

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

21780/21832/21840 South Westminster Shore & 10880 Dyke Road, Surrey

PREPARED FOR: Goodrich Group of Companies



PREPARED BY:



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List of Acronyms

AEC	Area of Environmental Concern
AST	Above Ground Storage Tank
BCWQG	British Columbia Water Quality Guidelines
BIT	Biologist in Training
BMPs	Best Management Practices
CANUTEC	Canadian Transport Emergency Centre
CEMP	Construction Environmental Management Plan
CSR	Contaminated Sites Regulations
DFO	Fisheries and Oceans Canada
EIR	Environmental Incident Report
EM	Environmental Monitor
EMA	<i>Environmental Management Act</i>
EMBC	Emergency Management British Columbia
ES	Environmental Specialist
ESA	Environmental Site Assessment
ESC	Erosion and Sediment Control
FA	<i>Fisheries Act</i>
FIDQ	Fisheries Inventory Data Queries
MBCA	<i>Migratory Bird Conventions Act</i>
MFLNRORD	Ministry of Forests, Lands, Natural Resource Operations & Rural Development
MOE	Ministry of Environment
NTU	Nephelometric Turbidity Units
PLG	Pacific Land Group
QEP	Qualified Environmental Professional
RPBio	Registered Professional Biologist
SARA	<i>Species at Risk Act</i>
SPEA	Streamside Protection and Enhancement Area
SRE	Significant Rainfall Event
SRP	Spill Response Plan
TDG	Transportation of Dangerous Goods
TPZ	Tree Protection Zone
TSS	Total Suspended Solids
VFPA	Vancouver Fraser Port Authority
VPH	Volatile Petroleum Hydrocarbon
WA	<i>Wildlife Act</i>
WMA	<i>Waste Management Act</i>
WSA	<i>Water Sustainability Act</i>

1.0 INTRODUCTION

Pacific Land Group (PLG) was retained by Goodrich Group of Companies (Client) to complete a Construction Environmental Management Plan (CEMP) for the proposed paving of a vacant lot to the east and installation of a rail spur within the properties located at 21780/21832/21840 South Westminster Shore & 10880 Dyke Road, Surrey, BC (Subject Properties/Site). It is understood that the proposed Project, will consist of the following:

- Paving of existing unpaved areas within the Site for increased lumber storage;
- Removal of some vegetation (clearing and grubbing) to accommodate proposed Project works;
- Installation of a rail spur, for the purpose of transloading lumber and wood pellets from trucks, vans, and rail cars into containers for export; and
- Equipment access through existing paved areas, where possible, limiting disturbance to other areas around the Site.

Measures, as set forth in this CEMP, will be developed and implemented to reduce risk to areas within and around the Project area.

1.1 Objectives of the CEMP

The objectives of this CEMP are to:

- Describe the work procedures to be undertaken to minimize and mitigate adverse impacts to the environment resulting from this Project;
- Provide Contractors and subcontractors with sound advice for environmental protection planning and recommend Best Management Practices (BMPs) to guide work activities on the Project;
- Identify any elements of the Project that could present a potential risk to the environment;
- Identify acceptable water quality criteria to guide Environmental Monitoring; and
- Describe emergency response procedures to be undertaken to contain and limit impacts to the environment in the event of a spill incident.

This CEMP will be used as a guide and resource for the Port of Vancouver, Contractors, the designated Environmental Monitor (EM), and government agencies (if applicable) to measure compliance with the environmental protection and mitigation requirements of the Project. Environmental monitoring is a component of the Project and is described in the body of this CEMP.

Environmental measures apply to all Contractors and personnel, including EMs that are on-Site during Project activities. Therefore, the words "Contractor" or "Operator" used in this document apply to any company or personnel responsible for practices as described within. It is the Contractors' responsibility to ensure their employees and subcontractors are familiar and comply with the contents of this CEMP.

2.0 PROJECT INFORMATION

2.1 Project Location

The Site is approximately 2.31 acres (0.94 hectares) in size and located near Surrey, BC. The geographical coordinates at the project's approximate centre are 49.2004657 and -122.89671528, and borders the Fraser River on the northwestern side of the Property (Figure 1, below). The Site is designated "Industrial" in the Port of Vancouver's Land Use Plan and similarly designated in the City of Surrey's Official Community Plan (OCP). The Site is located adjacent to industrial developments to the northeast and southwest, industrial developments on the other side of the Canadian National Railway to the southeast, and the Fraser River to the northwest.



Figure 1. 2018 COSMOS aerial image of the Subject Property (dark red outline).

2.2 Project Description

It is understood that the proposed Project, will consist of the following:

- Paving of existing unpaved areas within the Site for increased lumber storage;
- Removal of some vegetation (clearing and grubbing) to accommodate proposed Project works;
- Installation of a rail spur, for the purpose of transloading lumber and wood pellets from trucks, vans, and rail cars into containers for export; and

Equipment access through existing paved areas, where possible, limiting disturbance to other areas around the Site.

2.3 Project Schedule

Project scheduling will be completed upon completion of the Port of Vancouver's approval process. Paving of the site would preferably take place during the dry season (late summer, early fall). Schedules will be provided at that time.

3.0 CONTACTS AND RESPONSIBILITIES

3.1 Key Project Personnel/Project Team

Table 1. Project Team Roles, Qualifications and Contact Information

Name:	Qualification:	Project Role/Company:	Contact Number:
Kyla Milne (Bryant)*	R.P. Bio	Biologist/Qualified Environmental Professional (QEP) for PLG	604-501-1624
Melissa Englouen	B.I.T.	Biologist for PLG	604-501-1624
Deborah Renn	Planner	Planner for Port of Vancouver	604-665-9561
Lisa McCuaig	-	Environmental Specialist for Port of Vancouver	604-665-9527
TBD**	-	Project Manager/Site Supervisor	-
TBD**	-	Environmental Monitor (EM)	-

*Primary QEP

**As the Project is in the preliminary stages, the Project Manager/Site Supervisor and EM for the proposed works will be determined prior to commencement of proposed construction works (as outlined in this CEMP).

3.2 Environmental Monitor Responsibilities

The responsibilities of the EM may consist of, but are not limited to, the following:

- Attendance at a Project kick-off meeting to identify and clearly mark environmentally sensitive areas and to discuss potential mitigation measures to be implemented during construction;
- Conducting regular monitoring Site visits during active construction, specifically during concrete pouring and during construction activities that occur during a Significant Rainfall Event (SRE; >25 mm in 24 hours);
- Conducting water quality monitoring, as required, for surface water runoff that may be required to be directed off-Site;
- Preparation of environmental monitoring reports, including photographic documentation, which describe Site conditions, on-Site construction observations, work progress, recommendations for environmental protection and mitigation, and scheduled upcoming Project activities;
- Collecting background water quality measurements from the receiving environment (surface water drainages, marine environment) to be used for monitoring water quality against the British Columbia Water Quality Guidelines (BCWQG). Background measurements will be collected prior to Project commencement as well as daily, prior to commencing work. If water samples are required from the marine environment, they will be collected from the shoreline using an extendable swing sampler to minimize disturbance;

- Walking construction areas and confirming that environmental protection measures outlined in the CEMP are being appropriately implemented (i.e., environmentally sensitive areas have been flagged and avoided, spill kits are in place at construction areas, spill pads are stored with heavy equipment, garbage is being disposed of appropriately);
- Documenting environmental or wildlife observations reported by others;
- Providing a brief summary of environmental issues and mitigation measures during the daily tailgate meeting (if required);
- Notifying the Representative in Charge of the need to stop work to ensure Site safety, environmental integrity and ecologically sensitive areas are maintained. Only the Departmental Representative will have the authority to stop work; and
- Preparation and submission of weekly environmental monitoring reports including photographic documentation and field data, which describe Site conditions and construction observations, and provide recommendations for improving environmental protection practices when required.

3.3 Permit Holder / Contractor Responsibilities

The permit holder/contractor during construction must adhere to the following responsibilities (to be refined and/or expanded at any time prior to or during the project, based on the needs of the project), including:

- The Contractor will review the project CEMP with their staff and sub-contractors prior to commencing works;
- The Contractor will comply with the Vancouver Fraser Port Authority (VFPA) project permit and other agency permit or license issued for the project as well as all other applicable federal, provincial and municipal laws, statues, by-laws, regulations, orders and policies;
- The Contractor must cooperate with the EM appointed for the work. They must comply with written or verbal instructions with respect to conducting activities in compliance with the mitigation measures outlined in the CEMP; and
- The Contractor will correct deficiencies and any non-compliance issues upon direction from the EM whether written or verbal. Corrections should be made as soon as reasonably possible, ideally within 24 hours of directions. The permit holder or EM will notify VFPA immediately in the event of a non-compliance.

4.0 RELEVANT ENVIRONMENTAL LEGISLATION

4.1 Federal Legislation

The Project team will follow and comply with the following Federal Acts and Guidelines, including, but not limited to:

- Federal *Fisheries Act (FA)*
- Federal *Migratory Bird Conventions Act (MBCA)* – Bird Breeding Window March 1 – August 31 (at a minimum)

- Federal *Species at Risk Act (SARA)*, Schedule 1
- Ministry of Environment (MOE) and Fisheries and Oceans Canada (DFO) Land Development Guidelines for the Protection of Aquatic Habitat

4.2 Provincial Legislation

The Project team will follow and comply with the following Provincial Acts and Regulations, including, but not limited to:

- *BC Environmental Management Act (EMA)*
 - Spill Reporting Regulations
 - Contaminated Sites and Hazardous Waste Regulations
- *BC Water Sustainability Act (WSA)*
- *BC Waste Management Act (WMA)*
- *BC Wildlife Act (WA)*
- WorkSafeBC Occupational Health and Safety Regulations

It is expected that the permit holders consider and proactively address any incidents which result in non-compliance with applicable above legislation (e.g., spills of reportable quantity). Such incidents must be appropriately documented and immediately reported to the relevant agency or authority [e.g., Environmental and Climate Change Canada (ECCC), DFO and Emergency Management British Columbia (EMBC) Program, formerly Provincial Emergency Program (PEP); refer to Section 7.12 "Environmental Spill Response Plan and Emergency Response" below].

4.3 Municipal Legislation

The Project team will follow and comply with the following Municipal Bylaws, including, but not limited to:

- The City of Surrey (the City) Erosion and Sediment Control (ESC) Bylaw 2006 No. 16138
- The City's Noise Control Bylaw 1982 No. 7044

Numerous BMPs have been developed by industry associations and government agencies for activities near environmentally sensitive areas. In addition, the provincial document, *Develop with Care 2014 – Environmental Guidelines for Urban and Rural Land Development in British Columbia*, provides a comprehensive set of guidelines and BMPs (e.g., Urban Environment).

In this CEMP, Project works are addressed with respect to various environmental protection measures that can be applied directly or with modification, as required. These measures aim to promote environmental management by protecting the existing Site conditions and reducing the potential for migration of Project-related materials and products off-Site. Although the project is located near water (i.e., adjacent off-site Fraser River and Ditch 1; see Figure 1, below), permits/notifications for instream work are not required.



Figure 2. COSMOS aerial image of the Subject Property (red outline) and adjacent off-site watercourses.

5.0 ENVIRONMENTAL RESOURCES AND IMPACTS

5.1 Aquatic Resources

5.1.1 Fraser River

The closest aquatic resource to the Site is the Fraser River, which is located along the entire northwestern boundary of the Site and flows southwest towards the Strait of Georgia. The Fraser River has a total length of 1,375 km and the mainstem and tributaries make up the Fraser River catchment area (approximately 220,000 km²).

5.1.2 Off-site Ditch

A mapped watercourse (Ditch 1) is located approximately 40 metres southeast of the Dyke Road entrance to the Site. Ditch 1 was identified during a site visit by PLG's QEP flowing northeast-southwest along the south side of Dyke Road and is considered to be a Class A/O ditch.

5.1.3 Surface Water Drainage

Catch basins and manholes are located near the Site and receive surface flows from the nearby properties. Although drainage catch basins directly adjacent to the Site connect to the Fraser River catchment area, Project activities are not expected to directly affect this drainage.

5.2 Vegetation

Vegetation within the Site varied in composition (e.g., trees and grass) and was observed mostly around the approximate southern half perimeter boundaries, and within and around the

approximate northern half of the Site (i.e., currently undeveloped/unused portions adjacent to South Westminster Shore properties). Native vegetation within the approximate southern half of the site (i.e., around 10880 Dyke Road) included several trees scattered around the east, south, and west borders including black cottonwood (*Populus trichocarpa*) and red alder (*Alnus rubra*), in addition to hardhack (*Rosa spirea*), red osier dogwood (*Cornus sericea*) and willow (*Salix* sp.). Non-native, invasive vegetation observed around the southern half perimeter included common tansy (*Tanacetum vulgare*), Himalayan blackberry (*Rubus armeniacus*), Scotch broom (*Cytisus scoparius*). Native vegetation within the approximate northern half of the site (i.e., adjacent to 21780/21832/21840 South Westminster Shore) included mostly Common grasses (*Poaceae*) and horsetail (*Equisetum*), and non-native, invasive vegetation included Himalayan blackberry (*Rubus armeniacus*) and Japanese knotweed (*Fallopia japonica*). In addition, several red alder (*Alnus rubra*) trees were observed around the perimeter of the approximate northern half of the Site. Although the overall Site is relatively void of vegetation, it is anticipated that perimeter tree removal may be required to accommodate proposed development within the Site.

5.3 Wildlife

Project works will be conducted in an industrial setting with an abundance of large truck traffic and heavy equipment/machinery movement. Potential adverse effects to on-Site wildlife include bird nest disturbance (during the provincially recognized bird nesting window – refer to Section 2.3.1. Birds for details), temporary behavioural disturbance to small wildlife migration, and habitat loss through vegetation clearing. Off-Site wildlife (e.g., fish and aquatic species) may also be temporarily affected by construction works (e.g., silt and contaminants in surface water runoff into downstream watercourses and/or directly into the Fraser River).

5.3.1 Birds

Existing ground cover within the immediate Project location is mainly paved or disturbed and is not suitable habitat for ground nesting birds. Although vegetation within the Project area is limited to grass and non-native, invasive species, trees located around the perimeter of the Site may provide appropriate nesting habitat for other bird species. Pre-clearing surveys and protection would need to be considered, in advance of clearing works, during the appropriate nesting window in the BC Lower Mainland and Fraser Valley (March 12 – August 17) for nesting song birds. Urban-adapted bird species (e.g., crows, ducks, geese, seagulls, songbirds) have been identified on-Site or near the Site, but are not expected to be affected by the proposed Project works.

5.3.2 Mammals

A background review of electronic databases, maps and provincial and federal government websites to determine wildlife habitat values was conducted and indicated no provincially or federally listed mammal species of concern were found to occur on or within 1 km of the Site. Small mammals including Douglas squirrel (*Tamiasciurus douglasii*) and several species of rodents that may use the Site may temporarily be affected by the proposed Project works. The Site currently provides little available ground vegetation, thermal/predatory cover, or food resources for wildlife and is not anticipated to provide any during construction works; however, behavioural disturbance to small wildlife migration is expected to be temporary and resume

post-development. In the event a larger mammal species (e.g., coyote) is identified on-Site during construction works, a stop work order may be issued for the duration the animal is present within the Site (refer to Section 4.3 Wildlife Protection and Mitigation for details).

5.3.3 Fish & Aquatic Species

Aquatic features are limited to the off-site Fraser River and Ditch 1; however, on-site drainage catch basins directly adjacent to the Site connect to the Fraser River catchment area. A background search of the Fisheries Inventory Data Queries (FIDQ) database was queried for information on the Fraser River and the summary of fish present included use by, but not limited to, white sturgeon (Lower Fraser River population; *Acipenser transmontanus*). Environmental measures will be applied to protect downstream aquatic resources (refer to Section 4.1.1. Water Quality Management and Section 4.5 Erosion and Sediment Control Management for details).

6.0 GENERAL MITIGATION MEASURES

To minimize or avoid potential adverse effects to existing environmental values on-Site, the following general measures will be implemented during construction, operations and post-construction maintenance:

- During the pre-construction meeting, the CEMP and the environmental protection measures will be reviewed by the Lead Contractor and employees, as well as any other applicable parties;
- Environmental permitting is not anticipated; however, construction activities must comply with municipal and general construction permits;
- Prior to commencing work at the Site, appropriate spill prevention, containment, and cleanup contingency plans will be in place for safe management of hydrocarbon products and other deleterious substances that may be used in association with the Project works. Appropriate and up-to-date spill response equipment will be readily available on-Site for use in the event of an accidental spill. Trained Site Representatives will be available for spill response and reporting;
- The limits of disturbance will be clearly delineated in the field to ensure that no disturbance occurs within these areas, as a result of the proposed Project works;
- Equipment will be brought on-Site through existing paved or gravelled areas where possible, preventing disturbance to other areas on-Site;
- All equipment will be clean and maintained in good operating condition;
- Equipment refuelling will be undertaken by self-contained, contracted fuel providers, and off-Site prior to arriving, if possible;
- For equipment that is engine-powered or contains oils and greases (e.g., small excavators/bob cats, welding machines, concrete trucks) and require periodic maintenance or servicing, a mechanic will mobilize to the Site with all necessary supplies to undertake such activities and contain any potentially deleterious substances;
- All debris and deleterious substances generated by the construction activities associated with the Project will be appropriately contained in the immediate work area and appropriately disposed of in accordance with applicable legislation, guidelines, and BMPs;

- The protection of adjacent catch basins to prevent the off-Site migration of deleterious substances; and
- Construction areas will be covered or otherwise stabilized on a daily basis so as to prevent erosion and off-Site sedimentation.

The EM will be responsible for surveying/monitoring ongoing Project works, including pre-clearing bird nest surveys, providing guidance where required, facilitating environmental protection, and reporting all potential concerns to the Contractor in a timely manner.

The following sections provide detailed environmental management practices for specific components of work or environmental concerns associated with the Project.

7.0 SITE-SPECIFIC ENVIRONMENTAL PROTECTION MEASURES

The following sections provide Site-specific environmental protection measures. These sections should be referenced and updated as required throughout the life of the Project.

7.1 Site Access, Mobilization and Laydown Area Management

Prior to construction, a detailed Site access plan will be prepared for the project and include planned laydown and stockpiling locations within the Site. The permit holder will ensure that all Site access/mobilization routes and laydown/stockpile locations adhere to the following protection measures:

- Mobilization will be planned to minimize the number of trips to and from the Site; and
- A laydown area for storage of equipment and materials will be established prior to commencement of works within the Site. It will be located on a flat, stable area at least 30 m from any waterbody.

7.2 Air Quality and Dust Management

Regardless of the point of origin, dust control will be required to prevent dispersal onto adjacent vegetation, into watercourses during Site paving and rail spur installation and to prevent visual disturbances to nearby industrial owners (i.e., maintain air quality).

To appropriately control dust, the following measures shall be applied by the Contractor:

- Construction vehicles entering and leaving the construction area must be monitored for excess material on the tires;
- Dust must be controlled for the duration of the work by regular sweeping of access road surfaces;
- Chemicals are not to be utilized as a dust suppression mechanism;
- Material loads entering and exiting the site will be covered;
- Equipment and vehicles will not be left to idle.

7.3 Noise and Vibration Management

The Project is located in an industrial setting and is not expected to create levels greater than urban use (i.e., adjacent industrial sites, equipment/machine use, vehicle traffic). Construction activities will be limited to Monday to Saturday 0700 to 2000, excluding holidays. If additional work hours of an additional day of work is required, the contractor must contact VFPA directly. Noise and construction related vibrations (e.g., rail spur installation) are not expected to be an environmental concern as a result of this Project.

7.4 Aquatic Resource Management

Works within or adjacent to watercourses are not included in the scope of this Project; however, to protect the integrity of watercourses located to the northwest (i.e., Fraser River) and southeast (Ditch 1) of the Project area, the Contractor will:

- Employ sediment control devices, where necessary and practical, to prevent the dispersal of sediments outside the construction zone (e.g., silt fencing; Refer to Section 4.5 Erosion and Sediment Control Management for details);
- Restore the Site to a finished grade once excavation is completed within an area to prevent disturbance to off-Site drainages from sediment migration;
- Protect catch basins located along Dyke Road by fitting them with filter socks to prevent migration of construction silts and fines off-Site; and
- Confirm that surface water runoff, or generated sediment-laden water, meets legislated criteria or Project activity must cease until mitigations are applied and water is running clear of sediments.

7.4.1 Water Quality

The EM will conduct routine water quality monitoring, as needed, for stormwater run-off that may be generated by construction activities. Where needed, water quality will be tested for potential contaminants and the results compared to the BCWQG. Based on these guidelines, a discharge value of 25 mg/L Total Suspended Solids (TSS) during dry weather and 75 mg/L TSS during storm events, and a pH range of 6.5–9.0, is the maximum allowable discharge water quality associated with the Project works.

Field evaluations of aquatic turbidity will be used as a surrogate for TSS to provide contractors with real time information on the quality of discharge water. The relationship between turbidity and TSS can vary depending on the conditions of the Site, and confirmatory TSS samples may be collected for laboratory analysis to ensure compliance with the BCWQG freshwater turbidity criteria for sustained aquatic life:

- Change of 8 Nephelometric Turbidity Units (NTU) from any one background measure for a period of 24 h in all waters during clear flows or in clear waters;
- Change of 2 NTU from any one background measure for a duration of 30 days in all waters during clear flows or in clear waters;
- Change of 5 NTU at any time when background ranges from 8 NTU to 50 NTU during high flows or in turbid waters; and

- Change of 10% when background is >50 NTU at any time during high flows or in turbid waters.

The EM will assist the Contractor in confirming that water with potential to enter off-Site drainages meets the above criteria by monitoring the quality of the discharge. If evidence of contamination is observed on surface water during Project works (e.g., sheening, hydrocarbon odour), additional samples may be collected by the EM and submitted for laboratory analysis.

Further information regarding environmental monitoring is provided in Section 5 Environmental Monitoring.

7.5 Vegetation Management

It is understood that proposed works include clearing of the Site. To minimize the potential to affect vegetation within the designated landscape buffer and surrounding the Site, the following measures should be in place for the protection of vegetation:

- The work zone should be clearly delineated in the field based on the Project drawings prior to construction works to clearly define the Project boundaries;
- Perimeter tree clearing (if required) must be completed during bird nesting season (March 1 – August 31) and adhere to the following expectations:
 - Bird nest surveys will be completed by a QEP prior to vegetation clearing; and
 - If a nest is found, bird nest setbacks will be determined based on bird species present and appropriately confirmed by a QEP prior to any construction works. Once a nest survey is conducted, the survey results are valid for up to 5 days. If clearing works has not been completed within 5 days, the nest survey must be repeated;
- If removing trees within the Site and when in proximity to the Fraser River foreshore, exercise caution during excavation to protect the integrity of the root structure of neighbouring trees [i.e., recommended Tree Protection Zone (TPZ)] by limiting the excavation size thereby preventing damage to other tree roots;
- Tree protection fencing will be installed prior to any construction works and will be measured from the outer edge of the tree trunk of designated retained trees. Fencing will be constructed to meet municipal standards and be inspected by the EM prior to and during construction works; and
- Machine operators should take extra care when backing up or swinging around to avoid damaging overhanging limbs and nearby trees.

7.6 Wildlife Protection and Mitigation

Wildlife interactions are unlikely to be a concern for regulatory compliance under the BC *Wildlife Act*. In the unlikely event of a wildlife encounter, for the protection of wildlife and Site personnel, the Contractor will:

- Avoid disturbance or harm to any wildlife, if present on-Site during Project work. This includes avoiding disturbance or harm to a bird, its eggs, or the nest of a bird when occupied by a bird or egg (Section 34 of the BC *Wildlife Act*);

- Allow safe and undisturbed passage through the Site for any wildlife encountered during construction activities;
- Limit the use of machinery/loud noises while wildlife is present within or near the work area and issue a stop work order if wildlife is present on-Site for an extended period of time;
- Adhere to authorized work timing windows to ensure that there is no disturbance during wildlife breeding seasons (e.g., bird nesting period March 1–August 31); and
- Dispose of garbage in secure bins and ensure that staging areas are clean and free of food items to avoid attracting wildlife on-Site (e.g., raccoons, coyotes, and crows).

7.7 Soil and Groundwater Management

A Phase 1 Environmental Site Assessment (ESA) and supplemental Phase 2 ESA were completed by Hemmera in September 2006 and December 2008, respectively, to inspect and identify any areas of actual or potential environmental concern (i.e., related to soil and groundwater contamination) associated with the Site. The Phase 1 and Supplemental Phase 2 ESA reports are intended to reduce the uncertainty about potential environmental liabilities and may be a basis for further investigation of the Site. The Phase 1 ESA was a non-intrusive surficial site assessment, therefore no sample collection (e.g., soil, groundwater) was completed. As the Phase 1 ESA identified several on-site industrial buildings/structures and storage facilities, including an Above Ground Storage Tank (AST) used for propane, Hemmera's Supplemental Phase 2 ESA was comprised of soil and groundwater sampling and testing via the installation of monitoring wells (i.e., intrusive subsurface investigation) within the Site to determine the presence of any environmental impairments/contamination from the buildings/facilities identified during the Phase 1 ESA. The Supplemental Phase 2 ESA findings included the identification of one area of environmental concern [AEC; i.e., Volatile petroleum hydrocarbon (VPH) and/or extractable petroleum hydrocarbon contamination was identified in one of the soil and groundwater samples]; however, the contamination within the AEC appeared to be localized and the collected soil and groundwater samples did not exceed the applicable provincial standards for VPH.

It is understood that works may require the importation of soil/fill to be utilized during grading activities [i.e., lot grading within "Area B" and "Area C" of the Site (as shown on the Site Plan in attached Appendix A) in preparation of proposed paving work]. The following mitigation measures are included to minimize potential impacts to existing soil within the Site and when working with soils/fill, imported soils/fill and/or contaminated soils/fill during construction activities:

- If soils encountered on-Site are suspected to be contaminated, soils may be temporarily stockpiled on an impermeable surface (i.e., tarpaulin or paved/concrete surfaces, without cracking or deterioration) prior to off-Site disposal. A containment cell must be created using berms (e.g., poly-wrapped sandbags or straw bales, no-posts) to prevent the spread of materials;
- Stockpiles of contaminated soil must be covered with poly-sheeting or other impermeable material that extends over the containment cell walls or berms to prevent precipitation from contacting the stockpiled soil. Surface run-off must be directed away from the stockpile to

avoid contact with the contaminated soil. Polyethylene sheeting must be weighted down to prevent being blown away by wind; and

- If soils/fill are imported for grading purposes, the Contractor will be responsible for providing documentation that any imported soils/fill meet the applicable provincial and environmental regulations and standards of the BC Contaminated Sites Regulations (CSR), 2014.

7.8 Erosion and Sediment Control Management

Prior to the commencement of Project works, the limits of construction will be clearly marked, including the installation of protective fencing for the Streamside Protection and Enhancement Area (SPEA) of the Fraser River and Ditch 1. ESC measures required for this Project may vary depending on local Site conditions and weather at the time the work is undertaken and can be confirmed by the Project EM. The ESC measures must be Site-specific and adaptable. Site-specific measures that the Contractor will adhere to are as follows:

- Utilize current paved areas (i.e., western portion of the Site) when accessing the Site, by foot or equipment, to minimize soil/sediment disturbance and erosion, especially on soft soils within the work areas;
- Take reasonable care to avoid damage to freshly disturbed areas and where soils have been recently disturbed so as not to generate sediments that could potentially migrate or become tracked off-Site;
- Minimize the potential to generate sediment-laden water within the Site (e.g., undertaking a section of work that can reasonably be completed within a work shift, and covering exposed stockpiles to remain on-Site for an extended period of time);
- Imported fill and soils to be utilized during grading work shall be protected when stockpiled with tarpaulin or polyethylene sheeting to prevent the dispersal of silts and fines outside of the delineated work zone;
- Soils of any kind shall not be placed on roads, curbs or walkways;
- Temporary silt fencing and catch basin inserts will be installed by qualified personnel along the boundary of the work area and within catch basins, respectively, to act as sediment barriers by preventing the dispersal of silts and fines outside of the delineated work zone for the duration of the Project; and
- Re-grading of the Site will be completed as soon as possible in order to ensure that disturbed areas and exposed soils are stabilized.

Silts and fine materials displaced during Project activities (e.g., Site paving and/or rail spur installation) can have adverse effects on surface water and local drainages. Please refer to Section 4.1 Aquatic Resources and Section 5 Environmental Monitoring for more details.

7.9 Waste Management

The Contractor will comply with all applicable laws, regulations, permit conditions and requirements of the contract when disposing of waste including, but not limited to, concrete, sewage disposal, non-hazardous wastes, hazardous wastes (e.g., used paint, epoxies or waste batteries), or other materials not authorized for on-Site disposal. In addition, only facilities

approved by authorities having jurisdiction may be used for disposal or recycling of waste. At no time will any waste material be allowed to enter a watercourse or drainage (either directly or by introduction from off-Site discharge). The Contractor will be responsible for assuring that all reasonable efforts are made to eliminate or minimize waste production, and adhere to the following BMPs for waste management:

- The Contractor is expected to adhere to all applicable legislation with respect to the handling, transportation, and/or disposal of all materials related to this project (waste or otherwise). These regulations may include (but not be limited to) the BC Hazardous Waste Regulations, Spill Reporting Regulations, Workers Compensation Board Regulations, etc.;
- Hazardous wastes generated from Site works could include waste petroleum products (engine oils, lubricants) from machinery and equipment, spent batteries, solvents and cleaning agents, etc. The Contractor will provide labelled separate container(s) for potentially hazardous waste generated from Site works, such as oily rags and hydrocarbon absorbent pads;
- All hydrocarbon products and other hazardous wastes potentially present during project activities will be identified and the associated Workplace Hazardous Materials Information System (WHMIS) and Material Safety Data Sheets (MSDS) made available to all construction team members; and
- All recyclable or compostable materials will be collected separately from general waste as per Metro Vancouver Regional District requirements.

7.9.1 Concrete/Asphalt

The two main environmental concerns associated with concrete/asphalt work are:

- 1) Toxicity from the high alkaline pH of concrete/asphalt, and
- 2) Physical effects of smothering through the release of solids.

The pH level of concrete/asphalt and wash-off water from concrete/asphalt is 12 (very alkaline) and must be kept out of surface waters. The BCWQG have specified an acceptable pH range of 6.5 to 9.0, understanding that deviations will likely be small, short-term in nature and not be harmful. If a large concrete/asphalt spill occurs, applicable treatment should be initiated by the EM in order to reduce the impact of pH and reduce the pH to an acceptable level.

The following mitigative measures shall be applied by the Contractor:

- Concrete/asphalt work must be conducted so that wash water and excess concrete/asphalt slurry from concrete/asphalt works and equipment do not contaminate adjacent drainages;
- Excess concrete/asphalt, grout, drilling wastes and other liquid waste products must be directed to secure containment facilities for subsequent removal and disposal at an appropriate facility. If concrete/asphalt material (solid form) has entered the water and it can be recovered, the material must be removed from the water, as it will continue to provide alkaline material into the surrounding water;

- Fresh concrete/asphalt pours will follow BMPs, be scheduled during periods of dry weather, and be protected from rainfall with an impermeable cover (i.e., polyethylene sheeting or tarpaulin) until the concrete/asphalt cures;
- No washing of concrete/asphalt trucks or equipment shall be permitted on-Site;
- No discharge of concrete/asphalt wash water will occur on-Site; and
- Any water that has come in contact with concrete/asphalt will be tested by the EM to ensure that it meets the BCWQG for pH between 6.5 and 9.0.

7.9.2 Solid Waste

It is anticipated that solid waste will primarily be comprised of general construction debris, garbage, recyclables, and non-hazardous equipment waste materials. The Contractor, with assistance from the EM, will determine the appropriate measures to dispose of general solid wastes throughout Project works as follows:

- Non-hazardous paper, paper products, wood, plastic, glass, and discarded food items, will be stored in closed, leak-proof storage bins that are secure against nuisance wildlife. The Contractor is responsible for the proper collection and transportation of garbage and recyclable waste to disposal facilities (e.g., sanitary landfill or appropriate recycling facilities where available);
- Used oil filters and antifreeze must be drained into a waste oil container and drained filters placed in an appropriate trash container before disposal at a recycling or other approved facility; and
- Used acid-lead batteries must be stored on an impervious surface, under cover, and disposed of at an approved recycling facility.

7.9.3 Hazardous Wastes

Goodrich does not currently have an inventory of on-site Hazardous Materials currently on-site as these materials vary and will be brought in and out by the Contractor during each phase of the project. It is the Contractor's responsibility to determine whether any waste generated by the Project has hazardous or toxic characteristics or is considered "Hazardous Waste" by the Ministry of Forests, Lands, Natural Resource Operations & Rural Development (MFLNRORD), or any other authority having jurisdiction, and to manage it accordingly. The proper handling of hazardous wastes will also be included in the Contractor's own Occupational Health & Safety Program.

If an item cannot be located in published Hazardous Waste guidelines, the Contractor will determine if a particular characteristic of the waste makes it hazardous. Subsequently, the Contractor will comply with the *Standards Applicable to Transporters of Hazardous Waste* as defined by MFLNRORD.

7.10 Machinery and Equipment Fuelling and Servicing

Construction activities (i.e., Site paving and installation of a rail spur) will require that some equipment, as well as small engine-powered equipment and tools (e.g., generators), be located and stored for periods of time on-Site. The off-Site migration of fuel, lubricating oils and

hydraulic fluids can have an adverse effect on surrounding terrestrial and aquatic environments. The Contractor will ensure that the accidental release of contaminants is mitigated immediately if introduction occurs. The following measures are to be adhered to during Project activities:

- All machinery operating within the Site will be free of excess oil and grease, and will be in good mechanical order so that no leaks occur, preventing release of fluids into the adjacent aquatic environment;
- All grease and oil required for maintenance will be carefully applied. Any excess must be cleaned up and disposed of in a prompt and environmentally appropriate manner;
- It is anticipated that equipment re-fuelling will occur off-Site, however, if refuelling occurs on-Site, vehicles utilized for refueling will be equipped with automatic back-pressure shut-off valves, and nozzles will be kept locked at all times, except during refueling;
- Refuelling of any machinery and equipment must occur greater than 30 m away from surface water drainages (i.e., catch basins);
- Re-fuelling forklifts must occur a minimum of 30 m away from a watercourse;
- While re-fuelling is undertaken, equipment should be contained within a suitable drip pan;
- Refuelling procedures and handling of flammable liquids must also be covered within the Contractor's own Occupational Health & Safety Program; and
- Spill response kits including spill pads, sorbent booms, and spill trays must be readily available within the work Site and on mobile equipment. Provisions of spill kits will be the responsibility of the Contractor.

7.11 Fire Prevention

The following measures and procedures will be implemented on-Site to avoid potential fire and to fight any fire that may occur:

- No open fires or burning will be permitted within the construction zone; and
- Fire extinguishers and other emergency response equipment and supplies must be kept in known, visible and accessible locations. Gas- or diesel-powered equipment must have a fire extinguisher attached or inside the cab. Fire extinguishers are to be routinely inspected and certified, as are other fire-suppressant equipment and materials.

7.12 Archaeology Resources Protection and Management

The permit holder must ensure that archaeological resources are not impacted during construction-related activities. The following procedures should be established to mitigate impact in the event that evidence of what is suspected to be an archaeological resource is encountered:

- Immediately stop any activity that might disturb the archaeological resource or the location in which it is contained;
- Do not move or otherwise disturb the artifacts or other remains present at the Site;
- Clearly identify/mark (i.e., with stakes or flagging) the area the archeological resource is found to prevent additional disturbances; and

- Immediately notify the VFPA.

8.0 SPILL PREVENTION AND EMERGENCY RESPONSE

Under the BC EMA Spill Reporting Regulation, a "spill" is defined as a release or discharge of a listed substance in an amount equal or greater than that specified in Column 1 of the Schedule of this Regulation. The reportable quantities (included in Column 2 of the Schedule) vary according to class of substance, ranging from any amount to 200 kg or 200 L, depending on the nature of the material that has been spilled. Goodrich does not currently have a spill response training program. Contractors will be responsible for complying with the sections below and ensuring emergency procedures and spill cleanup steps are followed as described in this document.

8.1 Spill Prevention

It is anticipated that equipment will be utilized but kept to a minimum to limit traffic on-Site. For this reason, fuelling of equipment shall occur off-Site at an approved facility whenever possible, to prevent a fuel spill on-Site; however, due to the large size of the Site it is recognized that on-site fuelling may be required. To prevent potential adverse environmental impacts to the Site, the Contractor will implement the following mitigation measures to minimize potential impacts to the Site and surrounding area and ensure adequate emergency response in the event of a spill:

- Vehicles and equipment will be inspected prior to the start of work each day;
- Vehicles and equipment that are not in good working order will not be permitted on the Site;
- Used oil, filter and grease cartridges, lubrication containers, and other equipment maintenance products will be collected in appropriately labelled waste containers, stored in a secure on-Site location, and protected from weather until removal from Site and disposal at the nearest registered hazardous waste facility can be arranged;
- The storage of fuel, lubricants, and oils on-Site should be avoided whenever practical; however, where fuel, lubricants, and oils are brought to the field/Site, designated storage areas should be identified and secondary containment should be employed;
- Fuel storage enclosures are to be sufficient to contain total stored volume plus precipitation products (minimum 120%), with additional seepage protection measures (e.g., impermeable membranes);
- If encountered items to be disposed of cannot be readily identified, they will be assessed by the EM who will assist in determining the appropriate containment/storage and disposal methods;
- Storage areas should be located at least 100 m from any watercourse;
- Traffic barriers and designated construction and residential parking areas should be identified to prevent damage to fuel storage areas;

- A catch tray/drip pan of sufficient size and depth should be used during re-fuelling and equipment repairs to reduce the risk of environmental impact from spills and/or leaks;
- Spill response kits containing necessary materials and equipment (e.g., absorbent pads, booms, leak-proof containers) must be kept on-Site and be readily available in order to respond to a spill, should one occur. Spill kits should be adequately sized, given the equipment and products that are on-Site and trained personnel will be available to ensure proper deployment, if needed;
- Used spill response materials will be bagged in heavy-duty polyethylene bags and any waste oil or other spill materials will be removed from Site, as soon as possible, in accordance with Transportation of Dangerous Goods (TDG) requirements and the BC Hazardous Waste Regulation;
- Fire extinguishers and other emergency response equipment and supplies must be kept in known and visible locations. Access shall not be blocked to this equipment;
- A list of spill response emergency contacts must be posted or kept at a predetermined known location and will be updated prior to construction (refer to Table 3 Emergency Contact Numbers for details); and
- Equipment operators and spill responders will review the Spill Response Plan (SRP; refer to Section 8.2, below) regularly to ensure it is up to date and all required materials are accessible on-Site.

Due to the large size of the Site, it is recognized that on-Site fuelling may be required. In addition to the above mitigation measures (where applicable), the following must also be adhered to during on-Site fuelling:

- Where equipment must be re-fuelled on-Site, it should be carried out in a designated area, preferably on a concrete or paved surface or in a contained area, with the use of sorbent pads, and at least 100 m from any watercourse;
- On-Site staging areas will be appropriately equipped with spill kits, fire extinguishers, etc. in the event a spill occurs;
- Staff will be appropriately trained in spill prevention prior to any on-Site fuelling activities.

8.2 Environmental Spill Response Plan

The Contractor will develop and implement a Site-specific Environmental SRP based on the type and amount of equipment, and the activities using potentially deleterious substances. The purpose of the SRP is to identify potential risks at, or in proximity to the Site, provide procedures to facilitate rapid deployment of resources in the event of a spill, and to minimize the impact and risk to the environment, the public and personnel on-Site. The Contractor will be familiar with regulatory requirements and be adequately prepared to respond within the shortest possible time. A Spill Response Team will be assembled from suitably qualified members of the workforce. Emergency preparedness must also be covered under the Contractor's own Occupational Health & Safety Program.

All spills, regardless of size or location will be reported to the EM, who will in turn report to the Environmental Specialist (ES). In the event of a spill, the EM will follow the "6 Steps to Spill Response" Guide (Appendix B attached) and will ensure that all appropriate representatives, landowners, and authorities have been notified. The 6 steps are presented as general guidelines for responding to spills of oil-based materials (e.g., fuels, insulating oil, lube oil). Circumstances or the specific material spilled may dictate another sequence of action.

All personnel are to be made aware of the contents of the SRP, "6 Steps to Spill Response" Guide, location of response materials, emergency contact names and numbers (refer to Table 3 Emergency Contact List for details). The "6 Steps to Spill Response Guide" should be printed and posted in an easily visible area (e.g., site trailer) for reference in the event of a spill. Emergency spill response equipment and supplies must be kept in accessible and visible locations. The locations of such equipment are to be made known during Site safety orientations, as locations may vary or change as the Project progresses.

8.3 Spill Notification & Contact Information

In the event of a spill exceeding regulatory thresholds (Table 2), the incident must immediately be reported to the EMBC at 1-800-663-3456 (24-hour emergency line). Spill response advice can also be obtained from EMBC.

Table 2. Reportable Spill Quantities

Category	Substances	Threshold Amount
Fuels and Oils	Diesel, gasoline, hydraulic fluid, solvents, waste oil	100 L
Dangerous Goods	MIBC, nitric acid, sulphuric acid, ethylene glycol, litharge lead oxide, sodium hydroxide	5 L
Flammable Gases	Propane and acetylene	10 kg
Miscellaneous	Borax, propylene glycol, paint	200 L

Any spills within 24 hours of occurrence, regardless of its location within the construction area, will also be reported to:

- Project Manager(s)
- Construction Manager
- EM

A list of Project-relevant contact numbers has been provided (Table 3) and should be referenced for use in the event of a spill.

Table 3. Emergency Contact List

Agency/Program	Contact Number
BC One Call	6886 or 1-800-474-6886
BC Emergency Spill Reporting Line (i.e., EMBC)	24-hour toll free: 1-800-663-3456
Canadian Coast Guard Marine Pollution Line (BC)	24-hour toll free: 1-800-889-8852
Canadian Transport Emergency Centre (CANUTEC)	*666 or 1-888-226-8832 (1-888-CAN-UTEC)
Emergency Services	911
Forest Fire Reporting (BC)	5555 or 1-800-663-5555

PLG Environmental Division	Kyla: 604-996-7666 Melissa: 778-242-3505
Surrey Fire Service Hall 2 (approximately 3.5 km from Site)	604-543-6700
Surrey Memorial Hospital (approximately 6.5 km from Site)	604-581-2211
Surrey RCMP City Centre (approximately 5 km from Site)	604-599-0502
VFPA Operations Centre	604-665-9086

8.4 Spill Cleanup Supplies

All Project staff will be made familiar with available spill supplies and will be appropriately trained on how to use and dispose of supplies in the event of a spill.

Spill kits will be located at various locations on-Site and on mobile equipment (i.e., pickup trucks etc.). Each kit should contain but is not limited to the following general list of spill response supplies which is consistent with *A Field Guide to Fuel Handling, Transportation and Storage*. At a minimum, the following items should be available:

- Sorbent booms
- River booms
- Sorbent pads (minimum 100)
- Stakes
- Wire cutters and knives
- Disposal bags (40)
- Caution tape
- A small shovel
- Poly tarps
- Box of rags
- Hand cleaner
- High visibility vest
- Chemical goggles
- Rubber gloves
- Drum for materials disposal (with lid)

8.5 Environmental Incident Reporting

An environmental incident is defined as one that has caused, or has the potential to cause, one or more of the following:

- Environmental damage;
- An adverse effect on fish, wildlife or other environmental resources;
- Heightened publicity associated with a negative effect on the environment; and
- Legal action with respect to environmental noncompliance and/or damage.

If an environmental incident occurs during the Project, a written Environmental Incident Report (EIR) must be prepared by the Contractor within 24 hours of the incident regardless of whether it is a working day or not, to describe the occurrence, summarizing events, actions and recommendations for future avoidance. Immediate action must be taken to minimize

environmental consequences and manage resolution of the incident. The EM will assist the Contractor in preparing the EIR and documenting the following information to prevent future incidents:

- The contact information for the individual making the report, the responsible person in relation to the spill, and the owner of the substance spilled;
- The date, reporting time and location of spill site, including the time the incident occurred or was first noticed;
- The location of the spill site, including a description of the spill site, surrounding area and weather;
- A description of the spill source, the type and quantity of the substance spilled, and details of the circumstances, known or possible cause(s) and adverse effects of the spill to facilitate prevention of future incidents;
- A summary of response actions, including an approximate timeline; and
- The names of the applicable personnel, stakeholders, regulatory authorities and government agencies at the spill site and those advised about the spill.

The EIR must be submitted to the Environmental Representative for the Project, the EM, the City and any other applicable stakeholders or regulatory authorities. The EIR should be updated as necessary and resubmitted to the applicable parties.

9.0 ENVIRONMENTAL MONITORING PROGRAM

The qualified EM will document conditions and provide guidance to Department Representative to maintaining compliance with the CEMP and applicable environmental legislation.

The overall objectives of the monitoring program are to protect aquatic resources and wildlife habitat, provide general oversight of works conducted in and around water, and upland from valuable aquatic resources confirming that mitigation measures are being appropriately applied and are effective, documenting and responding to environmental emergencies and concerns (including follow up reporting as applicable), and providing guidance and adaptive measures where required, providing records and reports to the appropriate stake holders.

9.1 Environmental Monitoring and Compliance Tracking

The EM will keep a dedicated field notebook, including a photographic record as work progresses, and will document compliance by preparing a weekly monitoring report as well as completing the City of Surrey's online reporting protocol. All reports are made available to the City and submitted to the Client directly. During Site visits, the EM will:

- Meet with the Contractor's on-site supervisor to discuss recent and pending work, as well as potential environmental issues and appropriate mitigation measures to be considered;
- Confirm that Contractor/Site personnel are aware of the relevant environmental policies and BMPs, and will advise on environmentally sound approaches and practices;
- Provide technical assistance on environmental matters to on-Site staff and regulatory personnel;

- Inspect the Site, taking notes of Project activities and the potential for adverse environmental effects;
- Record any environmental protection measures implemented, as well as any other notable features or incidents;
- Inspect any sediment and erosion control measures that have been implemented for effectiveness, and recommend additional measures on an as-needed basis;
- Take representative photographs of Project activities and any environmental protection measures implemented, as well as any other notable features or incidents;
- If applicable, collect samples and report water quality data measured during Site visits, as well as laboratory analyses as they become available; and
- Stop Project work if it appears that permit or approval conditions are not being followed.

The EM will work with the Contractor in matters related to the protection of the environment, and be on-Site during identified sensitive Project work including, but not limited to, the following:

- Installation of ESC devices (e.g., catch basin inserts)
- Asphalt pours
- Vegetation removal (including invasive vegetation removal and treatment)
- Water management/surface water discharge
- Following SREs (> 25 mm in 24 hours)

Monitoring reports will be submitted by the EM to the Client and the Contractor, following each Site visit, for submission to designated representatives (e.g., VFPA). The VFPA will review the report submissions to determine adequacy of the monitoring and content of the reports. Reports will include a list of construction activities, water quality monitoring and any environmental protection measures implemented. The monitoring report will document, and bring to the attention of the Site Supervisor, any deficiencies that occurred during Project works and the subsequent correction measures to be implemented for compliance with the CEMP. Any events of non-compliance will be tracked with the measures taken to correct those deficiencies. The EM has the authority to issue a stop work order in the event of non-compliance with any part of this CEMP.

Environmental Monitoring Reports will include, at a minimum, the following information:

- Name(s) of EM(s)
- Period covered by the report
- Date the report was submitted
- Report recipient(s)
- Contractor(s) undertaking work during the reporting period
- Overall weather conditions during the reporting period
- Description and photos of key project activities
- Summary of observations made by the EM, including a description of environmental issues or concerns raised by the EM and the measures taken to address those issues or concerns

- A summary of environmental incidents that may have occurred during the reporting period

Additional content which may be applicable to the project includes:

- A summary of environmental monitoring data collected and all results received during the reporting period, such as water and sediment sampling
- A map showing the location of the monitoring activities and the area of active construction
- An organized checklist or table of key mitigation requirements of the CEMP and/or applicable permit conditions verifying implementation and effectiveness at the relevant stages of the project
- A list of meetings and other communications and a summary of key issues discussed
- An overview of marine mammal, fish or wildlife observations, and potential negative interactions with construction activities

10.0 STATEMENT OF LIMITATIONS

This CEMP is meant to be a living and flexible document that can be used to provide guidance in environmental protection measures that can be implemented during routine Project activities, as well as unanticipated events or requirements that may arise during the course of construction.

This report has been prepared solely for the internal use of PLG, the City, the Client and their Contractor pursuant to the agreement with PLG. Any use which other parties make of this report, or any reliance on or decisions made based on it, are the responsibility of such parties. PLG accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this report.

11.0 PROFESSIONAL STATEMENT

This report entitled *Construction Environmental Management Plan*, has been prepared by Melissa Englouen (Junior Biologist) and Kyla Milne (Bryant; Biologist)

Please contact the undersigned should you have comments or questions regarding this correspondence.

Sincerely,

PACIFIC LAND RESOURCE GROUP INC.



Melissa Englouen, BIT, BC-CESCL
Junior Biologist



Kyla Milne (Bryant), RPBio, QEP
Environmental Specialist

APPENDIX A

Site Plan Grading Areas

THESE PLANS CONFORM TO BCBC 2012

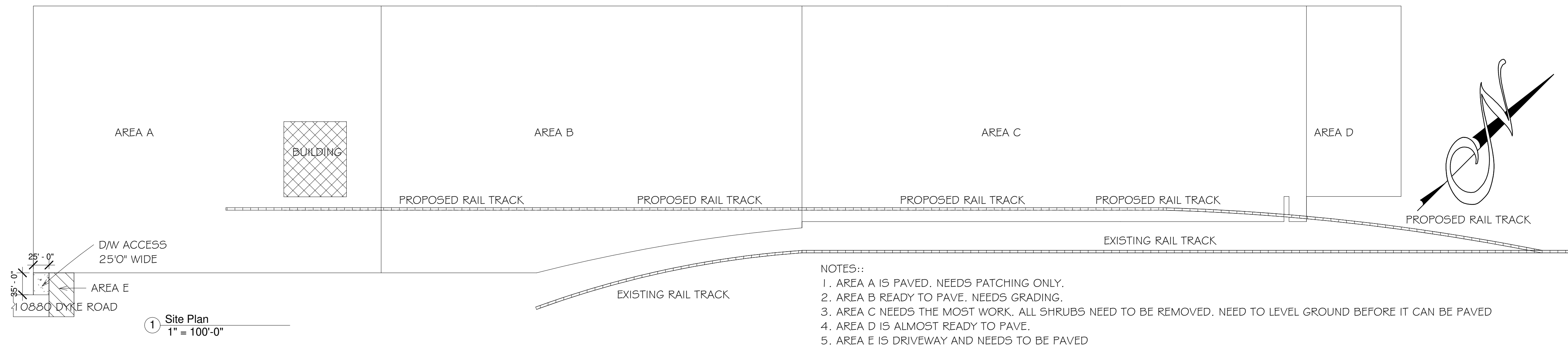
CONSTRUCTION SHALL FOLLOW LOCAL BUILDING BY-LAWS ALONG WITH THESE PLANS.

CONTRACTOR MUST CONFIRM ALL DIMENSIONS PRIOR TO START OF CONSTRUCTION.

THE DESIGNER ASSUMES NO LIABILITY FOR ANY ERRORS AND OMISSIONS IN THESE PLANS. IT IS THE BUILDER/OWNER'S RESPONSIBILITY TO REVIEW AND VERIFY THE WHOLE PLAN (i.e. ALL LEVELS, DIMENSIONS, STRUCTURAL ADEQUACIES) PRIOR TO CONSTRUCTION.

DO NOT SCALE DRAWINGS.

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- NOTES::
1. AREA A IS PAVED, NEEDS PATCHING ONLY.
 2. AREA B READY TO PAVE, NEEDS GRADING.
 3. AREA C NEEDS THE MOST WORK, ALL SHRUBS NEED TO BE REMOVED, NEED TO LEVEL GROUND BEFORE IT CAN BE PAVED
 4. AREA D IS ALMOST READY TO PAVE.
 5. AREA E IS DRIVEWAY AND NEEDS TO BE PAVED



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**Goodrich Terminal
 2012 Ltd**

No.	Description	Date

**10880 Dyke Rd
 Surrey, B.C.**

Site Plan

Project number	PVDL-18-GT-
Date	9 MAR 2018
Drawn by	HB
Checked by	G

A-1

Scale 1" = 100'-0"

APPENDIX B

6 Steps to Spill Response

6 STEPS TO SPILL RESPONSE

1) Ensure Your Safety

- Immediately notify the Site Supervisor and Environmental Monitor, if on-Site;
- Do not try to clean the spill unless trained to do so and contact trained personnel, if necessary;
- Review spill response procedures; and
- Identify spill material(s), consult MSDS sheets, if necessary, and wear the appropriate Personal Protective Equipment (PPE).

2) Stop the Source

- Assess the source of the flow/spill; and
- Shut off machinery, if needed, close all valves and pumps, plug or trap leaks, set containers upright and carry out emergency repairs.

3) Evacuate & Secure the Area

- Evacuate non-essential emergency spill personnel;
- Remove or secure all ignition sources;
- Consider wind directions and stay upwind or uphill of the spill, if possible; and
- Inform the Site Contractor or the owners of the property of the spill as soon as reasonably possible.

4) Contain the Spill

- Evaluate the direction of flow and intercept by diking, absorbents, or absorbent booms, if possible;
- If a spill kit is not available, or contents are inadequate to contain the spill, use available earth/sod;
- Do not flush products down sewers or drains;
- Protect stormwater drains/catch basins, sensitive habitats (e.g., landscape buffer, Tynehead Park), and wildlife; and
- Continue to monitor potential source(s) of spill material and mark off contaminated areas.

5) Notify / Report

- Notify the Site Supervisor or Environmental Monitor of all spills as soon as possible;
- The Site Supervisor must **INTERNALLY REPORT**:
 - a) All spills, regardless of quantity, to the Client within 24 hours and submit a completed Investigation Report Form to the Client and EM
- The Site Supervisor must **EXTERNALLY REPORT**:
 - a) Any spills to land above reportable quantities to **Emergency Management BC (EMBC) 1-800-663-3456**;
 - b) All spills to water and any spills to land that may reach water to the **Fisheries and Oceans Canada (DFO) Regional Office**;
 - c) All spills that enter a storm or sanitary drain, or drinking water source to **local municipalities or Regional District**; and
 - d) A spill of any substance in a Transportation of Dangerous Goods (TDG) class released while in transport or above reportable quantities to **local police and CANUTEC 613-996-6666**.

6) Clean-Up

- Wearing proper PPE, collect all used sorbent materials and contaminated soils and store in a water tight container with polyethylene liner, appropriate for temporary storage and disposal;
- Label containers with ID number, description of contents, shipping name, origin and date;
- If large quantities of contaminated soils are generated, place soils on a liner and cover with a tarp, away from any storm drains, until it can be transferred to containers; and
- Store all wastes in a secure location until transport and disposal, in accordance with applicable Acts & Regulations, can be achieved.