

Joseph Howe & Scot Street
Apartments
Excavation & Construction

Prepared by Geoff MacLean, P.Eng.

Job No. 35508

CONSTRUCTION MANAGEMENT PLAN

REVISION #	DATE	DESCRIPTION
2	FEB 2022	REVISED FOR BUILDING PERMIT
1	JAN 2022	REVISED AS PER CLIENT COMMENTS
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In consultation with the developer, contractor, traffic control company and HRM

Section 1: Introduction

1.1: Project Description and Objectives

The developer is planning an apartment building development located on the corner of Joseph Howe Drive and Scot Street in Halifax. In preparation for this development, they are looking to excavate their consolidated land that formerly housed residential dwellings at civic 3539-3563 Joseph Howe Drive and 7095-7115 Scot Street. The planned development will include 148 residential units within two 8-storey building towers with a common courtyard and 2 levels of underground parking accessed from Scot Street. This CMP has been prepared to address excavation, services and building construction.

Where the apartment building development is planned to have 2 levels of underground parking, deep excavations (+10ft) are required for the project and where the building foundation is in close proximity (+/-5ft- 8ft) to the street line on both Joseph Howe Drive and Scot Street, for public safety from excavation limits and construction activities we are proposing encroachments that close the sidewalks on both Joseph Howe Drive and Scot Street. This will temporarily relocate pedestrian traffic to the opposite side of the street on Joseph Howe and Scot Street, by hoarding off the sidewalk in front of the project on both streets. Prior to excavation, a construction fence will be positioned at the edge of sidewalk/HRM tree lawn, effectively closing the sidewalk from public use; a row of interlocking concrete jersey barriers will be set at the back of sidewalk (off the tree protection zone) to protect the top of excavation limits. These encroachments will relocate pedestrian traffic on Joseph Howe and Scot and maintain two-way vehicular traffic on both streets.

The existing building services were capped at the property line and left in place during demolition; Only during service work do we anticipate short term temporary lane closures. The developer plans to work out an agreement with Superstore to utilize their property during tower crane assembly and disassembly to avoid traffic disruptions on Scot Street.

The project borders a commercial property, Atlantic Superstore along its northern and eastern property lines, residential properties opposite Scot Street, commercial building opposite Desmond Avenue, Bayers Road Shopping Centre, and an existing construction site opposite Joseph Howe Drive. All neighbouring properties will remain undisturbed throughout the project. We note that discussion with the neighbouring Superstore have taken place however they are not willing to rent their parking lot to the developer, eliminating their lands for access.

This CMP document is intended to be an evolving document to help guide the project team to mitigate impacts to the adjacent community before they arise and to address unforeseen issues. SDMM, together with the developer, contractor, and traffic control company, have prepared this Construction Management Plan (CMP) following HRM's CMP (2020) guidelines and administrative order (2018-005-ADM) in an effort to reduce potential negative impacts on the surrounding community, due to construction activities for this project.

The most up-to-date version of this document will be kept on-site at all times during construction. Should ownership or contracting services change throughout the course of this project, HRM will be notified immediately, and new parties will be required to comply with the approved CMP in writing.

1.2: Project Contact Information

The project team for the proposed development consists of:

Role	Name	Contact	Address	Phone
Developer	Kingsbrook Properties	Joe Faddoul	15 Lauderdale Court, Halifax, NS, B3S 0C8	(902) 830-6688 24 Hour Emergency Contact
Site Contractor	Jollimore and Sons Excavation Limited	Jeff Jollimore	3600 Prospect Road, Shad Bay, NS, B3T 1Z3	(902) 456-5124
Traffic Control Company	Frontline Traffic Services	Phil Pruneau	6 Belmont Avenue, P.O. Box 89 Eastern Passage, NS B3G 1M7	(902) 818-5548
Rodent Control Company	Rentokil Pest Control		51 Duke Street, Bedford, NS B4A2Z2	(902) 835-2304

Section 2: Project Schedule and Logistics

The following is a brief summary of anticipated major project milestones broken down by phase:

2.1: Schedule

Project Phase	Start Date	End Date	Time Period
Rodent Control Program	Feb 15, 2022	-	June 30, 2022 4.5 months
Demolition	complete	-	complete n/a
Site Excavation/mass earthwork	Mar 1, 2022	-	Jun 30, 2022 4 Months
Substructure	July 1, 2022	-	Sep 30, 2022 3 Months
Superstructure	Oct 1, 2022	-	Apr 30, 2024 18 Months
Service Abandonments	Aug 1, 2022	-	Aug 31, 2022 2 weekends
Service installs	Aug 1, 2022	-	Aug 31, 2022 2 weekends
HRM Right of Way Flat Works	May 1, 2024	-	May 15, 2024 2 weeks
Site Flat Works	Jun 1, 2024	-	Jun 15, 2024 2 weeks

2.2: Key Dates

- Take-over encroachment
 - Sidewalk closure (Joseph Howe & Scot Street)
- Finish encroachment
 - April 30, 2024
- Duration of encroachment
 - 26 months
- Temporary lane closures:
 - Joseph Howe Drive Service abandonments
 - Aug 6, 7, 2022 (weekends only)
 - Scot Street Service abandonments
 - Aug 13, 14, 2022 (weekends only)
 - Joseph Howe Drive Sewer service install
 - Aug 20, 21, 2022 (weekends only)
 - Scot Street Water service install
 - Aug 27, 28, 2022 (weekends only)

The encroachment areas are shown in the appendix for reference.

2.3: Hours of Work

Work will generally take place during normal working hours as outlined in HRM's Noise By-Law and Traffic Control Manual Supplement; these are noted below.

- Monday to Friday:
 - 7:00 a.m. – 9:30 p.m.
- Saturdays:
 - 8:00 a.m. – 7:00 p.m.

• Sundays & Statutory Holidays:	9:00 a.m. – 7:00 p.m.
• Servicing Work:	Noted Above

Although work is not expected to be required outside of the times listed above, if, for any reason, work is anticipated to be required outside of these hours, the contractor will apply to HRM for approval 5 business days (minimum) in advance of such work and obtain approval prior to proceeding. It is noted that HRM's Noise By-Law cannot be altered without HRM council approval; work must adhere to the Noise By-Law.

Section 3 – Relevant Regulations & Guidelines

3.1: Occupational Health & Safety Regulations

This CMP shall be utilized in agreement with all applicable Provincial and Federal Occupational Health and Safety Regulations. At a minimum, construction activities must at all times meet the standards of:

- a) National Building Code of Canada, as adopted and modified under the Building Code Act and the Nova Scotia Building Code Regulations made under that Act;
- b) Nova Scotia Occupational Health and Safety Act, and the Nova Scotia Occupational Safety General Regulations made under that Act;
- c) The Transportation Association of Canada (TAC)'s Manual of Uniform Traffic Control Devices for Canada (MUTCD); and
- d) Nova Scotia Temporary Workplace Traffic Control Manual (NSTCM).

3.2: Municipal Regulations & Guidelines

In addition to the Provincial and Federal standards referenced in Section 3.1, this CMP shall be utilized in agreement with and meet, at a minimum, the standards of all relevant municipal by-laws including, but not limited to, the following:

- a) HRM Design Guidelines;
- b) HRM Standard Details;
- c) S-300 Streets;
- d) E-200 Encroachments;
- e) B-201 Building;
- f) N-200 Noise;
- g) T-600 Trees;
- h) S-900 Controlled Access Streets;
- i) T-400 Truck Routes;
- j) W-101 Discharge into Public Sewers;
- k) B-600 Blasting;
- l) HRM TCM Supplement;
- m) G-200 Grade Alteration and Stormwater management;
- n) Admin Order 2018-005-ADM regarding encroachments; and
- o) Admin Order 2020-010-OP regarding stormwater management standards for development activities.

Section 4: Vehicle Management

Prior to any construction activity, all temporary workplace traffic control devices and signage will be in place as per the Nova Scotia Temporary Workplace Traffic Control Manual (latest edition). The traffic control company will install the signage and ensure that they are maintained throughout the project. This project's Traffic Control Plans (TCPs) are listed in the Appendix.

4.1: Vehicular Traffic Control

A Traffic Control Plan (TCP) has been prepared by the traffic control company and is provided in the Appendix.

Throughout all phases of construction two-way vehicular traffic will be maintained on both streets. Only during service work do we anticipate short term temporary lane closures being required. It is anticipated that tower crane assembly and disassembly will be contained within the adjacent private property owned by Superstore. Please refer to the appendices for required encroachment plan and traffic control plans.

4.2: Haul Route and Staging Areas

The truck Haul Route Plan has been prepared by the traffic control company and is provided in the appendix.

The selected route is intended to minimize traffic congestion and maximize pedestrian safety. During all construction phases vehicles will enter and exit the site at the gate location(s) which will be clearly marked for function.

Throughout all phases of construction, concrete and material deliveries shall be contained within the owner's private property accessed off Scot Street. We anticipate deliveries entering and exiting the east gate during construction activities of the building on the corner of Joseph Howe & Scot and backing into the west gate during construction activities of the rear building tower on Scot. Refer to appendix for concrete delivery schematic.

4.3: Vehicular Traffic Notifications

Should any traffic disruptions be required, notifications will be distributed to properties in the impacted area a minimum of five (5) days in advance of vehicular traffic closures. Refer to sample notification letter in the appendix.

4.4: Emergency Vehicles

In the event of unforeseen emergency situations, the site will remain accessible to emergency vehicles at all times.

4.5: Parking

On street parking is not permitted along Joseph Howe Drive between 4-6pm, Monday to Friday or between 10-11am & 2-3pm, Monday to Friday on Scot Street in the vicinity of the project site. On street parking is not anticipated to be affected by this project. To minimize parking requirements in adjacent neighbourhoods, site workers will utilize private property and workers will be encouraged to carpool or rely on public transit.

4.6: Bus Stops

There are no bus stops directly in front of the project. However, bus service travels along both streets and should not be affected by this project.

4.7: Hazard Assessment

A vehicular and pedestrian hazard assessment is provided in the appendix. Any additional site hazards identified or encountered after work has commenced will be added to this list. All personnel on-site will be required to review this list and encouraged to identify additional potential hazards and hazard mitigation methods.

Section 5: Pedestrian Management

A Pedestrian Management Plan (PMP) has been prepared by the traffic control company and is provided in the appendix.

Throughout all phases of construction, the project will relocate pedestrian traffic to the opposite sidewalk of the street for access along Joseph Howe Drive and Scot Street. This is to ensure the limits of excavation and construction activities are kept a safe distance from pedestrians.

5.1: Pedestrian Protection

Pedestrians will be protected by physically distancing them from the project. F-type concrete jersey barriers with rigid fencing mounted above or chain link fence anchors to sidewalk panels will delineate the project during the construction activities. Rigid fencing will be covered with opaque covering to block view of the site. Refer to the appendix for examples of the barriers and fencing.

5.2: Pedestrian Safety

Pedestrian safety will be maintained by implementing appropriate signage as shown on the PMP. All navigation and safety signage indicating alternative sidewalks and potential hazards will be inspected and maintained regularly.

5.3: Pedestrian Traffic Notifications

Notifications will be distributed to properties in the impacted area a minimum of five (5) days in advance of pedestrian traffic impacts. A sample traffic notification letter can be found in the appendix. HRM must be notified prior to issuing the notification to neighbours.

5.4: Visually Impaired Persons

In keeping with CNIB requirements and as outlined on their 'Clearing Our Path' website; various items will be incorporated into the pedestrian management signage and barriers. Such as, high visibility contrasting colours with appropriate font types (mix of upper and lower-case lettering), font sizes (between 16mm to 51mm) and sign colours (orange background with black lettering or white background with black lettering).

The contractor will use bright orange sawhorse barricades complete with bold-font signage to identify sidewalk termination points. Sawhorse barriers will incorporate lower cross members, painted and marked consistent with the rest of the sawhorse, these added cross members will be placed near the ground to aid visually impaired persons using a cane. Reflective tape will also be placed on the ends of fencing, hoarding, sawhorse barricades, and concrete barriers to help delineate pedestrian routes and disruptions. Signage and tape colours will vary but will comply with the colour/brightness contrast as outlined by the CNIB website; examples are black/white, orange/black or dark red/white combinations.

5.5: Accessibility

High visibility signage will be used to assist pedestrians to easily navigate around all project related blocked sidewalks.

5.6: Hazard Assessment

A vehicular and pedestrian hazard assessment is provided in the appendix. Any additional site hazards identified or encountered after work has commenced will be added to this list. All personnel on-site will be required to review this list and encouraged to identify additional potential hazards and hazard mitigation methods.

5.7: Pedestrian Management Plans Rendering (PMPR) Signage

The need for a rendered map displayed for pedestrians showing the detoured pedestrian routes are not anticipated for this project given that pedestrians will have access to alternate sidewalk on the opposite side of both streets.

5.8: Pedestrian Detour Wayfinding Signage

The need for pedestrian wayfinding signage directing pedestrians to adjacent businesses is not anticipated for this project given the location. Pedestrian traffic will maintain access to businesses on both streets.

Section 6: Encroachments & Disruptions

During all construction activities, we are proposing the project encroachment area will incorporate the public sidewalk on Joseph Howe Drive and Scot Street. This will move pedestrians to the opposite side of both streets. These encroachments are to keep the public away from the excavation zone of influence as well as provide additional room for site workers.

The encroachment on Joseph Howe Drive and Scot Street is planned to be delineated by a mix of interlocking F-type concrete jersey barriers complete with rigid fencing or chain link fence with opaque coverings.

Throughout the project, fencing will be positioned to not obstruct vehicle sight lines. In areas adjacent to the site gates open mesh chain link fence on top of the site barriers to not obstruct sight lines.

Should any utility or traffic disruptions be required, the contractor will first apply to HRM for approval, a minimum of five (5) business days in advance of such work and will then notify neighbours of these disruptions in a timely fashion.

6.1: Demolition

The demolition phase is complete and described under separate CMP document.

6.2: Site Excavation

This includes deep excavation and removal of common site material. The development is planned to have two levels of underground parking. If bedrock is found, the contractor will apply for a blasting permit and adhere to the HRM blasting by-law and conditions of the blasting permit. Alternatively, if a blasting permit can not be obtained the site's bedrock will be broken by a series of rock breakers to reach footing elevation.

6.3: Site Services Connection

This includes installation of new water and sewer laterals to their respective mains as well as decommissioning existing laterals which will be abandoned. The service installs will require modifications to the encroachment with temporary workplace signage incorporated (refer to the Service Installation Traffic Control Plans (TCP) in the appendix). HRM requires that this service work be limited to weekends only to minimize traffic disruptions. The target dates for this work are provided in the "Key Dates" section above with time of installations adhering to the Noise By-Laws noted above. The intent will be to complete this servicing work and reinstate the street as quickly as possible in order to minimize disruptions to the public.

Before scheduling site services connections, the contractor will notify all neighbouring properties, of the intended timeline for this work. A sample notification letter is included in the appendix.

The contractor intends to reinstate the street cut during the season of work. It is noted that street cuts cannot be left gravel or open. HRM reinstatement specifications must be met, and the travel way must be hard surfaced prior to reopening to the public. Asphalt, concrete curb and sidewalk reinstatement must be completed within 72 hours of disturbance and will be considered temporary if reinstated after October 31st or prior to May 1 in which case permanent reinstatement will be completed by June 15.

6.4: Construction Management Plan Element Inspection and Maintenance

Construction management plan elements will be inspected daily to ensure continued adherence to this CMP. Any deficiencies identified will be reinstated immediately. A CMP's TCP & PMP inspection report summary will be completed for the project, including information on what maintenance activities were conducted. This report must be kept on site at all times and be available to HRM upon request.

6.5: Changes to the Construction Management Plan

All departures from the CMP regardless of the significance must be submitted to the Municipality 10 days in advance for review and approval. Any required changes or modifications to the approved CMP will be submitted to HRM for review and approval prior to implementation.

Section 7: Environmental Factors

7.1: Damage to HRM Infrastructure

Existing HRM infrastructure will be reinstated within the encroachment area and be completely replaced. It is anticipated that the sidewalks across the street will not be impacted by excavation or other construction activities. However, while efforts will be made to avoid damage, it is anticipated that some portions of existing curbs, gutters, and sidewalks may become damaged during the construction process which would require repairs or replacement. Pending HRM's review prior to and after construction and subject to damage due to construction activities, the developer acknowledges that items may require to be fully replaced rather than repaired. The developer also acknowledges that any costs incurred to repair or replace this public infrastructure are the responsibility of the owner.

For reinstatement timeline requirements, it is noted that asphalt, concrete curb and sidewalk reinstatement must be completed within 72 hours of disturbance and will be considered temporary if reinstated after October 31st or prior to May 1 in which case permanent reinstatement will be completed by June 15 of the following construction season.

7.2: Protection of Trees

There are street trees within the public right-of-way directly adjacent to the project site on Joseph Howe and Scot. We understand that two street trees are anticipated to be removed as they conflict with the planned loading area and building garage entry. It is noted that HRM street trees shall not be touched prior to approval and/or compensation agreements between the developer and HRM Urban Forestry are in place. Adjacent street trees are to be protected during construction in accordance with the HRM Tree Bylaw (T-600). Refer to HRM tree protection detail in the appendix.

7.3: Line Painting and Temporary Crosswalks

Temporary line painting such as altered centreline or temporary crosswalk are not anticipated for this project.

7.4: Street and Right-of-Way Cleaning

The portion of public street adjacent to the project will be cleaned daily of any debris from trucks and silt, dirt, or rock that migrates beyond the encroachments. A sweeper truck will be utilized as required. Rock pads will be installed and maintained at all site entrances behind the curb line to knock dirt free from truck tires with aim to reduce off tracking of site soils.

Where the developer plans to utilize the public sidewalk for their encroachment the developer is responsible to clear snow from the street side of these jersey barriers.

7.5: Protection from Inclement Weather

To protect the public from construction debris during inclement weather, the project site will be enclosed by fencing complete with dust control covering, the site will be regularly reviewed and cleaned, with loose items secured when not in use.

7.6: Storm Water Management

During construction, nearby catch basins may be fitted with filter fabric to prevent debris from entering the storm system. Stormwater collected inside the project site will be directed to temporary stormwater settling ponds situated within the building footprint to allow clean water to be pumped into the existing public sewer systems in accordance with HW regulations and HRM By-law W-101 complete with appropriate fees to Halifax Water (HW). Sediment ponds may be shifted and positioned as desired by the site contractor during mass excavation however will generally be placed in localized low points within the building excavation.

7.7: Noise, Dust and Emission Control

The contractor will at all times adhere to the HRM Noise Bylaw (N-200). No work will take place on the project site outside those hours identified in section 2 of this report.

Dust mitigation for this project will be achieved using rock pads for trucks exiting the site. A water truck and sweeper truck will also be utilized to help prevent dust from becoming airborne and, when required, calcium may need to be used to mitigate dust migration. Additionally, mesh on the inside of the fencing will help to contain any airborne dust inside the site.

Breaking of rock may occur and rock faces cleared to form a wall. Mesh will be used on the inside of all construction fencing to mitigate dust control.

All construction vehicles will be required to use the loading area for parking and idling to keep exhaust emissions within the construction zone. Vehicles will be staged so that idling will not occur for more than 3 minutes at a time.

As indicated above, all work shall be completed in accordance with the HRM Noise By-Law.

7.8: Rodent Control

Rodent movement increases during construction activities. The owner has engaged a rodent control company, to utilize the established Rodent Control Plan (RCP) to help mitigate rodent movement prior to and during site excavation and building construction. The RCP applies to all project phases with the goal of preventing movement of rodents off-site. The RCP will consist of a baiting and monitoring program. Bait stations (traps) will be placed as outlined in the NPMA Pest Management Standards for Food Processing & Handling Facilities.

The RCP was engaged two weeks prior to the commencement of site excavation to help to lower the number of active rodents in the project area. Bait stations positioned along existing buildings and fence lines prior to excavation. Bait stations positioned along the edges of the project and secured in place using wooden stakes (for open sodded and dirt locations), weighted patio stones (behind walls and on paved areas), and zip-ties (fixed to fences) as per typical industry standards.

Refer to the appendix for a copy of the Rodent Control Plan.

Section 8: Site Protection & Hoarding

8.1: Barriers & Fences

The encroachment will be delineated with a mix depending on the street and proximity to street trees. Along Joseph Howe Drive Interlocking F-type concrete jersey barriers complete with rigid fencing secured to the jersey barrier with a total height (concrete barrier and fencing structure) being 1.8m or 6ft as per the noted administrative order. Along Scot Street the interlocking concrete barriers will be stationed along the back of sidewalk away from the street trees,

chain link fencing will be secured to the front edge of sidewalk. These chain link fences will be covered with an opaque dust control mesh of high quality which will extend a minimum 3m from the public right-of-way. This screening is described in the appendix and will block passersby or tourists view of the construction site. Throughout the project, fencing will be situated to not obstruct vehicle sight lines. In addition, the street trees along Scot Street will be secured with orange snow fencing delineating the existing tree lawns between existing concrete.

Along the private sidelines where traffic is present, the hoarding will be delineated by F-type concrete jersey barriers complete with rigid fencing secured to the jersey barriers, total height of concrete barrier and fencing structure will be 1.8m or 6ft tall. All fencing will have opaque dust control mesh and must be anchored down to prevent unintentional movement or overturning due to snow or wind loads.

The F-type barriers, fencing and tree projection defining the encroachment will adhere to the Encroachment Plan which is to scale includes dimensions and can be found in the appendix. These areas can be measured for the administering of applicable fees. Encroachment areas and fees will be based on the areas within the public right-of-way enclosed by the barriers and fencing.

Installation of F-Type concrete barriers, fencing and covering will take place during regular working hours as noted above. This work will be scheduled by the contractor after the HRM's pre-construction meeting has been held. HRM will coordinate this pre-construction meeting; the developer, contractor and traffic control company will attend this site meeting. During the process of erecting and tearing down the traffic barriers, fencing and opaque covering defining the encroachment, traffic control elements will be implemented as per the Traffic Control Plan(s) in the appendix. All work and any traffic interruptions will be coordinated by the contractor who will notify HRM a minimum of 5 business days before work is scheduled to begin.

It is noted that surplus fencing must be stored and installed from private property when relocated for deliveries and be routinely re-established to keep the site secure. Surplus fencing cannot be stored within HRM's right-of-way.

8.2: Snow removal

The developer will be responsible to remove snow and ice as required to ensure that emergency access is maintain to the project site, this includes fire hydrants. The contractor will not dump snow or ice onto adjacent property and will truck snow off site as required to prevent the unsafe build-up of snow piles.

The contractor will clear snow from outside the jersey barriers to keep the edge of the encroachment and vehicle travel lane and clear of snow and ice build up.

8.3: Gate Access and Egress

The site will be accessible through gates. These gates are the only locations that will receive equipment/materials during construction, gates will remain closed and will be locked at all times after work hours. In cases of emergencies, on-site workers will exit the project site through these gates. These gates will remain unlocked at all times when workers are on site in case of emergency allowing unrestricted emergency response units access to the site.

Construction access gates are planned to be stationed off Scot Street. Gates are to swing into site, remain closed when not in use and locked after hours.

Any existing fire hydrants located adjacent to the site will remain protected from construction activities. These fire hydrants, along with the existing department connections (Siamese connections) will be accessible to firefighters

throughout all phases of the project. Adjacent existing hydrants and fire department connections are not anticipated to be affected by construction.

8.4: Hoarding Aesthetics

The site hoarding will resemble that shown in the appendix; encroachment fee reductions are not anticipated.

8.5: Sight Lines

Rigid fencing and signage will be installed as per the CMP drawings such that vehicle sight lines are maintained around corners, particularly at driveway access points and existing intersections.

8.6: Project Information and Contacts

To encourage communication between the project team and the public, contact information will be provided on Project Information Boards; these will be posted prominently around the project site on the fencing; refer to the appendix for a copy of the Project Information Board and the Encroachment Plan for the planned locations. Refer to the signage specification within the appendix describing the required size, materials, mounting hardware, etc. of these signs.

Section 9: Lifting, Hoisting, and Crane Operations

9.1: Crane Use Overview

This project will incorporate a tower crane, the crane will be stationed within the project site and will be operated under the direct supervision of a licensed crane operator employed by the formwork contractor. The approximate location of the tower cranes is shown in the appendix.

It is anticipated that the crane assembly and disassembly will be stationed on the adjacent private property owned by Superstore.

The crane swing will extend over neighbouring properties as shown in the Crane Swing Diagrams included in the appendix. The developer will notify these property owners prior to extending the crane over their properties. Refer to the appendix for crane information.

Concrete trucks will be stationed within owners' private property during concrete operations. (See concrete delivery schematic within the appendix).

If lifting operations are required over the public realm, this area will be closed to access. In all cases of lifting, extreme care will be used to ensure public and worker safety.

9.2: Transport Canada and Nav Canada Regulations

There are two registered aerodromes in the Halifax region; Halifax International Airport and Canadian Forces Base Shearwater Airfield. According to Transport Canada regulations, the project site is outside of the lands to which regulations for these two aerodromes apply.

9.3: Aerodromes

There are several heliport approaches in the Halifax region; both Emergency Hospitals (QEII and IWK) as well as Point Pleasant Park. Given the location of the project site relative to these various approaches we understand Transport Canada notice does not apply.

Section 10: On-Site Safety and Security

10.1: Site Safety and Security Overview

The contractor will adhere to all Occupational Health & Safety requirements throughout the completion of this project. At a minimum, the following safety protocols will be utilized to further enhance site safety and security:

- a) All workers will be required to have proof of up-to-date safety training;
- a) Personal protective equipment (PPE) will be required for all personnel on site;
- b) Adequate signage will be placed outside the hoarding, which will warn of hazards that may exist;
- c) Gates will be locked and the perimeter fencing secured to provide security against public access during off work hours and will be monitored during operation;
- d) Hoarding will clearly state “No Trespassing – Construction Personnel Only” & PPE requirements will be clearly identified (e.g., “Hard Hats and Safety Footwear Must Be Worn Beyond This Point”);
- e) Regular safety inspections will be conducted to ensure suitability of hoarding and other safety devices;
- f) Emergency contact information to be prominently posted as per the Project Information Board.

10.2: Material Handling: Loading, Unloading, Delivery and Storage

The contractor will adhere to the procedures stipulated in the Haul Route Plan for delivery of materials. Delivery vehicles will use the designated gates for entry and exit. Timing of deliveries will be coordinated to have the least possible negative impact on regular traffic. The staging and delivery area will be coordinated by the delivery companies and site personnel, trucks will be housed within hoarded areas on Joseph Howe and Scot Street.

10.3: Emergency Access & Egress

The site will be accessible through gates to facilitate construction vehicle access. In cases of emergencies, on-site workers will exit the project site through these gates. These gates will remain closed but unlocked at all times when workers are on site in case of emergency allowing unrestricted emergency response units access to the site. Gates will be locked and secured afterhours to provide security against public access during off work hour. Emergency contact information will be posted on project information boards surrounding the site, refer to the CMP plan for details.

Gates are to remain closed at all times unless being used for deliveries to maintain a controlled access site preventing access by the general public to the construction site.

10.4: Security Site Lighting

Security site lighting is not anticipated for this project.

10.5: Smoking Areas

On site smoking areas will not be provided as this will be a smoke-free site.

10.6: Fire Suppression Systems

There is an existing fire hydrant on Scot Street that will remain outside the project encroachment area and will be protected from construction activities. These fire hydrants, along with any existing fire department connections (Siamese connections) will be accessible to firefighters throughout all phases of the project.

There are no proposed fire department connections at this stage of the project. These are not available for fire department use until after the water supply lines have been installed, tested and commissioned by the water

commission, similar with the fire suppression system. This system will not be active until after the building is near complete and the encroachment fencing has been removed.

Section 11: Pre-Construction Consultation & Meeting

11.1: Pre-CMP Community Consultation

Due to the current pandemic, the developer will forego the community consultation meeting. A construction notification letter will be delivered to the properties neighbouring the construction site as well as HRM staff, notifying them of the expected work with contact information for questions and feedback. As part of this notification the surrounding community and businesses will be offered to sign up for a monthly construction project notification from the development. It is understood, HRM requires a confirmation letter from the applicant confirming delivery of notification letters to affected residents. A map indicating these properties has been included in the appendix.

11.2: Project Information and Contacts

To encourage communication between the project team and the public, contact information will be provided on Project Information Boards; these will be posted prominently around the project site on the fencing; refer to the appendix for a copy of the Project Information Board and the CMP Plan for the planned locations. Information on signage size and materials is outlined in the appendix.

11.3: Preconstruction Meeting

Prior to construction the developer, contractor and traffic control company will attend a pre-construction meeting with HRM staff to review the CMP document on site. HRM's engineering technician will confirm the date and time of this meeting; and may wise to waive the requirement.

11.4: Construction Notification

Approximately five (5) business days prior to the encroachment, an additional notification will be circulated to the neighbouring properties, notifying them that work is starting on site.

Section 12: Summary

This construction management plan was prepared with the goal to minimize negative impacts to the community, pedestrians, and traffic throughout the scope of this project. This plan will be used as a minimum standard and any further safety protection required or methods to provide a more positive environment will be used throughout construction work as necessary.

Should you have any questions or comments related to this document, please contact SDMM. For all construction-related inquiries, please contact the developer, contractor, or traffic control service provider.

Regards,

Servant, Dunbrack, McKenzie & MacDonald Ltd.

Geoff MacLean, P.Eng.

Project Engineer

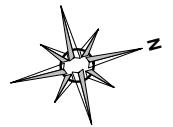
Z:\SDMM\35000-35999\35500\35508\35508 Excavation (Rev2)\Joe Howe & Scot Street - CMP (Rev2) - 35508.docx

APPENDIX

Appendix A – Encroachment Plan



Appendix B – Traffic Control Plans TCP



Encroachment Signage Plan

Date: 2022-01-27 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: Residential/Commercial Building Contractor: SDMM Contact: Geoff MacLean, 902-789-6374

Comments:

Not to Scale

Off shoulder work area.

See Pedestrian Management Plan for sidewalk closure details

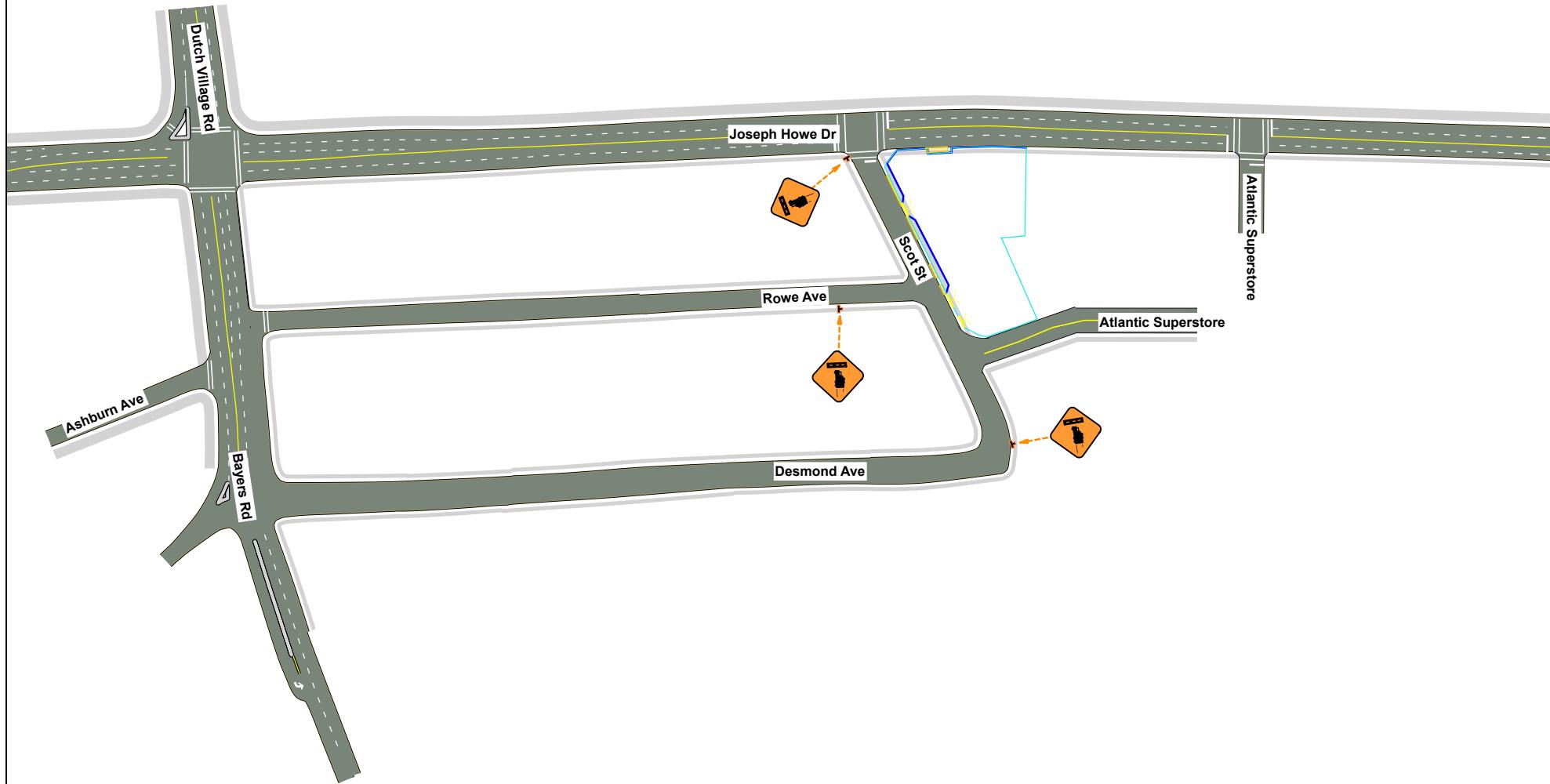
Legend

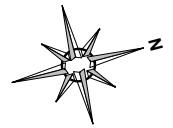
F-Type Barrier

Gate

Protected Tree Area

Rigid Fencing with Opaque Hoarding





Barrier Installation and Removal Plan for Joseph Howe Dr

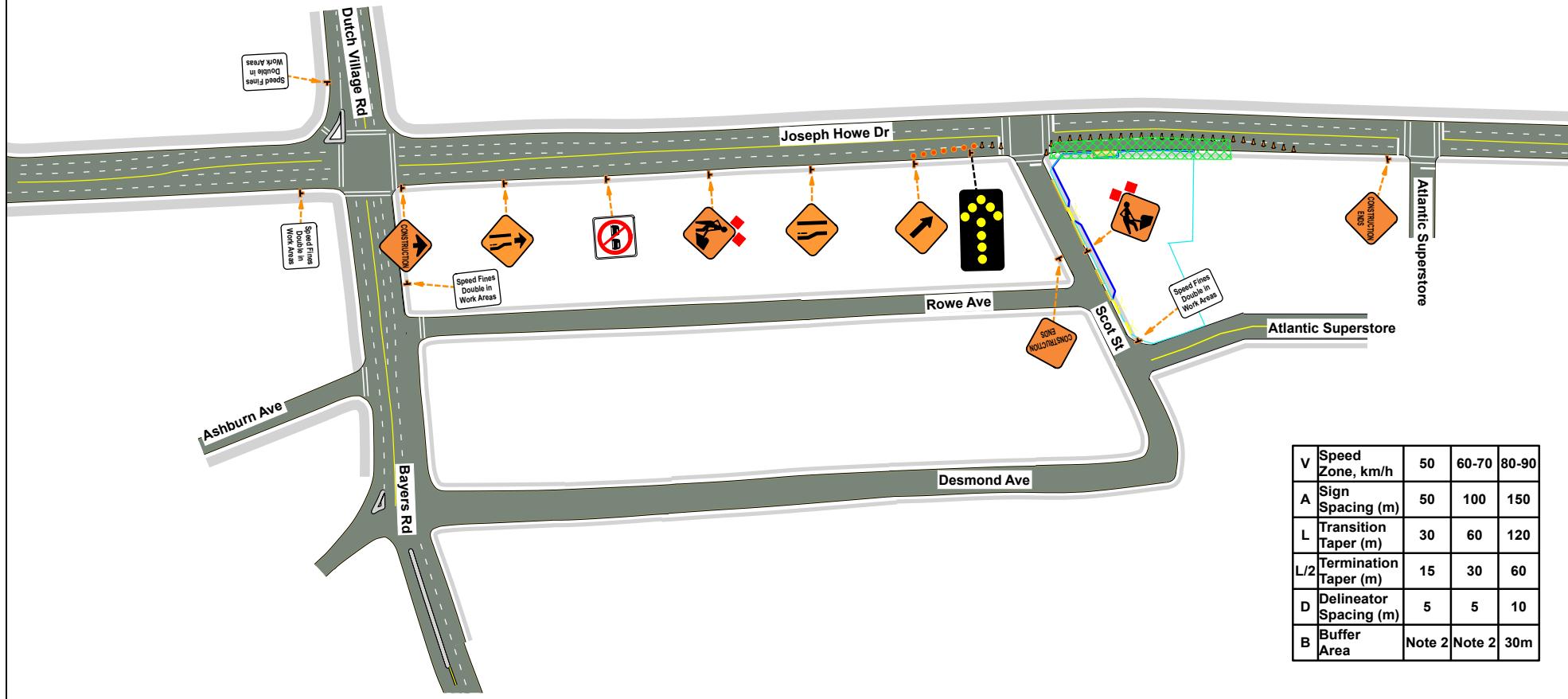
Date: 2022-01-27 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: Residential/Commercial Building
Contractor: SDMM Contact: Geoff MacLean, 902-789-6374

Comments:

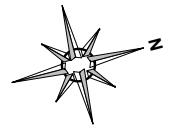
Not to Scale
Application Guide A63R
See Pedestrian Management Plan for sidewalk closure details

Legend

● Barrel
▲ Cone
— F-Type Barrier
▼ Gate
■ Protected Tree Area
— Rigid Fencing with Opac
■ Work Area



V	Speed Zone, km/h	50	60-70	80-90
A	Sign Spacing (m)	50	100	150
L	Transition Taper (m)	30	60	120
L/2	Termination Taper (m)	15	30	60
D	Delineator Spacing (m)	5	5	10
B	Buffer Area	Note 2	Note 2	30m



Barrier Installation and Removal Plan for Scot St

Date: 2022-01-27 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: Residential/Commercial Building Contractor: SDMM Contact: Geoff MacLean, 902-789-6374

Comments:

Not to Scale

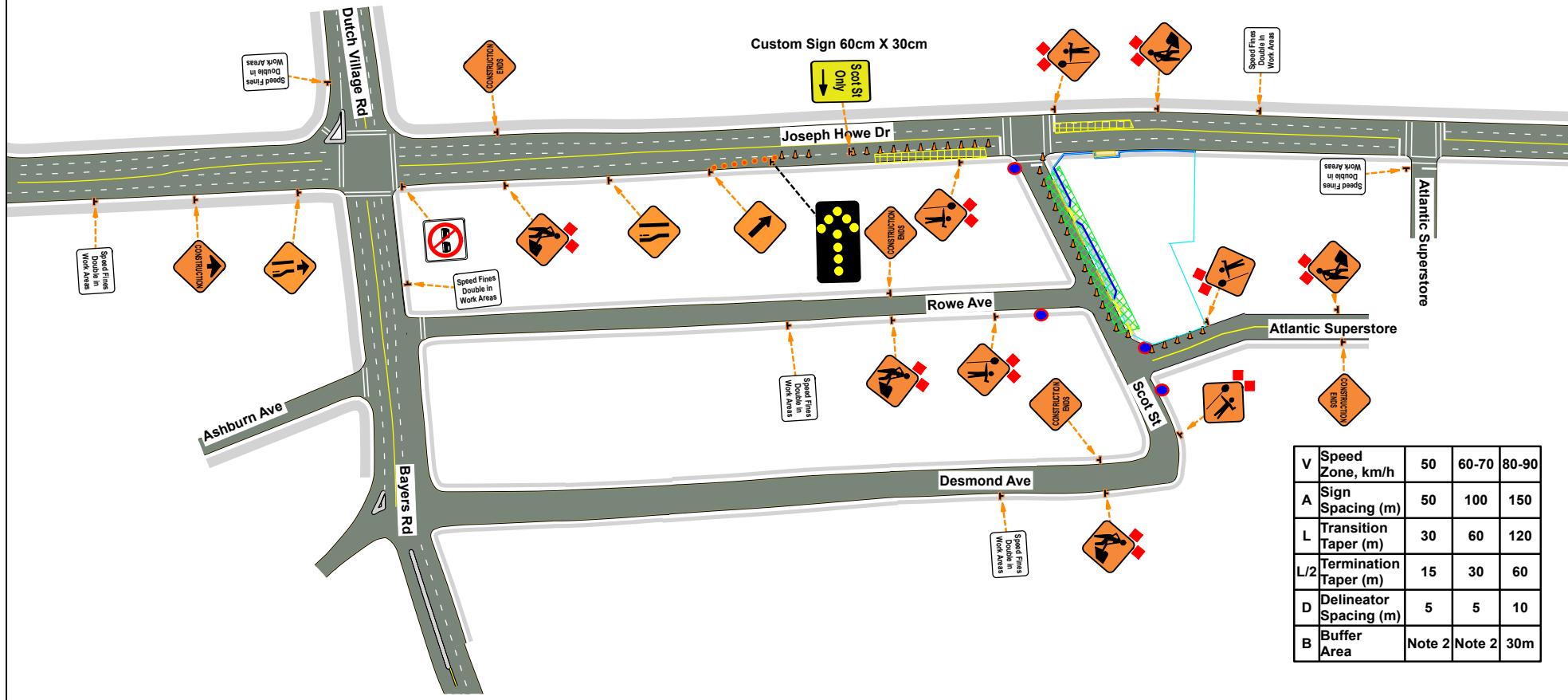
Application Guides A63R and C112

See Pedestrian Management Plan for sidewalk closure details

NOTE: Due to the proximity of Joseph Howe Dr, waiting areas are shown for those wishing to turn onto Scot St. To minimize the impact to Joe Howe, TCP at intersection to remain on SLOW unless vehicles are leaving Scot St.

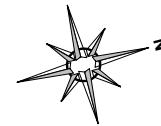
Legend

Barrel
Cone
F-Type Barrier
Gate
Protected Tree Area
Rigid Fencing with Opac
Safety Zone
Work Area



1

Water Service Lateral Installation Plan



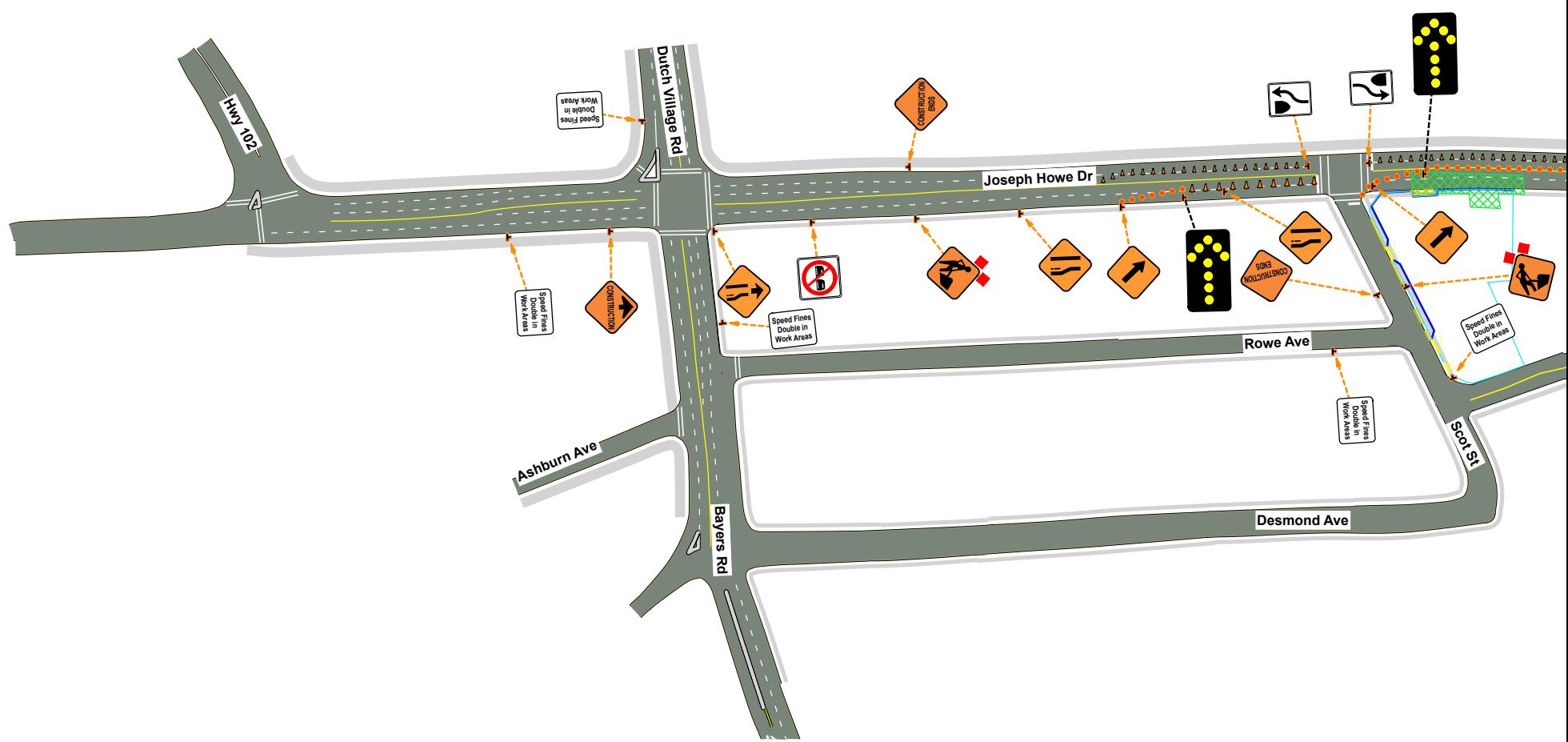
Date: 2022-01-27 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: Residential/Commercial Building
Contractor: SDMM Contact: Geoff MacLean, 902-789-6374

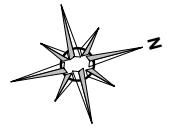
Comments:

Not to Scale

Application Guides A68 and A63L

See Pedestrian Management Plan for sidewalk closure details

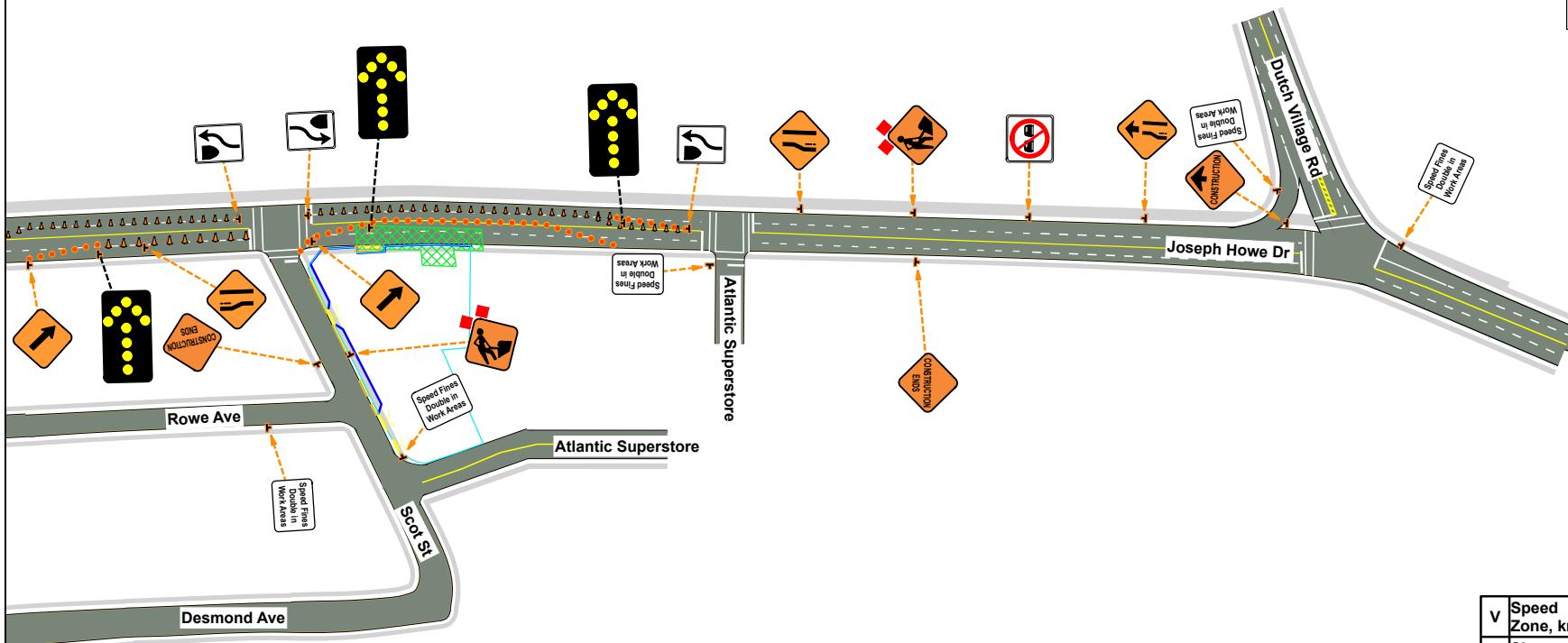




2

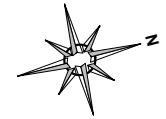
Water Service Lateral Installation Plan

Legend	
●	Barrel
▲	Cone
↙	F-Type Barrier
↔	Gate
■	Protected Tree Area
↔	Rigid Fencing with Opac
▨	Work Area



V	Speed Zone, km/h	50	60-70	80-90
A	Sign Spacing (m)	50	100	150
L	Transition Taper (m)	30	60	120
L/2	Termination Taper (m)	15	30	60
D	Delineator Spacing (m)	5	5	10
B	Buffer Area	Note 2	Note 2	30m

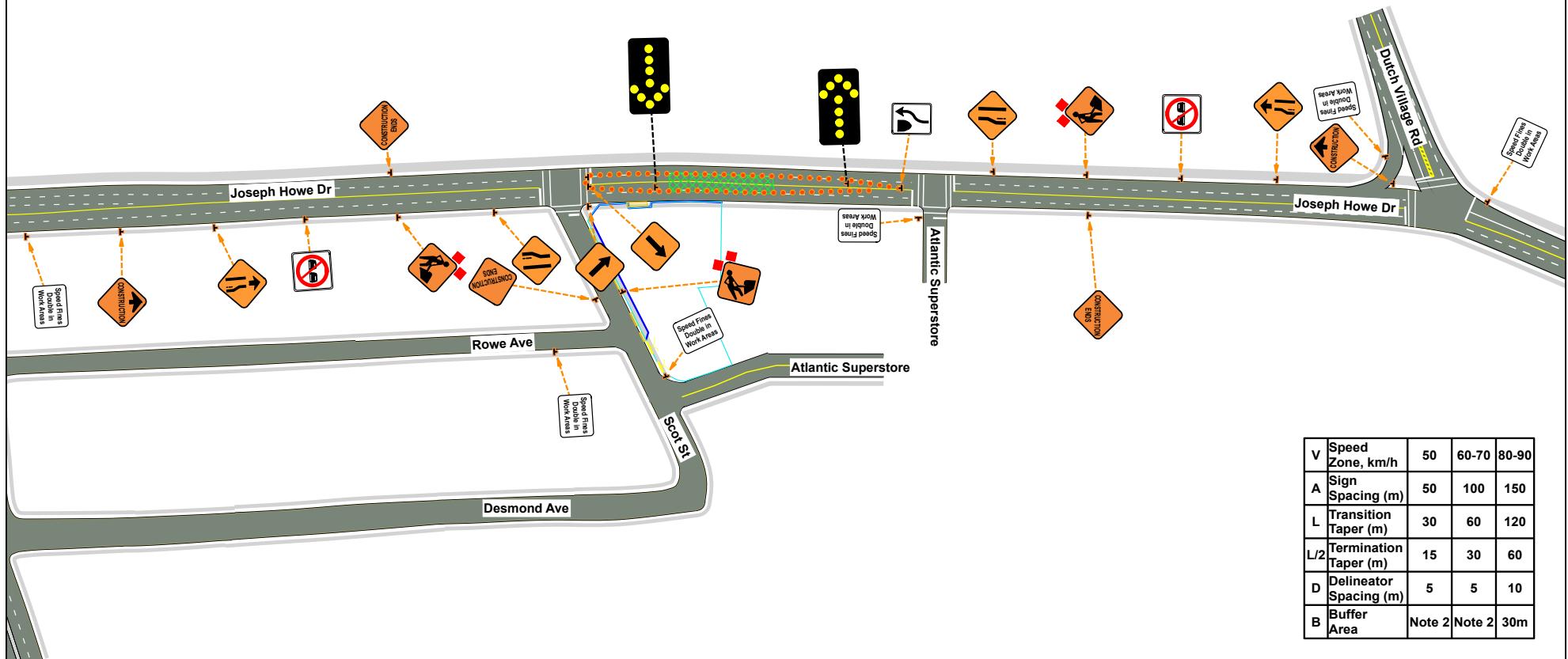
Water Service Lateral Contingency Plan



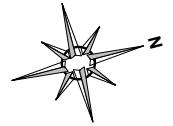
Date: 2022-01-27 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: Residential/Commercial Building
Contractor: SDMM Contact: Geoff MacLean, 902-789-6374

Comments:
Not to Scale
Application Guide A63L x two
No pedestrian impact
Use this Plan in the event that the water service will require an additional lane

Legend	
●	Barrel
—	F-Type Barrier
—	Gate
■	Protected Tree Area
—	Rigid Fencing with Opaque
■	Work Area



V	Speed Zone, km/h	50	60-70	80-90
A	Sign Spacing (m)	50	100	150
L	Transition Taper (m)	30	60	120
L/2	Termination Taper (m)	15	30	60
D	Delineator Spacing (m)	5	5	10
B	Buffer Area	Note 2	Note 2	30m

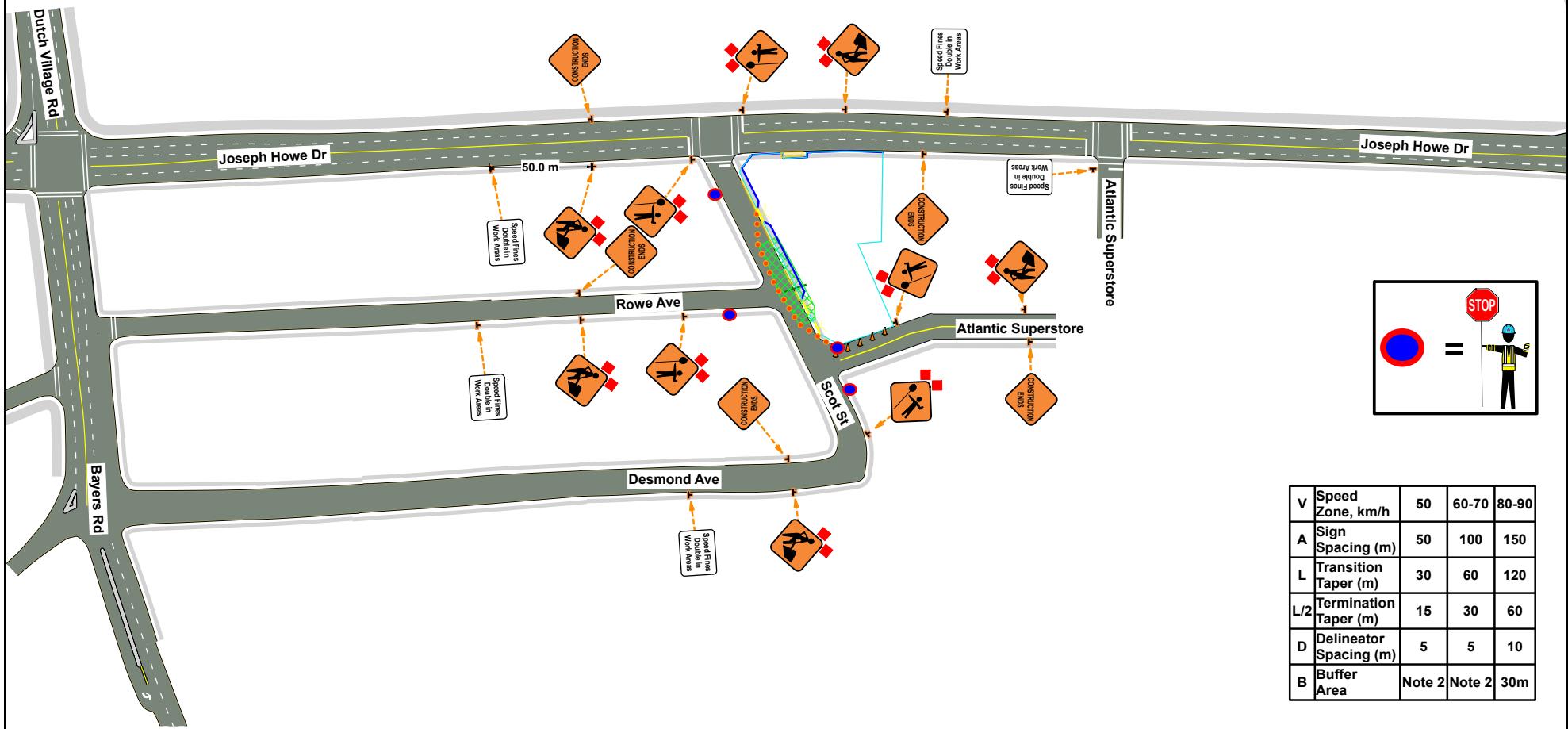


Sanitary and Storm Service Laterals Installation Plan

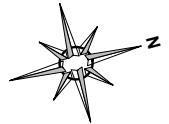
Date: 2022-01-27 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: Residential/Commercial Building
Contractor: SDMM Contact: Geoff MacLean, 902-789-6374

Comments:
Not to Scale
Application Guide C112
See Pedestrian Management Plan for sidewalk closure details

Legend	
Barrel	●
Cone	▲
F-Type Barrier	—
Gate	↙
Protected Tree Area	■
Rigid Fencing with Opaque	—
Work Area	■■■



Appendix C – Haul Route Plan



Haul Route Plan

Date: 2022-01-27 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: Residential/Commercial Building Contractor: SDMM Contact: Geoff MacLean, 902-789-6374

Comments:

Not to Scale

Haul Route Plan

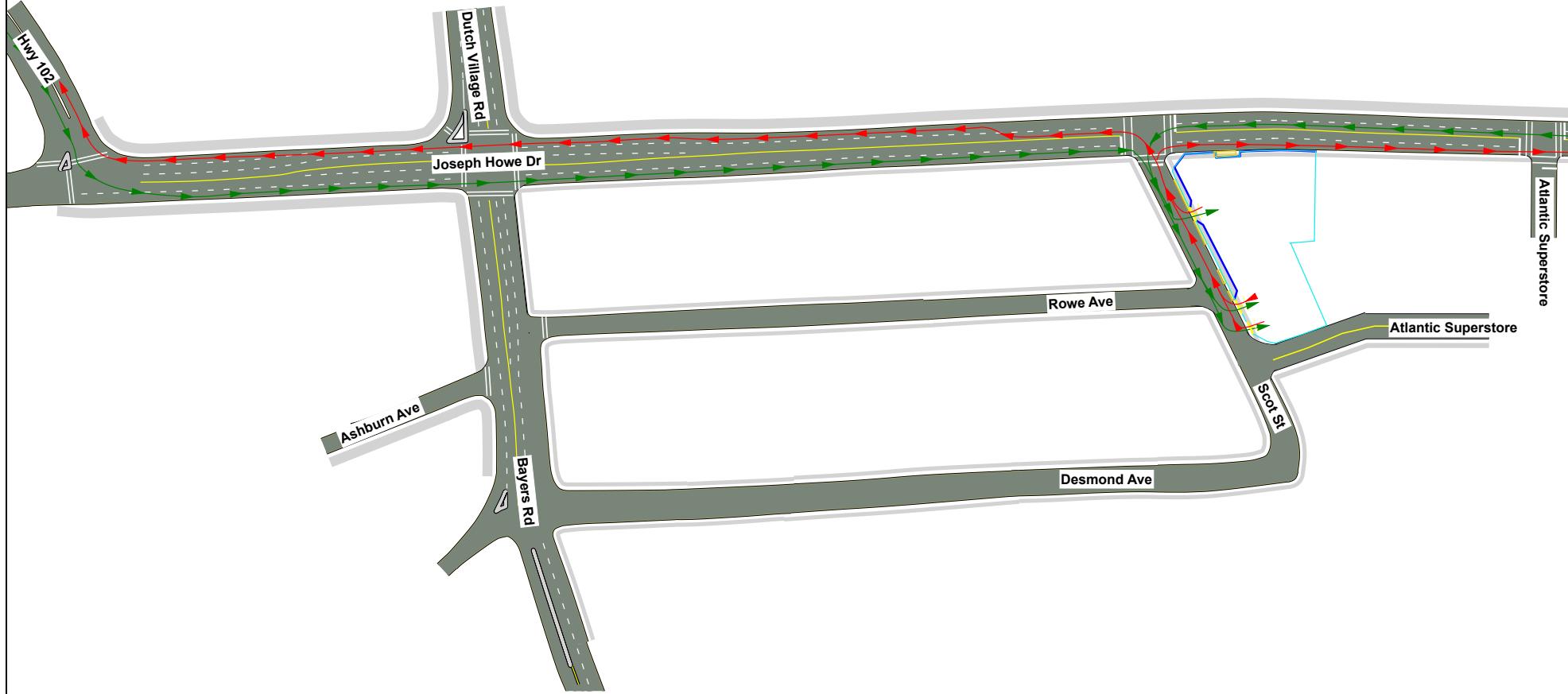
Inbound via Hwy 102 to Joseph Howe Dr to Scot St to site

Alternatively, trucks may come from the Bedford Hwy to Joseph Howe Dr to Scot St. Continue on Scot St. Continue on Howe Dr to Hwy 102 at E. 11th St.

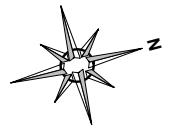
Outbound via Scot St to Joseph Howe Dr to Hwy 102 or to Bedford Hwy

Legend

- Blue line: F-Type Barrier
- Yellow line: Gate
- Green triangle: Inbound Route
- Red triangle: Outbound Route
- Yellow square: Protected Tree Area
- Cyan line: Rigid Fencing with Opaque Boarding



Appendix D – Pedestrian Management Plan (PMP)

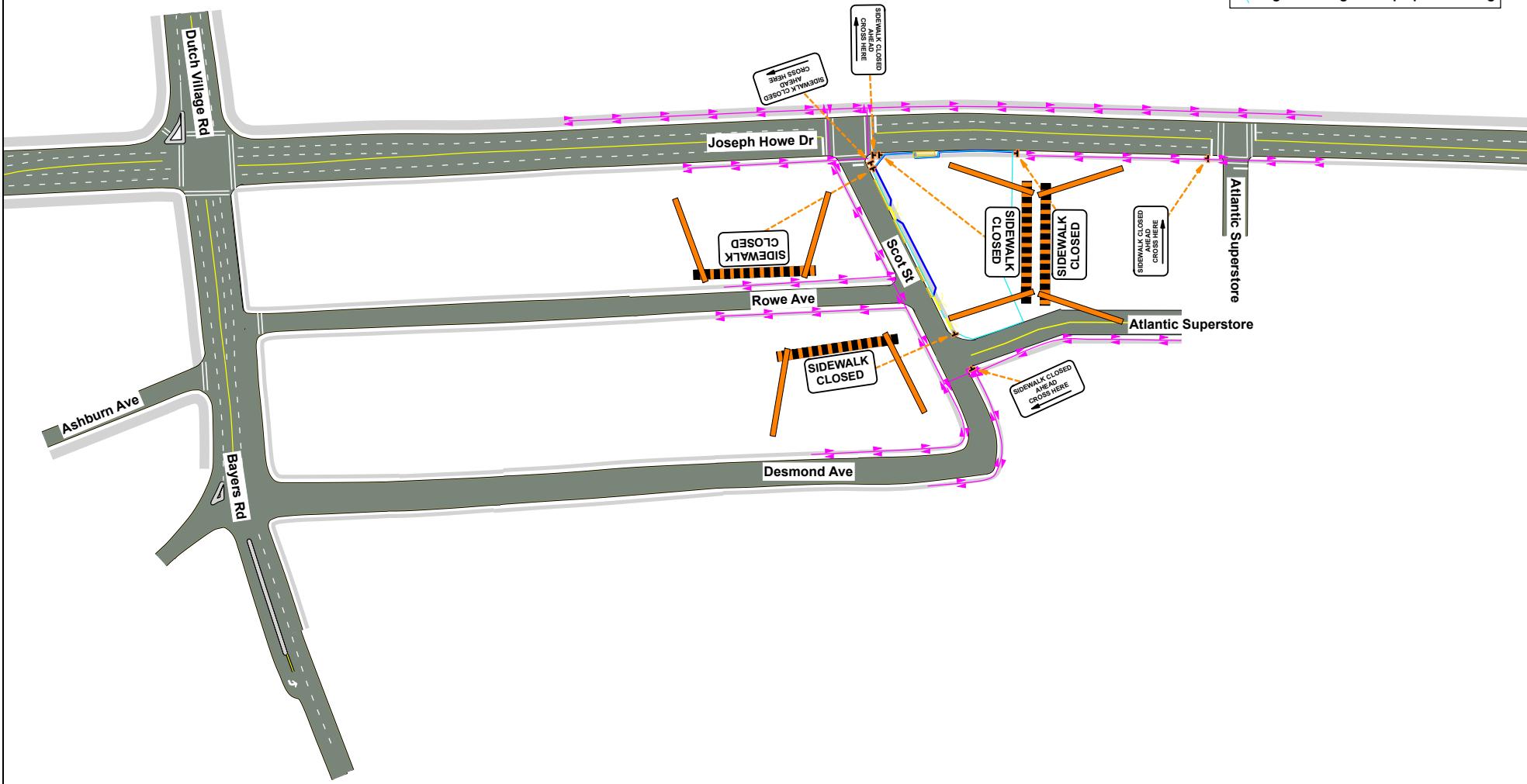


Pedestrian Management Plan

Date: 2022-01-27 Author: Norman Bussmann, TWS, Frontline Traffic Services, 902-817-3364 Project: Residential/Commercial Building
Contractor: SDMM Contact: Geoff MacLean, 902-789-6374

Comments:
Not to Scale
Pedestrian Management Plan
Long term closure of sidewalk adjacent to work site

Legend	
	F-Type Barrier
	Gate
	Pedestrian Route
	Protected Tree Area
	Rigid Fencing with Opaque Hoarding



Appendix E – Barrier, Fence & Gates Information

Sample Barrier & Fence Details

F-shape Barrier

Approved Barrier Designs

The only pre-approved portable anti-intrusion barrier in Nova Scotia is the Portland Cement Concrete F-shape Barrier. F-shape Barriers with designs approved before 2011.01.01 must be constructed and installed copying a design certified as meeting Test Level 3 of the NCHRP Report 350 (NCHRP 350), or if the design was approved after 2011.01.01, Test Level 3 standards of the American Association of State Highway and Transportation Officials (AASHTO) Manual for Assessing Safety Hardware (MASH).

Dimensions are in mm



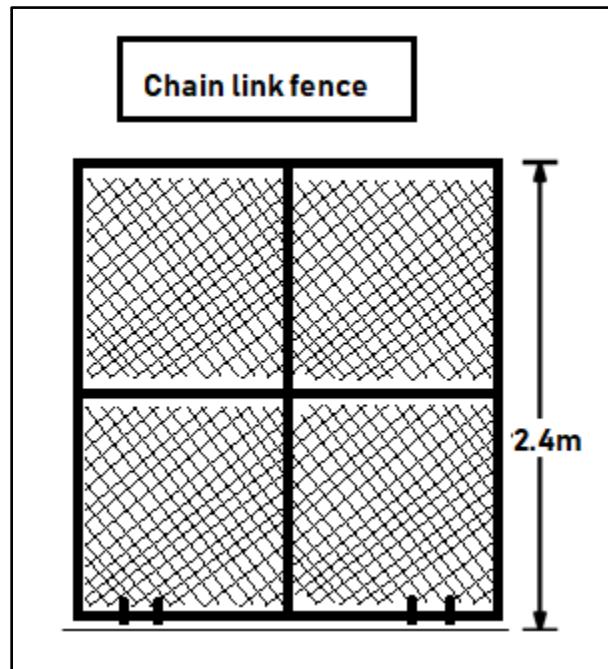
**Chain link fence mounted
on top of F-type
interlocking concrete
jersey barrier**

1.6m

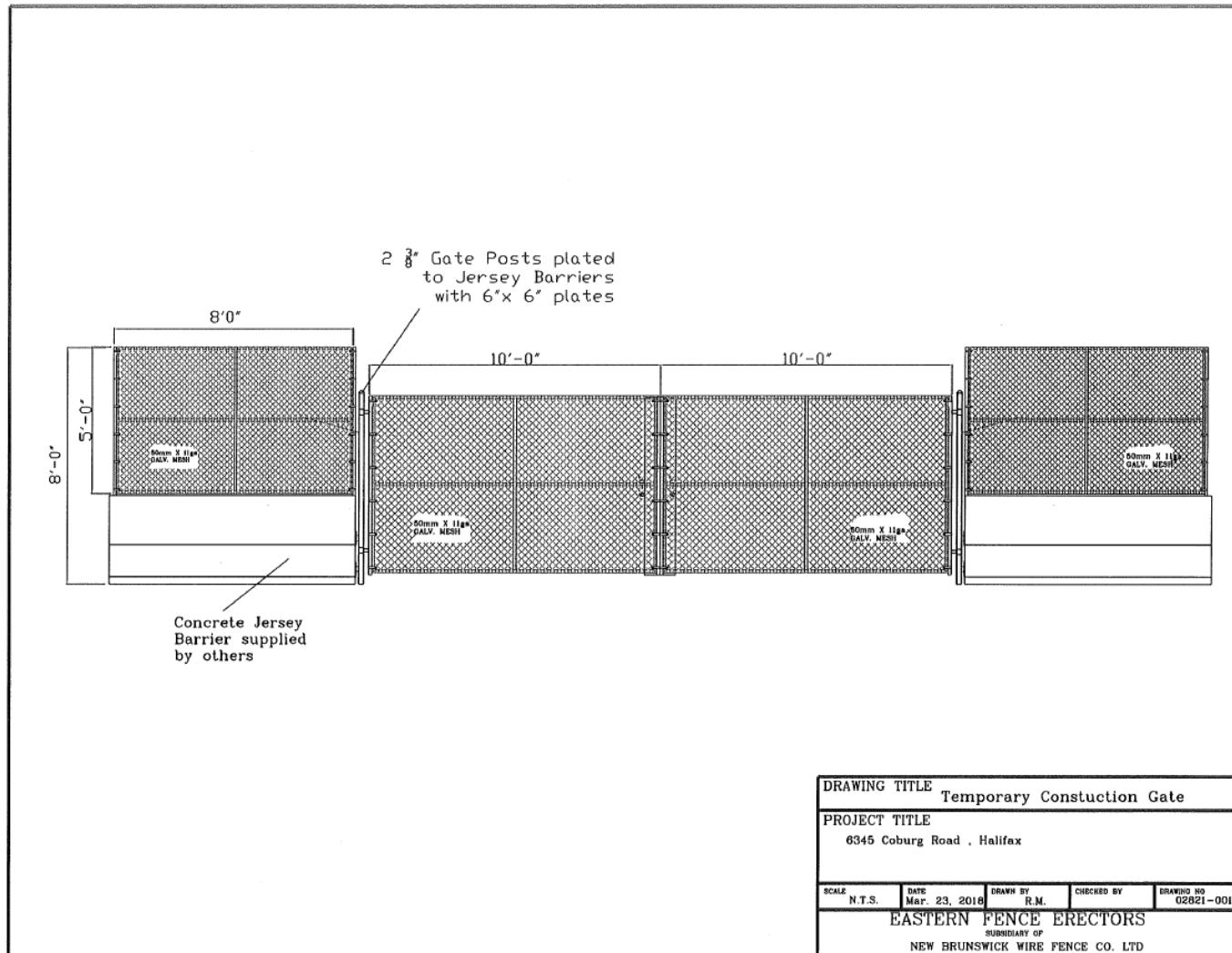
0.8m

2.5m

**Note: All F-type concrete barriers within the street shall have
reflective tape on them.**



Sample Gate Detail



Appendix F – Hoarding Information

Opaque construction hoarding material shall covering and be adequately secured to the rigid fencing that outlines the encroachment area. This covering shall be continuous such that it prevents passersby or tourist from seeing through the fencing and gates to the active construction site.

UltraMesh® Eclipse® if a 7.96 oz. which is a polyester, black-backed mesh that is used where complete opacity is required.

UltraMesh Eclipse is UV printable for project renderings and is typically used for building and fence graphic wraps. The product is available in widths of 126" and 196".

Product example is shown below with the technical data sheet on the following page.

Tarp Option



Print Banner Option





Technical Data Sheet

UltraMesh® Eclipse®

UltraMesh Eclipse is a 7.96 oz. polyester, black-backed mesh. The material is ideal for applications where complete opacity is required. UltraMesh Eclipse is UV printable and may be used for building wraps and fence graphics. Available in widths of 126 and 196 .

Material Details

CHARACTERISTICS	TEST METHOD	METRIC	ENGLISH
Base Fabric	100% PES	1000D×1000D	
Construction		12×12	
Total Weight	DIN53352 BS3424 Method5A	270 +/- 20 gsm/m ²	7.96 oz/yd ²
Width		Up to 500cm	
Tensile Strength	DIN53352 BS3424	Warp 1250 n/5cm Weft 1100 n/5cm	142.75 x 130.19 lb/in
Tear Strength	DIN53356 BS3424	Warp 235 N Weft 225 N	52.8 x 50.5 lbf
Air Permeability	GB/T 2410-2008	2649 mm/s	
Light Transmission	GB/T 5453-1997	37%	
Temperature Resistance	DIN53357 BS3425 Method 10	-20°C /70°C	

Applications

	Back-lit	Banner	Billboard	Block-out	Building Wrap	Fence Graphics	Truckside
Applications		■		■	■	■	

Ink Printability

Solvent	Eco Solvent	UV	Latex	Screen Printing	Dye Transfer	Dye Direct
		■				

Available Sizes

Metric (m)	English (inches)
3.20, 5.00	126 , 196

The information on physical and chemical characteristics is based upon tests believed to be reliable. The values are intended only as a source of information. A legally binding guarantee of specific properties is not to be inferred from our specifications. They are given without warranty and do not constitute a warranty. A weight variance of +/-2 is acceptable. The purchaser should independently determine, prior to use, the suitability of this material for his/her specific purpose. (Data represents averages and is not intended for use as a specification.)



www.ultraflexxx.com

updated: 12/2016

Ultraflex Systems Inc.
Headquarters
203 Kelsey Lane, Suite E
Tampa, FL 33619
P: (973)627-8608
Email: sales@ultraflexxx.com

Ultraflex Systems Inc.
1578 Sussex Turnpike, Bldg. 4
Randolph, NJ 07869
P: (973)627-8608
F: (973)627-8506
Email: sales@ultraflexxx.com

Ultraflex Europe
Unit 1 Handwick Road Industrial Park
Great Gransden Bedfordshire
England SG19 3BJ
Phone: (44)1767-677-100
Email: sales@ultraflexeurope.com

Ultraflex México
Azafra No. 112, Col.Granjas México
Del. Iztacalco, C.P. 08400, México D.F.
Tel: (55)51823632,3162 3008
01 800 822 52 31
Email: sales.mx@ultraflexx.com

Ultraflex Guadalajara
Av. Pista No. 2804
Loma Bonita Sur.
Zapopan, Jalisco CP45006
Mexico
Tel: (55)0312-049-857

Appendix G – Project Information Board



March 1, 2022 – April 30, 2024

PROPOSED BUILDING
Joseph Howe & Scot Apartments

8 - Storey Residential Building

7 levels - 148 Residential Units

Level 8 - Rooftop Indoor Amenity Space

Mixture of 1, 2 & 3-Bedroom units

Ground Level Common Courtyard

2 Levels of Underground Parking

Surface and Underground Bicycle parking

Owner:

Kingsbrook Properties
15 Lauderdale Court, Halifax, NS

24 Hour Contact:

Joe Faddoul – (902) 830-6688

Contractor:

Jollimore and Sons Excavation Limited
3600 Prospect Road, Shad Bay, NS

Contact:

Jeff Jollimore - (902) 456-5124

Traffic Control:

Frontline Traffic Services
6 Belmont Avenue, P.O. Box 89, Eastern Passage, NS

Contact:

Phil Pruneau – (902) 818-5548

Rodent Control Company:

Rentokil Pest Control
51 Duke Street, Bedford, Bedford, NS

Contact:

Main Office – 902- 835-2304

Appendix H – Project Safety Signage

**NO
TRESPASSING**



**RESTRICTED
— AREA —**

**CONSTRUCTION
WORK IN
PROGRESS**

Appendix I – Project Signage Specifications

Signage Specifications: Project Signage shall;

- Be constructed of weatherproof material (corrugated plastic)
- Have high visibility contrasting colours (dark letters on white background)
- Incorporate appropriate font types (mix of upper and lower-case lettering)
- Incorporate appropriate font sizes (16mm – 51mm) such that the signage is readable from a distance (16-20m)
- Size of signage will be poster size (600mm x 900mm) or larger; to allow community members to see and read the information from a distance
- Signage may incorporate plastic grommets positioned every 300mm around the perimeter of the signage to ensure a secure signage installation
- Signage will be installed/anchored to project fencing using plastic zip-ties
- Signage will be positioned along the project site as per the encroachment plan
- Signage shall not impede traffic or pedestrian sight lines
- **Signage shall be placed on site 10 days prior to the start of the noted construction activity to ensure the passing public has had adequate time to review, adjust their travel patterns, usage of streets and or cab be considered 'informed'.**

Samples



Appendix J – Sample Traffic Notification Letter



Proposed Multi-Unit Residential Building

DRAFT NOTIFICATION LETTER

TO WHOM IT MAY CONCERN

Date

NOTIFICATION OF TRAFFIC DISRUPTION: STREET NAME, HALIFAX, NOVA SCOTIA

This is to inform you that the to facilitate operations in association with the Multi-Unit Residential building construction work, traffic disruptions will occur on or about **DATE** with an anticipated duration of approximately **TIME**. The street will be **reduced(?)** to one lane of vehicular traffic during this time.

Should you have any questions or concerns please feel free to contact the below:

CONTACT INFORMATION

General Contractor:

Jollimore and Sons Excavation Limited

3600 Prospect Road

Shad Bay, NS

B3T 1Z3

Phone: (902) 456-5124

Should any questions arise, please feel free to contact the undersigned.

Yours Truly,

Jeff Jollimore

Jollimore and Sons Excavation Limited

Appendix K – Vehicular and Pedestrian Hazard Assessment

Project

Date:

Location:

VEHICULAR & PEDESTRIAN HAZARD ASSESSMENT

No.	Hazard:	Project Phase:	Vehicular Impacts:	Mitigation Methods:	Pedestrian Impacts:	Mitigation Methods:
1	Excavation	Excavation	Vehicles may enter project site and fall down excavation.	Place concrete barriers along travel ways. Concrete barriers and existing curbs to prevent vehicle entry.	Pedestrians may enter project site and fall down excavation.	Place concrete barriers/rigid fencing around entire project site.
			Vehicle weight may surcharge excavation, causing excavation wall failure.	Close sidewalks & driveways adjacent to project site, moving vehicles farther away from excavation.		
2	Rock Blasting	Excavation	Blasted rock projectiles may strike vehicles.	Close sidewalks & driveways adjacent to site, moving vehicles farther away from blasted rock.	Blasted rock projectiles may strike pedestrians.	Install solid plywood hoarding along rigid fence adjacent to blasting zone.
3	Construction Waste	All Phases	Vehicles may be struck by construction waste.	The contractor shall keep the project site and surrounding areas clean and free of construction debris.	Pedestrians may be struck by construction waste.	The contractor shall keep the project site and surrounding areas clean and free of construction debris.
4	Vehicular & Pedestrian Activities	All Phases	Drivers and pedestrians may become confused or impatient with construction activities. Pedestrians may walk in unmarked crosswalks or in vehicular travel areas. Drivers may fail to obey traffic signage.	Vehicular and pedestrian signage will be posted prominently around the project site to facilitate pedestrian movement. Notification will be sent prior to all traffic interruptions.	Drivers and pedestrians may become confused or impatient with construction activities. Pedestrians may walk in unmarked crosswalks or in vehicular travel areas. Drivers may fail to obey traffic signage.	Vehicular and pedestrian signage will be posted prominently around the project site to facilitate pedestrian movement. Notification will be sent prior to all traffic interruptions.
5	Heavy Machinery Operation	All Phases	Heavy machinery or vehicles may break down or overturn, damaging other vehicles.	The contractor shall maintain safe distances between vehicles and heavy machinery on-site. Concrete barriers will be installed to separate construction vehicles from public traffic.	Heavy machinery or vehicles may break down or overturn, injuring pedestrians.	The contractor shall maintain safe distances between pedestrians, vehicles, and heavy machinery. Rigid fences will be installed to separate construction vehicles from pedestrians.
			Heavy machinery or vehicles may overturn due to uneven terrain, damaging other vehicles.	The contractor shall maintain safe distances between vehicles and heavy machinery on-site and ensure travel routes are kept flat.	Heavy machinery or vehicles may overturn due to uneven terrain, injuring pedestrians. Pedestrians may walk on uneven terrain causing them to twist their ankles or fall.	The contractor shall maintain safe distances between pedestrians, vehicles, and heavy machinery and ensure travel routes are kept flat.
6	Construction Signage	All Phases	Construction signage may strike vehicular traffic.	Construction signage will be securely fixed to existing poles, temporary concrete sign bases, or rigid fences.	Pedestrians may walk into construction signage, including traffic signage, wayfinding signs, etc. may.	Signage will be angled in line with pedestrian routes and/or be placed at heights such that they do not pose a risk to pedestrians.
					Construction signage may strike pedestrians.	Construction signage will be securely fixed to existing poles, temporary concrete sign bases, or rigid fences.
7	Dangerous Materials	All Phases	Flammable, explosive, & hot materials may damage vehicles if not properly maintained & stored.	The contractor will use and store dangerous materials properly as per manufacturers' specifications.	Flammable, explosive, & hot materials may injure pedestrians if not properly maintained & stored.	The contractor will use and store dangerous materials properly as per manufacturers' specifications.
8	Hoisting Operations	Superstructure	Precast concrete panels and other items hoisted may fall from heights and damage vehicles.	Proper hoisting and lifting techniques will be used to ensure that materials do not fall from heights. F-Type concrete barriers will be installed such that loads are never suspended above the public realm.	Precast concrete panels and other items hoisted may fall from heights and injure pedestrians.	Proper hoisting and lifting techniques will be used to ensure that materials do not fall from heights. Pedestrians will be moved to opposite sides of street from the project site or onto temporary sidewalks such that loads are never suspended above the public realm.
9	Reinstatement of Public Infrastructure & Service Installation	Superstructure	Heavy equipment and hot concrete used during public infrastructure reinstatement and service installation may cause damage to vehicles.	The contractor shall maintain safe distances between vehicles and heavy machinery on-site. Concrete barriers will be installed to separate construction vehicles from public traffic during public infrastructure reinstatement and service installation.	Heavy equipment and hot concrete used during public infrastructure reinstatement may injure pedestrians.	The contractor shall maintain safe distances between pedestrians, vehicles, and heavy machinery.
10	Fallen debris	Superstructure	Debris may fall from upper stories of the new building causing damage to vehicles.	F-Type concrete barriers will be installed such that a safe distance is maintained between the building envelope and vehicular traffic.	Debris may fall from upper stories of the new building injuring pedestrians.	Construction of upper building levels will be set back from the property line/rigid fencing, this separating pedestrians from potential fallen debris.

Appendix L – Community Consultation Records

COMMUNITY CONSULTATION MAP OVERVIEW

Project – Joseph Howe & Scot Apartments



Notification Letter

Date: *****

Kingsbrook Properties – Building Construction Information Meeting

Dear Neighbour,

As you may be aware, we are planning an apartment building construction project located between civic 3539-3563 Joseph Howe Drive and 7095-7115 Scot Street, Halifax on the corner of Joseph Howe Drive and Scot Street.

If you are interested in receiving more information about our construction plans, practices, schedule and to go over any questions you may have regarding construction of our new project please contact us to discuss. We would be happy to meet with you to discuss.

Thank you.

Joe Faddoul

Cell: (902) 830-6688

Email: joe@kingsbrook.ca

Appendix M – HRM Tree Detail

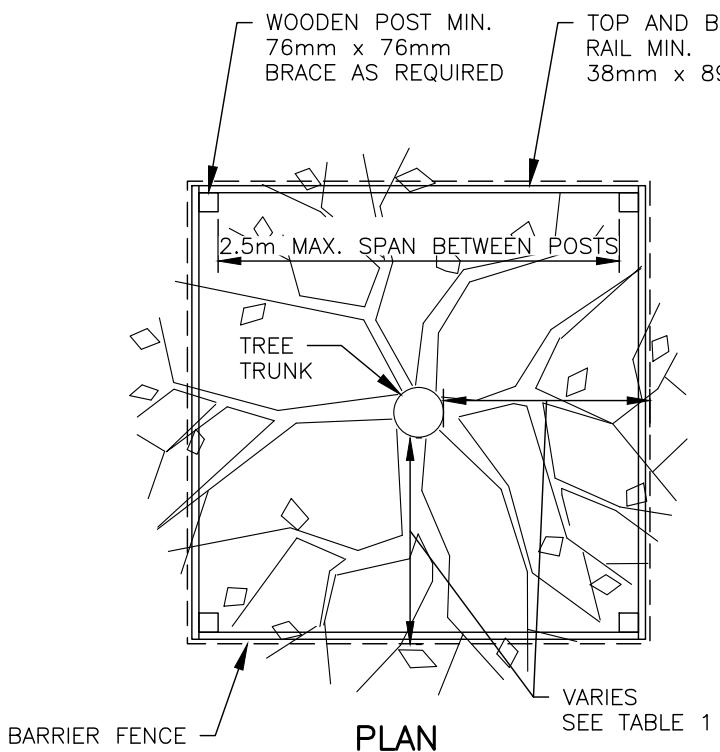
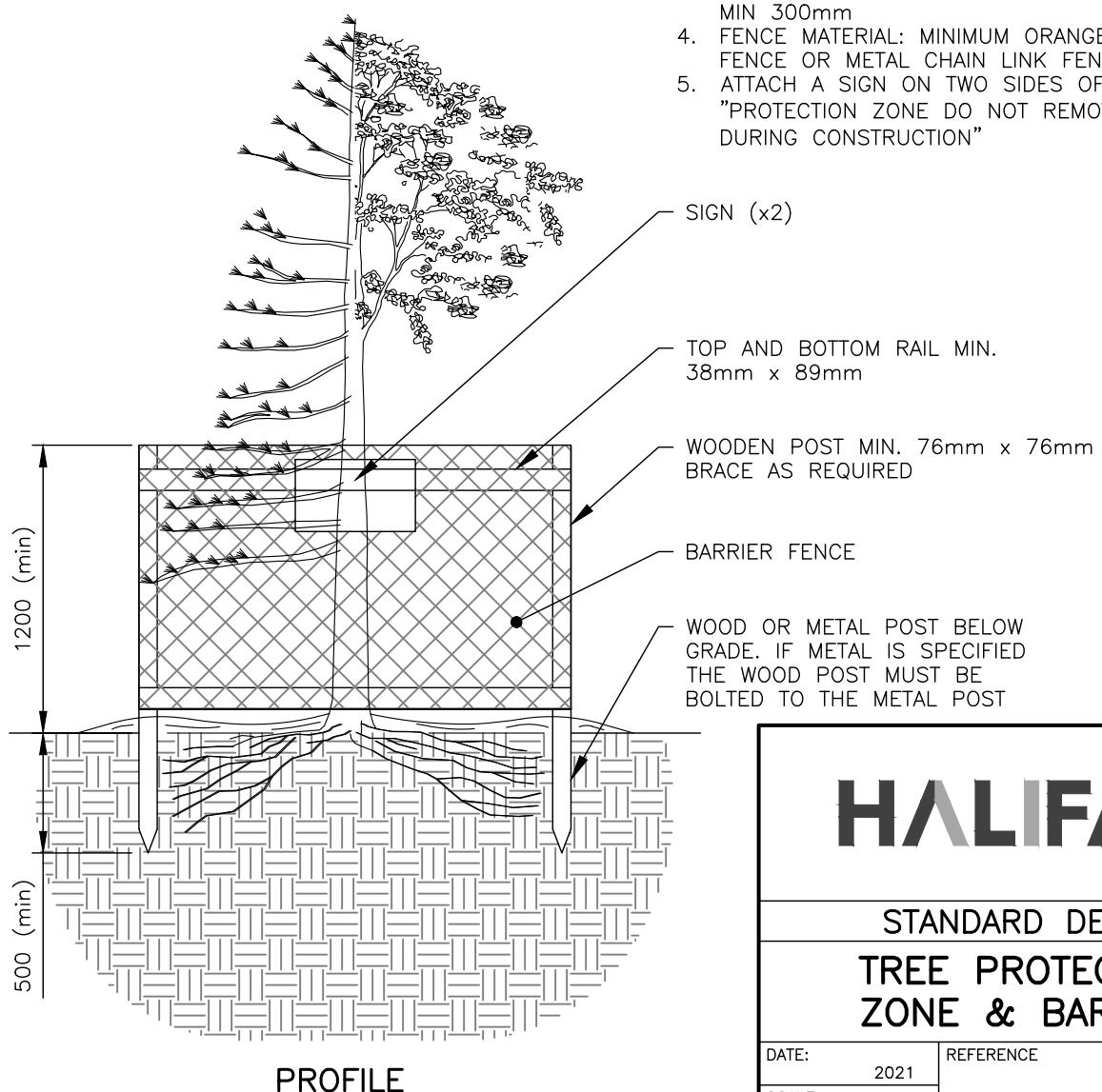


TABLE 1

TREE PROTECTION ZONE CALCULATION TABLE	
TRUNK DIAMETER (DBH)	MINIMUM PROTECTION DISTANCE REQUIRED (MEASURE FROM THE OUTSIDE EDGE OF TREE TRUNK)
10 CM & UNDER	1.2 METERS
11 - 30 CM	2.0 METERS
31 - 40 CM	3.4 METERS
41 - 50 CM	4.6 METERS
51 - 60 CM	6.0 METERS
61 - 70 CM	7.0 METERS
71 - 80 CM	8.0 METERS
>80 CM	9.0 METERS

NOTES:

1. WOOD POST: (MIN. 76mm WIDTH) INSTALLED TO A DEPTH OF 500mm. TOP AND BOTTOM RAIL: (MIN. 38 x 89mm CONSTRUCTION, MAX. SPAN 2.5m), CROSS BRACING AS REQUIRED.
2. NO GROUND DISTURBANCE WITHIN 1.2 METER OF THE TREE TRUNK (I.E. POST INSTALLATION)
3. POSTS SET BACK FROM SIDEWALK AND CURB: MIN 300mm
4. FENCE MATERIAL: MINIMUM ORANGE BARRIER FENCE OR METAL CHAIN LINK FENCE
5. ATTACH A SIGN ON TWO SIDES OF THE TREE "PROTECTION ZONE DO NOT REMOVE FENCE DURING CONSTRUCTION"



HALIFAX

STANDARD DETAIL
TREE PROTECTION
ZONE & BARRIER

DATE: 2021	REFERENCE	APPROVED
SCALE: NTS		FIG No.: HRM 140

Appendix N – Rodent Control Plan





THE MOST ADVANCED LOW-PROFILE BAIT STATION

PRODUCT FEATURES:

- ▶ Single locking mechanism for quick servicing
- ▶ Removable tray for easy cleaning
- ▶ Locking bait rods won't fall out during cleaning
- ▶ Dog & child tamper-resistant
- ▶ Can hold:
 - 4 - 1 oz. bait BLOX on 4 vertical rods
 - or -
 - T-Rex™ rat trap or Mini-Rex™ mouse trap
- ▶ Compatible with Sidekick® Load-N-Lock™ system



PRODUCT	CODE	DIMENSIONS (in)	CASE QTY
Protecta EVO Ambush	EA2000	8 1/2 x 10 1/4 x 4 1/4	6 Stations



More Than Meets The Eye

Madison, Wisconsin 53704 USA | Ph: (608) 241-0202 | Fax: (608) 241-9631

www.belllabs.com

ALL-WEATHER
BLOX™



NET WT:
18 lbs (8.2 kg)



CONTRAC®

ALL-WEATHER BLOX™

KILLS RATS, MICE & MEADOW VOLES*

Kills Warfarin Resistant Norway Rats

KEEP OUT OF REACH OF CHILDREN
CAUTION

See back panels for First Aid and additional precautionary statements.

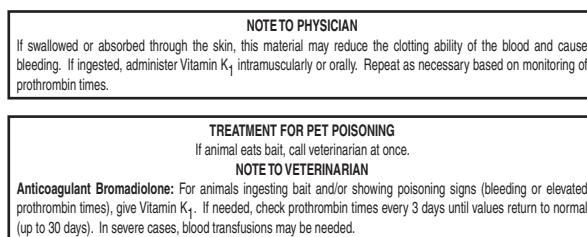
ACTIVE INGREDIENT:

Bromadiolone (CAS #28772-56-7): 0.005%

OTHER INGREDIENTS†: 99.995%

†Contains Denatonium Benzoate TOTAL 100.000%

*Not permitted for use against the following species in California: Cotton rat, Eastern harvest mouse, Golden mouse, Polynesian rat, Meadow vole, White-throated woodrat, Southern plains woodrat, and Mexican woodrat.



Bait stations are mandatory for outdoor, above-ground use. Tamper-resistant bait stations must be used wherever children, pets, non-target mammals, or birds may have access to the bait placement location.

USE RESTRICTIONS: This product may only be used to control the following rodent pests in and around man-made structures: House mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), Roof rat (*Rattus rattus*), Cotton mouse (*Peromyscus gossypinus*), Cotton rat* (*Sigmodon hispidus*), Deer mouse (*Peromyscus maniculatus*), Eastern harvest mouse* (*Reithrodontomys humulis*), Golden mouse* (*Ochrotomys nuttallii*), Polynesian rat* (*Rattus exulans*), Meadow vole* (*Microtus pennsylvanicus*), White-footed mouse (*Peromyscus leucopus*), White-throated woodrat* (*Neotoma albigena*), Southern plains woodrat* (*Neotoma micropus*), and Mexican woodrat* (*Neotoma mexicana*). This product must be used in and within 100 feet of man-made structures constructed in a manner so as to be vulnerable to commensal rodent invasions and/or harboring or attracting rodent infestations. Examples of such structures include homes and other permanent or temporary residences, food processing facilities, industrial and commercial buildings, trash receptacles, agricultural and public buildings, transport vehicles (ships, trains, aircraft), docks and port or terminal buildings and related structures around and associated with these sites. Fence and perimeter baiting, beyond 100 feet from a structure as defined above, is prohibited. This product must not be applied directly to food or feed crops.

587CB-9



Kills Warfarin Resistant Norway Rats

Norway rats, roof rats, and house mice may consume a lethal dose in one night's feeding with first dead rodents appearing four or five days after feeding begins.

ACTIVE INGREDIENT:
Bromadiolone (CAS #28772-56-7): 0.005%
OTHER INGREDIENTS: 99.995%
†Contains Denatonium Benzoate TOTAL 100.000%

KEEP OUT OF REACH OF CHILDREN CAUTION

See side panels for First Aid and additional precautionary statements.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.
Pesticide Storage: Store only in original container in a cool, dry place inaccessible to children and pets. Keep containers closed and away from other chemicals.
Pesticide Disposal: Wastes resulting from the use of this product may be placed in trash or delivered to an approved waste disposal facility.
Container Handling: Nonrefillable container. Do not reuse or refill this container. [Plastic:] Offer for recycling or reconditioning; or puncture and dispose of in a sanitary landfill; or by incineration. In most states, burning is not allowed.

WARRANTY: To the extent consistent with applicable law, seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions.

NET WEIGHT: 18 lbs (8.2 kg)

EPA REG. NO. 12455-79

EPA EST. NO. 12455-WI-1

Manufactured by:



DIRECTIONS FOR USE (Continued from other panel)

Burrow baiting with Contrac All-Weather Blox is prohibited.

Do not place near or inside ventilation duct openings. Do not contaminate water, food, feedstuffs, food or feed handling equipment, or milk or meat handling equipment or surfaces that come into direct contact with food. When used in USDA inspected facilities, this product must be applied in tamper-resistant bait stations. Do not broadcast bait. Do not use this product in sewers.

Do not sell this product in individual containers holding less than 16 pounds of bait.

SELECTION OF TREATMENT AREAS: Determine areas where rats, mice, or meadow voles* will most likely find and consume the bait. Generally, these areas are along walls, by gnawed openings, in corners and concealed places, between floors and walls, or in locations where rats, mice, or meadow voles*, or their signs have been seen. Protect bait from rain and snow. Remove as much alternative food as possible.

APPLICATION DIRECTIONS:

RATS: Place 3 to 16 bait blocks (at intervals of 15 to 30 feet) per placement in infested areas. Maintain an uninterrupted supply of fresh bait for at least 10 days or until signs of rat activity cease.

MEICE AND MEADOW VOLES*: Place 1 block per placement. Space placements at 8- to 12-foot intervals in infested areas. Two blocks may be needed at points of very high activity. Maintain an uninterrupted supply of fresh bait for at least 15 days or until signs of mouse or meadow vole* activity cease.

FOLLOW-UP: Replace contaminated or spoiled bait immediately. Wearing gloves, collect and dispose of all dead, exposed animals and leftover bait. To prevent reinfestation, limit sources of rodent food, water, and harborage as much as possible. If reinfestation does occur, repeat treatment. Where a continuous source of infestation is present, establish permanent bait stations and replenish as needed.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed or absorbed through the skin. Keep away from children, domestic animals and pets. Do not get in eyes, on skin or on clothing.

All handlers (including applicators) must wear: shoes plus socks, and waterproof gloves. Any person who retrieves carcasses or unused bait following application of this product must wear gloves.

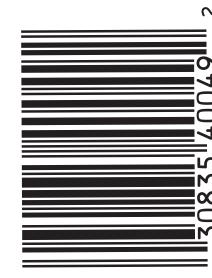
User Safety Requirements

Follow manufacturer's instruction for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash hands thoroughly after applying bait and before eating, drinking, chewing gum, using tobacco or using the toilet and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is extremely toxic to fish, birds and other wildlife. Dogs and predatory and scavenging mammals and birds might be poisoned if they feed upon animals that have eaten this bait. Do not apply this product directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff also may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash water or rinsate.

*Not permitted for use against the following species in California: Cotton rat, Eastern harvest mouse, Golden mouse, Polynesian rat, Meadow vole, White-throated woodrat, Southern plains woodrat, and Mexican woodrat.



Product Code: CB4051

090415/09-15



DETEx® BLOX with LUMITRACK

SAFETY DATA SHEET

ACCORDING TO REGULATION: OSHA
Hazard Communication Standard 29 CFR 1910.1200

DATE OF ISSUE:
January 2016

PREPARED BY:
CAR

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: DETEx® BLOX with LUMITRACK

EPA Registration Number: NA

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Activity Monitoring - Ready to use

Uses advised against: Use only for the purpose described above

MANUFACTURER/SUPPLIER:

Bell Laboratories, Inc.

3699 Kinsman Blvd.

Madison, WI 53704, USA

Email: sds@belllabs.com

Phone: 608-241-0202

Medical or Vet Emergency: 877-854-2494 or 952-852-4636

Spill or Transportation Emergency: 800-424-9300 (CHEMTREC)

SECTION 2. HAZARDS IDENTIFICATION

Classification according to Regulation OSHA 1910.1200(d): Not classified

Signal Word: None

See Section 15 for information on FIFRA applicable safety, health, and environmental classifications.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	% By weight
Inert and Non-Hazardous Ingredients (Unlisted components are non-hazardous)	Proprietary	100.00%

SECTION 4. FIRST AID MEASURES

Description of first aid measures

Ingestion: Non-Toxic

Inhalation: Not applicable.

Eye contact: Non-Toxic

Skin contact: Non-Toxic

Most important symptoms and effects, both acute and delayed

Non-Toxic

Advice to physician: Non-Toxic

Advice to Veterinarian: Non-Toxic

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media: water, foam or inert gas.

Unsuitable Extinguishing Media: None known.

Special hazards arising from the mixture: High temperature decomposition or burning in air can result in the formation of toxic gases, which may include carbon monoxide.

Advice for firefighters: Wear protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: None. Non-Toxic

Environmental precautions: None. Non-Toxic

Methods and materials for containment and cleaning up

For Containment: None. Non-Toxic

For Cleaning Up: None. Non-Toxic

Reference to other sections: Refer to Sections 7, 8 & 13 for further details of personal precautions, personal protective equipment and disposal considerations.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling: Do not use near heat sources, open flame, or hot surfaces. Non-Toxic.

Conditions for safe storage, including any incompatibilities: None. Non-Toxic

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Established Limits

Component	OSHA	ACGIH	Other Limits
None	Not Established	Not Established	Not Established

Appropriate Engineering Controls: None. Non-Toxic

Occupational exposure limits: None. Non-Toxic

Personal Protective Equipment:

Respiratory protection: Not required

Eye protection: Not required

Skin protection: None. Non-Toxic

Hygiene recommendations: None. Non-Toxic

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance/Color:	Tan wax block
Odor:	Sweet grain-like
Odor Threshold:	Not applicable, odor not associated with a hazardous material.
pH:	Not applicable, is not dispersible with water.
Melting point:	Not applicable
Boiling point:	Not applicable
Flash point:	Not applicable, does not contain components classified as flammable.
Evaporation rate:	Not applicable, is a solid.
Flammability:	Not applicable, is a solid.
Upper/lower flammability or explosive limits:	Not applicable, does not contain components classified as flammable or explosive.
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable, is a solid
Relative Density:	1.13 g/mL @ 20°C
Solubility (water):	Not water soluble
Solubility (solvents):	Not applicable
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition temperature:	Not applicable, does not contain components classified as flammable.
Decomposition temperature:	Not applicable
Viscosity:	Not applicable, is not a liquid.

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Not Applicable

Chemical stability: Not Applicable

Possibility of hazardous reactions: Refer to Hazardous decomposition products

Conditions to avoid: Avoid extreme temperatures (below 0°C or above 40°C).

Incompatible materials: Not Applicable

Hazardous decomposition products: Not Applicable

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute Toxicity

LD50, oral (ingestion): Not Toxic

LD50, dermal (skin contact): Not Toxic

LC50, inhalation: Not Toxic

Skin corrosion/irritation: Not Toxic

Serious eye damage/Irritation: Not Toxic.

Respiratory or skin sensitization: Not Toxic

Germ cell mutagenicity: Not Toxic

Carcinogenicity: Not Toxic

Components	NTP	IARC	OSHA
None	NA	NA	NA

Reproductive Toxicity: Not Toxic

Aspiration Hazard: Not Toxic

Target Organ Effects: Not Toxic

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity Effects: Not Toxic

Persistence and degradability: Not Toxic

Bioaccumulative potential: Not Toxic

Mobility in Soil: Not Toxic.

Other adverse effects: None.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal: Wastes resulting from the use of this product may be placed in trash, on-site, or at an approved waste disposal facility. Dispose of all wastes in accordance with all Federal, state and local regulations.

SECTION 14. TRANSPORT INFORMATION

UN number: Not regulated

UN proper shipping name: Not regulated

Transport hazard class(es): Not regulated

Packing group : Not regulated

Environmental Hazards

DOT Road/Rail: Not considered hazardous for transportation via road/rail.

DOT Maritime: Not considered hazardous for transportation by vessel.

DOT Air: Not considered hazardous for transportation by air.

Freight Classification: LTL Class 60

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not applicable

Special precautions for user: None

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture: Not applicable

Signal Word: None

Precautionary Statements: None

Potential Health Effects:

Eye Contact: May cause irritation

Skin Contact: Non-irritating to the skin

Ingestion: Not harmful if swallowed

TSCA: All components are listed on the TSCA Inventory or are not subject to TSCA requirements

CERCLA/SARA 313: Not Toxic

CERCLA/SARA 302: Not Toxic

SECTION 16. OTHER INFORMATION

For additional information, please contact the manufacturer noted in Section 1.

NFPA	Health: 0 (Not Toxic)	Flammability: 1 (slight)	Reactivity: 0 (stable)	Specific Hazard: None
HMIS	Health: 0 (Not Toxic)	Flammability: 1 (slight)	Reactivity: 0 (minimal)	Protective Equipment: None

Disclaimer: The information provided in this Safety Data Sheet has been obtained from sources believed to be reliable. Bell Laboratories, Inc. provides no warranties; either expressed or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your consideration and investigation. The user is responsible to ensure that they have all current data, including the approved product label, relevant to their particular use.

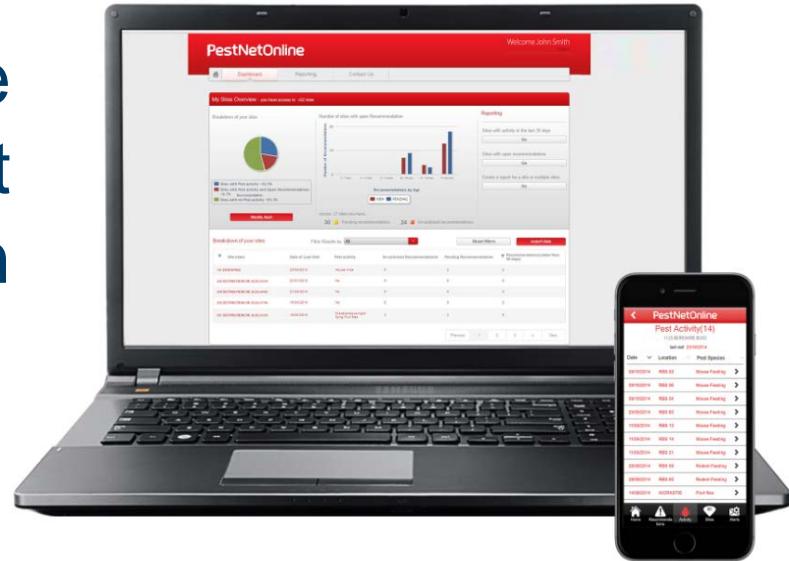
Rentokil

Ehrlich | Western | Presto-X
Your Local Pest Control Experts

PestNetOnline

The complete online
pest management
and reporting solution

Randy Hobbs
Account Executive



What is PestNetOnline?

Online reporting and analysis of all pest activity

- Intuitive and easy to use
- Complete visibility to minimize risks
- Increased efficiency with information at your fingertips
- Minimize exposure with all your pest control records and data in one place
- Stay in control with a smartphone app



Who is PestNetOnline for?

For Food and Beverage, Pharmaceutical, Logistics, Healthcare, Commercial/Residential Property, and Retail... any business that needs online pest management and reporting

Offering:

- Personalized Dashboard
- Multiple and Single Site Locations
- Trend Analysis
- Detailed Service Reports
- Recommendation System
- Interactive Site Maps
- Documentation Availability
- Material Usage Reports
- Proof of Service



How PestNetOnline works...

1



Pest devices and inspection points are barcoded

2



Devices are scanned and information entered into a handheld device

3



Data is immediately transmitted at the end of the service

4



Data reaches the PestNetOnline servers

5



Service email notifications are sent to customer

PestNetOnline

Information is displayed in PestNetOnline and mobile applications

PestNetOnline

Single site locations

- Provides a comprehensive review of all visit details
- Pest Activity and Recommendation charts summarizing at a high level all issues
- Visit Filters allowing you to quickly locate series of visit and types of visits
- Review and reprint any Proof of Service
- Navigation tabs take you directly to Tasks, Recommendations, Pest Activity and Material Usage detail screen – quickly and easily

PestNetOnline

Welcome Client Name [Logout](#)

Site Name

Dashboard Reporting Service History Audit Compliance Documents Contact Us [Search](#)

Site Overview

Recommendations chart by age

Recommendations outstanding

ID	Visit date	Type	Status	Detail icon
45	11/04/2014	Structural	Yellow	Info
44	11/04/2014	Structural	Yellow	Info
43	11/04/2014	Structural	Yellow	Info
42	11/04/2014	Structural	Yellow	Info
41	11/04/2014	Structural	Yellow	Info

[Modify Alert](#) Previous 1 2 3 Next

Contact us about your recommendations

12 ● Pending recommendations 0 ● Un-actioned recommendations

[Site summary](#) Pest activity alerts [Manage recommendations](#)

5701 Park Ave

Last Visit Date: 11/04/2014 Filter Result By: [Zones With Activity](#) [Update](#)

Building	Floor	Zone	Activity	Recommendations
BUILDING	FLOOR	Exterior	Yes	0
BUILDING	FLOOR	Interior	Yes	1

Previous 1 Next Show 100

Rentokil Visits (over the last 12 calendar months)

[more](#)

Rentokil visits breakdown

ROUTINE-71.4% CALLOUT-28.6%

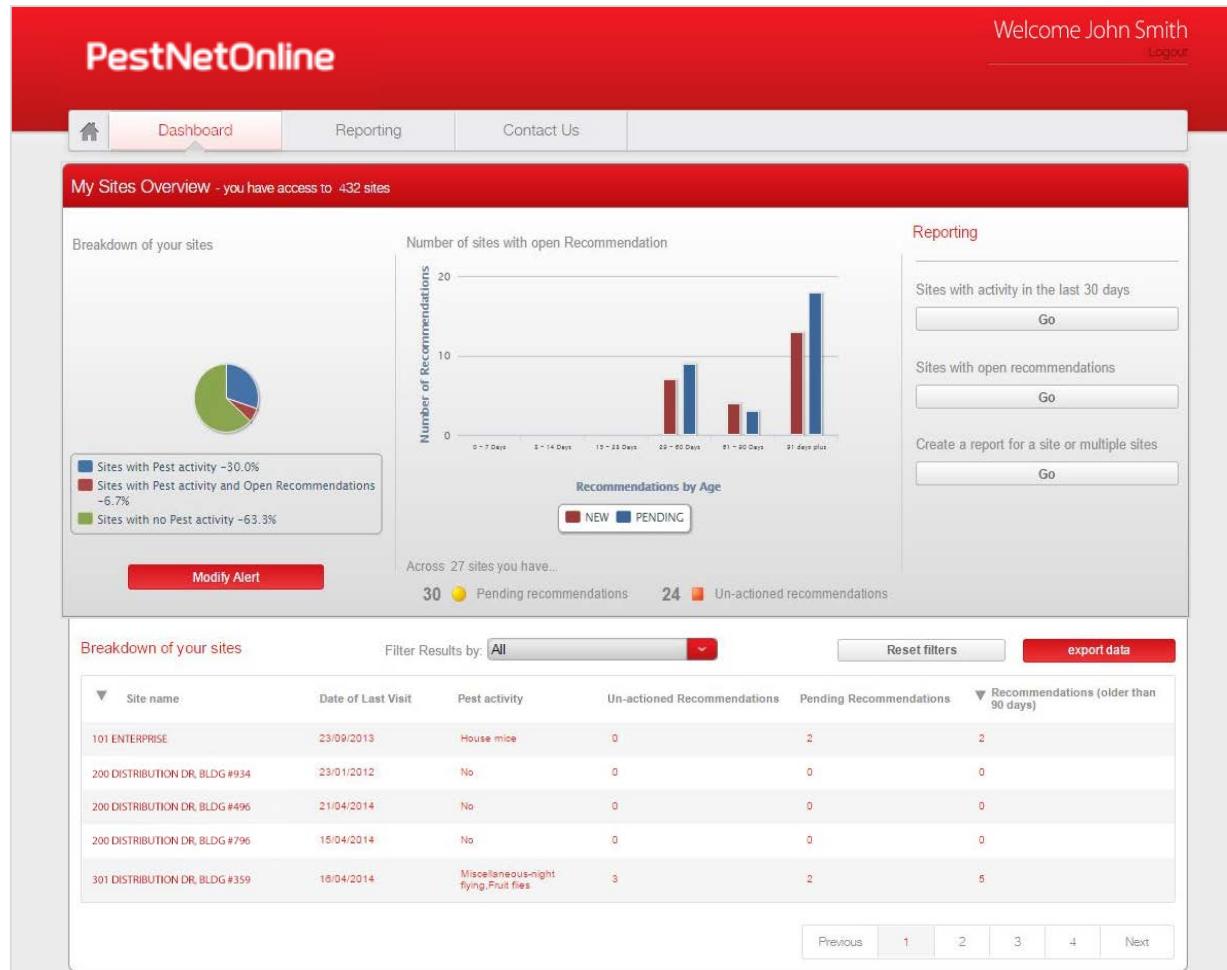
My Contract

Contract Number: 05003654,20013654,20021706
Start Date: 22/07/2013
Number of routine visits per year: 0
Number of inspections per year: 0
ISO 9001: No
Services Provided:
Special Arrangement:
[Site Risk Assessment](#)

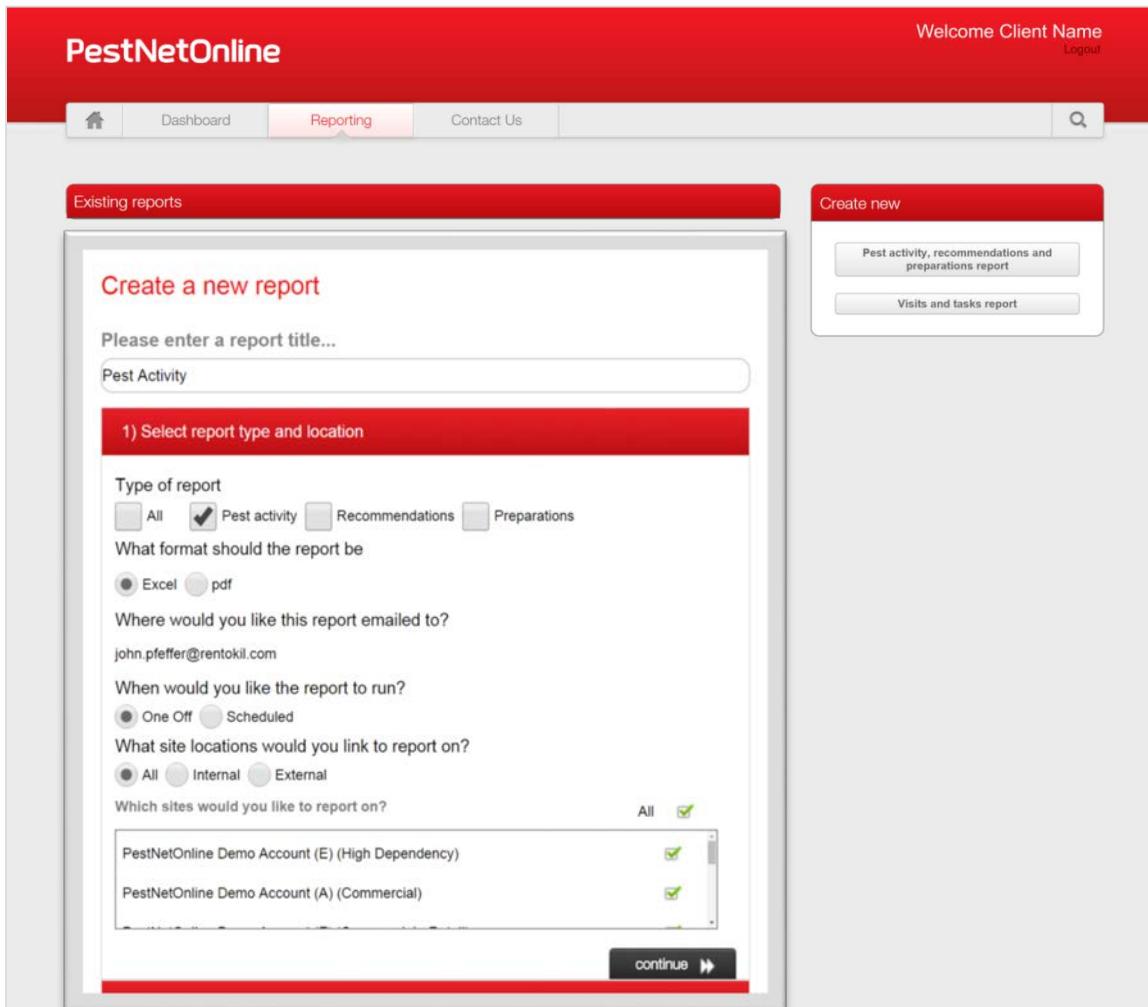
PestNetOnline

For multi site locations

- A dashboard that summarizes all activity
- My Sites allows you to see an overview of your locations
- Navigation shortcuts allowing you to quickly and effortlessly research visit activity
- Link to all related information
- Export data for custom analysis



PestNetOnline

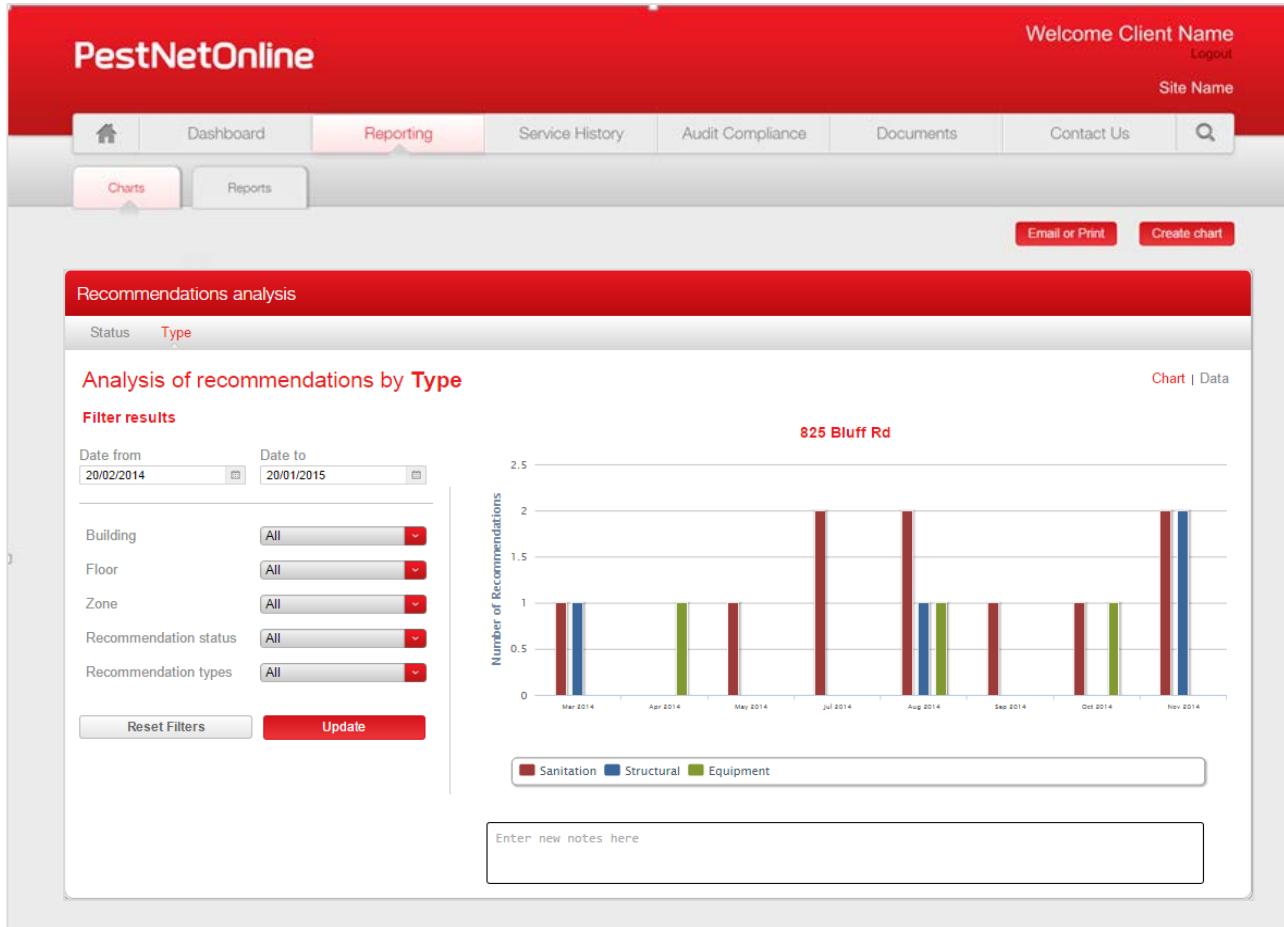


The screenshot shows the PestNetOnline software interface. At the top, there is a red header bar with the 'PestNetOnline' logo on the left and 'Welcome Client Name' and 'Logout' on the right. Below the header is a navigation bar with 'Dashboard', 'Reporting' (which is highlighted in pink), and 'Contact Us'. A search bar is on the right of the navigation bar. The main content area has a red header 'Existing reports' on the left and a white header 'Create new' on the right. The 'Create new' header contains two buttons: 'Pest activity, recommendations and preparations report' and 'Visits and tasks report'. The main form is titled 'Create a new report' and has a red header '1) Select report type and location'. It includes sections for 'Type of report' (with 'Pest activity' checked), 'What format should the report be' (with 'Excel' checked), 'Where would you like this report emailed to?' (containing the email 'john.pfeffer@rentokil.com'), 'When would you like the report to run?' (with 'One Off' checked), 'What site locations would you link to report on?' (with 'All' checked), and 'Which sites would you like to report on?' (listing 'PestNetOnline Demo Account (E) (High Dependency)' and 'PestNetOnline Demo Account (A) (Commercial)' with checkboxes next to them). A 'continue' button is at the bottom right of the form.

Analysis and reports

- Provides quick, ad-hoc snapshot analysis reporting on all pest and device type activity
- Reports can be created to document Pest Activity, Recommendations, Visit Performance, Task Performance and Material Usage
- Reports are distributed to you via email
- Can be created and ran once, or proactively scheduled on a Daily, Week, Monthly or Quarterly based upon your needs
- Many options available to customize a snapshot view of Pest Activity

PestNetOnline

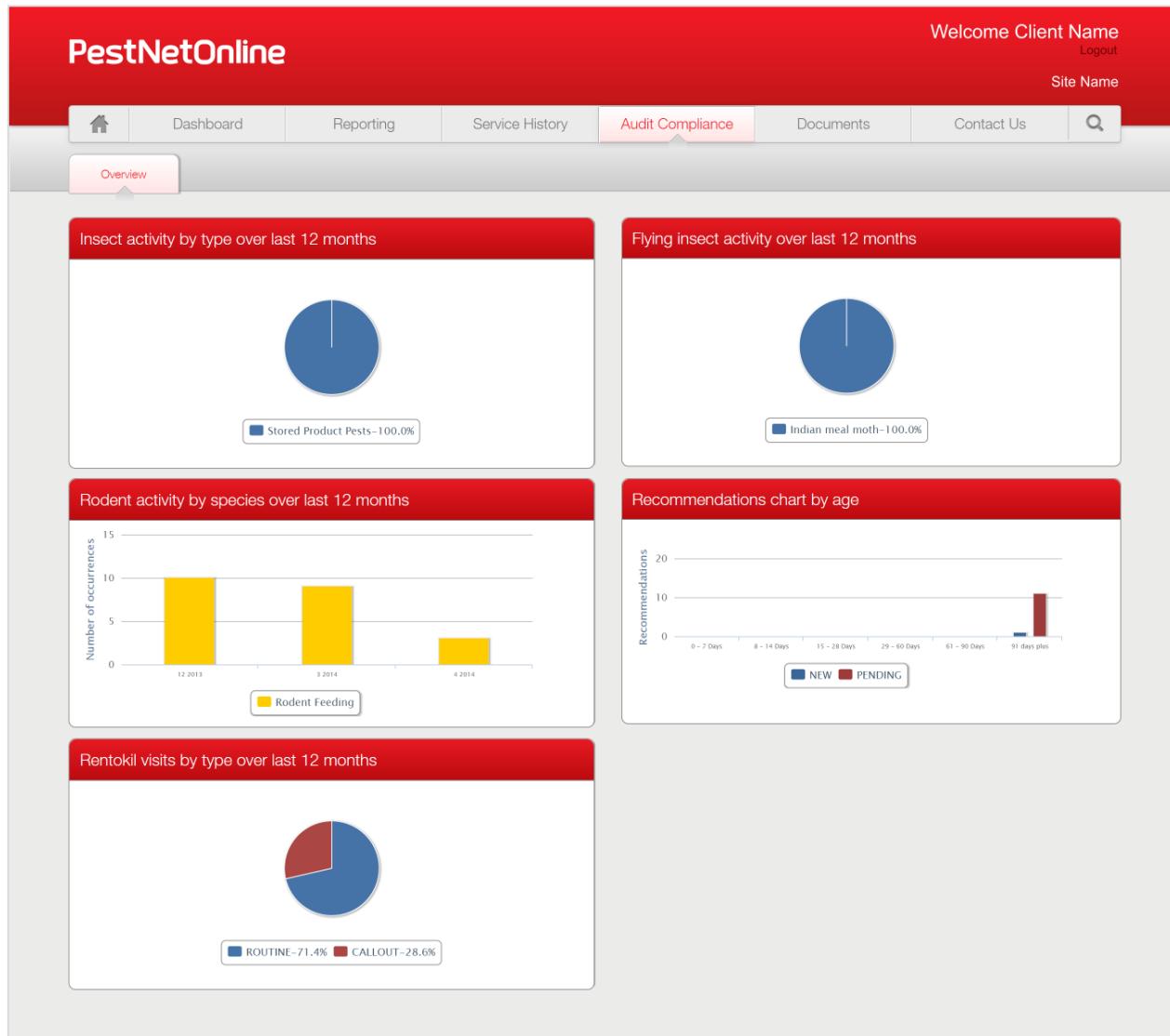


- Options to review an entire worksite, or specific Buildings / Floor / Zones within your worksite
- Feature rich with multiple date range options
- Provides quick, ad-hoc snapshot analysis on all pest activity
- Add commentary to charts

PestNetOnline

For high dependency customers

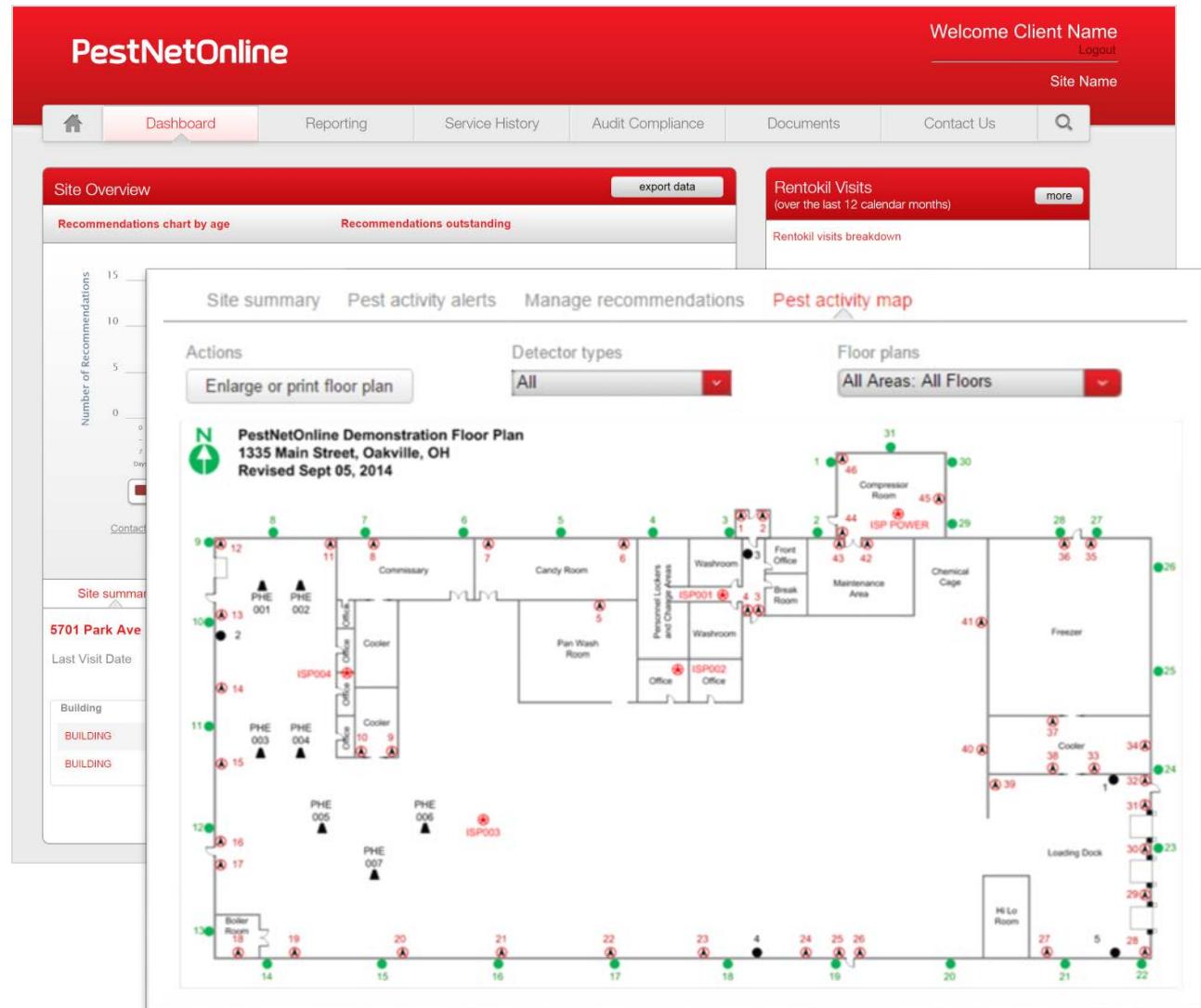
- A dedicated Audit Checklist page
- For AIB, BRC, and other 3rd Party Auditors, a single page that brings together all necessary visit details and links to related information



PestNetOnline

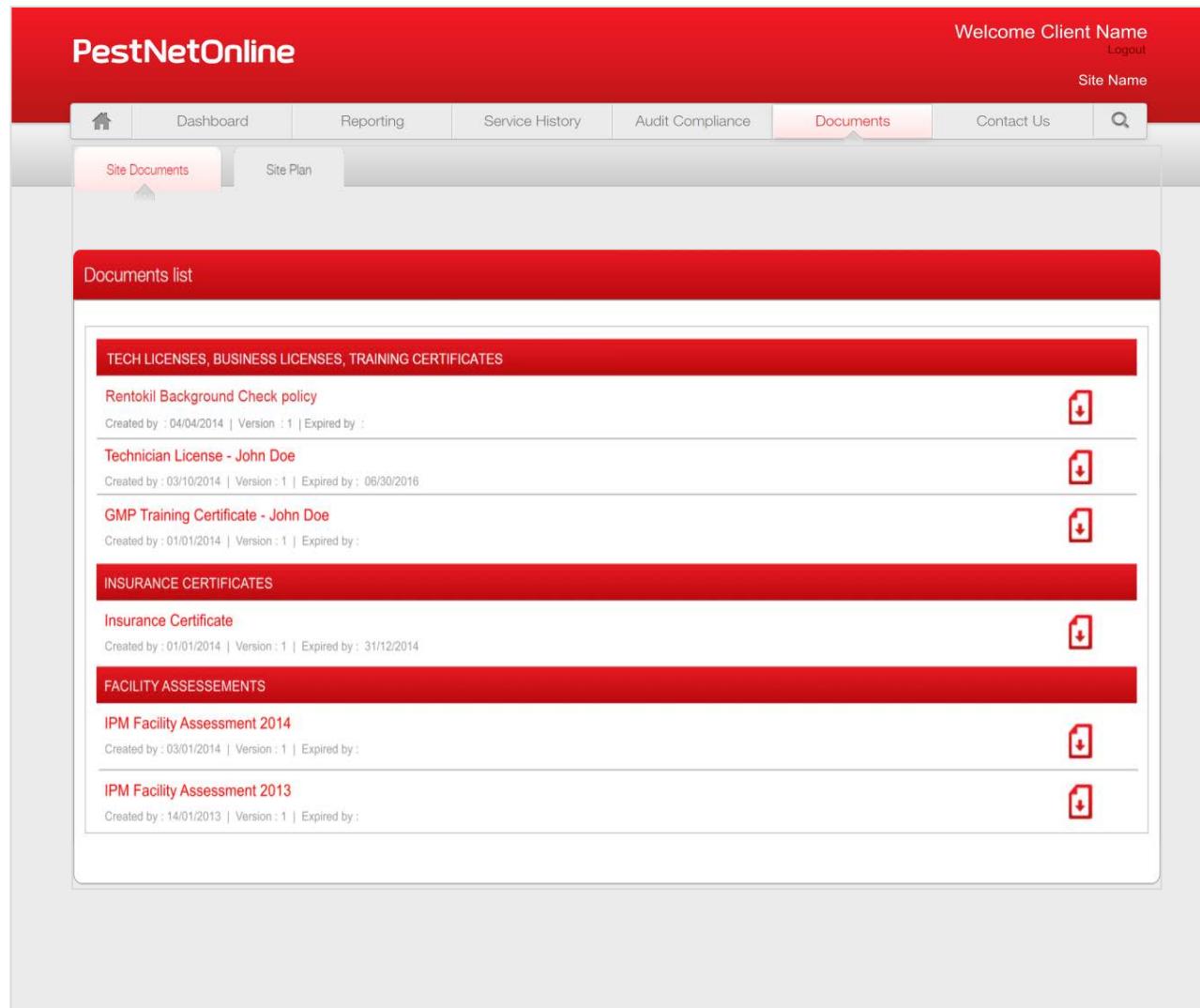
Site plans for high dependency and commercial customers

- Provide a interactive, graphic representation of device location
- Filters allow you to locate specific types (Mechanical Rodent Traps, Pheromone, etc.) quickly and easily
- Site Maps may also be printed if desired



PestNetOnline

Site Documents,
available to all users of
PestNetOnline
compliments all printed
log book information
electronically



The screenshot shows the PestNetOnline software interface. At the top, there is a red header bar with the 'PestNetOnline' logo. To the right of the logo are 'Welcome Client Name' (with a 'Logout' link), 'Site Name', and a search icon. Below the header is a navigation bar with tabs: Home, Dashboard, Reporting, Service History, Audit Compliance, **Documents** (which is highlighted in red), and Contact Us. Under the 'Documents' tab, there are two main sections: 'TECH LICENSES, BUSINESS LICENSES, TRAINING CERTIFICATES' and 'INSURANCE CERTIFICATES'. Each section contains a list of documents with details like creation date, version, and expiration date. To the right of each document entry is a small red square icon with a white document symbol. Below these sections is another section titled 'FACILITY ASSESSMENTS' with two entries: 'IPM Facility Assessment 2014' and 'IPM Facility Assessment 2013', each with its own document icon.

TECH LICENSES, BUSINESS LICENSES, TRAINING CERTIFICATES

- Rentokil Background Check policy
Created by : 04/04/2014 | Version : 1 | Expired by : 04/04/2014
- Technician License - John Doe
Created by : 03/10/2014 | Version : 1 | Expired by : 06/30/2016
- GMP Training Certificate - John Doe
Created by : 01/01/2014 | Version : 1 | Expired by : 01/01/2015

INSURANCE CERTIFICATES

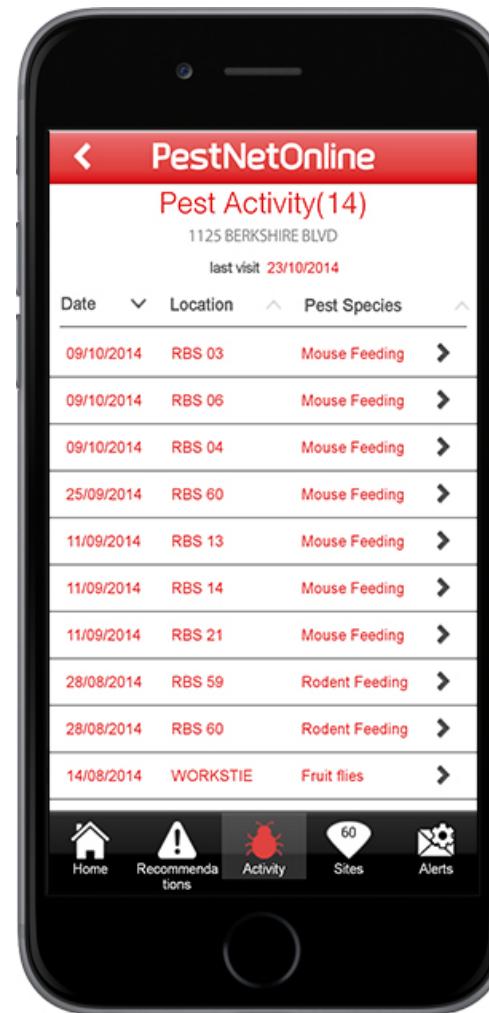
- Insurance Certificate
Created by : 01/01/2014 | Version : 1 | Expired by : 31/12/2014

FACILITY ASSESSMENTS

- IPM Facility Assessment 2014
Created by : 03/01/2014 | Version : 1 | Expired by : 03/01/2015
- IPM Facility Assessment 2013
Created by : 14/01/2013 | Version : 1 | Expired by : 14/01/2014

PestNetOnline Smartphone App

- **Home Screen**
 - Open recommendations
 - Instances of activity (last 90 days)
- **Recommendations**
 - Open recommendations total and by site
 - Open recommendations within a single site
 - Individual recommendation detail
 - Update the recommendation on the spot!
- **Activity**
 - Overall activity and activity instances by site
 - Last 90 days activity within a single site
 - Activity details and materials used
- **Site list and recommendation and activity indicators**
- **Email alerts creation**



PestNetOnline Flexibility

PestNetOnline offers three levels of functionality

- Whether you are a homeowner, local retailer, business with multiple branches or manufacturer, PestNetOnline will meet all of your business needs

Level	Residential	Commercial	High Dependency
Functionality	Privately owned residences, condos, and townhouses	Commercial organizations that do not require third party audit support	Businesses and organizations who utilize any third party audit group
Barcode Structure	One barcode is required	✓	✓
Materials Usage	Only through reporting	✓	✓
Pest Activity	✓	✓	✓
Updating Recommendations	✓	✓	✓
Visit Details	✓	✓	✓
Single Site Reporting	✓	✓	✓
Documents	✓	✓	✓
Reports	✓	✓	✓
Smartphone app (lite version)	✓	✓	✓
Alerts	X	✓	✓
Multi-Site Reporting	X	✓	✓
Detector History	X	✓	✓
Trends Analysis	X	✓	✓
Tasks	X	✓	✓
Site Plans	X	X	✓
Audit Compliance	X	X	✓

PestNetOnline

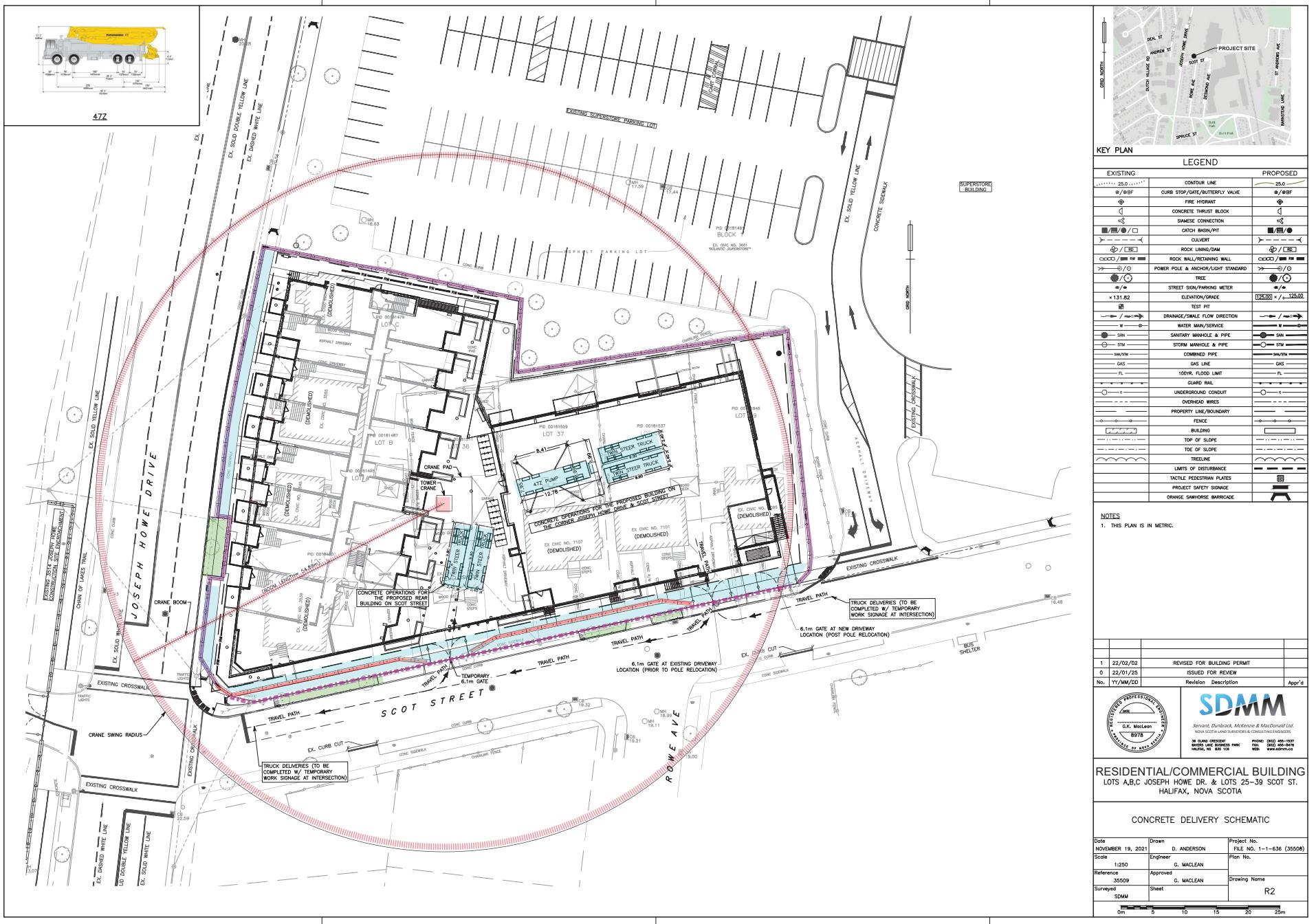
For more information visit pnol.rentokilna.com

Appendix O – CMP's TCP & PMP Inspection Records

Project: _____ Location: _____ Phase: _____ Date: _____ Inspector: _____

CONSTRUCTION MANAGEMENT PLAN - INSPECTION CHECKLIST

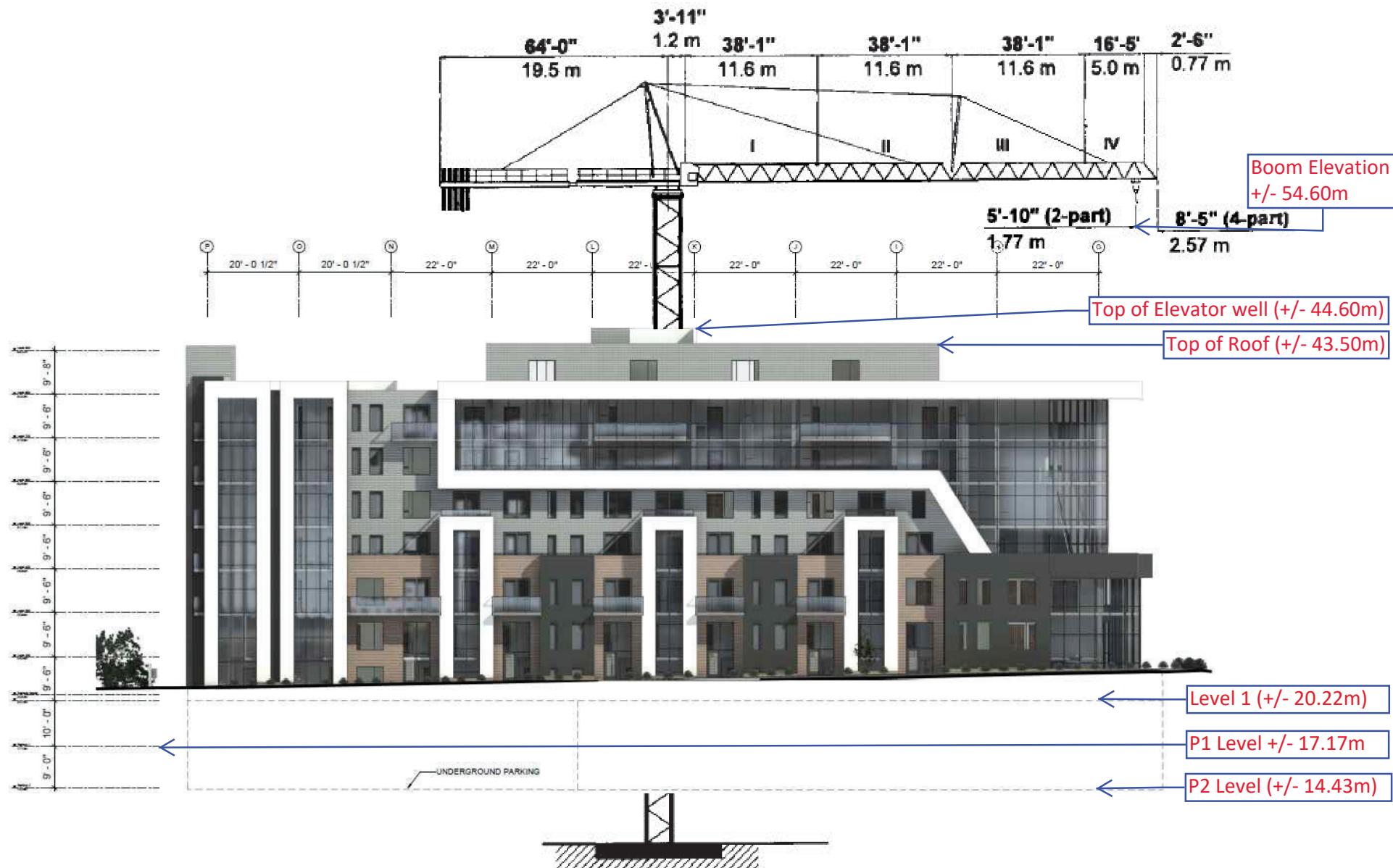
Appendix P – Concrete Delivery Schematic



Appendix Q – Crane Information



Crane Operations

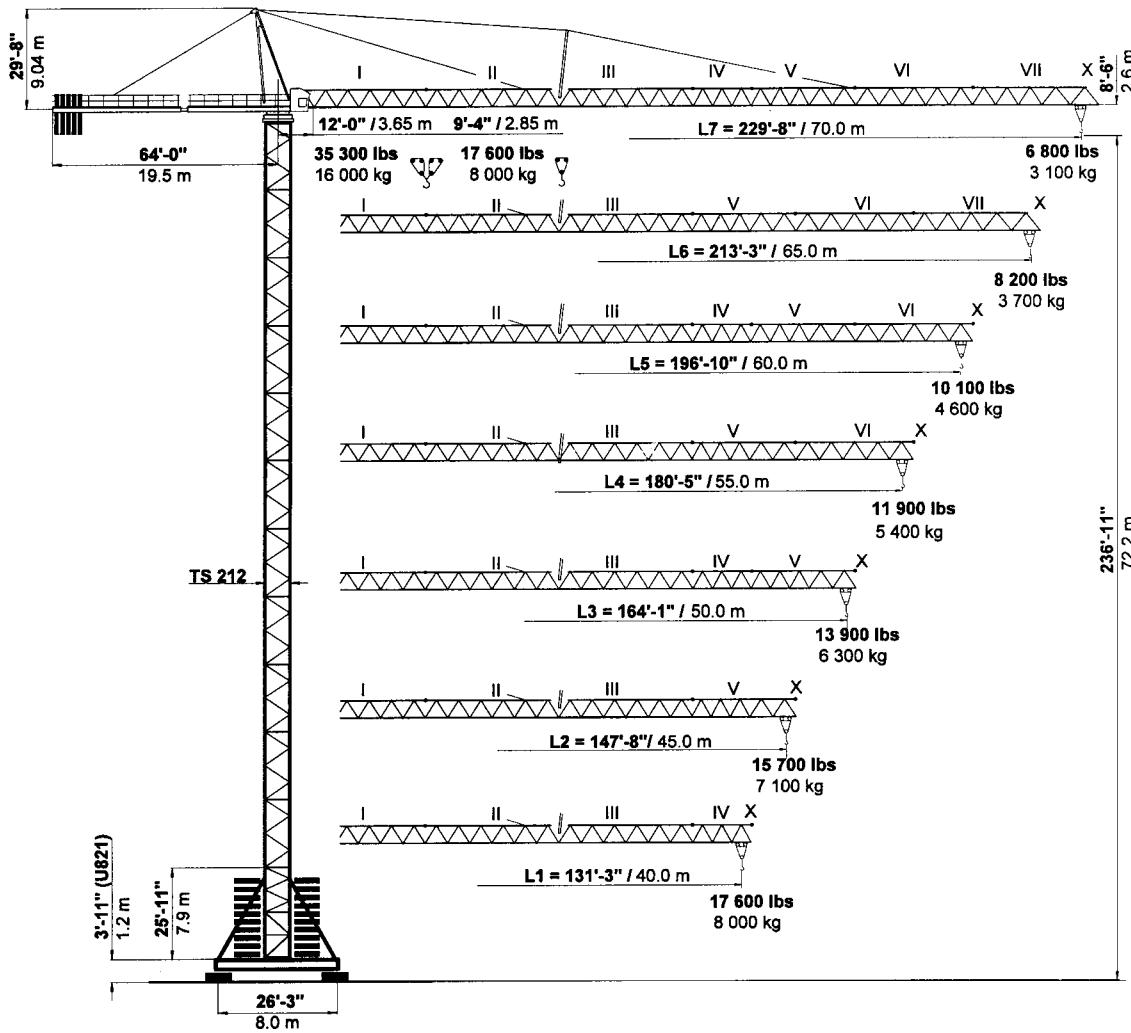




PEINER SK 315

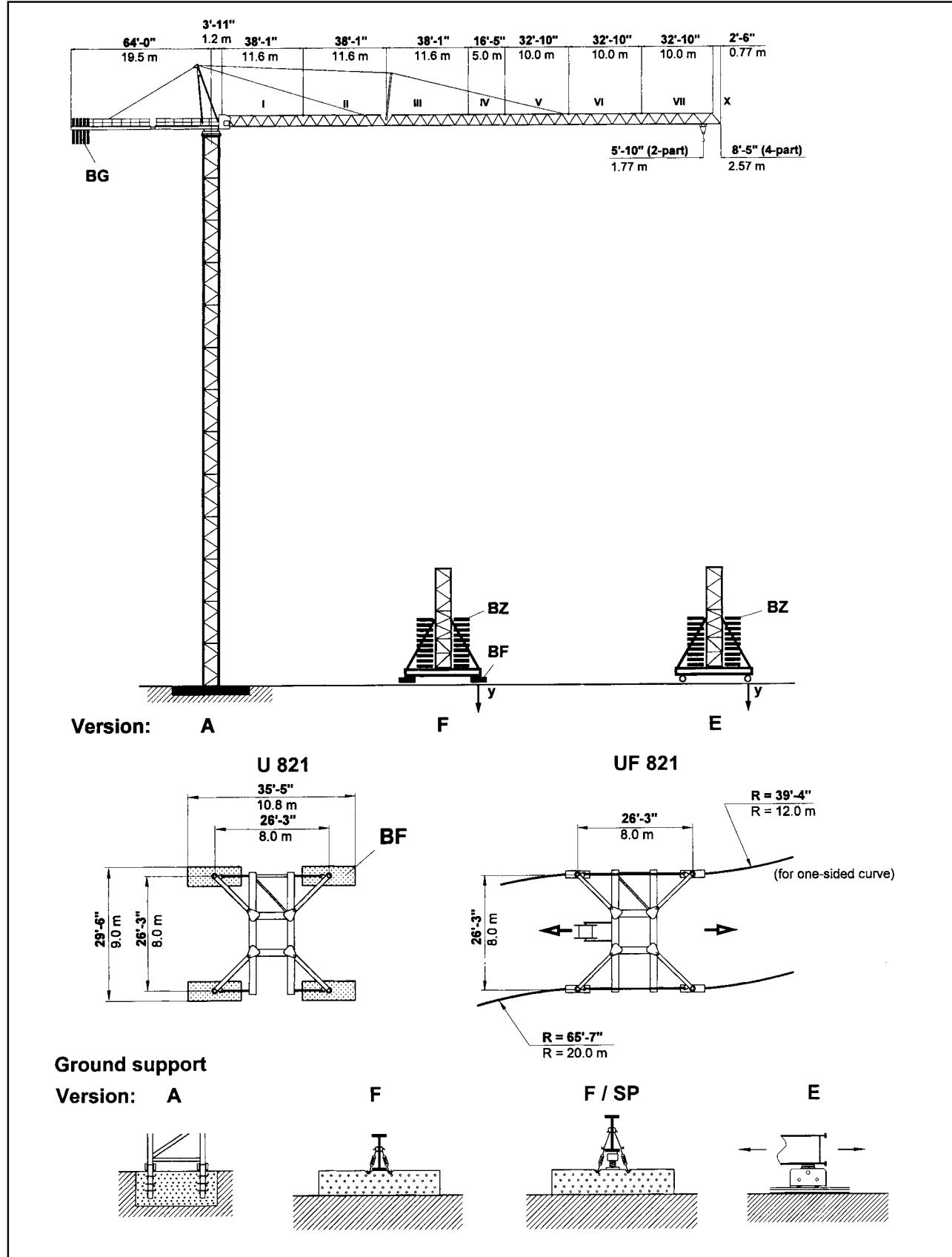
Hammerhead Tower Crane
17,600-35,300 lbs. (8-16 mt)
Lifting Capacity

SPECIFICATIONS

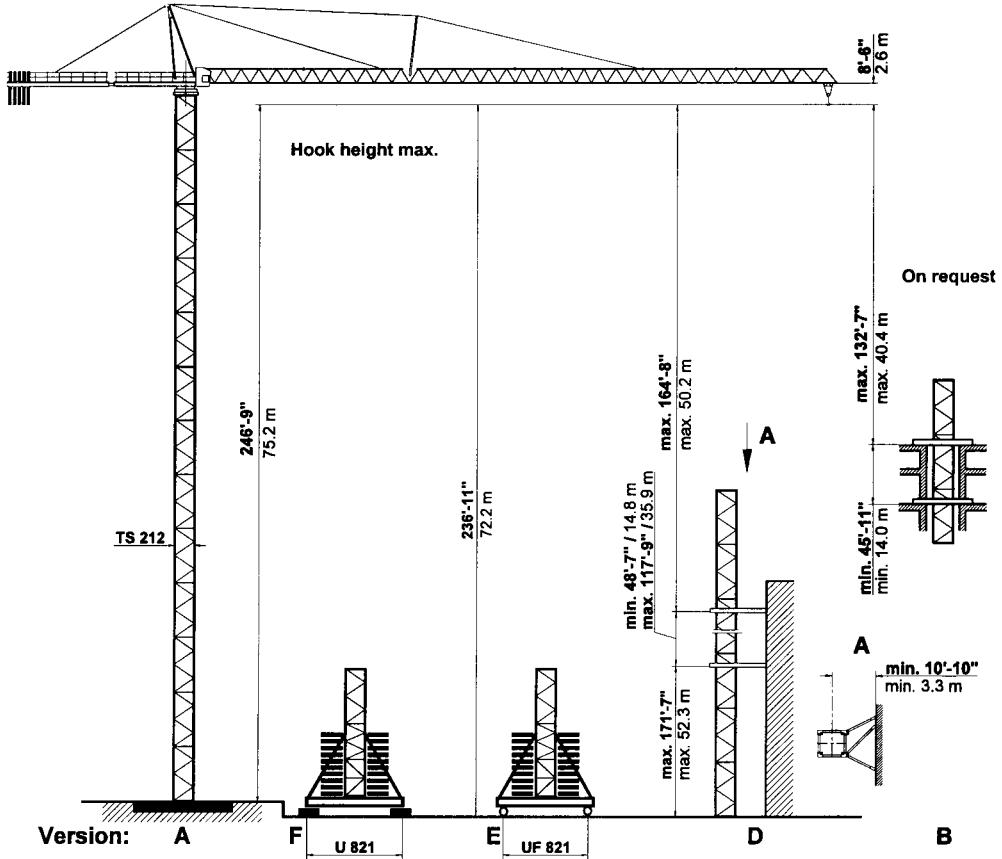


simple, available and
cost effective™

Machines shown may have optional equipment.

PEINER SK 315**Combinations of tower section, hook heights, forces acting per corner, base ballast**

PEINER SK 315 Tower TS 211



TS 212	Version A	Version F						Version E					
		Tower	HH	Tower	HH	BZ + BF	in service	y	out of service	BZ	in service	y	out of service
TS 212.1	ft m	TSV 212 TS 212.1	ft m	TSV 212 TS 212.1	ft m	kips / t	kips / kN		kips / kN	kips / t	kips / kN		kips / kN
13 x TS 212.1	246'-9"** 75.2"												
12 x TS 212.1	227'-4"** 69.3"	1 x TSV 212 11 x TS 212.1	236'-11"** 72.2"	212.0 96	204 909	279 1243	198.0 90	212 942	282 1253				
11 x TS 212.1	208'-0"** 63.4"	1 x TSV 212 10 x TS 212.1	217'-6"** 66.3"	168.0 76	186 826	240 1066	154.0 70	192 856	242 1075				
10 x TS 212.1	188'-8"** 57.5"	1 x TSV 212 9 x TS 212.1	198'-2"** 60.4	146.0 66	173 770	203 901	132.0 60	179 797	204 909				
9 x TS 212.1	169'4"** 51.6	1 x TSV 212 8 x TS 212.1	178'-10"** 54.5	124.0 56	161 715	169 751	88.0 40	161 715	169 754				
8 x TS 212.1	149'-11"** 45.7	1 x TSV 212 7 x TS 212.1	159'-5"** 48.6	101.0 46	149 661	145 645	88.0 40	154 683	170 654				
7 x TS 212.1	130'-7"** 39.8	1 x TSV 212 6 x TS 212.1	140'-1"** 42.7	101.0 46	142 633	128 569	66.0 30	141 629	124 553				
6 x TS 212.1	111'-3"** 33.9	1 x TSV 212 5 x TS 212.1	120'-9"** 36.8	101.0 46	136 607	112 499	66.0 30	135 600	108 482				
5 x TS 212.1	91'-10"** 28.0	1 x TSV 212 4 x TS 212.1	101'-5"** 30.9	101.0 46	131 582	98 435	66.0 30	129 573	94 418				
4 x TS 212.1	72'-6"** 22.1	1 x TSV 212 3 x TS 212.1	82'-0"** 25.0	101.0 46	126 559	85 376	66.0 30	123 548	81 359				
3 x TS 212.1	53'-2"** 16.2	1 x TSV 212 2 x TS 212.1	62'-8"** 19.1	101.0 46	120 536	80 356	66.0 30	118 523	75 335				
2 x TS 212.1	33'-9"** 10.3	1 x TSV 212 1 x TS 212.1	43'-4"** 13.2	101.0 46	116 515	80 356	66.0 30	112 500	75 335				
Foundation 25'-7" x 25'-7" x 5'-7" 7.8 x 7.8 x 1.7 m		Stationary base U 821						Travelling base UF 821					
Anchor stools 4 x FF 212		BF 4 x 8.82 kips 4 x 4.0 t		BZ block 11.02 kips Block 5.0 t		Bogie Curve F 500							

If TSK 212 section is used the hook height is increased by 6'-7" (2 m).

* Lower climbing section after erection.

TS 212.1 = 19'-4 1/4" / 5.9 m

TSV 212 = 25'-11" / 7.9 m

TSK 212 = 6'-7" / 2.0 m

PEINER SK 315 Radius and Capacity

Jib ft m	Max. capacity max. 17,600 lbs 8.0 t	Radius - ft./m Capacity - lbs./mt																		
		2-Part Line max. 17,600 lbs max. 8.0 t																		
		75'-6"	23	82'-0"	25	98'-5"	30	114'-10"	35	131'-3"	40	141'-1"	43	147'-8"	45	157'-6"	48	164'-1"	50	
L7	229'-8"	9'-4" - 96'-9"	17600	17600	17400	14800	12800	11900	11200	10600	10100	9500	9000	8600	8200	7700	7500	7100	6800	
	70.0	2.85 - 29.5 m	8.0	8.0	7.9	6.7	5.8	5.4	5.1	4.8	4.6	4.3	4.1	3.9	3.7	3.5	3.4	3.2	3.1	
L6	213'-3"	9'-4" - 105'-0"	17600	17600	17600	16100	13900	13000	12300	11500	11000	10400	9900	9300	8800	8600	8200			
	65.0	2.85 - 32.0 m	8.0	8.0	8.0	7.3	6.3	5.9	5.6	5.2	5.0	4.7	4.5	4.2	4.0	3.9	3.7			
L5	196'-10"	9'-4" - 117'-9"	17600	17600	17600	17600	15700	14600	13900	13000	12300	11700	11200	10600	10100					
	60.0	2.85 - 35.9 m	8.0	8.0	8.0	8.0	7.1	6.6	6.3	5.9	5.6	5.3	5.1	4.8	4.6					
L4	180'-5"	9'-4" - 124'-8"	17600	17600	17600	17600	16800	15400	14800	13900	13200	12300	11900							
	55.0	2.85 - 38.0 m	8.0	8.0	8.0	8.0	7.6	7.0	6.7	6.3	6.0	5.6	5.4							
L3	164'-1"	9'-4" - 130'-11"	17600	17600	17600	17600	17600	16300	15400	14600	13900									
	50.0	2.85 - 39.9 m	8.0	8.0	8.0	8.0	7.4	7.0	6.6	6.3										
L2	147'-8"	9'-4" - 131'-11"	17600	17600	17600	17600	17600	16500	15700											
	45.0	2.85 - 40.2 m	8.0	8.0	8.0	8.0	7.5	7.1												
L1	131'-3"	9'-4" - 131'-3"	17600	17600	17600	17600	17600													
	40.0	2.85 - 40.0 m	8.0	8.0	8.0	8.0	8.0													
ft m	35,300 lbs 16.0 t	4-Part Line max. 35,300 lbs max. 16.0 t																		
L7	227'-0"	12'-0" - 48'-7"	21800	19600	16100	13200	11200	10400	9700	9000	8600	7900	7500	7100	6600	6200	6000	5500	5300	
	69.2	3.65 - 14.8 m	9.9	8.9	7.3	6.0	5.1	4.7	4.4	4.1	3.9	3.6	3.4	3.2	3.0	2.8	2.7	2.5	2.4	
L6	210'-8"	12'-0" - 52'-2"	23800	21600	17400	14600	12600	11500	10800	9900	9500	8800	8400	7700	7500	6800	6600			
	64.2	3.65 - 15.9 m	10.8	9.8	7.9	6.6	5.7	5.2	4.9	4.5	4.3	4.0	3.8	3.5	3.4	3.1	3.0			
L5	194'-3"	12'-0" - 57'-9"	26900	24500	19800	16800	14300	13000	12300	11500	10800	10100	9700	9000	8600					
	59.2	3.65 - 17.6 m	12.2	11.1	9.0	7.6	6.5	5.9	5.6	5.2	4.9	4.6	4.4	4.1	3.9					
L4	177'-10"	12'-0" - 61'-0"	28700	26000	21200	17900	15200	14100	13200	12300	11700	10800	10400							
	54.2	3.65 - 18.6 m	13.0	11.8	9.6	8.1	6.9	6.4	6.0	5.6	5.3	4.9	4.7							
L3	161'-5"	12'-0" - 63'-8"	30200	27300	22300	18700	16100	14800	14100	12800	12300									
	49.2	3.65 - 19.4 m	13.7	12.4	10.1	8.5	7.3	6.7	6.4	5.8	5.6									
L2	145'-0"	12'-0" - 64'-0"	30400	27600	22500	19000	16300	15000	14100											
	44.2	3.65 - 19.5 m	13.8	12.5	10.2	8.6	7.4	6.8	6.4											
L1	128'-7"	12'-0" - 66'-3"	31700	28700	23600	19800	17000													
	39.2	3.65 - 20.2 m	14.4	13.0	10.7	9.0	7.7													

Speeds

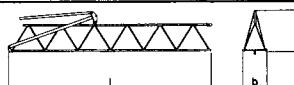
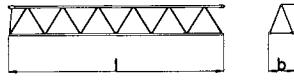
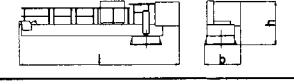
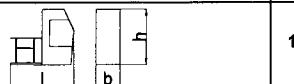
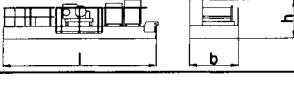
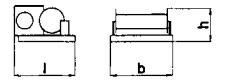
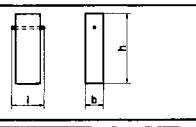
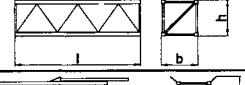
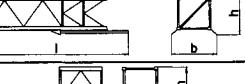
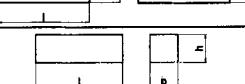
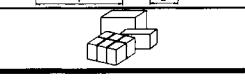
FU 8-160/4		v = 0 → ~290 fpm (88 m / min.)	10.2 HP 7.5 kW
SR 10-190/3		v = 0 → ~96 fpm (30 m / min.)	2 x 16.3 HP 2 x 12.0 kW
K WB 120/4		v = 0 → 0.9 rpm (min⁻¹)	2 x 11.4 HP 2 x 8.4 kW
HK max. = 705' (215 m)			480 V / 60 Hz / 3 ph
Type SR WB 66- 80/4F		4-Part Line 2-Part Line	Total motor output ~140 without SR 10-190/3 HP ~105 kW
[108 HP] [79 kW]		444 fpm 134 m/min	11 000 lbs 5 000 kg
		276 fpm 84 m/min	18 600 lbs 8 400 kg
		180 fpm 54 m/min	27 800 lbs 12 600 kg
		108 fpm 34 m/min	54 fpm 17 m/min
		17 600 lbs 8 000 kg	35 300 lbs 16 000 kg
		Connected power 170 kVA	

Counterweight

Jib	L 1	L 2	L 3	L 4	L 5	L 6	L 7
Counterweight	BG	30 000 lbs 13 600 kg	32 200 lbs 14 600 kg	36 600 lbs 16 600 kg	39 150 lbs 17 750 kg	43 550 lbs 19 750 kg	41 350 lbs 18 750 kg
	[lbs]	3 x 6 950 1 x 9 150	2 x 6 950 2 x 9 150	4 x 9 150	3 x 6 950 2 x 9 150	1 x 6 950 4 x 9 150	2 x 6 950 3 x 9 150
	[t]	3 x 3.15 1 x 4.15	2 x 3.15 2 x 4.15	4 x 4.15	3 x 3.15 2 x 4.15	1 x 3.15 4 x 4.15	2 x 3.15 3 x 4.15

PEINER SK 315 Dimensions and transport weights

See operating manual for mounting weights

	Designation		Dimensions (ft / m)			Weight lbs / t	Volume ft ³ / m ³		
			I	b	h				
1	Jib Section III		39.01 11.94	4.99 1.52	7.09 2.16	4 200 1.92	1 386 39.2		
2	Jib Section I		39.01	4.99	5.84	3 790	1 137		
	Section II		11.89	1.52	1.78	1.72	32.2		
	Section IV		38.65	4.99	6.17	4 320	1 190		
	Section V		11.78 5.85	1.52 1.52	1.88 1.65	1.96 0.80	33.7 14.7		
	Section VI		19.19 35.34	4.99 4.99	5.41 5.45	1 760	519		
	Section VII		10.77 10.98	1.52 1.52	1.66 1.67	1.40 1.12	27.2 27.9		
	Jib tip X		36.03 10.16	4.99 1.52	5.48 5.32	2 470	985		
3	Turntable with slewing ring support and cabin		36.35 11.08	7.64 2.33	7.81 2.38	25 350	2 169		
	Turntable with slewing ring support		31.99 9.75	7.64 2.33	7.81 2.38	24 030	1 911		
	Cabin with support and railing		10.17 3.10	4.92 1.50	7.25 2.21	1 320	364		
4	Counter jib with hoist winch		38.13 11.62	5.91 1.80	6.00 1.83	14 550	1 353		
	Hoist winch	66 WB		7.51 2.29	5.45 1.66	3.28 1.00	5 400	134	
5	Counterweight	BG		3.94 1.20 3.94 1.20	1.64 0.50 1.64 0.50	9.32 2.84 12.11 3.69	6 950 3.15 9 150 4.15	60 1.4 78 1.7	
	6	Tower section	TS 212.1		19.52 5.95	7.78 2.37	8.01 2.45	9 130 4.14	1 216 34.4
			TSV 212 with struts		31.17 9.50	9.84 3.00	10.00 3.05	20 330 9.22	3 067 86.9
			TSK 212		6.63 2.02	7.87 2.40	9.84 3.00	6 170 2.80	513 14.5
7	Travelling base, folded	UF 821		41.01 12.5	9.74 2.97	7.05 2.15	35 050 15.90	2 816 79.8	
8	Stationary base, folded	U 821		34.55 10.53	9.06 2.76	2.79 0.85	17 130 7.77	873 24.7	
9	Central ballast block	BZ		11.48 3.50	4.92 1.50	2.20 0.67	11 020 5.00	124 3.5	
10	Foundation pad	BF		9.19 2.80	3.28 1.00	1.87 0.57	8 820 4.00	57 1.6	
11	Accessories						4 800 2.17		

For more information, product demonstration, or details on lease and rental plans, please contact your local Terex Towers Distributor.

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We reserve the right to amend these specifications at any time without notice. The only warranty applicable is our standard written warranty applicable to the particular product and sale. We make no other warranty, expressed or implied.

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