MOTT MACDONALD

TDK Metro Terminals

Rail Operating Plan

July 05, 2023

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Rail Operating Plan

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	2023/Jan/31	C. Au	A. Wells	S. Riddick	Issued for Review
B	2023/Jul/05	C. Au	A. Wells	S. Riddick	Wording Changes

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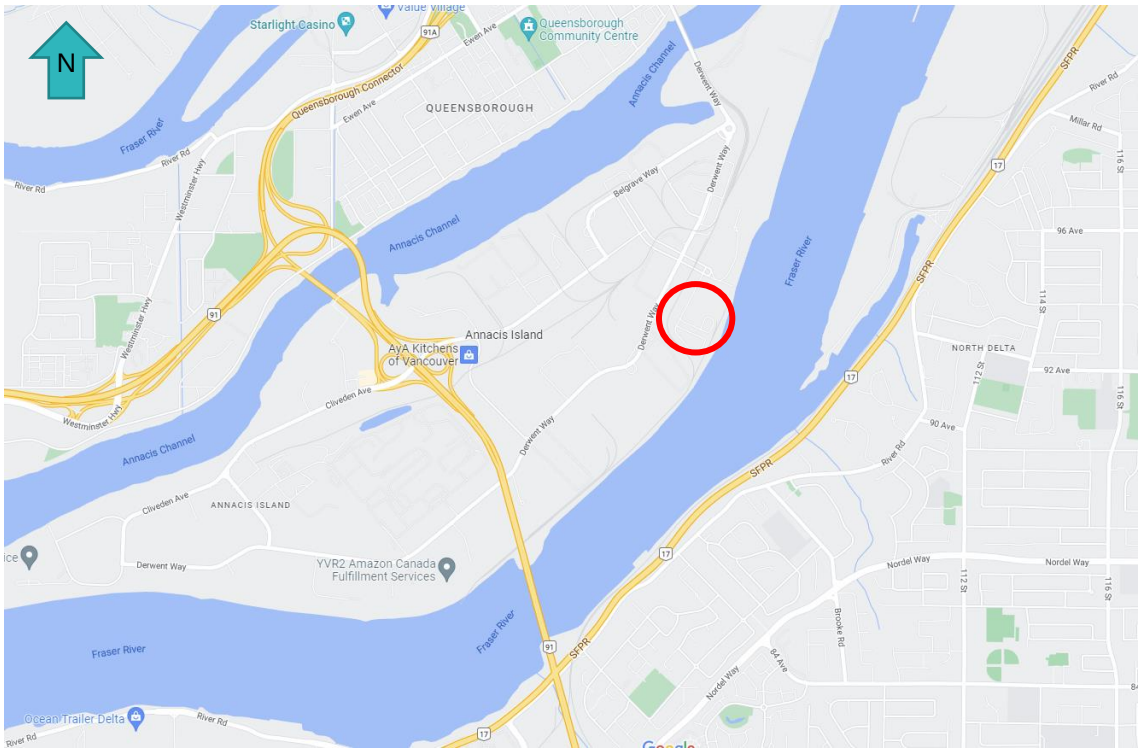
1 Introduction

TDK Logistics Inc. (TDK) Metro Terminals is proposing to redevelop their existing site located at 480 Audley Blvd in Delta, British Columbia (Figure 1.1). The Project features a redevelopment that will expand upon the existing container operations and introduce a rail service into the facility. This Rail Operating Plan will outline the proposed methodology for SRY service to the site. Proposed throughput for the facility upon completion of the Project will be 4,000 rail cars per year.

Figure 1.1: Facility Location



2 Existing and Proposed Site Infrastructure

The existing site does not have rail infrastructure, there is no existing rail operating plan.

The proposed trackwork includes two new parallel rail stub tracks with approximate length of 220 m. These tracks will come off of a single No.8 turnout on the existing SRY AS 280 stub track. There is a second No.8 turnout within the facility shared between the two proposed tracks. The ends of the two parallel stub tracks will be protected by standard bumping posts. The track geometry has been designed to meet SRY standards. The rail plan is based on the Mott MacDonald rail plan used for the Vancouver Fraser Port Authority (VFPA) permit application (drawing *23-098-RL-001)*, included in Appendix A.

The entire site, including the proposed rail area, is planned to be regraded and paved. The trackwork will be embedded track.

An excerpt of the design drawing and the clear lengths of the two tracks are shown below in Figure 2.1 and Table 2.1 respectively. The tracks will be used for both container and grain operations.

Figure 2.1: Proposed Rail Yard

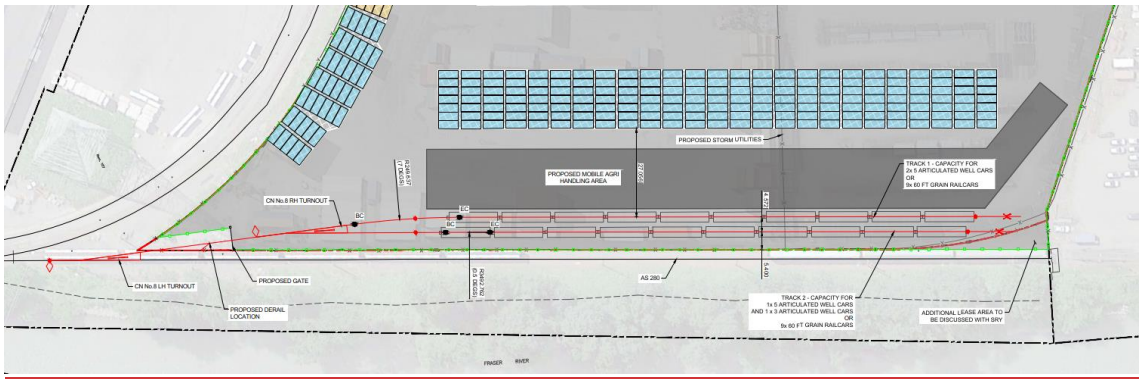


Table 2.1: Track Clear Lengths

Track	Clear Length
Track 1	171.3 m (562 ft)
Track 2	168.9 m (554 ft)

TDK Terminal operates 07:00 to 23:00 Monday to Fridays, opening on weekends for special appointment only.

2.1 New Track Specification

The proposed trackwork will conform to SRY's standards. Key specifications used for the design include:

- Design speed of 10 mph;
- Turnouts will be standard CN No.8 turnouts;
- Rail to be 115LB rail;

- Ties to be 7” x 9” x 8’-6” No.1 treated hardwood ties with anti splitting device
- Ties to be placed at 60 ties / 100 ft (20” spacing).
- Every second tie shall be fully box anchored.
- 14” double shoulder tie plates with track spies to be used.
- All joints to be bolted joints
- Bumping posts for the ends of the tracks are to be Western Cullen Hayes Model WG or HD or equivalent.
- Derail to be a standard double switch point derail.
- Rubber flange seal to be Performance Polymers Innovations Inc. “115-LB A.R.E.A ON WOOD TIE RAILSEAL & SLIDER CLAMP” (Illustration No. ILF1916) or equivalent where track is paved.

3 Proposed Rail Volumes and Capacity

The site is anticipated to receive 4,000 railcars per year, or 16 cars on average per weekday. 16 to 20 cars are expected to be delivered per day, pending confirmation with SRY closer to the opening day of the facility. These are cars are assumed to be a mix of both well cars and grain cars for both container and grain operations. There is currently no indication on what the split between container traffic and grain traffic will be. This will be driven by market conditions at the time of operation. In the future, the site is anticipated to have an annual throughput of 150,000 TEU (of which up to 15,000 TEU may arrive by rail) and approximately 100,000 t/a of agriculture product (agri).

3.1 Rail Capacity for Container Operations

For the container operations, each of the two proposed tracks will have capacity for two sets of five articulated well cars, totaling ten well cars per track. The total capacity of the site is thus 20 well cars. A set of five articulated well cars is assumed to be 203’-9.75” in length, over couplers.

3.2 Rail Capacity for Grain Operations

For the grain operations, each of the two proposed tracks will have capacity for nine grain cars, for a total of 18 cars. Grain railcars are assumed to be 60 feet in length, over couplers.

4 Proposed Switching Service

SRY will deliver railcars for the site and pick up cars from site. SRY will arrive at the facility from the west of the site to pick and up delivery cars during the graveyard shift (23:00 to 07:00) outside of the terminal's operating hours. This allows cars to be unloaded or loaded throughout the terminal operating hours Monday through Friday. Only one pick up and one delivery per day is anticipated.

No independent moving of rail cars is anticipated on site during operations.

4.1 SRY Support

TDK and VFPA have been continuously engaging with SRY regarding their support of the TDK expansion project since November 2020. SRY has indicated that they are in support of the expansion proposal and do not intend to stand in the way of permitting. SRY understands that a VFPA permit would need to be in place before TDK can commit to a specific service level. SRY has specifically indicated that renewal of the lease in 2025 will trigger the requirement to provide assurance that rail service will take place in perpetuity.

4.2 Proposed Railcar Delivery

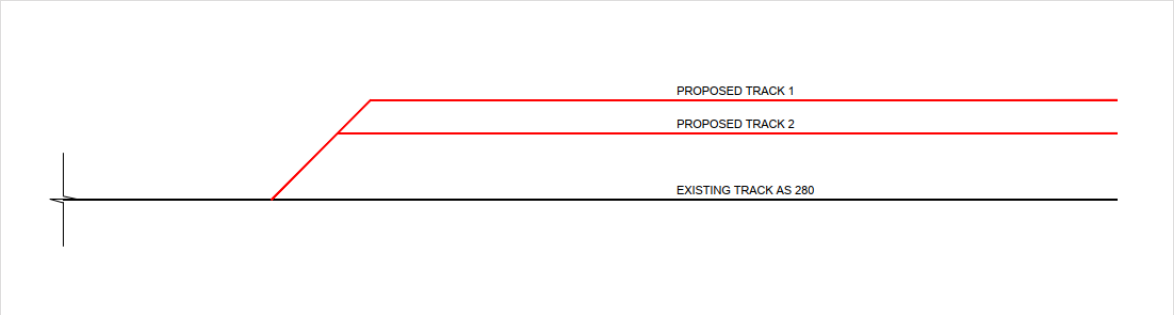
Cars delivered during the graveyard shift are expected to complete unloading or loading by the end of the day for SRY to pick up the processed cars in the following graveyard shift.

16 to 20 cars are expected to be delivered per day, pending confirmation with SRY closer to the opening day of the facility.

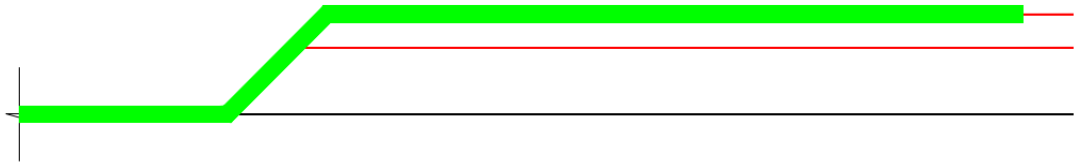
The following table outlines how SRY will deliver and pick up rail cars. For clarity, a schematic is included to better illustrate the process.

Table 4.1: Delivery and Pick Up of Railcars by SRY

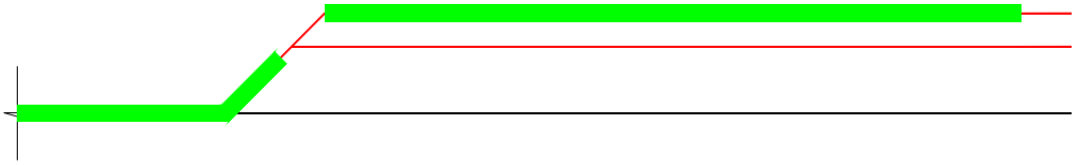
Step	Action
0	Site is empty and ready for SRY to deliver railcars



Step	Action
1	SRY spots the string of cars onto the northern track, until the tail is at the clear point of the bumping post



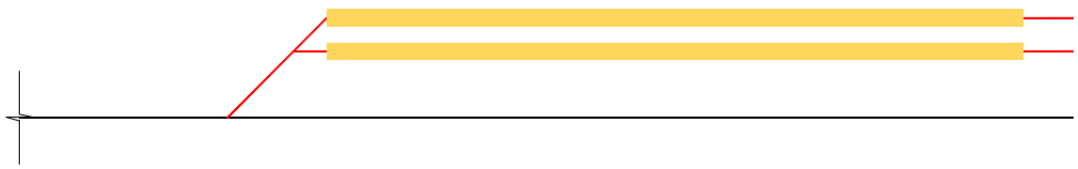
2	SRY cuts off a string of cars and pulls forward until the facility turnout is clear



3	SRY pushes the string onto the southern track until the tail is at the clear point of the bumping post

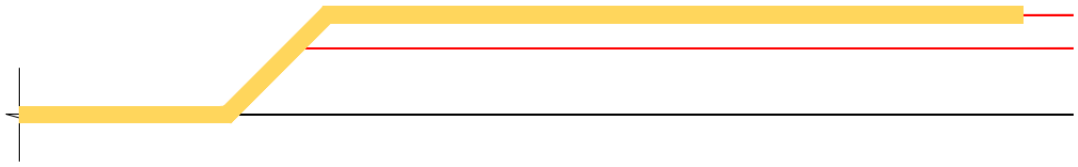
4	SRY can depart the site

Step	Action
5	TDK will process the railcars

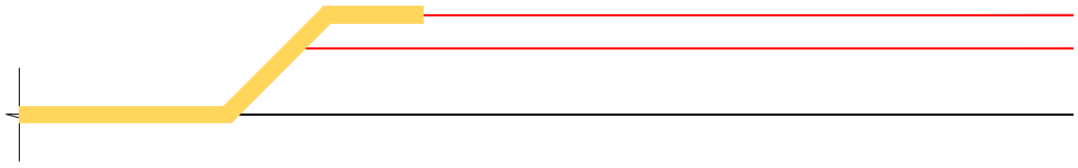


6	SRY returns and couples to a string of processed railcars

7	SRY pulls and pushes the string to couple with the second string



8	SRY can depart the site with the railcars



All moving of the railcars are to be completed by SRY. Strings of cars will be pushed into the site along Track AS 140 or Track AS420 to enter the facility. After SRY delivers the cars, TDK will not need to move the rail cars any further.

5 Proposed On-site Rail Operations

Two rail operations will be undertaken on site: container unloading/loading and grain transload operations. The split in volume between the two is currently undefined and will depend on market conditions at the time of operation.

5.1 Containers

Containers will be unloaded from and loaded onto trains using reach stackers. The site reach stackers will be able to access containers on both tracks, thus containers can be unloaded from either track with the reach stacker on the northern side of the tracks.

5.2 Grain

Full grain cars will be brought onto site by SRY on the northern track to be unloaded using mobile conveyors. The agri will then be stuffed into containers using the mobile conveyors and container tippers. Grain railcars can only be unloaded from the northern track due to the limitations of the conveyor.

The facility will provide adequate tenting to protect conveyors and containers from any precipitation during the grain transload operation.

6 Closure

This Rail Operating Plan has been created to support the VFPA PER Application. This plan may be updated closer to time of operations based on modifications to Project conditions, executions plans, schedules, intended volumes or revised intentions from the operators. The plan will be reviewed as required to address any updates to the Project or permit conditions prior to mobilization or operation.

A. Rail Plan Drawing 21-098-RL-001