Item 9.1.3

HALIFAX

PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

M E M O R A N D U M

TO: Chair and Members of North West Planning Advisory Committee

FROM: Jennifer Chapman, Planner III, Urban Enabled Applications

DATE: November 27, 2017

SUBJECT: Case 20634: WM Fares on behalf of Old Fashioned Woodworkers Developments Ltd. is applying to rezone lands at 130 and 148 Mann St from Heavy Industrial (IHI) Zone to C&D Materials Processing Facilities (CD-2) Zone.

Feedback is sought from North West Planning Advisory Committee relative to the proposed application. The committee's recommendation will be forwarded along with the staff report to NW Community Council.

Please find enclosed the following documents for your consideration:

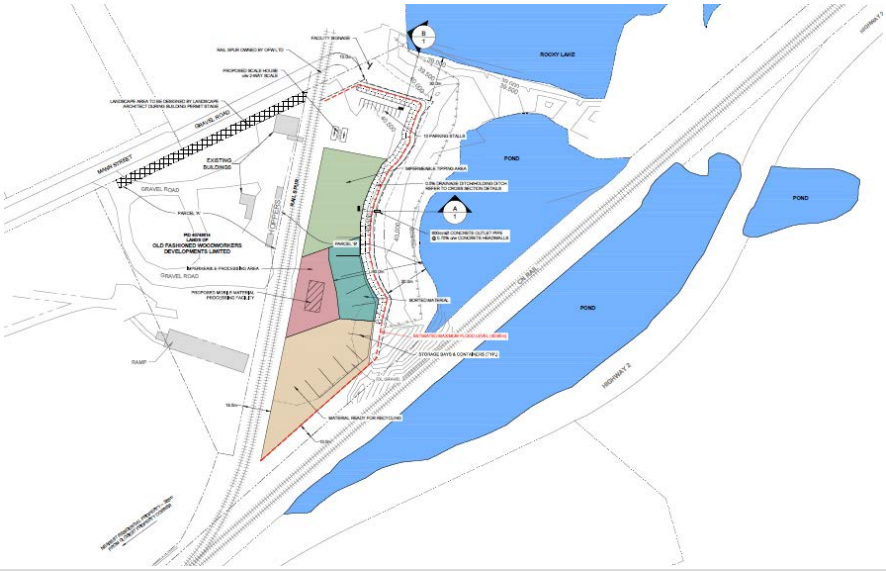
- Map 1 – Generalized Future Land Use Map
- Map 2 – Zoning Map
- Site Plan
- Fact Sheet
- Environmental Management Plan
- TIS
- Relevant MPS Policies
- November 23, 2017 PIM minutes

In preparing your recommendation to NW Community Council, kindly advise whether the proposal complies with the policy in consideration of the following:

- Change in use
- Buffering and screening
- Site design
- Potential environmental impacts, if any

PLANNING APPLICATION CASE NO. 20634

An application has been submitted by WM Fares on behalf of Old Fashioned Woodworkers Developments Ltd. to rezone lands at 130 and 148 Mann St from Heavy Industrial (IHI) Zone to C&D Materials Processing Facilities (CD-2) Zone.



SITE INFORMATION

Plan Area	Bedford
Council District	16
Regional Plan Designation	Industrial Parks
Community Plan Designation	Industrial
Current Zoning	IHI- Heavy Industrial Zone
Size of Site	10 acres
Current Land Use	Vacant
Surrounding Uses	Heavy industrial, Concrete facility,

PROPOSAL DETAILS

The applicant has submitted a request to rezone the property from IHI to CD-2 Zone to enable the establishment of a construction and demolition processing facility. This facility would recycle building materials into new products. HRM currently requires that 75% of all construction and demolition waste materials must be recycled or processed into new materials. The remaining 25% may then be disposed of at a CD-3 facility within HRM's boundaries.

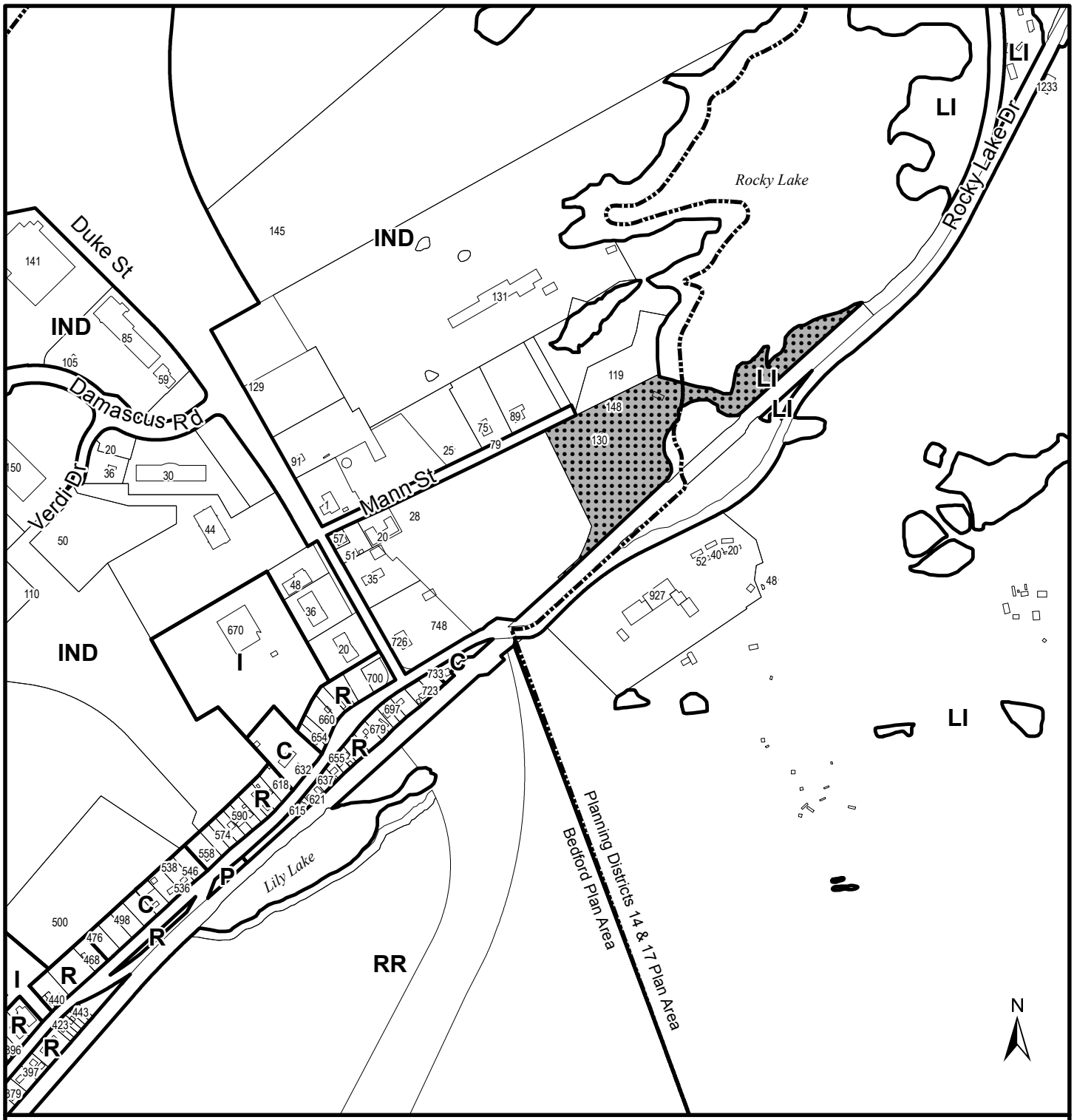
APPLICABLE POLICY

Policy allows Council to consider permitting these uses through a rezoning process consistent with policy SW-6 and SW-7 of the Bedford MPS.

For further information, please visit https://www.halifax.ca/business/planning-development/applications or contact **Jennifer Chapman**, Planner III, 902-490-3999, chapmaje@halifax.ca

HALIFAX

PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada



Map 1 - Generalized Future Land Use

130 Mann Street,
Bedford

HALIFAX

Subject Area

Plan Area Boundary

Bedford Plan Area &
Planning Districts 14 & 17

Planning Districts 14 & 17 Designations

LI	Light Industrial

Bedford Designations

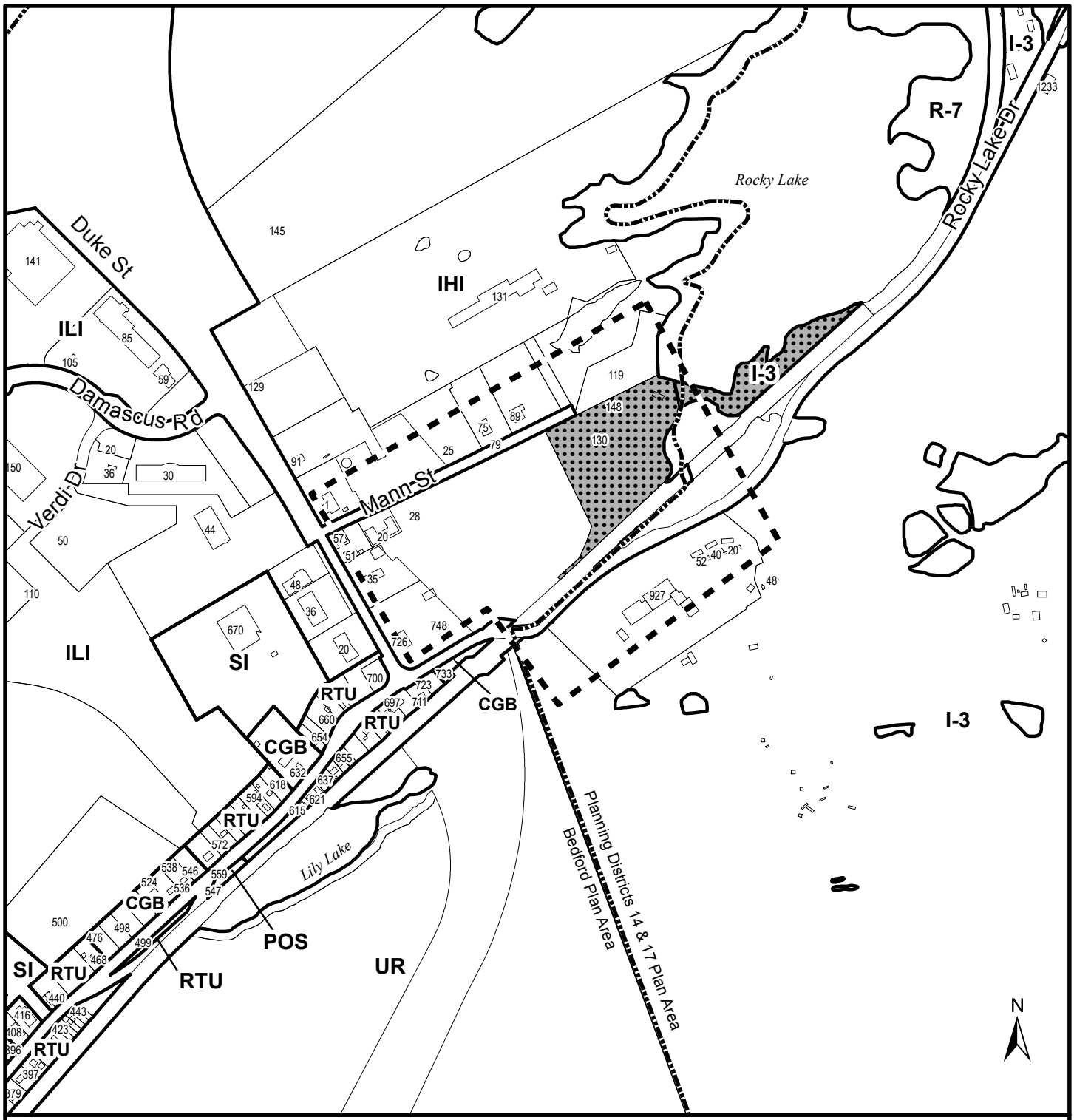
R	Residential
RR	Residential Reserve
C	Commercial
IND	Industrial
I	Institutional

0 100 200 300 m

This map is an unofficial reproduction of a portion of the Generalized Future Land Use Map for the plan area indicated.

The accuracy of any representation on this plan is not guaranteed.

27 November 2017 Case 20634 T:\work\planning\SER_Group\SER_CasesVariances\20634\Maps_Plans\ (HK)



Map 2 - Zoning and Notification

130 Mann Street,
Bedford

Subject Area

Area of Notification

Plan Area Boundary

Bedford Plan Area &
Planning Districts 14 & 17

Planning Districts 14 & 17 Zones

R-7	Rural Estate
I-3	Light Industry

Bedford Zones

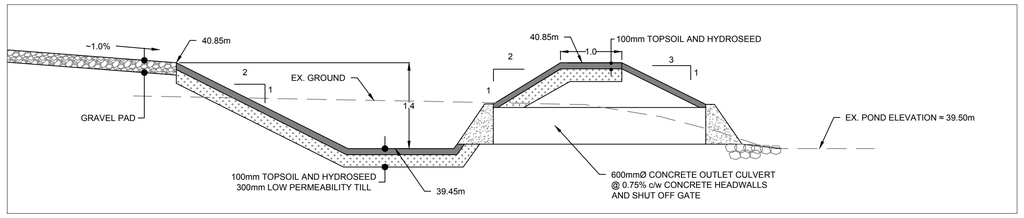
RTU	Two Dwelling Unit
CGB	General Business District
ILI	Light Industrial
IHI	Harbour Oriented Industrial
SI	Institutional
POS	Park Open Space
UR	Urban Reserve

HALIFAX

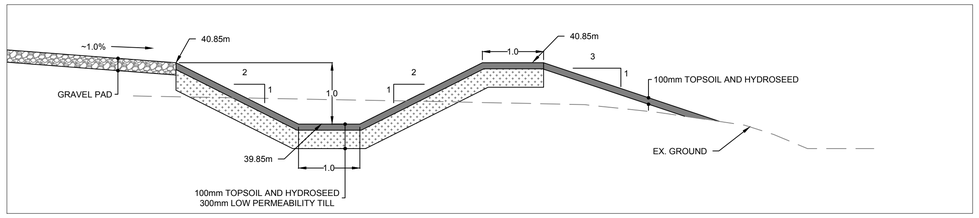
0 100 200 300 m

This map is an unofficial reproduction of a portion of the Zoning Map for the plan area indicated.

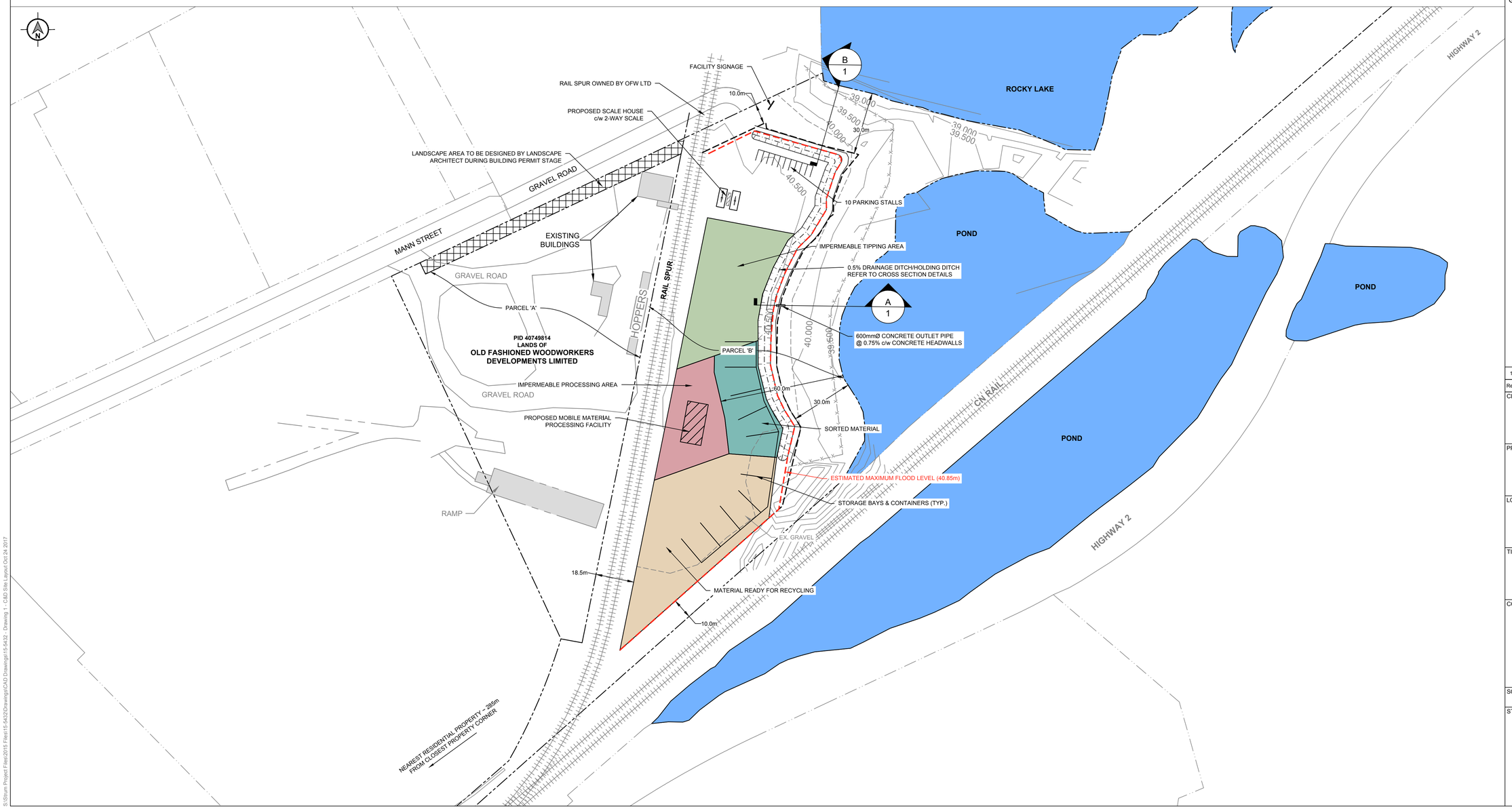
The accuracy of any representation on this plan is not guaranteed.



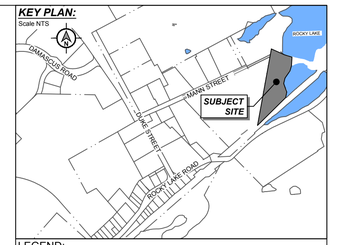
A/1 **DITCH CROSS SECTION AT OUTLET**
NTS



B/1 **DITCH CROSS SECTION**
NTS



KEY PLAN:
Scale NTS



LEGEND:

ITEM	PROPOSED	EXISTING

0 10 20 30 40 50 metres
Scale 1:1000

GENERAL NOTES:

1. THE DRAINAGE/HOLDING DITCH HAS BEEN DESIGNED TO HAVE ENOUGH STORAGE VOLUME TO CONTAIN 32 mm OF RAIN FALLING ON THE PROJECT SITE. THIS WILL CAPTURE APPROXIMATELY 95% OF THE STORMS WHICH ARE EXPECTED TO FALL ON THE SITE IN A GIVEN YEAR (BASED ON ENVIRONMENT CANADA DATA FOR THE HALIFAX INTERNATIONAL AIRPORT WEATHER STATION # 8202251).
2. ESTIMATED MAXIMUM FLOOD LEVEL BASED ON A SITE REVIEW OF EXISTING HYDRAULIC FEATURES COMPLETED BY STRUM CONSULTING IN MAY 2016. FLOOD LEVEL BASED ON OVERTOPPING OF RAIL BED IN CENTRE OF ROCKY LAKE. ACTUAL 1 IN 100YR FLOOD ELEVATION LIKELY TO BE LOWER THAN THIS ELEVATION AND TO BE CONFIRMED WITH DETAILED HYDROLOGIC STUDY PRIOR TO BUILDING PERMIT.
2. NO BICYCLE PARKING REQUIRED UNDER SECTION 37A 1 OF THE BEDFORD LAND USE BYLAW.
3. MAXIMUM STRUCTURE HEIGHT = 11.0m

Rev	Date	Revision Description	Appr'd
1	2017/10/24	ADDITION OF FLOOD LEVEL	NS

CLIENT:
FIRST MUTUAL PROPERTIES

PROJECT:
C&D TRANSFER AND
PROCESSING FACILITY

LOCATION:
130 MANN STREET, BEDFORD,
NOVA SCOTIA

TITLE:
SITE LAYOUT

CONSULTANT:
Strum 20 YEARS Taking Charge CONSULTING
Engineering * Surveying * Environmental
Bedford * Antigonish * Moncton * Deer Lake

SCALE:
H: 1:1000 V:

STAMP:

DATE:	DRAWN:
2016-10-06	RW
DESIGNED:	CHECKED: / APPROVED:
RW	CB / CB

PROJECT No. 15-5432

DRAWING No. **1**

S:\Strum Project Files\2015 Files\15-5432\Drawings\CAD Drawings\15-5432 - Drawing 1 - C&D Site Layout Oct 24 2017

Project 161-04044-06

October 13, 2016

Mr. Cesar Saleh, P. Eng.
VP Planning and Design
W.M. Fares Group
3480 Joseph Howe Drive, 5th Floor
HALIFAX NS B3L 4H7

Sent via Email to cesar.saleh@wmfares.com

RE: Traffic Impact Statement for a Construction and Demolition Processing Facility, 130 Mann Street, Bedford

Dear Mr. Saleh:

OSW Development Limited is proposing to construct a Construction and Demolition Processing Facility on a site that they own at 130 Mann Street, Bedford. This is the Traffic Impact Statement (TIS) that you require to include with the request to HRM to re-zone the site to permit the operation of a Construction and Demolition Processing Facility.

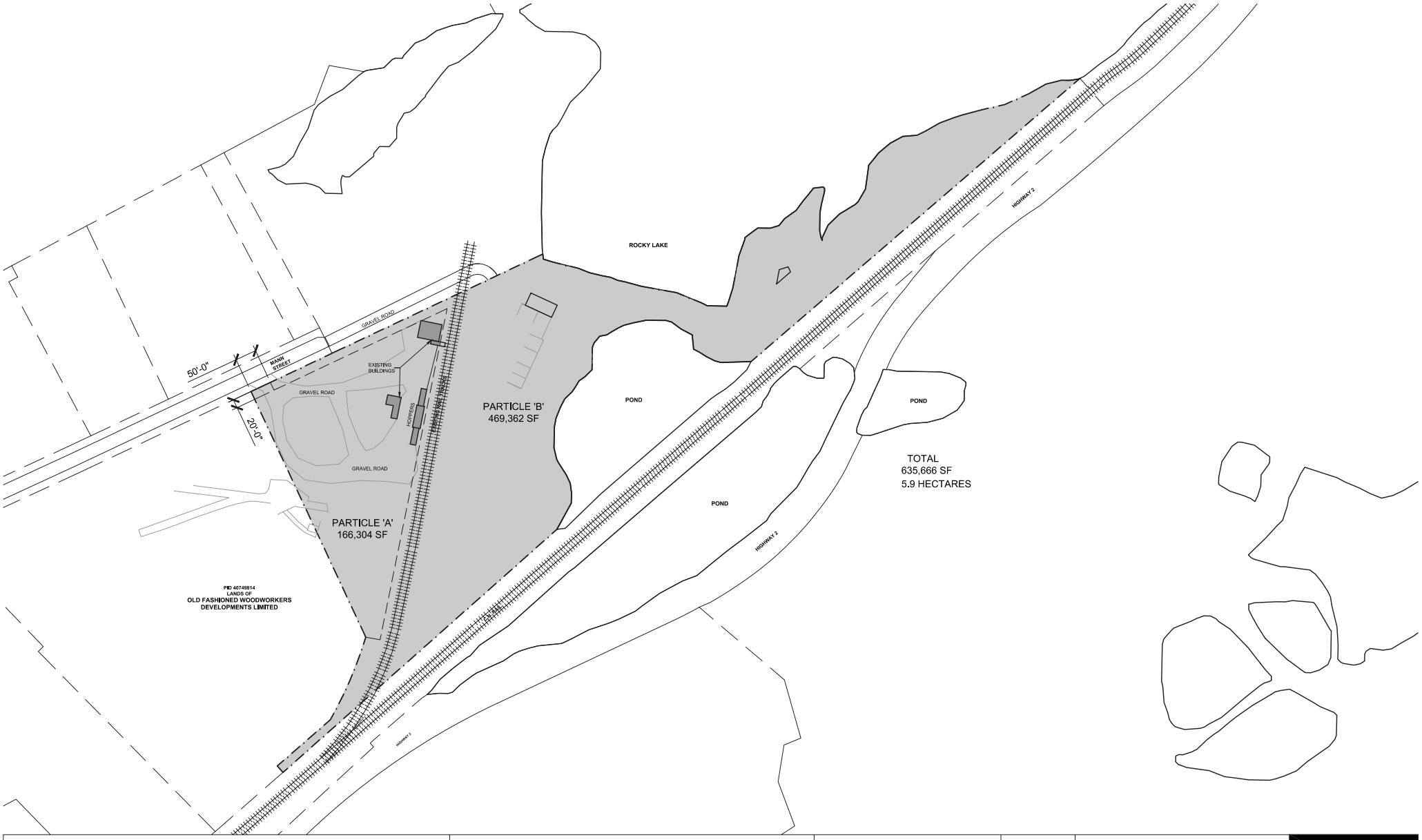
Background - While Mann Street has many existing industrial land uses and the site is now zoned industrial, it must be re-zoned to permit the operation of a Construction and Demolition Processing Facility. The site now includes a cement reloading operation where cement that arrives on rail cars is stored in silos (Photo 1) and reloaded to trucks. The site currently provides delivery of one or two loads per day to concrete ready mix plants.

Photo 1 - Looking onto the site towards the cement silos from the site driveway entrance on Mann Street.

The proposed additional development on the site will use the existing driveway which is near the west edge of the site shown as the shaded area on Figure 1. Visibility is good on both Man Street approaches to the site driveway as illustrated in Photos 2 and 3. Site traffic will access Duke Street at a STOP controlled intersection approximately 450 meters west of the site driveway.

Photo 2 - Looking west on Mann Street towards Rocky Lake Road from the site driveway at 130 Mann Street.

Photo 3 - Looking east towards the end of Mann Street from the site driveway at 130 Mann Street.



130 MANN STREET BEDFORD, NS	**SITE PLAN**	**Figure 1**	Project No.: 2015.01 Scale: 1" = 200'-0" Date: 13 May 16	WM FARES ARCHITECTS	**SDP**

Duke Street is an approximately one kilometer long collector street in Bedford that connects Rocky Lake Road to a Highway 102 interchange. There is a signalized intersection at Damascus Road approximately one-half kilometer south of Highway 102, and the Mann Street intersection and several driveways between Highway 102 and Rocky Lake Road. The posted speed limit is 50 km/h and the street has two travel lanes at the Mann Street intersection (Photos 4 and 5).

Photo 4 - Looking south on Duke Street towards Rocky Lake Road from the Mann Street intersection.

Photo 5 - Looking north on Duke Street towards Damascus Road and Highway 102 from the Mann Street intersection.

Background Traffic Volumes - A turning movement count obtained by HRM at the Damascus Road intersection during July 2012 indicated two-way volumes of 615 vehicles per hour (vph) during the AM peak hour and 815 vph during the PM peak hour on the section of Duke Street south of Damascus Road near the Mann Street intersection. Using a 1.5% annual traffic volume growth rate which is considered appropriate for this location, it is estimated that 2016 two-way volumes are approximately 650 vph during the AM peak hour and 865 vph during the PM peak hour.

Trip Generation - The proposed Construction and Demolition Processing Facility which is expected to have between three and eight employees will operate from 7:00 AM to 5:00 PM. It will receive an average of 30 trucks loads of construction and demolition material each day. The material will be sorted and processed with approximately 70% being recycled and 30% being sent to the Otter Lake Waste Processing & Disposal Facility. It is expected that there will be an average of five truck loads of processed material leaving the site each day.

Trip generation estimates for this development have been estimated (Table 1) using General Light Industrial trip generation rates published in *Trip Generation, 9th Edition* (Institute of Transportation Engineers, 2012) augmented with assumed peak hour trips for material handling vehicles. It is estimated that the proposed materials handling facility will generate approximately seven two-way vehicle trips (five entering and two exiting) during the AM peak hour and seven two-way vehicle trips (two entering and five exiting) during the PM peak hour.

Table 1 - Trip Generation Estimates for Proposed Development

Land Use [1]	Units [2]	Trip Generation Rates [3]				Trips Generated [3]			
		AM Peak		PM Peak		AM Peak		PM Peak	
		In	Out	In	Out	In	Out	In	Out
General Light Industrial (Land Use 110)	8 employees	0.365	0.080	0.088	0.332	3	1	1	3
Material Delivery Vehicles [2]	30 truck loads / day	It has been assumed that 10% of materials handling trucks will be included in each AM and PM peak hour with a 75% / 25% directional split				2	1	1	2
Material Removal Vehicles [2]	5 truck loads / day					0	0	0	0
Total Trip Generation Estimates for Proposed Development						5	2	2	5

NOTES:
1. Rates are for Land Use 110, *Trip Generation*, *9th Edition*, Institute of Transportation Engineers, 2012.
2. The estimated numbers of daily truck loads of material have been provided by an *OSW Development Limited* official.
3. Rates are 'vehicles per hour per unit'; trips generated are 'vehicles per hour for peak hours'.

Summary -

1. The proposed Construction and Demolition Processing Facility which is expected to have three to eight employees will receive an average of 30 trucks loads of construction and demolition material each day. The material will be sorted and processed with approximately 70% being recycled and 30% being sent to the Otter Lake Waste Processing & Disposal Facility. It is expected that there will be an average of five truck loads of processed material leaving the site each day.

2. Site generated traffic will use the existing site driveway on Mann Street and will access Duke Street at a STOP controlled intersection approximately 450 meters west of the site driveway. It is estimated that the 2016 two-way volumes on Duke Street near the Mann Street intersection are approximately 650 vph during the AM peak hour and 865 vph during the PM peak hour.

3. It is estimated that the proposed materials handling facility will generate approximately seven two-way vehicle trips (five entering and two exiting) during the AM peak hour and seven two-way vehicle trips (two entering and five exiting) during the PM peak hour.

Conclusions -

4. Since the numbers of site generated trips are low, they are not expected to have any significant impact to levels of performance of Mann Street, Duke Street intersections or the regional street system.

5. The low numbers of site generated trips are not expected to have any significant impact to the operation of Duke Street when Highway 107 Phase 1 is constructed from Burnside Drive at Akerley Boulevard to Duke Street sometime in the future.

If you have any questions, please contact me by telephone at 902-452-7747 or Email to ken.obrien@wspgroup.com.

Sincerely,

[redacted]g.
Senior Traffic Engineer
WSP Canada Inc.

[redacted]

HALIFAX REGIONAL MUNICIPALITY
Public Information Meeting
Case 20634

The following does not represent a verbatim record of the proceedings of this meeting.

Thursday, November 23, 2017
7:00 p.m.
Bedford Education Centre (Cafeteria) - 426 Rocky Lake Dr., Bedford, NS

STAFF IN ATTENDANCE: Jennifer Chapman, Planner, HRM Planning
Holly Kent, Planning Technician, HRM Planning
Tara Couvrette, Planning Controller, HRM Planning
Dean MacDougall, Planner, HRM Planning
Laurie Lewis, Program Manager, Solid Waste
Alonzo MacDonald, Diversion Compliance Officer

ALSO IN ATTENDANCE: Councillor, Tim Outhit, District 16; Councillor Steve Craig, District 15
Cesar Saleh, WM Fares
Sean Chiasson, Ben Chiasson, Dan Chiasson, O.F.W Development

PUBLIC IN ATTENDANCE: Approximately 9

The meeting commenced at approximately 7:00 p.m.

Call to order, purpose of meeting – Ms. Chapman

Ms. Chapman introduced herself as the Planner and Facilitators for the application. She also introduced; Tim Outhit - Councillor (District 16); Tara Couvrette – Planning Controller, Holly Kent - Planning Technician, Dean MacDougal – Planner; Laurie Lewis, Solid Waste; Alonzo MacDonald – Diversion Compliance Officer; Cesar Saleh – WM Fares - applicant, and Sean, Ben & Dan Chiasson - owners.

Case 20634 - Application by WM Fares to rezone a portion of 130/148 Mann Street, Bedford (PID 40749814) from Heavy Industrial to the C&D Materials Processing Facilities (CD-2) Zone.

Ms. Chapman explained; the purpose of the Public Information Meeting (PIM) is: a) to identify that HRM has received a proposal for the site; b) to provide information on the project; c) to explain the Planning Policies and the stages of the Planning Process; d) an opportunity for Staff to receive public feedback regarding the proposal. No decisions are made at this PIM.

1. Presentation of Proposal – Jennifer Chapman

Ms. Chapman provided a brief introduction to the application and then made a presentation to the public outlining the purpose of the meeting, status of the application and the developer's request. Ms. Chapman outlined the context of the subject lands and the relevant planning policies.

Applicants Presentation – Sean Chiasson

Mr. Chiasson explained what they were looking to do on this site, the history of the site, and what is in the surrounding area. They also explained why they were looking to rezone to allow for a C&D site was because the closest sites currently are in Goodwood and Ross Rd. There is a huge cost to truck materials to either of these two sites.

2. Questions and Comments

Walter Regan – Sackville Rivers Association – stated they are not against this proposal but has the following concerns/questions:

1. As part of the agreement will there be maintenance of the berms?
2. Will the stormwater runoff be tested on a regular basis?
3. The monitoring wells, will that information be available to the Water Advisory Board for comment, as well as HRM Environment staff?
4. Will there be water quality testing before and after of the narrow water bodies? Will that information also be made available to HRM Environment?
5. The holding cells, will they be lined? Where would that water go?
6. What about wind and dust?
7. Will there be any oil tanks on site? Any septic fields on site? Will there be any contaminate materials on site, for example; tires, oil pans.
8. They are really impressed with the 100-foot setback, they think that is very good.
9. They believe this proposal should go to the Regional Waters Advisory Board for comment.
10. They believe it is extremely important that all storm water be directed through an oil grid separator for collection and separation.
11. The berms will be long and ideal for some tree planting
12. Has the municipality of East Hants been contacted? They use the Shubenacadie system for drinking water and should be informed of this.
13. Have you talked to Environment Canada and BFO since there are several endangered species in the Shubenacadie water system, Atlantic Salomon, Stripped Bass?
14. Will HRM staff be carrying out an onsite inspection on a regular basis, 1-year out, 2-years out etc. that the berm etc. is maintained?
15. Will the discharge go into a retention pond and set a direct discharge to the water courses?
16. Everything is designed for the 1 inch storm, what if you have a 2 or 3 inch storm?

Sean Chiasson – O.F.W Development – They stated that there will be no oil tanks or tires, no contaminated fluids or liquids. The site is not a liquid site so there will be no liquids being brought there. The berms will be tested on a regular basis for integrity. Strum Environmental in in charge of all that. Strum has come up with an Environmental Management Plan to protect the lake. They will be testing prior to and then doing testing on a yearly basis.

Laurie MacDonald – Solid Waste – They said if the rezoning application is approved their role would be to review the application for submission to license and operate. They would be looking at the proposal including their environmental management plan, there operations plan and they also conduct monitoring and inspections of the facility to ensure that they are operating in compliance with the provisions of the operations management plan, fire plan and all the requirements under the licensing regime.

Jennifer Chapman – Planner- stated that the practice now is that only policy amendments go to the Watershed Board and site specific proposals no longer go but offered to follow up with Carl and Maggie to verify that.

Kim MacNeil – Kentville – Eso East Consulting – They stated that in the proposed plan there was an area for sorted material and there is storage of that sorted material which is located within 60 metres of the buffer that is required for the C&D materials processing tacitly. When you look at the definition of processing facility, it means; lands and or buildings that are used to sort C&D materials. Because there is sorted material on that land where it is being held it wouldn't meet the setback distances for the C&D materials processing facility. **Jennifer Chapman** – stated that the setbacks for processing facilities is 60 metres but for the transfer station and the transferring components the setback is 30 metres. An interpretation was made that the sorting is part of the transfer side of the operation so that would be acceptable within that area. **Kim MacNeil** disagrees with that because the transfer station area is the transfer station area and the sorted material exists because of that processing facility and should become part of that processing facility. If the intent and definition of the by-law are applied, then the site as it exists now is too small. According to the submission the surface water will drain to designated collection points and then it would be discharged to one of the water courses. In a May drawing the surface water directed to a temporary holding area. The holding area was located within 30 metres of the buffer but because of the size of the site there was really no other place to put it. It didn't fit on the site so it came out of the schematic and the

new one was done dated October. The drawing in October has no drainage holding area at all, there is just a drainage ditch. The ditch will ultimately discharge into a water course. There is no room for treatment on that site. They suggest that if there isn't room for treatment that there is potential there for violations of the Municipal Planning Strategy policy SW4 and policy Z35 part 4. The water that doesn't meet the guidelines will be transported and disposed of offsite. The cost of that for any size volume if going to be outrageous. There is not enough room on this site for what the applicant is looking to do.

3. Closing Comments

Ms. Chapman thanked everyone for coming and expressing their comments.

4. Adjournment

The meeting adjourned at approximately 7:33 p.m.

Relevant MPS Policies

Policy SW-6:

A CD-1 (C&D Transfer Stations) Zone shall be established in the land use by-law. The zone shall permit only C&D transfer stations and shall establish controls on setbacks from adjacent uses, buffering and screening, landscaping, access, and outdoor storage in order to minimize impacts on adjacent uses. Amendments to the schedules of the land use by-law to permit new C&D operations will only be considered where such operations are within the Industrial Designation and pursuant to the following criteria:

a) safe access to and from the site of the proposed operation shall be obtained from the abutting street or highway and the development shall not cause traffic circulation problems or traffic hazards due to the nature or level of traffic created;

b) no operation shall have direct access to a local road, as determined by the Municipality's Traffic and Transportation Services Division and any access road for such operations shall not be provided through lands zoned for residential or community use;

a) sites shall allow for the reasonable separation of the proposed operation from surrounding residential development;

d) consideration shall be given to the extent and location of open storage with respect to abutting properties;

e) scale and appearance of the proposed operation will not detract from or adversely affect surrounding developments;

the proposed site layout, including but not limited to landscaping, buildings or structures, access and egress, parking areas, signage, and outdoor storage or display areas, shall be appropriate having regard to the other provisions of this Policy;

adequate buffering and screening measures, including the use of berms, opaque fencing, and vegetation, shall be provided as a means to reduce any visual and/or noise intrusion to surrounding residential development;

a) applicant shall provide a report that addresses the effectiveness of environmental measures used to protect the natural environment (ie watercourse, groundwater, etc.);

b) no portion of the operation shall be located within a floodplain (1:100 year event);

c) consideration shall be given to the adequacy of onsite or central services; and

i) provisions of Policy Z-3.

Policy SW-7:

A CD-2 (C&D Recycling Operations) Zone shall be established in the land use by-law. The zone shall permit C&D recycling operations and CD-1 zone uses, excluding disposal, and shall establish controls on setbacks from adjacent uses, provide buffering and screening, landscaping measures, regulate access and outdoor storage in order to minimize impact on adjacent uses. Amendments to the schedules of the land use by-law to permit new CD-2 Zone uses shall only be considered where such operations are within the Industrial Designation, and pursuant to criteria of Policy SW-6.

Strum
CONSULTING

May 27, 2016

Mr. Carl Purvis, MCIP, RPP
Principal Planner – Urban Enabled Applications
Planning and Development
Halifax Regional Municipality

Dear Mr. Purvis,

Re: Environmental Management Plan Notes
C&D Waste Transfer Station Application – 130 Mann Street, Bedford, NS

The following site-specific environmental management requirements and best management practices (BMPs) have been developed for the C&D Waste Transfer Station Application currently proposed for the 130 Mann Street site in Bedford, NS (PID 40749814). These measures will be implemented at the site to mitigate the potential impact of facility operations on the surrounding environment. Site layout and environmental protection features are indicated on Drawing 1, attached.

- All site work shall be performed in accordance with the acceptable procedures outlined in the current version of the "Guidelines for the Siting and Operation of Waste Transfer Stations", as well as the "Erosion and Sedimentation Control Handbook for Construction Sites", both issued by NS Environment. All work performed at the site shall also be in conformance with the applicable Federal, Provincial, and Municipal laws and regulations, including but not limited to the Nova Scotia Environment Act, the Canadian Environmental Protection Act, Canadian Council of Ministers of the Environment guidelines, the Fisheries Act, and the Halifax Regional Municipality (HRM) legislation and bylaws (i.e. HRM By-Law L-200).

- The Site Owner and/or Operator performing the work are responsible for the protection of natural water bodies and groundwater from runoff originating from the site, and shall ensure that water containing parameter concentrations exceeding applicable discharge criteria does not leave the site.

- As required by the HRM By-Law L-200 and NS Environment Guidelines for the Siting and Operation of Waste Transfer Stations, the site operations and building locations will correspond to the required off-sets from nearby properties, potable wells, watercourses, water bodies, and wetland areas in order to mitigate the potential effects of site drainage to any potentially sensitive receptors. The minimum offsets will include the following:

Table 1 - Minimum separation distances for C&D facilities as per HRM By-Law L-200

Receptor/Location	Minimum Separation Distances (m)	
	Transfer Stations	Processing Operations
Proposed transfer/processing area or stockpile to property line (if within 250 m of residential or institutional property use).	30	60
Proposed transfer/processing area or stockpile to property line (if not within 250 m of residential or institutional use buildings).	10	10
Proposed transfer/processing area or stockpile (if within enclosed building) to property line.	10	10
Proposed transfer/processing area or stockpile to watercourse.	30	60
Proposed transfer/processing area or stockpile to off-site potable well.	30	60

- All C&D material shall be placed, tipped, stored, and processed on impermeable pads which shall be designed to minimize material and liquids/leachate from entering the groundwater or discharging away from the pads into any nearby surface water receptors. Additionally, where necessary, C&D material storage/transfer areas and processing areas will be covered to minimize contact of the material with precipitation. Liquid run off from the site shall be drained through defined outflow points in the diversion berm. The drainage channels shall be complete with a valve which can be closed in order to temporarily stop discharge of liquid from the site until it can be transported and disposed of off site.

- No C&D materials shall remain on site of a C&D processing facility longer than one year, and no C&D materials shall remain on a site of a transfer station longer than 15 days. An equivalent or greater amount of C&D materials must be removed from the site than what is accepted into the site in one calendar year.

- A berm shall be constructed on the down-gradient side of the site between site operations and the down-gradient Pond and Rocky Lake. The berm shall be constructed using compacted clay soil with a hydraulic conductivity of $1x10^{-6}$ cm/s or less, or other suitable impermeable material with an equal level of protection. If clay soil is used, the clay will be covered with a layer of topsoil and growing vegetation to prevent erosion of the berm. A ditch shall be installed on the up-gradient side of the berm to allow for surface water to drain to designated collection points.

- Sediment fencing shall be installed on the down-gradient side of the property between the berm and adjacent watercourses/waterbodies. The sediment fencing shall be constructed using a product specifically manufactured as sediment fence, and shall be installed as per the

manufacturer's instructions. In order to extend the life of the sediment fence and limit damage, all sediment fencing shall be installed using rebar posts and page-wire fencing as supportive backing. The bottom of all sediment fencing shall be keyed-in to the ground to prevent surface water from flowing under the sediment fencing instead of through it.

- Any areas of exposed soils on the site that are subject to regular vehicle or equipment traffic shall be covered with a suitable barrier material (e.g. compacted gravel, asphalt pavement, etc.) to minimize sediment transport and dust generation. Any areas of exposed soils that are not subject to regular vehicle/equipment traffic shall be scarified and hydroseeded to stabilize those areas, or shall also be covered with a gravel or asphalt barrier if preferred by the Site Owner.

- Environment Canada's weather forecasts shall be monitored on a regular basis. When significant rainfall is forecast, it shall be ensured that all environmental management measures on the site are in place and functional. Weather updates can be obtained by contacting Environment Canada's weather line at (902) 426-9090.

- Clean surface water runoff shall be diverted around work areas and C&D material storage and processing areas, where applicable.

- Trucks hauling C&D materials to and from the site shall have the material in transport covered (e.g. tarps, cloth, etc.) to prevent dust generation or loss of the material.

- Areas for fuel storage, refuelling, lubrication or cleaning of equipment shall be located at least 30 m from wetland areas, ditches, watercourses, and/or waterbodies.

- All environmental management measures on the site shall be inspected on a weekly basis, as well as before and after each rainfall event exceeding 10 mm. Any necessary repairs or alterations to the management measures shall be made within 24 hours of detection, or immediately if a rainfall event is imminent, or if sediment or leachate-impacted water is being discharged to a receiving waterbody. Each inspection shall be recorded and the documentation kept on file if requested by NS Environment or the HRM. The inspection requirement for the site shall be completed on an on-going basis until the C&D waste transfer activities cease on the site.

- Baseline surface water quality samples shall be collected from the adjacent receiving waterbodies prior to commencement of site C&D transfer/processing operations. Additionally, baseline groundwater quality samples will also be collected from groundwater monitoring wells. It is understood that monitoring wells were present on the site as part of previous environmental assessment activities. If possible, the previously-installed groundwater monitoring wells may be used for this purpose; however, there is potential that installation of additional monitoring wells may be required to adequately monitor proposed site activities. All baseline groundwater and surface water samples shall be analyzed for the Comprehensive

Lists of Parameters as included in Schedule 1, Columns 1 and 3, respectively, of the NS Environment Guidelines for the Siting and Operation of Waste Transfer Stations.

- An on-going surface water and groundwater monitoring program shall be completed at the site until C&D waste transfer/processing activities cease and the site no longer receives C&D waste. The monitoring program shall include the following:

    - Groundwater – the groundwater monitoring program will include at least one monitoring well located hydraulically down-gradient of site activities and up-gradient of receiving waterbodies, as well as one groundwater monitoring well located hydraulically up-gradient of site activities. Representative samples of groundwater shall be obtained from the wells on a semi-annual basis during high-low flow periods and analyzed for the parameters listed in Schedule 1, Column 1 of the NS Environment Guidelines for Siting and Operation of Waste Transfer Stations. An annual report of the monitoring results shall be prepared and submitted to NS Environment. NS Environment will also be notified within 60 days of sample collection or 5 days of sample analysis if any analysis results are noted to have significantly increased beyond expected seasonal variation as the result of site activities. The parameters monitored as part of the groundwater monitoring program may be amended if the results of the monitoring program indicate that such would be applicable.

    - Surface Water – the surface water monitoring program will include collection of representative samples of surface water being discharged from the facility and that of any watercourse, including upstream control locations, which may be affected by stormwater run-off or sediment discharge from the facility. The surface water sampling shall be conducted on a semi-annual basis during high/low flow periods, and shall be analyzed for the parameters listed in Schedule 1, Column 3 of the NS Environment Guidelines for the Siting and Operation of Waste Transfer Stations. An annual report of the monitoring results shall be prepared and submitted to NS Environment. NS Environment will also be notified within 60 days of sample collection or 5 days of sample analysis if any analysis results are noted to have significantly increased beyond expected seasonal variation as the result of site activities. The parameters monitored as part of the surface water monitoring program may be amended if the results of the monitoring program indicate that such would be applicable.

- The Site Owner and/or Operator shall be responsible to complete regular monitoring of potential odours from site operations. If necessary, mitigative measures shall be taken to reduce odour emissions from the site.

- A protocol shall be developed and implemented at the site for managing unacceptable materials that may potentially be received. Additionally, the facility shall have measures in place to prevent illegal dumping and vandalism, and shall have a protocol in place to address and record/document any complaints that may be associated with the operation of the site.

- The Site Owner and/or Operator shall implement appropriate controls to minimize dust generation from site activities. Particulate emissions at or beyond the facility property boundaries shall not exceed an annual geometric mean of 70 µg/m^3, or a daily (24 hour) average of 120 µg/m^3. Monitoring of and reporting on site particulate emissions shall be conducted at the direction of NS Environment or the HRM.

- The Site Owner and/or Operator shall be responsible to implement appropriate controls to minimize sound generation from site activities. Sounds levels at or beyond the facility property boundaries shall not exceed 65 dBA during daytime hours (0700-1900 hours), 60 dBA during evening hours (1900-2300 hours), and 55 dBA during overnight hours (2300-0700 hours), Sundays and Statutory Holidays. Monitoring of and reporting on site noise levels shall be conducted at the direction of NS Environment or the HRM.

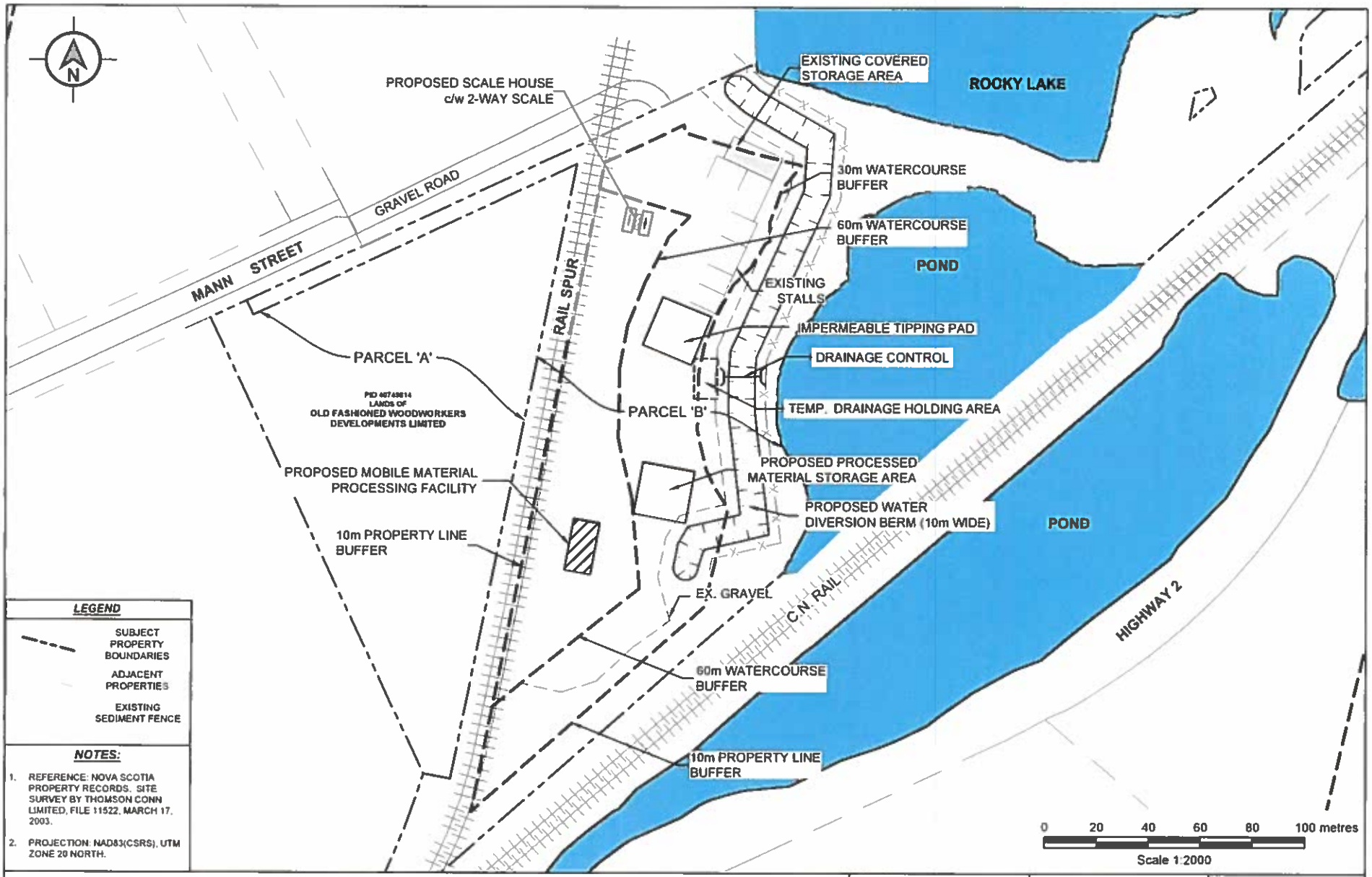
- The Site Owner and/or Operator shall implement vector control measures (e.g. control of birds, insects, rodents, etc.), if applicable. An inspection of the facility as part of the daily operations shall be completed to maintain good housekeeping practice and take appropriate action to reduce vector and litter problems, if applicable. The use of pesticides must comply with applicable Federal, Provincial, and/or Municipal regulations.

- A retention pond or structure shall be constructed on the down-gradient side of the site in order to capture and control run-off from the material transfer, stockpiling, and processing areas.

- No portion of the site will be located within the 1 in 100 year floodplain.

Thank you,
Originally Signed

Nic Strum, P.Eng
Project Engineer
nstrum@strum.com



FIRST MUTUAL PROPERTIES

ENVIRONMENTAL FEATURES

130 MANN STREET, BEDFORD, NOVA SCOTIA

C&D SITE LAYOUT

DATE:	PROJECT #:	DRAWING #:
MAY 2016	15-5432	1
DRAWN BY: RW	CHECKED BY: NS	
SCALE: 1:2000	Strum	