SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background

1. Name of proposed project, if applicable:

PNW Metal Recycling Relocation Project

2. Name of applicant:

NWM Properties, LLC.

3. Address and phone number of applicant and contact person:

NWM Properties, LLC
Attention: Hank Doane
10105 S.E. Mather Rd.
Clackamas, OR 97015
(503) 347-0094
hank@portlandrecycling.com

4. Date checklist prepared:

April 2, 2018

5. Agency requesting checklist:

Cowlitz County

6. Proposed timing or schedule (including phasing, if applicable):

Project construction could begin as early as fall 2018 pending issuance of all applicable permits and approvals. Project construction is expected to be completed in approximately 1 year. Site grading, utility installation and activities associated with stormwater drainage and collection will be completed first, followed by construction of the new rail spur line, road and yard paving and facility infrastructure (buildings, equipment installation, industrial stormwater treatment system, etc.).

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No. The current Project will develop the entire 25-acre site (see Figure 2 - *Grading and Site Plan* attached).

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Ecological Land Services (ELS) completed a wetland feasibility study that included a review of historic and current aerial imagery, review of federal GIS soils and wetland databases, and on-the-ground test plot data (ELS January 5, 2018 – included as Attachment A).

Farallon Consulting completed a soil sampling on the property in January 2018.

Clear Creek Systems prepared a proposal for an industrial stormwater treatment system at the proposed facility. That proposal is included as Attachment B.

PNW Metals will follow Health and Safety Executive (HSE) guidelines for minimizing fumes from torch cutting scrap metals. Guidelines associated with torch cutting are included as attachment C.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

The Applicant is currently pursuing an Air Discharge Permit for emissions associated with torch cutting scrap metal. It is anticipated that this permit will be transferred or modified to provide coverage at the new facility.

10. List any government approvals or permits that will be needed for your proposal, if known.

Cowlitz County Building Permit.

Cowlitz County Site Grading Permit.

State Environmental Policy Act Compliance.

Washington State NPDES Industrial Stormwater General Permit.

Washington State NPDES Construction Stormwater General Permit.

Air Discharge Permit from the Southwest Clean Air Agency.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

NWM Properties (herein the "Applicant") proposes to develop a metals and automobile recycling center on a 25-acre industrial property in Longview, Washington. The Paper Way Metal Recycling Center Project (the "Project") will replace the existing PNW Metal Recycling facility currently operating at 3500 Hoehne Ave., Longview (located approx. 2.7 miles northwest of the Project site). The new facility will be located at 100 Paper Way, Longview, Washington (Figure 1).

The Project will involve developing the 25-acre Paper Way parcel, including a paved entrance road and automobile/metal salvage yard, a new processing warehouse, the addition of one new rail spur line and associated utilities and stormwater collection and treatment facilities.

Figure 2, attached, illustrates the site grading to occur at the site. Efforts have been made to balance the volume of excavated and fill material at the site. Based on geotechnical recommendations for the Project, subsurface ground improvements have been included to avoid ground settling in the paved yard. Subsurface ground improvements will involve amending the soil with concrete to a depth of 36-inches. To provide additional support for the warehouse, the Project includes constructing approximately 110 geo-piers within the warehouse footprint.

Metals processing will occur primarily within the newly constructed 90,000 square foot processing warehouse. The warehouse will be constructed of pre-fabricated steel and measure 300 ft wide by 300 ft deep (Figure 2). The warehouse will contain an office mezzanine, loading and unloading dock and processing equipment (non-ferrous downstream, shearer).

The property is currently accessible via a single rail spur line located along the northern property boundary. The Project will add a second 1,500 ft spur track as illustrated on Figure 2. Recyclables would be unloaded from rail cars using mobile cranes. Vehicle access to the facility will be via a single gated access road off Paper Way (Figure 2).

OPERATIONS:

PNW Metals will receive recyclable materials by rail and/or truck from scrap yards located in Portland, Clackamas, Gresham, and Hermiston, Oregon. Two separate recycling and salvage operations are proposed at the new facility: salvaging automobile vehicles, and sorting and packaging scrap metals for recycling.

The flow of materials into and out of the facility will be as follows. Trucks will enter the facility through the main gate off Paper Way. Vehicles proceed to the incoming scale house where they are routed to the appropriate location to load and unload. Vehicles exit the facility through the outbound scale house and proceed through the main gate.

Scrap metal and motor vehicles will be loaded and unloaded in designated handling areas on the paved surfaces or at the warehouse loading/unloading dock. Loading and unloading of scrap and motor vehicles is conducted by cranes, front-end loaders, and forklifts. Automotive vehicles to be dismantled and scrapped will be staged outside on the asphalt-paved yard area prior to being dismantled. Other metals will be unloaded and stockpiled either in the yard (ferrous metals) or in the warehouse (non-ferrous metals) prior to processing.

The process of salvaging motor vehicles will be conducted indoors and consists primarily of draining fluids from vehicles and recycling remaining metal parts. Outdoor processing at the facility will be limited to baling, shearing, and torching. Indoor processing activities will include cutting, crushing and baling or other packaging of metals for transport.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

Street Address: 100 Paper Way, Longview, WA.
Tax Parcel Number: 616140106

Cross Streets: Industrial Way and Paper Way
Section, Township, and Range: NW ¼ of Section 9 and SW ¼ of Section 4, Township 7 North, Range 2 West.
Latitude and longitude coordinates: Lat. 46.1122°, Long. -122.9459°

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

~0.1 percent.

[Note: A search of the Cowlitz County EPIC planning tool reports slopes of 30-45% on the property. Slopes in this range only occur within the two existing drainage ditches that parallel the northern and western property boundaries. The Project does not propose to modify either of these existing ditches and they will continue to function to drain stormwater from adjacent properties.]

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Approximately 80 percent of the site is mapped by NRCS[1] as Pilchuck loamy fine sand, 0 to 8 percent slopes. Approximately 20 percent of the site is mapped as Caples silty clay loam, 0 to 3 percent slopes. On site investigations by ELS (2018)[2] confirmed the NRCS findings.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No.

[1] Natural Resources Conservation Service (NRCS) Web Soil Survey.
[2] Ecological Land Services (ELS). 2018. Wetland Feasibility Study at 100 Paper Way in Longview, Washington. Prepared for NWM Properties, LLC. January 5, 2018.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

The entire 25-acre property will be grading to achieve the finished elevations specified on Figure 2. Site grading has been designed to drain stormwater towards one of two new perimeter ditches and then into the water treatment system. Additional excavation/grading will be required to accommodate the proposed warehouse, detention pond and sedimentation pond. Efforts have been made to balance the volume of soil during site grading and no soil import or export is anticipated.

To increase geologic stability within the paved yard, concrete soil amending is proposed to a depth of 36-inches. The foundation of the propsed warehouse will also be supported by approximately 110 geo-piers.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Erosion is not anticipated due to the flat nature of the site. Typical construction BMPs will also be implemented during construction.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 94% (~23.6 of 25 acres).

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Standard construction BMPs will be implemented.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

The materials and equipment needed during construction will be delivered to the site by truck. It is estimated that approximately 3,800 truck trips will be required over the construction period. Emissions during construction could include diesel exhaust from trucks and construction equipment or fugitive dust from earthwork.

During operations, transportation related emissions would include diesel exhaust from trucks, and exhaust from employee commuter vehicles, and Project related trains and vessels (see Section 14 – *Transportation*, for more information on truck, rail and vessel transport). The new facility will also operate up to four scrap metal torch cutting stations, one of which will be equipped with a multi-clone air filtration system. Torch cutting metal can produce fumes and particulate matter. Based on conservative estimates (4 cutting stations operating 7 hours per day, 5 days per week, 52 weeks per year), the total combined emissions at the facility could be up to 0.139 tons per year[3].

[3] Farallon Consulting. 2018. Table 1 – Potential to Emit. Draft permit application materials prepared for PNW Metal

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

PNW Metals proposes to use a multi-clone filtrations system to reduce fumes and particulate matter associated with torch cutting metal. The filtration system consists of 6 MERV 8 prefilters followed by 6 HEPA filters after cyclonic separation. Manufacturer provided documents guarantee 97% removal of 5-micron particles before filters and greater than 99% removal of 0.3-micron particles. An Air Discharge Permit from the Southwest Clean Air Agency is required to install and operate the multi-clone filtration system and the Applicant is currently undergoing permit review to operate the system. It is expected that this permit will be modified or transferred to the proposed facility. An Operations and Maintenance Plan has been prepared for PNW Metals facility that establishes a set of inspection activities to maintain the air filtration system and verify optimal performance. The facility also trains employees and follows suggested practices for minimizing fumes from torch cutting scrap metals[4] (Attachment C).

3. **Water**

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

There are no surface water bodies on or immediately adjacent to the site. The Consolidated Diking Improvement District No. 1's (CDID #1) Ditch 3 is located approximately 1,000 feet north of the property. The property is also located approximately 0.3 mile west of the Log Pond and 0.4 mile north of the Columbia River.

Stormwater drainage is described in response to question 3.c below.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No. There are no surface water bodies within 200 feet of the property.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

Recycling, LLC, Longview, WA.

[4] Health and Safety Executive. 2001. Suggestions for Minimizing Fumes from Torch Cutting Scrap Metals. HSE. Retrieved: March 21, 2018. http://www.hse.gov.uk/foi/internalops/ocs/600-699/668_30/668_30id.htm.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No. The property is located within an area that is protected from the 100-year flood hazard by the CDID #1 levee (FEMA 2015)[5].

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

Yes. Treated stormwater will be discharged into the Port of Longview's water conveyance system. It is anticipated that the proposed facility will operate under an NPDES Industrial Stormwater General Permit. Discharge of treated stormwater is discussed in response to question 3.c below.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No wells or discharge to groundwater are proposed.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

None.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The completed Project will include an industrial stormwater treatment system. The system has been designed with a capacity of between 300 and 600 gallons-per-minute (gpm), with an estimated annual treatment volume of 28 million gallons per year (MGY). The Western Washington Hydrology Model was used to inform design capacity and treatment volumes for the proposed system[6]. Treatment steps include chemical treatment, pH adjustment, gravity settling, and filtration.

[5] Federal Emergency Management Agency (FEMA). 2015. FIRM Flood Insurance Rate Map, Cowlitz County Washington. Map Number 53015C0677G. December 16, 2015.

[6] Department of Ecology. 2018. Western Washington Hydrology Model. State of Washington Department of Ecology. Retrieved March 23, 2018. Available online at: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-

The site plan has been designed to route stormwater from the entirety of the property to one of two newly constructed perimeter ditches located on the northwestern and southeastern property boundaries (Figure 2). The perimeter ditches empty into a detention pond before receiving chemical treatment in the centralized treatment system. Chemical treatment uses coagulation, metals co-precipitation and flocculation to remove heavy metals, solids and other pollutants from the stormwater. Feed water is then treated with sodium hydroxide to further reduce metals and to balance pH.

Chemically treated water is then directed to the settling pond for clarification. The final step is to pump water from the settling basin to the filtration system. Here, deep bed sand filtration is used to remove unsettled flocculants and suspended sediments prior to discharge to the existing stormwater conveyance system. Additional details on the treatment system are provided in the attached Water Treatment System Proposal from Clear Creek Systems (Attachment B), which can be referenced for additional information.

Once discharged, treated runoff will enter into the existing Port of Longview stormwater conveyance system. Several hundred feet north of the Property, the Port of Longview system enters into the City of Longview's municipal stormwater conveyance system that continues north where it drains to the Consolidated Diking Improvement District's (CDID) Ditch 3. Ditch 3 discharges to the Columbia River via the CDID's Oregon Way Pump Station. It is expected that stormwater discharge from the proposed PNW Metal facility will be eligible for coverage under an NPDES Industrial Stormwater General Permit.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No. All staging, storage and processing will occur on paved areas. Sources of pollution could include leaking petroleum products, antifreeze or hydraulic fluids, metal debris, dust and particulates. However, site grading will route all stormwater and associated wastes into the on-site stormwater treatment system prior to discharge. The facility will also have a site-specific emergency cleanup plan in the event of a spill. Waste products, such as used oil, greases and antifreeze will be stored in double-walled tanks or in drums or secondary containment areas prior to off-site disposal. Additional information on potential pollution sources at the facility is provided in response to question 7.a., below.

A query of local, state and federal databases was performed analyzing groundwater around the site. The main source of recharge for the area is the Columbia River and no critical aquifer recharge areas are located within the Project Area[7]. The nearest wellhead protection area is located over 3,000 ft west of the Project Area, according to the Washington Department of Health (WDOH) Source Water Assessment Program (SWAP) online mapping application[8].

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No. Stormwater from the site and adjacent properties is currently drained via two existing ditches located along the northern and western property boundaries. These ditches will continue to convey stormwater from adjacent properties towards the City of Longview's municipal stormwater conveyance system.

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assistance/Stormwater-permittee-guidance-resources/Stormwater-manuals/Western-Washington-Hydrology-Model.

[7] Cowlitz County. 2018. Cowlitz County online EPIC interactive mapper. Retrieved March 26, 2018. Available online at: www.cowlitzinfo.net/netmaps25v10/index.html?App=EPIC&.

[8] Washington Department of Health. 2018. Source Water Assessment Program online interactive mapper. Retrieved March 26, 2018. Available online at: https://fortress.wa.gov/doh/eh/maps/SWAP/index.html.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

To minimize the potential for contaminants coming into contact with groundwater, there will be no material storage or operations on gravel or exposed dirt. Further, the proposed detention and sedimentation ponds will be lined with impervious material and have no groundwater connection.

Site grading will be used to route stormwater from the entirety of the property to a stormwater treatment system (described above). The applicant will also seek coverage under the Washington Department of Ecology's National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater General Permit (ISGP). That permit will require the applicant prepare a site specific Stormwater Pollution Prevention Plan (SWPPP), which will specify effluent sampling requirements and standards, and sets general conditions for reporting and compliance. Best Management Practices (BMPs) for the areas of potential pollutant sources will also be implemented at the facility to further reduce or eliminate the potential to contaminate stormwater and prevent violation of stormwater standards. Operational source control BMPs are identified in the ISGP and SWPPP and typically include good housekeeping, preventive maintenance, preparation of a site-specific emergency cleanup plan, and conditions related to employee training, inspections, and recordkeeping. The facility will also comply with BMPs presented in the Ecology's *Stormwater Management Manual for Western Washington*[9] and *Best Management Practices to Prevent Stormwater Pollution at Vehicle Recycler Facilities*[10].

4. Plants

a. Check the types of vegetation found on the site:

____deciduous tree: alder, maple, aspen, other

____evergreen tree: fir, cedar, pine, other

_√_ shrubs

_√_ grass

____pasture

____crop or grain

____ Orchards, vineyards or other permanent crops.

____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

____water plants: water lily, eelgrass, milfoil, other

_√_ other types of vegetation

The Project Area was historically used as a lumber yard and mill (circa 1939 to 1990[11]), and soils on the property are highly disturbed due to past land uses. Vegetation on the property is dominated by Himalayan blackberry *(Rubus armeniacus)* interrupted by patches of open ground. Open ground consisted of herbaceous species such as Canada thistle *(Cirsium arvense)*, oxeye daisy

[9] Washington State Department of Ecology (Ecology). 2012. Stormwater Management Manual for Western Washington, Volume IV.

[10] Washington State Department of Ecology (Ecology). 2011. Best Management Practices to Prevent Stormwater Pollution at Vehicle Recycler Facilities. Revised March 2011.

(Leucanthemum vulgare), Queen Anne's lace *(Daucus carota),* and vetch *(Vicia sp.).* Trailing blackberry *(Rubus ursinus)* and Scot's broom *(Cytisus scoparius)* were also present in areas that lacked cover from Himalayan blackberry. Remnant vehicle roads have some grass and other herbaceous plants growing the centerline[11]. Overall, the site is highly disturbed and is dominated almost entirely by invasive species (see the response to question 4.e below for additional information on invasive species).

b. What kind and amount of vegetation will be removed or altered?

The Project would clear all vegetation from within the 25-acre project footprint (Figure 2).

c. List threatened and endangered species known to be on or near the site.

None known.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

None proposed.

e. List all noxious weeds and invasive species known to be on or near the site.

The Washington State Noxious Weed Control Board (NWCB) ranks weed species as Class A, B or C based on their distribution and priority for eradication. Noxious weeds present on the site and their respective ranks are listed in the table below.

Noxious weeds and invasive species in the Project Area[12]

Common name	Scientific name	NWCB Ranking[13]
Scotch broom	*Cytisus scoparius*	Class B
Himalayan blackberry	*Rubus armeniacus*	Class C
Canada thistle	*Cirsium arvense*	Class C
oxeye daisy	*Leucanthemum vulgare*	Class C
Wild carrot (aka. Queen Anne's lace)	*Daucus carota*	Class C

[11] Ecological Land Services. 2018. Wetland Feasibility Study at 100 Paper Way in Longview, Washington. Prepared for NWM Properties, LLC. January 5, 2018.
[12] Ecological Land Services. 2018. Wetland Feasibility Study at 100 Paper Way in Longview, Washington. Prepared for NWM Properties, LLC. January 5, 2018.
[13] Washington State Noxious Weed Control Board. 2018. 2018 Washington State Noxious Weed List. Retrieved March 20, 2018. Available online: https://www.nwcb.wa.gov/pdfs/2018-State-Weed-List_Common_Name-8.5x11.pdf.

5. **Animals**

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Wildlife species likely to be found on the property include common species of birds, rodents, amphibians, reptiles, and invertebrates. Larger and highly mobile species or mammals that are habituated to developed areas may also be present, including coyote (*Canis latrans*), racoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*) and deer (*Odocoileus* sp.).

b. List any threatened and endangered species known to be on or near the site.

None known.

c. Is the site part of a migration route? If so, explain.

The site is within the Pacific Flyway for migrating waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

None.

e. List any invasive animal species known to be on or near the site.

None known.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The proposed Project will replace the existing PNW Metal Recycling facility currently operating at 3500 Hoehne Ave., Longview (located approx. 2.7 miles northwest of the Project site). Energy consumption at the Project site is expected to be comparable to the existing facility. Electricity, gasoline, oil, propane, and diesel fuel will be the primary energy types used during operations.

Cowlitz PUD provides electricity to the site. During normal operations, electricity will be used to power processing equipment and warehouse and yard lighting. The downstream and shearer are the two largest energy users associated with operations at the existing and proposed facility.

Fuel consumption associated with transporting materials to and from the site would decrease slightly compared to the existing facility. This is because the proposed Project will include on-site rail access (materials transported by rail are currently transloaded to an off-site facility). The new property is also located closer to the Berth 7 shipping terminal, where project related vessel transloading for both the existing and proposed facilities occurs.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None needed.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Potential discharges during construction could include rupture of hydraulic lines or accidental spills or leakage of petroleum products from construction equipment.

During operations, outdoor storage of automotive vehicles could include pollutions sources such as leaking petroleum products, antifreeze, and hydraulic fluids. Ferrous and non-ferrous scrap metal sorting and processing could also include pollutant sources such as petroleum products, metals and debris. Vehicle and equipment movement will be limited to paved areas but could generate dust and particulates associated with brake dust or tire-wear.

Waste product treatment is not proposed at the facility. Used oil grease and antifreeze generated during maintenance of equipment or draining of automotive fluids will be stored in double-walled tanks or in drums on secondary containment in covered storage. The waste will be disposed of or recycled on a periodic basis. Solid non-hazardous waste will be stored in covered bins and disposed of or recycled off the PNW Metal facility on the periodic basis.

1) Describe any known or possible contamination at the site from present or past uses.

None known.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None known.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

See response to question 7.a, above.

4) Describe special emergency services that might be required.

None.

5) Proposed measures to reduce or control environmental health hazards, if any:

It is anticipated that the facility will operate under a NPDES Industrial Stormwater General Permit. That permit will require that a Stormwater Pollution Prevention Plan (SWPPP) be prepared for the new facility. The SWPPP will identify all potential pollutants associated with the PNW Metals facility and operational Best Management Practices to protect water quality. The plan will also detail protocols for inspections, spill reporting, employee training, discharge monitoring, and water sample collections.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Project construction would result in a temporary increase in noise primarily during daylight hours. Noise associated with construction activities would be generated primarily by equipment, such as backhoes, cement mixers and excavators. Vehicles travelling to and from the site would also generate noise during construction.

Noise sources during operations would include vehicles traveling to and from the site, rail traffic related noise, and noise from outdoor processing such as baling, shearing, and torching. Noise levels at the facility are not expected to exceed the applicable Washington State Noise Level Standards (50dBA for residences). Operations will occur primarily during the hours of 7am and 4pm, Monday through Friday.

3) Proposed measures to reduce or control noise impacts, if any:

None needed.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The 25-acre property is currently vacant. Beginning in approximately 1939 and continuing until approximately 1990, the Project Area was used as a mill site and lumberyard[14]. All of the mill infrastructure has since been removed and the property has remained unused, apart from road maintenance, since the mid-1990's.

Adjacent properties are currently used for a variety of industrial uses, including warehouses, a lumber yard, intermodal shipping yards, metal fabrication and the Port of Longview's shipping terminals. The Project is located within an industrial area and is not expected affect adjacent land uses.

[14] Ecological Land Services. 2018. Wetland Feasibility Study at 100 Paper Way in Longview, Washington. Prepared for NWM Properties, LLC. January 5, 2018.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

No.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

No.

c. Describe any structures on the site.

None.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

Heavy Manufacturing (MH)

f. What is the current comprehensive plan designation of the site?

ERL-IND

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

Approximately 20 employees would work at the site.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None needed.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

None needed. The Project is compatible with existing and projected land uses.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

None needed. The site is not located on or near agricultural or forest lands.

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None needed.

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The proposed warehouse will be fifty-feet at its tallest peak. The PNW Metals warehouse will be a prefabricated steel frame building with aluminum siding.

b. What views in the immediate vicinity would be altered or obstructed?

None.

b. Proposed measures to reduce or control aesthetic impacts, if any:

The facility will be fully enclosed with slated chain link security fencing that will screen the property from neighboring roads and properties.

11. **Light and Glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The site would have appropriate operational and security lighting. Light would be directed to the work area to minimize light spill.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None needed.

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

None.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None needed.

13. **Historic and cultural preservation**

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

No. The property is vacant.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

None known.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

None.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

None.

14. **Transportation**

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

Vehicle access from Interstate 5 will be primarily via WA-432 W and Industrial Way. The new facility is 2.5 miles closer to Interstate 5 than the existing PNW Metals facility and accessed via the same public streets and highways (see maps and driving directions to the new and existing facilities included as Attachments D and E, respectively).

Additional commercial truck trips will be generated during vessel transloading operations to occur at the Port of Longview's Berth 7. Berth 7 is located approximately 1.1 miles south of the facility (3.2 miles closer than the existing facility - see Attachments D and E for maps and driving directions). During transloading operations, trucks will access Berth 7 via Paper Way and Terminal Way.

Proposed access to the facility will be from Paper Way. The proposed driveway has been designed so truck traffic waiting at the incoming scale will be lined up entirely within the limits of the property. No queuing is to occur onto Paper Way.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Yes. The two nearest public transit stops are: 1) 20th and Beech located approximately 1.1 miles from the site (Route 32), or, 2) Beech and 15th located approximately 0.8 mile from the site (Route 31). Public transit services are run by RiverCities Transit.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

The Project would include up to 50 private employee parking spaces.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

No.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Yes. Rail access to the property is via the BNSF Spur and Port of Longview's Industrial Rail Corridor. From the Industrial Rail Corridor, an existing spur track extends approximately 700 ft onto the property. The Project will add one new 1,500 ft spur line within the limits of the property (Figure 2). Normal operations are expected to generate approximately 30 trains per month, or approximately 1 to 2 rail cars per day, 5 days per week. This use will replace existing rail shipments occurring between the existing PNW Metals facility and HASA's rail transloading facility on Industrial Way (currently 10 to 20 rail cars per month). Because incoming and outgoing rail shipments will no longer require transloading, the proposed Project will eliminate up to 160 one-way truck trips per month, in comparison to the existing facility operating at Hoehne Ave.

PNW Metals currently ships products internationally via the Port of Longview's Berth 7. Typical operations ship products via Berth 7 between 3 and 5 times per year. Vessels are either Handy or Handymax class vessels, each capable of moving approximately 40K tons per ship. The level of shipping is expected to be comparable at the new Paper Way facility in comparison to the existing facility the Project will replace (between 3 and 5 vessels per year).

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

The Project will relocate the existing PNW Metal Recycling facility currently operating at 3500 Hoehne Ave., Longview. The new facility is more conveniently located to both Interstate 5 and the Port of Longview's Berth 7 (the new facility is 2.5 miles closer to I-5 and 3.2 miles closer to Berth 7), effectively reducing truck traffic on WA-432 W/Industrial Way west of Paper Way. Standard operations typically necessitate approximately 40 commercial truck trips per day, traveling primarily to and from Portland, Oregon. Operating hours will be primarily between the hours of 7am and 4pm, Monday through Friday.

The availability of on-site rail access at the new facility will also reduce the number of truck trips, compared to the existing PNW Metals facility on Hoehne Ave. Because incoming and outgoing rail shipments will no longer require transloading, the proposed Project will eliminate up to 160 one-way truck trips per month, between the existing facility and the HASA facility on Industrial Way.

Additional truck trips are required during vessel transloading operations. During ship loading operations, the Project is expected to require half as many trucks compared to the existing facility due to the reduced distance and travel time. For example, during vessel transloading operations, 25 trucks typically operate between the existing facility and Berth 7, between the hours of 8am and 2am (1 dayshift and 1 nightshift). The proposed Project would reduce this to 12 trucks operating during the same hours and shift. Assuming an average of 4 ships per year, this would eliminate the need for approximately 8,500 truck trips per year on Industrial Way.

For comparison, driving directions and maps from Portland, Oregon and Berth 7 to the proposed and existing facility are included in Attachments D and E, respectively.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No.

h. Proposed measures to reduce or control transportation impacts, if any:

None needed.

15. **Public Services**

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None needed.

16. **Utilities**

a. Circle utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other: _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electric power provided by Cowlitz Public Utility District.

On-site water, sewer and refuse services provided by Cowlitz County

Construction will necessitate excavation and grading associated with extending underground utilities to the proposed warehouse. No utilities, in addition to what is existing at the property, will be needed.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: TedYao
TedYao (Mar 28, 2018)

Name of signee TedYao

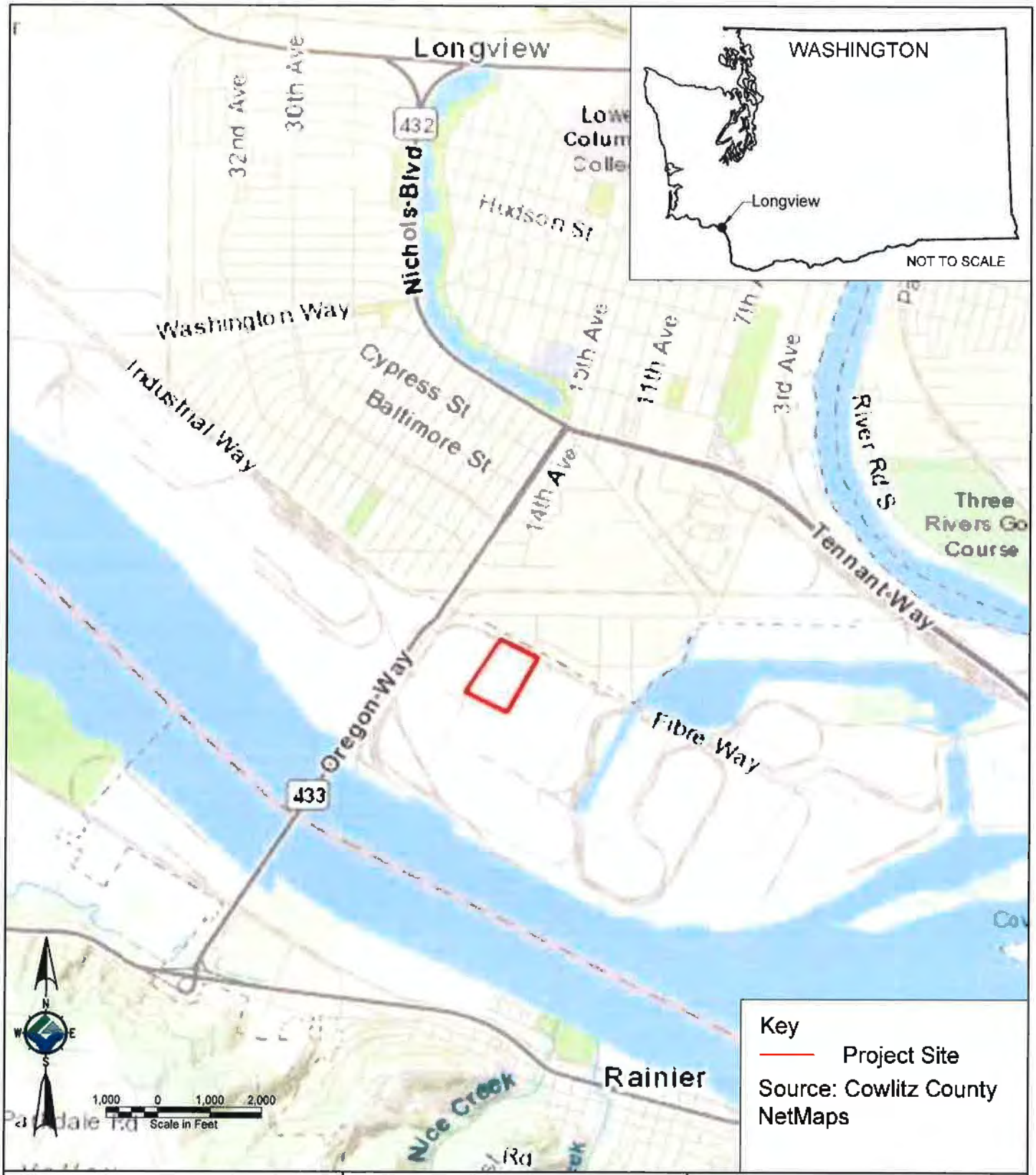
Position and Agency/Organization Owner

Date Submitted: Mar 28, 2018

PNW Metal Recycling Relocation Project
Longview, Washington

SEPA Environmental Checklist

Figures



PURPOSE: DEVELOP A NEW METALS AND AUTO RECYCLING FACILITY

COUNTY OF: COWLITZ
STATE: WA
IN: LONGVIEW

LATITUDE: 46.1122N
LONGITUDE: -122.9459W
S.T.R: T7N, R2W, S4 AND S9

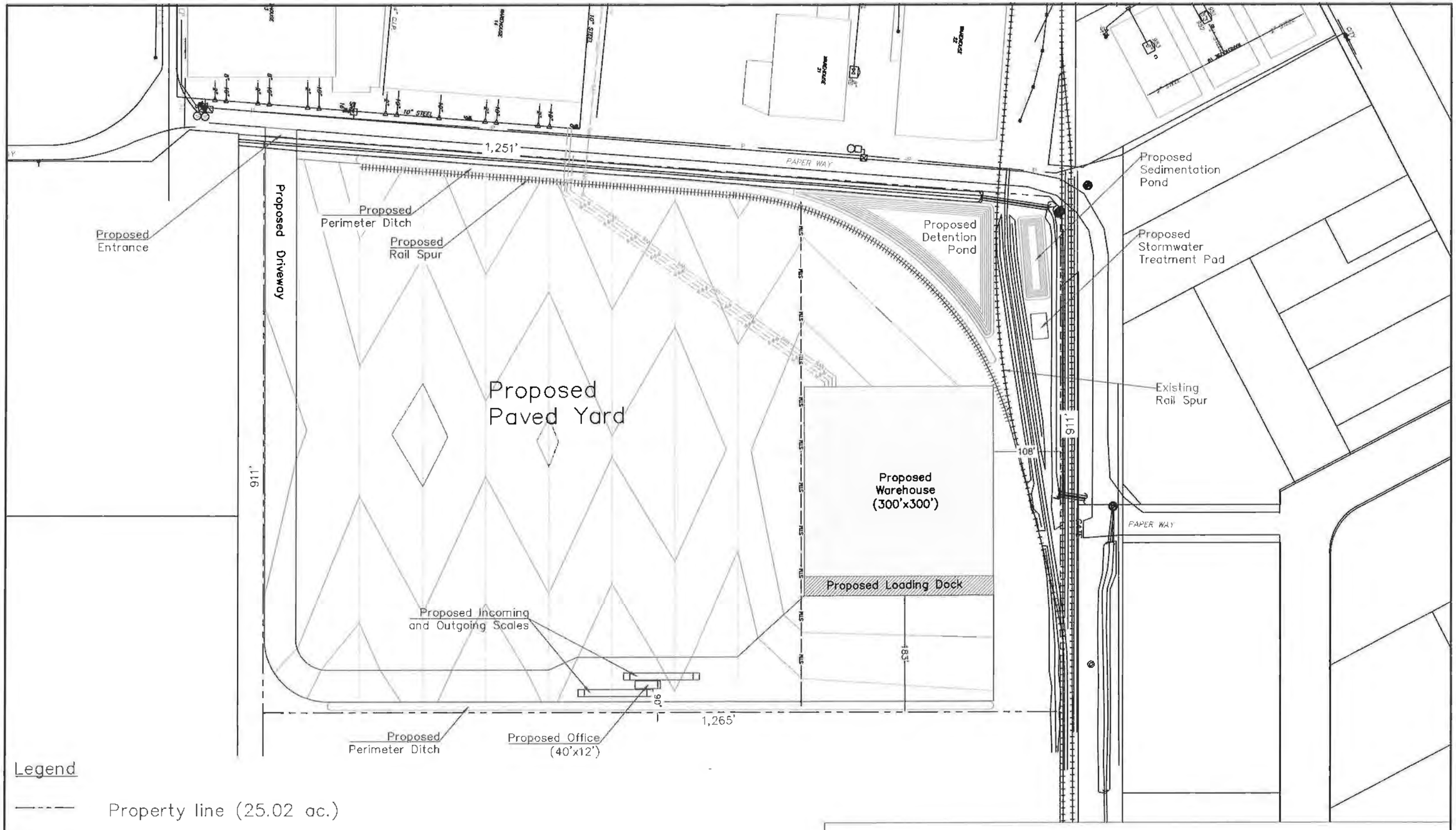
Paper Way Metal Recycling Center Vicinity Map

NWM Properties, LLC
10105 S.E. Mather Rd.
Clackamas, OR 97015

Grette Associates LLC
ENVIRONMENTAL CONSULTANTS
151 South Worthen, Suite 101
Wenatchee, WA 98801
(509) 663-6300 | www.gretteassociates.com

SHEET:	1 OF 2
DATE:	03.26.18
REV:	-
CREATED BY:	GRETTE ASSOCIATES

OFFICE: Wenatchee PM: Glenn Grette



Legend

Property line (25.02 ac.)

Proposed structures

Proposed driveway

0 150 300

SCALE IN FEET

LONGVIEW2 SITE 3/30/18

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
DATE OF ISSUE		DWN BY D. SCARPINE, PE	CHK BY			
		DES BY	APP BY			

AQUARIUS environmental

GRADING AND SITE PLAN

DRAWING NO. 2

PROJECT NO.

PNW Metal Recycling Relocation Project
Longview, Washington

SEPA Environmental Checklist

Attachment A:
Wetland Feasibility Study

Ecological Land Services

January 5, 2018

Hank Doane
NWM Properties, LLC
10105 S.E. Mather Rd.
Clackamas, OR 97015

Re: Wetland Feasibility Study at 100 Paper Way in Longview, Washington

Dear Hank,

Ecological Land Services, Inc. (ELS) was contacted by NWM Properties, LLC to complete a wetland feasibility study for tax parcel 616140106 in Cowlitz County, Washington. The subject tax parcel is accessed from 100 Paper Way in the Port of Longview's industrial complex, located in the NW ¼ of Section 9 and SW ¼ of Section 4, Township 7 North, and Range 2 West of the Willamette Meridian (Figures 1 and 2). The study area includes the entire tax parcel, identified as a total of 25.02 acres by the Cowlitz County Assessor's office. Conditions on adjacent parcels were assessed using aerial imagery to determine whether or not any potential offsite surface waters have an effect on drainage in the subject parcel. The following letter includes a discussion of the parcel's development history, the current condition, and maintenance recommendations for future development from the perspective of Cowlitz County's critical areas ordinance Chapter 19.15, and in accordance with state and federal wetland regulations.

Methodology

ELS made a determination about the presence or absence of wetland in the study area using the standards set forth by the U.S. Army Corps of Engineers (Corps) as defined in Corps *Wetland Delineation Manual* and the manual's regional supplement for the *Western Valleys, Mountains, and Coast* (Version 2.0). The three basic tenants for locating wetland boundaries include the combined presence of hydrophytic vegetation, hydric soils, and wetland hydrology. To that end, the Corps and the U.S. Environmental Protection Agency (EPA) define a wetland as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances to support, a prevalence of vegetation typically adapted for life in saturated soil conditions." ELS' wetland assessment included a review of historic and current aerial imagery, review of federal GIS soils and wetland databases (NRCS[1] and NWI[2]), and by collecting test plot (TP) data on-

[1] Natural Resources Conservation Service (NRCS) Web Soil Survey
[2] U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) Wetland Mapper

the-ground to make determinations about the existing vegetation, soils, and hydrology conditions. ELS completed fieldwork on December 22, 2017. No portion of the study area contained wetlands. Two man made ditches were located in the study area: Ditch 1 along the north property boundary and Ditch 2 along the west property boundary (Figure2).

Site Conditions

The study area is an undeveloped, rectangular parcel largely occupied by an infestation of Himalayan blackberry (*Rubus armeniacus*) interrupted by patches of open ground (Figure2). Open ground consisted of herbaceous species such as Canada thistle (*Cirsium arvense*), oxeye daisy (*Leucanthemum vulgare*), Queen Anne's lace (*Daucus carota*), and vetch (*Vicia sp.*). Trailing blackberry (*Rubus ursinus)* and Scot's broom (*Cytisus scoparius*) were also present in areas that lacked cover from Himalayan blackberry. Himalayan blackberry is considered to be a facultative species (FAC), meaning it is equally as likely to become established in non-wetland as wetland. Other FAC species in the study area include Canada thistle and vetch. Oxeye daisy, Queen Anne's lace, and trailing blackberry are facultative upland (FACU), meaning they are most likely to become established in non-wetland but may occur in wetland. Scot's broom cannot survive in wetland and is considered an upland (UPL) species. Other ground surface features included maintained, unimproved vehicle access roads along the western, northern, and eastern property boundaries. Roads in the east ventured slightly west toward the study area's center; however, all roads primarily followed property boundaries (Figure 2). An active railroad line was present along the northern property boundary, just north of the vehicle access road. Vehicle roads had some grass and other herbaceous plants growing the centerline; in other aspects roads consisted of bare soils from vehicle use. The railroad bed consisted of coarse gravel and was unvegetated.

Two ditches are located in the study area. Ditch 1 is on the west property boundary and Ditch 2 is on the north property boundary (Figure 2). Vegetation in both ditches was maintained by mowing, resulting in short grasses. The primary grass species was reed canarygrass (*Phalaris arundinacea*). Ditch 1 drains north toward a large collection grate. After outfall into the grate, water from Ditch 1 proceeds subsurface in a stormwater system. Ditch 2 drains west and outfalls into the same grate. Both ditches were dry during the site assessment. Both ditches receive water from offsite sources: Ditch 1 from properties to the south and Ditch 2 from properties to the north. Lastly, both ditches are man-made, were constructed in non-wetland, and serve the sole purpose of collecting and transporting stormwater. As such, ditch modifications, ditch maintenance actions, etc. are not regulated by Cowlitz County, Washington State Department of Ecology (Ecology), or the Corps. ELS observed three areas of standing water near the east-central property boundary (Figure 2). Standing water was located in a vehicle turn-around area, perched on compacted gravels. From approximately 1939 until 1990 this area was occupied by mill infrastructure (see attached historic aerials).

Approximately 80 percent of the site is mapped by NRCS as Pilchuck loamy fine sand, 0 to 8 percent slopes. Pilchuck has a natural drainage class of "somewhat excessively drained" and is not considered a hydric soil in Cowlitz County. Approximately 20 percent of the site is mapped as Caples silty clay loam, 0 to 3 percent slopes. Caples has a natural drainage class of "somewhat poorly drained" and is considered a hydric soil in Cowlitz County (NRCS 2018). NWI Wetland Mapper does not include wetland in the study area. ELS findings onsite agree with the NRCS designation of predominantly sandy

soils; some loamy sand and silty loam was also observed. With the exception of soils at TP6, there was no redoximorphic (redox) development in the upper 16 inches of soil profiles examined by ELS. The absence of iron and magnesium rusting indicates that the upper range of groundwater fluctuation within the study area is at minimum greater than 16 inches below the ground surface and does not meet the Corps definition of wetland hydrology. TP6 was located in a slight depression which may collect more water and hold it slightly longer than the adjacent topography. Redox was present at 7 inches, together with a soil texture change from sand to silty loam, which also accounts for slightly slower drainage. Despite the presence of redox, there was no hydrology present and the dominant plant community in the test plot's sample radius was not hydrophytic (Scot's broom and oxeye daisy).

Land Management History

The study area is currently unmanaged. Beginning circa 1939 and continuing until approximately 1990, the study area contained mill infrastructure, a variety of road networks, and various railroad alignments that served the adjacent buildings. The western portion of the study area was used as a lumber yard; stacks of lumber, along with network of access roads and railroad lines, are visible in aerial imagery from circa 1970 to 1980. The eastern portion of the study area contains the western ends of two rectangular buildings which are part of a larger building complex that extends further east. Remnants of the railroad's spur lines are still visible in 1996 aerials, by which point all of the mill infrastructure and lumber yards had been removed. The study area appears to be unused from the mid 1990's onward, with the exception of maintaining access roads. Road configurations change little between 2000 and the present.

Maintenance and Development Options

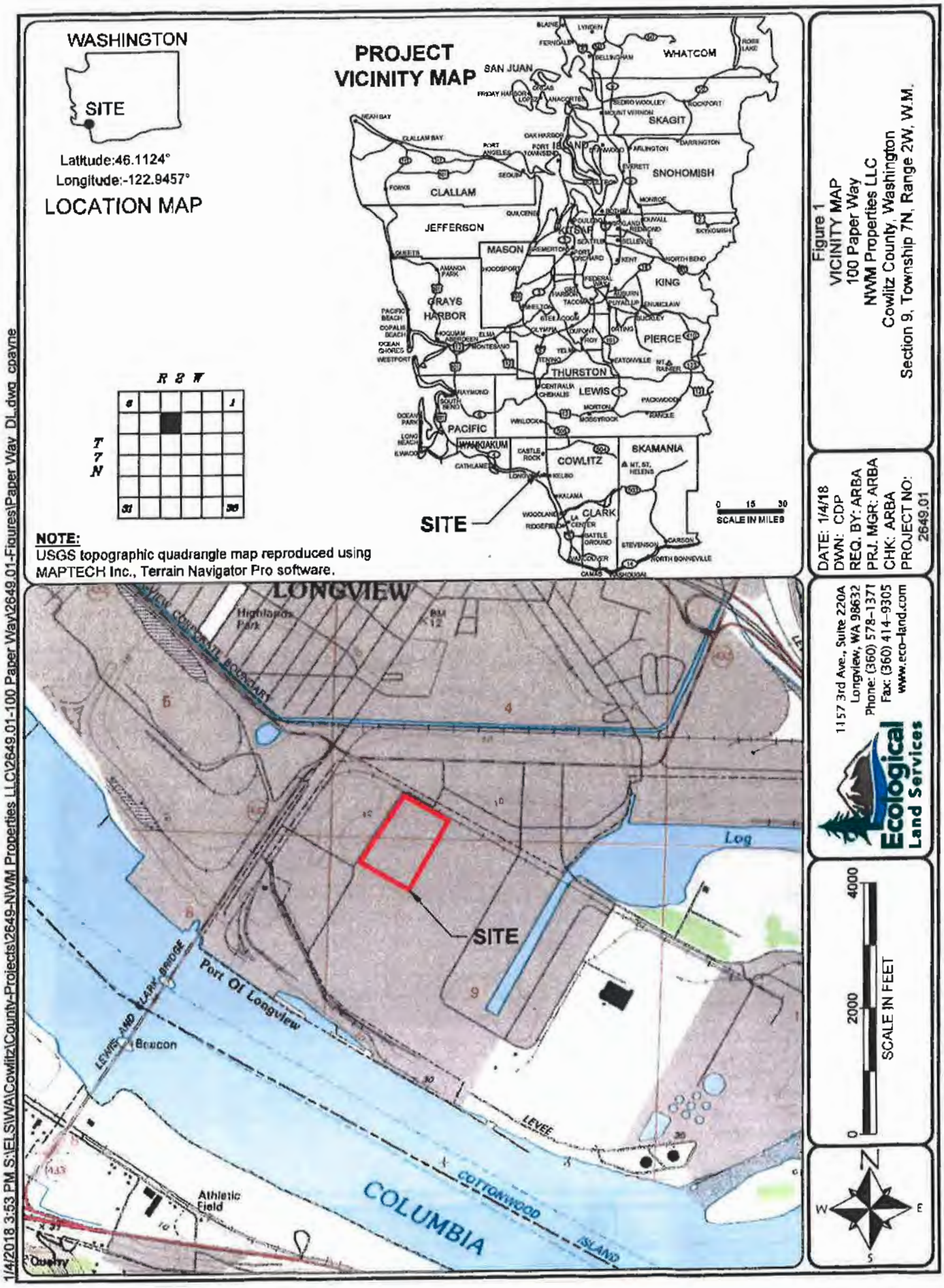
Ditches 1 and 2 are man-made and were constructed in non-wetland for the purpose of conveying stormwater. As such, performing maintenance activities (mowing, scraping, clearing debris, etc.) in both ditches is allowed without a permit from local, state, or federal agencies. ELS found no evidence of wetlands in the study area; therefore, there are no special development considerations for avoiding, minimizing, or mitigating impacts to wetlands onsite. ELS found no evidence of wetland signatures on adjacent properties; therefore, there are no special considerations for avoiding, minimizing, or mitigating impacts to wetland buffers extending into the study area from offsite wetlands. Depending on the timeframe proposed for submitting a development proposal, ELS recommends mowing the entire study area to control blackberry and prevent the establishment of trees, shrubs, or other plant species that may be considered "habitat" by local or state critical areas ordinances. While there is currently no evidence of wetland in the study area, successional development of vegetation classes can in some contexts alter drainage patterns to the extent that areas meeting the federal definition of "wetlands" are able to develop. Regular, ongoing site maintenance is the best method to prevent this kind of circumstance.

Thank you for the opportunity to provide this information. Please don't hesitate to contact me or Lacey with any questions regarding the contents of this letter or next steps for development.

Sincerely,

Andrew R. Allison
Senior Wetland Scientist, Principal

Attachments:
Vicinity Map
Site Map
Corps Historic Aerial Imagery



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1/4/2018 3:53 PM S:\EL&WA\Cowlitz\County-Projects\2649-NWM Properties LLC\2649.01-100 Paper Way\2649.01-Figures\Paper Way_DL.dwg cpayne

LEGEND:

- Site Boundary
- Parcel Boundary
- Ditch
- TP-1 ● Test Plot Location
- Drainage Grate
- Culvert

N W E S

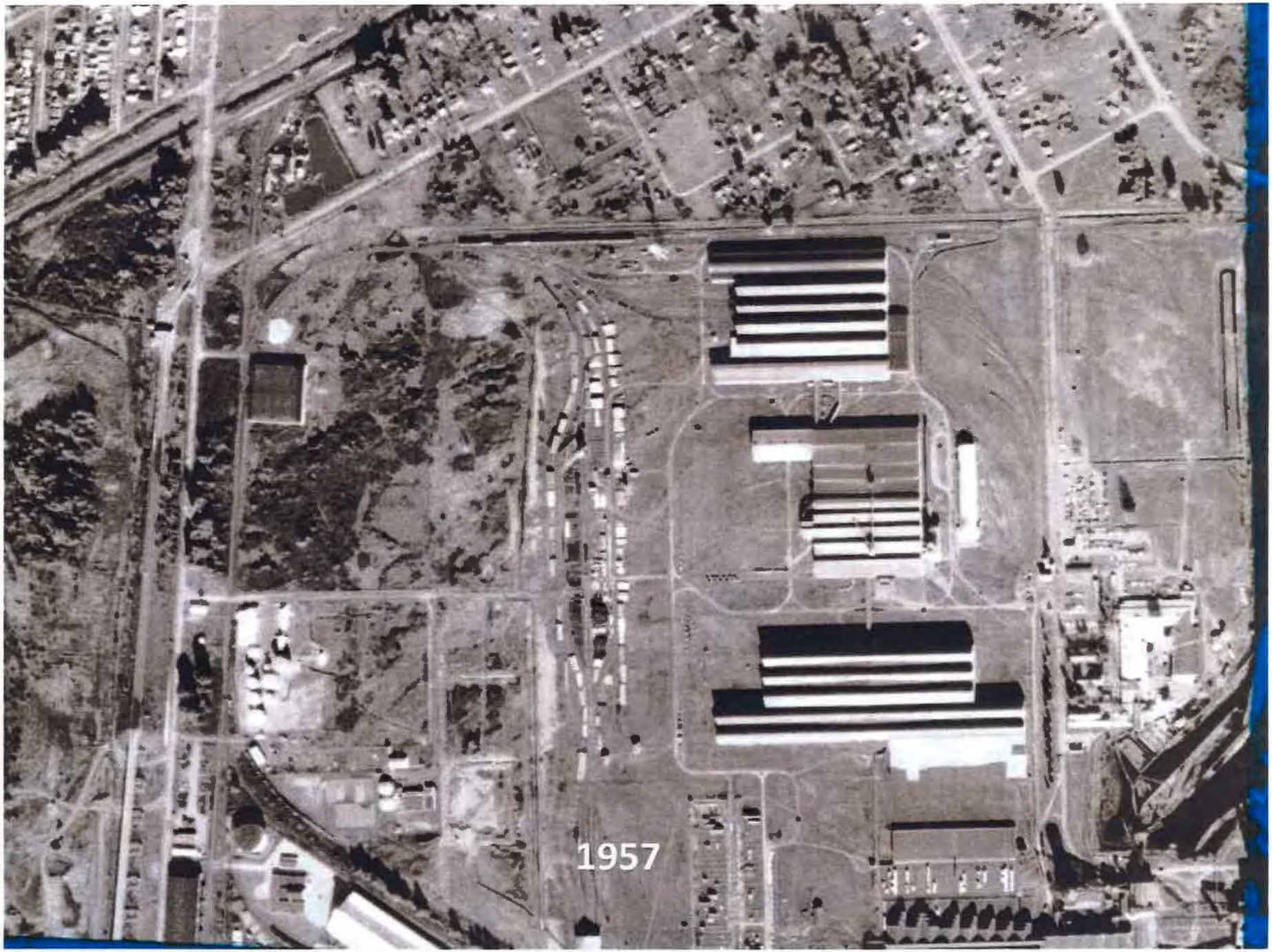
0 150 300
SCALE IN FEET

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com

DATE: 1/4/18
DWN: CDP
REQ. BY: ARBA
PRJ. MGR: ARBA
CHK: ARBA
PROJECT NO: 2649.01

Figure 2
SITE MAP
100 Paper Way
NWM Properties LLC
Cowlitz County, Washington
Section 9, Township 7N, Range 2W, W.M.

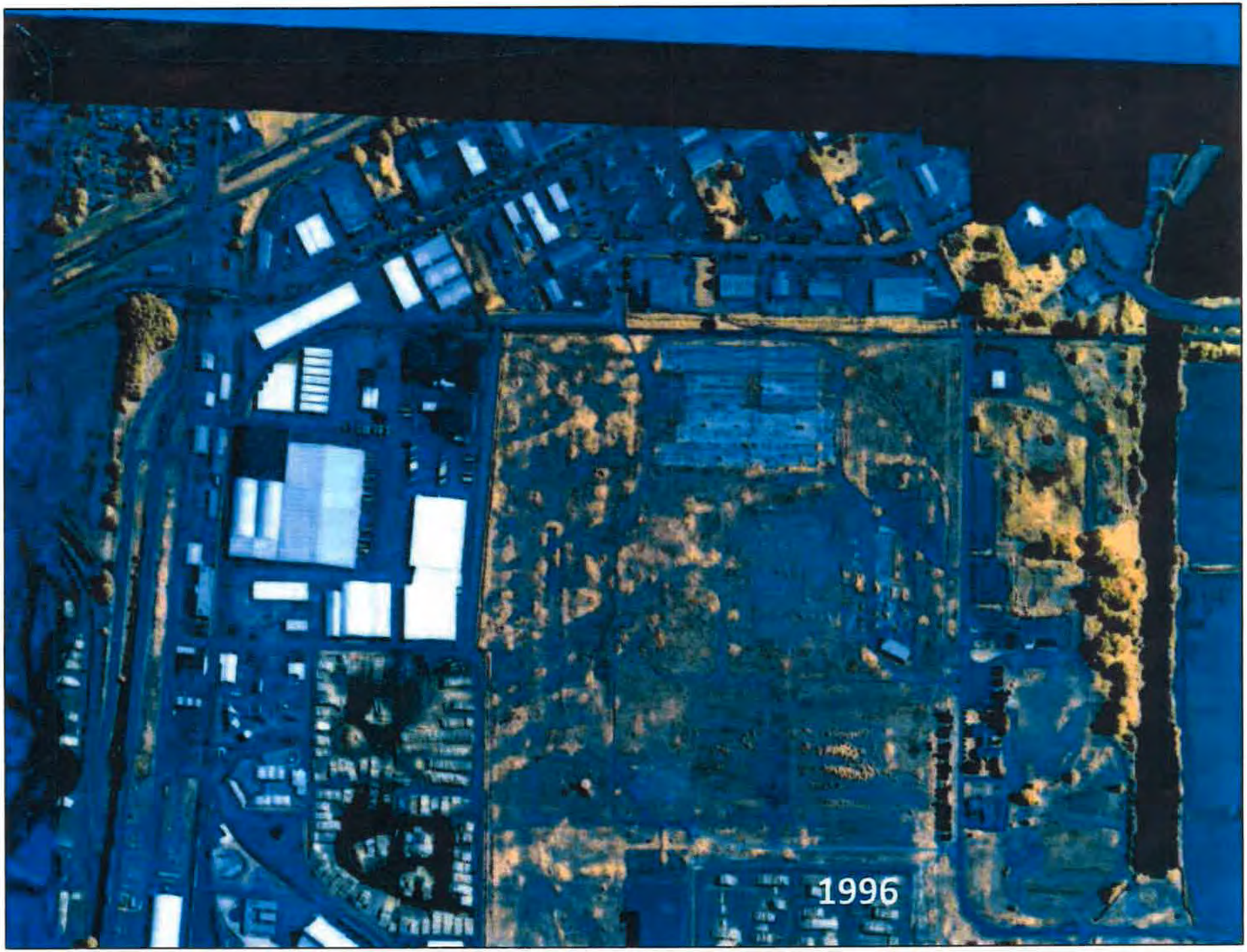

1939


1957

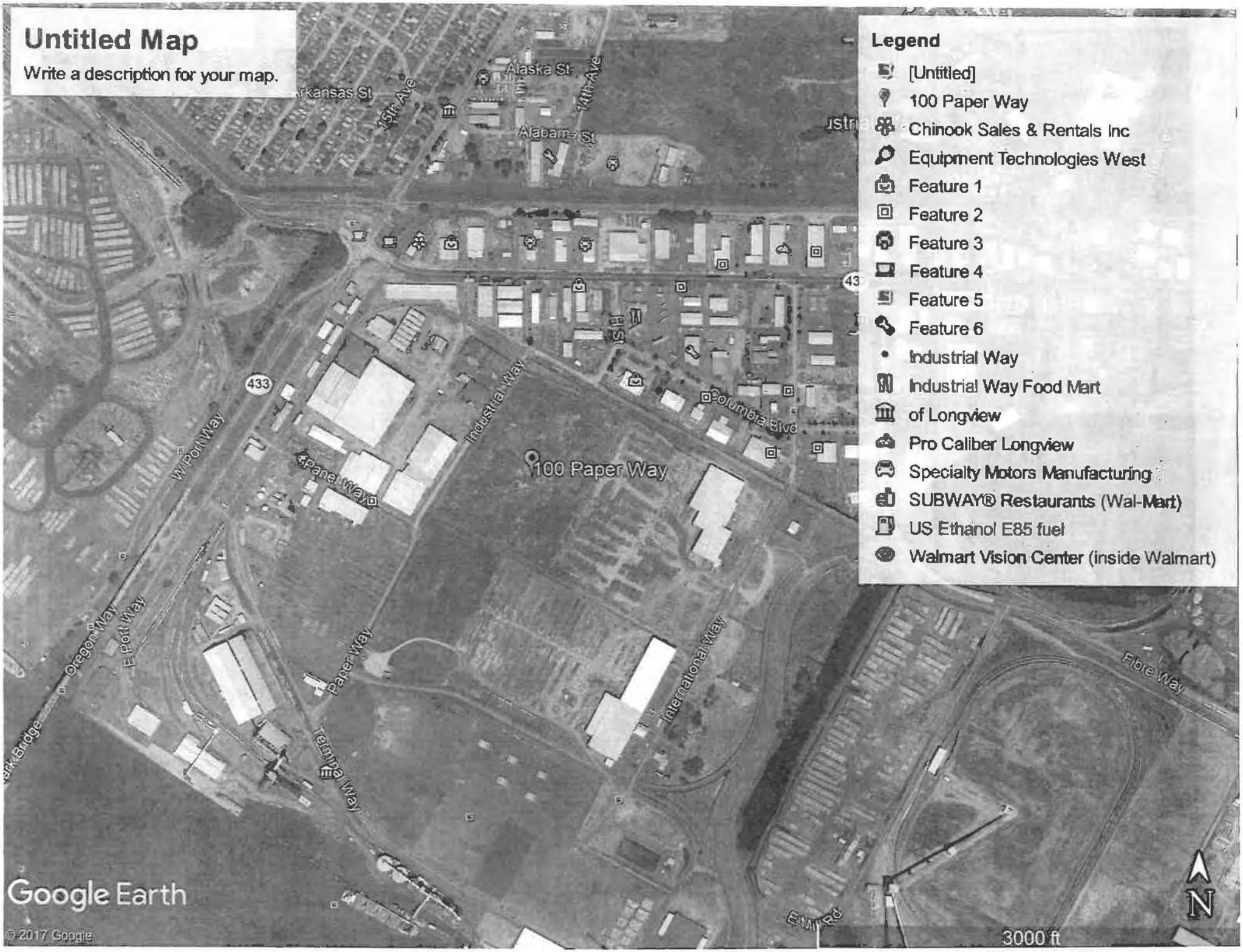

1966


1970


1983


1996


2001


Untitled Map
Write a description for your map.
Legend
[Untitled]
100 Paper Way
Chinook Sales & Rentals Inc
Equipment Technologies West
Feature 1
Feature 2
Feature 3
Feature 4
Feature 5
Feature 6
Industrial Way
Industrial Way Food Mart
of Longview
Pro Caliber Longview
Specialty Motors Manufacturing
SUBWAY® Restaurants (Wal-Mart)
US Ethanol E85 fuel
Walmart Vision Center (inside Walmart)
Alaska St
Alabama St
14th Ave
15th Ave
Arkansas St
433
Industrial Way
Columbia Blvd
100 Paper Way
Pane Way
W Port Way
E Port Way
Oregon Way
Paper Way
Terminal Way
International Way
Fibre Way
Google Earth
© 2017 Google
3000 ft
N

PNW Metal Recycling Relocation Project
Longview, Washington

SEPA Environmental Checklist

Attachment B:
Water Treatment System Proposal

[Note: The enclosed water treatment proposal describes an earlier rendition of the Project, involving two phases of construction. The current proposal involves developing the entire site in a single phase.]

Clear Creek Systems

February 23, 2018

To: Daniel Scarpine, PE
Aquarius Environmental
2117 NE Oregon Street, Suite 502
Portland, OR 97232
Mobile - 503.317.5114
daniels@aquariusenv.com

RE: Water Treatment System Proposal – PNW Recycling, Longview, WA

Dear Mr. Scarpine,

Clear Creek Systems, Inc. (CCS) is pleased to present this proposal for an industrial stormwater treatment system at the future PNW Recycling facility in Longview, WA. We have based this preliminary proposal on the information provided to us, our discussions, and our experience on similar projects. This proposal is based on the following specific design criteria provided to us:

- Initial design flow rate is 300 gallons-per-minute (gpm)
- Future expansion will require a 600 gpm design flow rate
- Annual treatment volume is estimate at 28 million gallons per year (MGY)
- A detention pond and post chemical treatment settling pond will be provided

ABOUT CLEAR CREEK SYSTEMS, INC.

CCS is a leading water treatment services company that has been surpassing client expectations for over 20 years. Our services include treatment system design, equipment fabrication, system installation, training, and ongoing operations and maintenance support. We have designed and installed water treatment systems with capacities ranging from less than 10 gallons-per-minute (gpm) to over 4,000 gpm for treatment of a wide range of contaminants including but not limited to total suspended solids (TSS), heavy metals, hydrocarbons, nitrates, and many others. Our success lies in our ability to move seamlessly from treatment system design and fabrication trough field installation and operations. We offer true turnkey service throughout the life of the project.

WATER TREATMENT APPROACH

Based on our experience with similar facilities, CCS is proposing a conventional water treatment approach for this project which includes the following general treatment steps:

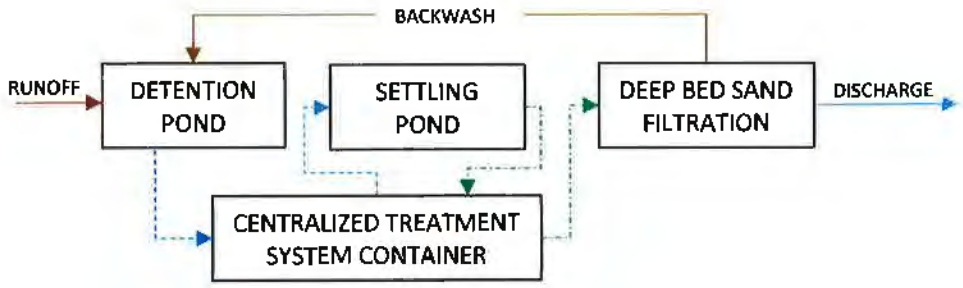
Chemical Treatment → pH Adjustment → Gravity Settling → Filtration → Discharge

The pollutant removal mechanism of each process is as follows:

Treatment Step	Target Pollutants	Removal Mechanism
Chemical Treatment	Heavy Metals, Solids, Others	Chemical coagulation, metals co-precipitation and flocculation
pH Adjustment	Heavy Metals, pH	Reduces solubility of metals and corrects pH to neutral
Gravity Settling	Solids, Coagulated Pollutants	Gravimetric separation of solids and flocs
Filtration	Suspended Pollutants	Removal of unsettled flocs and solids

WATER TREATMENT PROCESS

A conceptual treatment system drawing is included as Attachment 1 to this proposal. The proposed water treatment process flow is shown below:



The proposed treatment process includes the following steps:

1. **Treatment System Pump** – A 20-horse power (hp) self-priming pump transfers stormwater from the detention pond through the chemical treatment system and into the settling pond. The pump is controlled with a variable frequency drive (VFD) making it capable of operating at 300 gpm during the initial phase of the facility and 600 gpm when the facility is expanded in the future. Process control instrumentation monitors influent flow rate, turbidity, and pH and the data is recorded in the treatment system programmable logic controller (PLC).

2. **Chemical Treatment** – A centralized water treatment control system (housed in a 20' modified conex) contains the chemical metering system controls, metering pump, calibration equipment, and in line static mixers for chemical injection. As water passes through the control system an iron-based primary coagulant, typically ferric chloride ($FeCl_3$), is added at a does rate sufficient to create coagulation of TSS, heavy metals, and other pollutants that are preferentially adhered to the surface of sediment particles. An iron-based coagulant is used because of its ability to co-precipitate dissolved heavy metals. The coagulant is added through an inline static mixer to promote flash mixing with the stormwater. Bulk iron-based coagulant is stored in a 3,000 gallon exterior storage tank with secondary containment.

3. **pH Adjustment** – Process control instrumentation measures pH downstream of the coagulant injection location and sends the information to the treatment system PLC. The PLC controls a

chemical metering pump which delivers sodium hydroxide (NaOH) to the feed water through an inline static mixer. Process control instrumentation measures pH downstream of the sodium hydroxide injection point and sends the information to the treatment system PLC. The PLC controls the dose rate of sodium hydroxide required to achieve the preprogramed target pH level. Bulk sodium hydroxide is stored in a 3,000 gallon exterior storage tank with secondary containment.

4. **Gravity Settling** – Chemically treated water will be directed to the settling pond for clarification.

5. **Filtration System** – A 40-hp self-priming pump supplies settled water from the settling basin to the filtration system. The pump is controlled with a variable frequency drive (VFD) making it capable of operating at 300 gpm during the initial phase of the facility and 600 gpm when the facility is expanded in the future. A deep bed sand filtration system removes unsettled floc and suspended sediment. Process control instrumentation measures influent and effluent flow rate, turbidity, and pH and sends the information to the treatment system PLC. The filtration system provides a total of approximately 30 square feet (sf) of filtration surface area (for initial 300 gpm) at filtration flux rate of approximately 10 gpm/sf. In the future, a second identical filtration system can easily be added to provide filtration at 600 gpm.

WATER TREATMENT SYSTEM PLANNING LEVEL BUDGET

Chemical Treatment System with Filtration **$258,000 – Estimate**

300 GPM Chemical Treatment System with Filtration includes the following:

- Chemical storage tanks, fill pipes and seismic restraints (concrete pad & containment by others).
- 20' Centralized treatment system control center with chemical feed system, process control instrumentation, PLC, automation, and telemetry. Conex includes insulated panels, electrical, lights, climate control, and internal piping (pipes, fittings, flow meters, valves, sample ports).
- (1) Self-priming chemical treatment system pump with VFD capable of flows from 300-600 gpm.
- (1) Self-priming filtration system pump with VFD capable of flows from 300-600 gpm at 50 psi.
- (1) SF300 deep bed sand media filters capable of 300 gpm filtration with automatic backwashing control panels.

Delivery & Installation of Purchased Chemical Treatment & Filtration System **$42,000 – Estimate**

CCS will need to review the final treatment system configuration before determining actual cost for delivery and installation of the system. The pricing above is a good faith estimate based on our experience with installing similar treatment system and includes:

- Delivery of equipment to the site
- Equipment to offload and place equipment
- Plumbing and hardware materials to plumb and connect treatment system components
- Deep bed sand filter media load

- Labor to install the treatment system equipment

Delivery and installation excludes the following:

- Concrete pads for equipment / concrete containment for chemical storage tanks
- Electrical connection to the centralized treatment container

Treatment System Commissioning & Training Estimate **$9,800 Estimate**

- O&M Manual – 32hours @ $85/HR
- Commissioning Labor – 48 hours @ $85/HR
- Training – 24 @ $125/HR

WATER TREATMENT SYSTEM OPERATIONS & MAINTENACE BUDGET

The stormwater treatment system is fully automated and two way communication and controls is provided by a web-based telemetry system. Automation includes a daily status update dashboard, alarm notifications, and remote access to system parameters. CC5 offers a variety of service packages for providing ongoing operations and maintenance (O&M) support. CCS recommends weekly operations and maintenance of the system that can either be performed by the facility personnel or CCS.

Water Treatment System Operations, Maintenance & Monitoring **$85/hour**

CCS will provide ongoing operations and maintenance support on an as needed basis. Labor rates are for non-overtime work and are based on exemption from prevailing wage.

Chemical Consumption Estimate Based on Similar Facilities and Annual Treatment Volume of 28 MGY

- 25% Sodium Hydroxide (annual consumption estimate of 5,000 gallons) $12,750 Estimate
- 39% Ferric Chloride (annual consumption estimate of 5,000 gallons) $14,200 Estimate
- Calibration solutions $450 Estimate

On Call Services **As Requested**

CCS will provide the following on call services based on requests made from the client. Whenever possible, these tasks will only be undertaken following approval from the client:

- Project Management Tasks $125/hour
  Tasks may include permitting submittals, design services, CAD drafting, onsite training and other tasks.
- Site Supervisor Tasks $85/hour
  Tasks may include permitting, regulatory compliance monitoring, reporting, staff management, training, system troubleshooting and client meetings.
- Direct Expenses Cost plus 15%
- Per diems $180 each

Clear Creek Systems

FUTURE TREATMENT SYSTEM EXPANSION TO 600 GPM FLOW RATE

The 300 gpm stormwater treatment system was designed with future expansion in mind. The following design considerations were incorporated in the 300 gpm system to accommodate future expansion:

- Piping has been sized to 6" for 600 gpm flows.
- The chemical treatment system pump is operated with a VFD and is capable of 600 gpm flows.
- The chemical metering pumps, chemical storage tanks, and inline static mixers are all sized for the full 600 gpm flow rate.
- The sand filtration system pump is operated with a VFD and is capable of 600 gpm flows.

Expanding the treatment system capacity to 600 gpm will require minor plumbing modifications and the addition of a second SF300 deep bed sand media filter.

Stormwater Treatment System Expansion to 600 gpm **$55,000 Estimate**

The estimate for expanding the stormwater treatment system capacity to 600 gpm includes the following:

- (1) additional SF300 deep bed sand media filter
- Misc. plumbing and valving necessary to tie in the additional filter
- Media load for the additional filter
- Delivery of equipment to the site
- Labor to install the additional equipment
- Treatment system commissioning and adjustments (metering pump feed rates, VFD speeds)
- Training for site staff on the operations and maintenance of the expanded system

CONCLUSION

Thank you for the opportunity to provide this preliminary proposal for an industrial stormwater treatment system for the PNW Recycling facility in Longview, WA. We look forward to the opportunity to discuss our proposal in more detail and to answer and question that you may have.

Sincerely,

Jason Ziemer, CPSWQ, CPESC
Clear Creek Systems, Inc.
253-670-4054
jziemer@clearcreeksystems.com

Attachments:

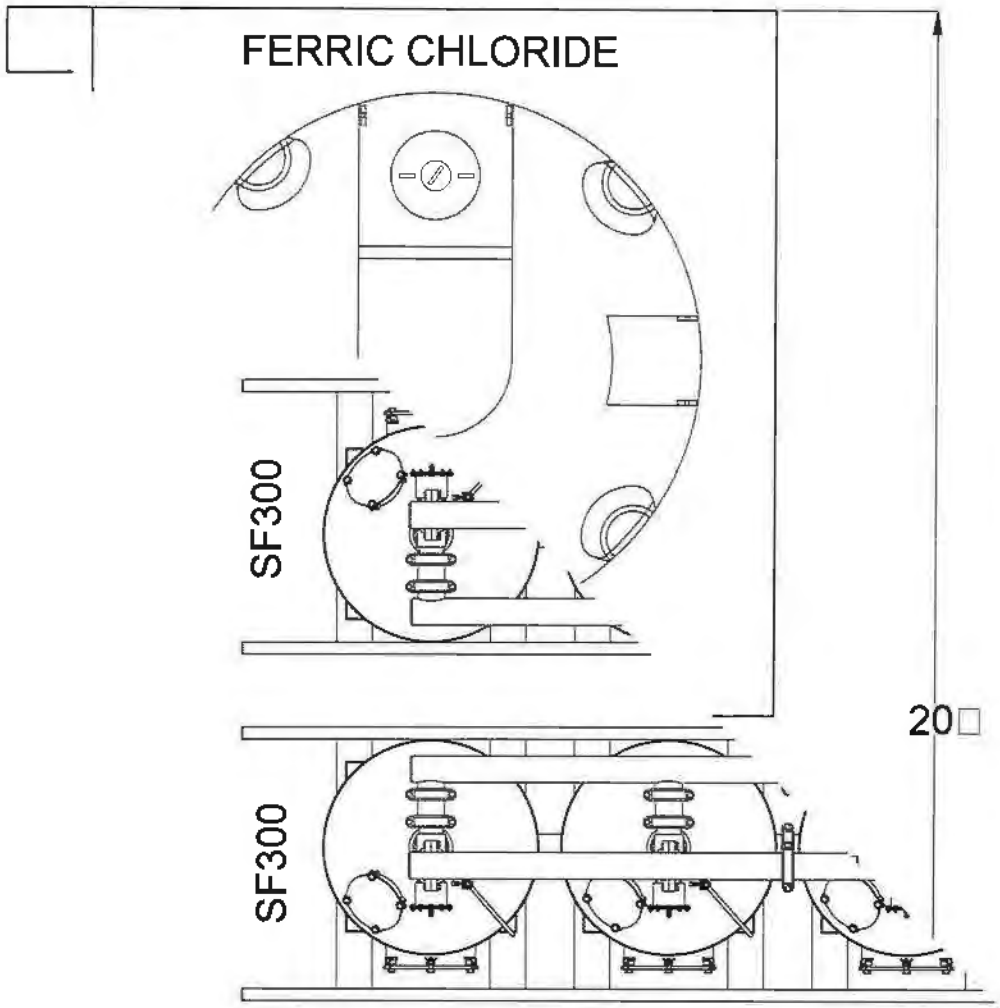
1) Conceptual Process Flow Diagram & Schematic Drawing
2) Water Treatment Statement of Qualification

Clear Creek Systems

ATTACHMENT 1

TREATMENT SYSTEM SCHEMATIC DIAGRAM

WITH 2 3,000 GALLON STORAGE TANKS



Clear Creek Systems

ATTACHMENT 2

STATEMENT OF QUALIFICATIONS

Water Treatment Statement of Qualifications

January 12, 2018

Clear Creek Systems, Inc. (CCS) is an industry leader in water treatment that specializes in the treatment of industrial stormwater, dewatering water, construction stormwater, contaminated groundwater and industrial process water. CCS is a pioneer in onsite water treatment services and has been surpassing client expectations for over 20 years. We have designed, installed and operated water treatment systems with capacity of over 4,000 gpm, and we have addressed a variety of contaminants including turbidity, TSS, pH, hydrocarbons, VOCs, metals, COD, BOD, nutrients and many other pollutants.

CCS employs an experienced team of professionals and innovative technologies to provide our clients with the best overall value in the industry. Our strength lies in our ability to move seamlessly from project evaluation to treatment system design, permitting, fabrication and installation. In addition to our operational experience, we have established excellent working relationships with state and local regulatory agencies including the Washington State Department of Ecology (Ecology)

Capacity to Perform Our Work

Clear Creek Systems, Inc. is a California Corporation formed in 1998. The business was started to provide water treatment services and equipment to the commercial and industrial markets. CCS has designed, installed and maintained systems designed to remove a wide range of pollutants including hydrocarbons, metals, bacteria, nutrients, and sediment. CCS holds Contractors Licenses in the State of California, Washington, and Oregon, and has completed 6 projects within the past 5 years that have each had a total contract value of 1-2 million.

Company Data

CCS has completed many sophisticated water treatment projects in the Pacific Northwest and is a licensed general contractor in the State of Washington. CCS company data is as follows:

- CCS Washington State General Contractors License No. CLEARCS926KS
- CCS Unified Business Identifier (UBI) No. 602412640
- CCS Data Universal Numbering System (DUNS) No. 960393130
- CCS Commercial and Government Entity (CAGE) Code 3F8S0

CCS Safety Program

CCS is dedicated to provide a safe work environment for all of our valued employees. Our dedication to our safety program also benefits our clients, allowing us to safely execute the work on their projects.

Our commitment to safety is shared by all employees of CCS. Owners, managers, field supervisors and water treatment personnel play important roles in the development and implementation of our safety policies. Training, communication and enforcement are keys to the success of our comprehensive Injury and Illness Prevention Program (IIPP). The three key points of our safety program that we would like to highlight are that we have a written Drug and Alcohol Substance Abuse Program, our safety program is based upon the fact that safety is everyone's responsibility and that everyone has not only the right, but the responsibility to stop work if they feel safety is being compromised, and finally, CCS requires Job Hazard Analysis (JHA) Safety Meetings be completed every shift at each work location and anytime the operational plan changes during the shift.

The JHA Safety Meeting format assists with proper preplanning of our daily operations by outlining the planned activity for the day and identifying all of the potential hazards (slips, trips, and falls; potential pipe, hose, vessel, or tank failures; possible contamination or spills; pinch points; proper PPE; proper use of tools; proper lifting technique; chemicals to be used – MSDS review; etc.). The JHA is one of our most effective tools to communicate and implement the policies and procedures included in the CCS IIPP and to ensure that all activities are performed in the safest way possible.

Key Personnel

Tim Gannon, Chairman

Tim Gannon is a co-founder of CCS and has over 40 years of experience in construction management, contracting and project management. He leads CCS the company's strategic business development initiatives and is active in all aspects of the business. He pioneered a patent pending continuous flow Urban Runoff Treatment Systems for municipal stormwater applications. He is actively working with industrial clients throughout the Western United States to achieve stormwater discharge requirements for metals, hydrocarbons, turbidity, and bacteria. He has extensive experience in working with regulatory agencies to achieve project goals and meet water quality discharge standards. He received a B.A. from the University of Colorado.

Joe Gannon, President

Joe is a co-founder of CCS. He has designed and managed water treatment projects up to 4,000 gpm. He has worked on projects in the US, China, and Korea that have involved removals of sediments, hydrocarbons, nutrients, and heavy metals. He is the chairman of the Active Treatment System industry stakeholder group submitting recommendations on California General Construction Permit content. He is a member of the California Stormwater Quality Association construction subcommittee. He authored "Autopsy of a Preventable Failure" in Storm Water Solutions September 2007 issue and "A Review of Sediment Control Measures" in the November 1999, issue of Erosion Control Magazine. He provided instruction on Erosion and Sediment Control at Seminars in California, Nevada, and New York. He has been a member of the ASTM Standards committee on Erosion and Sediment Control Technology (Committee D18.25). He is co-inventor of a patented sediment control product and a patent pending urban runoff process. He received a B.A. from Princeton University.

Jason Ziemer, CPSWQ, Senior Project Manager

Jason has 20+ years of experience with the design, implementation and operations of water treatment systems. He has managed more than 50 projects with treatment flow rates ranging from 5 gpm – 7,000 gpm. He has designed treatment systems for dewatering, groundwater remediation, construction stormwater runoff, Superfund cleanup sites, industrial process wastewater, water reuse and industrial stormwater. He has extensive experience with treatment system pollutant reduction analysis utilizing bench-sale and pilot-scale treatment systems. Jason has excellent liaison skills and has permitted treatment systems for many high profile local projects including the SR 99 Deep Bore Tunnel Project, SeaTac Third Runway Project and the Land Recovery, Inc. Landfill. He has worked with a wide variety of water treatment polymers and is co patent holder for two chitosan-based water treatment technologies.

- B.S. - Environmental Science, Chemistry Minor - Western Washington University.
- Certified Professional in Erosion and Sediment Control (CPESC) Certification No. 5468
- Certified Professional in Stormwater Quality (CPSWQ) Certification No. 651

Jayson Samuli, Senior Project Manager – Construction Management (QA / QC)

Jayson spent 20+ years working for a general engineering contractor in the San Francisco Bay Area with progressive responsibility. He managed individual contracts in excess of $30 million and managed a territory with $100 million of work on hand. His experience includes heavy highway construction, major commercial/industrial developments, landfill expansions and residential developments. He joined CCS in February of 2011 as the Northern California Regional Manager. In October of 2013, he was promoted to Western Regional Manager. He is involved with all aspects of the business and is responsible for all business activities and operations in the Western Region.

- B.S. - Construction Management - California State University, Chico.

Jason Martino, CPESC, CPSWQ, Senior Project Manager – Equipment Fabrication and Field Services

Jason has served as both a Sr. Project Manager and a Sr. Chemist for CCS. He has worked on dozens of construction stormwater, industrial process water and environmental remediation projects. He has extensive experience with conducting pilot-scale treatability studies to evaluate a variety of treatment technologies and their capacity to reduce water contaminants. Jason oversees all field activities including active projects, operational personnel and equipment manufacturing staff. He also provides project design support including hydraulic modeling, treatment system control and monitoring instrumentation, programmable logic controllers, telemetry, data logging and system alarm/notification features (SCADA systems).

- B.S. - Chemistry, Biology Minor - California State University, Bakersfield
- M.S. - Chemistry - University of California, Davis.
- Certified Professional in Erosion and Sediment Control (CPESC) Certification No. 5462
- Certified Professional in Stormwater Quality (CPSWQ) Certification No. 782

Bill Beaulieu CESCL – Senior Field Technical

Bill performs field technical tasks and completes all laboratory treatability analyses for industrial projects at CCS. Bill's performs site evaluations, captures treatability samples and performs treatability testing. In addition, Bill has more than 20 years of mechanical and fabrication capabilities and provides ongoing operations and maintenance services for a wide variety of industrial water treatment system.

Brian Webster, CESCL – Fabrication Manager

Brian has served as a technician and fabricator for CCS since 2014. He has experience in both fabrication and supervisory roles in the field and in the shop. Brian has overseen equipment procurement, fabrication, and mobilization tasks at numerous industrial facilities during his CCS tenure, with project budgets ranging from $15,000 to more than $1,000,000. Brian oversees all field technician and fabrication staff scheduling.

- B.S. – Earth and Space Sciences: Environmental Geology – University of Washington
- Certified Erosion and Sediment Control Lead (CESCL) – Certification ID EF09241417
- Rough Terrain and Warehouse Forklift Certification – HERC Rental Training Program
- OSHA 30 Certified – Click Safety

Eddie Sanchez, Electrical Design Manager

Eddie has over 10 years of water treatment system fabrication experience and has played a vital role in the fabrication of more than 50 water treatment systems. Eddie also heads up the Northwest Branch's electronic services division and supports equipment manufacturing, new project installation, system maintenance and onsite troubleshooting.

- Certification: Electrician – Naval Training Center, Great Lakes, IL
- Certification: Catapult Electrician – Naval Air Warfare Center – Lakehurst, NJ
- Certification: PLC / RS Logix Fundamentals CCP122 – Rockwell Automation, Bellevue, WA

Treatment System Regulatory Permitting & Operations Support

CCS had developed excellent working relationships with State and local regulatory agencies including the Washington State Department of Ecology (Ecology) and Oregon Department of Environmental Quality (CEQ).

- CCS often provides water treatment system permitting services and plan submittals to support system installations and operations.
- CCS is authorized by Ecology & DEQ to provide water treatment system operations training (Chitosan Enhanced Sand Filtration/Chemical Treatment). The training program includes the required 40 hours of instruction (8 hours of classroom and 32 hours of field experience).

Equipment Fabrication & Installation Capacity

CCS' main manufacturing facilities are located in Pacific, WA and Sumner, WA. Our capabilities include:

- System enclosure fabrication – intermodal shipping container conversions to house treatment systems.
- Electrical design and installation including main power requirements, relay panels and electrical power distribution.
- Programmable logic control (PLC) design, programming and installation.
- Welding, woodwork, plumbing, skid fabrication and mechanical systems.
- Site installation including plumbing, valving and electrical.

CCS Equipment Yards & Available Inventory

CCS maintains six equipment yards for storage and maintenance of our water treatment equipment:

- Primary Washington Yard in Sumner, WA
- Secondary Washington Yard in Pacific, WA
- Oregon Yard in Portland, OR
- Sacramento Area Yard in Rio Linda, CA
- Bay Area Yard in Livermore, CA
- Southern California Yard in Bakersfield, CA

CCS's equipment inventory includes the following equipment:

- Pumps ranging in size from 1 hp to 50 hp.
- Tanks ranging in size from 250 – 21,000 gallons.
- Sand media filters ranging in size from 50 – 600 gpm (multiple filters are utilized for higher flows)
- Monitoring modules for automated water quality monitoring, polymer storage, polymer injection, pH neutralization and treatment system programmable logic controller.
- Pipes, hoses and valving ranging in size from 4" to 12"
- Slurry separation equipment

Relevant Project Experience

CCS is an industry leader in design, build, and mobilization of active treatment systems in the industrial and commercial sectors. The following spreadsheet and project summaries outline our industrial stormwater treatment capabilities, highlighting some projects which have been completed in the last 36 months:

Facility and Location	Site Evaluation	SWPPP Review	In-House Bench Testing	In-Field Pilot Testing	System Feasability and Cost Analysis	Hydrology Modelling	Permitting Assistance	Treatment System Design / Build Services	Interim / Emergency System Rental	Fast Track Design and Mobilization	System Fabrication and Installation	SCADA System Control and Monitoring	Long-Term O&M Assistance
Cascade Asphalt | Tacoma, WA	x				x			x			x		x
Charleston Shipyard | Coos Bay, OR	x		x		x			x	x	x	x	x	x
Confidential Timber Facility | Northern CA	x		x		x	x		x			x	x	x
Independent Metals | Seattle, WA	x	x	x		x	x	x	x			x		x
Lakeside Sand and Gravel | Aberdeen, WA	x	x	x		x	x	x	x			x	x	x
Lakeside Sand and Gravel | Fremont, Seattle, WA	x	x	x		x	x	x	x			x	x	x
Lakeside Sand and Gravel | Longview, WA	x	x	x		x	x	x	x			x	x	x
McNeil Island Boatyard | McNeil Island, WA	x		x	x				x	x	x			
NASSCO Shipyard | San Diego, CA	x	x	x		x	x		x			x		x
Nordlund Boat | Tacoma, WA	x		x		x			x			x		x
North State Recycling | Eureka, CA	x		x	x	x	x		x			x		x
Papé Machinery | Portland, OR	x	x	x		x	x	x	x		x	x		x
Papé Machinery | Tacoma, WA	x	x	x		x	x	x	x		x	x		x
Papé Machinery | Newark, CA	x	x	x		x	x	x	x			x		x
Power Generation Facility | Long Beach, CA	x	x			x			x			x	x	x
Progress Rail Services | Tacoma, WA	x		x		x	x		x			x	x	x
Quigg Bros Marine Construction | Aberdeen, WA	x		x		x	x		x		x	x	x	x
Rainier Petroleum | Seattle, WA	x	x	x		x	x		x		x	x		x
Renton Concrete Recyclers | Renton, WA	x		x		x						x		x
Samson Tug and Barge | Seattle, WA	x		x		x			x		x	x		x
Seattle Iron and Metal | Seattle, WA	x		x	x	x				x	x	x	x	
SSA Marine - Terminal 18 Facility | Seattle, WA	x		x		x		x	x			x	x	x
Valmont Galvanizing | Portland, OR	x	x	x		x	x	x	x	x	x			
Wabash National | Portland, OR	x	x	x		x	x		x			x		

Clear Creek Systems

Industrial Stormwater Treatment Project Experience

Clear Creek Systems, Inc.

Clear Creek Systems, Inc. (CCS) is a water treatment company that specializes in the treatment of stormwater, dewatering water, contaminated groundwater and industrial process water. CCS is a pioneer in onsite water treatment services and has been achieving client expectations for nearly 20 years. CCS employs an experienced team of professionals and innovative technologies to provide our client's with the best overall value in the industry. Our strength lies in our ability to move seamlessly from project evaluation to treatment system design, permitting, system installation and operations. In addition to our operational experience, we have established excellent working relationships with State and Federal regulatory agencies.

Recent Project Experience

Industry: Railroad Services

Target Pollutants: Turbidity, total copper and total zinc

Treatment Technology: Polymer enhanced mixed media filtration

Services: Water Treatment System Design, Permitting, Equipment, Installation & Staff Training

CCS worked with the facility owner and their engineering firm to develop an industrial stormwater treatment approach that would reduce target pollutants to concentrations below benchmark levels. CCS conducted pilot testing on actual runoff from the site to evaluate a variety of water treatment approaches prior to the final technology selection.

CCS collaborated on the design and provided the fabrication, installation, maintenance and training for this permanent industrial stormwater treatment system. The treatment system was installed to comply with the Level 3 Treatment BMPs as required by the Washington State Department of Ecology's Industrial Stormwater Permit.

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Industrial Stormwater Treatment Project Experience

Industry: Ship Yards

Target Pollutants: Suspended sediment, copper, zinc, nickel and cadmium

Treatment Technology: Mixed media filtration, granular activated carbon and ion exchange resins

Services: Water Treatment System Design, Permitting, Equipment, Installation & Staff Training

A major Southern California ship yard needed to treat hydrostatic relief water in order to meet stringent marine water discharge requirements for heavy metals. After the successful pilot test, CCS provided the design, site work and installation.

The 300 gpm treatment system consists of multi-media filters, GAC and ion exchange resins. The entire system is automated with process controls, safety interlocks, remote telemetry and alarm notifications.

Industry: Galvanizing Facilities

Target Pollutants: Suspended sediment, copper, zinc, nickel and cadmium

Treatment Technology: Metals co-precipitation, pH adjustment, filtration and sludge management

Services: Water Treatment System Design, Permitting, Equipment, Installation & Staff Training

This project consists of an 8 acre site that is used for galvanizing in the Tualatin, OR area. CCS utilized pilot testing to screen a variety of water treatment technologies prior to recommending the installation of a metals co-precipitation system that includes pH adjustment. CCS provided the fabrication, installation, maintenance and training for the metals reduction system. The zinc concentration was reduced form up to 10 mg/L to 30-50 micrograms/L.

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Industrial Stormwater Treatment Project Experience

Industry: Metals Recycling

Target Pollutants: Turbidity, hydrocarbons and PCBs

Treatment Technology: Polymer enhanced mixed media filtration and granular activated carbon

Services: Water Treatment System Design, Permitting, Equipment, Installation & Staff Training

CCS worked with the facility owner and their consultants to develop a water treatment approach to reduce turbidity, hydrocarbons and PCBs. CCS conducted pilot testing to provide proof of concept and then scaled the treatment system to full design flow rate of 100 gpm. CCS designed and fabricated the treatment system equipment and provided site improvements and operational support.

Industry: Forest Products

Target Pollutants: Turbidity, TSS, chemical oxygen demand (COD), zinc, copper and pH

Treatment Technology: Chemical precipitation, pH adjustment, filtration and media adsorption

Services: Water Treatment System Design, Permitting, Equipment, Installation & Staff Training

CCS implemented an industrial stormwater treatment system at a Pacific Northwest log yard facility to reduce TSS, turbidity, zinc, copper and COD. Log yard water is notoriously difficult to treat but CCS utilized pilot testing and innovative chemical treatment approaches to successfully achieve permit benchmark criteria. The treatment system consists of chemical precipitation, pH adjustment and adsorptive media. The results of the treatment process are shown below.

Stormwater	pH (S.U.)	TSS (mg/L)	Turbidity (NTU)	Zinc (µg/L)	Copper (µg/L)	COD (mg/L)
Untreated	5.2	150	259	125	15.7	360
Treated	7.21	1.2	0.70	5.5	< 0.5	30

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Industrial Stormwater Treatment Project Experience

Services & Capabilities:

- Site Evaluation
- Pollutant Source Identification
- Hydraulic Modeling
- Water Treatment System Design
- Computer Aided Drafting
- Engineering Reports & Services
- Treatment Technology Screening
- Laboratory and Field Pilot Testing
- Regulatory Negotiations & Permitting
- Treatment System Fabrication
- Site Improvements
- Treatment System Installation
- Operator Training

Treatment System Technologies:

- Permanent and Temporary Water Treatment Systems
- Green Stormwater Infrastructure
- Polymer Treatment with Mixed Media Filtration
- Chemical Precipitation – COD Reduction
- Metals Co-Precipitation – Dissolved Metals Reduction
- pH Neutralization
- Ion Exchange Resins – Dissolved Metals Reduction
- Particulate Filtration
- Ultra Filtration & Reverse Osmosis

Water Treatment Equipment

- Steel Tanks (18,000 – 21,000 gallons)
- Pumps (25 – 1,000 gpm)
- Sand Media Filters (50 – 600 gpm)
- Water Quality Monitoring Instruments
- Hoses and Piping
- Particulate and Bag Filters
- Chemical Metering Pumps
- Carbon Vessels
- CESF System Monitoring Modules
- Ion Exchange Resins
- System Automation & Telemetry

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PNW Metal Recycling Relocation Project
Longview, Washington

SEPA Environmental Checklist

Attachment C:
Suggestions for Minimizing Fumes from Torch Cutting Scrap Metal

Suggestions for Minimizing Fumes from Torch Cutting Scrap Metals

Clean: Free of paints, rubber, buildup from contents, oil and grease, vinyl coating, remove all paint and solvents, polyurethane foams
Thickness: Consider smoke generation of thicker metals. Try to focus on thinner pieces, observe thicker pieces
Settings: Verify correct settings for cutting process.
Technique: Determine which cutting technique works best (speed, angle, flame, etc.)

Fume levels

Source: http://www.hse.gov.uk/foi/internalops/ocs/600-699/668_30/668_30id.htm

Factors affecting fume levels include: (modified for US spelling)

1) plate thickness - fume levels increase as the plate thickness increases.

2) cutting speed - faster the cutting speed greater the rate of fume generation. However, as the job is completed quicker exposure to the fume may be similar to when using a slower cutting speed. A faster cutting speed can also reduce the kerf width resulting in lower dust levels.

3) process used, i.e. mechanized or manual cutting - mechanized cutting generates greater levels of fume particularly where multiple cutting torches are fitted.

4) ventilation available - oxy-fuel gas cutting in a semi-confined or confined space can generate high levels of fume if additional ventilation is not provided.

5) presence of coatings or contaminants - this is a particular problem in scrap metal, demolition and ship repair industries. High levels of fume can be experienced even when cutting by hand in the open air.

6) the use of additional cutting materials such as an accelerator - affects both fume levels and composition. Using iron powder will for example result in a slight increase in iron oxide levels due to oxidation of the powder.

Fume and gases

Source: http://www.hse.gov.uk/foi/internalops/ocs/600-699/668_30/668_30id.htm

Ways to reduce exposure to fume and gases include: (modified for US spelling and removed suggestions that minimize worker exposure instead of minimizing fumes.)

1) using the correct nozzle;

2) ensure the flame does not burn at its maximum length, instead try to keep it as short as possible;

3) extinguish the torch during short working pauses, this may be made easier by using gas economizers with a pilot flame to avoid the need to reset the mixture when relighting the torch; and

4) where possible remove any coatings or contaminants from the cutting point prior to commencing the cut (as far as possible use mechanical means, e.g. scraper, emery paper or, for larger areas, vacuum blasting, although the dust that is released will need to be controlled).

PNW Metal Recycling Relocation Project
Longview, Washington

SEPA Environmental Checklist

Attachment D:
Driving Directions and Maps to the Project Site
(100 Paper Way, Longview, WA)

Google Maps Portland to 100 Paper Way, Longview, WA 98632 Drive 48.7 miles, 51 min

Map data ©2018 Google 1000 ft

Portland

Oregon

Get on I-405 N from W Burnside St

3 min (0.7 mi)

1. Head west on W Burnside St toward W Burnside St

0.4 mi

2. Turn right onto SW 14th Ave (signs for US-30 W/Interstate 405 N)

36 ft

3. Keep left to stay on SW 14th Ave

266 ft

4. Use any lane to take the Interstate 405 N ramp to US-30 W/Interstate 5 N

0.2 mi

Take I-5 N to WA-411 S/3rd Ave in Longview. Take the 3rd Ave/WA-411 exit from WA-432 W

44 min (46.4 mi)

5. Merge onto I-405 N

1.2 mi

6. Use the middle 2 lanes to take the Interstate 5 N exit toward Seattle

0.6 mi

7. Merge onto I-5 N
   Entering Washington

41.5 mi

8. Use the 2nd from the right lane to take exit 36 for WA-432 W toward Longview/Long Beach/WA-4 W

0.5 mi

9. Continue onto WA-432 W

2.4 mi

10. Take the 3rd Ave/WA-411 exit toward Indust. Area/Port Longview

0.3 mi

Follow 3rd Ave to Industrial Way

5 min (1.7 mi)

11. Turn left onto WA-411 S/3rd Ave
    Continue to follow 3rd Ave

0.5 mi

12. Continue onto Industrial Way

0.9 mi

13. Turn left to stay on Industrial Way

0.2 mi

14. Sharp right to stay on Industrial Way

0.1 mi

100 Paper Way
Longview, WA 98632

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Google Maps

100 Paper Way, Longview, WA to Terminal Way, Longview, WA 98632

Drive 1.1 miles, 4 min

Driving Directions to Port of Longview's Berth 7

Map data ©2018 Google 1000 ft

100 Paper Way

Longview, WA 98632

1. **Head southwest on Industrial Way toward Panel Way** — 0.2 mi
2. **Turn left onto Paper Way** — 0.3 mi
3. **Turn left onto Terminal Way**
   Destination will be on the left — 0.7 mi

Terminal Way

Longview, WA 98632

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

PNW Metal Recycling Relocation Project
Longview, Washington

SEPA Environmental Checklist

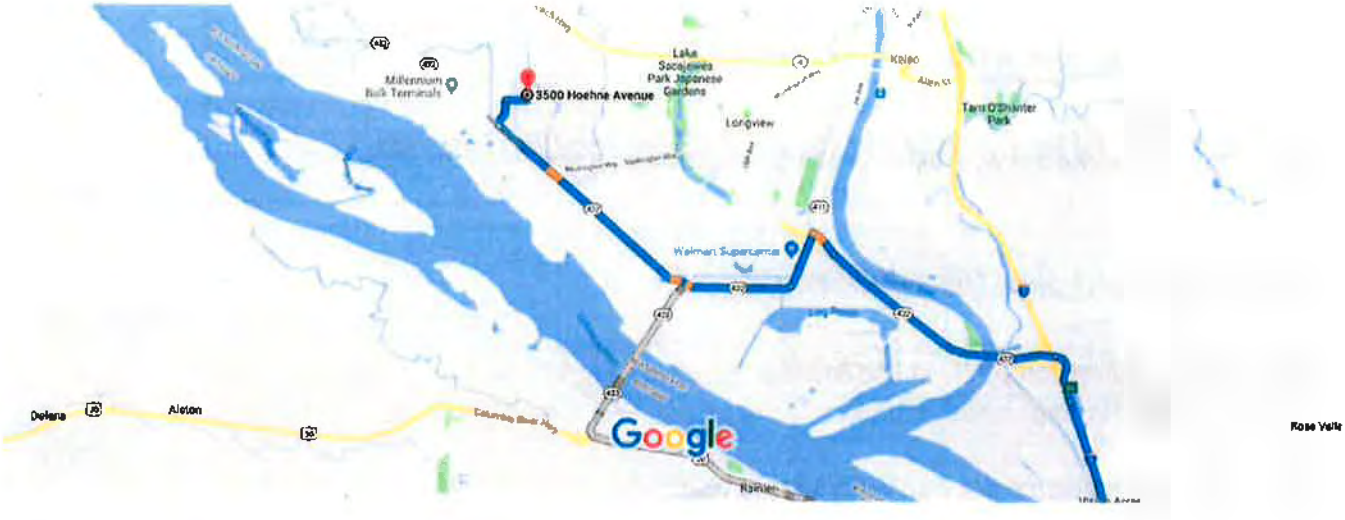
Attachment E:
Driving Directions and Maps to the Existing PNW Metal Recycling Facility (3500 Hoehne Ave., Longview, WA)

Google Maps

Portland, OR to 3500 Hoehne Avenue, Longview, WA

Drive 51.3 miles, 54 min

Driving directions to existing recycling facility



Map data ©2018 Google 5000 ft

Portland

Oregon

Get on I-405 N from W Burnside St

3 min (0.7 mi)

1. Head west on W Burnside St toward W Burnside St

0.4 mi

2. Turn right onto SW 14th Ave (signs for US-30 W/Interstate 405 N)

36 ft

3. Keep left to stay on SW 14th Ave

266 ft

4. Use any lane to take the Interstate 405 N ramp to US-30 W/Interstate 5 N

0.2 mi

Take I-5 N to WA-411 S/3rd Ave in Longview. Take the 3rd Ave/WA-411 exit from WA-432 W

44 min (46.4 mi)

5. Merge onto I-405 N

1.2 mi

6. Use the middle 2 lanes to take the Interstate 5 N exit toward Seattle

0.6 mi

7. Merge onto I-5 N
   Entering Washington

41.5 mi

8. Use the 2nd from the right lane to take exit 36 for WA-432 W toward Longview/Long Beach/WA-4 W

0.5 mi

9. Continue onto WA-432 W

2.4 mi

10. Take the 3rd Ave/WA-411 exit toward Indust. Area/Port Longview

0.3 mi

Take WA-432 W/Industrial Way to Hoehne Ave

9 min (4.3 mi)

11. Turn left onto WA-411 S/3rd Ave
    Continue to follow 3rd Ave

0.5 mi

12. Continue onto WA-432 W/Industrial Way

3.3 mi

13. Turn right onto Prudential Blvd

0.3 mi

14. Turn right onto Hoehne Ave
    Destination will be on the left

0.2 mi

3500 Hoehne Ave
Longview, WA 98632

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Google Maps

3500 Hoehne Ave, Longview, WA to Terminal Way, Longview, WA 98632

Drive 4.3 miles, 9 min

Driving Directions from Existing Metals Recycling property to the Port of Longview's Berth 7

Map data ©2018 Google 5000 ft

3500 Hoehne Ave

Longview, WA 98632

1. Head west on Hoehne Ave toward Prudential Blvd — 0.2 mi
2. Turn left onto Prudential Blvd — 0.2 mi
3. Turn left onto WA-432 E/Industrial Way — 2.3 mi
4. Turn right onto Oregon Way — 292 ft
5. Slight right onto W Port Way (signs for Port Longview) — 0.5 mi
6. Turn left onto E Port Way — 262 ft
7. Turn right onto Terminal Way — 1.0 mi

Destination will be on the left

Terminal Way

Longview, WA 98632

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