NEW CARGO EXPORT PROJECT

STORMWATER POLLUTION PREVENTION PLAN

Westshore Terminals

Prepared for:

Westshore Terminals Ltd. Partnership

September 2021

Prepared by:

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BINNIE

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Westshore Terminals Limited Partnership

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LIST OF ACRONYMS

BMP	Best Management Practice
CANUTEC	Canadian Transport Emergency Centre
CCME	Canadian Council of Ministers of the Environment
ENV	Ministry of Environment and Climate Change Strategy
Mtpa	Million tonnes per annum
PER	Project and Environmental Review
SPPP	Stormwater Pollution Prevention Plan
SRKW	Southern Resident Killer Whale
TSS	Total Suspended Solids
VFPA	Vancouver Fraser Port Authority
Westshore	Westshore Terminals Limited Partnership
WMA	Wildlife Management Area

1.0 INTRODUCTION

Westshore Terminals Limited Partnership (Westshore) has been in operation since 1970 and is Canada's largest throughput coal export terminal, handling around 31 million tonnes per annum (Mtpa) with a capacity of 36 Mtpa. Through the proposed New Cargo Export Project (the Project), Westshore is planning to diversify the products shipped to market through the existing terminal with the addition of potash.

The Stormwater Pollution Prevention Plan (SPPP) is being provided to the Vancouver Fraser Port Authority (VFPA) as part of the Project and Environmental Review (PER) application submission. This plan has been developed in alignment with VFPA stormwater pollution prevention objectives and guidance (VFPA 2015) including the following:

- Utilizing existing stormwater management and treatment systems;
- Prevention and reduction of pollutant loading of stormwater; and
- Treatment of stormwater where pollution prevention cannot be prevented.

This SPPP provides a proactive and sustainable approach to long-term site stormwater management in meeting the above objectives, incorporating the new Project stormwater infrastructure and will assist Westshore staff in ongoing management of site stormwater and maintenance of stormwater management infrastructure.

This plan shall be used in conjunction with Westshore's operational Spill Prevention Plan (Appendix A1), and will be reviewed and updated accordingly to reflect future terminal upgrades or in response to repeat effluent exceedances. Stormwater management during the construction phase is addressed in the Construction Environmental Management Plan.

1.1 PROJECT LOCATION AND OVERVIEW

The site is located at 1 Roberts Bank, Delta, BC and is entirely within VFPA managed federal land. Westshore has an existing lease agreement for current coal export operations (Figure 1). The Project involves modifications to the existing facility to use a portion of the site for potash export to global markets. The Project will result in the shipping of up to 4.5 Mtpa of potash, displacing approximately an equivalent amount of coal export capacity. As shown in Figure 2, the infrastructure for the Project will displace a portion of the existing coal stockpile areas at the site.

Modifications to existing infrastructure and new infrastructure to accommodate potash export will consist of:

- A new enclosed potash railcar dumper on the south side of the site adjacent to the existing dumpers;
- A new timber A-frame potash storage building (approximately 400 m long x 70 m wide x 40 m high), including tripper conveyor and portal reclaimer located on the northwest corner of the site;
- Approximately 2,200 m of new enclosed conveyors and transfer towers connecting the new railcar dumper to the storage building and to the existing Berth 2;
- Dust collectors at conveyor transfer points;
- Modifications to or replacement of the existing shiploading conveyors and replacement of the shiploaders to allow both potash and coal handling, and installation of spout changeout towers at Berth 2;
- Retrofits to the existing Berth 2 foundations;
- Modifications to the existing onsite rail system to include a 700 m section of new rail line to connect the new railcar dumper to the existing inner rail loop; and
- Associated onsite road, civil and electrical infrastructure modifications within the existing facility.

Figure 1 Project location overview.

Data Source:
Orthophoto 0.75 cm, City of Delta,
26 April 2018, Esri Online Service.

Note: The VFPA checklist identified a scale of 1:5000 for the location figure. The scale was adjusted to show the Project's relationship to the surrounding area.

0 250 500 1000 m
N

Scale: 1:35,000

Projection: NAD 1983 UTM Zone 10N

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Hatfield

New Cargo Export Project

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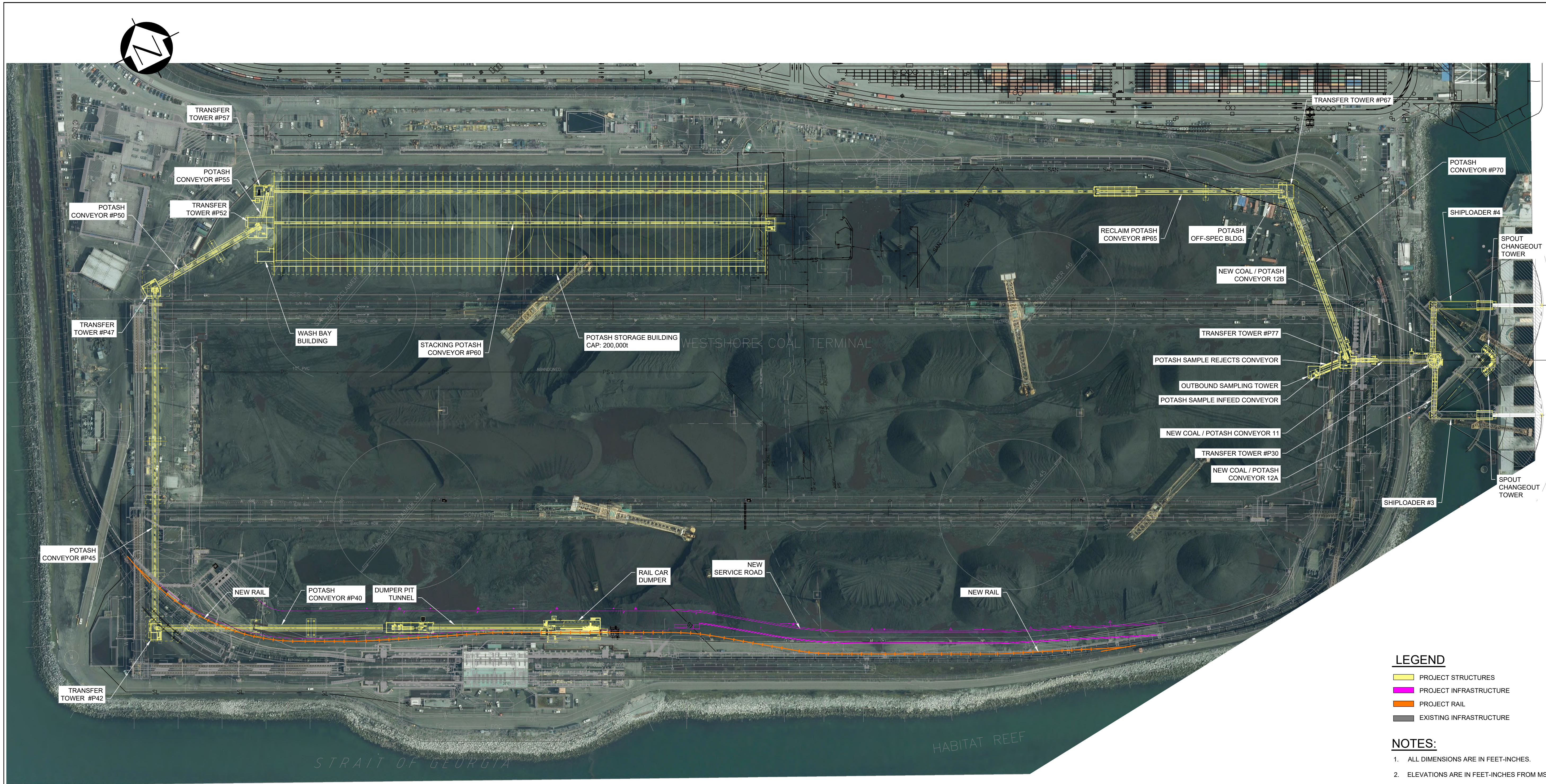
Figure 2 Project Site Plan.



PLAN
1"=125'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

REF.	DWG. NUMBER	DESCRIPTION	No.	YYYY-MM-DD	DESCRIPTION	DRAWN	DWG. CHECK	DESIGN	DESIGN CHECK	DISC. APPROVAL	PROJ. APPROVAL
			P2	2021-09-08	ISSUED FOR USE	ABN		DCC		PMD	AJK
			P1	2021-03-30	ISSUED FOR REVIEW	DCC		DCC		PMD	AJK

REFERENCE DRAWINGS / DESIGN STANDARDS | ISSUES / REVISIONS | ∗ HAND INITIALS ON FILE

CWA

This drawing has been prepared by CWA Engineers Inc. as an instrument of service and is the exclusive property of CWA. This drawing shall be used solely for the purpose of this project. The client agrees that this drawing shall not be used for purposes other than those intended, and shall hold the engineer harmless for any other such use.

Westshore Terminals

CWA PROJECT NUMBER: 19899

NEW CARGO STUDY
SITE PLAN
ORTHOPHOTO

40101-D0000-0005 | P2

DRAWN BY: | SCALE: | ACAD FILENAME: 40101-D0000-0005 | REV.

2.0 SITE INVENTORY

Westshore's existing site solely operates as a coal export terminal. With the proposal to include potash export, the site would be reconfigured to handle both coal and potash. The new and re-purposed infrastructure for potash operations is described in Section 1.1.

2.1 ACTIVITIES ON SITE

Coal is brought to site by railcars and offloaded in the railcar dumpers at the south side of the site. The coal is moved from the railcar dumpers along open conveyors to stockpiles that run along the middle of the site. These stockpiles store the coal in an open-air environment. The stacker-reclaimer equipment transfers the coal back onto the conveyor system to move the coal to either Berth 1 or Berth 2 for vessel loading. Shiploaders at both berths load the coal into the hull of a ship. All shiploaders and conveyors that cross environmentally sensitive areas (i.e., the ocean) have spill trays. The stormwater at Berth 1 & 2 decks is contained by steel, perimeter flumes, which direct stormwater into sumps that pump back to the shore to be handled by the water collection and treatment system described further below.

The existing rail line will also accommodate the inbound potash trains which will be diverted onto the new section of onsite track at the new railcar dumper. The potash will be offloaded from railcars in the new railcar dumper onto the new conveyor system and move along the enclosed conveyors and associated transfer towers to the new storage building. The empty railcars will meet back up with the existing rail line after leaving the dumper. During shiploading operations, the product will be reclaimed from the storage building along conveyors to the shiploaders and transferred to a vessel for export. The reclaim conveyors will consist of both enclosed, dedicated potash conveyors and covered conveyors that will be able to handle both potash and coal. The dual handling conveyors will be cleaned between products. Berth 1 will continue to be used exclusively to ship coal while Berth 2 will be designed to accommodate both commodities. The modified/replaced shiploaders at Berth 2 will be utilized to load both coal and potash, requiring different spouts for each product. Two elevated storage platforms at Berth 2 will be required for the spouts that are not in use.

The introduction of potash-handling will require new infrastructure and the modification of some of the existing coal-handling infrastructure to handle both coal and potash. New infrastructure including the potash dumper building, conveyor belts and transfer towers and storage building will be enclosed to protect the potash product from external elements. The Berth 2 conveyors and shiploaders with have conveyor covers and spill trays. All stormwater coming in contact with new potash infrastructure will fall onto the exterior of the enclosed structures and will not come in contact with the potash product. Incidental stormwater contact with potash spillage is considered minor and, as such, this stormwater will be handled by the existing stormwater collection systems and treated for coal particulate prior to discharge to ocean.

Since Berth 2 is being modified to handle both coal and potash, a rigorous washdown system will be implemented to limit cross-contamination between products. Manual and automatic washdown systems are expected to be used during each product conversion, which may be multiple times a week. The existing Berth 2 deck will remain completely contained by existing splash guards, flumes, and sumps. All washdown water will be collected, handled, and treated alongside stormwater.

Based on treatment processes, potash infrastructure washdown water can be categorized as either:

- Berth 2 washdown water, or
- Other potash equipment washdown water.

During a washdown, if the last product shipped is coal, the washdown water will be collected and conveyed to an existing screening facility; if the last product shipped is potash, the washdown water will be conveyed to a coal/potash water treatment facility followed by a potash water treatment facility.

Other potash equipment that requires washdown includes conveyor transfer towers, conveyor belts, and potash-handling equipment maintenance bays. This infrastructure is expected to be washed during regular/special maintenance of equipment; the frequency of washdown will be dictated once in operation. This washdown water is expected to contain only potash and the byproducts of potash-handling. As such, this water will be collected and sent directly to the potash water treatment facility.

2.2 MATERIALS ON SITE WITH POTENTIAL TO INTERACT WITH STORMWATER (POTENTIAL POLLUTANTS)

Existing onsite materials and potential pollutants include metallurgical and thermal coal products, and petrochemical lubricants used on material handling and construction equipment.

Potash storage and potash handling infrastructure will be enclosed with the majority of product spillage being contained within the enclosed structure and collected using dry vacuum systems.

Potential pollutant sources arising from operational activities is provided in Section 3.2.

2.3 EXISTING AND NEW STORMWATER INFRASTRUCTURE

The existing stormwater infrastructure is a fully contained system including ditches, transfer sumps, settlement ponds, a screening system, reservoirs, and a water treatment system for ocean discharge. The system collects all site stormwater (which is assumed to be impacted with coal product), coal-handling equipment washdown water, and dust suppression water, and conveys it by a number of pumps to a screening facility followed by a water reservoir. From the reservoir, water is pumped directly to the onsite coal water treatment system where it is treated using flocculants and coagulants prior to gravity outfall to the ocean. The site is not connected to any municipal sewer or storm system.

Stormwater is discharged under Ministry of Environment and Climate Change Strategy (ENV) permit PE-6819, which was issued in 1983[1]. Stormwater leaving Westshore's facility is treated to meet the permit requirements for Total Suspended Solids (TSS; <50 mg/L), Oil and grease (<10 mg/L), and toxicity (96 h LC50≥100%) prior to discharge. Discharges to the marine environment are monitored for compliance with the ENV permit.

The new stormwater infrastructure will be designed to delineate the drainage catchment areas between coal and potash operations. Stormwater is not anticipated to come into contact with the potash outside the shiploading area since the potash material handling system will be fully enclosed up to the conveyors leading to and at Berth 2. Any stormwater collected around the perimeter of the enclosed potash structures will drain into the existing coal stormwater collection system. Within the shiploading system at Berth 2,

[1] PE-6819 currently under amendment with ENV relating to the Project.

which handles both coal and potash, the conveyors, towers and shiploaders are covered and have spill protection. Washdown of the equipment will be required when changing between materials (coal to potash, and potash to coal). Stormwater and washdown water from the Berth 2 area will be collected and directed to the coal/potash water treatment system.

Although the majority of potash spillage from the materials handling system will be collected using dry vacuum recovery systems, occasional use of water will be required to clean the transfer towers and dumper. This will result in occasional potash washdown water. A potash equipment wash bay is attached to the storage building and will also produce potash washdown water. Potash washdown water will be collected by the washdown sumps and conveyed to new potash water treatment facilities.

Two new treatment facilities will be built to accommodate the addition of potash-handling including:

- A coal/potash water treatment facility (for storm and washdown water at Berth 2); and
- A potash water treatment facility (for washdown water from enclosed potash dumper, transfer towers, and storage building).

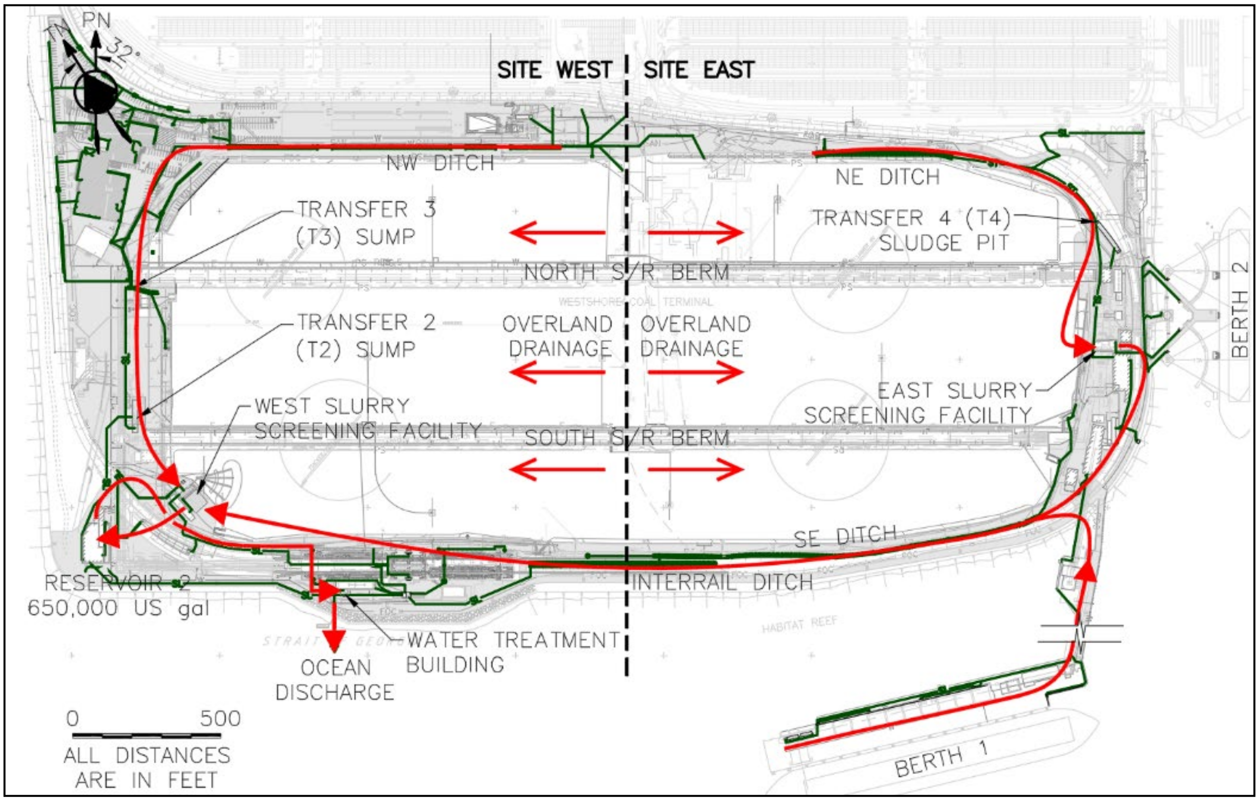
The coal/potash water treatment facility will treat the storm and washdown water at Berth 2 for coal particulate (TSS), which is expected to be present in small amounts and oil & grease. Water exiting the coal/potash treatment facility is considered potash washdown water and will be combined with the other potash water sources, identified above, and directed to the potash water treatment facility. The potash water treatment facility will treat for pH, any remaining TSS, and oil & grease. The treated potash water will be combined with treated coal water prior discharge to the marine environment. Monitoring of the discharge will be conducted to meet the amended permit requirements.

Refer to Section 4.4 for details on the water treatment methods.

2.4 HYDROLOGIC ASSESSMENT

The hydrological systems of the site can be divided into two halves: west and east. This division can be seen in Figure 3 below. In the figure, green lines highlight the existing storm infrastructure and red arrows show the general direction of flow on site.

Figure 3 Existing Coal-Contact Stormwater – Conveyed Flow Directions.



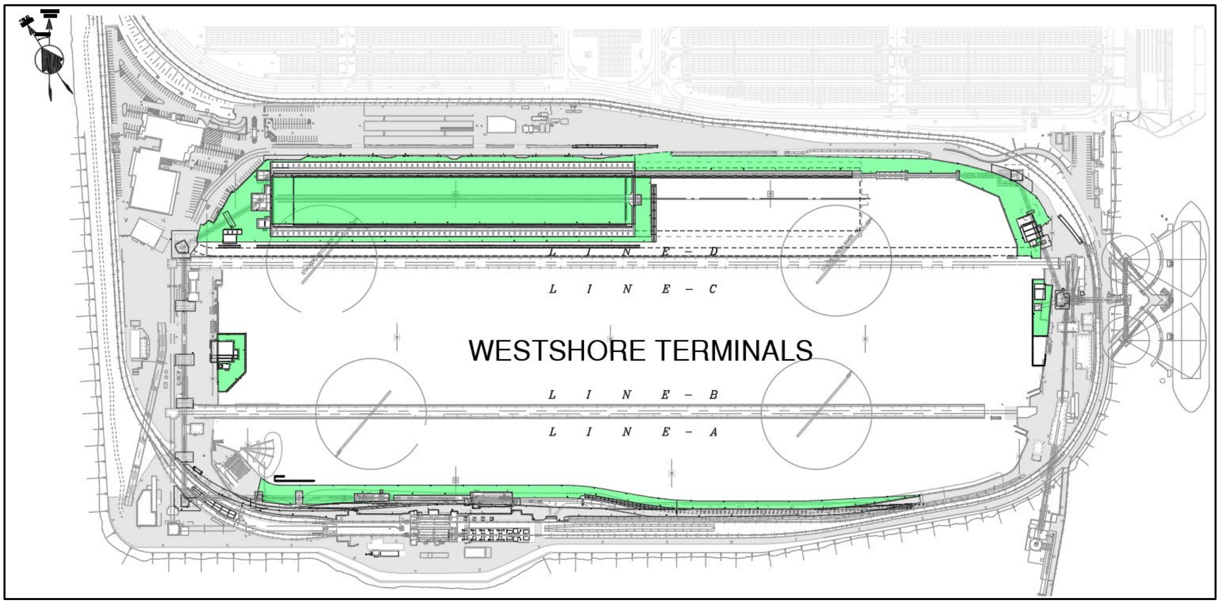
Following overland flow, stormwater is collected by storm pipes and culverts, as well as swales and ditches. These generally lead to a network of sumps/pumps from which the stormwater is conveyed towards treatment facilities. Pumping systems convey stormwater to onsite screening facilities at the east and west ends of the site where coal particulate (solids) are removed from the water. Stormwater that passes through screening facilities at the east side of site is reintroduced to unscreened stormwater while travelling through the southeast ditches, and so is re-screened at the western side of site. All stormwater collected onsite is eventually directed through the west screening facility. Following screening, the stormwater is conveyed to Reservoir 2 to be stored prior to treatment and discharge.

Westshore is currently permitted to discharge treated coal contact water to the ocean under their ENV permit at 10,000 cubic meters per day. This is equivalent to 416 m^3 per hour or 116 litres per second (L/s) for 24 hours of continuous operation.

According to Westshore's 2018 and 2019 data, the current average daily discharge rate is approximately 2,200 cubic meters per day, equivalent to approximately 22% of the allowable daily rate. The peak discharge rate out of the ocean discharge is approximately 76 L/s.

The addition of new potash-handling infrastructure will increase impervious surface area of the site. Figure 4 below shows the existing and new impervious areas. The grey hatching shows existing impervious surfaces (i.e., pavement), while the green shows new impervious areas as part of Project. Total impervious area onsite is expected to increase by up to 51% due to the Project.

Figure 4 Site Impervious Areas.

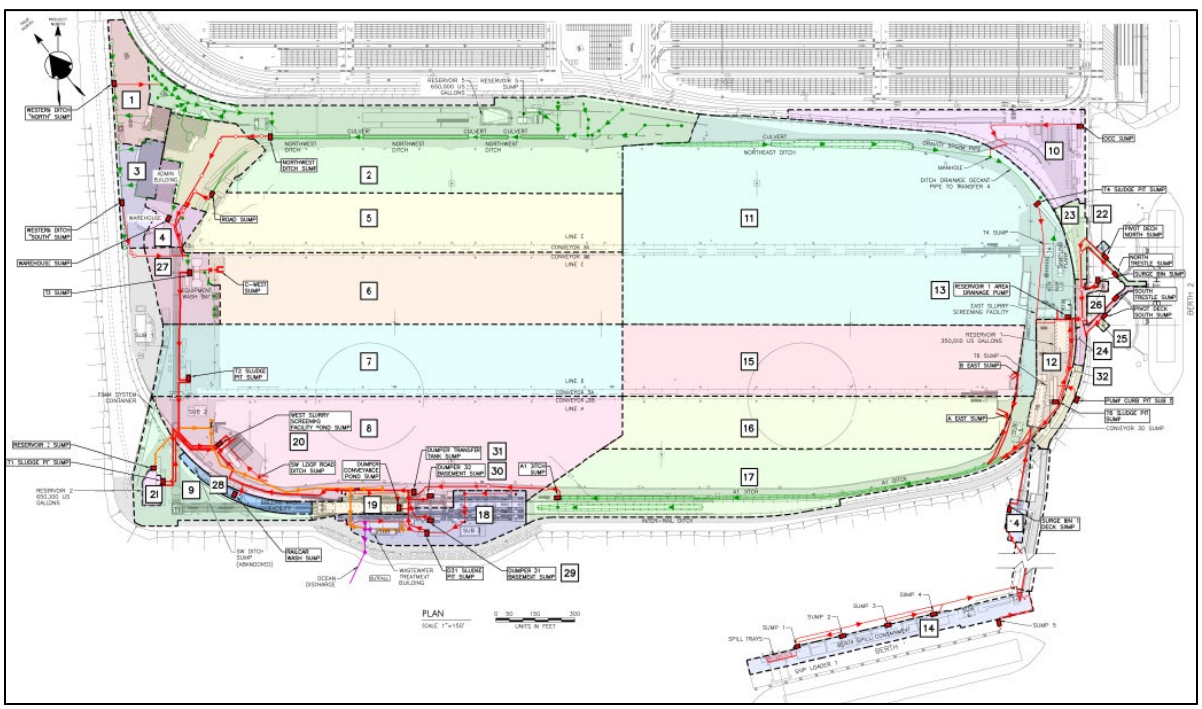


Due to the increase in impervious surfaces, the total year-to-year discharge to ocean is expected to increase. Peak discharge rates through the ocean discharge and existing upstream infrastructure are proposed to stay the same due to existing stormwater retention capacity.

2.4.1 Sub-catchment Areas

As can be seen in Figure 5 below, the site is currently divided into drainage areas or sub-catchment areas.

Figure 5 Site Sub-Catchment Areas.



Note: This image is taken from attached drawing 20-1119-0110.

Each coloured area represents a sub-catchment area and are comprised of both impervious and pervious surfaces. The red, green, orange, and magenta lines represent various drainage infrastructure that convey stormwater to the ocean discharge treatment facility.

Sub-catchment areas may be sub-divided further to adapt to the increase in volume resulting from an increase in impervious surface area. Each new area will contain its own drainage infrastructure complete with sufficient retention volume to retain storm event flows as described in Section 2.4.3

2.4.2 Water Quality Event

A water quality event can occur at the start of a rainfall event following extended dry periods. During dry periods deleterious materials can accumulate on surfaces and be discharged in high concentrations upon first rainfall (i.e., first flush). Water quality event discharges can have adverse effects on the environment due to higher than usual concentrations of deleterious substances.

Westshore's storm collection system is fully contained and has sufficient capacity to capture the water quality event, such that all water is treated prior to discharge. Therefore, a water quality event at the site will not result in an increase in the concentration of deleterious substances.

2.4.3 Storm Drainage Event

Following Project construction, each sub-catchment area will contain its own drainage infrastructure with the retention volume required to collect and retain a 10-year return period event, as determined using Environment Canada's Ladner BCHPA, 2020 data. As a result, the downstream drainage infrastructure of newly subdivided catchment areas will not observe increases to peak flows as a result of the Project's developments.

Peak flows at the ocean discharge are anticipated to remain at the current 76 L/s. The average flows will increase by approximately 100% as a function of the increase in permeability, which is expected to remain within approximately 52% of ENV permit daily discharge volume requirements.

3.0 ISSUES IDENTIFICATION AND RISK ANALYSIS

3.1 APPLICABLE STANDARDS, ACTS AND REGULATIONS

The following standards, acts and regulations apply to works and activities conducted by Westshore:

- BC Contaminated Sites Regulation (BC CSR, BC Reg. 375/96, O.C. 1480/96 and M271/2004, including amendments up to BC Reg. 161/2020, February 1, 2021)
- *BC Environmental Management Act* (*EMA S.B.C. 2003, c.53*)
- BC Spill Reporting Regulation (B.C. Reg. 263/90, includes amendments up to B.C. Reg. 221/2017, December 5, 2017)
- BC Waste Discharge Regulation (B.C. Reg. 320/2004, includes amendments up to B.C. Reg. 154/2019, September 15, 2019)
- BC *Fish Protection Act* (SBC 1997, c. 21)
- BC *Water Act* (RSBC 1996, c. 483)
- *Canadian Environmental Protection Act* (Environment Canada, B.C. 1999, c.33)
- Canada *Fisheries Act* (RSC 1985, c. F-14, includes amendments up to August 28, 2019)
- Canada *Hazardous Products Act* (R.S.C. 1985, c. H-3, includes amendments up to May 23, 2018)
- *Canada Water Act* (R.S.C., 1985, c.C-11, includes amendments up to April 1, 2014)
- BC Ministry of Environment, Wastewater discharge permit

3.1.1 Best Management Practices, Standards and Guidelines

The following BMPs, standards and guidelines are recommended for all works on the site during operations and maintenance, where appropriate:

- British Columbia Approved Water Quality Guidelines Summary (BC Ministry of Environment, 2018)
- British Columbia Field Sampling Manual for Continuous Monitoring plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment and Biological Samples (BC MOWLAP, 2013)
- Canadian Environmental Quality Guidelines (CCME) (CEQG, 1999; updated to 2001)
- Emergency Response Guidebook (CANUTEC, Transport Canada, 2020)
- Measures to Avoid Causing Harm to Fish and Fish Habitat, Department of Fisheries and Oceans, 2019. Online resource: http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html
- Westshore Spill Response Plan (Westshore, 2021)
- Working Water Quality Guidelines for British Columbia. BC Ministry of Environment, 2021

3.2 POTENTIAL POLLUTANT SOURCES

Terminal operational activities were reviewed and the following materials and practices with the potential to introduce pollutants to stormwater and washdown water were identified:

- Coal and potash product spillage during material handling; and
- Coal stockpile erosion during heavy rainfall events.

The following pollutant sources may exist, however, are considered low risk when contained and mitigated according to Westshore's Spill Prevention and Response Plan:

- Fuel, oil, or coolant spills during vehicle, train, or materials handling use and maintenance;
- Fuel (gasoline or diesel) spills during fuel storage and refuelling activities;
- Hydraulic oil and lubricants leaks from vehicles or equipment resulting from leaks or maintenance activities; and
- Waste oil and lubricant leakage from primary tank failure or secondary containment leakage.

Identification of potential pollutant sources will be ongoing during preventative maintenance programs and construction activities.

Through terminal operational procedures, personnel education, contingency planning and implementation of mitigative controls (i.e., Stormwater Pollution Prevention Plan and Spill Prevention and Response Plan), pollutants entering the stormwater collection system can be minimized and avoided.

3.3 POTENTIAL SENSITIVE RECEPTORS

All treated water is discharged from site to ocean at a singular discharge point, located in the southwest corner of the property. The primary environmental receptor of stormwater discharge is Roberts Bank.

Roberts Bank is located in the southern portion of the Fraser River Delta system where seawater from the Strait of Georgia and freshwater and sediment from the Fraser River combine leading to a productive estuarine ecosystem. The bank supports saltmarsh, mudflats and eelgrass beds that provide habitat to many species of invertebrates, fish, and birds. Several species of marine mammals, including southern resident killer whales (SRKW), occasionally occur at Roberts Bank.

Protected areas near Westshore include:

- SRKW critical habitat established through the *Species at Risk Act* occurs throughout the southern Strait of Georgia.
- Wildlife Management Areas (WMA) established through the *BC Wildlife Act*:
    - Sturgeon Bank WMA, approximately 13 km north of Westshore;
    - Roberts Bank WMA, directly to the north of and adjacent to Westshore;
    - Boundary Bay WMA, located approximately 9 km east of Westshore; and
    - South Arm Marshes WMA, located approximately 9 km north of Westshore.

- Alaksen National Wildlife Area was established through the *Canada Wildlife Act*, located approximately 9 km north of Westshore.

Westshore Terminal is situated within the traditional territory of the Tsawwassen First Nation (TFN). TFN residences are located on adjacent Tsawwassen land, located about 5 km east of Westshore.

The City of Delta includes three urban communities that are near Westshore: Ladner, Tsawwassen and North Delta (with centers approximately 9 km, 5 km and 25 km from Westshore, respectively). The closest parks include Boundary Bay Regional Park (8 km east) and Deas Island Regional Park (13 km northeast).

Impacts from treated stormwater discharge compliant with ENV permit conditions to potential sensitive receptors are expected to be low.

3.4 IDENTIFIED ISSUES

Westshore has procedures and controls in place to mitigate stormwater pollution and provide treatment of stormwater where the introduction of pollutants cannot be avoided. Westshore has a long history of safe and responsible operations and protection of the environment, through over 50 years of operation. No issues have been identified based on Westshore's ability to capture, contain, and treat all stormwater prior to discharge from site as described above.

3.4.1 Effluent Discharge Characteristics

Effluent discharges from Westshore were characterized using compliance monitoring data collected from 2018 to 2020. An enhanced analytical suite of parameters was assessed over the same period to identify the potential cause of sporadic toxicity effects determined during the 96-hour rainbow trout toxicity testing. Monitoring conducted since January 2018 included monthly and weekly measurements of discharge volumes, biochemical oxygen demand, TSS, and oil and grease. Enhanced effluent testing included monthly samples collected from March 2018 to January 2019, as well as four additional sampling events conducted thereafter. Enhanced testing included analysis of bacterial indicators, carbon content, major ions, total and dissolved metals, nutrients, polycyclic aromatic hydrocarbons, and petroleum hydrocarbons.

Effluent quantity and quality measurements were compared against permit discharge limits. Additionally, analytes measured in expanded testing were screened against BC Water Quality Guidelines for Protection of Marine Aquatic Life, as the effluent is discharged to the marine receiving environment. While marine water quality guidelines are not directly applicable to effluent discharges, they provide an indication of analytes that may be a concern in the marine receiving environment.

Over the study period, effluent discharges from Westshore met the requirements of the discharge permit, with the exception of the following:

- TSS concentrations exceeded the 50 mg/L permit limit a total of 7 times out of 167 sampling events.

Based on the results of the enhanced effluent chemistry sampling from 2018 to 2020, it was determined that effluent concentrations of most analytes were less than provincial guidelines for the protection of marine aquatic life. Only three analytes were observed at concentrations greater than these BC guidelines:

- Copper exceeded the BC chronic marine guideline during a single event in November 2018;

- Zinc exceeded the BC chronic marine guideline during eight events documented from March to December 2018. Zinc also exceeded the BC acute marine guideline during two events in April and June of 2018; and

- Benzo[a]pyrene exceeded the BC chronic marine guideline during two events in December 2018 and in October 2019.

There have been no analyte exceedances in the sampling conducted at Westshore since the dates noted above.

3.5 IDENTIFIED POLLUTANT PATHWAYS

The only pollutant pathway for both the existing and post Project construction site stormwater is through the ocean discharge outfall. Ocean discharge water quality is currently monitored at the outfall weir and, as a mitigative measure, the system prevents water discharge if the water quality approaches the permitted maximum TSS level of 50 mg/L.

4.0 MANAGEMENT STRATEGY

Westshore has an established stormwater capture and treatment system, and controls in place to manage stormwater pollution risks. The following existing management measures are in place and will apply to potash operations.

4.1 GOOD HOUSEKEEPING

Good housekeeping not only prevents accidents but is critical in minimizing the potential for pollution of site stormwater. Maintenance Facilities, warehouses, parking and storage areas are maintained, organized and kept tidy. Water trucks regularly washdown paved roadways for dust control.

Terminal personnel and contractors are directed to maintain their work areas in an orderly condition and minimize the accumulation of waste materials. Trash and waste products are regularly removed, and hazardous materials handled accordingly to prevent accidental spillage and release.

To mitigate the effects of product (coal or potash) releases to the stormwater drainage system, inspections of material handling equipment, spill containment trays and splash guards, and water collection systems are performed.

4.2 PREVENTATIVE MAINTENANCE

Personnel conduct scheduled inspections, testing, and maintenance programs on materials handling equipment, spill containment, water collection and treatment systems to ensure they are maintained in good working order. Upon Project completion, cleanup of washdown collection sumps and containment areas will be conducted as required to prevent overflow. Maintaining equipment with manufacturer specifications mitigates unexpected failures, leaks or spills into the storm system and marine environment.

4.3 CONTAINMENT/REDUCTION

Westshore maintains a site-wide spill prevention and emergency response program inclusive of a comprehensive spill response procedure. Emergency response notification procedures and emergency contact lists are included. Stocked spill kits are maintained throughout the site in accessible locations.

Refueling and maintenance of vehicles occurs at designated areas equipped with collection pans and containment measures.

Product spillage at grade level is contained using standard grading, paving, curbing and ditching. Conveyance infrastructure located above ground and/or over water utilizes catch pans, spill trays, splash guards, sumps and/or conveyance system enclosures. Similar containment strategies will be constructed for potash infrastructure.

4.4 TREATMENT

Dependent on the location of collection and conveyance pathways influencing possible stormwater or washdown water contact with coal and/or potash, water is to be treated according to one of the following treatment processes prior to ocean discharge. Water inflowing to the treatment facilities will be comprised of stormwater and washdown water sources that have come in contact with either coal or potash, hereafter referred to as contact water.

Coal Contact Water

The existing coal contact water treatment facility contains chemical dosing equipment, chemical storage (totes), coagulant mixing tank, mechanical piping with a flow meter for discharge flow rate and volume monitoring, and a discharge overflow weir / monitoring well with a composite sampler to collect water quality samples. Following treatment water passes through a secondary settling basin for settling of fine coal particulate, and a 12” gravity pipe outfall to the ocean. This system will not change as a result of the Project.

Coal/Potash Contact Water

The coal/potash water treatment system will include a water treatment building, concrete settlement pond consisting of three cells for containment and settlement, two pump sumps, and a sludge drying area. The system is designed as a flow through system where the water is treated as it is pumped to the facility. The flowthrough system will be sized appropriately to manage combined inflow from coal/potash contact water.

The water treatment building will house chemical (flocculant and coagulant) dosing equipment, chemical storage (totes) and a mixing tank. Both flow and TSS meters will be included to monitor flow rate and modulate chemical dosing rates.

The concrete settlement pond will have a primary settlement basin to remove heavy coal particulate and grease, a secondary settlement basin to capture oil using baffles and collect it using a tube oil skimmer, and a third settlement basin to settle fine coal particulate from the coal/potash contact water treated with chemicals. The pump sump located at the end of the secondary settlement basin will convey water through the water treatment building. The pump sump located at the end of the third settlement basin will convey treated water, now considered potash contact water, to the primary potash treatment system.

Potash Contact Water

The potash water treatment system will include a water treatment building, concrete treatment pond consisting of a large balancing pond and two water treatment cells, two pump sumps, and chemical storage tank with containment. The water treatment building will house chemical (caustic) dosing equipment and effluent monitoring equipment.

The treatment area’s inbound balancing pond will be capable of collecting water generated during a washdown event at Berth 2, including storm water runoff local to Berth 2, and storing it prior to treatment. The balancing pond can accept varying flow rates from multiple sumps at once. The potash water treatment system is separated into three zones to capture oil using baffles and tube oil skimming equipment, and mix caustic with the potash water for pH balance.

The final treatment zone will likely incorporate salinity and pH monitoring meters that will provide information on the effluent quality. Should the water quality approach the maximum permissible pH levels, the system will stop discharging and recirculate for additional treatment. Assuming the pH level is acceptable, the control system will use the salinity meter to determine the allowable discharge rate of treated potash contact water that can be combined with the treated coal contact water to achieve an acceptable discharge effluent quality. To discharge treated potash contact water, it will be necessary that treated coal contact water be simultaneously discharged. A flowmeter will be installed on the outflow pipe to monitor flow rates and discharge volumes.

A discharge overflow weir/monitoring well will be constructed outside the existing Ocean Discharge Treatment Facility and connected to the 12” gravity outfall pipe downstream of the treated coal contact water overflow weir. A composite sampler will be installed in a small enclosure adjacent to the building to collect samples during discharge.

5.0 IMPLEMENTATION, MONITORING, AND IMPROVEMENT

5.1 IMPLEMENTATION AND MONITORING

Westshore currently discharges treated coal contact water to the ocean under the existing ENV discharge permit. This permit is in the amendment process to include discharge of treated potash contact water.

Westshore will continue monitoring of discharge water quality in accordance with the frequencies and analytes specified in the ENV permit and future amendments. Any changes to sampling or monitoring requirements resulting from the permit amendment process shall be adhered to.

The water treatment system is designed such that discharge water exceeding TSS requirements (i.e., TSS >50mg/L) can not be discharged to the ocean but is returned to the system for additional treatment. Maintenance of the system including settlement pond clean out is conducted as required. Inspection of the treatment and discharge system including restocking of consumables (filter media, chemical flocculants, oil/water scrubbers), verification sampling and calibration of required sensors and probes is completed weekly. Collection of analytical grab samples will be completed as required by the discharge permit.

The Director of Engineering is responsible to oversee the implementation of the SPPP and requirements. The Director of Engineering may designate personnel to complete activities required under the SPPP, such as inspection of the site-wide stormwater collection and containment systems, and verification of functionality and identification of maintenance requirements for the collection and treatment systems. Weekly water treatment system inspection and maintenance events are ongoing. If system repairs or maintenance are required, repairs shall be prioritized to maintain effective site isolation and stormwater capture.

Site personnel will continue to ensure maintenance and inspections are conducted. The personnel will monitor the development of significant weather events with the potential to impact containment and treatments, conducting additional inspections as required.

An SPPP and spill response training program will be developed and provided to personnel involved in inspecting and maintaining the stormwater system. Personnel will be provided with notification procedures if a potential or actual issue is observed.

6.0 REFERENCES

[VFPA] Vancouver Fraser Port Authority. 2015. Project & Environmental Review Guidelines – Developing Your Stormwater Pollution Prevention Plan. http://www.portmetrovancouver.com/wp-content/uploads/2015/05/PER-Stormwater-Pollution-Prevention-Plan-Guidelines-Final-2015-07-09.pdf. Accessed 2021.

APPENDICES

Appendix A1

Westshore Spill Prevention Plan

Spill Response Plan

Revision History

Rev	Description	Revised by	Date
1	Version 1 of Spill Response Plan	Cam Kowalski	July 2020
2	Revision 1 of Spill Response	Cam Kowalski	October 2020
3	Revision 2 of Spill Response	Gavin Wright	December 2020
4	Revision 3 of Spill Response	Cam Kowalski	February 2021
5	Final Revision of Spill Response	Cam Kowalski	April 2021

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1.0 Policy Statement

The policy of Westshore Terminals Limited Partnership (WTLP) Spill Response Plan (SRP) is to avoid injuries, environmental damage, lost operating time and minimize damage or loss to terminal property during an emergency situation. No person is expected to endanger their safety during an emergency. If a situation arises that a person feels may be unsafe, is beyond their training, or requires modifications in standard operating procedures, that person should immediately report back to their Supervisor for further instructions. In all hazardous or potentially hazardous situations, it is important that all persons work as a team and follow established procedures. This will aid in minimizing the effects of the emergency and promote a rapid return to normal operations.

1.1 Purpose

The purpose of the SRP is to develop a state of readiness which will allow for a prompt and orderly response to an emergency.

1.2 Scope

The SRP aligns with the Emergency Response Plan (ERP) which covers all emergencies that originate at the WTLP. As part of the Emergency Response Plan maintenance practice WTLP implements a Hazard Assessment Process in order to generate an all-encompassing hazard inventory list. This list identifies potential emergency conditions that result from hazards associated with the WTLP facilities. Emergency Conditions may be defined as the result of a hazard negatively impacting people, property and/or the environment. Through the evaluation of hazards and their subsequent consequences, WTLP develops and maintains plans and procedures to assist in mitigation, planning and response efforts for all real or potential emergencies. This response plan is structured around four major objectives:

• understanding the type and extent of a potential emergency spill (risk/exposures);

• establishing a high order of preparedness (equipment, personnel) commensurate with the risk;

• ensuring an orderly and timely decision-making and response process (notification, standard operating procedures); and

• providing an incident management organization with clear missions and lines of authority (Incident Command System, field supervision, unified command).

2.0 Definitions

Building Emergency Response Plan **(BERP)**	A Building Emergency Response Plan is designed to ensure the safety of the building occupants through fire prevention and Emergency evacuation plans and exercises.
Canada Shipping Act (CSA) 2001	The Canada Shipping Act (CSA) 2001 is the principal legislation governing safety of marine transportation and recreational boating, as well as protection of the marine environment.
Emergency Operations Centre	An emergency operations center (EOC) is a central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level during an emergency, and ensuring the continuity of operation of a company, political subdivision or other organization.
Emergency Response Plan (ERP)	An emergency plan specifies procedures for handling sudden or unexpected situations. The objective is to be prepared to prevent fatalities and injuries.
Environmental Emergency Regulations 2019	These regulations aim to help reduce the frequency and severity of accidental releases of hazardous substances into the environment.
Incident Commander (IC)	The incident commander is the person responsible for all aspects of an emergency response; including quickly developing incident objectives, managing all incident operations, application of resources as well as responsibility for all persons involved.
Incident Command Post (ICP)	The Incident Command Post (ICP) is a predesignated temporary location and signifies the physical location of the tactical-level, on-scene incident command and management organization.
Incident Command System (ICS)	The Incident Command System (ICS) is a standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies can be effective.
Operations Coordinator (Ops20)	An operational supervisory position at WTLP. The Operations Coordinator is responsible for overseeing the execution of production plans on a shift by shift basis. They have access and knowledge to current site status, manpower

availability/ whereabouts and direct telecommunications. The position is filled on a 24/7 basis.

***Safety Data Sheets* (SDS)** (SDS) are summary documents that provide information about the hazards of a product and advice about safety precautions. SDSs are usually written by the manufacturer or supplier of the product. Documents may also be refer to these as Material Safety Data Sheets (MSDS) which are the same as the SDS documents.

***Spill Contingency Plan* (SCP)** A Spill Contingency Plan is a set of procedures to be followed to minimize the effects of an abnormal event, such as a spill.

3.0 Legislation

The spill response plan is governed by federal, provincial and local regulations which apply to the Westshore terminals facility and its operation. Examples of these regulations include, but are not limited to:

- Canada Shipping Act (CSA)
- Canadian Environmental Protection Act (CEPA)
- Environmental Emergency Regulations (EER)
- Environmental Management Amendment Act (EMA)
- British Columbia Ministry of the Environment (BCMoE)

In 2020, WTLP identified the plans which required testing based on legislative requirements. A further gap analysis was conducted to assess which legislative requirements had been completed and which plan required further testing. The Gap Analysis is retained within the WTLP emergency management documents library and will be regularly reviewed and updated (where required). Specifically pertaining to spill response the following legislative operations are required to be tested:

A. Environmental Emergency Regulations (EER)

- Simulated exercise for each emergency plan in Subsection 4 of the EER per year.
- One Full Scale Exercise conducted every 5 years.

B. Spill Contingency Plan

- Review and update the spill contingency plan per year.

C. Environmental Management Amendment Act (2016)

For the purposes of section 91.11 (1) (b) of the EMA [regulated persons — spill contingency planning] of the Canadian Environmental Protection Act, a regulated person who has a spill contingency plan must test the plan, in accordance with this section, every 3-year period by conducting:

- at least one worst-case-scenario test, and
- in every calendar year in the 3-year period that is not a calendar year in which the regulated person conducts a worst-case-scenario test,
    - at least one discussion-based test, and
    - at least one operations-based test.

3.1 Pre-emergency Planning

The first step is to identify potential hazards. This section will identify all potential on-site and off-site hazards of the operation, and the type of damage that may result. Information on toxicological, physical, and chemical properties of the substances being handled is critical to safe management of any incident scene. The potential impact on downwind air quality or downstream water quality from an accidental release and danger to human and animal health should be clearly identified. A mitigation plan** can be developed to passively reduce exposures to the community or the environment should a spill occur (e.g. buffer-zones, fencing, dykes/barriers, transportation corridors). Man-made perils such as fire, explosion, transportation accidents, or equipment failure should be considered in addition to the natural perils such as floods, earthquakes or landslides.

3.2 Risk Analysis (Hazard Inventory List)

The risk of spills at WTLP was assessed for all substances used on site: fuels, lubricants, hydraulic oil, mineral oil, antioxidants, dust suppressants, coolant, and water treatment agents. The review was based on site visits, past incidents, and an inventory matrix that details the source (including sub-components, e.g., transmission, gear oil tank, hydraulic take-offs, etc.), type, volume, and Safety Data Sheet (SDS) reference for all substances. This analysis served to identify the following:

- potential failures or accidents (including frequency);
- calculate the quantity of material that may be released in each failure, estimate the probability of such occurrences, and
- evaluate the consequences of such occurrences based on scenarios such as most probable and worst case events.

This combination of consequences and probability will allow the hazards to be ranked in a logical fashion to indicate the zones of important risk. Criteria should then be established by which the quantified level of risk may be considered acceptable to all parties concerned.

The full risk analysis is available in the Document Control System. **WTLP Hazard Inventory for Spill Response**. This Inventory should be reviewed annually and amended based on known spills. In addition to this reference document, a tankage inventory list was created by Engineering and Environmental Services. The tankage inventory list is available in the document management system and can support the risk registry. These documents are reference documents which support the strategic spill response plan. Accordingly, each document should be reviewed annually with changes made if conditions within either document are modified.

The following table ranks the risk/ impacts to WTLP based on quantities from existing data. The amounts captured are based on statistical data from the previous 10 years. The Volume/Frequency amounts are spill amounts from this time period. <u>The amounts do not reflect reportable amounts</u>. Reportable amounts are contained in Appendix A.

Table 3.1 – Risk Assessment of Spills at WTLP

Ranking	Substance Volume/Frequency	Source	Spill Cause	Risk/Impact	Mitigation
1	**Diesel** 200 L 1 per 5 to 10 years	Mobile units 28,000L tank	Overfilling Inattention Component failure	**Medium** Fire/explosion Toxicity	Contained tank Operator care Maintenance Trench/sump
2	**Hydraulic Oil** 150 L 2 per year	4,500L tank Mobile units	Component failure	**Low -to-Medium** Low flammability Low toxicity	Inspections Maintenance Operator care Trench/sump
3	**Gasoline** 25 L 1 per 10 years	2 tanks 2,000 L 10,000 L	Overfilling Inattention Collision	**Low** Fire/explosion Toxicity	Contained tanks Maintenance Operator care Trench/sump
4	**Propane** Unknown amount 1 per 50 years	69,750L	Component failure Collision	**Low-to-Medium** Highly flammable	Inspections Maintenance Driver care
5	**Cat Shop Oils** 25 L 2 per year	Tank 4,600L	Overfilling Inattention	**Low**	Contained tanks Operator care Maintenance Inspections
6	**Waste Coolant** 25 L 1 per year	Drum 200L	Component failure Transfer	**Low** Toxicity	Operator care Drum on pallet Inspections
7	**Envirobind** **Envirocrust** **Pyroquench** 200 L 2 per year	80,000L tanks 1,000L totes 40,000L tank	Improper filling System malfunction	**Low**	Contained tanks Protected totes Inspections Maintenance
8	**Coagulant & Flocculent** 25 L 2 per year	1,000 totes 1,500l tank	Inattention Component or system malfunction	**Low**	Operator care Inspections Contained area
10	**Transformer Oil** 200L 1 per 10 years	18 units 2,000-4,000L	Corrosion of cooling fins	**Low**	Segregated area Inspections Maintenance
11	**Coal (Ocean spill)** 100 kg 2 per year	Conveyor Amount varies	System malfunction	**Low**	Inspections Maintenance

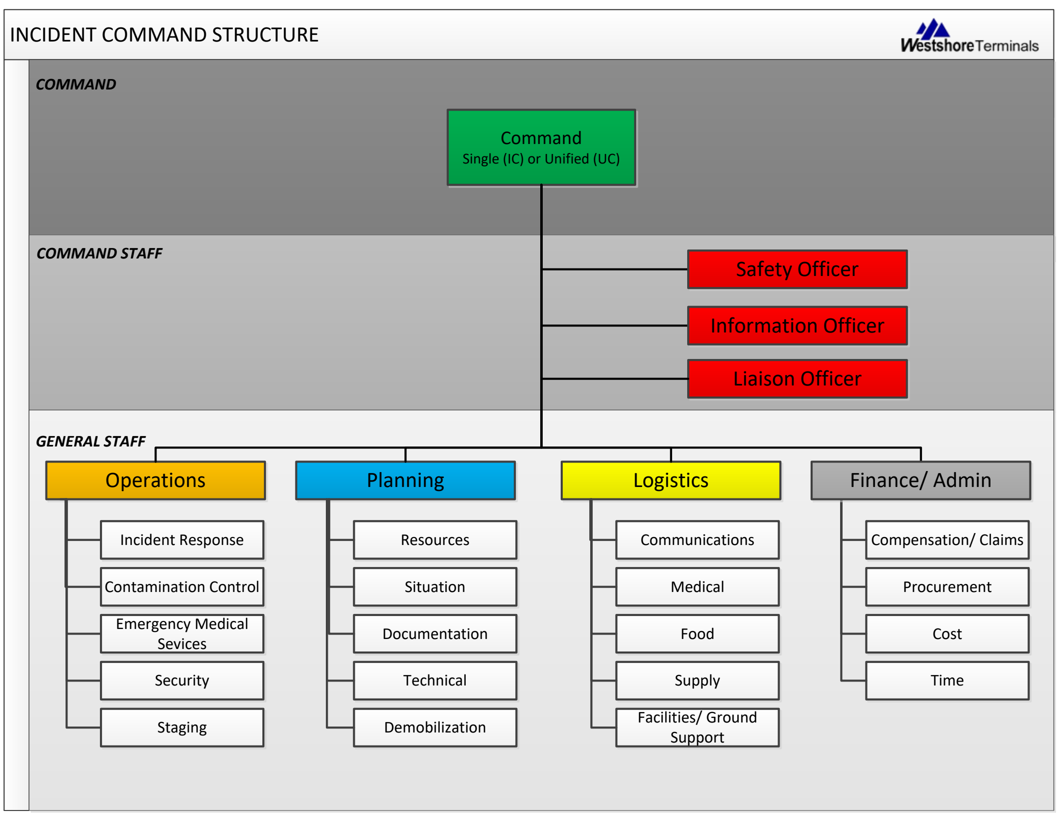
**** It is not an offence to spill a substance. It is an offence NOT to report a reportable spill.**

4.0 Emergency Organization and Management

WTLP employs the Incident Command System (ICS) in the event of an emergency. The ICS is a standardized approach for the command, control, and coordination of emergency response, providing a common hierarchy within which responders from multiple agencies can be effective.

Figure 4.1 – Incident Command Structure

The ERP identifies the transition from normal operations to emergency operations and the delegation of authority from operations personnel to emergency response personnel. For this purpose, the plans have been identified in the ERP with appropriate lines of authority and how the response management will escalate. Responsibilities for decision making should manage through coordination from the incident site through the Operations Coordinator (Ops20). This plan operates in conjunction with the ERP with duties and reporting relationships (Incident Command System diagram below). Additionally, at times employees will be asked to perform one-time actions, while other tasks that are assigned are repetitive for the duration of the incident.



An employee may be assigned to report to a specific group or individual within the Incident Command Structure including:

- Command
- Command Staff
- General Staff – Functional

The responsibilities assigned may be customized to the response role, as and when required.

4.1 Internal Alerting

In an emergency, information must be communicated quickly and accurately throughout the organization. In the initial discovery of a spill, the individual who is notified or becomes aware of the spill must immediately contact the Operations Coordinator (Ops20) and provide the following information (if known):

- What happened?
- Where did it happen?
- When did it happen?
- What is the extent of the spill (if known)?
- What assistance is needed?
- What is the product involved?
- Are there any other specific hazards involved?

In coordination with Ops20, an Incident Commander (IC) will be assigned to manage the spill site. This individual may or may not be the same person that has discovered or reported the spill. The IC will be responsible for on-site activities or actions as well as the health and safety of all personnel in the immediate area. The IC will determine the site actions utilizing the IC Spill Response Checklist (Appendix B). The IC may determine that the site is unsafe for personnel and/or first responders. If this determination is made, the Ops20 coordinator needs to be advised immediately. Any concerns which have been identified by the IC, will be further escalated by Ops20 where required. Additionally, if there is a recommendation that an evacuation take place in any part of the facility, this information must be confirmed and escalated to the appropriate authority. This decision shall be made based on confirmed information and shall be a joint discussion between IC, Ops20 and WTLP leadership. Upon direction from the evacuation authorities within WTLP, the IC will ensure that site personnel are safely.

4.2 External Alerting

Following the initial internal alerting process which will take place between the first response and the operations coordinator, it will be the responsibility of the operations coordinator to ensure notification of external agencies of the spill (see Appendix C). In most circumstances Ops20 will coordinate with engineering who will be responsible for external notification unless there is immediate cause for concern (i.e. evacuation). This notification can be made by a member of the WTLP team as designated through the ICS protocols (i.e. Liaison or Communications officer). These alerts will take place as soon as practicable, however calls to first responder agencies (Police, Fire, Ambulance) may come from the spill scene itself by first response personnel. In these circumstances, communication between responding WTLP personnel and the operations coordinator will confirm outgoing calls to 9-11. All calls from all sources will be documented. For all incidents, ICS procedures take primacy to internal protocols. Accordingly, roles and responsibilities of all external organizations and agencies involved in the emergency response and/or support function should be clearly defined as soon as practicable. Duplication of effort can be eliminated by ensuring coordination among the various agencies that provide similar services.

4.3 Response Levels

Response levels to spills align with the emergency response measures identified in the ERP which have an escalating definition based on the magnitude of the incident. Accordingly, the spill response levels are based on minor, major and critical levels defined as the following:

- **Minor**: spills requiring an on-site worker to respond and take necessary collective actions.
- **Major:** spills requiring response by on-site or off-site trained staff but posing no danger to the public.
- **Critical:** spills beyond the resources of the facility, where there are subsidiary problems to complicate the situation such as fire, explosion, toxic compounds, and threat to life, property and the environment. Assistance will be required from local, regional, and/or provincial organizations.

Incident detection, information gathering and action decisions are the first steps in responding to an emergency incident. All these steps may occur over a short or protracted time period depending on the circumstances and magnitude of the incident. The ERP should identify the responsibility of the personnel having on-scene authority to evaluate the situation, assess the magnitude of the problem and activate the emergency response plan.

Upon receiving initial notification of an incident involving release of a hazardous chemical into the environment, the IC will assess the magnitude of the problem and potential threat to personnel, equipment, and environment. In accordance with the ERP, the on-site IC shall as soon as possible, report the situation to Ops20. Every situation must be assessed on an on-going basis to develop an appropriate response strategy. To ensure consistency for all incidents, the responding IC and Ops20 coordinator must refer to the Emergency Action Checklists.

4.4 Spill Response

The primary responsibility following a spill is to conduct a site assessment is to evaluate the presence of risk to both incident responders and the public. However, if it is safe to do so, information about the incident should be gathered as quickly as possible in order to evaluate the situation and develop an initial response plan. It might also be possible for the initial site responder to take measures to reduce possible impacts.

NOTE: Site responding members should wear appropriate PPE including (Boots, Coveralls, Gloves, Eye Protection, Hard Hat and may include respiratory protection) while assessing the incident.

4.5 Site Assessment Guidelines

When conducting the initial site assessment of the spill the philosophy of Respond, Assess, Mitigate should apply for the initial and ongoing stage of the incident. The following parameters must be adhered to and documented:

- Respond, identify and evaluate the immediate risks to and impacts on the environment, human health and infrastructure;
- Classify the spill according to the following factors:
    - Substance spilled,
    - Quantity of the substance spilled,
- The location and circumstances of the spill; and
- Assess:
    - What is to be done to protect the safety of response personnel and the public,
    - Whether or not an evacuation is necessary.
    - Spill specific PPE required to approach or address the spill.

4.6 Safety Checklist

- Conduct Pre-Entry Safety Checklist
- Establish communications procedures/schedules
- Don appropriate PPE, as per health and safety plan
- Refer to SDS
- As necessary based on the product spilled;
    - Remove all non-intrinsically safe radios, pagers, etc.
    - Determine wind speed and direction
    - Determine water current direction
    - Approach spill from upwind/up current if possible
    - Conduct vapour monitoring

4.7 Incident Intelligence checklist

- Determine status of any injured personnel
- Determine spill source
- Confirm spilled product (if different, leave the area)
- Determine if source is isolated
- Estimate spill rate/volume
- Determine if product has or will reach the water
- Determine if product has escaped local containment

Mitigation Checklist

- Evacuate and attend to any injured personnel
- Isolate spill source

4.8 Response Action Containment/Cleanup

This Spill Response Plan does not provide detailed descriptions of containment and/or cleanup as each substance has a standardized operating procedure. Detailed technical documents that apply to spill response operations are documented in the SDS (Safety Data Sheets). However, there are standardized procedures which list available on-site and off-site equipment, how it is to be accessed and who has the responsibility for it. The IC and Ops20 checklists identify response protocols regarding site management (Appendix B & C).

4.9 Emergency Operations Centre (EOC)Incident Command Post (ICP)

An IC will be assigned during an Emergency Incident or any other incident as required. The IC will typically be an Operations Foreman or designate who will assume this duty and coordinate activities at the scene. They liaise directly with outside emergency services as and when required. The IC will ensure that the principles of the British Columbia Emergency Management System (BCEMS) are followed during the initial response. Additionally, an Incident Command Post (ICP) will be established for all incidents which will be the coordination and triage area for the response. During the initial phases of the response, discussions between the ICP and Operation Coordinator (Ops20) will assess the requirement to activate the Emergency Operations Centre (EOC).

If an EOC activation is being considered, general staff may be activated for any incident, but generally during a Major or Critical Emergency Incident. The General Staff is responsible for the functional aspects of the incident command structure. The General Staff consists of the Operations, Planning, Logistics, and Finance/Administration Section Chiefs/ Heads.

4.10 Evacuation

Based on the risk registry and tankage inventory, an evacuation is highly unlikely due to the nature of substances contained at the property. With the exception of a propane leak, none of the spills would likely warrant evacuation. Although unlikely, a safe and orderly emergency evacuation of each area or the entire facility may be considered, based on the circumstances of the spill. If required, the notification and evacuation of the surrounding community should be a consideration but would be done in conjunction with internal, local, provincial or federal agencies. The planning for communities is done as a joint effort with local government and industry. The following elements must be considered for evacuation:

- alarm system capable of defining different areas and/or degrees of evacuation (Test/Drill exterior alarm),
- maps showing both the primary and alternate evacuation routes (BERP),
- designation of primary as well as alternate off-site assembly areas,
- designation of employees responsible for checking the evacuation area and for taking personnel counts at the assembly area to ensure that the area has been safely evacuated,
- designation of emergency escape equipment,
- providing dispersion estimates for worst and most likely gas/vapour releases to better define the affected areas,

- procedures to increase the degree/extent of areas to be evacuated if the emergency situation escalates.

**As identified, it highly unlikely that a spill generated within the WTLP property will require a mass evacuation. Any evacuation consideration must be coordinated with senior leadership and/or responsible authority (i.e. Engineering). Refer to Emergency Response Plan (ERP) for any situation where evacuation is being considered. Accordingly, evacuations which may require knowledge by local authorities as to the projected path of an air-borne chemical cloud, atmospheric dispersion rate, and ground level concentrations. The ability to warn residents on a rapid and reliable basis may also required. Use of appropriate and agreed on warning systems such as sirens, emergency broadcast systems, mobile public address systems is under discussion. In some instances, it may be safer for employees to remain inside with doors and windows closed rather than to be evacuated. A plume may move past homes very quickly. In these situations, the plan should include appropriate procedures to warn downwind employees to shut off all circulation systems including heating, air conditioning, vent fans and fireplaces.

4.11 Disposal of Spilled Contaminants And Debris

Procedures for the removal of recovered spilled material and contaminated soil or absorbents and location of temporary and/or permanent storage facilities for contaminated materials are contained in the Safety Data Sheets (SDS). The various possible treatment and disposal options such as incineration, reprocessing, burying, etc. are further expanded in the SDS documents along with procedures for obtaining the required approvals or permits from government agencies. Details on disposal and/or mitigation are provided as separate technical documents within the SDS documents.

4.12 Site Restoration/Remediation

The required degree of restoration will be determined through consultation between the WTLP team responsible for the spill and the government regulatory agency with primary responsibility in that situation. Restoration may include physical removal of contaminated surface materials, high-pressure washing, chemical cleaning, replacing of contaminated beach materials, and bioremediation.

4.13 After Action Evaluation/Assessment

Following all spills of any nature, a post-incident evaluation shall be done. This can be accomplished through exercises (Table-top exercise (TTX), Full Scale Exercise (FSX)) and actual emergency incidents and describe the manner in which the evaluation was done. The primary purpose of the post-incident evaluation is to identify from the spill response operation the weaknesses or strengths in the Action Plan and to make appropriate corrections to the plan. Other uses for post incident evaluation include accounting, legal, and public relations matters.

- a general description of the incident
- source and cause of the incident
- description of the response effort
- quantity of the spill and percent recovered
- itemized cleanup costs
- recommendations for preventative and mitigative measures

- plans for upgrading emergency preparedness and response plans

5.0 Training

Competency in responding to emergency incidents requires a complete understanding of the roles and duties of each person responsible on the team. Comprehensive training in the use of emergency response equipment and personnel protection devices and tactics is necessary to ensure the best response capability. Provision for training is an integral part of a complete contingency planning and implementation program. Initial training must be followed by periodic updates to maintain familiarity with all aspects of the plan.

Training should be provided at least annually and in the following situations:

- for new employees during their orientation period
- for existing employees when there is a change in their duties
- when new equipment or materials are introduced
- when emergency procedures are revised
- when a drill indicates need for improvement

5.1 Drills

Periodic simulation exercises or practice drills are integral to the success of this plan. Accordingly, it is important to develop employee skills and evaluate the adequacy of the contingency plan through the use of annual exercises or drills. The objectives of a drill include evaluation of the following:

- practicality of the plan (structure and organization)
- adequacy of communications and interactions among parties
- emergency equipment effectiveness
- adequacy of first aid and rescue procedures
- adequacy of emergency personnel response and training
- public relations skills
- evacuation and personnel count procedures

6.0 Plan updates

This SRP should be reviewed, updated and validated on a regular basis so that its call-out numbers and procedures are current. When an amendment is made to a plan, the amendment date should be noted on the updated page of the plan. A senior employee of the company should be designated to ensure that all plan-holders are notified of changes as soon as possible. Plan-holders should be requested to verify that they have received the changes. The most common amendments include telephone listings, response personnel, equipment, chemicals handled, emergency services available and resource lists. Plan holders should be notified immediately of any key changes regardless of review period.

Appendices

Appendix A – Regulatory Notifications

Chemicals (see Appendix D for equipment list)	SDS	Reportable Spill (L)
320		100
10W40	10374	100
15W40	10374	100
46AW		100
50/50 Premix Coolant	226387	100
5W30		100
85W-140		100
AW32		100
CAT TDTO 30		100
Diesel Fuel	826	100
Envirobind 834F	0551	200
Envirobind WDS	0211	200
Envirocrust 829C	0418	200
Gasoline (for licensed vehicles)		100
Gasoline Marked (for site-only vehicles)		100
IPAFloc 12	0539	200
ISO46		100
Lithium Grease		100
mineral oil		100
Mobilgear 600 XP 320	201560401225	100
Mobilgear SHC 320 synthetic	18269	100
Nuto H32	21586	100
Panolin 320 BioGear Oil		100
Panolin HLP32		100
PetroCanada Luminol TR I	000003000905	100
PowerFloc 263	0271	200
Propane		N/A
Pyroquench 1522C	0583	200
TDTO 30		100
TDTO 30W		100
Unirex EP0	8386	100

Local Regulatory notifications and procedures			
Vancouver Marine Communication and Traffic Services (VMCTS)	Operations Coordinator or Operations Foreman	**1-800-889-8952** Any spill from ship event and via VHF Channel 11	Notify following any spill from ship
Harbour Master	Operations Coordinator or Operations Foreman	**604-665-9086** Any marine spill in or around port	Notify
BC Rail	Operations Coordinator or Operations Foreman	**604-946-9414** Rail specific event whether actual or anticipated which may cause disruption to rail access or egress from WTLP	Contact BC rail and advise terminal has and emergency incident and inquire as to causeway junction crossing. Advise BC Rail to stand by for further information/instructions

Provincial Regulatory notifications and procedures			
BC Emergency Management	Operations Coordinator	**1-800-663-3456** For spills equal or greater than 100 litres (0.1 m3) of petroleum (does not apply to CER regulated facilities). Spill Reporting Regulation, Waste Management Act (Aug/ 1990).	EMBC will notify other agencies including: BC Ministry of Environment, Lands & Parks, Environment Canada, Canadian Coast Guard and affected municipal governments.
British Columbia Ministry of Environment & Climate Change Strategy (BCMoE)	Engineering	**1-800-663-3456** Responsible for the effective protection, management and conservation of B.C.'s water, land, air and living resources. The 24-hour, toll free number connects with	EMBC will advise BC MoE of reportable spills. BC MoE provides advice on response and protective measures to minimize the environmental impacts of spills. Approvals for waste storage,

		the Emergency Coordination Centre (part of Emergency Management BC).	treatment and disposal should be coordinated through this agency. For spills that meet provincial reporting criteria there is a requirement per the BC Spill Reporting Regulation to submit a written End-of-spill report within 30 days of the emergency response completion date. In addition, the BC Ministry of Environment and Climate Change Strategy may order a written Lessons Learned Report be submitted within 6 months after the emergency response completion date for the spill.
BC Emergency Management	Operations Coordinator	**1-800-663-3456** For spills equal or greater than 100 litres (0.1 m3) of petroleum (does not apply to CER regulated facilities). Spill Reporting Regulation, Waste Management Act (Aug/ 1990).	EMBC will notify other agencies including: BC Ministry of Environment, Lands & Parks, Environment Canada, Canadian Coast Guard and affected municipal governments.

Federal **Regulatory notifications and procedures**			
Environment Canada For Environmental	Engineering	Under requirements of the Environmental Emergency	The verbal report should include the following information as

Emergencies pertaining to Gasoline		Regulations, notification of an environmental emergency is required for all substances which are accidentally released in quantities which exceed the criteria specified by Environment Canada in the regulations. British Columbia Emergency Management British Columbia Ministry of Justice Telephone: 1-**1-800-663-3456**	it is known at the time of the report: (a) the reporting person's name and telephone number at which the person can be immediately contacted (b) the name of the person who owns or has charge, management or control of the substance immediately before the environmental emergency (c) the date and time of the release (d) the location of the release (e) the name/ UN number of the substance (f) the estimated quantity (g) the means of containment (from which the substance was released) and a description of its condition (h) the number of deaths and injuries resulting (i) the surrounding area affected and potential impact of the release (j) a brief description of the circumstances leading to the release (k) the cause of the release (if known) (l) details of the actions taken or further actions contemplated (m) names of the agencies notified or on scene (n) other pertinent information. Under

			requirements of the E2 Regulation a written report should be made within 30 days
Environment and Climate Change Canada (ECCC)	Engineering	For spills or deleterious substances (i.e. oil) of any size that enter (or may enter) waters frequented by fish (includes creeks, ditches, freshwater streams, tidal and marine waters) EC should be notified.	Provides advice to federal and provincial agencies for spill response and protection of sensitive habitat. ECCC administers Section 36(3) (pollution provisions) of the Fisheries Act. ECCC will notify EMBC, Canadian Coast Guard, other affected federal agencies and BC Ministry of Environment.
Department of Fisheries & Oceans (DFO)	Engineering	Emergency Authorizations Under the Fisheries Act	In emergency response situations where WTLP needs to undertake actions which impact or may impact aquaculture activities, WTLP shall ensure that the required emergency authorizations are sought from the Department of Fisheries and Oceans. Additionally, WTLP shall take steps to inform Canada Energy Regulator that such authorizations have been requested and the subsequent outcome of those requests.

Appendix B – Incident Commander Checklist

Spill Response Checklist – Incident Commander

- ❑ Immediately notify Operations 20 of spill (if notification not received via Ops20).
- ❑ Initial responder to determine nature of spill (if known)
- ❑ Establish incident command
- ❑ Transfer command to Incident Commander (if different from initial responder)
- ❑ Incident Commander to assess, identify, and extent of spill. (i.e. Is this localized or significant spill?)
- ❑ Refer to SDS sheets spill response guide or other additional information specific to spill
- ❑ Determine required PPE to approach spill area
- ❑ Conduct evaluation of spill - assessed by IC
- ❑ Determine extent of spill based on current observations and information (Minor, major or critical)
- ❑ Update Ops 20 and seek direction
- ❑ Collect evidence at scene including photographing of scene for investigation team (if safe to do so)
- ❑ Mitigate initial damage if possible and if equipment readily available
- ❑ Collect all relevant information, document findings and initial actions
- ❑ Isolate the area including any potential spread of spill.
- ❑ Communicate with Foreman/Supt, provide details of the situation and seek input. Document directions and action plan
- ❑ In coordination with Ops20, identify resources required to address or support situation (local, provincial, federal)
- ❑ Establish access and egress routes to site of incident.
- ❑ Request additional resources through Ops 20 (if required).
- ❑ Establish initial strategies, tactics and objectives in coordination with Ops 20.
- ❑ Set first Operational Period in coordination with Ops20.
- ❑ Document all actions

British Columbia Emergency Response System (BCEMS)

1. Provide for safety and health of all responders
2. Save lives
3. Reduce suffering
4. Protect public health
5. Protect government infrastructure
6. Protect property
7. Protect the environment
8. Reduce economic and social losses

Appendix C - Ops 20 Checklist

Spill Response Checklist – Operations Coordinator

- ❑ Confirm spill (if received from initial responder)
- ❑ Ensure IC assigned.
- ❑ Ensure BCEMS are in place.
- ❑ Determine nature and type of spill in conjunction with IC
- ❑ Coordinate initial strategies, tactics and objectives with IC based on type of spill.
- ❑ Determine point of contact for all incoming information, escalating information to Foreman/Supt where required.
- ❑ Notify Internal authorities
- ❑ Make initial determination of EOC activation requirement
- ❑ Consult with internal authorities (i.e. engineering) to ensure notification of external regulatory authorities has been actioned
- ❑ Ensure all facility personnel are aware of situation and action required. Document action.
- ❑ Designate responsible person to contact to experts to determine issue and estimated mitigation period.
- ❑ Be prepared to lock down or evacuate facility at the direction of Foreman/Supt or member of senior leadership.
- ❑ If lockdown or evacuation is recommended, adhere to documented procedures.
- ❑ Document areas to be locked down and communicate actions to personnel.
- ❑ Monitor and continually reassess situation making modifications when and if required.
- ❑ Communicate with resources providing updates and direction.
- ❑ Upon notification of resolution of incident, confirm source of information
- ❑ Determine if affected areas need to be segregated and require security presence.
- ❑ Determine length of requirement for presence, deploy resources if required.
- ❑ Demobilize resources upon consultation with IC.
- ❑ Communicate actions to all affected stakeholders proving outcome.
- ❑ Prepare formal report outlining all actions taken during incident.
- ❑ Reassess response through debrief (major or critical incident).
- ❑ Make changes to procedures, policy or other documents in consultation with response personnel involved.

British Columbia Emergency Response System (BCEMS)

9. Provide for safety and health of all responders
10. Save lives
11. Reduce suffering
12. Protect public health
13. Protect government infrastructure
14. Protect property

Appendix D – Tankage Inventory

Tankage Inventory – HAZ EQUIP LIST

Order	Equipment #	Stored Chemical	MSDS Ref#	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
				129,365	**30,042**	**25,371**	**979**	**280,755**		
Dumpers										
Dumper 31										
1.	Car clamps & wheel grippers HPU	Nuto H32	21586		1,200					
2.	West Ice Crusher HPU + gate	Nuto H32	21586		300					volume estimated
3.	West Ice Crusher HPU + gate	Nuto H32	21586		300					volume estimated
4.	Entry positioner arm gearbox	Mobilgear 600 XP 320	201560 401225			45				volume estimated
5.	Exit positioner arm gearbox	Mobilgear 600 XP 320	201560 401225			45				volume estimated
6.	Entry positioner haulage winch gearbox	Mobilgear 600 XP 320	201560 401225			1,000				volume estimated
7.	Exit positioner haulage winch gearbox	Mobilgear 600 XP 320	201560 401225			840				
8.	Entry grease	Unirex EP0	8386			450				
9.	Exit grease	Unirex EP0	8386			450				
Dumper 32										
10.	Barrel HPU Unit	Nuto H32	21586		4,500					volume estimated
11.	Ice Crusher Unit	Nuto H32	21586		581					
12.	Main barrel HPU top-up tank	Nuto H32	21586		1,000					volume estimated
13.	Entry Wheel Gripper HPU	Nuto H32	21586		1,000					volume estimated
14.	Exit Wheel Gripper HPU	Nuto H32	21586		1,000					volume estimated
15.	Entry positioner gearbox	Mobilgear 600 XP 320	201560 401225			45				volume estimated
16.	Exit positioner gearbox	Mobilgear 600 XP 320	201560 401225			45				volume estimated
17.	Entry positioner haulage winch gearbox	Mobilgear 600 XP 320	201560 401225			840				
18.	Exit positioner haulage winch gearbox	Mobilgear 600 XP 320	201560 401225			840				
Stacker Reclaimers										
SR44										

Order	Equipment #	Stored Chemical	MSDS Ref#	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
				129,365	**30,042**	**25,371**	**979**	**280,755**		
19.	Luff				1,500					volume estimated
20.	Centre Chute				250					volume estimated
21.	Boom conveyor gearbox	Mobilgear SHC 320 synthetic	18269		55					
22.	Boom conveyor fluid coupling	Nuto H32	21586		280					volume estimated
23.	Boom conveyor hydraulic take-up HPU	Nuto H32	21586		50					volume estimated
24.	Bucketwheel gearbox + brake (total volume reported)	Mobilgear 600 XP 320	201560 401225			344				
SR45										
25.	Traverse drives (qty 46 - total volume reported)	Mobilgear 600 XP 320	201560 401225			1,058				
26.	Rail clamps - Main machine (qty 6 - total volume reported)	Nuto H32	21586		48					
27.	Rail clamps - Elevator (qty 2 - total volume reported)	Nuto H32	21586		16					
28.	Rail clamps - Tripper (qty 2 - total volume reported)	Nuto H32	21586		16					
29.	Slew drives (qty 3 - total volume reported)	Mobilgear 600 XP 320	201560 401225			240				
30.	Bucketwheel gearbox + brake (total volume reported)	Mobilgear 600 XP 320	201560 401225			344				
31.	Boom conveyor gearbox + brake (total volume reported)	Mobilgear 600 XP 320	201560 401225			58				
32.	Elevator car conveyor gearbox	Mobilgear 600 XP 320	201560 401225			53				
33.	Pullrod pinion gearboxes (qty 2 - total volume reported)	Mobilgear 600 XP 320	201560 401225			120				
34.	Luff HPU + minimum cylinder volume (total volume reported)	Nuto H32	21586		1,756					
35.	Feeder HPU	Nuto H32	21586		100					
36.	Feeder gearbox	Mobilgear 600 XP 320	201560 401225			86				
37.	Elevator car HPU	Nuto H32	21586		240					
38.	Main machine hydraulic refill tank	Nuto H32	21586		800					
SR46										
39.	Traverse drives (qty 46 - total volume reported)	Mobilgear 600 XP 320	201560 401225			1,058				

Order	Equipment #	Stored Chemical	MSDS Ref#	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
				129,365	30,042	25,371	979	280,755		
40.	Rail clamps - Main machine (qty 6 - total volume reported)	Nuto H32	21586		48					
41.	Rail clamps - Elevator (qty 2 - total volume reported)	Nuto H32	21586		16					
42.	Rail clamps - Tripper (qty 2 - total volume reported)	Nuto H32	21586		16					
43.	Slew drives (qty 3 - total volume reported)	Mobilgear 600 XP 320	201560 401225			240				
44.	Bucketwheel gearbox + brake (total volume reported)	Mobilgear 600 XP 320	201560 401225			344				
45.	Boom conveyor gearbox + brake (total volume reported)	Mobilgear 600 XP 320	201560 401225			58				
46.	Elevator car conveyor gearbox	Mobilgear 600 XP 320	201560 401225			53				
47.	Pullrod pinion gearboxs (qty 2 - total volume reported)	Mobilgear 600 XP 320	201560 401225			120				
48.	Luff HPU + minimum cylinder volume (total volume reported)	Nuto H32	21586		1,756					
49.	Feeder HPU	Nuto H32	21586		100					
50.	Feeder gearbox	Mobilgear 600 XP 320	201560 401225			86				
51.	Elevator car HPU	Nuto H32	21586		240					
52.	Main machine hydraulic refill tank	Nuto H32	21586		800					
SR47										
53.	Traverse drives (qty 46 - total volume reported)	Mobilgear 600 XP 320	201560 401225			1,058				
54.	Rail clamps - Main machine (qty 6 - total volume reported)	Nuto H32	21586		48					
55.	Rail clamps - Elevator (qty 2 - total volume reported)	Nuto H32	21586		16					
56.	Rail clamps - Tripper (qty 2 - total volume reported)	Nuto H32	21586		16					
57.	Slew drives (qty 3 - total volume reported)	Mobilgear 600 XP 320	201560 401225			240				
58.	Bucketwheel gearbox + brake (total volume reported)	Mobilgear 600 XP 320	201560 401225			344				
59.	Boom conveyor gearbox + brake (total volume reported)	Mobilgear 600 XP 320	201560 401225			58				

Order	Equipment #	Stored Chemical	MSDS Ref#	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
				129,365	**30,042**	**25,371**	**979**	**280,755**		
60.	Elevator car conveyor gearbox	Mobilgear 600 XP 320	201560 401225			53				
61.	Pullrod pinion gearboxs (qty 2 - total volume reported)	Mobilgear 600 XP 320	201560 401225			120				
62.	Luff HPU + minimum cylinder volume (total volume reported)	Nuto H32	21586		1,756					
63.	Feeder HPU	Nuto H32	21586		100					
64.	Feeder gearbox	Mobilgear 600 XP 320	201560 401225			86				
65.	Elevator car HPU	Nuto H32	21586		240					
66.	Main machine hydraulic refill tank	Nuto H32	21586		800					
Ship Loaders										
SL 1										
67.	Traverse drives (qty 28 - total volume reported)	Panolin 320 BioGear Oil				644				
68.	Traverse rail clamps (qty 4 - total volume reported)	Panolin HLP32			32					
69.	Boom conveyor gearbox + brake	Panolin 320 BioGear Oil				98				
70.	Boom luff winches + brakes (qty 2 systems - total volume reported)	Panolin 320 BioGear Oil				456				
71.	Shuttle drives + brakes (qty 2 systems - total volume reported)	Panolin 320 BioGear Oil				156				
72.	Spout HPU system	Panolin HLP32			502					
73.	Boom conveyor headbox deflector	Panolin HLP32			14					
74.	Grease system	Unirex EP0	8386			510				
75.	Cable reelers (qty 2 - total volume reported)	Panolin 320 BioGear Oil				58				
SL 3										
76.	Spout HPU	Nuto H32	21586		45					volume estimated
77.	Boom luff gearbox + brakes	Panolin 320 BioGear Oil				85				volume estimated
78.	Boom conveyor gearbox	Panolin 320 BioGear Oil				71				
79.	Slew drives (qty 8 - total volume reported)	Panolin 320 BioGear Oil				224				volume estimated
80.	Shuttle drives (qty 8 - total volume reported)	Panolin 320 BioGear Oil				224				volume estimated
SL 4										
81.	Spout HPU	Nuto H32	21586		45					volume estimated
82.	Boom luff gearbox + brakes	Panolin 320 BioGear Oil				85				volume estimated
83.	Boom conveyor gearbox	Panolin 320 BioGear Oil				71				

Order	Equipment #	Stored Chemical	MSDS Ref#	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
				129,365	30,042	25,371	979	280,755		
84.	Slew drives (qty 8 - total volume reported)	Panolin 320 BioGear Oil				224				volume estimated
85.	Shuttle drives (qty 8 - total volume reported)	Panolin 320 BioGear Oil				224				volume estimated
Sample Plant (Berth 1)										
86.	Primary Cutter	Nuto H32	21586		200					volume estimated
Conveyor Hydraulic Takeups										
87.	8A	Nuto H32	21586		310					
88.	9B	Nuto H32	21586		310					
89.	10A	Nuto H32	21586		310					
Transformers										
Substation 1										
90.	T50	mineral oil						14,052		
119	T51	mineral oil						14,052		
Substation 2										
91.	T30	mineral oil						4,240		
92.	T31	PetroCanada Luminol TR I	000003 000905					2,365		
Substation 3										
93.	T20	mineral oil						2,099		
94.	T21	mineral oil						2,099		
Substation 3A										
95.	T22	mineral oil						2,195		
Substation 4										
96.	T32	mineral oil						4,240		
97.	T33	PetroCanada Luminol TR I	000003 000905					2,365		
Substation 4A										
98.	T4	PetroCanada Luminol TR I	000003 000905					2,511		
Substation 5										
99.	T34	mineral oil						4,240		
100.	T35	mineral oil						4,240		
Substation 5A										

Order	Equipment #	Stored Chemical	MSDS Ref#	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
				129,365	**30,042**	**25,371**	**979**	**280,755**		
101.	T8	mineral oil						1,795		
Substation 6										
102.	35	mineral oil						4,102		
103.	T36	mineral oil						4,102		
Substation 7										
104.	T37	mineral oil						1,636		
Res 5 Area										
105.	spare transformer #1	PetroCanada Luminol TR I	000003 000905					2,511		
106.	spare transformer #2	PetroCanada Luminol TR I	000003 000905					2,511		
Mobile Equipment										
CAT 308										
107.	Cooling System	50/50 Premix	226387				132			
108.	Fuel Tank	Diesel Fuel	826	1,109						
109.	Engine Oil	15W40	10374			68				
110.	Power Train Oil	TDTO 30				189				
111.	Hydraulic Oil	Nuto H32	21586		108					
112.	Final Drives	TDTO 30W				23				
113.	Recoil Spring Compartment	TDTO 30W				64				
114.	Pivot Shaft	TDTO 30W				30				
CAT 310										
115.	Cooling System	50/50 Premix	226387				178			
116.	Fuel Tank	Diesel Fuel	826	1,204						
117.	Engine Oil	15W40	10374			68				
118.	Power Train Oil	TDTO 30				193				
119.	Hydraulic Oil	Nuto H32	21586		144					
120.	Final Drives	TDTO 30W				23				
121.	Recoil Spring Compartment	TDTO 30W				64				
122.	Pivot Shaft	TDTO 30W				33				
123.	**CAT 311**									
124.	Cooling System	50/50 Premix	226387				178			
125.	Fuel Tank	Diesel Fuel	826	1,204						

Order	Equipment #	Stored Chemical	MSDS Ref#	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
				129,365	**30,042**	**25,371**	**979**	**280,755**		
126.	Engine Oil	15W40	10374			68				
127.	Power Train Oil	TDTO 30				193				
128.	Hydraulic Oil	Nuto H32	21586		144					
129.	Final Drives	TDTO 30W				23				
130.	Recoil Spring Compartment	TDTO 30W				64				
131.	Pivot Shaft	TDTO 30W				33				
CAT 312										
132.	Cooling System	50/50 Premix	226387				178			
133.	Fuel Tank	Diesel Fuel	826	1,204						
134.	Engine Oil	15W40	10374			68				
135.	Power Train Oil	TDTO 30				193				
136.	Hydraulic Oil	Nuto H32	21586		144					
137.	Final Drives	TDTO 30W				23				
138.	Recoil Spring Compartment	TDTO 30W				64				
139.	Pivot Shaft	TDTO 30W				33				
Liebherr Dozer 313										
140.	Cooling System	50/50 Premix	226387				109			
141.	Fuel Tank	Diesel Fuel	826	1,100						
142.	Engine Oil	10W40	10374			93				
143.	Splitter Box	85W-140				93				
144.	Travel Gear Box	85W-140				43				
145.	Hydraulic Oil	46AW			520					
Emergency Response										
EROO1										
146.	Engine Oil	15W40	10374			14				
147.	Fuel Tank	Diesel Fuel	826	144						
148.	ER002									
149.	Engine Oil	15W40	10374			21				
150.	Fuel Tank	Diesel Fuel	826	190						
Water Trucks										
WT 218										
151.	Engine Oil	15W40	10374			18				

Order	Equipment #	Stored Chemical	MSDS Ref#	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
				129,365	**30,042**	**25,371**	**979**	**280,755**		
152.	Fuel Tank	Diesel Fuel	826	201						
WT 218A										
153.	Engine Oil	15W40	10374			13				
WT219										
154.	Engine Oil	15W40	10374			18				
155.	Fuel Tank	Diesel Fuel	826	201						
WT 219A										
156.	Engine Oil	15W40	10374			13				
WT234										
157.	Engine Oil	15W40	10374			24				
158.	Fuel Tank	Diesel Fuel	826							
WT 234A										
159.	Engine Oil	15W40	10374			13				
WT001										
160.	Cooling System	50/50 Premix	226387				67			
161.	Fuel Tank	Diesel Fuel	826	355						
162.	Engine Oil	15W40	10374			41				
163.	Transmission	TDTO 30				36				
WT002										
164.	Fuel Tank	Diesel Fuel	826							
165.	Engine Oil	15W40				26				
Miscellaneous										
166.	0214 2006 GMC W/ 60000L PETROLEUM TANK	DECOMMISSIONED								
2019 Ford F-450 Fuel Truck										
167.	Tidy Tank			1,800					99218	
508 Zoom Boom										
168.	Fuel Tank	Diesel Fuel	826	144						
169.	Hydraulic	ISO46			246					
510 Front End Loader										
170.	Cooling System	50/50 Premix	226387				52			
171.	Fuel Tank	Diesel Fuel	826	400						

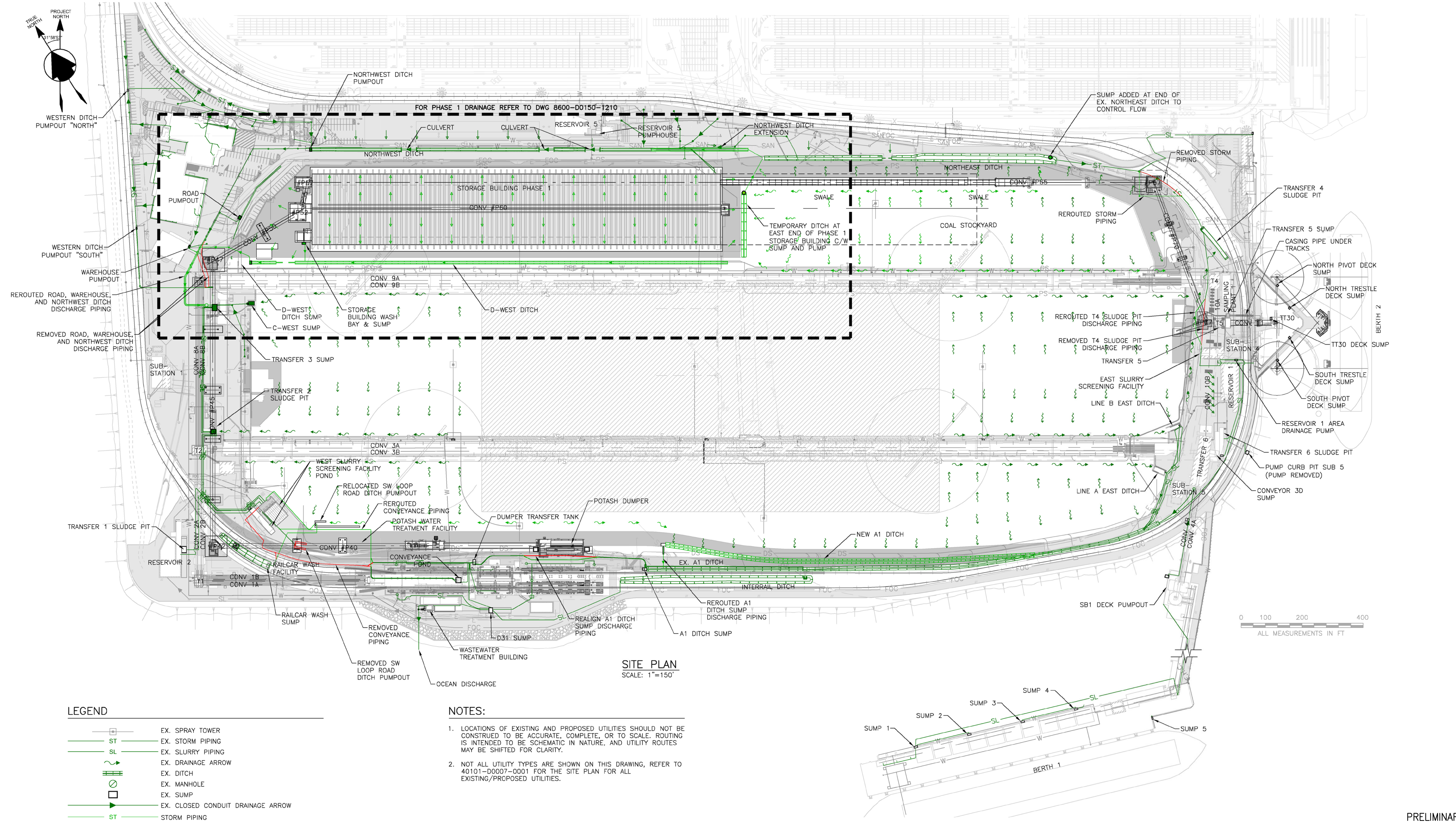
Order	Equipment #	Stored Chemical	MSDS Ref#	Reportable Spill (L)	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
					129,365	**30,042**	**25,371**	**979**	**280,755**		
172.	Engine Oil	15W40	10374				44				
173.	Hydraulic System	Nuto H32	21586			265					
174.	Axles	85W-140					84				
511 Grader											
175.	Engine Oil	15W40	10374				27				
176.	Transimission	TDTO 30W					220				
177.	Hydraulics	Nuto H32	21586			53					
178.	Cooling System	50/50 Premix	226387					49			
179.	Fuel Tank	Diesel Fuel	826		416						
501 Forklift											
180.	Hydraulics	Nuto H32	21586			60					
181.	Fuel Tank	Diesel Fuel	826		115						
504 Forklift											
182.	Fuel Tank	Diesel Fuel	826		52						
0742 Welder											
183.	Fuel Tank	Diesel Fuel	826		24						
743 Welder											
184.	Fuel Tank	Diesel Fuel	826		24						
744 Welder											
185.	Fuel Tank	Diesel Fuel	826		95						
Skid washer											
186.	Fuel Tank	Diesel Fuel	826		38						
Cranes											
211 M2 Crane											
187.	Hydraulics	Nuto H32	21586			35					
188.	Fuel Tank	Diesel Fuel	826		189						
217 Peterbilt											
189.	Hydraulics	Nuto H32	21586			217					
190.	Fuel Tank	Diesel Fuel	826		454						
191.	Engine Oil						38				
605 875e Grove											

Order	Equipment #	Stored Chemical	MSDS Ref#	Reportable Spill (L)	Fuel (gas/diesel) (L)	Hydraulic Oil (L)	Engine & Gearbox Oil (L)	Coolant (L)	Other (L)	Tank Registration (if applicable)	Notes
					129,365	**30,042**	**25,371**	**979**	**280,755**		
192.	Engine Oil						16				
193.	Cooling System							36			
194.	Hydraulics					894					
195.	Fuel Tank				272						
Generators											
196.	0721 Gen Set	Diesel Fuel	826		3,780						
197.	723 Gen Set w/ 4540L fuel tank	Diesel Fuel	826		4,540						
198.	Building Fire Pump	Diesel Fuel	826		360						
Fuel tanks											
199.	Propane	Propane			69,750						nameplate states "water volume" used to measure tank volume
200.	Diesel	Diesel Fuel	826		28,000					EC-00029140	
201.	Gasoline (for licensed vehicles)	Gasoline (for licensed vehicles)			2,000						
202.	Marked Gasoline (for site-only vehicles)	Marked Gasoline (for site-only vehicles)			10,000					EC-00029139	
CAT Shop Tanks											
203.	Waste Oil						4,600			EC-00029141	
204.	Hydraulic	AW32				4,500					
205.	Motor Oil	15W40	10374				675				
206.	Motor Oil	5W30					675				
207.	CAT Transmission/Drive Train Oil	CAT TDTO 30					151				
208.	Grease Lube Tank	Lithium Grease					1,775				
209.	Gear Oil Tank	320					1,130				
Dubois Chemical Systems											
210.	Empty Railcar System	Envirobind 834F	0551						80,000	SN 5207	
211.	Sponcom System	Pyroquench 1522C	0583						40,000	SN 5604	
212.	Berth 1/2 Dust Suppression System	Envirobind WDS	0211						80,000	SN 5206	

213.	Pile Crusting System	Envirocrust 829C	0418						2,400		2 totes @ 1200L ea
214.	Ocean Discharge Coagulant	IPAFloc 12	0539						1,500		
215.	Ocean Discharge Flocculant	PowerFloc 263	0271						1,500		

Appendix A2

Coal Water Collection Drawings



LEGEND

	EX. SPRAY TOWER
ST	EX. STORM PIPING
SL	EX. SLURRY PIPING
	EX. DRAINAGE ARROW
	EX. DITCH
	EX. MANHOLE
	EX. SUMP
	EX. CLOSED CONDUIT DRAINAGE ARROW
ST	STORM PIPING
SL	SLURRY PIPING
	DRAINAGE ARROW
	DITCH
	MANHOLE
	SUMP
	CLOSED CONDUIT DRAINAGE ARROW
	REMOVED STORM/SLURRY PIPING

NOTES:

1. LOCATIONS OF EXISTING AND PROPOSED UTILITIES SHOULD NOT BE CONSTRUED TO BE ACCURATE, COMPLETE, OR TO SCALE. ROUTING IS INTENDED TO BE SCHEMATIC IN NATURE, AND UTILITY ROUTES MAY BE SHIFTED FOR CLARITY.
2. NOT ALL UTILITY TYPES ARE SHOWN ON THIS DRAWING, REFER TO 40101-D0007-0001 FOR THE SITE PLAN FOR ALL EXISTING/PROPOSED UTILITIES.

PRELIMINARY

No	By	Date	Revision
P3	DY	21/01/14	ISSUED FOR USE – STAGE 2 STUDY
P2	MS	20/12/15	ISSUED FOR REVIEW
P1	DY	20/12/04	ISSUED FOR REVIEW

STAMP

Client: Westshore Terminals LP

Consultant: BINNIE
The people behind your infrastructure.

R.F. BINNIE & ASSOCIATES LTD.
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BINNIE.com

Project Title: NEW CARGO STUDY

Title: COLLECTION SYSTEM SITE PLAN PHASE 1

Design	Drawn	Checked	Plot Scale
MS	DY	CV	AS NOTED
Date 21/01/14	Date 21/01/14	Date 21/01/14	

Drawing Number 86000-D0150-1201 Revision Number P3

FILE: P:\201919-0925\00 - CAD FILES\DWG\FINAL\86000-D0150-1101.DWG LAYOUT: 1201 USER: DYU
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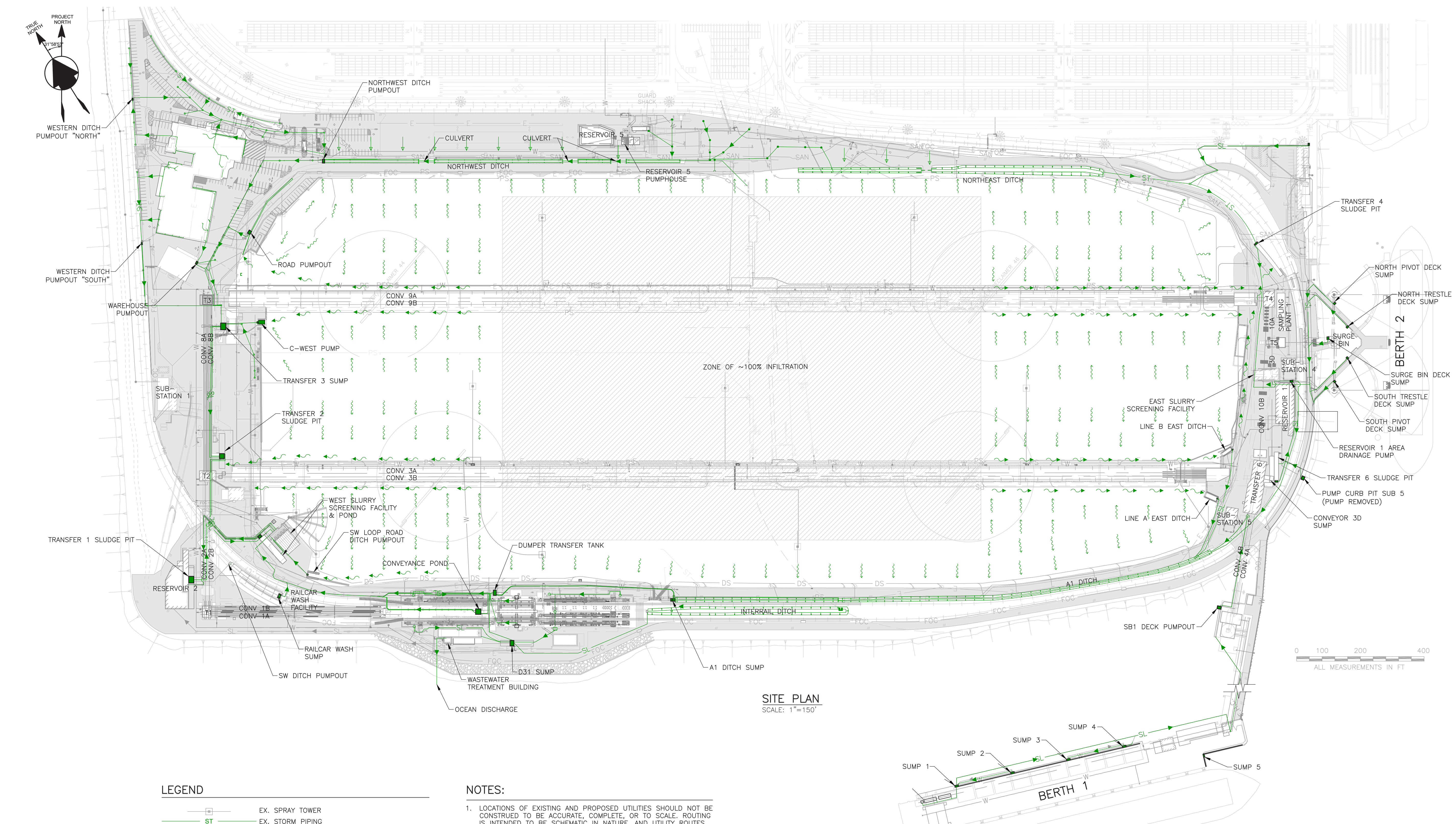

SITE PLAN
SCALE: 1"=150'

LEGEND

	EX. SPRAY TOWER
ST	EX. STORM PIPING
SL	EX. SLURRY PIPING
	EX. DRAINAGE ARROW – SWALE
	EX. DITCH
	EX. MANHOLE
	EX. SUMP
	EX. DRAINAGE ARROW – CLOSED CONDUIT
	EX. DRAINAGE ARROW – COAL PILE

NOTES:

1. LOCATIONS OF EXISTING AND PROPOSED UTILITIES SHOULD NOT BE CONSTRUED TO BE ACCURATE, COMPLETE, OR TO SCALE. ROUTING IS INTENDED TO BE SCHEMATIC IN NATURE, AND UTILITY ROUTES MAY BE SHIFTED FOR CLARITY.
2. NOT ALL UTILITIES ARE SHOWN, ONLY MAIN ROUTES.

PRELIMINARY

No	By	Date	Revision
P3	DY	21/01/14	ISSUED FOR USE – STAGE 2 STUDY
P2	MS	20/12/15	ISSUED FOR REVIEW
P1	DY	20/12/04	ISSUED FOR REVIEW

STAMP

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Project Title: NEW CARGO STUDY

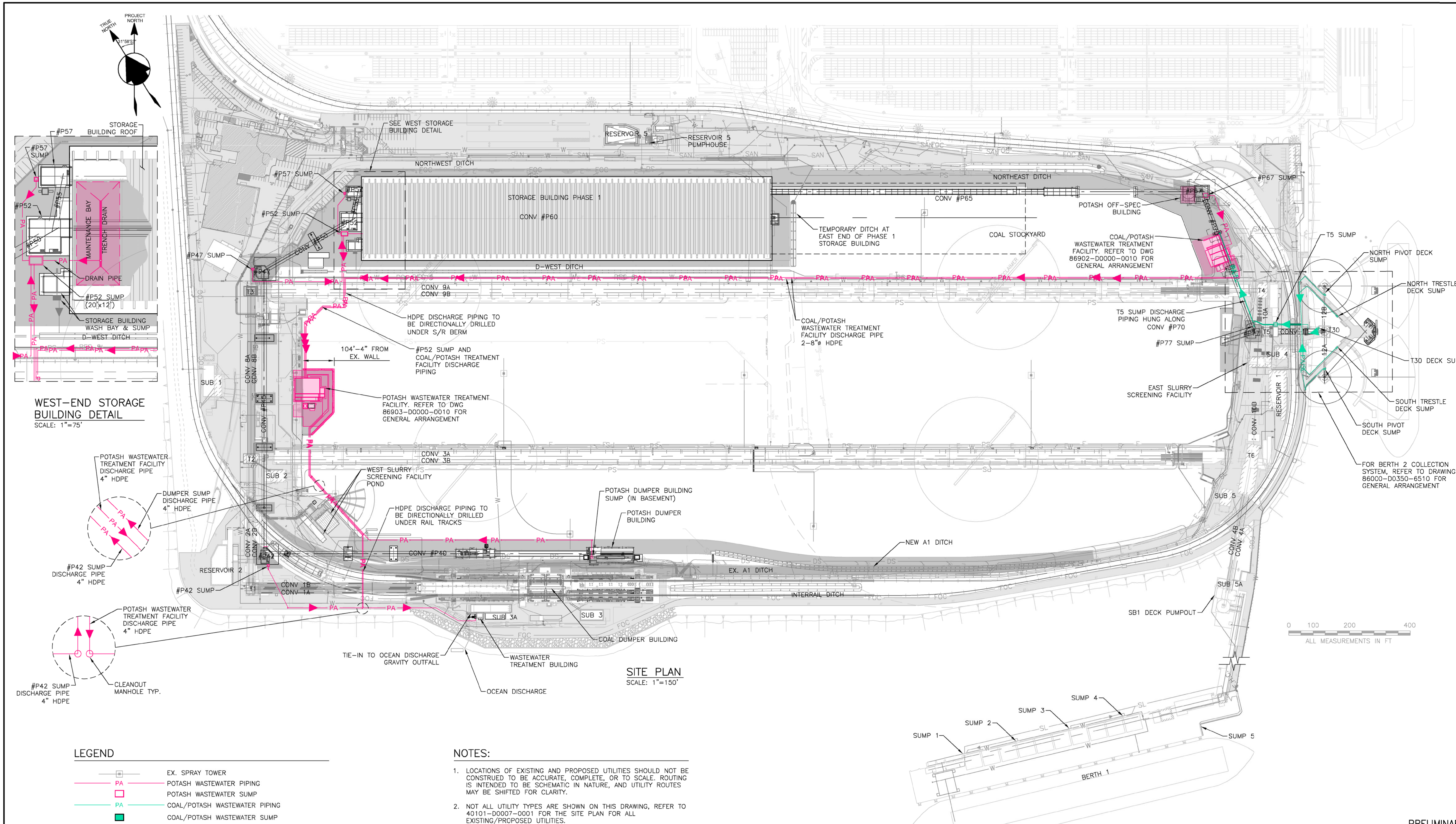
Title: COLLECTION SYSTEM SITE PLAN EXISTING

Design MS	Drawn DY	Checked CV	Plot Scale
Date 21/01/14	Date 21/01/14	Date 21/01/14	AS NOTED

Drawing Number 86000–D0150–1101 — Revision Number P3

Appendix A3

Potash Water Collection Drawings



LEGEND

- EX. SPRAY TOWER
- PA — POTASH WASTEWATER PIPING
- POTASH WASTEWATER SUMP
- PA — COAL/POTASH WASTEWATER PIPING
- COAL/POTASH WASTEWATER SUMP
- FLOW DIRECTION (CLOSED CONDUIT)
- POTASH SPILLAGE AREA

NOTES:

1. LOCATIONS OF EXISTING AND PROPOSED UTILITIES SHOULD NOT BE CONSTRUED TO BE ACCURATE, COMPLETE, OR TO SCALE. ROUTING IS INTENDED TO BE SCHEMATIC IN NATURE, AND UTILITY ROUTES MAY BE SHIFTED FOR CLARITY.
2. NOT ALL UTILITY TYPES ARE SHOWN ON THIS DRAWING, REFER TO 40101-D0007-0001 FOR THE SITE PLAN FOR ALL EXISTING/PROPOSED UTILITIES.
3. ALL POTASH TRANSFER TOWERS TO HAVE SUMPS AT GROUND LEVEL. DUMPER BUILDING TO HAVE A SUMP IN THE BASEMENT LEVEL. ALL TRANSFER TOWER AND DUMPER SUMPS TO HAVE 4" HDPE DISCHARGE PIPING U.N.O. (EXCLUDING BERTH 2 AREA).

PRELIMINARY

No	By	Date	Revision
P3	DY	21/01/14	ISSUED FOR USE - STAGE 2 STUDY
P2	MS	20/12/15	ISSUED FOR REVIEW
P1	MS	20/12/14	ISSUED FOR REVIEW

STAMP

Client: Westshore Terminals LP

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Project Title: NEW CARGO STUDY

Title: POTASH COLLECTION SYSTEM SITE PLAN PHASE 1

Design	Drawn	Checked	Plot Scale
MS	MS	CV	AS NOTED
Date 21/01/14	Date 21/01/14	Date 21/01/14	

Drawing Number: 86900-D0150-0010 | Revision Number: P3