2015.

At closure the landfill will contain dredged materials (silt, sand, gravel, rock, and organic debris) that are nondangerous, nonhazardous, and nonflammable. Since the material comes from the water course adjacent to Lady Island, it does not differ significantly from the soil underneath or adjacent to the landfill and its behavior is expected to mirror the natural setting. A closure plan consistent with WAC 173-350-400 has been prepared by URS Corporation (Portland, Oregon). Key elements of the plan are as follows:

<u>Cap/Cover</u> – Capping the landfill with imported materials is considered unnecessary because the deposit is equivalent to indigenous soil. Thus on site materials, rather than borrow material, will be used to form the cover.

<u>Compaction</u> – The landfill will be compacted with standard earth moving equipment (bulldozers) to provide a stable deposit.

<u>Screening</u> – The existing tree screen on the east and west boundaries of the landfill will be preserved. Additional plantings on the north side of the fill will ultimately screen the area from the slough.

<u>Shoreline</u> – The shoreline on the north side of the landfill will be stabilized with rip rap or biological plantings (willows or other) to limit erosion from barge traffic in the slough. Rip rap rock would be obtained from one or more local sources including Fazio Brothers (Vancouver, WA), Morse Brothers (Portland, OR) or Rinker Materials (Vancouver, WA).

<u>Slopes</u> – The exposed slopes of the landfill will be graded to a 1:2 (vertical: horizontal) slope. This slope is considered to be adequate because portions of the existing fill have a stable slope of 1:1. After contouring is complete, the slope will be hydroseeded with grass to control erosion.

3.2 POST-CLOSURE

3.2.1 General Requirements

Limited purpose landfills are subject to the following post-closure requirements;

- The owner or operator shall provide post-closure activities to allow for continued facility maintenance and monitoring of air, land, and water for a period of twenty years, or as long as necessary for the landfill to stabilize and to protect human health and the environment. Post-closure care includes at least the following: (a) maintaining the integrity and effectiveness of any final closure cover, including making repairs to the closure cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, maintaining the vegetative cover, and preventing run-on and run-off from eroding or otherwise damaging the final closure cover; (b) general maintenance of the facility and facility structures for their intended use: (c) monitoring groundwater, surface water, leachate, or other waters in accordance with the requirements of WAC 173-350-500 and the approved monitoring plan, including remedial measures if applicable, and maintaining all monitoring systems; (d) monitoring landfill gas and maintaining and operating the gas collection and control systems; (e) maintaining, operating, and monitoring hydraulic gradient controls systems if applicable; (f) monitoring settlement; and (g) any other activities deemed appropriate by the health department.
- The owner or operator shall commence post-closure activities for the facility, or portion thereof, after completion of closure activities. The health department may direct that post-closure activities cease until the owner or operator receives a notice to proceed with post-closure activities.
- The owner or operator shall develop, keep, and abide by a post-closure plan approved by the health department as a part of the permitting process. The post-closure plan shall: (a) address facility maintenance and monitoring activities for at least a twenty-year period or until the landfill becomes stabilized (i.e., little or no settlement, gas production or leachate generation), and monitoring of groundwater, surface water, gases and settlement can be safely discontinued; and (b) project time intervals at which post-closure activities are to be implemented, and identify post-closure cost estimates and projected fund withdrawal intervals from the selected financial assurance instrument, where applicable, for the associated post-closure costs.

- The owner or operator shall complete post-closure activities for the facility, or portion thereof, in accordance with the approved post-closure plan and schedule, or the plan shall be so amended with the approval of the health department. The health department may direct facility post-closure activities, in part or completely, to cease until the post-closure plan has been amended and has received written approval by the health department.
- When post-closure activities are complete, the owner or operator shall submit a certification to the health department, signed by the owner or operator, and a professional engineer registered in the State of Washington stating why post-closure activities are no longer necessary.
- If the health department finds that post-closure monitoring has established that the landfill is stabilized, it may authorize the owner or operator to discontinue post-closure maintenance and monitoring activities.
- The health department shall notify the owner or operator, the department, and the financial assurance provider, of the date when it has verified that the facility has completed post-closure activities in accordance with the specifications of the approved post-closure plan.

3.2.2 <u>Dredged Materials Landfill Post-Closure Plan</u>

URS Corporation (Portland, Oregon) has prepared a post-closure plan consistent with WAC 173-350-400. Key elements of the plan are as follows:

<u>Cap/Cover</u> – While settlement is expected to be minimal following closure, there may be a need for periodic grading or reshaping. Reseeding may also be required if areas of the cover vegetation do not establish well. These performance gaps will be identified and remedied following routine site inspections.

<u>Monitoring</u> – The landfill is not expected to generate gas or leachate so no monitoring is anticipated.

<u>Professional Management Services</u> – Professional management services are assumed to include the completion of an annual report by a third party covering landfill activities during the year.

<u>Settlement</u> – A benchmark survey will be completed at closure and at five year intervals thereafter. Settlement issues will be addressed promptly.

3.3 FINANCIAL CONSIDERATIONS

Financial assurance is required for all limited purpose landfills. In accordance with WAC 173-350-600, the company has submitted an irrevocable letter of credit and an escrow account (standby trust fund) agreement to fund closure and post-closure costs at the Camas Mill. Closure costs for the Dredged Materials Landfill are currently estimated to be \$377,000 (2014 dollars). Post-closure expenses are expected to be \$13,550 per year. These estimates were prepared by SLR International (West Linn, Oregon) and presume that the closure is completed by a third party at a point in the project life that is most expensive. Closure and post-closure cost estimates will be annually reviewed by March 1 and reported annually to Clark County Public Health by April 1.

4.0 <u>APPENDIX</u>

Dredged Materials Landfill Visual Inspection Checklist

Drawing LO-31658: Dredged Materials Landfill - Lady Island

<u>Drawing SKC-20252: Dredged Materials Landfill Closure Plan</u>

Drawing LO-32000: Dredged Materials Landfill Profile

Department of the Army Maintenance Dredging Permit

Washington Department of Fish & Wildlife Hydraulic Project Approval

MONTH	YEAR

DREDGED MATERIALS LANDFILL VISUAL INSPECTION CHECKLIST

1. Slope Stability

2. Mechanical Equipment

3. Roads and Shore

4. Security

5. Vegetation

6. Other

Date	Time	Printed Name	Signature	Observations/Corrective Actions/Repairs
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Complete in ink. A full signature is required. Save for the permanent record.

DEPARTMENT OF THE ARMY PERMIT

Permittee: Georgia-Pacific Consumer Products (Camas) LLC

401 NE Adams Street Camas, Washington 98607

Permit No: NWS-2003-1135-CRS

Issuing Office: Seattle District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the U.S. Army Corps of Engineers (Corps) having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To perform maintenance dredging of up to 20,000 cubic yards (cy) of material annually from Camas Slough between November 1 and the following February 28 for five years (a total of up to 100,000 cy), in accordance with the attached plans and drawings (8 sheets, dated November 19, 2007) hereto made part of this permit. Dredging may occur in Dredged Material Management Units (DMMU) 1, 2, and 4. Maximum dredging depth is -11.5 feet mean sea level (msl) except for DMMU 1 where dredging may occur to a maximum depth of -1.5 feet msl. Material shall be excavated by clamshell dredge and disposed in the existing upland disposal facility on Lady Island, without return water to Camas Slough. The purpose of the dredging is to maintain navigational access to the Camas Mill and to restore the functionality of the mill's water intake structures.

Project Location: In Camas Slough and on Lady Island, Columbia River (RM 118 to 121), Camas, Clark County, Washington; latitude 45° 34′ 40″ N, longitude 122° 25′ 0″ W.

Permit Conditions:

General Conditions:

- 1. The time limit for completing the work authorized ends on FEB 2 8 2012 If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.
- 2. You must maintain the activity authorized by this permit in good condition and in accordance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification to this permit from this office, which may require restoration of the area.
- 3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
- 4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
- 5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

- 6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.
- 7. After a detailed and careful review of all the conditions contained in this permit, the permittee acknowledges that, although said conditions were required by the Corps, nonetheless the permittee agreed to those conditions voluntarily to facilitate issuance of the permit; the permittee will comply fully with all the terms of all the permit conditions.

Special Conditions:

- a. You must provide a copy of the permit transmittal letter, the permit form, and drawings to all contractors performing any of the authorized work.
- b. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the U.S. Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
- c. You must implement the Endangered Species Act (ESA) requirements and/or agreements set forth in Fort James Camas LLC Camas Slough Maintenance Dredging Project, Biological Evaluation for ESA Species under the Jurisdiction of USFWS, dated July 9, 2004, and Fort James Camas LLC Camas Slough Maintenance Dredging Project, Biological Evaluation for ESA Species under the Jurisdiction of NMFS, dated December 22, 2004, in their entirety, including the stated conservation measures, Standard Local Operating Procedures for Endangered Species (SLOPES) terms and conditions, and impact reduction measures. Both the U.S. Fish and Wildlife Service and the National Marine Fisheries Service will be informed of this permit issuance and will enforce any known violations of the commitments made in this document pursuant to the ESA.
- d. In order to protect ESA-listed species and designated critical habitat, the permittee may conduct the authorized activities only from November 1 through February 28 during years this permit is valid. The permittee shall not conduct any of the in-water work authorized by this permit from March 1 through October 31 during any year.

Further Information:

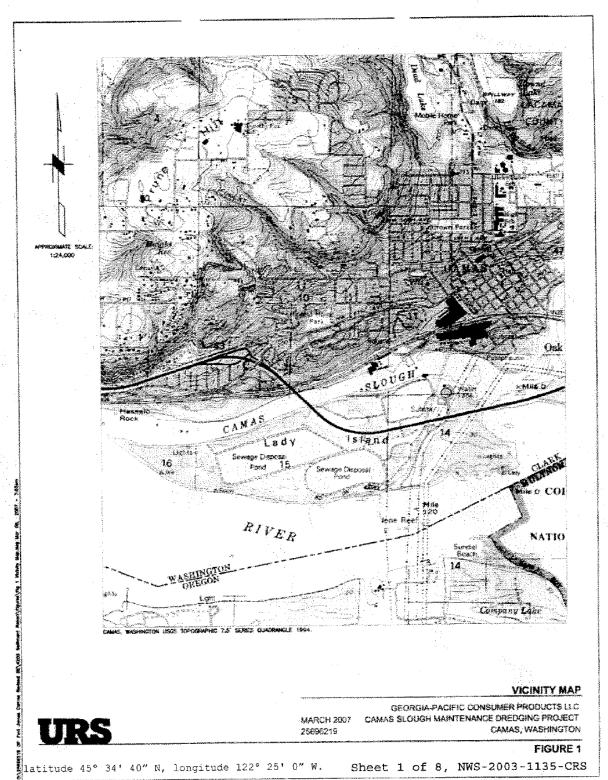
- Congressional Authorities. You have been authorized to undertake the activity described above pursuant to:
 - (X) Section 10 of the Rivers and Harbor Act of 1899 (33 U.S.C. 403).
 - () Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C 1413).
- 2. Limits of this authorization.
- This permit does not obviate the need to obtain other Federal, State, or local authorization required by law.

- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.
- 3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
- a. Damages to the permitted project or uses thereof as a result of other permitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - Design or construction deficiencies associated with the permitted work.
 - Damage claims associated with any future modification, suspension, or revocation of this permit.
- 4. Reliance on Applicant's Data. The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
- 5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require include, but are not limited to, the following:
 - a. You fail to comply with the terms and conditions of the permit.
- b. The information provided by you in support of your application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

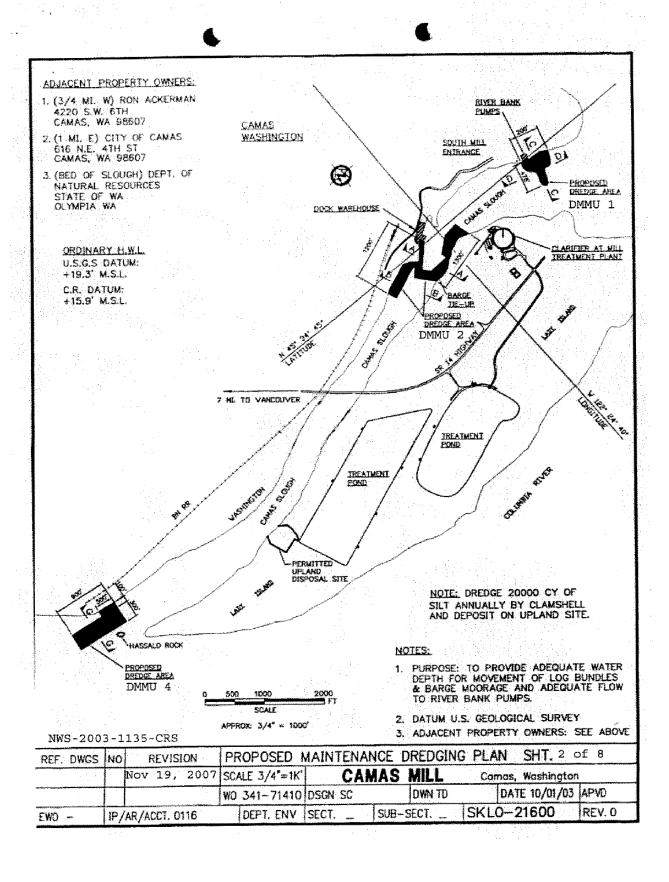
Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

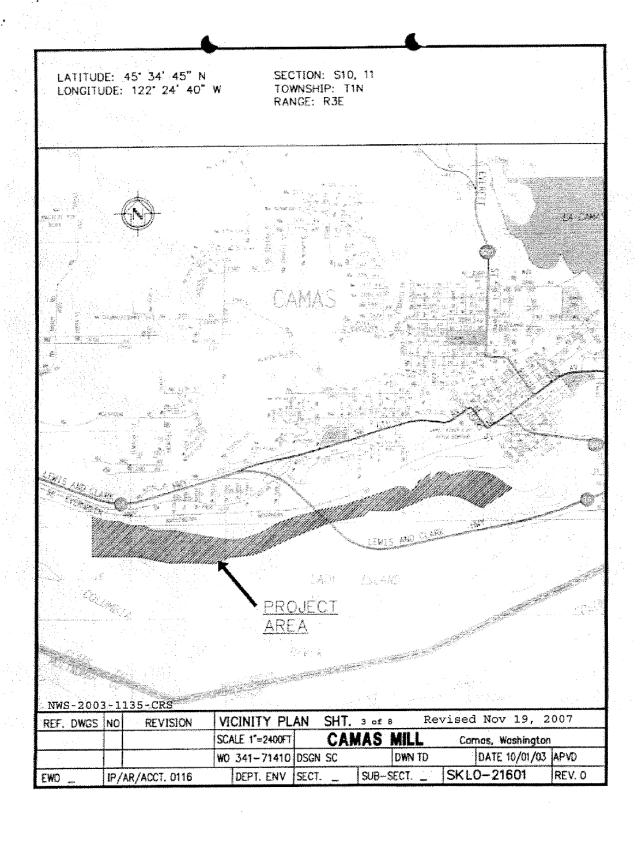
6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accepthis permit.	t and agree to comply with the terms and conditions of
Michael D. Tompkins, Vice President GEORGIA-PACIFIC Consumer Products (Camas)	Dec 14, Zoo7 (DATE)
This permit becomes effective when the Federal official, des below.	ignated to act for the Secretary of the Army, has signed
Michael McCormick Colonel, Corps of Engineers District Engineer	8 Jan 08 (DATE)
When the structures or work authorized by this permit are st terms and conditions of this permit will continue to be bindin transfer of this permit and the associated liabilities associate the transferee sign and date below.	a on the new owner(s) of the property. To validate the
(TRANSFEREE)	(DATE)

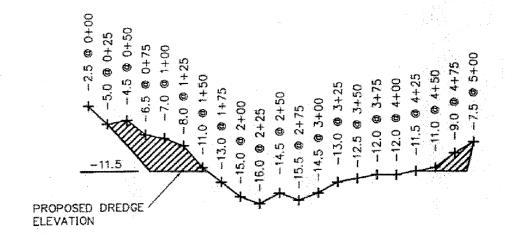


Revised Nov 19, 2007





DATUM: U.S.G.S. MSL ORDINARY HIGH WATER = 19.3' MSL

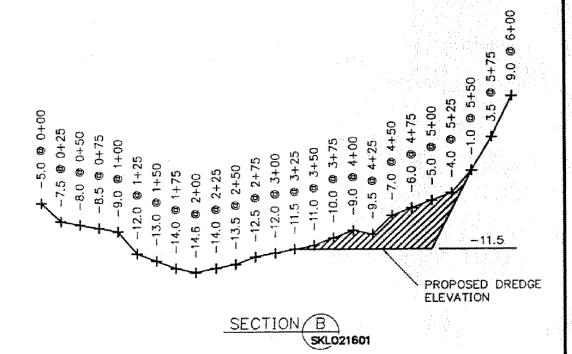




THIS LINE TAKEN AT LADDER UP BULKHEAD AT BARGE UNLOADER APPROXIMATELY 100' DOWNSTREAM FROM DOCK WAREHOUSE DMMU 2

REF. DWGS	NO REVISION	SECTION A	SHT. 4 of 8	Ret	rised Nov 19, 20	07
A 100 100 100 100 100 100 100 100 100 10		SCALE NOTED	CAMAS	MILL	Comas, Washington	
,		WO 341-71410	DSGN SC	DWN TD	DATE 10/01/03	APVD
EWO _	IP/AR/ACCT, 0116	DEPT. ENV	SECT SUB-	-SECT	SKL0-21602	REV. 0

DATUM: U.S.G.S. MSL ORDINARY HIGH WATER = 19.3' MSL

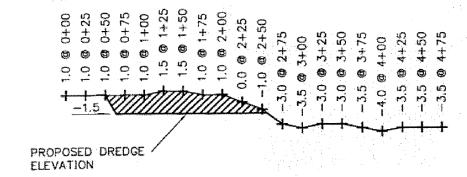


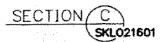
THIS LINE TAKEN AT 2ND 3 PILE DOLPHIN UPSTREAM FROM LOG CHIPPER DMMU 2

REF. DWGS NO	REVISION S	ECTION B	SHT. 5	of 8 Rev	ised Nov 19, 200	7.
	SC	CALE NOTED	CAI	MAS MILL	Cames, Washington	
	W	341-71410	DSGN SC	DWN TD	DATE 10/01/03	APVD
EWO _ IP/A	R/ACCT, 0116	DEPT. ENV	SECT	SUB-SECT	SKL0-21603	REV. 0

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DATUM: U.S.G.S. MSL ORDINARY HIGH WATER = 19,3' MSL

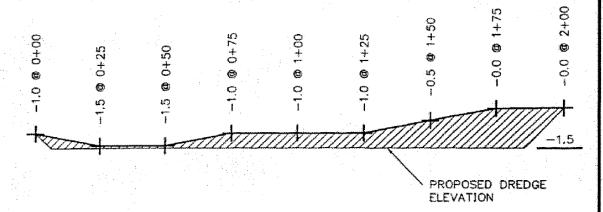


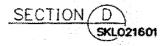


0+00 IS 50' WEST OF WEST SIDE OF INTAKE STRUCTURE AND PROCEEDS TOWARD BRIDGE ON HWY. "14" DMMU 1

REF. DWGS	S NO REVISION	SECTION C	SHT. 6 of 8	Revi	sed Nov 19, 200	7
		SCALE NOTED	CAMAS	S MILL	Cames, Washington	
		WO 341-71410	DSGN SC	DWN TD	DATE 10/01/03	APVD
EWO _	IP/AR/ACCT. 0116	DEPT. ENV	SECT SUE	3-sect	SKL0-21604	REV. 0

DATUM: U.S.G.S. MSL ORDINARY HIGH WATER = 19.3' MSL



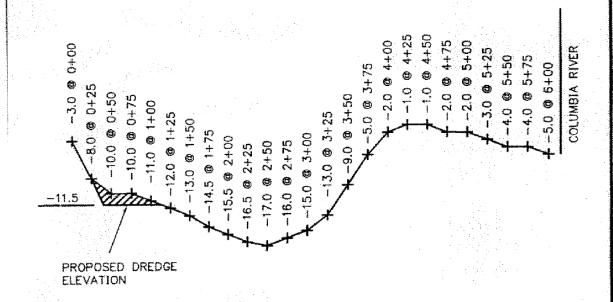


0+00 IS 150' WEST OF WEST SIDE OF INTAKE STRUCTURE AND APPROXIMATELY 75' INTO THE RIVER THE LINE THEN RUNS EAST PARALLEL TO SHORE LINE. DMMU 1

REF. DWGS	NO REVISION	SECTION D	SHT. 7 of 8	Revised 1	Nov 19, 200	7
		SCALE NOTED	CAMAS	MILL Con	nas, Washington	
		WO 341-71410	DSGN SC	DWN TD	DATE 10/01/03	APVD
:WO	IP/AR/ACCT, 0116	DEPT. ENV	SECT SUB-	SECT SKLO	0-21605	REV. 0

DATUM: U.S.G.S. MSL

ORDINARY HIGH WATER = 19.3' MSL



THIS LINE TAKEN AT THE DOWNSTREAM END OF THE CAMAS SLOUGH AT THE WEST END OF LADY ISLAND DMMU 4

SKL021601

REF. DWGS	NO REVISION	SECTION G	SHT. 8 of 8	Revised N	ov 19, 2007	
		SCALE NOTED	CAMAS	MILL Co	mas, Washington	
		WO 341-71410	DSGN SC	DWN TD	DATE 10/01/03	APVD
EWO _	IP/AR/ACCT, 0116	DEPT. ENV	SECT SUB-	SECT SKL	0-21608	REV. 0



DEPARTMENT OF THE ARMY

SEATTLE DISTRICT, CORPS OF ENGINEERS P.O. BOX 3755 SEATTLE, WASHINGTON 98124-3755

MAR 1 2 2013

Regulatory Branch

Mr. Gary Kaiser Georgia-Pacific, Consumer Products (Camas) LLC 401 Northeast Adams Street Camas, Washington 98607

Reference: NWS-2003-1135

Fort James Camas, LLC

Dear Mr. Kaiser:

We have received your request to modify the approved plans for the above-referenced Department of the Army permit. The approved plans dated 6 January 2012 authorize the maintenance dredging of up to 20,000 cubic yards of sediment annually from four locations within Camas Slough, in Camas, Clark County, Washington. The modification consists of increasing the authorized dredge depth in Dredged Material Management Unit (DMMU) 1 by 2.54 feet. Your request for a permit modification is approved. Enclosed are the approved modified plans dated 21 February 2013, which supersede plans authorized by the Secretary of the Army on 6 January 2012.

All other terms and conditions contained in the original permit remain in full force and effect. If you have any questions, please contact Mr. Steve Manlow at steven.w.manlow@usace.army.mil, or at (360) 694-1171.

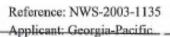
BY AUTHORITY OF THE SECRETARY OF THE ARMY:

for Bruce A. Estok

Colonel, Corps of Engineers

District Engineer

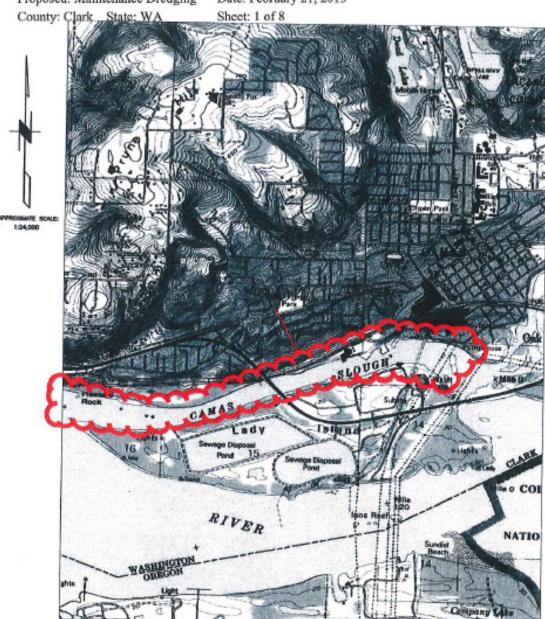
Enclosure



In: Camas Slough Near/At: Camas

Proposed: Maintenance Dredging

Date: February 21, 2013



VICINITY MAP

MARCH 2007 25696219 GEORGIA-PACIFIC CONSUMER PRODUCTS LLC CAMAS SLOUGH MAINTENANCE DREDGING PROJECT CAMAS, WASHINGTON

FIGURE 1

URS



RCW 77.55.021 - See appeal process at end of HPA

Southwest 2108 Grand Boulevard Vancouver, WA 98661 (360) 696-6211

Issue Date: November 14, 2013 Control Number: 132103-1
Project Expiration Date: November 07, 2018 FPA/Public Notice #: N/A

PERMITTEE

Georgia Pacific Consumer Products (Camas) LLC

ATTENTION: Barry Carson

401 NE Adams St Camas, WA 98607

Fax: 360-834-8409

AUTHORIZED AGENT OR CONTRACTOR

Project Name: Camas Slough Maintenance Dredging

Project Description: The project is the maintenance dredging of the Camas Slough to ensure its

use for the transportation of product and maintain the functionallity of the

mill's water intake structures.

PROVISIONS

- Work below the ordinary high water line shall only occur between NOVEMBER 1 and JANUARY 31 of calendar years 2013, 2014, 2015, 2016, 2017, 2018.
- 2. NOTIFICATION REQUIREMENT: The Area Habitat Biologist (AHB) listed below shall receive written notification (EMAIL, FAX or mail) from the person to whom this Hydraulic Project Approval (HPA) is issued (permittee) or the agent/contractor no less than three working days prior to the start of construction activities. The notification shall include the permittee's name, project location, starting date for work, and the control number for this HPA.
- 3. Work shall be accomplished per plans and specifications approved by the Washington Department of Fish and Wildlife entitled CAMAS SLOUGH MAINTENANCE DREDGING and dated 09/25/2013, except as modified by this Hydraulic Project Approval. A copy of these plans shall be available on site during construction.
- 4. If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), immediate notification shall be made to the Washington Military Department's Emergency Management Division at 1-800-258-5990, and to the Area Habitat Biologist listed below.
- Every effort shall be taken during all phases of this project to ensure that sediment-laden water is not allowed to enter the stream.
- If high flow conditions that may cause siltation are encountered during this project, work shall stop until the flow subsides.
- 7. Extreme care shall be taken to ensure that no petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into the stream.

Washington Department of FISH and WILDLIFE

HYDRAULIC PROJECT APPROVAL

RCW 77.55.021 - See appeal process at end of HPA

Southwest 2108 Grand Boulevard Vancouver, WA 98661 (360) 696-6211

Issue Date: November 14, 2013 Control Number: 132103-1
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- 8. Dredging shall not be conducted in fish spawning areas.
- Dredged streambed materials shall be disposed of at approved in-water disposal sites, or upland so it will not re-enter state waters.
- Upon completion of the dredging, the streambed shall contain no pits, potholes, or large depressions to avoid stranding of fish.
- Equipment shall be operated to minimize turbidity. During excavation, each pass with the bucket shall be complete. Dredged material shall not be stockpiled in the stream.
- Dredging shall be accomplished by starting at the upstream end of the project boundary and working downstream.
- 13. Dredging shall be limited to deepening of the streambed. Banks shall not be disturbed.

PROJECT LOCATIONS

Location #1 401 NE Adams St

WORK S	WORK START: November 14, 2013 WORK END: November 07, 2018								
WRIA:		Waterbody:		Tributary to:					
28.0154 Camas Slough					Columbia River				
1/4 SEC:	Section:	Township:	Range:	Latitude:	Longitude:	County:			
SE 1/4	47	01 N	03 E	N 45.5808	W 122.4039	Clark			
Location #1 0	Location #1 Driving Directions								

Take SR 14 Business Loop Exit 12, toward Camas and keep right. Continue straight to go onto NW 6th Ave. Turn

Location #2 401 NF Adams St

right onto NE Adams Street.

Eccation #2 401 NE Adams St								
WORK START: November 14, 2013 WORK END: November 07, 2018								
WRIA: Waterbody:						Tributary to:		
28.0154 Camas Slough						Columbia River		
1/4 SEC:	Section:	Township:	Range:	Latitude:		Longitude:	County:	
SE 1/4	10	01 N	03 E	N 45.579	8	W 122.41357	Clark	
Learning #2.5	Interior Dilega	diame						

Take SR 14 Business Loop Exit 12, toward Camas and keep right. Continue straight to go onto NW 6th Ave. Turn right onto NE Adams Street.



RCW 77.55.021 - See appeal process at end of HPA

Southwest 2108 Grand Boulevard Vancouver, WA 98661 (360) 696-6211

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Location #3 401 NE Adams St

WORK S	WORK START: November 14, 2013 WORK END: November 07, 2018								
WRIA: Waterbody: Tributary to:									
28.0154 Camas Slough Columbia River									
1/4 SEC:	Section:	Township:	Range:	Latitude:	·	Longitude		County:	
NE 1/4	16	01 N	03 E	N 45.576	4	W 122	44537	Clark	
Location #3 Driving Directions									
Take CD 4	4 Duniana	- 1 Full 42				O		anto NIM 6th Ave. Turn	

Take SR 14 Business Loop Exit 12, toward Camas and keep right. Continue straight to go onto NW 6th Ave. Turn right onto NE Adams Street.

APPLY TO ALL HYDRAULIC PROJECT APPROVALS

This Hydraulic Project Approval pertains only to those requirements of the Washington State Hydraulic Code, specifically Chapter 77.55 RCW (formerly RCW 77.20). Additional authorization from other public agencies may be necessary for this project. The person(s) to whom this Hydraulic Project Approval is issued is responsible for applying for and obtaining any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

This Hydraulic Project Approval shall be available on the job site at all times and all its provisions followed by the person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work.

This Hydraulic Project Approval does not authorize trespass.

The person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work may be held liable for any loss or damage to fish life or fish habitat that results from failure to comply with the provisions of this Hydraulic Project Approval.

Failure to comply with the provisions of this Hydraulic Project Approval could result in a civil penalty of up to one hundred dollars per day and/or a gross misdemeanor charge, possibly punishable by fine and/or imprisonment.

All Hydraulic Project Approvals issued under RCW 77.55.021 are subject to additional restrictions, conditions, or revocation if the Department of Fish and Wildlife determines that changed conditions require such action. The person(s) to whom this Hydraulic Project Approval is issued has the right to appeal those decisions. Procedures for filing appeals are listed below.

MINOR MODIFICATIONS TO THIS HPA: You may request approval of minor modifications to the required work timing or to the plans and specifications approved in this HPA. A minor modification to the required work timing means up to a one-week deviation from the timing window in the HPA when there are no spawning or incubating fish present within the vicinity of the project. You may request subsequent minor modifications to the required work timing. A minor modification of the plans and specifications means any changes in the materials, characteristics or construction of your project that does not alter the project's impact to fish life or habitat and does not require a change in the provisions of the HPA to mitigate the impacts of the modification. Minor modifications do not require you to pay additional application fees or be issued a new HPA. To request a minor modification to your HPA, submit a written request that clearly indicates you are requesting a minor modification to an existing HPA. Include the HPA number and a description of the requested change and send by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia,



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Issue Date: November 14, 2013 Control Number: 132103-1 FPA/Public Notice #: Project Expiration Date: November 07, 2018 N/A

Washington 98504-3234, or by email to HPAapplications@dfw.wa.gov. Do not include payment with your request. You should allow up to 45 days for the department to process your request.

MAJOR MODIFICATIONS TO THIS HPA: You may request approval of major modifications to any aspect of your HPA. Any approved change other than a minor modification to your HPA will require issuance of a new HPA. If you paid an application fee for your original HPA you must include payment of \$150 with your written request or request billing to an account previously established with the department. If you did not pay an application fee for the original HPA, no fee is required for a change to it. To request a major modification to your HPA, submit a written request that clearly indicates you are requesting a major modification to an existing HPA. Include the HPA number, check number or billing account number, and a description of the requested change. Send your written request and payment, if applicable, by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234. If you are charging the fee to a billing account number or you are not subject to the fee, you may email your request to

HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

APPEALS INFORMATION

If you wish to appeal the issuance, denial, conditioning, or modification of a Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife (WDFW) recommends that you first contact the department employee who issued or denied the HPA to discuss your concerns. Such a discussion may resolve your concerns without the need for further appeal action. If you proceed with an appeal, you may request an informal or formal appeal. WDFW encourages you to take advantage of the informal appeal process before initiating a formal appeal. The informal appeal process includes a review by department management of the HPA or denial and often resolves issues faster and with less legal complexity than the formal appeal process. If the informal appeal process does not resolve your concerns, you may advance your appeal to the formal process. You may contact the HPA Appeals Coordinator at (360) 902-2534 for more information.

A. INFORMAL APPEALS: WAC 220-110-340 is the rule describing how to request an informal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete informal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request an informal appeal of that action. You must send your request to WDFW by mail to the Washington Department of Fish and Wildlife HPA Appeals Coordinator, 600 Capitol Way North, Olympia, Washington 98501-1091; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor, WDFW must receive your request within 30 days from the date you receive notice of the decision. If you agree, and you applied for the HPA, resolution of the appeal may be facilitated through an informal conference with the WDFW employee responsible for the decision and a supervisor. If a resolution is not reached through the informal conference, or you are not the person who applied for the HPA, the HPA Appeals Coordinator or designee will conduct an informal hearing and recommend a decision to the Director or designee. If you are not satisfied with the results of the informal appeal, you may file a request for a formal appeal.

B. FORMAL APPEALS: WAC 220-110-350 is the rule describing how to request a formal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete formal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request a formal appeal of that action. You must send your request for a formal appeal to the clerk of the Pollution Control Hearings Boards and serve a copy on WDFW within 30 days from the date you receive notice of the decision. You may serve WDFW by mail to the Washington Department of Fish and Wildlife HPA Appeals Coordinator, 600 Capitol Way North, Olympia, Washington 98501-1091; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor, The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, you may request a formal appeal within 30 days from the date you receive the Director's or designee's written decision in response to the informal appeal.



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C. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS: If there is no timely request for an appeal, the WDFW action shall be final and unappealable.

ENFORCEMENT: Sergeant Chadwick (24) P3E

Habitat Biologist friesarf@dfw.wa.gov
Anne Friesz 360-906-6764 for Director WDFW

CC: cc emailed:

USACE WDFW

WECY

City of Camas