



**CANADIAN ENVIRONMENTAL ASSESSMENT AGENCY
EXECUTIVE SUMMARY**

**Base Line Terminal
Proposed Hydrocarbon Storage Project**

April 2015

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1. General Information

Kinder Morgan Canada Terminals ('KMCT') has prepared a project description for review by the Canadian Environmental Assessment Agency ('CEAA') in accordance with the Canadian Environmental Assessment Act, 2012 ('CEAA 2012'). The *Regulations Designating Physical Activities [CEAA 2012]* prescribe in section 14 (e)¹ of the Schedule of Physical Activities that the construction, operation, decommissioning and abandonment of a new petroleum storage facility with a storage capacity equal to or greater than 500,000 m³ is subject to the review of a project description under CEAA 2012.

KMCT is proposing to construct a merchant hydrocarbon tank storage terminal, hereinafter referred to as the Base Line Terminal ('BTT'). BTT is designed for an aggregate storage capacity of 6,640,000 barrels ("bbl") (1,055,000 m³) of crude oil and condensate.

1.1 Project name, nature, and proposed location

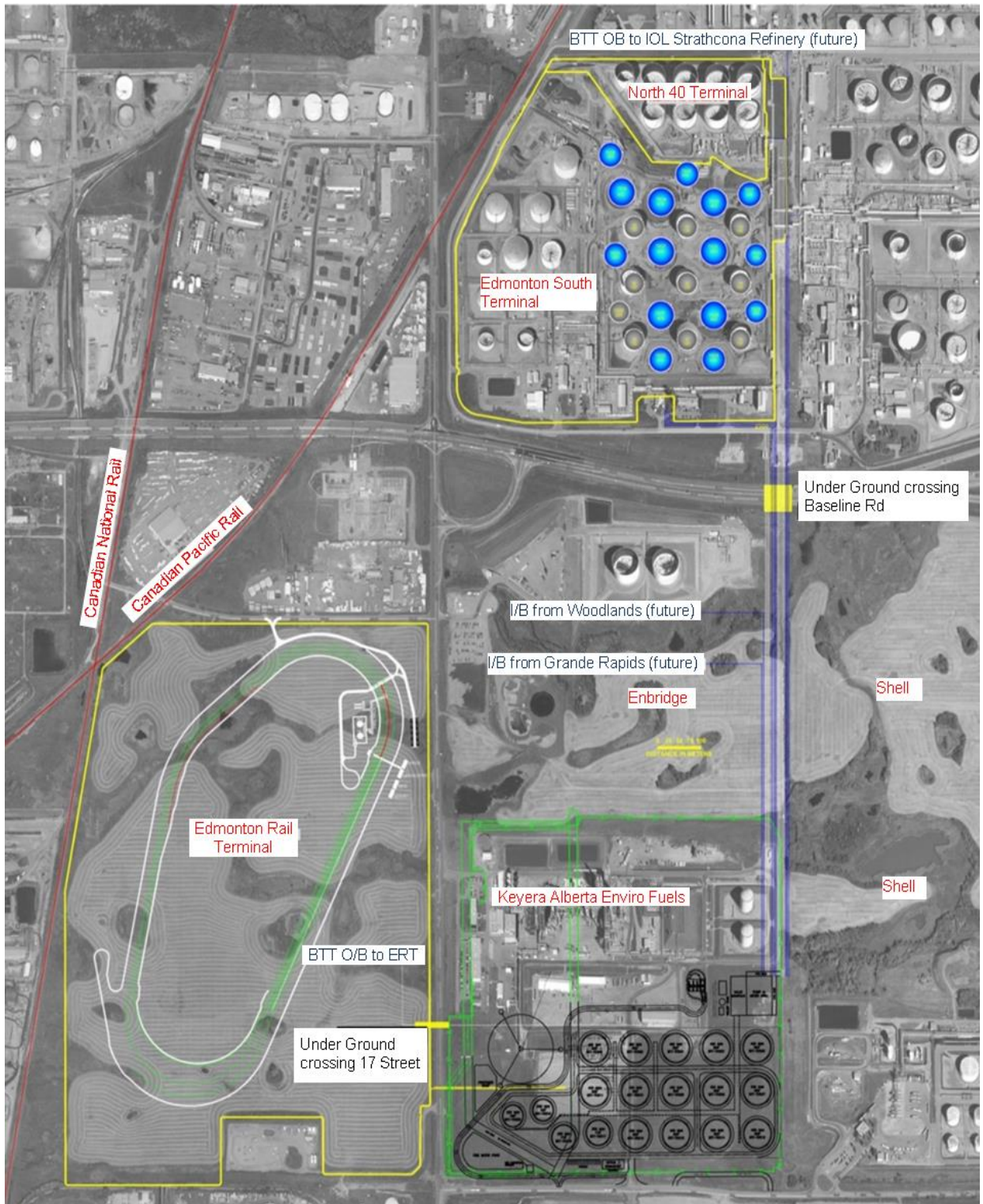
BTT will include the construction and operation of 18 hydrocarbon storage tanks, facility piping, transfer pipelines, and associated infrastructure. Further detail on the infrastructure associated with BTT can be found under **Section 2.3**.

BTT will be situated at SW1/4-32-052-23W4M and will occupy approximately 80 acres (32.36 hectares) of land that is currently zoned for Heavy Industrial land use.

BTT will be surrounded by other industrial facilities, including existing facilities owned by: Kinder Morgan Canada Inc., KMCT, Alberta Envirofuels Inc. ('**Alberta Envirofuels**'), ATCO, Shell, Plains, Imperial Oil, and Enbridge. BTT will be located on lands immediately south of the operating facility area of the Alberta Envirofuels iso-octane plant owned by Keyera Corp. ('**Keyera**'), west of a Shell Oil facility, and immediately adjacent to 17 Street and 92 Avenue to the west and south, respectively. Further detail on the geographical location of BTT is provided in **Section 3** and illustrated in **Figure 1**.

¹ 14. *The construction, operation, decommissioning and abandonment of a new: (e) petroleum storage facility with a storage capacity of 500,000 m³ or more.*

Figure 1 – BTT Area Map



1.2 Contact information

Contact information for the BTT is as follows:

Name of the Proponent: Kinder Morgan Canada Terminals

Address of the Proponent: 2700, 300 – 5th Ave SW, Calgary, Alberta, T2P 5J2

Vice President, Operations: Michael Garthwaite

Principal Contact: Khizar Khan, MBA, P.Eng.
Director, Engineering
Phone: 403-514-6576 (office)
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Project Manager
Phone: 403-514-6471 (office)
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1.3 Consultation

KMCT is committed to open communication with all affected parties and agencies throughout the project. As part of this commitment, KMCT has commenced a consultation program that meets or exceeds all required municipal, provincial and federal regulatory requirements. The agencies and parties that KMCT has been, or will be, notified and/or consulted with as part of this program include, but are not limited to:

- Alberta Energy Regulator² ('AER');
- Strathcona County;
- Industrial landowners and operators;
- Area landowners and residents; and
- First Nations and Métis communities

KMCT is committed to providing meaningful information about the project to interested stakeholders.

Engagement and consultation with aboriginal groups has not yet been initiated. KMCT has reviewed the location of aboriginal communities within proximity to the project site. Although no aboriginal groups have been identified as being directly affected by the Project, KMCT is committed to identifying and addressing any interest surrounding BTT, including concerns related to traditional rights, health, safety and the environment.

² "The Alberta Energy Regulator ensures the safe, efficient, orderly, and environmentally responsible development of hydrocarbon resources over their entire life cycle. This includes allocating and conserving water resources, managing public lands, and protecting the environment while providing economic benefits for all Albertans."
(source: <http://www.aer.ca/about-aer/who-we-are>)

As part of open and proactive communication plans, KMCT has commenced an extensive consultation program that meets or exceeds all municipal, provincial, and federal regulatory requirements.

KMCT is committed to open communication with all affected parties and agencies throughout the project. A comprehensive consultation plan will be developed and implemented and will consist of the following opportunities to provide information to, and receive feedback from, stakeholders:

- public notification in local newspaper (Strathcona County);
- project website;
- newsletters;
- project information telephone Line; and
- personal contact and engagement.

KMCT has initiated consultation with area operators, landowners and business owners within 1.5 kilometres of the project site. No objections or concerns regarding the project have been raised to date. KMCT is committed to meaningful and open dialogue with all interested public and stakeholders; all inquiries and concerns will be addressed in an open and timely manner.

Consultation with industrial groups and associations active in the region of the BTT, including Strathcona Industrial Association, Northeast Capital Industrial Association, and Alberta's Industrial Heartland will be conducted, as required.

The activities identified above commenced in March 2015.

As part of KMCT's consultation program, consultation with municipal, provincial, and federal regulatory agencies will be conducted throughout all phases of the project. These regulatory agencies include, but are not limited to:

- Canadian Environmental Assessment Agency;
- Alberta Energy Regulator;
- Alberta Environment and Sustainable Resource Development; and
- Strathcona County.

The AER has been consulted regarding areas of licensing, environmental requirements and public consultation. A pipeline installation licence application will be submitted under AER Directive 056. Additionally, KMCT has engaged the AER in relation to the requirements for an approval under the *Environmental Protection and Enhancement Act* ('EPEA') for the design, construction, operation & reclamation of the site and the Water Act for compensation of the wetlands.

Consultation with Strathcona County regarding BTT has focused primarily around bylaw requirements and the application for required development and other required permits.

1.4 Environmental assessment and regulatory requirements of other jurisdictions

In addition to the required review under CEAA 2012, BTT is subject to various approvals and licenses under federal, provincial, and municipal jurisdictions.

Federal requirements, other than review under CEAA 2012, include compliance with the Environmental Emergency Regulations ('E2') and the National Pollutant Release Inventory ('NPRI') under the *Canadian Environmental Protection Act*.

With respect to provincial jurisdiction, BTT will comply with all rules and regulations under the jurisdiction of the AER, including the *Oil and Gas Conservation Act*, *Pipeline Act*, EPEA, and the *Water Act*. In addition to the aforementioned legislation, the AER sets out additional, more prescriptive, requirements by way of Directives of which KMCT will comply with. BTT requires specific approvals under AER Directive 056, EPEA, and the *Water Act*.

Historical Resources Act clearance for BTT was granted by Alberta Culture on September 03, 2014.

BTT falls under the municipal jurisdiction of Strathcona County and the Municipal Development Plan ('MDP') of the *Municipal Government Act*. BTT is subject to several permits, bylaws, and policies under Strathcona County jurisdiction. BTT will comply with all Strathcona County's applicable bylaws and regulations, including: setbacks from waterbodies, stormwater management, migratory bird activity periods, and light and noise pollution.

1.5 Description of any environmental study that is being or has been conducted of the region where the project is to be carried out

There have been no environmental studies conducted under CEAA 2012, sections 73 and 74. However, multiple other studies which are relevant to BTT have been conducted, or are in the process of being conducted, at provincial and municipal levels. They are described below.

Alberta Environment and Sustainable Resource Development ('ESRD') is in the process of developing a regional management plan for the North Saskatchewan Region under the *Land Stewardship Act*. The North Saskatchewan Regional Plan will provide strategic guidance, under the provincial government, for economic, environmental, and social factors and development within the North Saskatchewan Region, including BTT lands.

Strathcona County is a member of the Alberta Capital Airshed Alliance ('ACAA') and is a stakeholder in the Capital Region Air Quality Management Framework, both of which are sanctioned by ESRD, under which BTT is located. ACAA monitors and provides public information on air quality and develops recommendations regarding air quality management and monitoring.

Strathcona County has also conducted several environmental assessments in the proximity of BTT, specifically the Prioritized Landscape Ecology Assessment of Strathcona County (June 1997) ('PLEA'), and the Assessment of Environmental Sensitivity and Sustainability in support of the Strathcona County MDP Review (December 2005). The immediate location of BTT was not included within the assessment study areas, as BTT area is zoned as Heavy Industrial; however, the studies illustrate the unique environmental sensitivity of the greater Strathcona County.

2. Project Information

2.1 A description of the project's context and objectives

BTT is being developed due to an increase in Alberta oilsands production and demand by the petroleum industry for additional hydrocarbon tank storage options. The objective of BTT is to benefit Alberta's economy by providing producers, marketers, traders and refiners with a solution for short or long term merchant storage of their hydrocarbon products. BTT will connect to a number of existing facilities including, but not limited to:

- KMCT's Edmonton Rail Terminal,
- KMC's Edmonton Terminal,
- KMCT's North 40 Tank Farm, and
- Enbridge North Terminal.

BTT consists of the construction and operation of a hydrocarbon storage tank terminal. BTT will consist of 18 merchant hydrocarbon tanks, facility piping, transfer pipelines, and associated infrastructure including, but not limited to: on-site piping, booster pumps, metering, fire water pond, and storm water management. The current design of BTT includes 15 x 400,000 bbl tanks, 1 x 300,000 bbl tank, and 2 x 220,000 bbl tanks; a maximum combined shell capacity of 6,640,000 bbls (1,055,000 m³). The merchant tanks will store a range of hydrocarbon products, from synthetic crude to dilbit and condensate. The American Petroleum Institute ('API') range for the hydrocarbons will be from 20.8 API to 39.6 API. The hydrocarbon products stored at BTT are classified as sweet hydrocarbons, containing less than 0.5 percent sulfur and less than 0.5 percent carbon dioxide. The tanks will be constructed and operated in accordance with Canadian Council of Ministers of the Environment ('CCME') guidelines for above ground storage tanks.

It is expected that seven (7) transfer pipelines will be constructed to connect local terminals and pipelines to BTT. Further detail surrounding the transfer pipelines can be found in **Section 2.3**.

The construction phase of BTT will include site preparation, excavation of a fire water/storm water pond, as well as the construction of foundations for tanks, pumps, buildings and related equipment. Commissioning of BTT will commence following site preparation, building erection, fabrication of tanks, and installation of pumps and related equipment. Topsoil will be salvaged and stockpiled in designated on-site stockpile locations; further detail on soil management is provided in **Section 2.7**. All reasonable measures will be taken to reduce impacts from construction activities, including dust, noise and emissions management in accordance with applicable bylaws, regulations, protocols and/or best management practices.

Throughout the operation of BTT, the tanks and facilities will be protected by a fire system that meets the *Alberta Fire Codes Act* ('AFC') NFPA 30³ (as defined below) and municipal design requirements. A spill prevention system will include over pressure protection and spill containment. Storm water will be contained within an on-site storm water pond(s) to allow for testing prior to release.

³ NFPA (National Fire Protection Association) 30 provides safeguards to reduce the hazards associated with the storage, handling, and use of flammable and combustible liquids.

2.2 The provisions in the schedule to the Regulations Designating Physical Activities describing the project in whole or in part

The Regulations Designating Physical Activities prescribe, in section 14 (e)⁴ of the Schedule of Physical Activities, that the construction, operation, decommissioning and abandonment of a new petroleum storage facility with a storage capacity of 500,000 m³ or more is subject to the review of a project description under the CEAA 2012.

BTT, as designed, is subject to the review of a project description under the CEAA 2012 as BTT will have the capacity to store hydrocarbon products in excess of the 500,000 m³ required to trigger a review under the CEAA 2012. The BTT is designed for a maximum aggregate storage capacity of 6,640,000 bbl (1,055,000 m³) that will be constructed in a phased approach, as outlined in **Section 2.7**.

2.3 A description of the physical works that are related to the project including their purpose, size and capacity

The physical works associated with BTT are outlined in Table 1 (below).

Table 1 - Physical Works Required for New Infrastructure and Facilities

Component	Description
Major physical works undertaken for new infrastructure and facilities	
A) Transfer pipelines	Construction and operation of seven (7) transfer pipelines, with diameters ranging from 20 to 36 inches.
B) Rough grading and relocation of top soil	Site preparation.
C) Foundations for tanks, pumps, equipment and buildings	Types of foundations will include: i) Compacted gravel foundation for tanks; ii) Steel driven piles for pipelines, manifolds, and buildings; iii) Concrete foundations for pumps, and iv) Concrete pile foundations for pipe racks.
D) Storm water management pond	Will be constructed to capture storm water run-off from the project area to facilitate testing prior to the water being released from the project area. .
E) Fire water pond	Required as part of the fire protection system (below).
F) Culverts	Will be constructed as part of site drainage and storm water management (as required).
G) Facilities	i) Tanks <ul style="list-style-type: none"> • 15 x 400,000 bbl shell capacity • 1 x 300,000 bbl shell capacity • 2 x 220,000 bbl shell capacity

⁴ 14. The construction, operation, decommissioning and abandonment of a new:
(e) petroleum storage facility with a storage capacity of 500,000 m³ or more.

Component	Description	
Major physical works undertaken for new infrastructure and facilities		
G) Facilities (cont'd)	ii) Booster pumps and metering skids	Booster Pumps: To facilitate shipment of product from BTT via transfer pipelines (identified above). <hr/> Metering Skids: Two banks of meters will be constructed to ensure accurate metering of all inbound (receipts) and outbound (deliveries) products.
	iii) Valve manifold	Connection point for tanks and transfer pipelines.
	iv) Buildings	The following buildings will be constructed: <ul style="list-style-type: none"> • Pump and meter building, • Office and warehouse building, • Motor Control Center ('MCC') building, and • Variable Frequency Drive ('VFD') building.
	v) On-site Piping	Required to facilitate on-site movement and transfer of product.
	vi) Utility connections	Public utility connections will include: <ul style="list-style-type: none"> • Natural gas, • Water, • Sewage, • Telecommunications, and • Electricity.
	vii) Fire protection system	Designed and installed to protect BTT and surrounding infrastructure in the event of a fire; will be constructed and operated in accordance with the Alberta Fire Code and National Fire Protection Association.
	viii) Site security system	Site security will include: fencing, CCTV cameras and an access gate control system.

As identified above, seven (7) transfer pipelines are planned to facilitate receipts and deliveries to and from BTT. Transfer pipelines to accommodate the receipt and delivery of product at BTT are still in the design phase; however, all transfer pipelines associated with BTT will be designed, constructed and operated in accordance with all applicable Canadian Standards Association and AER codes, regulations, and best management practices.

KMCT will be solely responsible for the care and control of the infrastructure identified above. KMCT will own and operate all transfer pipelines, infrastructure, and physical works in accordance with KMCT's safe operating practices and applicable best management practices. All tanks will be designed to meet secondary containment requirements in accordance with the AER Directive 055, including prefabricated concrete containment walls and impermeable liners.

2.4 Anticipated production capacity of the project and a description of the production processes to be used, the associated infrastructure, and any permanent or temporary structures

The total aggregate storage capacity of BTT will be 6,640,000 bbl (1,055,000 m³) of hydrocarbon products. BTT will store a variety of crude oils and condensate. Processing products will not be conducted as part of the operation of BTT.

During construction of BTT, temporary structures including construction offices, muster and rest areas, equipment storage, and other related facilities will be required. All structures associated with the construction phase of BTT will be similar to that of a large construction project and will be removed upon completion of the construction phase.

2.5 A description of all activities to be performed in relation to the project

BTT is being constructed as a merchant hydrocarbon tank storage terminal to increase existing hydrocarbon storage capacity, providing producers, marketers, traders and refiners with a solution for short or long term merchant storage of their hydrocarbons. Activities associated with the terminal include storage, transfer of hydrocarbons and mixing and blending of products. All facilities identified as part of BTT will be newly constructed.

2.6 A description of any waste that is likely to be generated during any phase of the project and of a plan to manage that waste

Stantec Consulting Services Inc. ('**Stantec**') was retained by KMCT to complete an air quality assessment on select non-criteria contaminants; the results of the assessment show that the maximum predicted ground-level concentrations plus background concentrations for all air substances are below the relevant regulatory criteria, including the Alberta Ambient Air Quality Guidelines set out by ESRD.

For this assessment, hydrogen sulphide ('**H₂S**'), mercaptans, and benzene were selected as the key substances of interest released into the atmosphere. As illustrated by the assessment results, illustrated in **Table 2** below, the concentrations are within regulatory requirements. It is not expected there will be any potentially adverse effects on ambient air quality. Currently, KMCT is not proposing to conduct on-site air monitoring. Strathcona County is a member of ACAA and is a stakeholder in the Capital Region Air Quality Management Framework; ACAA monitors and provides public information on air quality and develops recommendations regarding air quality management and monitoring. Air quality in Strathcona County is monitored and air quality levels are assigned using measured data from ambient air monitoring stations.

Table 2 - Air Quality Assessment

Substance	Averaging Period	Maximum Predicted Ground-level Concentration including Ambient Background ($\mu\text{g}/\text{m}^3$)	Regulatory Criteria ($\mu\text{g}/\text{m}^3$)
H ₂ S	One-hour	9.63	14
	24-hour	2.45	4
	Annual	0.54	-
Mercaptans	10-minute	4.1	13
	One-hour	2.49	-
	24-hour	0.30	-
	Annual	0.005	-
Benzene	One-hour	6.33	30
	24-hour	5.17	-
	Annual	1.71	3

Criteria Air Contaminants ('**CAC**') are expected to be minimal. Fugitive dust and particulate matter emissions from construction activities (i.e., clearing, grubbing, blasting, and similar earth-moving activities) and operational activities (i.e., vehicle travel) are expected to occur and are dependent on factors including moisture in the soil, the level of activity, and meteorological conditions at the time of the construction. Any potential for dust or particulate matter generation would likely occur during period of high winds or extremely dry periods, and as such are expected to be of low frequency and short duration. Given the expected low magnitude of these emission sources, the low frequency of and duration of occurrence, and the mitigation that will be applied, dust and particulate matter emissions from construction and operation of BTT is not expected to be substantive. Similarly for the decommissioning phase, CACs are expected to be minimal. All pumps associated with the Project are electric and therefore no CACs are expected during the operational phase.

Greenhouse gases ('**GHG**') are expected in low quantities throughout the construction, operation and decommission phases of the project. During the construction phase, transportation and construction equipment (e.g., earth movers, graders, blasting, trucks, vessels, concrete batch plant) will emit GHGs associated with combustion gas, primarily carbon dioxide (CO₂) and low quantities of methane (CH₄) and nitrous oxide (N₂O). Similar emissions will occur during the Project decommissioning phase; these volumes are not expected to be substantive. During the operating phase of the project, storage tanks, building heating and vehicle traffic will GHG emissions in small quantities. GHG emissions from tank venting and/or working losses would be minimal as there are trace amounts of carbon CO₂ and CH₄. It is not expected that GHG releases will trigger any reporting thresholds.

KMCT expects that the only source of liquid discharge from BTT will be surface water run-off and storm water. BTT will be constructed in accordance with AER Directive 055, section 11 – *Criteria for the Surface Discharge of Collected Surface Run-on/Run-off Waters*, as well as any additional parameters identified within the forthcoming EPEA Approval and Strathcona County requirements.

BTT will be designed so that all surface run-off and storm water will be collected within a designed surface run-off pond. Prior to any release from the surface water run-off pond, KMCT will conduct tests to ensure the water meets all appropriate parameters for release. Once testing has confirmed that all appropriate parameters have been met, storm water will be released into Strathcona County's sub basin drainage. No other sources of liquid discharge from BTT are expected.

To address the appropriate handling, storage and disposal of wastes at BTT, KMCT will develop an environmental protection plan for the construction phase, and a waste management plan for operational activities.

Construction wastes may include packing materials, cardboard, pallets, wood, scrap metal, glass, paint, insulation, welding rods, lubricants and oil filters. KMCT will coordinate with construction contractors and existing waste storage site operators to provide containers in specified areas and to collect waste and recyclable materials.

Liquid wastes generated on-site, primarily from operation of tanks, will be present in waste oils and liquids such as lube oil and flammable or poisonous liquids (oily water). These wastes will be temporarily stored in dedicated containers (i.e., drums) and disposed at an appropriate environmental processing facility.

Sanitary waste will be accumulated in a tank near the point of generation and will be transported off-site to an appropriate environmental processing facility.

Solid wastes generated on-site include: used filters, used batteries, waste containers, sorbents, contaminated soil and debris, and domestic waste (garbage). Solid wastes will be diverted for recycling where feasible.

2.7 A description of the anticipated phases of, and the schedule for, the project's construction, operation, decommissioning and abandonment (CEAA-13)

- Phase 1 - August 2015 - December 2018
 - Construction and commissioning of 12 - 400,000 bbl tanks;
 - Construction and commissioning of transfer pipelines; and
 - Construction and commissioning of associated infrastructure.

- Phase 2 - June 2019
 - Construction and commissioning of 2- 400,000 bbl tanks; and
 - Construction and commissioning of 1 - 300,000 bbl tank.

- Phase 3 - July 2020
 - Construction and commissioning of 1 - 300,000 bbl tanks; and
 - Construction and commissioning of 2 - 220,000 bbl tanks.

BTT will be constructed in 3 overlapping phases. Phase 1 includes 12 X 400k bbl tanks with interconnecting pipelines. At the time phase 1 transitions to operational, phases 2 and 3 will be under construction. There will not be any gaps among phases. The phased approach is to accommodate project management.

Table 3 - Project Schedule Milestones

Task	Target Date
EPEA application submission	Mar 2015
Water Act application submission	Mar 2015
AER D-056 Notification and public consultation – Tank farm	Feb 2015
D-056 Application submission to AER	Mar 2015
CEAA Application submission	Mar 2015
CEAA public notification (proposed)	Mar 2015
Site rough grading	Aug 2015
Final grading	Oct 2015
Facility Construction including tanks	Oct 2015 to Sep 2018
Interconnecting pipeline construction	May 2016 to Sep 2017
Commissioning of 12 tanks build up - Phase-1	Oct 2018
Commissioning of additional 3 tanks - Phase-2	Jun 2019
Commissioning of additional 3 tanks - Phase-3	July 2020

Soil conservation and reclamation measures will be implemented during the construction, operation and abandonment of BTT. While it is unlikely the location of BTT will be used for non-industrial purposes after decommissioning and abandonment due to the current Heavy Industrial zoning; a conceptual plan to ensure handling, storage and site reclamation techniques are implemented to ensure equivalent land capability when the project is decommissioned has been undertaken by Stantec.

Currently, the land proposed for BTT is composed of a topsoil stockpile, two subsoil stockpiles, disturbed soils, reclaimed soils and native soils. Much of the site was disturbed during the Alberta Envirofuels facility construction, circa 1990. The native and reclaimed soils are situated on undulating, well drained, glaciolacustrine sediments; topsoil is not present on disturbed soil (12.1 ha or 52.4% of the site). Vegetation in the study area consists mainly of mowed agronomic species and weeds. Three wetlands identified on the BTT site consist of plant species associated with Class II and III wetlands.

Site preparation activities will follow the intent and considerations of the Conservation and Reclamation Guidelines for Alberta C&R IL/97-1 (AEP 1997), including:

- topsoil salvage activities will be conducted to maximize the recovery of topsoil and minimize the admixing of underlying subsoil;
- stockpiles for topsoil and subsoil will be located in secure locations and will be of appropriate dimensions;
- topsoil and subsoil stockpiles will be physically separated from one another by a minimum distance of 1 m to minimize the potential for admixing; and
- appropriate erosion control measures for the stockpiles will be utilized, where necessary.

Throughout construction, operation, and reclamation phases of the project, the following measures will be taken to prevent the spread of weeds and non-native plants:

- unnecessary soil disturbance will be minimized to the extent possible;
- equipment will arrive on-site clean and free of dirt and vegetative material;
- where required for erosion control, only 'weed-free' hay or straw bales will be used;
- all seed used for re-vegetation purposes will be sourced from suppliers who provide a certificate of analysis for the weed content in the seed and the certificate(s) will be kept on file;
- weed infestations will be controlled rapidly; and
- harvested weeds will not be deposited in a place where they may grow and spread (burning or landfilling at an approved location are the preferred options).

Throughout decommissioning, all infrastructure, tanks, buildings, foundations, paved areas and subsurface utilities (other than underground transfer pipelines) will be dismantled and removed from the site. Concrete pads will be broken up and trucked to a provincially approved landfill for disposal. Gravel used to cap portions of the development area will be assessed for contaminants and sorted into 'clean' or 'chemically affected' material before disposition.

Chemically affected material will be remediated according to Strathcona County requirements, ESRD requirements, and the Interim Canadian Environmental Quality Criteria for Contaminated Sites (CCME 1991) guidelines, then reused or disposed of at a provincially approved facility. All remediation activities will be in compliance with all applicable requirements that are in effect at the time of decommissioning.

Before the start of reclamation and re-vegetation activities, representatives from Strathcona County and ESRD and/or AER will be consulted with to determine the end land use(s) for the area. Species mixes will be selected to reflect these objectives; the local planting conditions (i.e., soils and drainage), adjacent plant communities, plant availability, and pertinent guidelines and regulations approved and in effect at the time will be used.

Reclamation of soils will be in compliance with the terms and conditions attached to the AER approvals of BTT. Actual reclamation success will be judged using these guidelines or the regulatory criteria in effect at the time of abandonment. Reclamation will continue until such time desired results are achieved and a reclamation certificate is granted.

Monitoring of reclamation success will occur at one, two, and five growing seasons after planting or until satisfactory results are obtained, unless otherwise indicated. If plant mortality is widespread, the soil may be analyzed to determine the cause and fertilizer additions or organic amendments applied, if appropriate. Results from the monitoring program will be reported to the appropriate environmental agency, as required.

Soil and vegetation assessments will take place concurrently, as the objectives of the programs are similar, to ensure soil stability and successful re-vegetation of the reclaimed site. Soil monitoring will focus on areas where erosion and poor vegetation growth is evident. An initial assessment will be conducted to determine overall site conditions and potential issues.

3. Project Location Information

3.1 A description of the project's geographic coordinates (CEAA-14)

As identified above, BTT is located in the southern portion of SW1/4-32-052-23W4M within Strathcona County and occupies approximately 80 acres (32.36 hectares) of land. Geographic coordinates (longitude/latitude using international standard representation in degrees, minutes, and seconds) for the centre of BTT are as follows:

Latitude: 53-31-43, **Longitude:** 113-21-47.

3.2 Site maps produced at an appropriate scale in order to determine the project's overall location and the spatial relationship of the project components (CEAA-15)

Figure 2 - BTT Regional Map(below) illustrates BTT's overall location in relation to:

- bordering provincial boundaries (British Columbia and Saskatchewan);
- nearby communities, including cities, towns and villages;
- first Nations Communities;
- county and municipal boundaries;
- historic sites and resources;
- national and provincial parks;
- watercourses and waterbodies; and
- primary highways, railways and airports.

Figure 3 (below) illustrates BTT's location relative to international boundaries and environmentally significant areas, including:

- key wildlife and biodiversity zones;
- significant bird sites;
- the sensitive raptor range; and
- national and provincial parks.

Figure 4 (below) illustrates the overall location and size of BTT in relation to industrial facilities in proximity to BTT

Figure 2 - BTT Regional Map

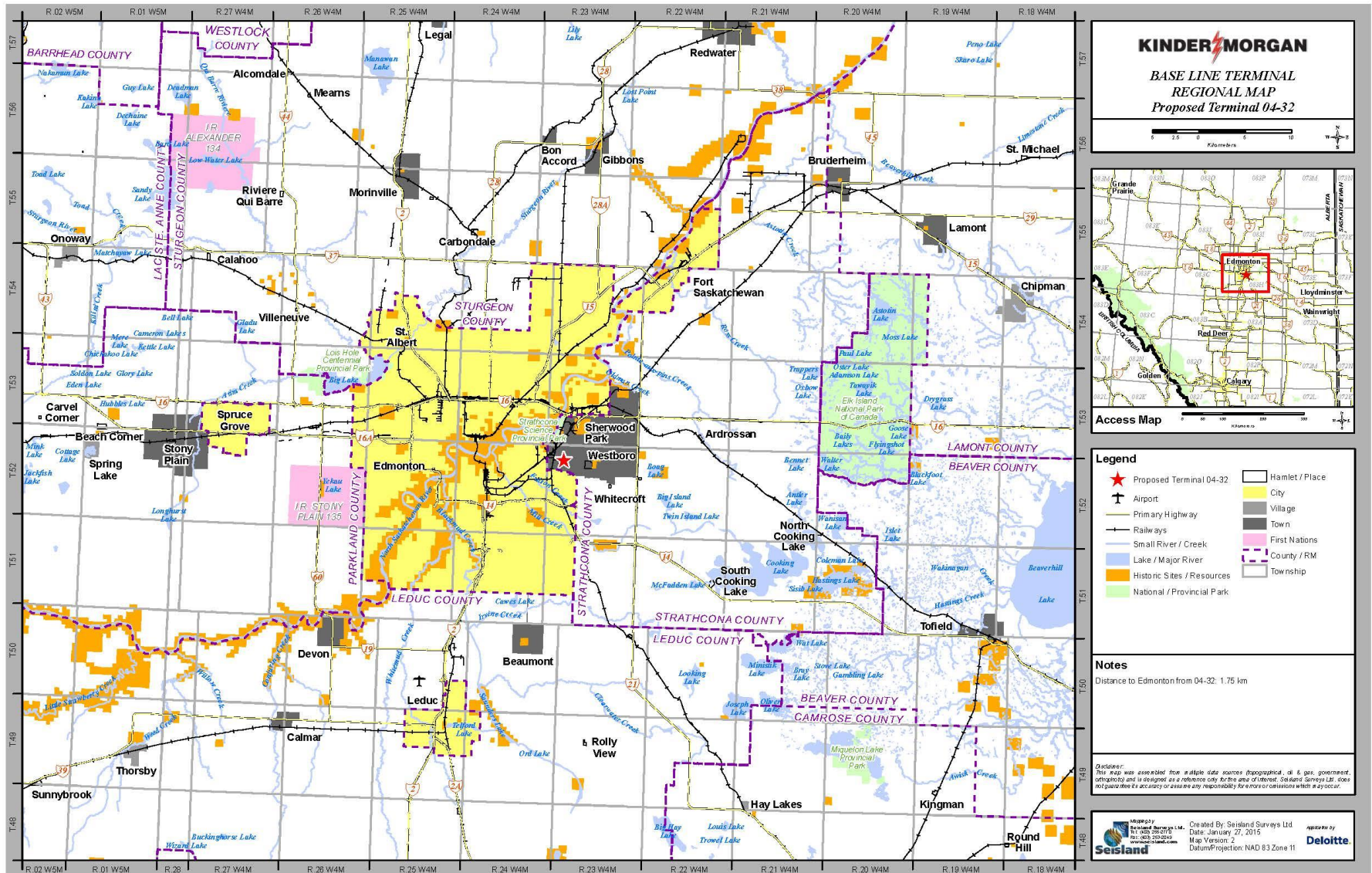


Figure 3 - BTT Environmental Map

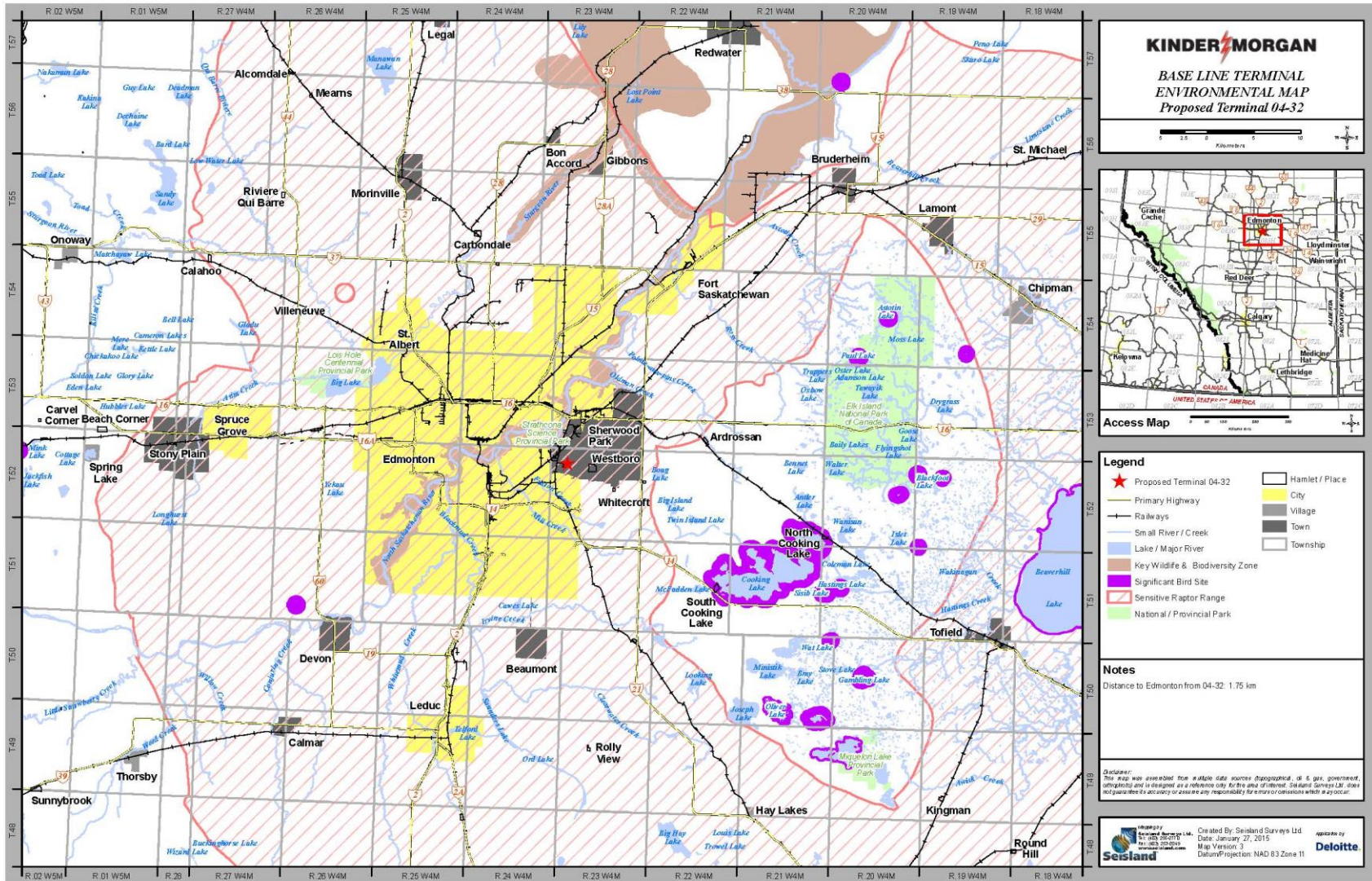


Figure 4 - BTT Area Overview



3.3 Legal description of land to be used for the project, including the title, deed or document and any authorization relating to a water lot

BTT will be located in the southern portion of the SW-32-52-23W4M occupying approximately 80 acres (32.36 hectares) of land. BTT will be located in an industrial use area of Sherwood Park within Strathcona County, Alberta. The surface rights are owned by Keyera for Alberta Envirofuels Inc. and its operations.

3.4 The project's proximity to any permanent, seasonal or temporary residences

BTT is not within close proximity to any permanent, seasonal or temporary residences. The closest residential area is approximately 2.3 km east of BTT.

3.5 The project's proximity to reserves, traditional territories as well as lands and resources currently used for traditional purposes by Aboriginal peoples

The location of BTT is not in close proximity to any federal lands, traditional territories or settlement land. Due to the location of BTT, including Heavy Industrial zoning and historical and current land use, it is highly unlikely the land has been used for traditional purposes in recent history. Further, BTT will not require access to, use or occupation of, or the exploration, development, or production of lands and resources currently used for traditional purposes by Aboriginal peoples.

The closest Aboriginal community to BTT is the Enoch Cree First Nation, located approximately 22 kilometres west, southwest of BTT. The Alexander First Nation is located approximately 45 kilometres northwest of BTT.

The land BTT will occupy is freehold land, currently held by Keyera for Alberta Envirofuels. As reported via Stantec reports, the land has been cultivated and used for agricultural purposes since approximately 1949. In recent years, the land has been utilized for soil stockpile and other industrial purposes; throughout this time, the land has been secured from the public by a perimeter fence. KMCT is not aware of any claims by Aboriginal people for access to this land. Additionally, KMCT will utilize existing public roadways and infrastructure to accommodate the construction and operation of BTT, ensuring there is no impact to potential traditional use areas or crown land.

3.6 The project's proximity to any federal lands

As illustrated in **Figure 2** in **Section 3.2**, the closest federal land is Elk Island National Park, located approximately 27 km east of BTT. BTT is not within close proximity of any other federal lands. Federal lands will not be used for the purpose of construction or operation of BTT.

4. Federal Involvement

4.1 A description of any financial support that the federal authorities are, or may be, providing to the project

There is no proposed or anticipated federal financial support that federal authorities are, or may be, providing to support BTT.

4.2 A description of any federal land that may be used for the purpose of carrying out the project

No federal lands will be used for the purpose of construction or operation of BTT, including any granting of interest in federal land, such as easement, right of way, or transfer of ownership.

4.3 A list of the permits, licenses or other authorizations that may be required under any Act of Parliament to carry out the project

Other than the project description under the CEAA 2012, there are no federal legislative or regulatory requirements that are applicable to carrying out BTT, including federal permits, licences or other authorizations.

5. Environmental Effects

5.1 A description of the physical and biological setting

BTT site is located in a Heavy Industrial area of Sherwood Park within Strathcona County, Alberta. BTT is surrounded by other industrial facilities owned or operated by KMC, KMCT, Alberta Envirofuels, ATCO, Shell, Plains, and Enbridge. According to Strathcona County's Land Use Bylaw 8-2001, the BTT land is identified as District U8 and zoned for Heavy Industrial land use.

The area has been cultivated since the early 1900's and has been used variously by Alberta Highways and Transportation and Shell Canada as a fill source (clay soil). The vegetation in the project area is composed mainly of agronomic species and weeds (refer to vegetation and wetlands assessment summary below for further detail) maintained at a short height through mowing. A tall chain link fence surrounds the area, preventing the entry of large mammals. Based on field data gathered during vegetation surveys and the provincial Fisheries and Wildlife Management Information System ('**FWMIS**'), the project area does not overlap with and is not adjacent to any permanent water bodies and/or documented fisheries resources (ESRD 2015)⁵. Project activities (i.e., construction and operations) are unlikely to interact with fisheries resources, effects to fish or fish habitat are not anticipated.

In August 2014, Stantec conducted several studies of the existing environment within the BTT footprint. Findings of the various Stantec studies are summarized below.

Vegetation and Wetlands Assessment

The vegetation, soil and hydrology of the Project area has been extensively altered due to clearing, grading, ditching and placement of culverts under adjacent roads, soil stockpiling, planting of non-native trees, and ongoing mowing. Historical aerial photographs indicate that prior to its current land use; the Project area had been cultivated since approximately 1949.

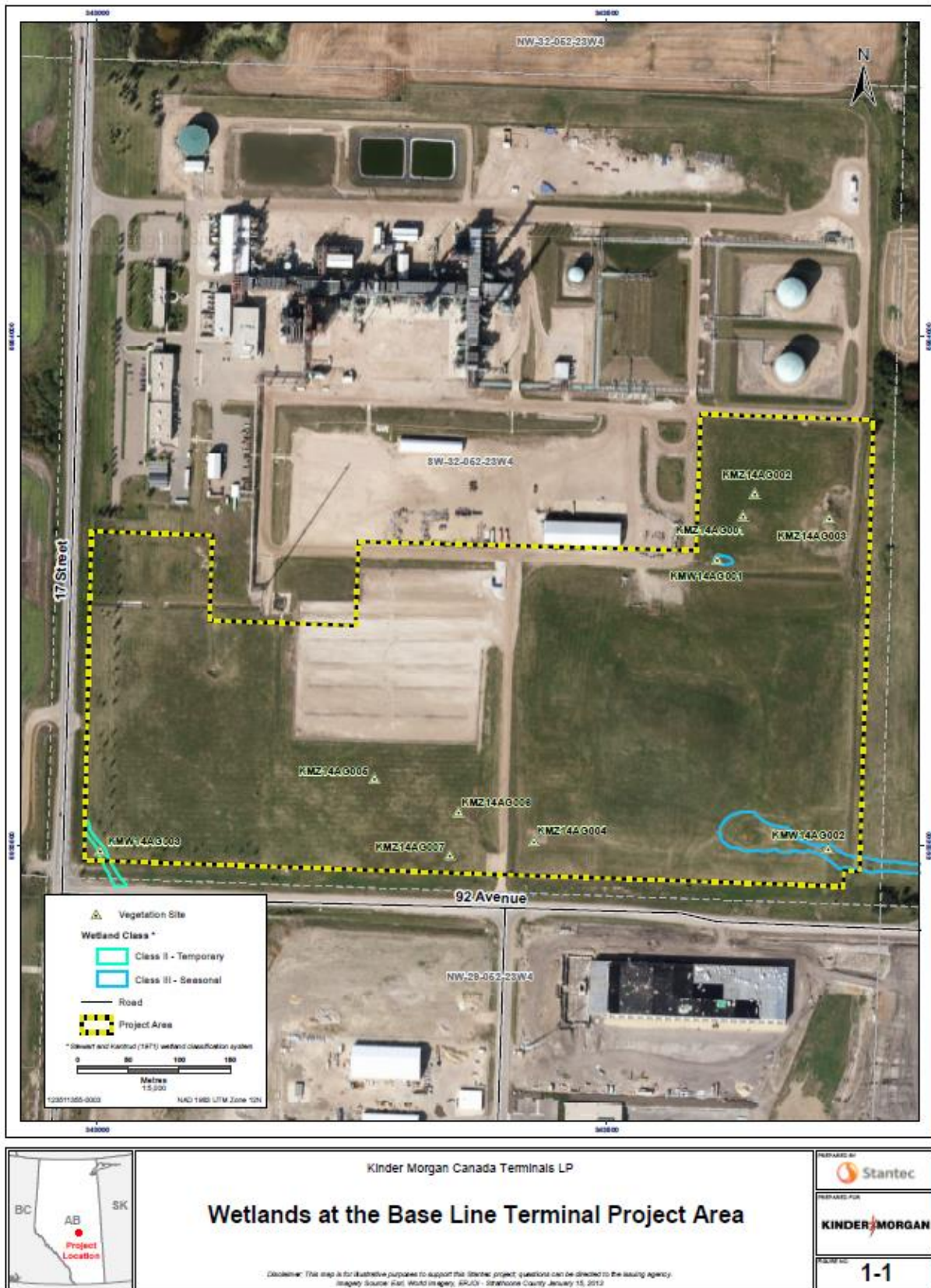
Noxious weed species observed in the Project area included: Canada thistle (*Cirsium arvense*), perennial sow thistle (*Sonchus arvensis*), and scentless chamomile (*Tripleurospermum inodorum*). No historical rare plants were identified in the Project area by ACIMS (2014) and no rare plants were observed during field surveys. In addition, the Project area does not contain suitable habitat for rare plants due to anthropogenic disturbance.

Clearing, grading, soil stockpiling, ditching, installation of culverts and on-going vegetation maintenance have all affected wetlands in the Project area. Several potential wetlands identified in historical imagery were observed to be no longer present when visited in the field. At the time of survey, the Project area had been mowed and no standing water was present anywhere in the

⁵ Alberta Environment and Sustainable Resource Development (ESRD). 2015. Access FWMS Data: Fish & Wildlife Internet Mapping Tool (FWIMT). Accessed January 27, 2015 from <http://esrd.alberta.ca/fish-wildlife/fwms/access-fwms-data.aspx>

Project area except in ditches. No hydric soil indicators were present in any wetlands, likely due to the anthropogenic disturbance. During field surveys, three wetlands were identified in the Project area and are illustrated in **Figure 5** below.

Figure 5 - Wetlands in the BTT Project Area



Wetlands KMW14AG001 (northeast corner of Project area) appears only in recent historical photographs, and has likely been created by anthropogenic changes to the landscape; a ditch to the south of this wetland has apparently been recently created, and soil has apparently been recently stockpiled to the east of the wetland.

Wetland KMW14AG002 (northeast corner of Project area) does appear in historical imagery, but its extent has been somewhat altered by changes to the landscape. A ditch is present along the east side of the Project area, which has likely changed the hydrology of this wetland.

KMW14AG003 (Southwest corner of Project area) appears only in recent historical photographs, and has likely been created by the installation of a culvert under 92nd Avenue at the southern end of this wetland.

KMCT has applied to Ducks Unlimited for compensation of the wetlands within the project site. An application under section 36 of the *Water Act* will be submitted by KMCT once compensation for the wetlands has been accepted by Ducks Unlimited.

Wildlife Assessment

Stantec's review of the ESRD FWMIS identified 12 species, 10 of which are Species of Management Concern ('**SOMC**') within 1 km of BTT. While FWMIS provides a list of SOMC observed in and near the project area, the results of a data search of FWMIS are not intended as a final statement on the presence, absence, or status of species within the area. Under existing conditions, it is unlikely that SOMC inhabit the project area. The records of SOMC in the FWMIS database are most likely from adjacent parcels which contain more suitable wetlands and vegetation cover.

BTT is not located within any Important Bird Areas, Key Wildlife and Biodiversity Zones, Environmentally Significant Areas, or any parks and historical areas. A search of the listed information sources found that BTT occurs within a Sharp-tailed Grouse survey area as well as Sensitive Raptor Ranges for Prairie Falcons, Peregrine Falcons, Bald Eagles, and Golden Eagles.

The project area has the capacity to support the nests of some ground-nesting migratory birds such as savannah sparrow and clay-colored sparrow.

A peregrine falcon nest box is located on a distillation tower at Keyera's Alberta Envirofuels facility immediately north of BTT and has been occupied by breeding peregrines since 2010. Stantec notes that while the current project area could potentially be used by nesting peregrine falcons for hunting, it is unlikely to support as many prey species or individuals as other parcels in the surrounding area and is not likely to be important to continued peregrine falcon nesting success.

Based on field data gathered during vegetation surveys and the provincial FWMIS, the project area does not overlap with and is not adjacent to any permanent water bodies and/or documented fisheries resources (ESRD 2015)⁶. Project activities (i.e., construction and operations) are unlikely to interact with fisheries resources, effects to fish or fish habitat are not anticipated. The wetlands in the area are considered to provide low quality habitat for waterbirds and amphibians.

⁶ Alberta Environment and Sustainable Resource Development (ESRD). 2015. Access FWMIS Data: Fish & Wildlife Internet Mapping Tool (FWIMT). Accessed January 27, 2015 from <http://esrd.alberta.ca/fish-wildlife/fwmis/access-fwmis-data.aspx>

Activities associated with BTT could result in the direct loss, alteration and fragmentation of wildlife habitat, and could have indirect effects on habitat; however, the potential effects of the project on wildlife and wildlife habitat are considered to be low because the existing site conditions, along with the highly developed nature of the surrounding area, do not provide quality habitat for SOMC.

Wildlife mortality could occur during the construction phase of the project. Direct sources of mortality include the destruction of den and nest sites during vegetation clearing. Increased traffic and encounters with equipment or project components may also increase direct mortality risk.

Stantec further reports that it is not likely that the loss of current habitat in BTT footprint will affect wildlife in the area as surrounding areas provide more suitable habitat. Little to no effect on wildlife is expected as a result of BTT provided mitigation for nesting season is maintained. It is believed that BTT will have a low to negligible effect on wildlife, wildlife populations or wildlife habitat in the project area.

As identified above, BTT will have minimal environmental effects due to the current and historical land uses and conditions. KMCT will develop and implement mitigation plans to minimize all potential impacts to the environment throughout the construction, operation and decommissioning of BTT.

5.2 Description of any changes that may be caused, as a result of carrying out the project, to fish and fish habitat as defined in subsection 2(1) of the Fisheries Act; aquatic species, as defined in subsection 2(1) of the Species at Risk Act; and migratory birds, as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994

Because of the project's location within Alberta, the project and project activities will not interact with fish and fish habitat as defined in the *Fisheries Act* or with aquatic species, as defined in the *Species at Risk Act*.

BTT does have the potential to disturb the nests and nesting habitat of migratory birds if construction activities take place within the breeding bird nesting period. KMCT will develop and maintain, prior to commencing grading and construction activities, a mitigation plan and strategy with respect to migratory birds and will comply with all requirements under the *Migratory Bird Convention Act, 1994* and Alberta's *Wildlife Act*, including compliance with restricted activity periods, pre-clearing nest surveys, and the creation and maintenance of buffer areas, where required.

5.3 A description of any changes to the environment that may occur, as a result of carrying out the project, on federal lands, in a province other than the province in which the project is proposed to be carried out or outside of Canada

It is not expected that BTT will cause changes to the environment in areas outside the defined project area.

5.4 Information on the effects on Aboriginal peoples of any changes to the environment that may be caused as a result of carrying out the project, including effects on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes or on any structure, site or thing that is of historical, archaeological, paleontological or architectural significance

It is not expected the construction or operation of BTT will affect the health or socio-economic conditions or of the physical or cultural heritage of Aboriginal peoples. The location of BTT is not in close proximity to any federal lands, traditional territories or settlement land. Due to the location of BTT, including heavy industrial zoning and historical and current land use, it is highly unlikely the land has been used for traditional purposes in recent history. Further, BTT will not require access to, use or occupation of lands and resources currently used for traditional purposes by Aboriginal peoples.

The closest First Nation community is that of the Enoch Cree First Nation, located approximately 22 kilometres west, southwest of the project site. The closest federal land is Elk Island National Park, located approximately 27 km east of BTT. Additionally, KMCT is unaware of any First Nations traditional territories, settlement land, or lands and resources currently used for traditional purposes by Aboriginal peoples within close proximity to BTT. BTT will not require access to, use or occupation of, or the exploration, development, or production of lands and resources currently used for traditional purposes by Aboriginal peoples.

The lands proposed for BTT have been cultivated since the early 1900's and used for industrial activity with perimeter fencing being maintained over the last several years. Accordingly, it is not expected that BTT will result in any changes to the environment that may impact Aboriginal peoples, including effects on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resource for traditional purposes, or on any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

The land BTT will occupy is freehold land, currently held by Keyera. In recent years, the land has been utilized for soil stockpile purposes; throughout this time, the land has been secured from the public by a perimeter fence. KMCT is not aware of any claims by Aboriginal people for access to this land. Additionally, KMCT will utilize existing public roadways and infrastructure to accommodate the construction and operation of BTT, ensuring there is no impact to potential traditional use areas or crown land.

In the unlikely event any structure, site or thing that is of historical, archaeological, paleontological or architectural significance be identified throughout the grading and construction of BTT, KMCT will immediately halt all construction activities and report the finding to all appropriate government agencies.