



April 25, 2022

Nures Kara
Environmental Manager
Schnitzer Steel Canada Ltd.
12301 Musqueam Drive
Surrey, BC V3V 3T2

Dear Nures Kara:

Re: **Vancouver Fraser Port Authority Project Permit No. 18-196-03 Pile Installation to Support Cameras and Water Cannons - Amendment 03 Permit Extension Amendment**

The Vancouver Fraser Port Authority (the "Port Authority") has received a request from Schnitzer Steel Canada Ltd. to extend the validity of Project Permit PER No. 18-196-02 (the "Permit"). The Port Authority understands that shipment of materials were delayed due to COVID-19 effects on international trade and supply chain, resulting in fabrication delays of the fire suppression tower and affecting the anticipated completion date of December 31, 2021. The Port Authority further understands that there are no changes to the scope of the Project.

The Port Authority has undertaken and completed a review of the requested amendment in accordance with the *Canada Marine Act*, section 5 of the Port Authorities Operations Regulations, and section 82 of the *Impact Assessment Act*, as applicable.

As part of our review, the Port Authority considered additional information provided in the following:

- Correspondence with Schnitzer Steel Canada Ltd. on April 22, 2022 confirming no scope change

The Port Authority has concluded that the requested extension is not likely to cause significant adverse environmental effects. We also determined that adverse impacts to Aboriginal or Treaty rights are not expected.

Accordingly, the Port Authority authorizes an amendment to Project Permit PER No. 18-196-02 to extend the expiry date. The expiry date is now **April 30, 2023**.

This amendment has been assigned Amendment PER No. 18-196-03. Thank you for your cooperation throughout our review. Should you have any questions regarding this approval, please contact Andrew Otto-Artavia at 604.665.9047 or andrew.otto-artavia@portvancouver.com.

Yours truly,

ORIGINAL COPY SIGNED

Chris Bishop
Manager, Project and Environmental Review

cc Andrew Otto-Artavia, Project and Environmental Review, Vancouver Fraser Port Authority
encl (3) Project Permit PER No. 18-196, 18-196-01, and 18-196-02



May 21, 2021

Nures Kara
Environmental Manager
Schnitzer Steel Canada Ltd.
12301 Musqueam Drive
Surrey, BC V3V 3T2

Dear Nures Kara,

Re: **Vancouver Fraser Port Authority Project Permit No. 18-196-02 - Extension
Schnitzer Fire Suppression System**

The Vancouver Fraser Port Authority (the Port Authority) has received a request from Schnitzer Steel Canada Ltd. to extend the validity of Project Permit PER No. 18-196-01 (the Permit). The Port Authority understands that shipment of materials have been delayed due to COVID-19 effects on international trade, and the Project could not be completed prior to April 30, 2021. The Port Authority further understands that there are no changes to the scope of the amended Project.

The Port Authority has undertaken and completed a review of the requested extension in accordance with the *Canada Marine Act*, section 5 of the Port Authorities Operations Regulations, and section 82 of the *Impact Assessment Act*.

As part of our review, the Port Authority considered additional information provided in the following:

- All correspondence with Schnitzer Steel Canada Ltd. from April 9, 2021 to May 7, 2021

To meet the requirements of the *Impact Assessment Act*, the Port Authority posted a description of the requested extension and notice of public participation to the Canadian Impact Assessment Registry and considered the factors set out in section 84. We concluded that the requested extension is not likely to cause significant adverse environmental effects. We also determined that adverse impacts to Aboriginal or Treaty rights are not expected.

Accordingly, the Port Authority authorizes an amendment to Project Permit PER No. 18-196-01 to extend the expiry date of the Project. The expiry date for this permit is now **December 31, 2021**.

This amendment has been assigned Amendment PER No. 18-196-02. Please quote this reference number in all future correspondence. Thank you for your cooperation throughout our review. Should you have any questions regarding this approval, please contact Andrew Otto-Artavia at andrew.otto-artavia@portvancouver.com.

2/...

PER No. 18-196-02 Extension
May 14, 2021
Page 2 of 2

Yours truly,

Vancouver Fraser Port Authority

ORIGINAL COPY SIGNED

LISA McCUAIG
MANAGER, ENVIRONMENTAL PROGRAMS

cc Chris Bishop, Manager, Planning and Development, VFPA
Kim Keskinen, Supervisor, Environmental Programs, VFPA
Anika Calder, Compliance Monitoring and Enforcement Specialist, Environmental Programs, VFPA
Eric Freudenreich, Property and Tax Specialist, Real Estate, VFPA

encl (2) Amendment PER No. 18-196-01
Project Permit PER No. 18-196

COPY

June 29, 2020

Nures Kara
Environmental Manager
Schnitzer Steel Canada Ltd.
12301 Musqueam Drive
Surrey, BC V3V 3T2

Dear Nures Kara,

Re: Vancouver Fraser Port Authority Project Permit No. 18-196-01 Pile Installation to Support Cameras and Water Cannons - Amendment 01 Fire Suppression System Design Amendment

Vancouver Fraser Port Authority (the port authority) has received a request from Schnitzer Steel Canada Ltd. to amend Project Permit PER No. 18-196 to change the scope of the proposed fire suppression system for the metal recycling barge at 12301 Musqueam Drive, Surrey.

The Applicant received approval on April 17, 2019, under PER No. 18-196, to install water cannons and thermal cameras adjacent to the existing west barge ramp at the Surrey BC facility. The water cannons and thermal cameras were intended to detect heat sources during warm or dry weather and enhance fire detection and suppression ability. The equipment would be mounted to three new dolphin pile structures. When triggered each water cannon was expected to use approximately 800-1000 gallons per minute (gpm) at maximum and approximately 200-300 gpm when kept at a spray mist level during barge loading activity. Water was proposed to be withdrawn from the Fraser River by a pump, with an intake located beside the pile closest to shore. Collectively, these physical works and activities are referred to as "the Authorized Project."

The port authority understands that the amendment request is a result of project design optimizations. The revised fire suppression system design proposes two pile pier structures consisting of two fifteen-metre towers with fire monitors, two eight-metre access towers, two four-metre bent pile structures, lighting, and misting stations, and connective access trusses. The two fire monitor towers will be equipped with fire monitors and water cannons which will be activated in the event of a fire to deploy up to 2,000 gallons per minute. The access towers will hold connecting access trusses between the fire monitor towers to the upland. Fire water lines, access lighting, power and control cables will be mounted on the access trusses to each water monitor station. The bump pile cluster is to protect the eastern fire monitor tower from vessel activity. All piles will be installed by vibratory hammer.

The fire suppression system will be connected to the municipal water supply, which will be supported by the installation of a 350,000 gallon (1,300,000 litre) fire water tank, valve tie-in, and pump house building installed on a concrete foundation. Upland excavation and construction activities will follow best management practices including the use of silt fencing and other erosion prevention measures. The fire water tank, valve, and pump house will store water on site to augment the municipal water supply to meet the demand of the suppression system in the event of a fire. The fire water tank, has capacity to fight a fire at full pump capacity of 410 litres per second (L/s) for two hours when supplemented with the City of Surrey system supply (250 L/s). After the fire water tank has been exhausted, the fire water system will operate at a reduced capacity (250 L/s). The proposed lighting system will be used during operational hours (7:00 am to 8:00 pm), where required, and used overnight, only when needed, by security personnel or during emergencies.

The project scope includes the following physical works and activities:

- Installation of four piers, consisting of a total of twelve concrete capped 1,200 millimetre diameter piles as foundations for the fire water monitor towers;
- Installation of two fifteen-metre tall steel fire monitor towers equipped with three fire water monitors including: thermal and flame detectors, cameras, misting system, and water cannons;
- Installation of two eight-metre tall truss support towers, four steel access trusses, access stairs and lighting along the trusses connecting the upland with the fire monitor towers;
- Installation of two four-metre tall bents and two steel capped pile foundations to support bents;
- Installation of a three piles in a cluster (bump pile) to protect the eastern fire monitor tower from approaching vessels;
- Installation of power and control lines to the three fire water monitors and connection to existing site utilities;
- Excavation of approximately 25 m³ of existing concrete for the footprint of the pump house and concrete pad for fire water storage tank; and
- Construction of fire pump house and valve house on concrete foundation, and installation of fire water break tank (350,000 gallon), pumps and piping from City of Surrey supply water, through the valve station, fire water tank, and pumps to fire water monitor towers.

The port authority has undertaken and completed a review of the requested amendment in accordance with the *Canada Marine Act*, section 5 of the Port Authorities Operations Regulations, and section 82 of the *Impact Assessment Act*.

As part of our review, the port authority considered additional information provided in the following supporting documents:

- 7191-PM-RPT-001-R3 Project Description
- 7191-E-015-RA
- 7191-E-17-RA
- 7191-M-001-RF
- 7191-M-002-RE
- 7191-M-030-RD
- 7191-M-110-RB
- 7191-S-410-RE
- 7191-S-415-RE
- All correspondence with Schnitzer Steel Canada Ltd., from October 30, 2019 to June 19, 2020.

To meet the requirements of the *Impact Assessment Act*, the port authority posted a description of the requested amendment and notice of public participation to the Canadian Impact Assessment Registry and considered the factors set out in section 84. We concluded that the requested amendment, with revised and supplementary conditions, is not likely to cause significant adverse environmental effects.

Accordingly, the port authority authorizes an amendment to Project Permit PER No. 18-196-01 to remove condition no. 32, to include supplementary conditions no. 41, no. 42 and no. 43, and to extend the expiry date from **May 31, 2020 to June 30, 2021**, all as shown in the below table.

No.	AUTHORIZED CONDITIONS PROJECT PERMIT PER No. 18-196- (April 17, 2019)	REVISED CONDITIONS AMENDMENT PER No. 18-196-01
	REVISED CONDITIONS	

32.	Without limiting the generality of permit condition #2, the Permit Holder shall screen water intakes placed in the Fraser River in accordance with the Fisheries and Oceans Canada (DFO) "Freshwater Intake End-Of-Pipe Fish Screen Guideline", March 1995.	*removed*
SUPPLEMENTARY CONDITIONS		
41	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder shall dispose of any soils excavated from the project site that are not suitable for backfill at appropriate off-site facilities and maintain records of off-site disposal.
42	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder shall conduct all activities involving the use of concrete, cement, mortars and other Portland cement or lime-containing construction materials in a manner that shall not deposit sediments, debris, concrete (cured or uncured), and concrete fines into the aquatic environment, either directly or indirectly. Water that has contacted uncured or partly cured concrete or Portland cement or lime-containing construction materials (such as the water that may be used for exposed aggregate wash-off, wet curing, equipment and truck washing) shall not be permitted to enter the aquatic environment. The Permit Holder shall provide containment facilities at the site for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment, as required.
43	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	<p>At least 10 business days prior to construction, the Permit Holder must submit a marine construction and staging plan, including the following, for VFPA review and approval:</p> <ul style="list-style-type: none"> • Staging and construction areas (in relation to Navigation channel) including means of securing to the seabed or mobile with tug; • Dates and hours of operation; • Description of activities taking place; • Equipment and vessels (dimensions must be included); • Method of preferred communication with marine users; • Special request and/or additional information. <p>The Permit Holder shall carry out the Project in accordance with the marine construction and staging plan, including any subsequent amendments approved by VFPA.</p>
44	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	For structures and proposed interior changes to structures that are reviewable under the National Building Code and National Fire Code, the Permit Holder shall apply for a VFPA Building Permit.

45	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder shall carry out all activities in a manner that prevents the release of sediment, sediment-laden waters, and turbid waters to the aquatic environment. Sediment and erosion control measures shall be implemented prior to the start of ground disturbance activities and should meet or surpass the standards outlined in the 1992 Fisheries and Oceans Canada (DFO) “Land Development Guidelines for the Protection of Aquatic Habitat”.
46	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	Air emissions from vehicle/equipment exhaust, dust and vapours shall be minimized and managed to avoid effects on and off the Project site. More detailed guidance is available in Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities prepared for Environment Canada (Cheminfo Services Inc. March 2005).
47	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder shall contain and collect debris and waste material in the immediate working area within the Project site. The Permit Holder shall dispose of waste material at suitable upland locations and maintain records of off-site disposal.
48	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	Without limiting the generality of permit no. 18-196 condition 3, if suspect contaminated materials are encountered, the Permit Holder shall contain, test and dispose of such materials at appropriate licensed off-site facilities and maintain records of off-site disposal. VFPA shall be notified of such activities and provided relevant documentation upon completion.
49	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder is responsible for locating all existing site services and utilities including any located underground. The Permit Holder is responsible for repair or replacement of any damage to existing site services and utilities, to the satisfaction of VFPA, that result from construction and operation of the Project.
LENGTH OF PERMIT VALIDITY		
	The Project must be completed no later than April 30, 2020 (the Expiry Date).	The Project must be completed no later than April 30, 2021 (the AMENDED Expiry Date).

This amendment has been assigned Amendment PER No. 18-196-01. Please quote this reference number in all future correspondence. Thank you for your cooperation throughout our review. Should you have any questions regarding this approval, please contact Regan Elley at 604-665-9594 or regan.elley@portvancouver.com.

Yours truly,

VANCOUVER FRASER PORT AUTHORITY

ORIGINAL COPY SIGNED

Andrea MacLeod,
Manager, Environmental Programs

N. Kara
Amendment PER No. 18-196-01
June 29, 2020
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cc Chris Bishop, Manager, Planning and Development, VFPA
Darcy Paslawski, Environmental Specialist, Environmental Programs, VFPA
Donna Hargreaves, Compliance Monitoring and Enforcement Specialist, Environmental Programs, VFPA
Eric Freudenreich, Property and Tax Specialist, Real Estate, VFPA

encl (2) Project Permit PER No. 18-196
Permit Drawings

COPY

Project Permit PER No.:	18-196
Amendment No.	01
Permit Holder:	Schnitzer Steel Canada Ltd.
Authorized Project:	Schnitzer Pile Installation to Support Cameras and Water Cannons
Amendment:	Fire Suppression System Design Amendment
Project Location:	12301 Musqueam Drive, Surrey, BC V3V 3T2
Applicant:	Schnitzer Steel Canada Ltd.
Recommendation:	That PER No. 18-196-01 Fire Suppression System Design Amendment be approved

1 INTRODUCTION

The Vancouver Fraser Port Authority (the port authority), a federal port authority, manages lands under the purview of the *Canada Marine Act*, which imparts responsibilities for environmental protection. The port authority accordingly conducts project and environmental reviews of works and activities undertaken on these lands to ensure that the works and activities will not likely cause significant adverse environmental effects. This project and environmental review amendment report (the Amendment Report) documents the port authority's project and environmental review of the proposed scope of Amendment PER No. 18-196-01: Fire Suppression System Design Amendment (the Amendment) proposed by Schnitzer Steel Canada Ltd. (the Applicant).

The project and environmental review of the proposed permit Amendment was carried out to address the port authority's responsibilities under the *Canada Marine Act*, and to meet the requirements of the *Impact Assessment Act*, as applicable. The Project is not considered a "designated project" under the *Impact Assessment Act* and an impact assessment as described in the *Impact Assessment Act* is not required. However, a port authority authorization is required for the proposed Amendment to proceed and in such circumstances, where applicable, Section 82 of *Impact Assessment Act* requires federal authorities to assure themselves that projects will not likely cause significant adverse environmental effects. This review provides that assurance. In addition, the port authority considers other interests, impacts and mitigations through the project and environmental review.

The scope of this project and environmental review considered the application for the Amendment along with supporting studies, assessments and consultations carried out or commissioned by the Applicant, as well as other information provided by the Applicant. In addition, this project and environmental review considered other information available to the port authority and other consultations carried out by the port authority. A full list of information sources germane to the review is provided in the following pages of this report.

This project and environmental review amendment report is NOT a project authorization. This report summarizes the review outcome, and provides the basis for approval or denial of the proposed amendment.

NOTE: This report is for internal use only and was not provided to the Applicant. The Applicant was provided an amendment letter describing the new project scope and amended conditions.

2 AUTHORIZED PROJECT

The Applicant received approval on April 17, 2019, under PER No. 18-196, to install water cannons and thermal cameras adjacent to the existing west barge ramp at the Surrey BC facility. The water cannons and thermal cameras were intended to detect heat sources during warm or dry weather and enhance fire detection and suppression ability. The equipment would be mounted to three new dolphin pile structures.

The water cannons are triggered if the thermal cameras detect heat from the barge. When triggered each water cannon is expected to use approximately 800-1000 gallons per minute (gpm) at maximum and approximately

200-300 gpm when kept at a spray mist level during barge loading activity. Water is proposed to be withdrawn from the Fraser River by a pump, with an intake located beside the pile closest to shore. Collectively, these physical works and activities are referred to as “the Authorized Project.”

3 SCOPE OF PERMIT AMENDMENT

The Applicant is requesting to amend the design of the fire suppression system as a result of project design optimizations. The revised fire suppression system design proposes two pile pier structures consisting of two fifteen-metre towers with fire monitors, two eight-metre access towers, two four-metre bent pile structures, lighting, and misting stations, and connective access trusses. The two fire monitor towers will be equipped with fire monitors and water cannons which will be activated in the event of a fire to deploy up to 2,000 gallons per minute. The support towers will support connecting access trusses between the fire monitor towers to the upland. Fire water lines, access lighting, power and control cables will be mounted on the access trusses to each water monitor station. The bumper pile cluster is to protect the eastern fire monitor tower from vessel activity. All piles will be installed by vibratory hammer.

The fire suppression system will be connected to the municipal water supply, which will be supported by the installation of a 350,000 gallon (1,300,000 litre) fire water tank, valve tie-in, and pump house building installed on a concrete foundation. Upland excavation and construction activities will follow best management practices including the use of silt fencing and other erosion prevention measures. The fire water tank, valve, and pump house will store water onsite to augment the municipal water supply to meet the demand of the suppression system in the event of a fire. The fire water tank, has capacity to fight a fire at full pump capacity of 410 Litres per second (L/s) for two hours when supplemented with the City of Surrey system supply (250 L/s). After the fire water tank has been exhausted, the fire water system will operate at a reduced capacity (250 L/s). The proposed lighting system will be used seasonally during operational hours (7:00 am to 8:00 pm), where required, and used overnight, only when needed, by security personnel or during emergencies.

In addition, the Applicant is requesting an extension to the expiry date of April 30, 2019 for PER18-196 in order to implement the revised fire suppression system design. The amendment is being requested as a result of project scheduling delays.

The scope includes the following physical works and activities:

- Installation of four piers, consisting of a total of twelve concrete capped 1,200 millimetre diameter piles as foundations for the fire water monitor towers;
- Installation of two fifteen-metre tall steel fire monitor towers equipped with three fire water monitors including: thermal and flame detectors, cameras, misting system, and water cannons;
- Installation of two eight-metre tall truss support towers, four steel access trusses, access stairs and lighting along the trusses connecting the upland with the fire monitor towers;
- Installation of two four-metre tall bents and two steel capped pile foundations to support bents;
- Installation of a three piles in a cluster (bump pile) to protect the eastern fire monitor tower from approaching vessels;
- Installation of power and control lines to the three fire water monitors and connection to existing site utilities.
- Excavation of approximately 25 m³ of existing concrete for the footprint of the pump house and concrete pad for fire water storage tank; and
- Construction of fire pump house and valve house on concrete foundation, and installation of fire water break tank (350,000 gallon), pumps and piping from City of Surrey supply water, through the valve station, fire water tank, and pumps to fire water monitor towers;

4 VANCOUVER FRASER PORT AUTHORITY INTERNAL REVIEWS

The following port authority departments have undertaken and completed a review of the amendment and confirm that the proposal meets their requirements, subject to the listed project and environmental conditions.

Planning

Environmental Programs

Engineering

Marine Operations

Public Engagement

Transportation

Indigenous Consultation

5 NOTIFICATIONS

5.1 Municipal Notification

The proposed Amendment was assessed by the port authority to have potential impacts to municipal interests. A notification letter was sent to the City of Surrey on May 5, 2020, notifying them of the proposed Amendment.

The City responded in a letter on May 22, 2020. Below is a table summarizing the City's comments and how they were considered as part of the project and environmental review. Comments received were associated with the supply of water to the site from the municipal water supply and passed on the applicant to address, the port authority is of the opinion that comments have been appropriately addressed by the applicant.

City of Surrey Comment	Applicant Response
The report indicates that the City will provide 250 l/s at a minimum pressure of 40 psi. The City strives to provide a minimum pressure of 40 psi to domestic water supply; however, the pressure available for firefighting purposes is 20 psi at the supply point to the property and is not guaranteed. Further pressure loss will incur through the service connection, backflow preventer, and private fire lines. The available pressure is critical to whether City water supply can be supplied to the break tank.	A booster pump will be installed in the new enclosure and will be designed to start once pressure drops below the value required, to adequately provide the required flow.
The City water network can supply 250 l/s; however, the existing service connection and internal fire lines may need to be upgraded to supply this flow to the storage tank. This needs to be confirmed from their consultant.	The majority of the system from the new enclosure is new and has been designed for the flow.
The capacity of the break tank is not clear, as the letter indicates 'Fire water break tank to supplement the flow from the municipality three hundred thousand gallon (350,000 gallon) on concrete foundation'.	The capacity of the break tank is 350,000 gallons.
Would there be a situation when all four water cannons are operating at the same time? Sacre-Davey indicates the total fire flow requirement is 410 l/s, which matches with the pumping capacity of 6500 gallon per minute in the report. We are not sure how this information correlates to the individual capacity of each cannon at 2000 gallon per minute, or 125 l/s.	There are only three water cannons; therefore, 3 x 2000 gpm is 6,000 gpm. Additionally, there is a fire hydrant connection near the barge ramp which is designed for 500 gpm. This is where the 6,500 gpm pumping capacity comes from.
How long will the water cannons be at continuous flow before the Fire Water Break Tank is empty?	Two hours, if the City's supply network supplements with a continuous flow of 250 l/s, or 54 minutes from the break tank alone, all based on firefighting requirements of 410 l/s.
If the Fire Water Break Tank is empty, will there be enough water in the municipal system to supply them after that point?	No, the City network can only supply 250 l/s versus the requirement of 410 l/s.

City of Surrey Comment	Applicant Response
Is there enough water available in the municipal system for the City to fight a simultaneous structure fire nearby if the water cannons were flowing?	No. The capacity of the City's network is 250 l/s, which would be used to supplement the break tank and would not be available for other firefighting purposes, either within or outside of Schnitzer's property.

6 PUBLIC ENGAGEMENT

To meet requirements of section 86 of the *Impact Assessment Act*, the port authority posted a description of the Amendment and notice of public participation to the Canadian Impact Assessment Registry to provide the public 30 calendar days to comment on the Amendment and provide community knowledge. No comments were received.

The proposed Amendment was assessed by the port authority to have minimal or no potential impacts to community interests in the surrounding area either during construction or once the project is completed. Therefore no construction notification was required.

7 INDIGENOUS CONSULTATION

The port authority has reviewed the proposed works and determined that adverse impacts to Indigenous or Treaty rights are not expected.

8 ENVIRONMENTAL EFFECTS REVIEW

To fulfill its responsibilities under the *Canada Marine Act* and the *Impact Assessment Act*, the port authority must make a determination on the potential environmental effects of a proposed project on the port authority managed lands and waters prior to authorizing those works to proceed.

The environmental review includes consideration of the potential environmental effects of the proposed amendment, taking into account mitigation measures to avoid or reduce those effects. This review considered the physical works and activities described in Section 2 and 3. The environmental review also considered the information provided in the previous sections of this report.

The review focused on the potential adverse effects of the Amendment scope. The potential for adverse effects as a result of the proposed amendment to similar to the potential adverse effects assessed under authorized Project Permit PER No. 18-196. The revised design includes additional upland construction and a larger in-river footprint. The installation of the upland pump house and fire water storage tank are not expected to result in additional effects. The larger towers and lighting may be visible to adjacent residents, however the project is not anticipated to affect views overall. The Applicant is proposing to install all pile structures by vibratory hammer during the least risk period from July 15, 2020 to February 28, 2021. The revised design eliminates the in-river water intake and pump infrastructure, and will no longer source fire water from the Fraser River. This eliminates potential effects to fish from the in-river water intake.

Residual adverse effects (i.e., effects that remain with mitigation in place) are predicted to be similar to the original project scope. The residual effects to noise, lighting, and aquatic resources as a result from the physical activities and works proposed as part of the amendment scope are not expected to be significant.

9 INFORMATION SOURCES

The port authority has relied upon the following sources of information in its review of the Amendment.

- Application form and materials submitted by the Applicant on behalf of the tenant on April 1, 2020.
- All Amendment correspondence from April 1, 2020 to June 23, 2020
- All plans and drawings labelled:
 - 7191-E-015-RA
 - 7191-E-17-RA

- o 7191-M-001-RF
- o 7191-M-002-RE
- o 7191-M-030-RD
- o 7191-M-110-RB
- o 7191-S-410-RE
- o 7191-S-415-RE
- “7191-PM-RPT-001-R3 Project Description”, April 1, 2020, Sacre-Davey Engineering

10 ENVIRONMENTAL REVIEW DECISION

In completing this project and environmental review, the port authority has reviewed and taken into account relevant information available on the proposed Amendment and has considered any adverse impact that the Amendment may have on the rights of the Indigenous peoples, Indigenous knowledge, community knowledge, comments received from the public, and measures that would mitigate any significant adverse environmental effects of the project. We conclude that with the implementation of the proposed mitigation measures and Permit conditions, the Amendment is not likely to cause significant adverse environmental effects.

ORIGINAL COPY SIGNED	June 29, 2020
ANDREA MACLEOD, MANAGER, ENVIRONMENTAL PROGRAMS	DATE OF DECISION

11 RECOMMENDATION

In completing the project and environmental review, the port authority concludes that with the implementation of proposed mitigation measures and conditions described in the Permit and any subsequent amendment(s), the proposed Amendment has appropriately addressed all identified concerns.

It is the recommendation of staff that this permit amendment, **Amendment PER No. 18-196-01**, be approved subject to the addition, revision or removal of the following project and environmental conditions, as applicable, to **Project Permit PER No. 18-196-01** and any subsequent amendment(s).

No.	AUTHORIZED CONDITIONS PROJECT PERMIT PER No. 18-196-196- (April 17, 2019)	REVISED CONDITIONS AMENDMENT PER No. 18-196-01
	REVISED CONDITIONS	
32.	Without limiting the generality of permit condition #2, the Permit Holder shall screen water intakes placed in the Fraser River in accordance with the Fisheries and Oceans Canada (DFO) "Freshwater Intake End-Of-Pipe Fish Screen Guideline", March 1995.	*removed*
	SUPPLEMENTARY CONDITIONS	

41	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder shall dispose of any soils excavated from the project site that are not suitable for backfill at appropriate off-site facilities and maintain records of off-site disposal.
42	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder shall conduct all activities involving the use of concrete, cement, mortars and other Portland cement or lime-containing construction materials in a manner that shall not deposit sediments, debris, concrete (cured or uncured), and concrete fines into the aquatic environment, either directly or indirectly. Water that has contacted uncured or partly cured concrete or Portland cement or lime-containing construction materials (such as the water that may be used for exposed aggregate wash-off, wet curing, equipment and truck washing) shall not be permitted to enter the aquatic environment. The Permit Holder shall provide containment facilities at the site for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment, as required.
43	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	<p>At least 10 business days prior to construction, the Permit Holder must submit a marine construction and staging plan, including the following, for VFPA review and approval:</p> <ul style="list-style-type: none"> • Staging and construction areas (in relation to Navigation channel) including means of securing to the seabed or mobile with tug; • Dates and hours of operation; • Description of activities taking place; • Equipment and vessels (dimensions must be included); • Method of preferred communication with marine users; • Special request and/or additional information. <p>The Permit Holder shall carry out the Project in accordance with the marine construction and staging plan, including any subsequent amendments approved by VFPA.</p>
44	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	For structures and proposed interior changes to structures that are reviewable under the National Building Code and National Fire Code, the Permit Holder shall apply for a VFPA Building Permit.
45	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder shall carry out all activities in a manner that prevents the release of sediment, sediment-laden waters, and turbid waters to the aquatic environment. Sediment and erosion control measures shall be implemented prior to the start of ground disturbance activities and should meet or surpass the standards outlined in the 1992 Fisheries and Oceans Canada (DFO) “Land Development Guidelines for the Protection of Aquatic Habitat”.
46	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	Air emissions from vehicle/equipment exhaust, dust and vapours shall be minimized and managed to avoid effects on and off the Project site. More detailed guidance is available in Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities prepared for Environment Canada (Cheminfo Services Inc. March 2005).

47	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder shall contain and collect debris and waste material in the immediate working area within the Project site. The Permit Holder shall dispose of waste material at suitable upland locations and maintain records of off-site disposal.
48	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	Without limiting the generality of permit no. 18-196 condition 3, if suspect contaminated materials are encountered, the Permit Holder shall contain, test and dispose of such materials at appropriate licensed off-site facilities and maintain records of off-site disposal. VFPA shall be notified of such activities and provided relevant documentation upon completion.
49	NOT APPLICABLE – NEW SUPPLEMENTARY CONDITION	The Permit Holder is responsible for locating all existing site services and utilities including any located underground. The Permit Holder is responsible for repair or replacement of any damage to existing site services and utilities, to the satisfaction of VFPA, that result from construction and operation of the Project.
LENGTH OF PERMIT VALIDITY		
	The Project must be completed no later than April 30, 2020 (the Expiry Date).	The Project must be completed no later than April 30, 2021 (the AMENDED Expiry Date).

PER No.:	18-196
Tenant:	Schnitzer Steel Canada Ltd.
Project:	Schnitzer Pile Installation to Support Cameras and Water Cannons
Project Location:	12301 Musqueam Drive, Surrey, BC, V3V 3T2
VFPA SID No.:	SUR330
Land Use Designation:	Industrial
Applicant/Permit Holder:	Schnitzer Steel Canada Ltd.
Category of Review:	B
Date of Approval:	April 17, 2019
Date of Expiry:	April 30, 2020

1 INTRODUCTION

The Vancouver Fraser Port Authority (VFPA), a federal port authority, manages lands under the purview of the *Canada Marine Act*, which imparts responsibilities for environmental protection. VFPA accordingly conducts project and environmental reviews of works and activities undertaken on these lands to ensure that the works and activities will not likely cause significant adverse environmental effects. This project and environmental review report and project permit (the Permit) documents VFPA's project and environmental review of PER No. 18-196: Schnitzer Pile Installation to Support Cameras and Water Cannons (the Project) proposed by Schnitzer Steel Canada Ltd., (the Applicant).

This project and environmental review was carried out to address VFPA's responsibilities under the *Canada Marine Act*, and to meet the requirements of the *Canadian Environmental Assessment Act, 2012* (CEAA 2012), as applicable. The proposed Project is not a CEAA 2012 "designated project" and an environmental assessment as described in CEAA 2012 is not required. However, VFPA authorization is required for the proposed Project to proceed and in such circumstances, where applicable, Section 67 of CEAA 2012 requires federal authorities to assure themselves that projects will not likely cause significant adverse environmental effects. This review provides that assurance. In addition, VFPA considers other interests, impacts and mitigations through the project and environmental review.

The project and environmental review considered the application along with supporting studies, assessments and consultations carried out or commissioned by the Applicant, as well as other information provided by the Applicant. In addition, this project and environmental review considered other information available to VFPA and other consultations carried out by VFPA. A full list of information sources germane to the review is provided in the following pages of this report.

This Permit is the authorizing document allowing the Applicant to proceed with the Project subject to the listed project and environmental conditions.

2 PROJECT DESCRIPTION

Schnitzer Steel Canada Ltd., (Schnitzer) proposes to install water cannons and thermal cameras adjacent to the existing west barge ramp at the Surrey BC facility. The water cannons and thermal cameras are anticipated to detect heat sources during warm/dry weather and enhance fire detection and suppression ability. The equipment would be mounted to three new piles.

The water cannons are triggered if the thermal cameras detect heat from the barge. When triggered each water cannon is expected to use approximately 800-1000 gallons per minute (gpm) at maximum and approximately 200-300 gpm when kept at a spray mist level during barge loading activity. Water is proposed to be withdrawn from the Fraser River by a pump, with an intake located beside the pile closest to shore.

In this project permit, the Project means the physical activities authorized by VFPA to be carried out pursuant to **PER No. 18-196**, as described below.

2.1 Proposed Works

The proposed project works include:

- Installation of three (3) 762 mm to 914 mm diameter steel capped piles;
- Installation of three (3) power poles (up to 6 meters in length) on the steel piles;
- Installation of three (3) thermal cameras and three (3) water cannons (one on each pile);
- Connection of power supplied by overhead line from existing site utility infrastructure;
- Installation of a water supply pump and connection to water cannons; and
- Installation of flood lighting on each pole to illuminate the work area.

Piles will be installed by barge and driven by vibratory hammer. Power poles will be installed from a man-lift and/or other crane device and will be welded to the piles. It is anticipated that proposed flood lighting will run seasonally during operational hours (6:30 am to 6:00 pm), where required, and would be in limited use overnight by security personnel or during emergencies.

3 VANCOUVER FRASER PORT AUTHORITY INTERNAL REVIEWS

The following VFPA departments have undertaken and completed a review of these works and confirm that the proposal meets their requirements, subject to the listed project and environmental conditions.

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Planning | <input checked="" type="checkbox"/> Environmental Programs | <input checked="" type="checkbox"/> Engineering |
| <input checked="" type="checkbox"/> Marine Operations | <input checked="" type="checkbox"/> Project Communications | |

4 ABORIGINAL CONSULTATION

VFPA has reviewed the proposed works and determined that the project may have the potential to adversely impact Aboriginal or Treaty rights.

The following Aboriginal groups were consulted:

- Katzie First Nation;
- Kwikwetlem First Nation;
- Kwantlen First Nation;
- Tsawwassen First Nation;
- Musqueam Indian Band;
- Semiahmoo First Nation;
- Stol:lo Nation; and,
- Tsleil-Waututh Nation.

The following consultation activities were conducted:

- On February 14, 2019, referral packages were sent to the Aboriginal groups listed above for review and comment. Referral packages included the following:
 - consultation letter;
 - project application;
 - project map; and,
 - one-page project summary.
- VFPA offered participation funding to each of the Aboriginal groups to facilitate their participation in the project and environmental review process. Participation funding was provided to those Aboriginal groups who signed and fulfilled the obligations set forth in the participation funding agreement.
- VFPA received comments from Aboriginal groups in the form of letters, emails and phone calls. VFPA responded to Aboriginal groups by way of letters and email correspondences.
- No meetings were requested by Aboriginal groups.

Below is a table summarizing comments received by VFPA and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
Concerned that the withdrawal infrastructure has the potential to entrain marine life and are particularly concerned that juvenile salmonids may be affected.	Please see Condition #33.	The Project Permit will include a condition (Condition #32) requiring the Permit Holder to design the water intake placed in the Fraser River in accordance with the Fisheries and Oceans Canada (DFO) "Freshwater Intake End-Of-Pipe Fish Screen Guideline", March 1995. Water intakes designed in accordance with the DFO guideline are protective of juvenile salmonids.

Issue	Mitigations and Permit Conditions	Rationale
<p>Concern that over-water lighting operating at night may attract fish and increase predation, generally by seals. This has the potential to both harm fish populations and cause nuisance behaviour in seals, potentially leading to their harm.</p>	<p>Please see Condition #14.</p>	<p>The proposed lighting will be running seasonally during operational hours (6:30 am to 6:00 pm), where required, and would be in limited use overnight by security personnel or during emergencies.</p> <p>The Project Permit will include a condition (Condition #14) requiring the Permit Holder to submit signed and sealed drawings for proposed works approved for construction by a professional engineer licensed to practice in the Province of British Columbia.</p>
<p>Concern regarding fire suppression and spilling contaminated water and debris into the harbour, and request that there is a deployable containment stationed dockside for such an event.</p> <p>The success of any environmental management plan requires reporting to demonstrate success and compliance.</p>	<p>Please see Condition #36.</p>	<p>The Project Permit will include a condition (Condition # 35) which requires the Permit Holder to develop, submit, and implement a spill prevention and response plan. The Spill Prevention and Response Plan will include incident notification and reporting requirements.</p> <p>Further, the Project Permit will also be subject to the VFPA's Compliance Monitoring and Enforcement Program.</p>
<p>Request a foreshore survey be conducted to assess archaeological potential.</p> <p>Request an archaeological assessment be conducted.</p>	<p>To address concerns regarding potential impacts to unexpected archaeological resources, VFPA will require the Applicant to prepare a Chance Find Procedure, as outlined in Permit Condition #15.</p> <p>VFPA has also created Condition #22, to stop work immediately should archaeological resources be encountered.</p>	<p>VFPA has not requested a foreshore survey for archaeological potential be conducted due to the limited scope of physical works and the industrial area for which work will be completed.</p> <p>In the event that evidence of what is suspected to be an archaeological resource is encountered, the Applicant shall (Condition #21):</p> <ol style="list-style-type: none"> a) Immediately stop any activities that might disturb the archaeological resource or the site in which it is contained ("Site"); b) Not move or otherwise disturb the artifacts or other remains present at the Site; c) Stake or flag off the Site to prevent additional disturbances; and, d) Immediately notify VFPA.

Issue	Mitigations and Permit Conditions	Rationale
Request for First Nation field technician be present should environmental monitoring or archaeological monitoring be required.	None required.	The proposed scope of work is considered minimal and low risk to fish and fish habitat due to the use of vibratory drilling, localized extent, short duration, and temporary timing. Therefore VFPA would not require environmental or archaeological monitoring for the project. However, in the event archaeological resources are encountered the VFPA will notify First Nations and provide First Nations with an opportunity to be involved in the development of proposed management strategies.
Pile driving by vibratory hammer must use bubble curtains and appropriate seasonal timing to avoid known impacts to resident and transitory fish species when using this method of pile driving.	Please see Condition #30.	The Proponent has committed to the use of best practice measures, which may include bubble curtains, if necessary, to minimize potential effects to fish. The Project Permit will include a condition (Condition #29) requiring the Permit Holder to follow all timing restrictions outlined in guidance provided by the Department of Fisheries and Oceans Canada regarding seasonal timing windows.

Based on the record of consultation, VFPA is of the view that the duty to consult has been met.

5 EXISTING POLICIES OR GUIDELINES

The Project is within a waterlot designated in VFPA's Land Use Plan as "industrial". The Project is considered in conformance with this designation.

6 NOTIFICATIONS

6.1 Municipal Notification

The Project was assessed by VFPA to have potential impacts to municipal interests. A notification letter was sent to the City of Surrey and the City of New Westminster on December 5, 2018, notifying them of the Project. The City of New Westminster had no comments.

The City of Surrey responded in a letter on December 18, 2018. City Building and Electrical staff noted that a structural engineer should be retained for ongoing review of the proposed structure. If the system is designed to a standard, an engineer should be required to ensure its compliance. Condition 14 of this Permit requires that the Permit Holder shall submit signed and sealed drawings for proposed works approved for construction by a professional engineer licensed to practice in the Province of British Columbia at least 5 business days before commencing construction.

6.2 Adjacent Tenant Notification

The Project was assessed by VFPA to have minimal or no potential impacts to adjacent tenant interests. Consequently, adjacent tenants were not notified of the Project.

6.3 Community Notification

The proposed Project was assessed by VFPA to have minimal or no potential impacts to community interests in the surrounding area either during construction or once the project is completed. Therefore no community consultation or construction notification was required.

7 INFORMATION SOURCES

VFPA has relied upon the following sources of information in its review of the Project.

- Application form and materials submitted by the Applicant on behalf of the tenant on October 16, 2018.
- All Project correspondence from October 16, 2018 to April 17, 2019
- All plans and drawings including:
 - PER18-196-001-A Proposed Location for Dolphins Supporting Camera and Water Cannon
 - PER18-196 VFPA Location Plan
- Preliminary Surface Water Sampling Results – Barge Fire Incident, August 14, 2018, Envirochem Services Inc.
- Key correspondence:
 - Email dated 2018-10-19, from Kara, Nures to Paslawski, Darcy, “RE: PER 18-196 Schnitzer Pile Installation to Support Cameras and Water Cannons”
 - Email dated 2018-10-22, from Kara, Nures to Paslawski, Darcy, “RE: PER 18-196 Schnitzer Pile Installation to Support Cameras and Water Cannons”
 - Email dated 2018-11-02, from Kara, Nures to Paslawski, Darcy, “RE: PER 18-196 Schnitzer Pile Installation to Support Cameras and Water Cannons”
 - Email dated 2018-11-20, from Kara, Nures to Paslawski, Darcy, “RE: PER 18-196 Schnitzer Pile Installation to Support Cameras and Water Cannons”

8 ENVIRONMENTAL REVIEW DECISION

In completing the environmental review, VFPA has reviewed and taken into account relevant information available on the proposed project, has considered the information and proposed mitigations provided by the Applicant and other information as listed elsewhere in this document, and concludes that with the implementation of proposed mitigation measures and conditions described in the project and environmental conditions section below, the Project is not likely to cause significant adverse environmental effects.

CARRIE BROWN
DIRECTOR, ENVIRONMENTAL PROGRAMS

2019-04-17
DATE OF DECISION

9 CONCLUSION

In completing the project and environmental review, VFPA concludes that with the implementation of proposed mitigation measures and conditions described in the project and environmental conditions section below, the Project has appropriately addressed all identified concerns.

PROJECT AND ENVIRONMENTAL REVIEW DECISION

Project Permit PER No. 18-196 is approved by:

ORIGINAL COPY SIGNED

CARRIE BROWN
DIRECTOR, ENVIRONMENTAL PROGRAMS

2019-04-17

DATE OF APPROVAL

10 PROJECT AND ENVIRONMENTAL CONDITIONS

VFPA has undertaken and completed a review of the Project in accordance with the *Canada Marine Act* and Section 5 of the Port Authorities Operations Regulations and, as applicable, Section 67 of the *Canadian Environmental Assessment Act, 2012*.

If at any time Schnitzer Steel Canada Ltd., (the Permit Holder) fails to comply with any of the project and environmental conditions set out in the project permit (the Permit) below, or if VFPA determines that the Permit Holder has provided any incomplete, incorrect or misleading information in relation to the Project, VFPA may, in its sole and absolute discretion, cancel its authorization for the Project or change the project and environmental conditions to which such authorization is subject.

Pursuant to Section 29 of the Port Authorities Operations Regulations, VFPA may also cancel its authorization for the Project, or change the project and environmental conditions to which such authorization is subject, if new information is made available to VFPA at any time in relation to the potential adverse environmental and other effects of the Project.

The following are the minimum conditions that must be followed by the Permit Holder to mitigate potential or foreseeable adverse environmental and other effects.

All VFPA Guidelines and Record Drawing Standards referenced in this document can be located at: <https://www.portvancouver.com/development-and-permits/project-and-environmental-reviews/technical-guidelines/>.

No.	GENERAL CONDITIONS
1.	The Permit Holder must have a valid lease, licence, or access agreement for the Project site prior to accessing the Project site or commencing construction or any other physical activities on the Project site. This Permit shall in no way limit any of the Permit Holder's obligations, or VFPA's rights, under such lease, licence, or access agreement.
2.	The Permit Holder shall at all times and in all respects, comply with and abide by all applicable statutes, laws, regulations and orders from time to time in force and effect, including all applicable environmental, labour and safety laws and regulations.
3.	This Permit in no way endorses or warrants the design, engineering, or construction of the Project and no person may rely upon this Permit for any purpose other than the fact that VFPA has permitted the construction of the Project, in accordance with the terms and conditions of this Permit.
4.	The Permit Holder shall indemnify and save harmless VFPA in respect of all claims, losses, costs, fines, penalties or other liabilities, including legal fees, arising out of: (a) any bodily injury or death, property damage or any loss or damage arising out of or in any way connected with the Project; and (b) any breach by the Permit Holder of its obligations under this Permit.
5.	The Permit Holder shall undertake and deliver the Project to total completion in a professional, timely and diligent manner in accordance with applicable standards and specifications set out in the sections above entitled Project Description and Information Sources. The Permit Holder shall not carry out any other physical activities unless expressly authorized by VFPA.
6.	The Permit Holder shall cooperate fully with VFPA in respect of any review by VFPA of the Permit Holder's compliance with this Permit, including providing information and documentation in a timely manner, as required by VFPA. The Permit Holder is solely responsible for demonstrating the Permit Holder's compliance with this Permit.
7.	The Permit Holder shall review the Permit with all employees, agents, contractors, licensees and invitees working on the Project site, prior to such parties participating in any construction or other physical activities on the Project site. The Permit Holder shall be solely responsible for ensuring that all such employees, agents, contractors, licensees and invitees comply with this Permit.
8.	The Permit Holder shall make available upon request by any regulatory authority (such as a Fishery Officer) a copy of this Permit.
9.	Unless otherwise specified, the Permit Holder shall provide all plans, documents, and notices required under this Permit to the following email address: per@portvancouver.com and referencing PER No. 18-196 .
10.	Unless otherwise specified, all plans, schedules, and other Project-related documentation that the Permit Holder is required to provide under this Permit must be to VFPA's satisfaction.
11.	VFPA shall have unfettered access to environmental compliance documentation and the Project site at all times during construction without notice.

12.	The Permit Holder must maintain and retain any records associated with, or produced by, actions or activities undertaken to achieve compliance or that indicate non-compliance with project permit conditions. These records must be made available at the request of VFPA.	
13.	All conditions in this Permit which expressly or by their nature survive expiration or termination of this Permit will remain in effect after the expiration or termination of this Permit.	
	CONDITIONS – PRIOR TO COMMENCING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES	SUBMISSION TIMING (business days)
14.	The Permit Holder shall submit signed and sealed drawings for proposed works approved for construction by a professional engineer licensed to practice in the Province of British Columbia.	5 business days before commencing construction or any physical activities
15.	The Permit Holder shall submit an Archaeological Chance Find Procedure for the Project site, to VFPA's satisfaction. The Permit Holder shall carry out the Project in accordance with this Procedure, and any subsequent amendments approved by VFPA.	30 business days before commencing construction or any physical activities
16.	Prior to the commencement of any vessel-related activities, the Permit Holder must contact Canadian Coast Guard (CCG) Marine Communications and Traffic Services (MCTS), email: NAVWARN.MCTSPRinceRupert@innav.gc.ca Telephone: 250-627-3070) regarding the issuance of a Navigational Warning (NAVWARN) to advise the marine community of potential hazards associated with the Project.	As per Coast Guard requirements
17.	At least two days prior to commencing construction or any physical activities, the Permit Holder shall notify the Harbour Master and VFPA Environmental Programs, email: Harbour_Master@portvancouver.com and EnvironmentalPrograms@portvancouver.com.	At least two days prior to commencing construction or any physical activities
	CONDITIONS – DURING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES	
18.	The Permit Holder shall notify VFPA upon commencement of construction, or any physical activities (e.g., mobilization to the Project site).	
19.	All general construction and physical activities related to the Project shall be conducted from Monday to Saturday between the hours of 7:00 am and 8:00 pm . No construction and physical activities shall take place on Sundays or holidays. These hours shall not be modified without prior approval of VFPA. To request permission to conduct activities outside these hours, the Permit Holder must submit a written request no less than 20 business days prior to the desired start date.	
20.	The Permit Holder shall notify VFPA within two business days of any complaints received from the community and stakeholders during construction and indicate how the Permit Holder has responded to such complaints.	

21.	<p>If the Permit Holder encounters, expects to encounter, or should expect to encounter an actual or potential archaeological resource, the Permit Holder shall:</p> <ul style="list-style-type: none"> a) Immediately stop any activities that may disturb the archaeological resource or the site in which it is contained (Site); b) Not move or otherwise disturb the archaeological resource or other remains present at the Site; c) Stake or flag the Site to prevent additional disturbances; and, d) Immediately notify VFPA by email and phone.
22.	<p>During any vessel-related activities, the Permit Holder shall:</p> <ul style="list-style-type: none"> a) Position vessels and equipment associated with the Project in such a manner so as not to obstruct line of sight to navigational aids or markers; b) Exhibit the appropriate lights and day shapes at all times; c) Monitor the VHF channel used for MCTS communications in the respective area at all times and participate as necessary; d) Be familiar with vessel movements in areas affected by the Project. e) Plan and execute the Project in a manner that will not impede navigation or interfere with vessel operations; and, f) During night hours, unless working 24 hours per day, ensure that the rig and associated equipment is moored outside the navigation channel and lit in accordance with all applicable regulations.
23.	<p>The Permit Holder shall not permit sediment, sediment-laden waters, or other deleterious substances to enter the water during the Project. The Permit Holder shall carry out all physical activities in a manner that prevents induced sedimentation of foreshore and near shore areas and induced turbidity of local waters, and the release of sediment, sediment-laden waters, and turbid waters to the aquatic environment. The Permit Holder shall manage turbidity in compliance with the following water quality criteria:</p> <ul style="list-style-type: none"> (a) when background is less than or equal to 50 nephelometric turbidity units (NTU), induced turbidity shall not exceed 5 NTU above the background values; and (b) when background is greater than 50 NTU, induced turbidity shall not exceed the background values by more than 10% of the background value. <p>For the purposes of this condition, "background" means the level at an appropriate adjacent reference site (as determined to the satisfaction of VFPA) that is affected neither by physical activities at the project site, nor sediment-laden or turbid waters resulting from physical activities at the project site.</p>
24.	<p>The Permit Holder shall immediately cease work and notify VFPA if the Permit Holder has reasonable grounds to believe that the Project has harmed fish or fish habitat, including observation of distressed, injured, or dead fish. The Permit Holder shall not resume work until authorized by VFPA.</p>
25.	<p>Piles shall be driven with a vibratory or drop hammer. Piles shall not be installed using a diesel or hydraulic hammer or other technology such as drilling without review and authorization by VFPA.</p>
26.	<p>The Permit Holder shall cap any exposed hollow pipe piles to prevent wildlife entrapment.</p>

27.	Sediments contained within piles after driving shall be left in place. If it is determined that they must be removed for engineering reasons, the Permit Holder shall consult VFPA for review and authorization prior to initiating the proposed physical activities.
28.	The Permit Holder shall not permit barges or other vessels used during the Project to ground on the foreshore or riverbed or otherwise disturb the foreshore or riverbed (including disturbance as a result of vessel propeller wash), excepting only such disturbance as is reasonably required resulting from the use of barge spuds.
29.	There shall be no in-water works during the fisheries sensitive period from March 1 to June 15, inclusive, unless otherwise approved in writing by DFO or VFPA. VFPA shall be notified of any DFO exemptions allowing works within the fisheries sensitive period.
30.	The Permit Holder shall not operate machinery or equipment on the intertidal foreshore. All equipment working on or near the top of bank shall not disturb intertidal areas or the riverbed.
31.	The Permit Holder shall repair and/or remediate any damage or erosion resulting from disturbance to the intertidal foreshore during the Project.
32.	Without limiting the generality of permit condition #2, the Permit Holder shall screen water intakes placed in the Fraser River in accordance with the Fisheries and Oceans Canada (DFO) "Freshwater Intake End-Of-Pipe Fish Screen Guideline", March 1995.
33.	Without limiting the generality of permit condition #2, the Permit Holder shall not, directly or indirectly: (a) deposit or permit the deposit of a deleterious substance of any type in water frequented by fish in a manner contrary to Section 36(3) of the <i>Fisheries Act</i> ; or (b) adversely affect fish or fish habitat in a manner contrary to Section 35(1) of the <i>Fisheries Act</i> .
34.	The Permit Holder shall contain and collect debris and waste material in the immediate working area within the Project site. The Permit Holder shall dispose of waste material at suitable upland locations and maintain records of off-site disposal.
35.	Prior to commencing construction or any physical activities, the Permit Holder shall have in place a spill prevention, containment and clean-up plan for hydrocarbon products (including fuel, oil and hydraulic fluid) and any other deleterious substances. Appropriate spill containment and clean-up supplies shall be available on the Project site at all times and all personnel working on the Project shall be trained on the spill prevention, containment and clean-up plan. The Permit Holder shall carry out the Project in accordance with the spill prevention, containment and clean-up plan.
36.	The Permit Holder shall maintain equipment in good mechanical condition and free of fluid leaks, invasive species, and noxious weeds.
37.	During upland construction activities, the Permit Holder shall not conduct refuelling or maintenance activities on non-road equipment within 30 metres of any waterbody, or in an area where run-off may potentially reach surface waterbodies. Fuel and other hydrocarbon inventories shall not be stored in such areas, temporarily or otherwise.

	CONDITIONS – UPON COMPLETION	SUBMISSION TIMING (Business Days)
38.	The Permit Holder shall notify VFPA upon completion of the Project.	Upon substantial completion
39.	The Permit Holder shall provide record drawings in accordance with VFPA's Record Drawing Standards (available at: http://www.portvancouver.com/development-and-permits/project-and-environmental-reviews/technical-guidelines/), in both AutoCAD and Adobe (PDF) format to VFPA, including a Project site plan that clearly identifies the location of works.	Within 40 business days of completion
40.	The Permit Holder shall confirm that the Project was constructed within the approved area by providing to VFPA digital photographs of the Project site both before and after construction of the Project.	Within 40 business days of completion
VFPA reserves the right to rescind or revise these conditions at any time that new information warranting this action is made available to VFPA.		
LENGTH OF PERMIT VALIDITY		
The Project must be completed no later than April 30, 2020 (the Expiry Date).		
AMENDMENTS		
<ul style="list-style-type: none"> • Details of any material proposed changes to the Project, including days and hours when construction and any physical activities will be conducted, must be submitted to VFPA for consideration of an amendment to this Permit. • For an extension to the Expiry Date, the Permit Holder must apply in writing to VFPA no later than 30 days prior to that date. <p>Failure to apply for an extension as required may, at the sole discretion of VFPA, result in termination of this Permit.</p>		

CONTACT INFORMATION

Vancouver Fraser Port Authority (VFPA)
100 The Pointe, 999 Canada Place
Vancouver BC V6C 3T4 Canada

Project & Environmental Review
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TRANSMITTAL

Issued to: Schnitzer Steel
Recipient(s): Andy Rohling (arohling@schn.com)
Project: Monitoring System
Issued by: Jennifer Jordan

Date: April 1, 2020

Transmittal No: 7191-DC-TRN-010

Item #	Drawing / Document Number	Revision	Title	Issued For
1	7191-PM-RPT-001	3	Project Description - Barge Fire Detection And Suppression System	Permit Amendment
2	7191-E-015	A	Barge Area - Walkway Lighting Plan	Permit Amendment
3	7191-E-017	A	Barge Area - Light Spillage	Permit Amendment
4	7191-M-001	F	Fire Monitoring System Site Plan (Barge)	Permit Amendment
5	7191-M-002	E	Fire Monitoring System General Elevations Sht 1 (Barge)	Permit Amendment
6	7191-M-030	D	Pump House Concept	Permit Amendment
7	7191-M-110	B	City Water Connection Valve House - Piping - Plan & Sections	Permit Amendment
8	7191-S-410	E	Fire Monitoring System - Structural Steel General Arrangement	Permit Amendment
9	7191-S-415	E	Fire Monitoring System - Structural Steel Sections & Details	Permit Amendment

Client	Schnitzer Steel Canada Ltd.	Date	April 1, 2020
Project Title	Barge Fire Monitoring System	Document	7191-PM-RPT-001-R3
Attention	Darcy Paslawski, VFPA Environmental Specialist, Project and Process Review	From	Ken Savage
Regarding	PER No. 18-196 Permit Amendment Project Description-Barge Fire Detection and Suppression System		

Existing Project Permit 18-196 was approved April 17, 2019. Schnitzer Steel Canada Ltd., (Schnitzer) proposes to install water monitors, detectors, and video cameras adjacent to the existing west barge ramp at their Surrey, BC facility.

Three water side water monitors, thermal and flame detectors, and video cameras will be placed on elevated fire water monitor towers to enhance fire detection and suppression ability. The equipment will be installed on two new in-water steel fire monitor towers, T1 and T3. Each fire monitor tower will be supported by 4 steel piles of approx. 1200 mm diameter each with a concrete pile cap.

In-water steel towers, T2 and T4, and land-based bents, B1 and B2, will be included to provide access to the fire monitor towers T1 and T2, for maintenance, along with support for utilities. Towers T2 and T4 will be supported by 4 steel piles of approx. 1200 mm diameter each, with a concrete pile cap. Bents B1 and B2 will be supported by 2 steel piles of approx. 762 mm diameter each, with a concrete pile cap. Fire monitor tower T3 will have a bump pile cluster to protect it from an incoming barge. This cluster will have 3 steel piles of approx. 914 mm diameter each.

The water monitors are activated if the thermal and flame detectors are triggered from either hot spots or flames on the barge material storage piles. When triggered, each water cannon is expected to use 2,000 gallons per minute (gpm) at maximum flow. Other equipment will be used for continuous misting while the barge is being loaded. A fire hydrant capable of supply 500 gpm is included as well as a Fire Department Connection.

Water shall be drawn from the City of Surrey (instead of the Fraser River, as initially proposed) with a fire water break tank to ensure an adequate supply. The fire water break tank, which will be located on the upland lease area on a new concrete foundation, has a capacity of 350,000 gallon to fight a fire at full pump capacity of 6,500 gpm for 2 hours when supplemented with the City of Surrey system supply. The City of Surrey has indicated in writing that they can supply 250 liters/second (4,000 gpm) at a minimum of 40 psi. This pressure is adequate to fill the fire water break tank and feed the tank in a fire condition as the main fire pumps draw it down.

In this project permit amendment, the Project means the physical activities authorized by VFPA to be carried out pursuant to PER No. 18-196, as described below and illustrated on Drawing Numbers:

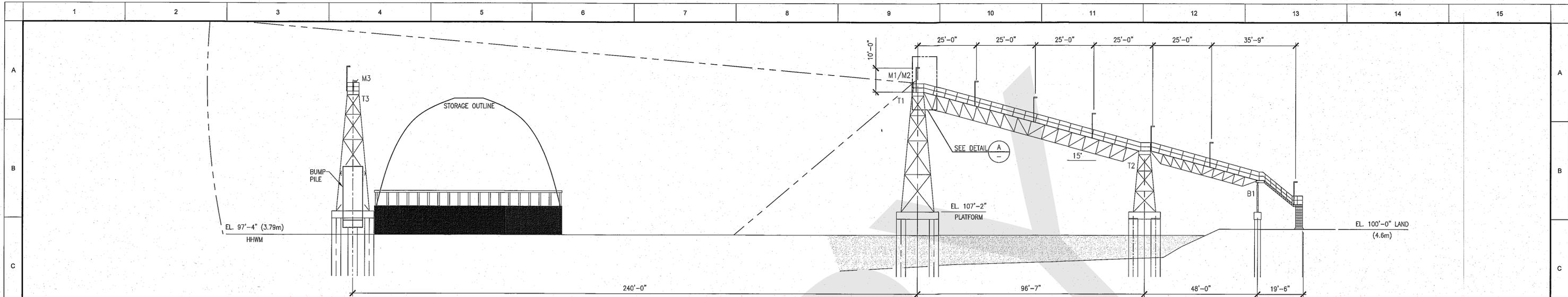
- 7191-M-001 Fire Monitoring System Site Plan Barge
- 7191-M-002 Fire Monitoring System General Elevations – Sht 1 (Barge)
- 7191-M-030 Fire Monitor Pump House Concept (plan and elevation)
- 7191-M-110 Fire Monitoring System City Water Connection Valve House
- 7191-S-410 Fire Monitoring System Structural Steel General Arrangement
- 7191-S-415 Fire Monitoring System Structural Steel Sections and Details
- 7191-E-015 Fire Monitoring System Walkway Lighting Plan
- 7191-E-017 Fire Monitoring System Light Spill Sketch

Proposed Works

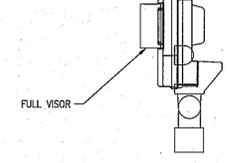
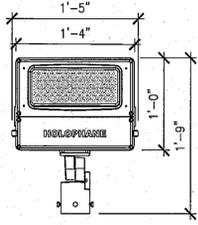
- Installation of two (2) piers to support the fire water monitor towers T1 and T3 for the barge. Four (4) piles approx. 1200 mm diameter each, with concrete pile cap for each tower.
- Installation of two (2) steel fire monitor towers, T1 and T3, approx. 50 feet high above the top of pile cap. The top of pile cap is set to the elevation of the barge deck at ordinary high tide.
- Installation of two (2) piers to support the towers T2 and T4.. Four (4) piles approx. 1200 mm diameter each, with concrete pile cap for each tower.
- Installation of two (2) steel capped pile foundations to support bents B1 and B2. Two (2) piles approx. 762 mm diameter each, with concrete pile cap for each bent.
- Installation of two (2) truss support towers T2 and T4.
- Installation of two (2) of two bents B1 and B2.
- Installation of (4) four steel access trusses.
- Installation of access stairs.
- Installation of one (1) bump pile cluster to protect one fire monitor tower. Three (3) piles at approx. 914 mm diameter each.
- Installation of power and control lines to the three fire water monitors and two misting monitor stations.
- Installation of all piping from City Supply Water, through the Valve Station, Break Tank, Pumps to fire water monitor towers T1 and T2.
- Installation of two (2) lighting systems on each water monitor tower platform to illuminate the work area.
- Walkway lighting along the access trusses to each fire monitor tower.
- Installation of three (3) fire water monitors and misting system.
- Installation of thermal and flame detectors and cameras at each fire water monitor station.
- Connection of power supplied from existing utility (infrastructure).
- Installation of pumps and connections to fire water monitor stations.
- Installation of one (1) fire pump house on concrete foundation.
- Installation of one (1) fire water break tank to supplement the flow from the municipality three hundred thousand gallon (350,000 gallon) on concrete foundation.
- New Valve House to tie-in with the existing water main on concrete foundation.

Piles will be installed by barge and driven by vibratory hammer. Fire water lines, power and control cables will be mounted on the access walkways to each water monitor station

It is anticipated that proposed work area lighting will run seasonally during operational hours (6:30 am to 8:00 pm), where required, and would be in limited use overnight by security personnel or during emergencies.

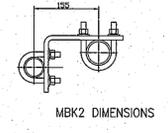
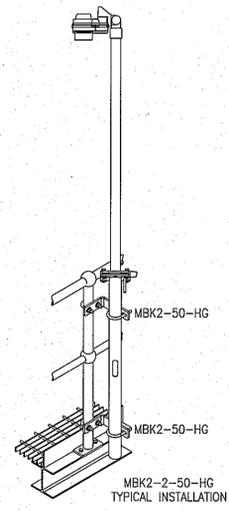


LUMINAIRE SCHEDULE				
QTY	DESCRIPTION	CATALOG	SERIES	INPUT WATTAGE
14	PSLED FLOOD LIGHT, PK1, WFR DISTRIBUTION, 4000K & 5000K, FULL VISOR	PSLED PK1 XXXX WFR 40K/50K, FV	PSLED	49



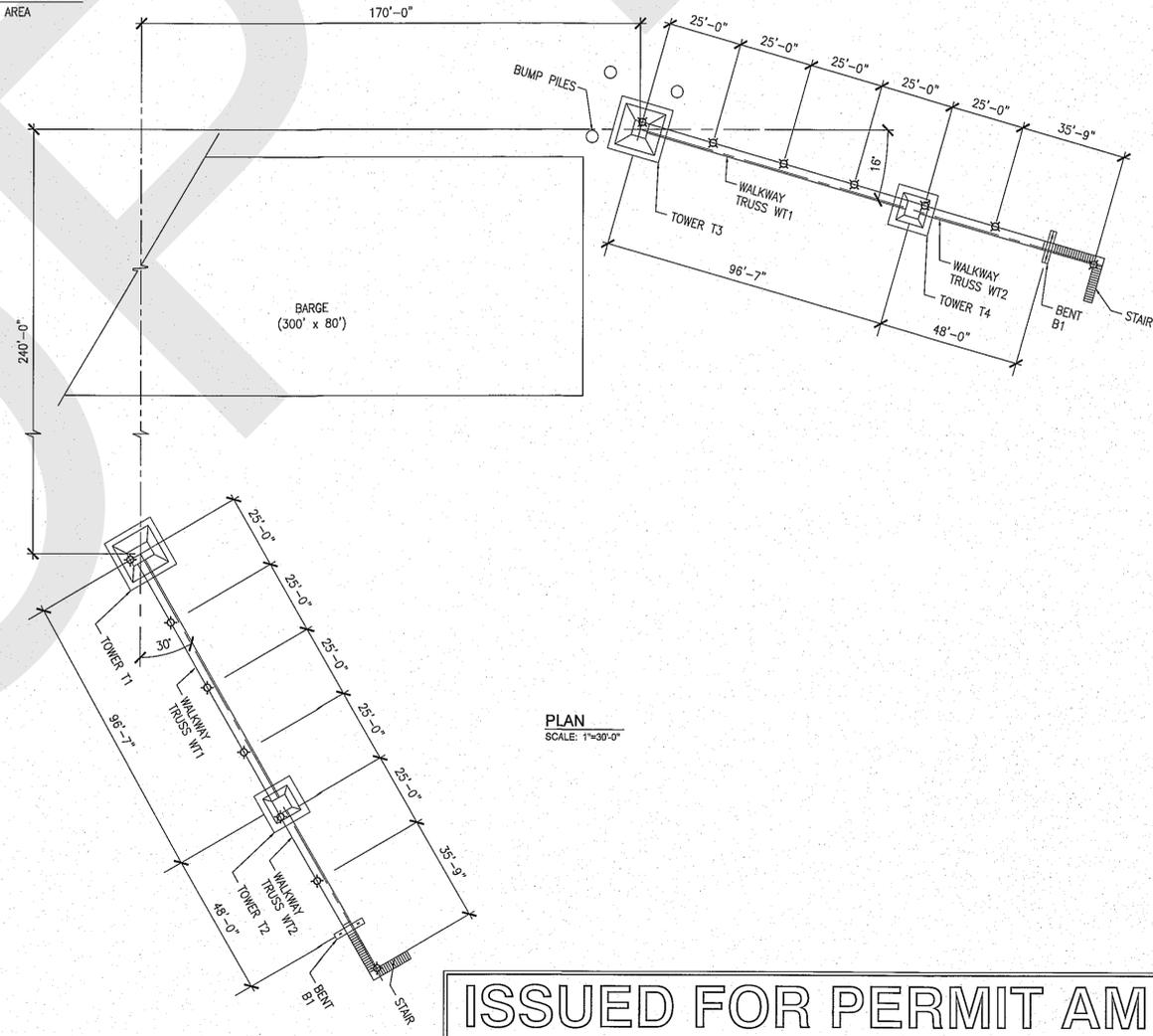
HOLOPHANE PREDATOR
FRONT VIEW
SCALE: N. T. S.

HOLOPHANE PREDATOR
RIGHT VIEW
SCALE: N. T. S.



LIGHTING POLE

DETAIL
SCALE: N. T. S.



LEGEND
☒ LIGHT POLE AND LUMINAIRE

ISSUED FOR PERMIT AMENDMENT

DRAWING NUMBER	REFERENCE TITLE	REV.	REVISION DESCRIPTION	DATE	DRN	CHKD	APP'D
		A	ISSUED FOR PERMIT AMENDMENT	2020.03.20	RC	JAR	

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THE INFORMATION, DATA, AND DRAWINGS EMBODIED IN THIS DOCUMENT ARE STRICTLY CONFIDENTIAL AND ARE SUPPLIED WITH THE UNDERSTANDING THAT THEY WILL NOT BE DISCLOSED TO THIRD PARTIES WITHOUT THE PRIOR WRITTEN CONSENT OF SACRÉ-DAVEY.

SEAL
PROFESSIONAL ENGINEER
S. W. RICHMOND
34165
MAY 12 2020
REV. A

Sacré-Davey ENGINEERING INC.
315 MOUNTAIN HIGHWAY
NORTH VANCOUVER, BC
SACRÉ-DAVEY.COM

SCHNITZER STEEL INC.
12301 MUSQUEAM DRIVE, SURREY, BC
FIRE MONITORING SYSTEM
BARGE AREA
WALKWAY LIGHTING PLAN

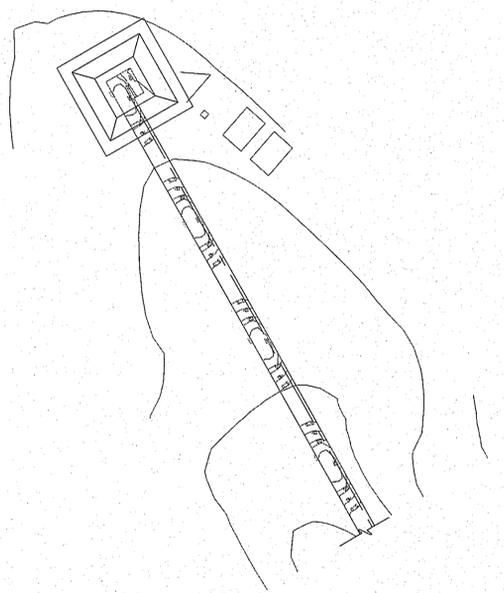
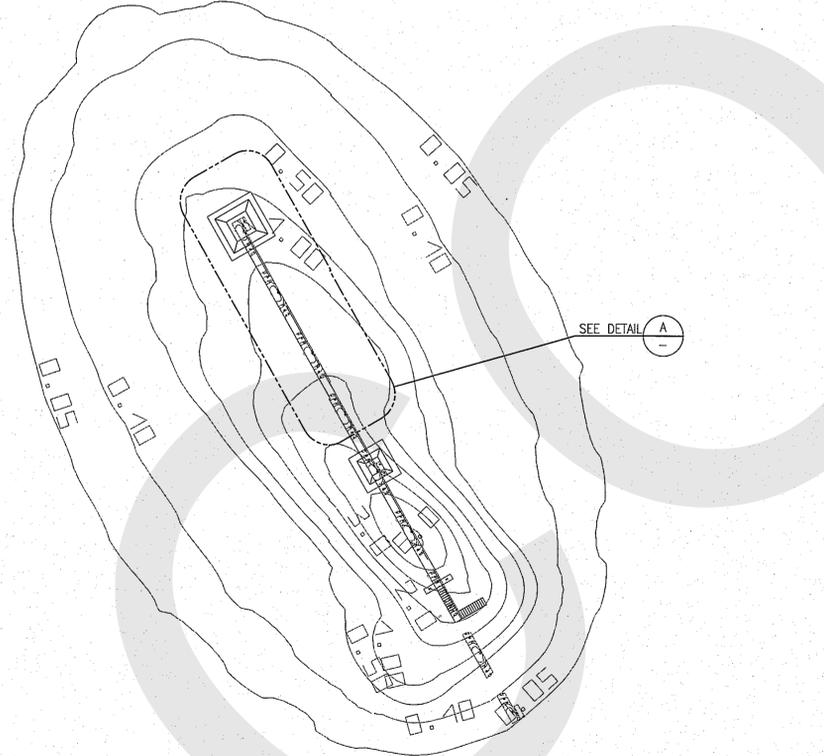
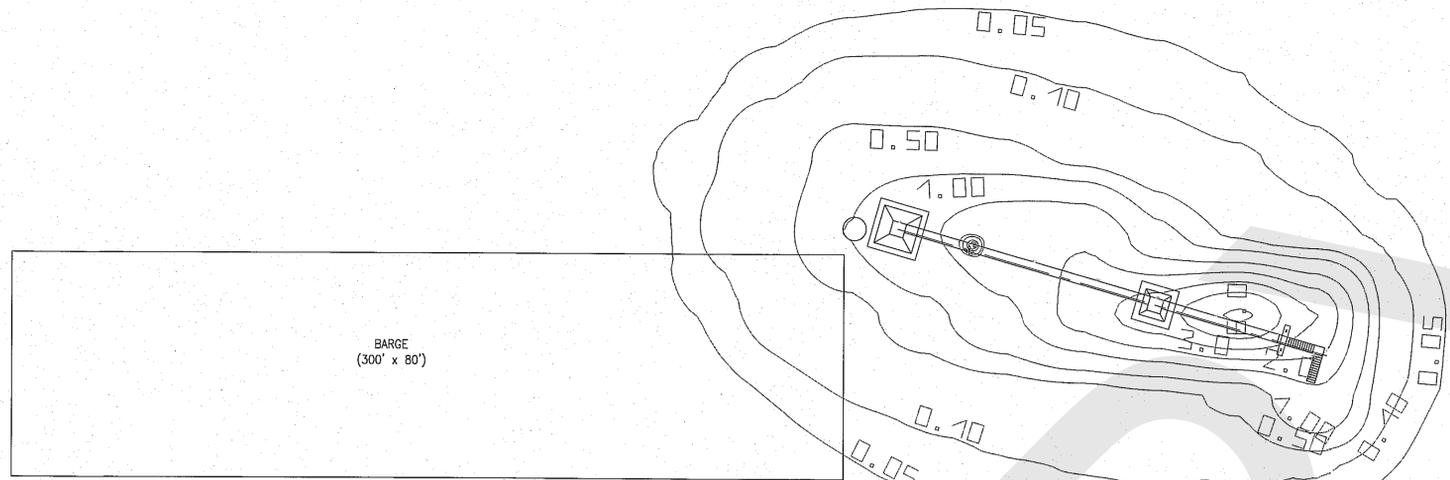
DESIGNED: J. RABEL DATE: 2020.01.31
DRAWN: T. MUNIR DATE: 2020.01.31
CHECKED: DATE:
APPROVED: S. RICHMOND DATE: 2020.03.20
PROJECT ENG: K. SAVAGE DATE: 2020.03.20
SCALE: AS SHOWN SHEET SIZE: ANSI-D

DRAWING NUMBER: **7191-E-015** REV. **A**

- NOTES:**
1. THIS DIAGRAM SHOWS HOW FAR THE LIGHT SPILL (TRESPASS) WILL FALL BEYOND THE TARGET LIT AREAS OF THE PROPOSED DEVELOPMENT.
 2. ISO LINES ARE IN FOOT-CANDLES (fc).
 3. THE MODELLING IS BASED ON THE MOUNTING HEIGHTS SHOWN IN LIGHTING LAYOUT SKETCH 7191-SK-015.
 4. ALL LIGHTING BEING OF THE FULL CUT OFF TYPE (I.E. NO LIGHT EMITTED ABOVE THE HORIZONTAL).
 5. TOPOGRAPHY HAS NOT BEEN TAKEN INTO ACCOUNT.

SURFACE ILLUMINATION - HORIZONTAL						
SURFACE	DETAIL	MIN. (fc)	MAX. (fc)	AVG. (fc)	TARGET* MIN. (fc)	TARGET* MIN. (fc)
WALKWAY	51 FT ELEV.	1.5	33.7	17	1.1	3.2
GROUND LEVEL	0 FT ELEV.	N/A	6.15	1.37	N/A	N/A

*PER: SOR-86-304, PART VI-LIGHTING
 CANADIAN OCCUPATIONAL HEALTH & SAFETY REGULATION
 AVERAGE = (30 lux = 3.23 fc)
 MIN = 1/3 AVERAGE (10 lux = 1.08 fc)



WALKWAY SURFACE ILLUMINATION
 DETAIL A
 SCALE: N. T. S.

PLAN - GROUND LEVEL SURFACE ILLUMINATION
 SCALE: N. T. S.

ISSUED FOR PERMIT AMENDMENT

DRAWING NUMBER	REFERENCE TITLE	REV.	REVISION DESCRIPTION	DATE	DRN	CHKD	APP'D
-	-	A	ISSUED FOR PERMIT AMENDMENT	2020.03.20	RC	JAR	

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DESIGNED:	DATE:
J. RABEL	2020.01.31
DRAWN:	DATE:
T. MUNIR	2020.01.31
CHECKED:	DATE:
APPROVED:	DATE:
S. RICHMOND	2020.03.20
PROJECT ENG:	DATE:
K. SAVAGE	2020.03.20
SCALE:	SHEET SIZE:
AS SHOWN	ANSI-D

Sacré-Davey ENGINEERING INC.
 315 MOUNTAIN HIGHWAY
 NORTH VANCOUVER, BC
 SACRE-DAVEY.COM

SCHNITZER STEEL INC.
 12301 MUSQUEAM DRIVE, SURREY, BC

**FIRE MONITORING SYSTEM
 BARGE AREA
 LIGHT SPILL LAYOUT**

DRAWING NUMBER: **7191-E-017** REV. **A**



ISSUED FOR PERMIT AMENDMENT

DRAWING NUMBER	REFERENCE TITLE	REV.	REVISION DESCRIPTION	DATE	DRN	CHK'D	APP'D
		F	RE-ISSUED FOR PERMIT AMENDMENT (REVISED PUMPHOUSE ARRANGEMENT)	2020.03.30	RC	KS	XXX
		E	RE-ISSUED FOR PERMIT AMENDMENT (#1/M2 COMMON LOCATION & PH TANK RELOCATED)	2020.03.20	RC	KS	XXX
		D	RE-ISSUED FOR PERMIT AMENDMENT	2020.01.24	RC	KS	XXX
		C	ISSUED FOR PERMIT AMENDMENT	2020.01.17	RC	KS	XXX
		B	ISSUED FOR CLIENT REVIEW	2020.01.10	RC	KS	XXX
		A	ISSUED FOR REVIEW	2019.11.29	RC	XXX	XXX

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DESIGNED:		DATE:
MJ		2019.12.15
DRAWN:		DATE:
RC		2019.11.21
CHECKED:		DATE:
KS		2020.01.09
APPROVED:		DATE:
PROJECT ENG:		DATE:
KS		2010.01.10
SCALE:		SHEET SIZE:
1"=50'-0"		ANSI-D

Sacré-Davey
ENGINEERING INC.

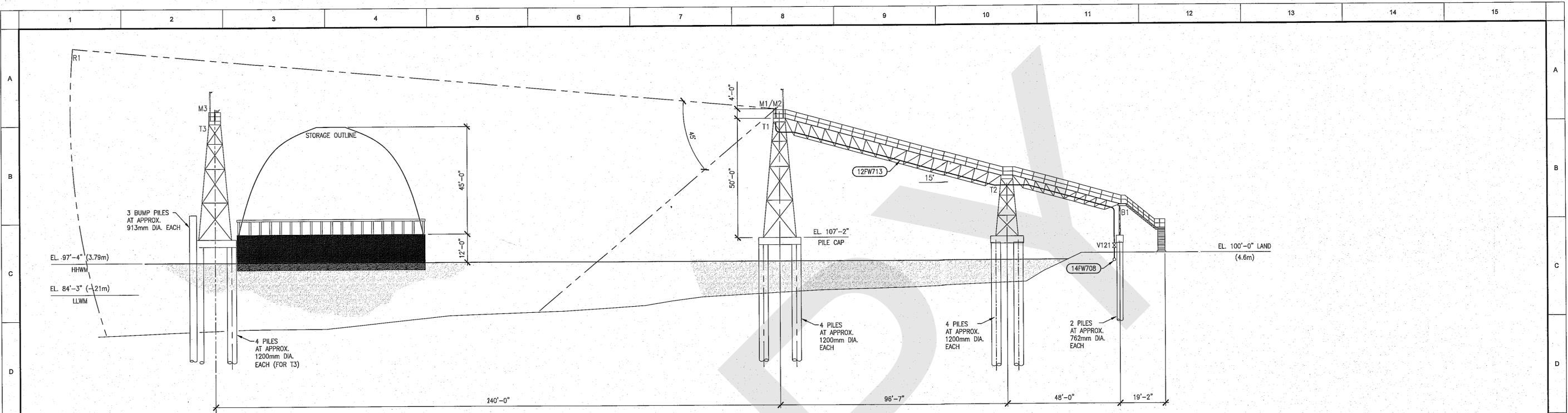
315 MOUNTAIN HIGHWAY
NORTH VANCOUVER, BC
SACRÉ-DAVEY.COM

SCHNITZER STEEL INC.
12301 MUSQUEAM DRIVE, SURREY, BC

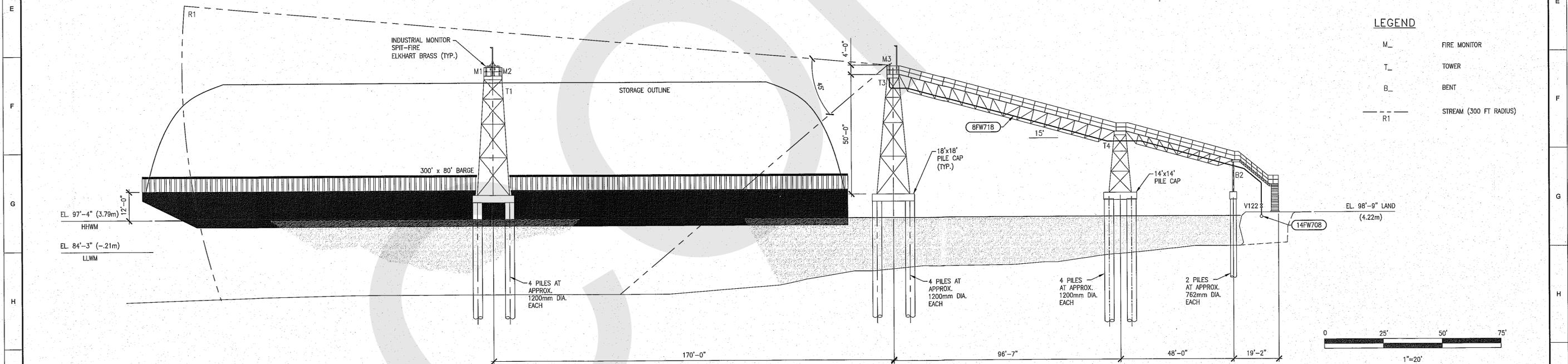
**FIRE MONITORING SYSTEM
SITE PLAN
(BARGE)**

DRAWING NUMBER: 7191-M-001
REV: F

SEAL
PROFESSIONAL ENGINEER
M. V. JAMES
DATE: March 27th 2020



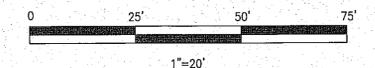
ELEVATION VIEW FOR M1/M2
AT HIGH TIDE



ELEVATION VIEW FOR M3
AT HIGH TIDE

LEGEND

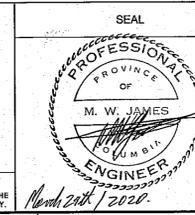
- M_ FIRE MONITOR
- T_ TOWER
- B_ BENT
- R1 STREAM (300 FT RADIUS)



ISSUED FOR PERMIT AMENDMENT

DRAWING NUMBER	REFERENCE TITLE	REV.	REVISION DESCRIPTION	DATE	DRN	CHKD	APPD
		E	RE-ISSUED FOR PERMIT AMENDMENT(M1/M2 COMMON LOCATION & PH TANK RELOCATED)	2020.03.20	RC	KS	XXX
		D	RE-ISSUED FOR PERMIT AMENDMENT	2020.01.24	RC	KS	XXX
		C	ISSUED FOR PERMIT AMENDMENT	2020.01.17	RC	KS	XXX
		B	ISSUED FOR CLIENT REVIEW	2020.01.10	RC	KS	XXX
		A	ISSUED FOR REVIEW	2019.11.29	RC	XXX	XXX

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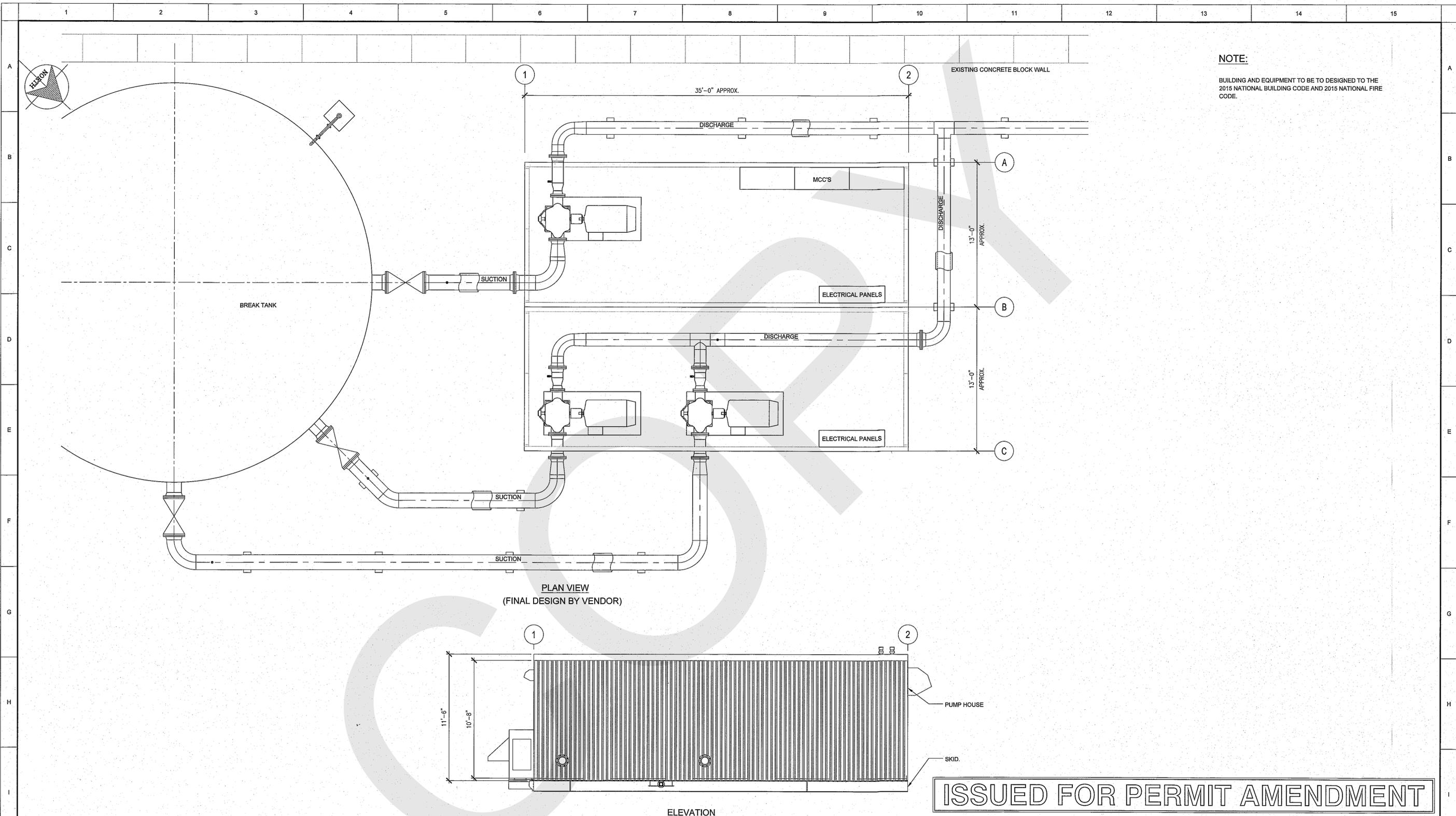


DESIGNED:	MJ	DATE:	2019.12.15
DRAWN:	RC	DATE:	2019.11.21
CHECKED:	KS	DATE:	2020.01.09
APPROVED:		DATE:	
PROJECT ENG:	KS	DATE:	2010.01.10
SCALE:	1"=20'-0"	SHEET SIZE:	ANSI-D



SCHNITZER STEEL INC.
12301 MUSQUEAM DRIVE, SURREY, BC
FIRE MONITORING SYSTEM
GENERAL ELEVATIONS - SHT. 1
(BARGE)

DRAWING NUMBER	7191-M-002	REV.	E
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NOTE:
 BUILDING AND EQUIPMENT TO BE TO DESIGNED TO THE
 2015 NATIONAL BUILDING CODE AND 2015 NATIONAL FIRE
 CODE.

ISSUED FOR PERMIT AMENDMENT

DRAWING NUMBER	REFERENCE TITLE	REV.	REVISION DESCRIPTION	DATE	DRN	CHK'D	APP'D
		D	RE-ISSUED FOR PERMIT AMENDMENT	2020.03.30	RC	KSA	
		C	RE-ISSUED FOR PERMIT AMENDMENT	2020.03.20	RC	KSA	
		B	ISSUED FOR PERMIT AMENDMENT	2020.02.26	RGU	MJA	
		A	ISSUED FOR REVIEW	2020.01.24	RGU	KSA	

SEAL

DESIGNED: - DATE: -
 DRAWN: R. CHONG DATE: 2020.02.26
 CHECKED: - DATE: -
 APPROVED: - DATE: -

PROJECT ENG: K. SAVAGE DATE: 2010.01.10
 SCALE: - SHEET SIZE: ANSI-D
 NTS

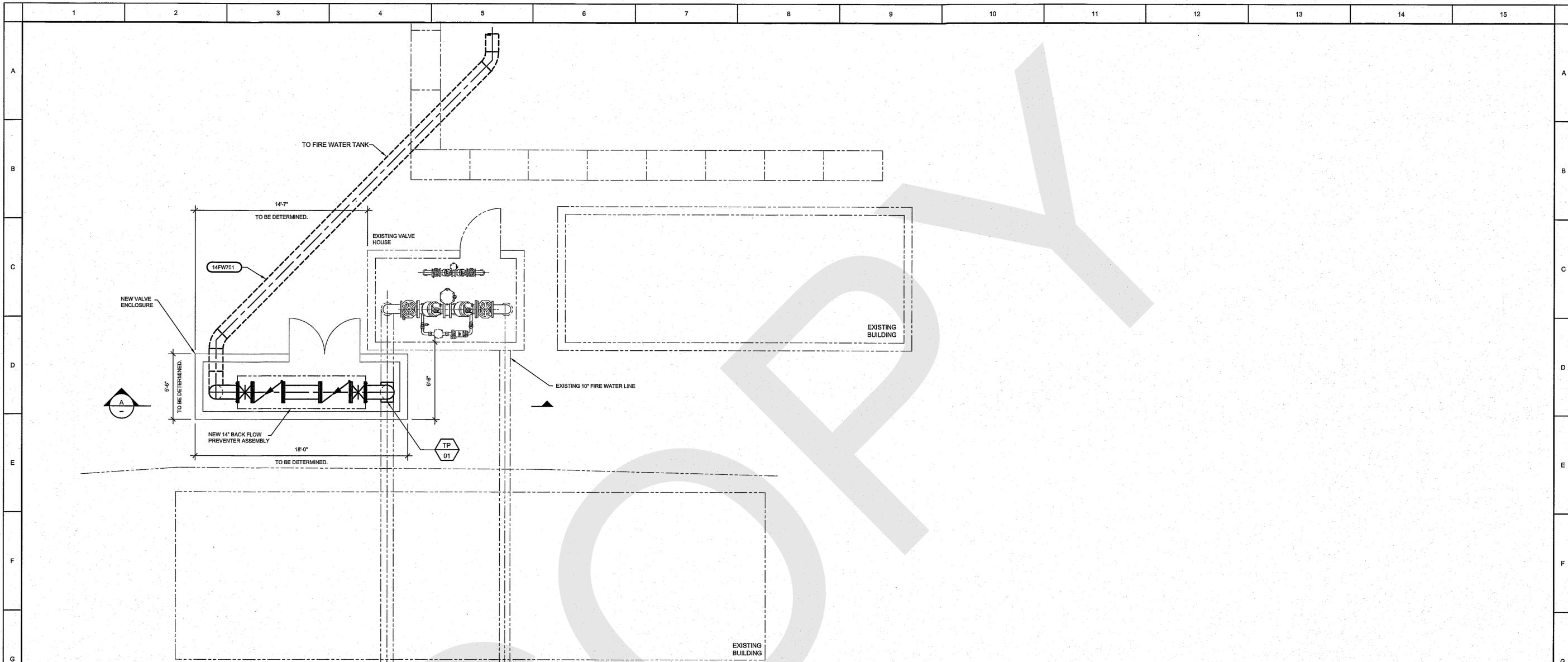
SACRE-DAVEY ENGINEERING INC.
 315 MOUNTAIN HIGHWAY
 NORTH VANCOUVER, BC
 SACRE-DAVEY.COM

SCHNITZER STEEL INC.
 12301 MUSQUEAM DRIVE, SURREY, BC
**FIRE MONITORING SYSTEM
 PUMP HOUSE CONCEPT**

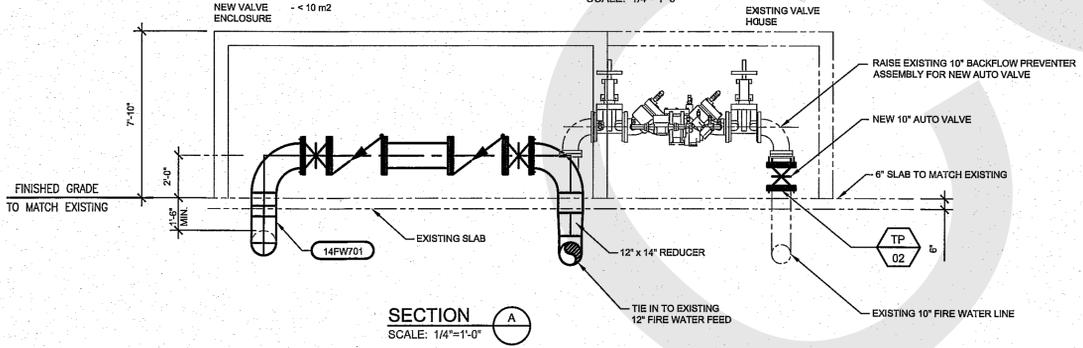
DRAWING NUMBER: **7191-M-030** REV: **D**

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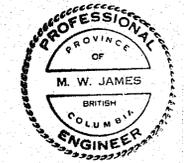
CONCEPT BETWEEN TANK & BUILDING, DETAILED DESIGN OF TANK & PUMPHOUSE TO CODE BY DESIGN/BUILD CONTRACTOR



PLAN VIEW
SCALE: 1/4"=1'-0"



SECTION
SCALE: 1/4"=1'-0"



March 28th, 2020

ISSUED FOR PERMIT AMENDMENT

DRAWING NUMBER	REFERENCE TITLE	REV.	REVISION DESCRIPTION	DATE	DRN	CHK'D	APP'D
		B	RE-ISSUED FOR PERMIT AMNEDMENT	2020.03.20	RC	MJA	
		A	ISSUED FOR PERMIT AMENDMENT	2020.02.26	RGU	MJA	

SEAL
PROFESSIONAL ENGINEER
M. W. JAMES
BRITISH COLUMBIA
PROVINCE OF

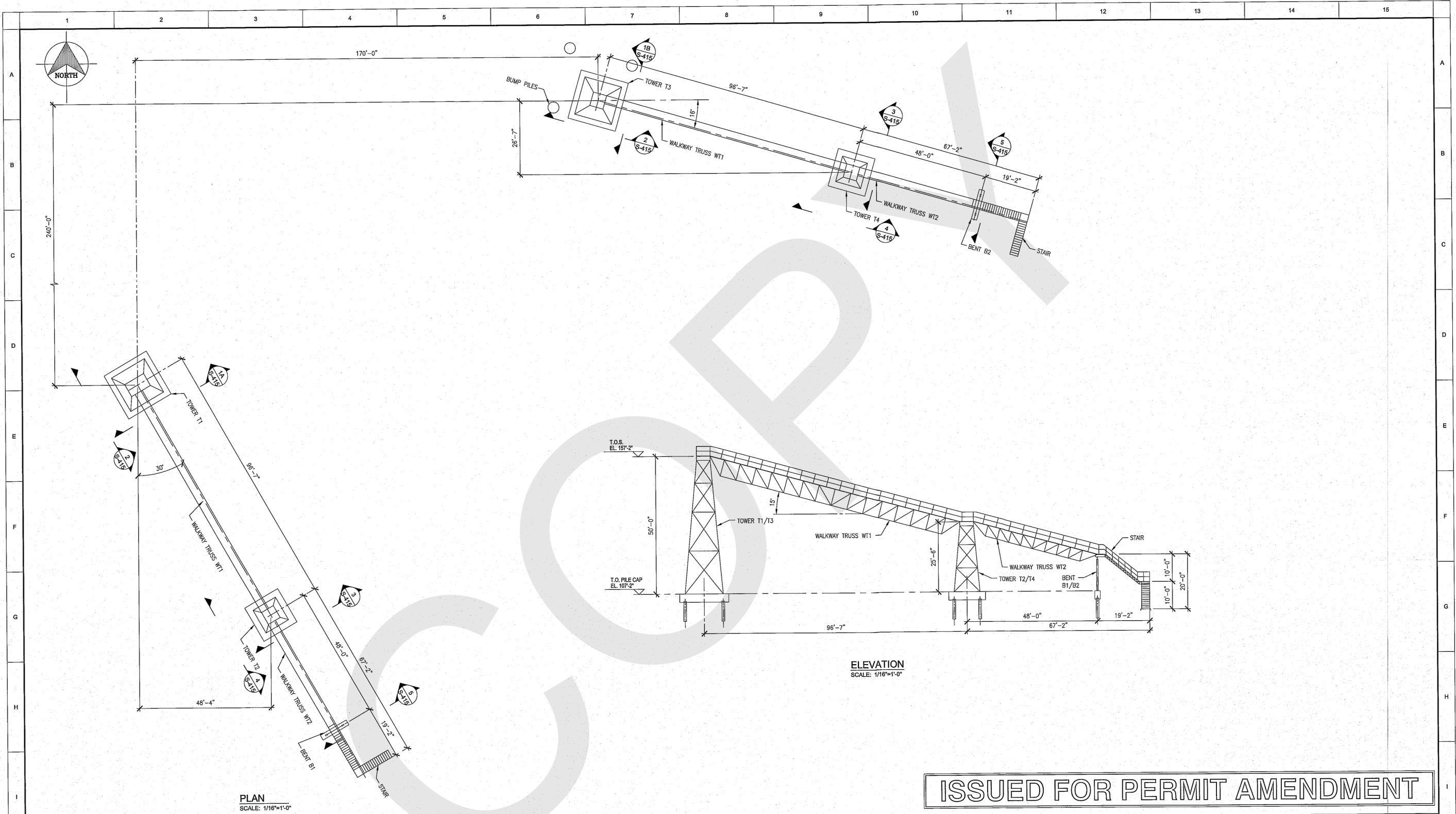
DESIGNED: A. CRANE DATE: 2019.12.15
 DRAWN: R. GUERRERO DATE: 2020.02.26
 CHECKED: M. JAMES DATE: 2020.02.26
 APPROVED: DATE:
 PROJECT ENG: K. SAVAGE DATE: 2020.01.10
 SCALE: 1/4"=1'-0" SHEET SIZE: ANS-I-D

315 MOUNTAIN HIGHWAY
NORTH VANCOUVER, BC
SACRE-DAVEY.COM

SCHNITZER STEEL INC.
12301 MUSQUEAM DRIVE, SURREY, BC
FIRE MONITORING SYSTEM
CITY WATER CONNECTION VALVE HOUSE
PIPING - PLAN & SECTIONS

DRAWING NUMBER: 7191-M-110 REV. B

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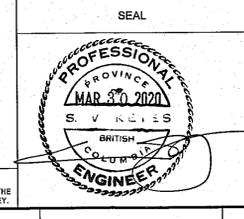
PLAN
SCALE: 1/16"=1'-0"

ELEVATION
SCALE: 1/16"=1'-0"

ISSUED FOR PERMIT AMENDMENT

DRAWING NUMBER	REFERENCE TITLE	REV.	REVISION DESCRIPTION	DATE	DRN	CHKD	APPD
7191-S-418	STRUCTURAL STEEL - WALKWAY TRUSS WT3 - PLANS AND ELEVATION	E	RE-ISSUED FOR PERMIT AMENDMENT (T1/T2 RELOCATED)	2020.03.20	RC	KSA	
7191-S-417	STRUCTURAL STEEL - WALKWAY TRUSS WT2 - PLANS AND ELEVATION	D	RE-ISSUED FOR PERMIT AMENDMENT	2020.01.24	PPI	KSA	
7191-S-416	STRUCTURAL STEEL - WALKWAY TRUSS WT1 - PLANS AND ELEVATION	C	ISSUED FOR PERMIT AMENDMENT	2020.01.17	PPI	KSA	
7191-S-415	STRUCTURAL STEEL - WALKWAY TRUSS WT1 - PLANS AND ELEVATION	B	ISSUED FOR CLIENT REVIEW	2020.01.10	PPI	KSA	
7191-S-415	STRUCTURAL STEEL - SECTIONS AND DETAILS	A	ISSUED FOR INFORMATION	2019.12.17	PPI	KSA	

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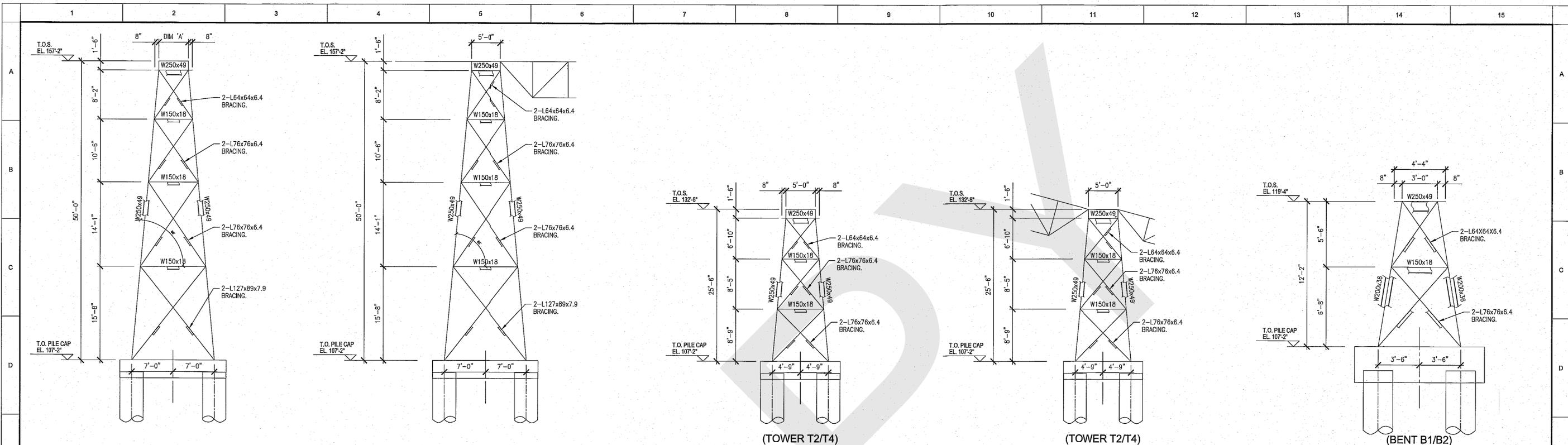
DESIGNED:	P. LAZIC	DATE:	2019.12.17
DRAWN:	P. PIN	DATE:	2019.12.11
CHECKED:	S. KEYES	DATE:	2019.12.17
APPROVED:		DATE:	
PROJECT ENG:	K. SAVAGE	DATE:	2020.01.10
SCALE:	1/16" = 1'-0"	SHEET SIZE:	ANSI-D

Sacré-Davey ENGINEERING INC.
12301 MUSQUEAM DRIVE, SURREY, BC
315 MOUNTAIN HIGHWAY
NORTH VANCOUVER, BC
SACRÉ-DAVEY.COM

SCHNITZER STEEL INC.
FIRE MONITORING SYSTEM
STRUCTURAL STEEL
GENERAL ARRANGEMENT

DRAWING NUMBER: **7191-S-410**

REV. **E**



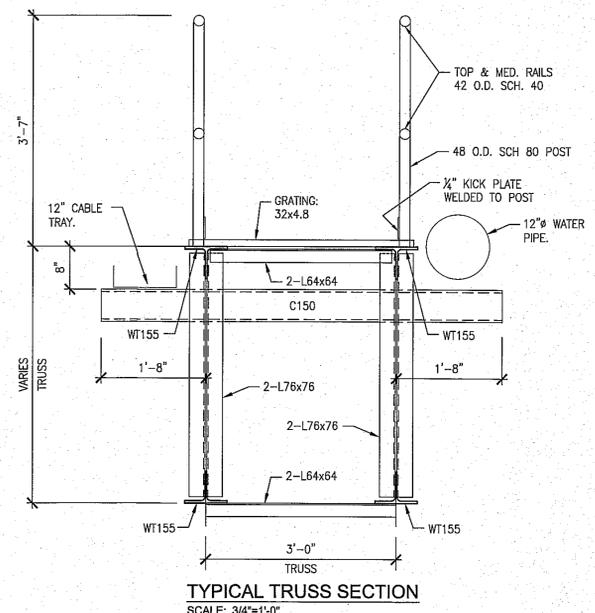
SECTION 1A (TOWER T1)
SCALE: 1/8"=1'-0" DIM 'A' = 8'-0"
SECTION 1B (TOWER T3)
SCALE: 1/8"=1'-0" DIM 'A' = 8'-0"

SECTION 2 (TOWER T1/T3)
SCALE: 1/8"=1'-0"

SECTION 3 (TOWER T2/T4)
SCALE: 1/8"=1'-0"

SECTION 4 (TOWER T2/T4)
SCALE: 1/8"=1'-0"

SECTION 5 (BENT B1/B2)
SCALE: 1/4"=1'-0"



TYPICAL TRUSS SECTION
SCALE: 3/4"=1'-0"

ISSUED FOR PERMIT AMENDMENT

DRAWING NUMBER	REFERENCE TITLE	REV.	REVISION DESCRIPTION	DATE	DRN	CHKD	APPD
7191-S-410	STRUCTURAL STEEL - GENERAL ARRANGEMENT	A	ISSUED FOR INFORMATION	2019.12.17	PPI	KSA	
		B	ISSUED FOR CLIENT REVIEW	2020.01.10	PPI	KSA	
		C	ISSUED FOR PERMIT AMENDMENT	2020.01.17	PPI	KSA	
		D	RE-ISSUED FOR PERMIT AMENDMENT	2020.01.24	PPI	KSA	
		E	RE-ISSUED FOR PERMIT AMENDMENT	2020.03.20	RC	KSA	

SEAL

DESIGNED: P. LAZIC
DRAWN: P. PIN
CHECKED: S. KEYES
APPROVED:

DATE: 2019.12.17
DATE: 2019.12.12
DATE: 2019.12.17
DATE:

PROJECT ENG: K. SAVAGE
SCALE: 1/16" = 1'-0"

DATE: 2020.01.10
SHEET SIZE: ANSI-D

Sacré-Davey
ENGINEERING INC.

315 MOUNTAIN HIGHWAY
NORTH VANCOUVER, BC
SACRE-DAVEY.COM

SCHNITZER STEEL INC.
12301 MUSQUEAM DRIVE, SURREY, BC

**FIRE MONITORING SYSTEM
STRUCTURAL STEEL
SECTIONS AND DETAILS**

DRAWING NUMBER
7191-S-415

REV. **E**

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