Review of Cosburn TOC
Noise and Vibration Considerations

Ontario Line Technical Advisor

Toronto, Ontario

December 2022

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Sign-Off Sheet

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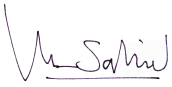
Reviewed by  Digitally signed by Mohammed Salim Date: 2022.12.21 12:22:25 -05'00'

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Principal - Acoustics Practice Area Lead Ontario, Canadian Technical Lead Noise, Vibration and Acoustics

Table of Contents

Figures

Appendices

1 Introduction

Stantec, as part of OLTA, has reviewed the massing drawings for the Cosburn transit-oriented community (TOC). The drawings and associated impacts have been considered with respect to compliance with provincial regulations from a land use planning perspective, as well as with respect to the recommendations made in the publicly released environmental impact assessment report (EIAR) for the Ontario Line (OL).

The purpose of this report is:

A) to determine if noise and vibration impacts of the Ontario Line (OL) on the proposed future TOC comply with the provincial limits from a land use planning perspective and to identify specific mitigation measures in the design at the planning approval stage; and

B) to review potential OL noise and vibration impacts due to the addition of this TOC (as a new point of reception) and to review whether this assessment would meet the same project requirements included in the noise and vibration impact assessment appended to the EIAR (OLTA, Noise and Vibration Impact Assessment Report, April 2022).

Each of these perspectives on the potential impacts with regards to the TOC are discussed separately in Sections 3 and 4 of this report.

2 Documents Considered in Assessment

The following documents and drawings were provided and reviewed for the purposes of this assessment:

- Cosburn TOC Massing Drawings prepared by SvN and dated August 5, 2022 (Appendix A) as listed below
  - 10206938-TD014A-PAPE-COSBURN NORTH SITE_220805.pdf
  - PND_03-0810_14 COSBURN - SOUTH SITE_220805.pdf
- Underground Station Design Drawings prepared by OLTA, and dated February 18, 2022 (Appendix B) as listed below
  - PND-030810_14 Cosburn_Station Architecture_2022.02.18_RS.pdf
- The final Ontario Line Environmental Impact Assessment Report (EIAR)[1], April 2022
- The final OLTA Noise and Vibration Impact Assessment Report (NVIAR)[2], April 2022, appended to the EIAR

[1] Publicly available at Full Report - Environmental Impact Assessment Report | Metrolinx Engage

[2] Publicly available at Noise and Vibration Impact Assessment Report (metrolinxengage.com)

- The Ministry of the Environment, Conservation and Parks (MECP) NPC-300 noise guideline: Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning Publication NPC-300, August 2013
- International Organization for Standardization (ISO), ISO 9613-2. Attenuation of sound during propagation outdoors – Part 2: General method of calculation. Geneva, Switzerland, 2017
- Federal Transit Administration (US FTA), U.S. Department of Transportation, Transit Noise and Vibration Impact Assessment Manual, September 2018

The assessment considers the drawings provided at the time of preparing this report and is reviewed with consideration of the analysis included in the final noise and vibration report as of April 2022 (OLTA, Noise and Vibration Impact Assessment Report, April 2022). The discussion within this report is limited to the information available at the time of preparing this report.

3 Impact of Ontario Line Project on the Cosburn TOC

The Cosburn TOC is a proposed new land development that would overlay the proposed OL Infrastructure. This section will discuss the potential impacts that the OL project may have on the proposed TOC development with respect to noise and vibration.

Note that OL tracks are underground at this location, and it is assumed that air-borne noise from the underground tracks would not be of significant impact on the Cosburn TOC compared to other stationary noise sources associated with Cosburn Station.

3.1 Noise Criteria for TOC

To assess noise impacts from adjacent stationary noise sources from the station on the Cosburn TOC (at the Plane of Window (POW)), the Ministry of the Environment, Conservation and Parks (MECP) NPC-300 noise guideline (Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning Publication NPC-300, August 2013) is the appropriate guideline for this discussion.

As per NPC-300, the Cosburn TOC is required to meet Class 1 noise criteria (as an urban acoustical environment dominated by activities of people and/or urban hum). Though the existing background noise level may be used to establish Class 1 noise criteria at the property, in the absence of any background noise measurements, OLTA has adopted the more stringent nighttime MECP exclusionary limit of 45 dBA (11pm – 7am) for the purpose of this review.

The stationary noise impact assessment adopts the ISO 9613-2 standard for outdoor sound propagation for the noise impact to the Cosburn TOC and is assessed in term of 1 hour energy equivalent sound levels ($L_{eq\text{-}1hr}$) in dBA.

3.2 Analysis of TOC Noise Levels

The Cosburn Station Design drawings (Appendix B) were reviewed for potential noise sources that could impact the TOC. The noise sources identified at the station and included in this assessment are listed below and illustrated in Appendix C.

- Station Entrance building, west elevation:
  - Tunnel Ventilation System (TVS) air intake louvre
  - Condenser yard with 3 condensers (assumed)
  - Station Entrance building, south elevation:
  - HVAC intake louvre
  - HVAC exhaust louvre
  - TVS makeup air grille (areaway) near Cosburn Avenue
- Ventilation and Emergency Egress building, west elevation:
  - TVS vent louvres
  - HVAC exhaust louvre
  - Condenser yard with 3 condensers (assumed)

The presence of an emergency generator was not noted on the design drawings; therefore, the generator testing scenario was not assessed.

Noise impacts from these Cosburn Station noise sources were predicted using the CADNA/A noise model, with the following assumptions:

- Simplified massing of TOC podiums with smooth sound-reflective façades
- Balconies on Levels 3, 4, and 5, with Plane of Window (POW) receptors located at the façade (inner edge of balconies).
- All surrounding ground surfaces treated as sound reflecting, using a suitable value representing hard paving.
- All intake and exhaust louvres modelled as vertical area sources (except for the TVS makeup air grille, modelled as a horizontal area source).
- The area sources used typical axial fan noise spectra with an overall sound pressure level L_p of approximately 60 dBA at 1 m, in accordance with TTC noise limits for station ventilation.
- All condensers modelled as point sources with a typical condenser spectrum and overall sound power level of 80 dBA. It was assumed that each condenser yard has three condensers, and they are located at the ground level.
- Noise due to TTC busses stopping at the station entrance (Pape Avenue) excluded as the bus stop is outside the station footprint.

POW receptors on the North Site podium (Levels 3 to 5) and South Site podium (Levels 3 to 5) were modelled for residential suites based on the massing drawings. Building evaluation was completed for both buildings in the noise model to identify the worst-impacted locations for each level and the POW receptors were placed accordingly for this assessment.

A total of twenty-six (26) representative receptors on building facades (POW receptors) were chosen for both buildings in this assessment. Table 3-1 provides results for the modelled receptors. The predicted noise levels from the station noise sources show that sound levels at some of the POW receptors are expected exceed Class 1 nighttime noise limit of 45 dBA with the assumed source sound levels.

Table 3-1. Noise Assessment Results

Receptor ID	Assessed Receptor Position (Site, Elevation, Level, Section Lines[1])	Class 1 Nighttime Sound Level Limits[2] (dBA)	Predicted Sound level from Station Sources (dBA)	Compliance with Class 1 Performance Limit? (Y/N)
R01	North Site, west elevation, L3, N10	45	42	Y
R02	North Site, west elevation, L4, N10	45	39	Y
R03	North Site, west elevation, L5, N10	45	37	Y
R04	North Site, west elevation, L5, N5 to N6	45	38	Y
R05	North Site, south elevation, L5, N3 to N4	45	38	Y
R06	North Site, south elevation, L5, A to B1	45	42	Y
R07	North Site, south elevation, L5, B to C	45	41	Y
R08	North Site, south elevation, L5, D1	45	40	Y
R09	South Site, west elevation, L3, S7 to S8	45	44	Y
R10	South Site, west elevation, L3, S9 to S10	45	46	N
R11	South Site, west elevation, L3, S10 to S11	45	47	N
R12	South Site, west elevation, L4, S10 to S11	45	45	Y
R13	South Site, west elevation, L5, S10 to S11	45	42	Y
R14	South Site, west elevation, L3, S11 to S12	45	48	N

Receptor ID	Assessed Receptor Position (Site, Elevation, Level, Section Lines[1])	Class 1 Nighttime Sound Level Limits[2] (dBA)	Predicted Sound level from Station Sources (dBA)	Compliance with Class 1 Performance Limit? (Y/N)
R15	South Site, west elevation, L4, S11 to S12	45	45	Y
R16	South Site, west elevation, L5, S11 to S12	45	43	Y
R17	South Site, west elevation, L3, S12 to S13	45	48	N
R18	South Site, west elevation, L4, S12 to S13	45	46	N
R19	South Site, west elevation, L5, S12 to S13	45	43	Y
R20	South Site, west elevation, L3, S13 to S14	45	48	N
R21	South Site, west elevation, L4, S13 to S14	45	46	N
R22	South Site, west elevation, L5, S13 to S14	45	43	Y
R23	South Site, west elevation, L3, S14 to S15	45	48	N
R24	South Site, west elevation, L3, S15 to S16	45	44	Y
R25	South Site, north elevation, L3, B1 to B	45	45	Y
R26	South Site, north elevation, L3, D to D1	45	43	Y

Table notes:

1. North Site: section lines from drawings 414T202A, 414T203A, and 414T204A.
   South Site: section lines from drawing 414T203C.
2. Plane of Window nighttime noise limit for Class 1 Area, MECP NPC-300.

3.3 Discussion of Noise Results Related to TOC

Cosburn TOC North Site is expected to meet MECP Class 1 noise limits. However, predicted sound levels are expected to exceed MECP Class 1 limits by 1-3 dB at multiple POW receptors for South Site, based on the design and assumptions considered in this assessment.

Possible Cosburn TOC (South Site) design considerations that could lower the potential noise impacts from the station include:

- Adding enclosed balconies for the areas where exceedance is identified (i.e., above condenser yards and ventilation openings) for the South Site TOC building.
- Moving residential units away from the impacted areas and/or positioning sleeping areas to the sides of the building not facing the station noise sources for podium floors.
- Incorporating other massing design changes (e.g. overhangs) to provide additional shielding from noise sources[3].
- Criteria adjustments by consideration of a Class 4 acoustical area designation by the land use planning authority.

Potential design updates for the Cosburn TOC to meet a Class 1 limit may not require major design changes with design considerations noted above.

The noise assessment has been completed to the minimum exclusionary criteria in NPC-300. However, if ambient monitoring can be shown to support higher background levels in the subject area, these limits can be increased and, thus, less impact is expected. This could result in reduced mitigation from the design considerations posed above. Baseline noise measurements (minimum 48 hours) at the proposed TOC site can be conducted and if they support an increase of limits, this analysis could be updated. If the ambient baseline monitoring can show a criteria increase of 3 dB, then the TOC would show compliance without the design considerations noted above.

An alternative planning consideration can include classification the site as a Class 4 acoustical area by the Toronto Land Use Planning Authority. A Class 4 area is defined as an area that would otherwise be defined as Class 1 or 2, is an area intended for the development of a new noise-sensitive land use(s) that are not yet built, and is in proximity to existing, lawfully established stationary source(s). This classification will allow for higher sound level limits for the TOC and will relax the nighttime sound level limit from 45 dBA to 55 dBA. Class 4 area classification is obtained through the local land use planning authority (not the MECP) at the request of the TOC developer.

With the current design, criteria and assumptions considered for the noise modeling, the TOC can potentially meet Class 4 limits with minor modifications to the design for South Site (e.g., inclusion of enclosed balconies to the noise sensitive spaces closer to the noise sources or relocation of noise-sensitive spaces (levels 3-5) farther away from the major noise sources).

[3] Massing design details are generally too fine to incorporate into noise modelling predictions. Thus, these are noted as providing potential additional noise reduction without predictive qualification.

3.4 Vibration Criteria for TOC

The Cosburn TOC is a new land development that would overlay on the OL Project. The rail vibration impact assessment adopts the US FTA Manual (US FTA, Transit Noise and Vibration Impact Assessment Manual, September 2018) guideline for operations vibration assessment of transit systems.

Table 3-2. Applied Criteria for Operational Vibration and Assessment

Type of Receptor	Ground-borne Vibration (GBV) - Limit[1]	Ground-borne Noise (GBN) - Limit[1]
Residence	0.1 mm/s (72 VdB)	35 dBA
Institutional/Commercial (Office)	0.14 mm/s (75 VdB)	40 dBA

Note:

1. VdB is reference to 1 micro-in/s; velocity is in RMS; dBA is reference to 20 micro-Pa.

3.5 Vibration Analysis of OL on TOC

The assessment was conducted in accordance with the US FTA Manual (2018) with the adjustment factors and assumptions as summarized in Table 3-3. Additional assumptions and mitigation recommendations included in the Noise and Vibration Impact Assessment Report (OLTA, April 2022) for OL operations have been used for this assessment. This assessment assumes efficient soil propagation and that no coupling loss takes place due to structural connection between Cosburn station and Cosburn TOC structure.

Table 3-3. Vibration Model Inputs and Assumptions

	Source/Path Factor	Parameters and Assumptions
Train Definition	Train Type	LRT
	Train Speed[1]	80 km/h
	Stiff Suspension	No
	Resilient Wheels	No
	Worn Wheels	No
Rail Definition	Rail Type	Continuous Welded Rail
	Worn or Corrugated Track	No
	Special Trackwork	No

	Source/Path Factor	Parameters and Assumptions
Path Definition	Efficient Propagation in Soil	Yes
	Propagation in Rock Layer	Yes
	Coupling Loss	No – TOC structure is attached to OL structure
GBN Conversion	Dominant Frequency	High (> 60 Hz) - Tunnel in bedrock

Note:

1. The maximum OL train speed is considered assuming before and after revenue service operation. This is considered the worst-case (conservative) operation scenario based on the pre- and post-hour service deployment in which the train may not stop at the station

Rail operational activities are not expected to generate Ground-borne Vibration (GBV) above 0.1 mm/s and Ground-borne Noise (GBN) above 35 dBA at the residential spaces of the Cosburn TOC with the vibration mitigation measures (e.g., light-mass-spring system) as recommended in the Noise and Vibration Impact Assessment Report (OLTA, April 2022) applied to the track in this area.

The assessment of potential GBV and GBN at the residential floor (Level 2) for both Cosburn North and Cosburn South is completed based on the drawings provided. Table 3-4 presents the predicted results along with criteria for the Project GBV and GBN.

Table 3-4. GBV and GBN Assessment Results

Assessment Location	GBV Criteria (mm/sec)	GBN Criteria (dBA, ref. 20µ-Pa)	Predicted Indoor GBV (mm/sec)	Predicted Indoor GBN (dBA, ref. 20µ-Pa)
Cosburn North, Level 2	0.1	35	0.071	19
Cosburn South, Level2	0.1	35	0.071	19

The analysis predicted indoor GBV and GBN are within limits for both Cosburn North and South sites.

The predictions above, based on the US FTA General Assessment Method, suggest that a light-mass-spring vibration mitigation system may be sufficient. However, a detailed vibration impact analysis should be conducted by the TOC acoustic engineer to better determine the vibration propagation from the rail to the TOC, and additional mitigation, if any, as part of the TOC development, based on the final design for the Ontario Line.

3.6 Noise and Vibration Recommendations for Cosburn TOC

OLTA has completed a review of the potential Cosburn TOC noise and vibration impacts from the OL project and is summarized below.

1. The Cosburn TOC South Site is not expected to meet the MECP Class 1 noise limits as per the currently presented design and assumptions. Compliance may not require significant noise mitigations and/or design changes as the limits are exceeded by 1-3 dB at the locations above the condenser yard and ventilation openings. This assessment is considered preliminary and is based on assumed sound levels and locations of equipment as per the level of detail available. Cosburn TOC North Site is expected to meet MECP Class 1 noise limits.
2. Possible Cosburn TOC (South Site) design considerations that could lower the potential noise impacts from the station include:
    a. Adding enclosed balconies for the areas where exceedance is identified (i.e., above condenser yards and ventilation openings) for the TOC building.
    b. Moving residential units away from the impacted areas and/or positioning sleeping areas to the sides of the building not facing the station noise sources for podium floors.
    c. Incorporating other massing design changes to provide additional shielding from noise sources.
3. Criteria adjustment considerations:
    a. Baseline noise measurements (minimum 48 hours) at the proposed TOC site to validate the criteria used for the assessment could be conducted. If the criteria used for the assessment (45 dBA) can be relaxed by 3 dB with a baseline noise study, the Project is expected to meet the MECP Class 1 limits without any modifications or adjustments.
    b. The Cosburn TOC South Site could meet the MECP Class 4 noise limits with minor modifications or adjustments to the currently presented design. However, approval for Class 4 acoustic land designation must be sought through the local land use approval authority.
4. Predicted GBV and GBN levels are predicted to meet criteria at the Cosburn TOC. However, it is noted that the EIAR from which the assumptions and analysis are taken is considered preliminary and a detailed assessment is required as a follow up to the April 2022 report to confirm track mitigation.

4 Impact of Cosburn TOC as an Additional Receptor on EIAR Requirements

The Cosburn TOC has the potential, as an additional receptor, to impact the requirements as outlined in the Noise and Vibration Impact Assessment Report (OLTA, April 2022). However, this assessment does not seek to modify these requirements. Instead, it reviews whether this assessment would meet the same requirements appended to the EIAR (OLTA, Noise and Vibration Impact Assessment Report, April 2022). A brief discussion on potential noise and vibration impacts due to the addition of the Cosburn TOC is presented below.

The construction of the Cosburn TOC is expected to occur after the completion of construction of Cosburn Station and the Ontario Line. Therefore, the potential noise and vibration impacts during construction of OL elements are not reviewed.

4.1 Criteria

For the assessment of operational vibration, the guidelines described in the US FTA Manual for GBV and GBN are considered for this assessment. Operational noise guidelines are described in the Noise and Vibration Impact and Assessment and used guidance from the US FTA Manual and TTC guide.

4.2 Analysis of Impact

The Cosburn TOC would add residential receptors nearer than those currently considered in the environmental assessment. As stated above, the TOC would be situated directly above the underground Cosburn Station and OL tunnel.

4.2.1 Rail Airborne Noise

No direct noise impacts from the train are expected (as it is underground and any system openings, such as fire ventilation, are expected to be provided with noise mitigation i.e., silencers). Thus, no noise compliance issues based on train operation is expected with the addition of this potential receptor.

4.2.2 Rail Ground Borne Noise and Vibration

The assessment of the potential GBN and GBV of the OL train on the track is not predicted to require any additional mitigation measures to meet criteria as detailed in Section 3. This is based on the analysis and recommendations in the Noise and Vibration Report (OLTA, April 2022). However, as noted in the EIAR, a detailed analysis is required to confirm these recommendations meet US FTA requirements.

4.2.3 Station Noise and Vibration Considerations

The design of Cosburn station is under development and assumptions including assumed maximum sound levels were made to assess the TOC (Section 3.2). Considerations in station design which may be needed to meet Class 1 Area limits for airborne noise at the TOC receptors include:

- A maximum sound power level of 77 dBA for condensers and a maximum sound pressure level of 55 dBA at 1 m for the ventilation openings on the South building (specifically, exhaust louvres and TVS air vent shaft).
- In the event that an emergency generator is required in the design for the station, additional mitigation measures such as acoustic louvres and/or silencer may be required.

GBV and GBN assessment is limited to the structural assumptions for the connection between Cosburn Station and Cosburn TOC as stated in Section 3. Assumptions should be reviewed and confirmed as design progresses.

4.3 Summary of Changes to EIAR Noise and Vibration Requirements for Cosburn TOC Considerations

There are no expected impacts to the conclusions in the EIAR relating to construction noise and vibration.

The Cosburn TOC development may impact the established noise and vibration criteria for the OL Project, and may need the following operational project considerations:

- The maximum sound power level for the condensers should be limited to of 77 dBA and the maximum sound pressure level for the ventilation openings should be limited to of 55 dBA at 1 m for the opening near the South building
- The structural connection of Cosburn Station and Cosburn TOC requires a structural/vibration review to make sure compliance with the vibration criteria.

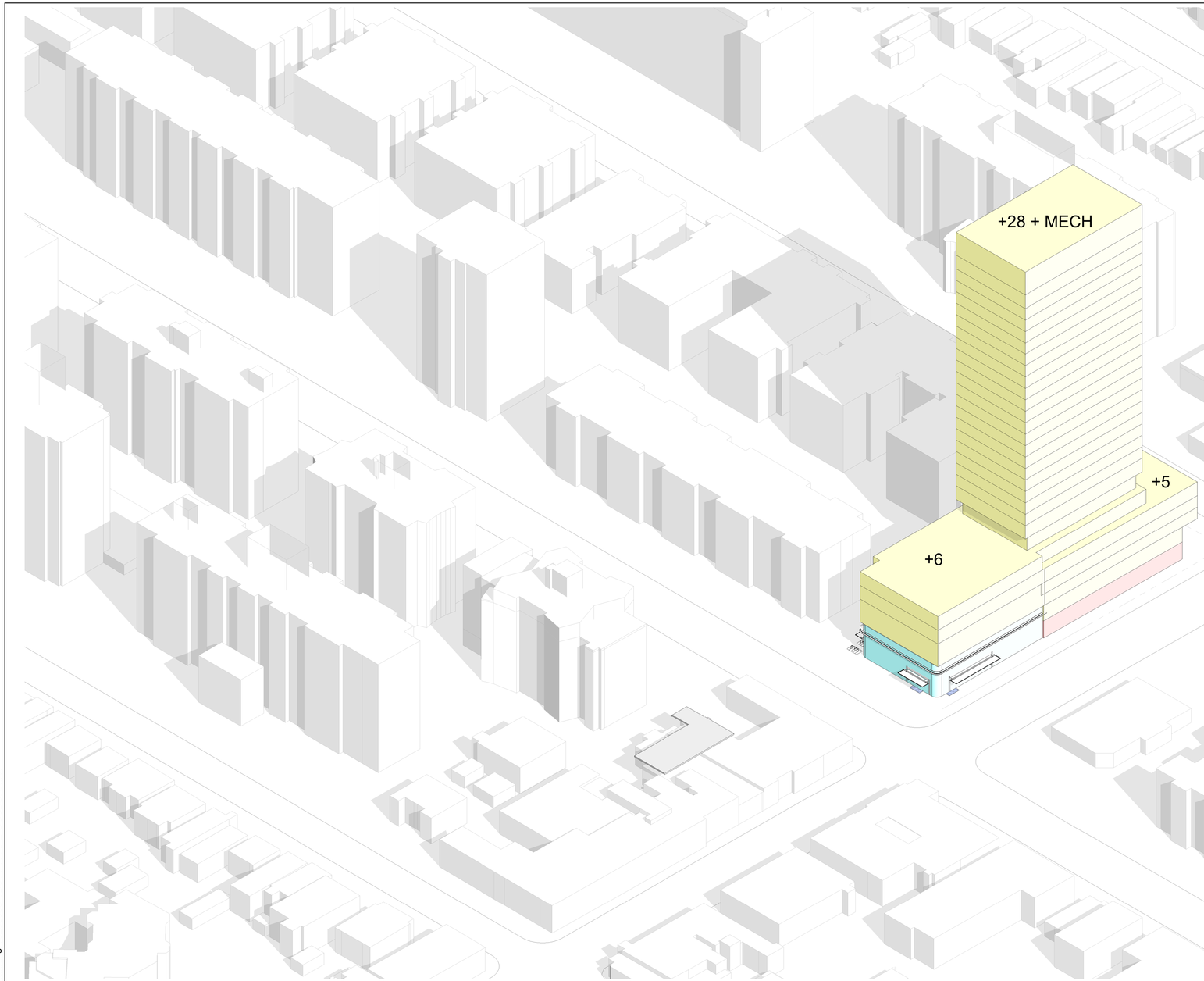
OLTA expects that the Cosburn TOC will retain their own independent acoustic consultant at such time to prepare the development acoustic studies. Until the consultant has been retained, the noise and vibration implications of the Cosburn TOC for the OL Project should be taken into consideration.

5 Closing

The discussion in this report is representative of the documents and drawings reviewed in Section 2 and limited to the information available at the time of this assessment. The final TOC designs should be reviewed by an independent consultant for compliance with applicable criteria. In addition, potential impacts to the conclusions related to Noise and Vibration in the EIAR should be reassessed as part of ProjectCo's design (South Civil/RSSOM).

The discussion and recommendations included in this report are considered preliminary and should be reassessed with any changes or finalization of designs.

Appendix A. Cosburn TOC Design Documents



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ISSUANCE		

PROPOSED ITOC MASSING

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
CONTEXT MASSING

Plot Date: 2022-08-05 2:17:42 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
	414T001A

PROJECT STATISTICS

MUNICIPAL ADDRESS: 1030-1052 PAPE AVE

BUILDING HEIGHT: 89.9 m (28 STOREYS)

BUILDING STATISTICS

AREAS		%	m^2
SITE AREA (EXISTING)			3667
SITE AREA (CONVEYANCE)			0
SITE AREA			3667
GCA ABOVE GRADE (ITOC)			29695
GCA BELOW GRADE (ITOC)			441
GFA TOTAL (ITOC)			21799
GFA RESIDENTIAL (ITOC)		98%	21280
GFA NON-RESIDENTIAL (ITOC)		2%	519
GFA RETAIL (ITOC)		2%	519
GFA OFFICE (ITOC)		0%	0
GFA INSTITUTIONAL (ITOC)		0%	0
FSI (ITOC)			5.9
GFA TRANSIT ABOVE GRADE (SUBJECT OF A DIFFERENT APPLICATION)			599
FSI (ITOC + TRANSIT)			6.1

UNIT DISTRIBUTION AND AMENITY AREAS

UNIT TYPE	AREA m^2	REQUIRED	PROPOSED
STUDIO	27-34	NO REQ	3%
1B	36-64	NO REQ	55%
2B	59-81	15%	32%
3B	85-111	10%	10%
AMENITY AREAS		REQUIRED m^2	PROPOSED m^2
INTERIOR AMENITY (RES)		600	1296
EXTERIOR AMENITY (RES)		40	526
TOTAL AMENITY (RES)		1200	1823
EXTERIOR AMENITY (NON-RES)		NO REQ	0

GREEN ROOF AND STORMWATER MANAGEMENT

ROOF AREAS			m^2
TOTAL ROOF AREA			3393
RESIDENTIAL PRIVATE TERRACES			130
ROOFTOP EXTERIOR AMENITY			526
RENEWABLE ENERGY DEVICES			0
TOWER AREA LESS THAN 750 m2			0
TOTAL TGS EXCLUSIONS			657
TGS AVAILABLE ROOF			2736
GREEN ROOF			1938
PERMEABLE LANDCAPE			0
PERMEABLE ROOFSCAPE			976
TOTAL STORMWATER AREA			2914
TGS TIER 2 V3		REQUIRED %	PROPOSED %
GREEN ROOF		60%	71%

PARKING

VEHICLE PARKING	RATIO	REQUIRED	PROPOSED
RESIDENTIAL STUDIO	0.30	3	
RESIDENTIAL 1B	0.50	83	
RESIDENTIAL 2B	0.80	78	
RESIDENTIAL 3B	1.00	29	
RESIDENTIAL VISITOR	0.10	30	
RESIDENTIAL TOTAL		223	0
OFFICE	0.35	0	
RETAIL	1.00	6	
NON-RESIDENTIAL TOTAL		6	0
SHARED TOTAL		NO REQ	6
VEHICLE PARKING TOTAL		229	6

BICYCLE PARKING

BICYCLE PARKING TGS TIER 2 V3	RATIO	REQUIRED	PROPOSED
RESIDENTIAL LONG TERM	0.90	270	336
RESIDENTIAL SHORT TERM	0.10	30	0
NON-RESIDENTIAL LONG TERM	0.20	0	0
NON-RESIDENTIAL SHORT TERM	0.20	2	0
TRANSIT LONG TERM		0	0
TRANSIT SHORT TERM		0	0
BIKE SHARE		0	0
BICYCLE PARKING TOTAL		302	336

OCCUPANT LOADS

OCCUPANT LOAD	PEOPLE
OCCUPANT LOAD RESIDENTIAL	910
OCCUPANT LOAD RETAIL	131
OCCUPANT LOAD OFFICE	0
TOTALS	1041

LOADING AND WASTE COLLECTION

LOADING AREAS	REQUIRED	PROPOSED
TYPE C RESIDENTIAL	0	0
TYPE G RESIDENTIAL	1	1
TYPE A NON-RESIDENTIAL	0	0
TYPE B NON-RESIDENTIAL	1	1
TYPE C NON-RESIDENTIAL	0	0
WASTE COLLECTION AREAS	REQUIRED m^2	PROPOSED m^2
RESIDENTIAL WASTE ROOM	90	92
RESIDENTIAL BULK WASTE ROOM	10	10
NON-RESIDENTIAL WASTE ROOM		34.41
TOTAL WASTE COLLECTION AREA		137

FLOOR AREAS (ITOC)

LEVEL	GCA	GFA DED	NRES GFA	RES GFA	RSA	0B	1B	2B	3B	UNITS
LEVEL B4	0	0	0	0	0	0	0	0	0	0
LEVEL B3	0	0	0	0	0	0	0	0	0	0
LEVEL B2	0	0	0	0	0	0	0	0	0	0
LEVEL B1	441	441	0	0	0	0	0	0	0	0
LEVEL 01	1881	448	1119	314	21	0	0	0	0	0
LEVEL 02	1207	543	0	664	594	0	9	0	0	9
LEVEL 03	2164	963	0	1201	1069	0	11	2	2	15
LEVEL 04	1406	206	0	1200	1078	1	12	2	2	17
LEVEL 05	2194	327	0	1867	1705	2	20	4	2	28
LEVEL 06	1717	354	0	1363	1254	2	12	5	2	21
LEVEL 07	689	642	0	46	0	0	0	0	0	0
LEVEL 08	842	157	0	686	620	1	4	4	1	10
LEVEL 09	842	157	0	686	620	1	4	4	1	10
LEVEL 10	842	157	0	686	620	1	4	4	1	10
LEVEL 11	842	157	0	686	620	0	5	4	1	10
LEVEL 12	842	157	0	686	620	0	5	4	1	10
LEVEL 13	842	157	0	686	620	0	5	4	1	10
LEVEL 14	842	157	0	686	620	0	5	4	1	10
LEVEL 15	842	157	0	686	620	0	5	4	1	10
LEVEL 16	842	157	0	686	620	0	5	4	1	10
LEVEL 17	842	157	0	686	620	0	5	4	1	10
LEVEL 18	842	157	0	686	620	0	5	4	1	10
LEVEL 19	842	157	0	686	620	0	5	4	1	10
LEVEL 20	842	157	0	686	620	0	5	4	1	10
LEVEL 21	842	157	0	686	620	0	5	4	1	10
LEVEL 22	842	157	0	686	620	0	5	4	1	10
LEVEL 23	842	157	0	686	620	0	5	4	1	10
LEVEL 24	842	157	0	686	620	0	5	4	1	10
LEVEL 25	842	157	0	686	620	0	5	4	1	10
LEVEL 26	842	157	0	686	620	0	5	4	1	10
LEVEL 27	842	157	0	686	620	0	5	4	1	10
LEVEL 28	842	157	0	686	620	0	5	4	1	10
LEVEL 29	0	0	0	0	0	0	0	0	0	0
LEVEL 30	0	0	0	0	0	0	0	0	0	0
LEVEL 31	0	0	0	0	0	0	0	0	0	0
LEVEL 32	0	0	0	0	0	0	0	0	0	0
LEVEL 33	0	0	0	0	0	0	0	0	0	0
LEVEL 34	0	0	0	0	0	0	0	0	0	0
LEVEL 35	0	0	0	0	0	0	0	0	0	0
LEVEL 36	0	0	0	0	0	0	0	0	0	0
LEVEL 37	0	0	0	0	0	0	0	0	0	0
LEVEL 38	0	0	0	0	0	0	0	0	0	0
LEVEL 39	0	0	0	0	0	0	0	0	0	0
LEVEL 40	0	0	0	0	0	0	0	0	0	0
LEVEL 41	0	0	0	0	0	0	0	0	0	0
LEVEL 42	0	0	0	0	0	0	0	0	0	0
LEVEL 43	0	0	0	0	0	0	0	0	0	0
LEVEL 44	0	0	0	0	0	0	0	0	0	0
LEVEL 45	0	0	0	0	0	0	0	0	0	0
LEVEL 46	0	0	0	0	0	0	0	0	0	0
LEVEL 47	0	0	0	0	0	0	0	0	0	0
LEVEL 48	0	0	0	0	0	0	0	0	0	0
LEVEL 49	0	0	0	0	0	0	0	0	0	0
LEVEL 50	0	0	0	0	0	0	0	0	0	0
TOTALS	29391	7216	1119	21057	18739	8	166	97	29	300

FOR INTERNAL REVIEW ONLY

SHEET No. 414T003AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE

PROPOSED ITOC MASSING

SvN

NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM

ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

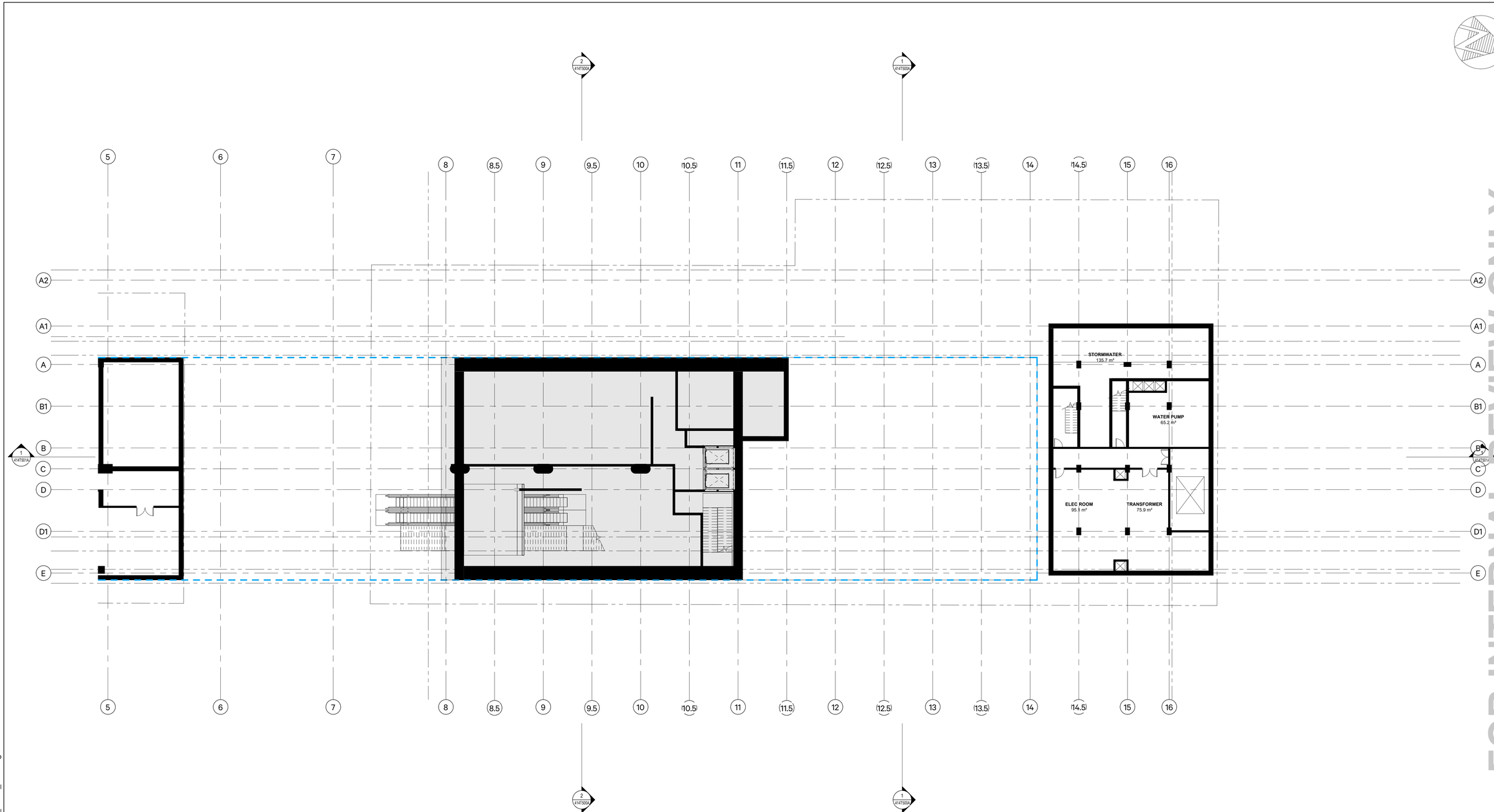
TITLE ITOC
NORTH | COSBURN
PROJECT SATISTICS

Plot Date: 2022-08-05 2:17:43 PM

METROLINX
Infrastructure Ontario

SCALE

DRAWING NUMBER
414T003A



SHEET No. 414T100AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE		

PROPOSED ITOC MASSING

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

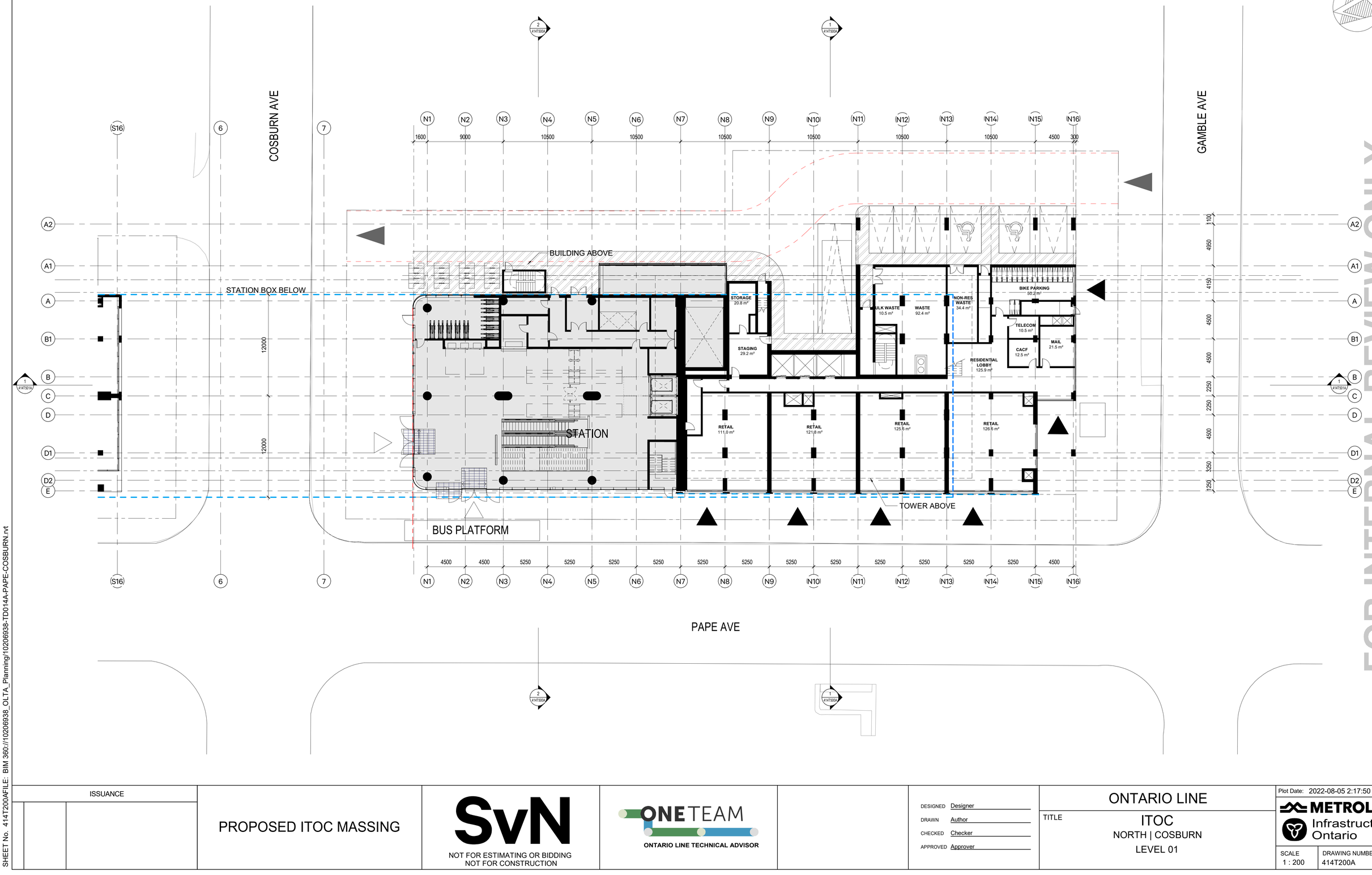
ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
LEVEL B1

Plot Date: 2022-08-05 2:17:46 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
1 : 200	414T100A



REVIEW ONLY

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SHEET No. 414T200AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE		

PROPOSED ITOC MASSING

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ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
LEVEL 01

Plot Date: 2022-08-05 2:17:50 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
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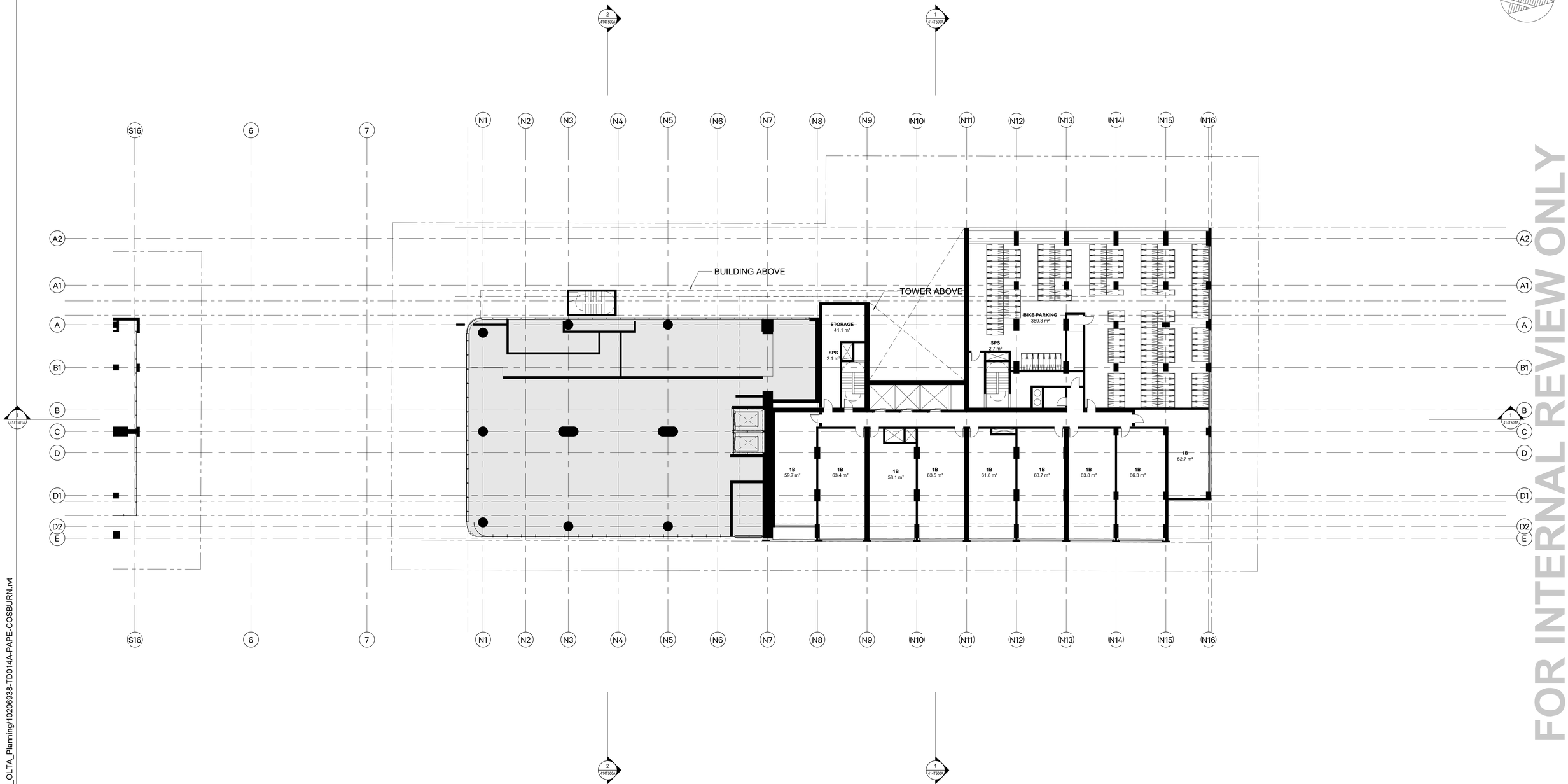

SHEET No. 414T201AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE	
PROPOSED ITOC MASSING	
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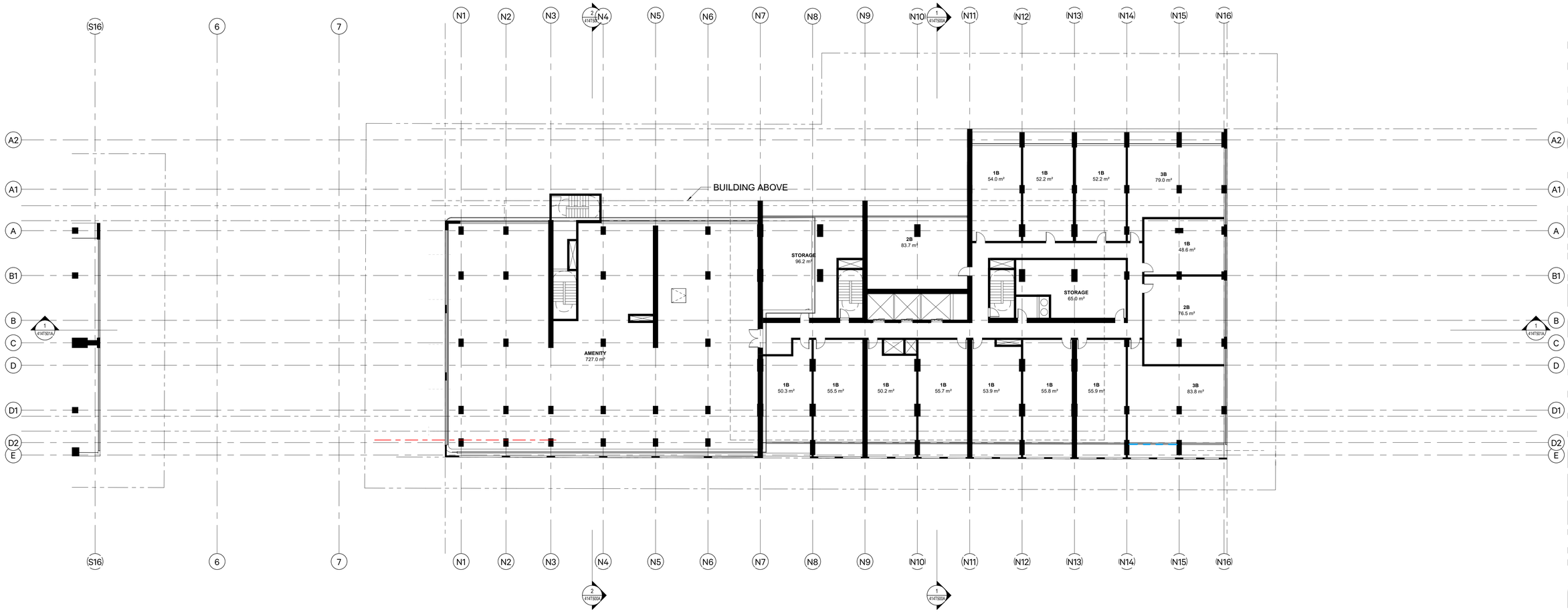
ONETEAM ONTARIO LINE TECHNICAL ADVISOR	
DESIGNED Designer DRAWN Author CHECKED Checker APPROVED Approver	
ONTARIO LINE TITLE ITOC NORTH | COSBURN LEVEL 02	
Plot Date: 2022-08-05 2:17:54 PM METROLINX Infrastructure Ontario SCALE 1 : 200 DRAWING NUMBER 414T201A	



REVIEW ONLY

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SHEET No. 414T202AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE		

PROPOSED ITOC MASSING

SvN
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NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED	Designer
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

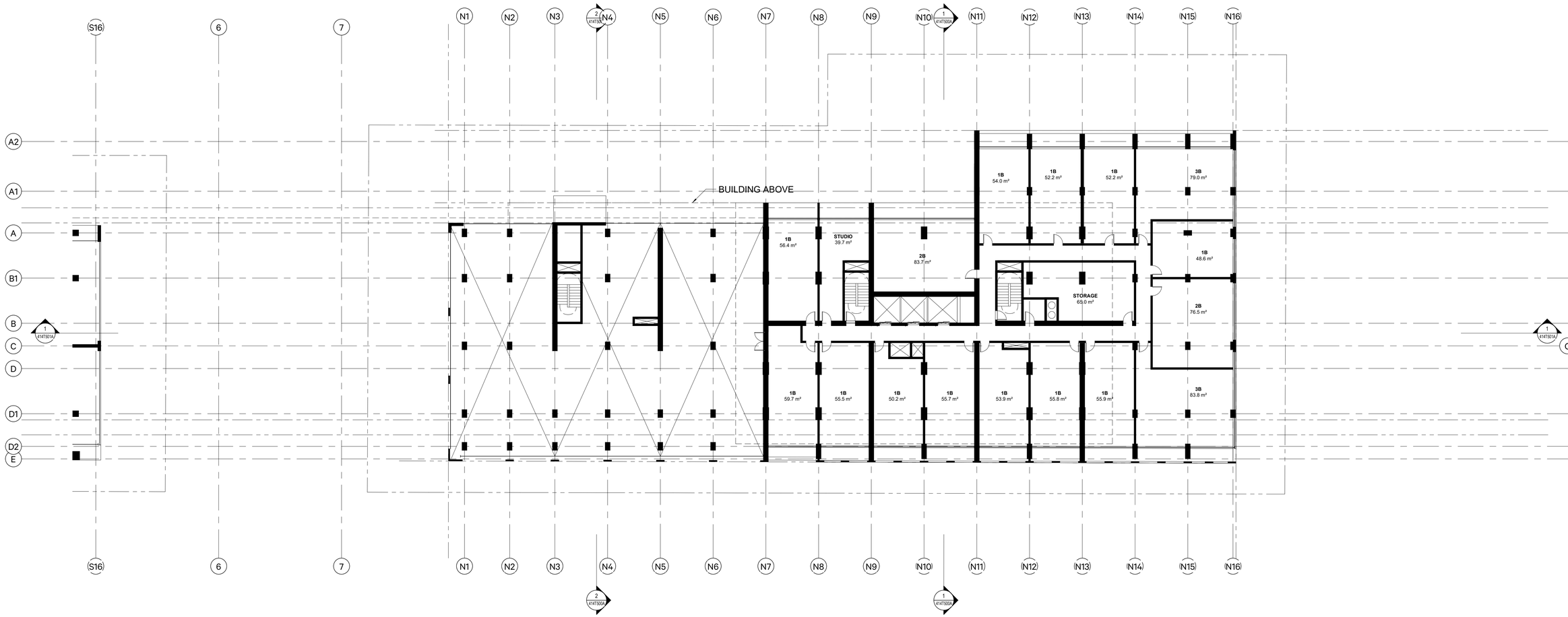
ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
LEVEL 03

Plot Date: 2022-08-05 2:17:57 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
1 : 200	414T202A



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SHEET No. 414T203AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE							
		PROPOSED ITOC MASSING	SvN NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	ONETEAM ONTARIO LINE TECHNICAL ADVISOR		DESIGNED Designer DRAWN Author CHECKED Checker APPROVED Approver	ONTARIO LINE TITLE ITOC NORTH | COSBURN LEVEL 04

Plot Date: 2022-08-05 2:18:00 PM

METROLINX Infrastructure Ontario

SCALE	DRAWING NUMBER
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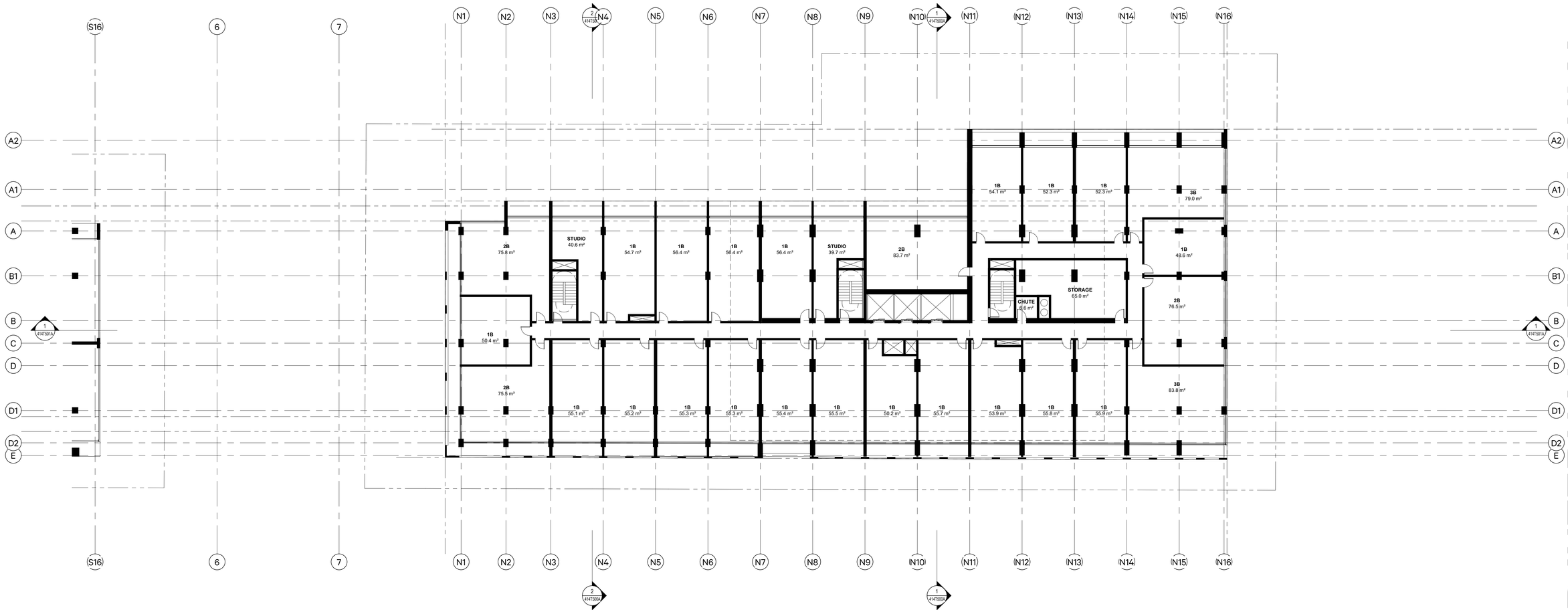

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SHEET No. 414T204A FILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE		

PROPOSED ITOC MASSING

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NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
LEVEL 05

Plot Date: 2022-08-05 2:18:03 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
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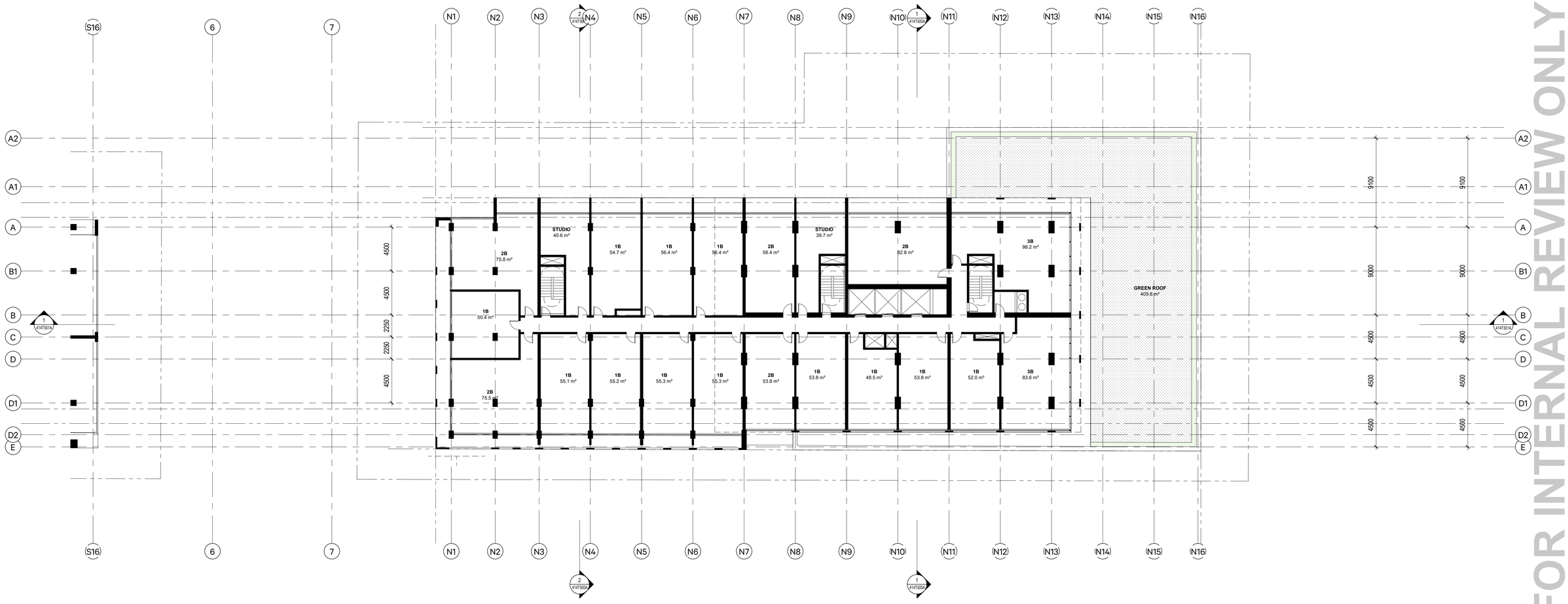

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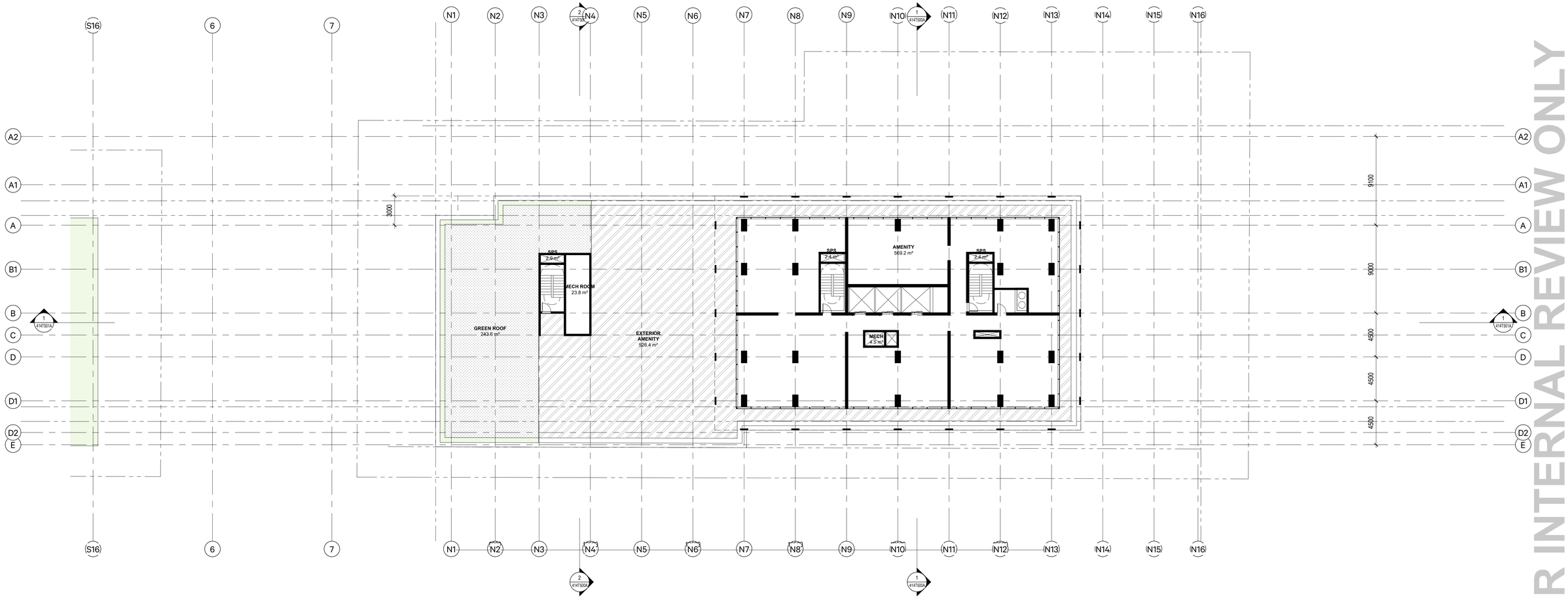
SHEET No. 414T205AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE							
1 LEVEL 06 414T205A 1 : 200	PROPOSED ITOC MASSING	SvN NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	ONETEAM ONTARIO LINE TECHNICAL ADVISOR		DESIGNED Designer DRAWN Author CHECKED Checker APPROVED Approver	TITLE	ONTARIO LINE ITOC NORTH | COSBURN LEVEL 06	Plot Date: 2022-08-05 2:18:06 PM METROLINX Infrastructure Ontario SCALE 1 : 200 DRAWING NUMBER 414T205A



SHEET No. 414T206AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE		

PROPOSED ITOC MASSING

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

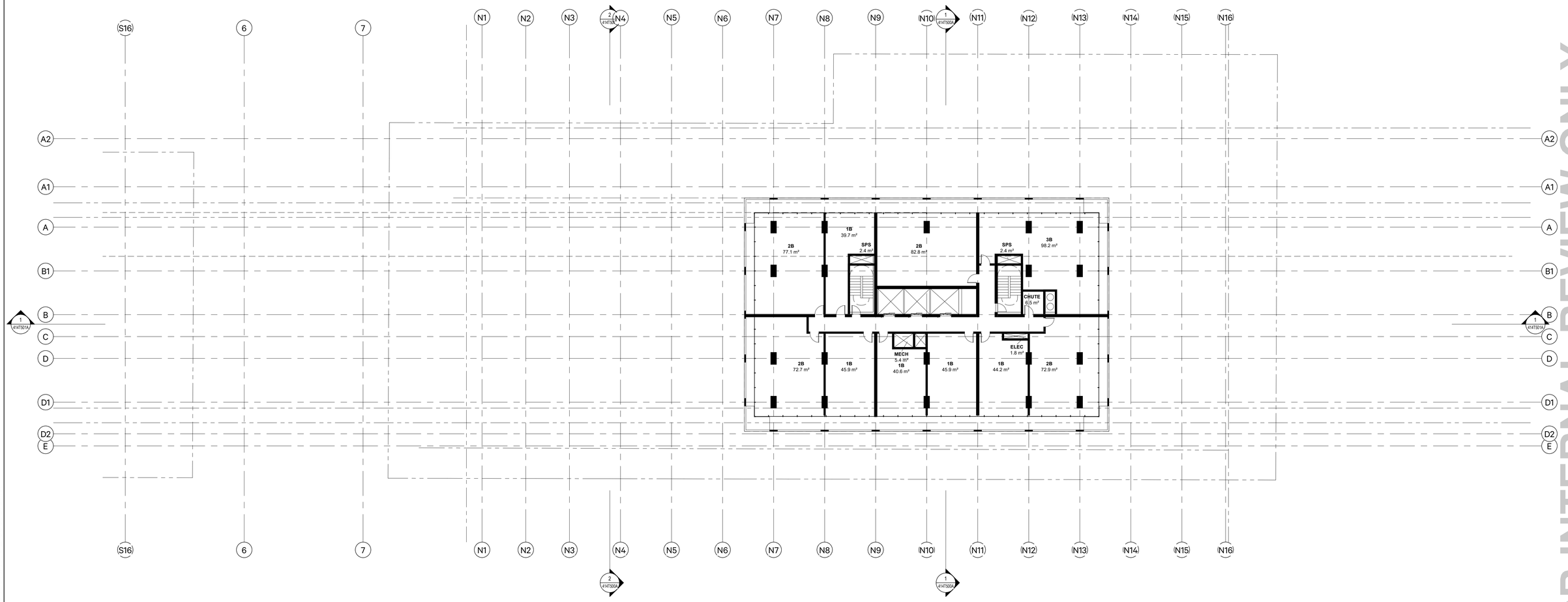
ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
LEVEL 07

Plot Date: 2022-08-05 2:18:08 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
1 : 200	414T206A



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SHEET No. 414T207AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE		

PROPOSED ITOC MASSING

SvN

NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

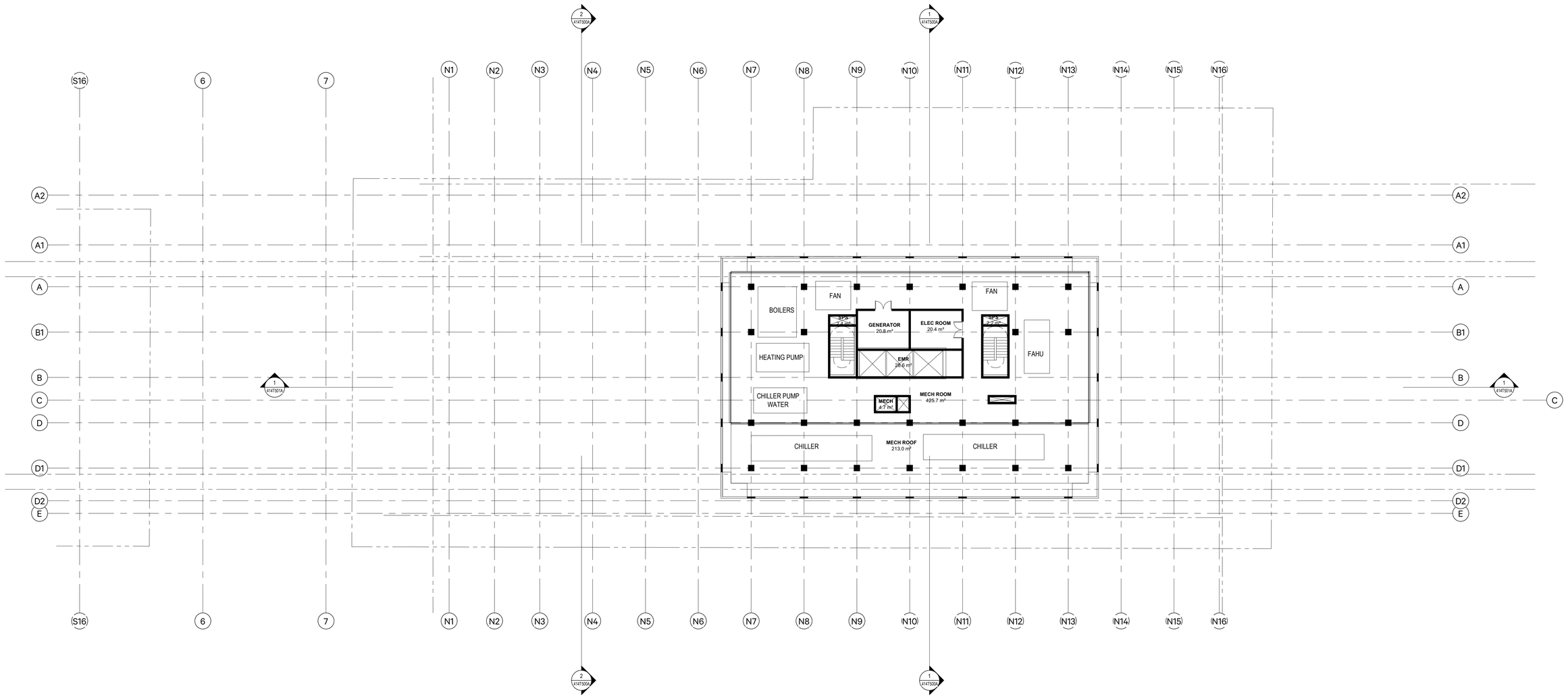
ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
TYPICAL FLOOR TOWER

Plot Date: 2022-08-05 2:18:11 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
1 : 200	414T207A



FOR INTERNAL REVIEW ONLY

SHEET No. 414T208AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE		

PROPOSED ITOC MASSING

SvN

NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM

ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

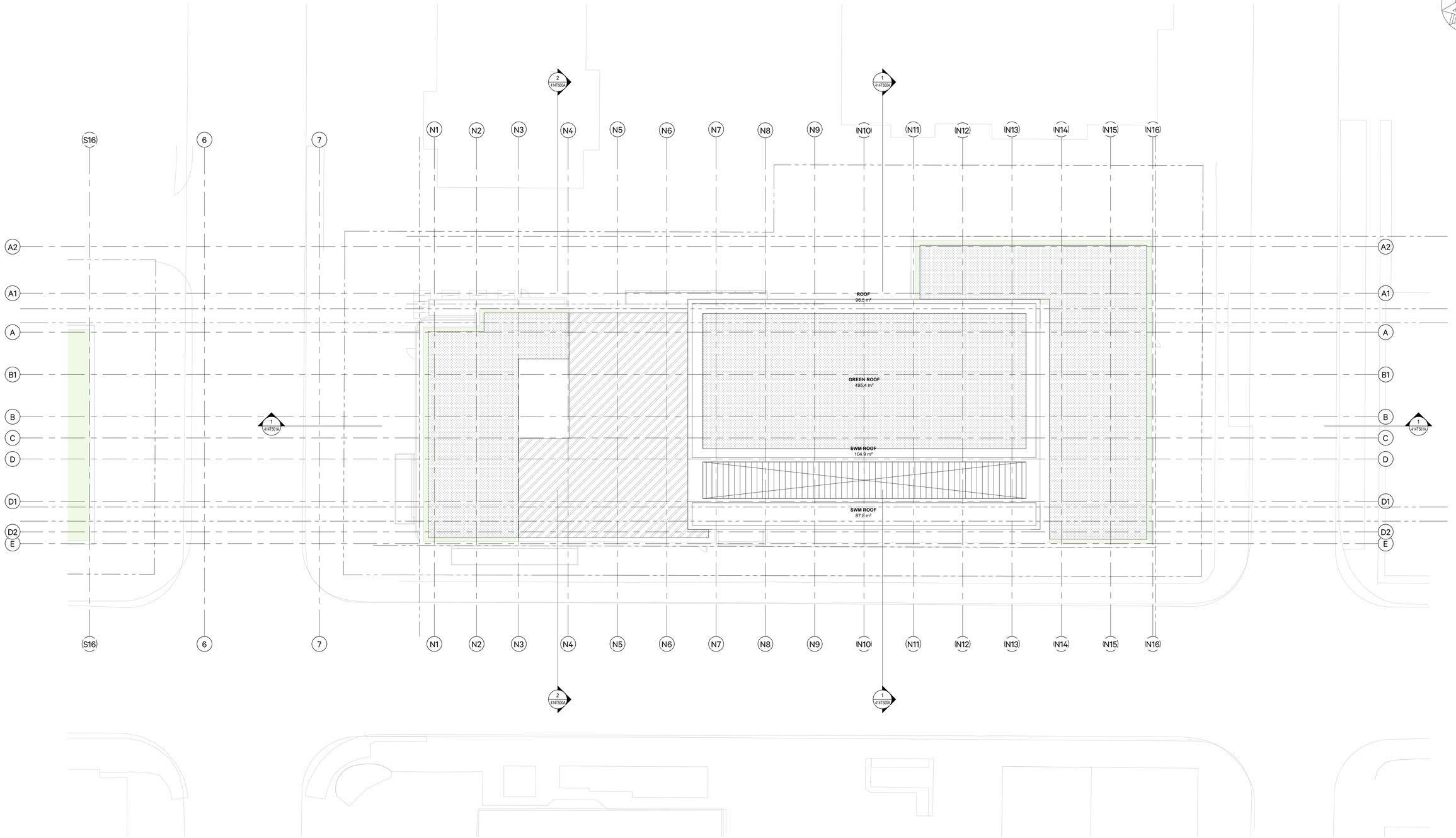
ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
MECHANICAL PENTHOUSE

Plot Date: 2022-08-05 2:18:14 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
1 : 200	414T208A



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SHEET No. 414T209AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE		

PROPOSED ITOC MASSING

SvN
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NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

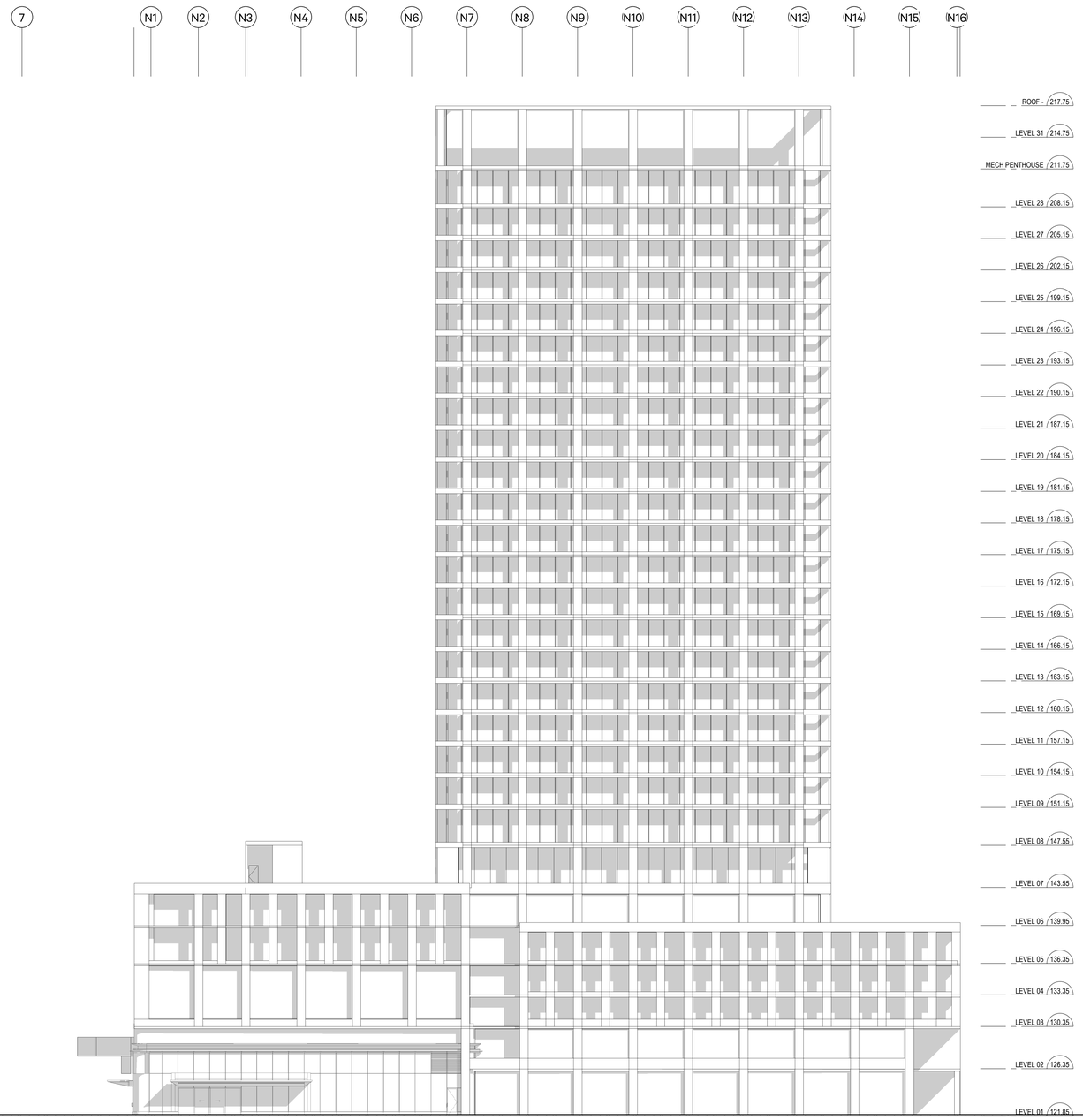
ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
ROOF PLAN

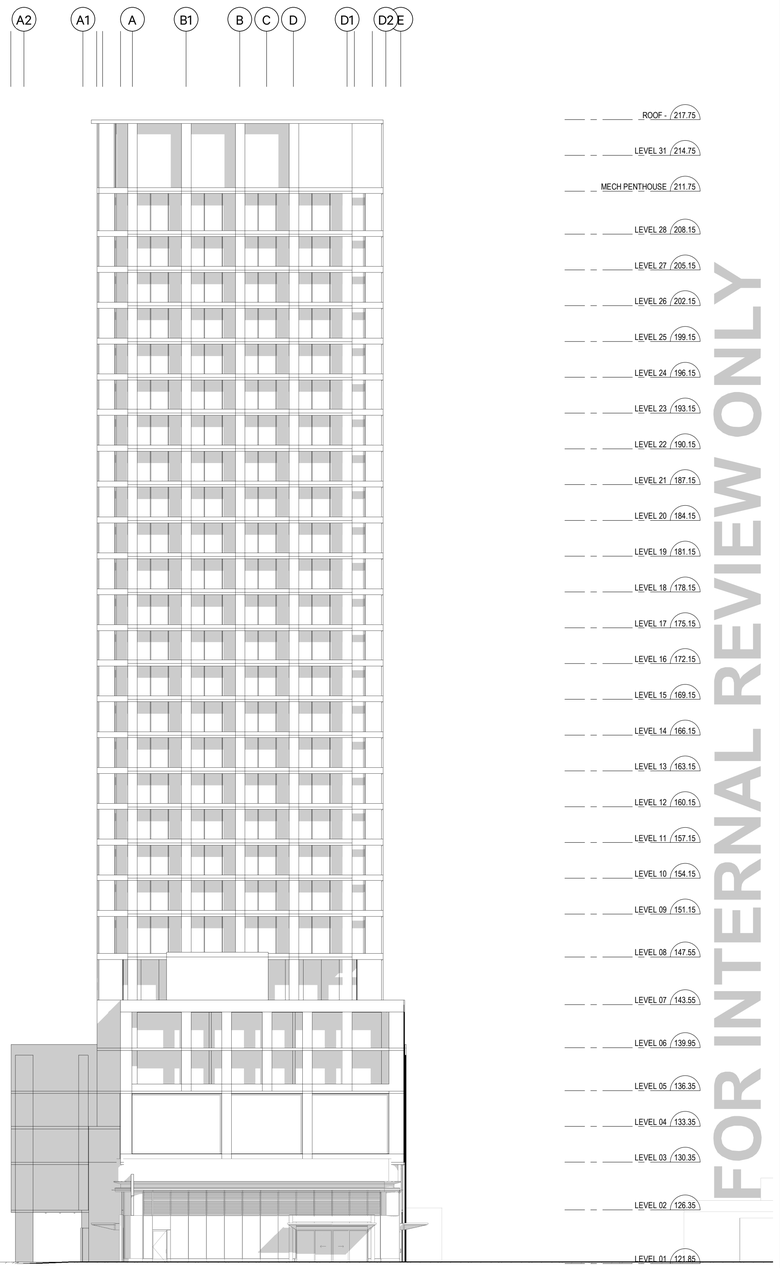
Plot Date: 2022-08-05 2:18:18 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
1 : 200	414T209A



1 ELEVATION - PAPE AVE
414T400A 1 : 250



2 ELEVATION - COSBURN AVE
414T400A 1 : 250

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SHEET No. 414T400A FILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE		

PROPOSED ITOC MASSING

SvN
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NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

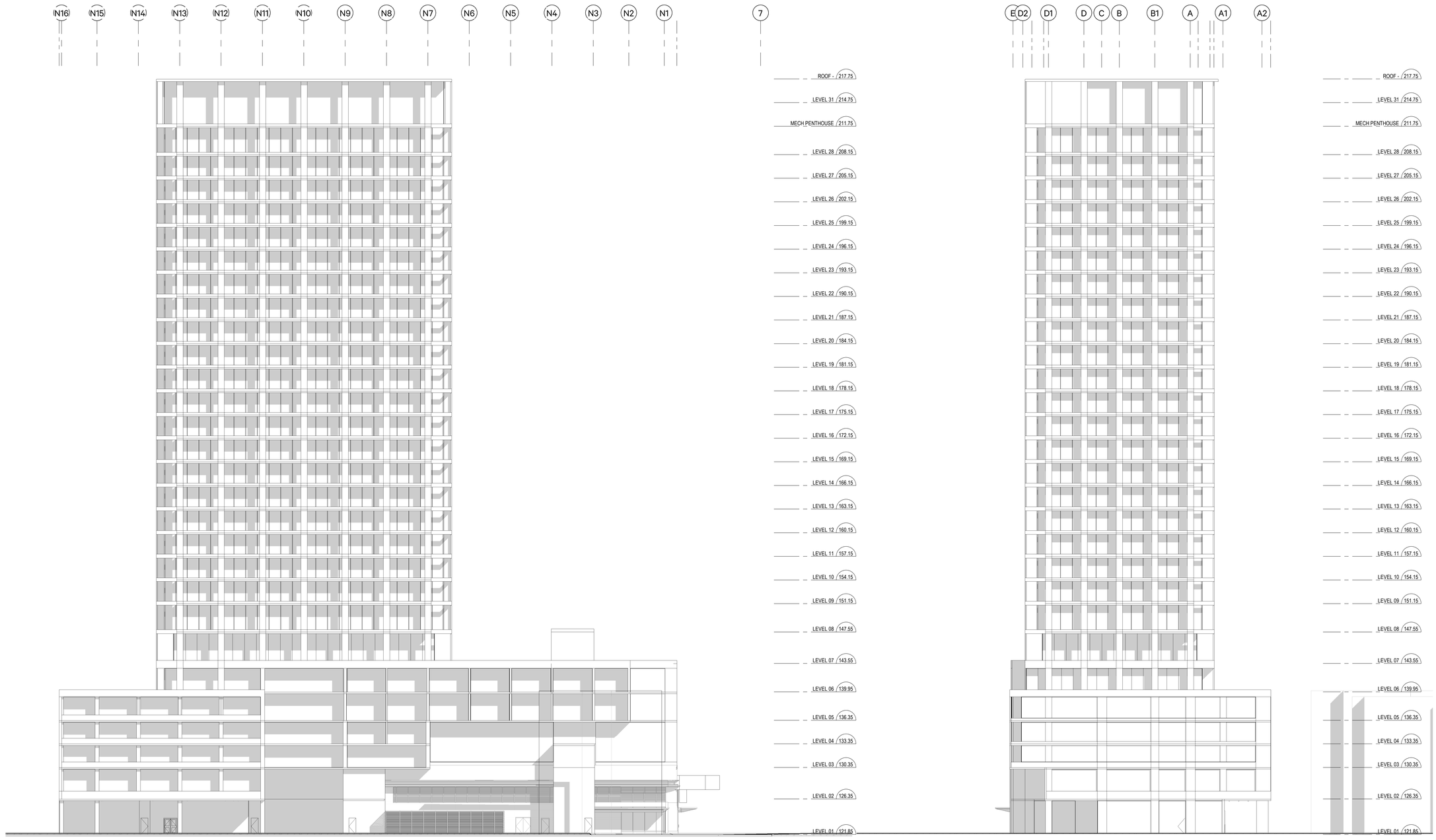
ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
ELEVATIONS

Plot Date: 2022-08-05 2:18:37 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
1 : 250	414T400A



2 ELEVATION - LANEWAY
414T401A 1 : 250

1 ELEVATION - GAMBLE AVE
414T401A 1 : 250

FOR INTERNAL REVIEW ONLY

SHEET No. 414T401AFILE: BIM 360://10206938_QLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE

PROPOSED ITOC MASSING

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NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

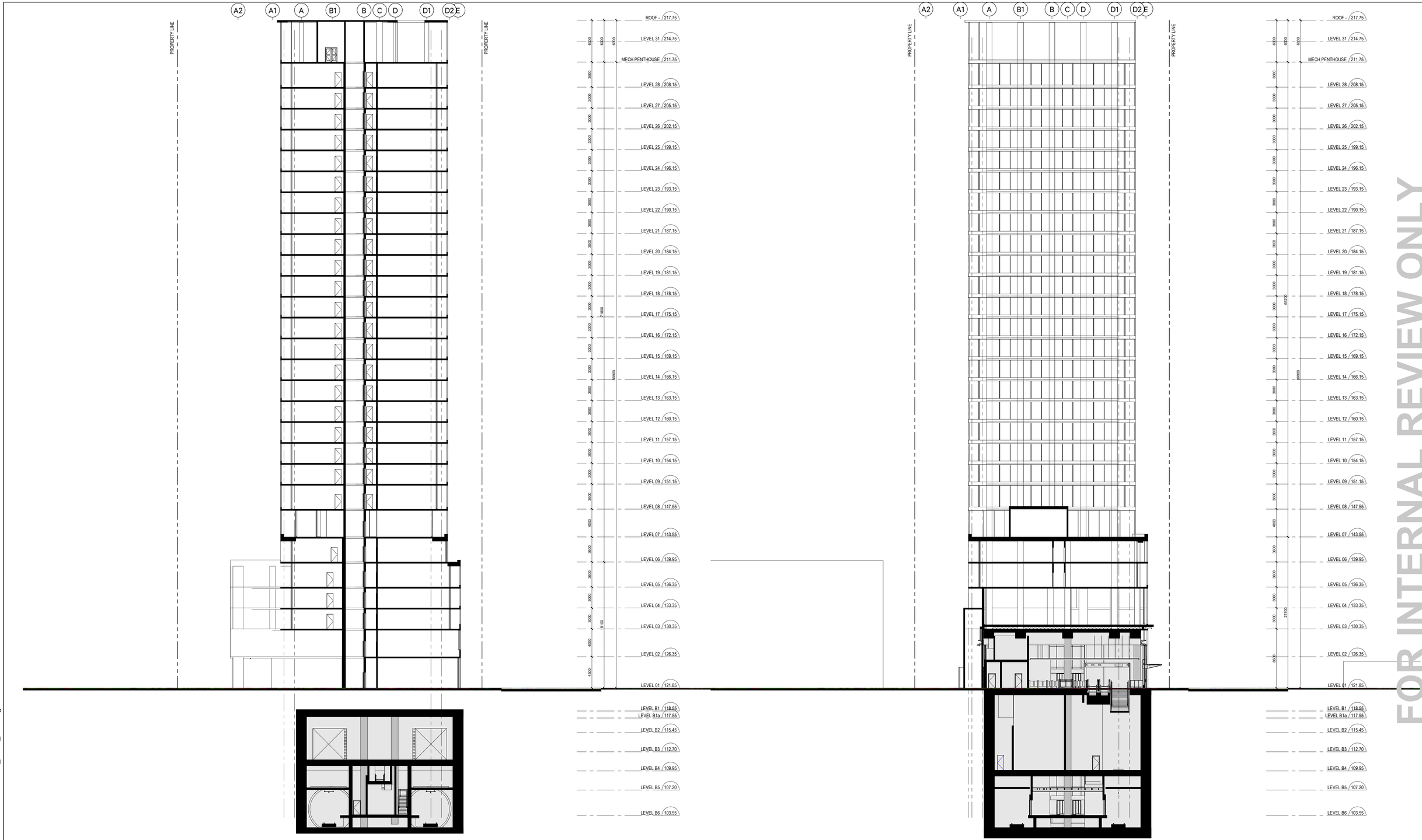
ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
ELEVATIONS

Plot Date: 2022-08-05 2:19:06 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
1 : 250	414T401A



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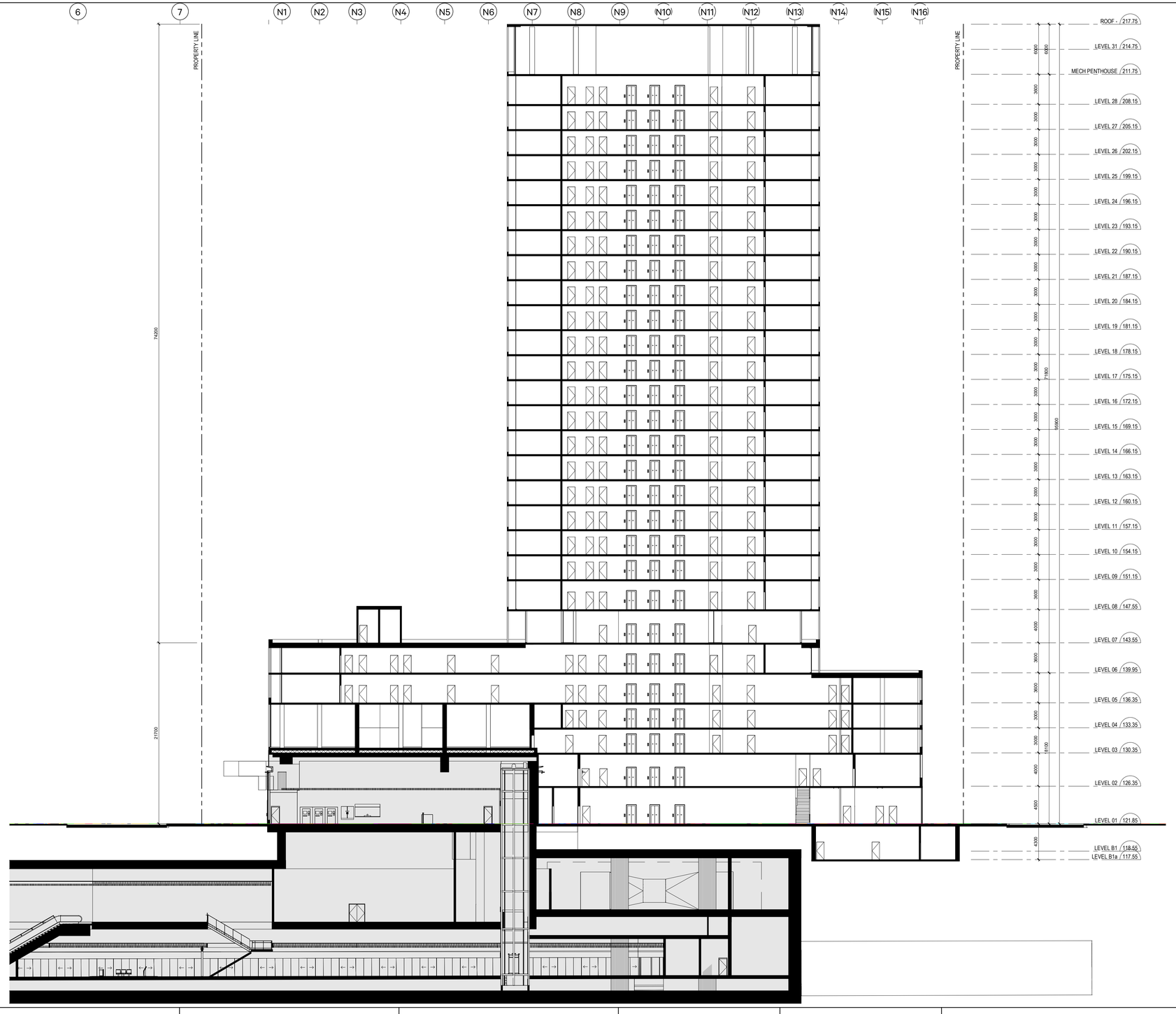
SHEET No. 414T500AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE	
PROPOSED ITOC MASSING	
SvN — NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	
ONETEAM — ONTARIO LINE TECHNICAL ADVISOR	
DESIGNED Designer	
DRAWN Author	
CHECKED Checker	
APPROVED Approver	
ONTARIO LINE	
TITLE ITOC — NORTH | COSBURN — SECTION 1 AND 2	
Plot Date: 2022-08-05 2:19:10 PM	
METROLINX Infrastructure Ontario	
SCALE 1 : 250	DRAWING NUMBER 414T500A



FOR INTERNAL REVIEW ONLY

SHEET No. 414T501AFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014A-PAPE-COSBURN.rvt

ISSUANCE							
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Plot Date: 2022-08-05 2:19:17 PM

METROLINX Infrastructure Ontario

SCALE	DRAWING NUMBER
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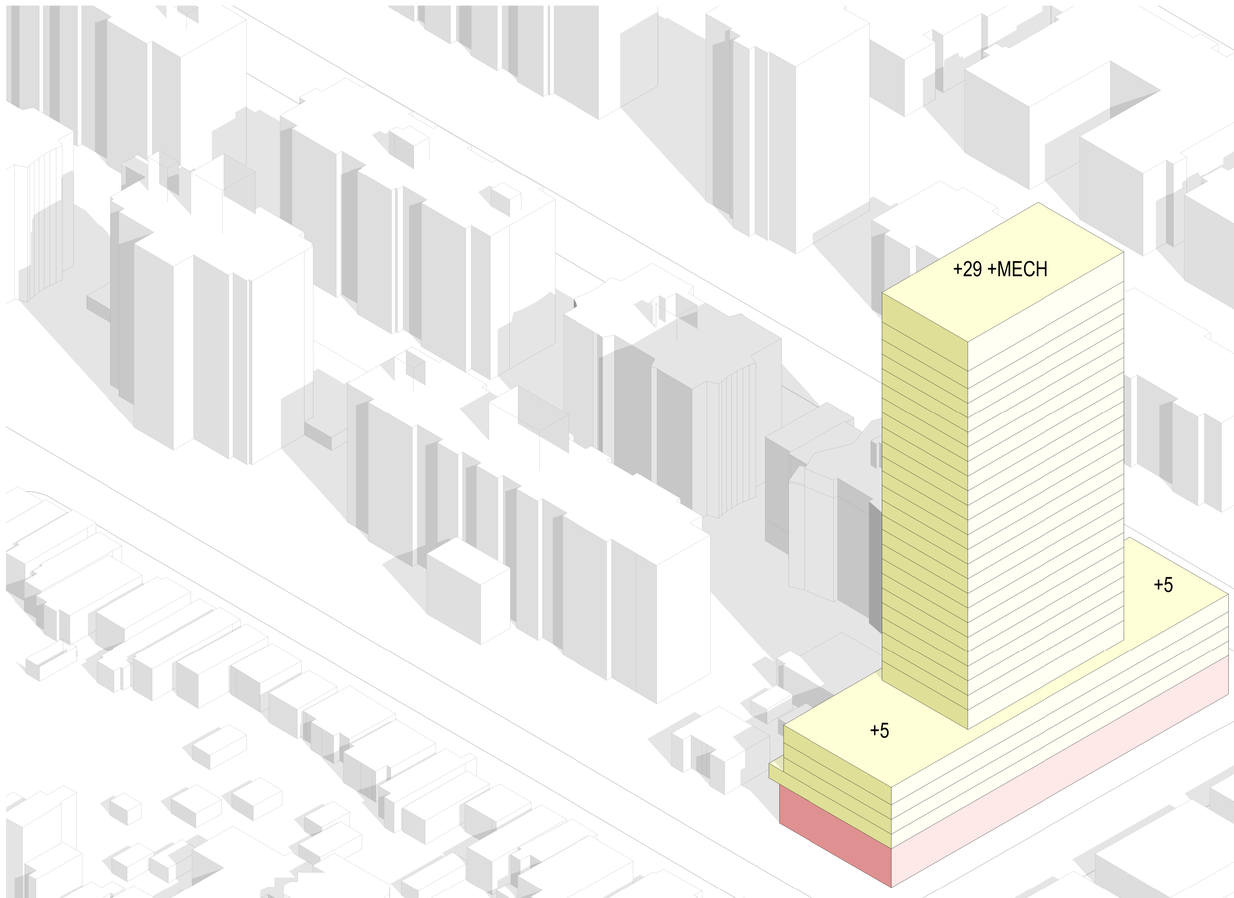


SHEET No. 414T001C FILE: BIM 360://10206938_OLTA_Planning/10206938-TD014C-PAPE-COSBURN.rvt

ISSUANCE		

PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
MASSING

Plot Date: 2022-08-08 1:29:30 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
	414T001C

PROJECT STATISTICS

MUNICIPAL ADDRESS: 1002-1028 PAPE AVE, 103-109 COSBURN AVE

BUILDING HEIGHT: 94.2 m (29 STOREYS)

BUILDING STATISTICS

AREAS		%	m^2
SITE AREA (EXISTING)			3225
SITE AREA (CONVEYANCE)			0
SITE AREA			3225
GCA ABOVE GRADE (ITOC)			32113
GCA BELOW GRADE (ITOC)			1660
GFA TOTAL (ITOC)			23871
GFA RESIDENTIAL (ITOC)		95%	22738
GFA NON-RESIDENTIAL (ITOC)		5%	1133
GFA RETAIL (ITOC)		5%	1133
GFA OFFICE (ITOC)		0%	0
GFA INSTITUTIONAL (ITOC)		0%	0
FSI (ITOC)			7.4
GFA TRANSIT ABOVE GRADE (SUBJECT OF A DIFFERENT APPLICATION)			305
FSI (ITOC + TRANSIT)			7.5

UNIT DISTRIBUTION AND AMENITY AREAS

UNIT TYPE	AREA m^2	REQUIRED	PROPOSED
STUDIO	27-34	NO REQ	0%
1B	36-64	NO REQ	58%
2B	59-81	15%	31%
3B	85-111	10%	10%

AMENITY AREAS		REQUIRED m^2	PROPOSED m^2
INTERIOR AMENITY (RES)		648	663
EXTERIOR AMENITY (RES)		40	484
TOTAL AMENITY (RES)		1296	1147
EXTERIOR AMENITY (NON-RES)		NO REQ	0

GREEN ROOF AND STORMWATER MANAGEMENT

ROOF AREAS			m^2
TOTAL ROOF AREA			2093
RESIDENTIAL PRIVATE TERRACES			0
ROOFTOP EXTERIOR AMENITY			484
RENEWABLE ENERGY DEVICES			0
TOWER AREA LESS THAN 750 m2			0
TOTAL TGS EXCLUSIONS			484
TGS AVAILABLE ROOF			1609
GREEN ROOF			997
PERMEABLE LANDCAPE			0
PERMEABLE ROOFSCAPE			736
TOTAL STORMWATER AREA			1734

TGS TIER 2 V3		REQUIRED %	PROPOSED %
GREEN ROOF		60%	62%

PARKING

VEHICLE PARKING	RATIO	REQUIRED	PROPOSED
RESIDENTIAL STUDIO	0.30	0	
RESIDENTIAL 1B	0.50	95	
RESIDENTIAL 2B	0.80	81	
RESIDENTIAL 3B	1.00	34	
RESIDENTIAL VISITOR	0.10	33	
RESIDENTIAL TOTAL		243	0
OFFICE	0.35	0	
RETAIL	1.00	12	
NON-RESIDENTIAL TOTAL		12	0
SHARED TOTAL		NO REQ	9
VEHICLE PARKING TOTAL		255	9

BICYCLE PARKING

BICYCLE PARKING TGS TIER 2 V3	RATIO	REQUIRED	PROPOSED
RESIDENTIAL LONG TERM	0.90	292	524
RESIDENTIAL SHORT TERM	0.10	33	0
NON-RESIDENTIAL LONG TERM	0.20	0	0
NON-RESIDENTIAL SHORT TERM	0.20	3	0
TRANSIT LONG TERM		0	0
TRANSIT SHORT TERM		0	0
BIKE SHARE		0	0
BICYCLE PARKING TOTAL		328	524

OCCUPANT LOADS

OCCUPANT LOAD	PEOPLE
OCCUPANT LOAD RESIDENTIAL	986
OCCUPANT LOAD RETAIL	306
OCCUPANT LOAD OFFICE	0
TOTALS	1292

LOADING AND WASTE COLLECTION

LOADING AREAS	REQUIRED	PROPOSED
TYPE C RESIDENTIAL	0	0
TYPE G RESIDENTIAL	1	1
TYPE A NON-RESIDENTIAL	0	0
TYPE B NON-RESIDENTIAL	1	1
TYPE C NON-RESIDENTIAL	0	0

WASTE COLLECTION AREAS	REQUIRED m^2	PROPOSED m^2
RESIDENTIAL WASTE ROOM	96	115
RESIDENTIAL BULK WASTE ROOM	10	0
NON-RESIDENTIAL WASTE ROOM		22.65
TOTAL WASTE COLLECTION AREA		138

FLOOR AREAS (ITOC)

LEVEL	GCA	GFA DED	NRES GFA	RES GFA	RSA	0B	1B	2B	3B	UNITS
LEVEL B4	0	0	0	0	0	0	0	0	0	0
LEVEL B3	0	0	0	0	0	0	0	0	0	0
LEVEL B2	0	0	0	0	0	0	0	0	0	0
LEVEL B1	1660	1660	0	0	0	0	0	0	0	0
LEVEL 01	1953	145	1438	370	0	0	0	0	0	0
LEVEL 02	1676	119	0	1558	1414	0	13	3	2	18
LEVEL 03	2029	337	0	1692	1563	0	20	2	3	25
LEVEL 04	2029	337	0	1692	1563	0	20	2	3	25
LEVEL 05	2029	337	0	1692	1563	0	20	2	3	25
LEVEL 06	820	795	0	25	0	0	0	0	0	0
LEVEL 07	911	228	0	683	627	0	5	4	1	10
LEVEL 08	911	228	0	683	627	0	5	4	1	10
LEVEL 09	911	228	0	683	627	0	5	4	1	10
LEVEL 10	911	228	0	683	627	0	5	4	1	10
LEVEL 11	911	228	0	683	627	0	5	4	1	10
LEVEL 12	911	228	0	683	627	0	5	4	1	10
LEVEL 13	911	228	0	683	627	0	5	4	1	10
LEVEL 14	911	228	0	683	627	0	5	4	1	10
LEVEL 15	911	228	0	683	627	0	5	4	1	10
LEVEL 16	911	228	0	683	627	0	5	4	1	10
LEVEL 17	911	228	0	683	627	0	5	4	1	10
LEVEL 18	911	228	0	683	627	0	5	4	1	10
LEVEL 19	911	228	0	683	627	0	5	4	1	10
LEVEL 20	911	228	0	683	627	0	5	4	1	10
LEVEL 21	911	228	0	683	627	0	5	4	1	10
LEVEL 22	911	228	0	683	627	0	5	4	1	10
LEVEL 23	911	228	0	683	627	0	5	4	1	10
LEVEL 24	911	228	0	683	627	0	5	4	1	10
LEVEL 25	911	228	0	683	627	0	5	4	1	10
LEVEL 26	911	228	0	683	627	0	5	4	1	10
LEVEL 27	911	228	0	683	627	0	5	4	1	10
LEVEL 28	911	228	0	683	627	0	5	4	1	10
LEVEL 29	911	228	0	683	627	0	5	4	1	10
LEVEL 30	0	0	0	0	0	0	0	0	0	0
LEVEL 31	0	0	0	0	0	0	0	0	0	0
LEVEL 32	0	0	0	0	0	0	0	0	0	0
LEVEL 33	0	0	0	0	0	0	0	0	0	0
LEVEL 34	0	0	0	0	0	0	0	0	0	0
LEVEL 35	0	0	0	0	0	0	0	0	0	0
LEVEL 36	0	0	0	0	0	0	0	0	0	0
LEVEL 37	0	0	0	0	0	0	0	0	0	0
LEVEL 38	0	0	0	0	0	0	0	0	0	0
LEVEL 39	0	0	0	0	0	0	0	0	0	0
LEVEL 40	0	0	0	0	0	0	0	0	0	0
LEVEL 41	0	0	0	0	0	0	0	0	0	0
LEVEL 42	0	0	0	0	0	0	0	0	0	0
LEVEL 43	0	0	0	0	0	0	0	0	0	0
LEVEL 44	0	0	0	0	0	0	0	0	0	0
LEVEL 45	0	0	0	0	0	0	0	0	0	0
LEVEL 46	0	0	0	0	0	0	0	0	0	0
LEVEL 47	0	0	0	0	0	0	0	0	0	0
LEVEL 48	0	0	0	0	0	0	0	0	0	0
LEVEL 49	0	0	0	0	0	0	0	0	0	0
LEVEL 50	0	0	0	0	0	0	0	0	0	0
TOTALS	33139	8967	1438	22734	20520	0	189	101	34	324

FOR INTERNAL REVIEW ONLY

SHEET No. 414T003CFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014C-PAPE-COSBURN.rvt

ISSUANCE

PROJECT STATUS

SvN

NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM

ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

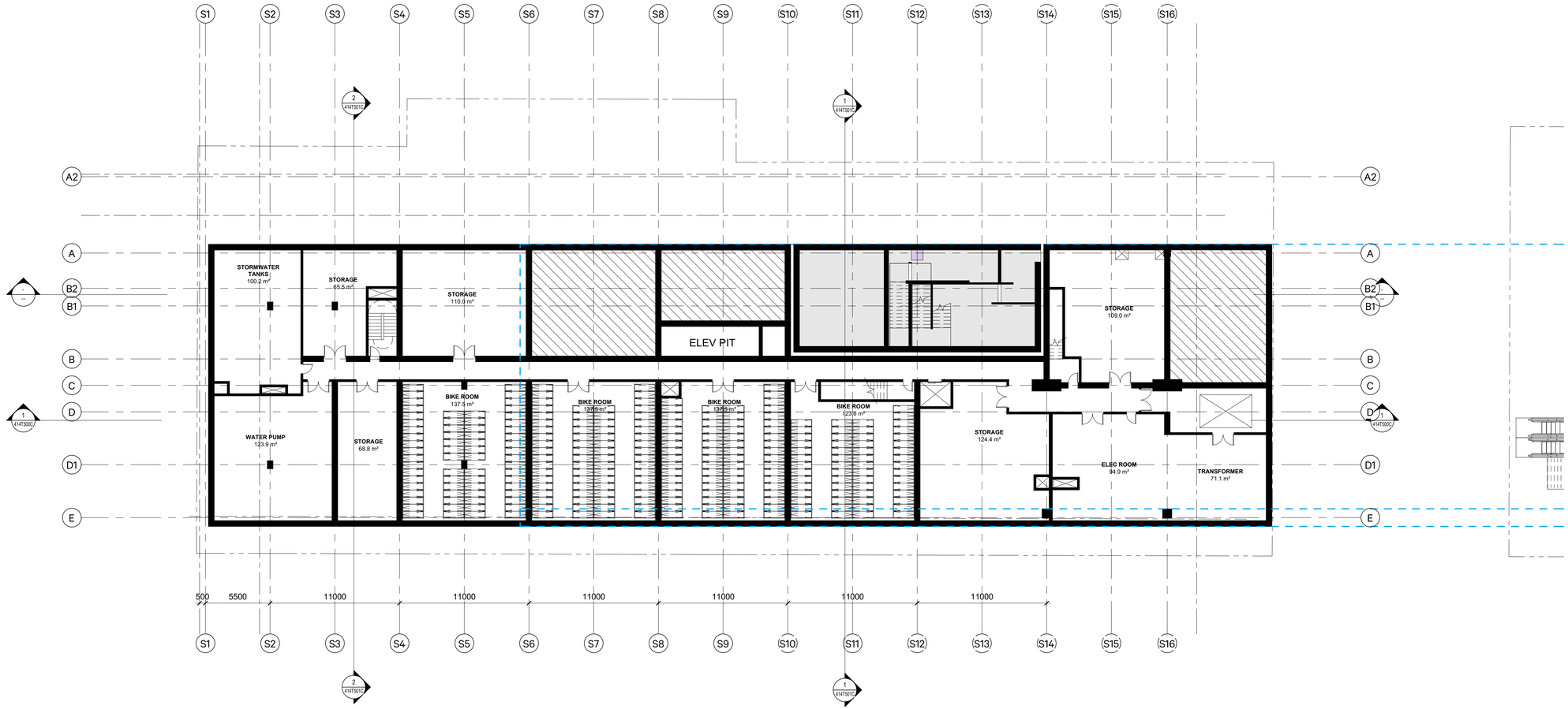
TITLE ITOC
NORTH | COSBURN
PROJECT STATISTICS

Plot Date: 2022-08-08 1:29:33 PM

METROLINX
Infrastructure Ontario

SCALE

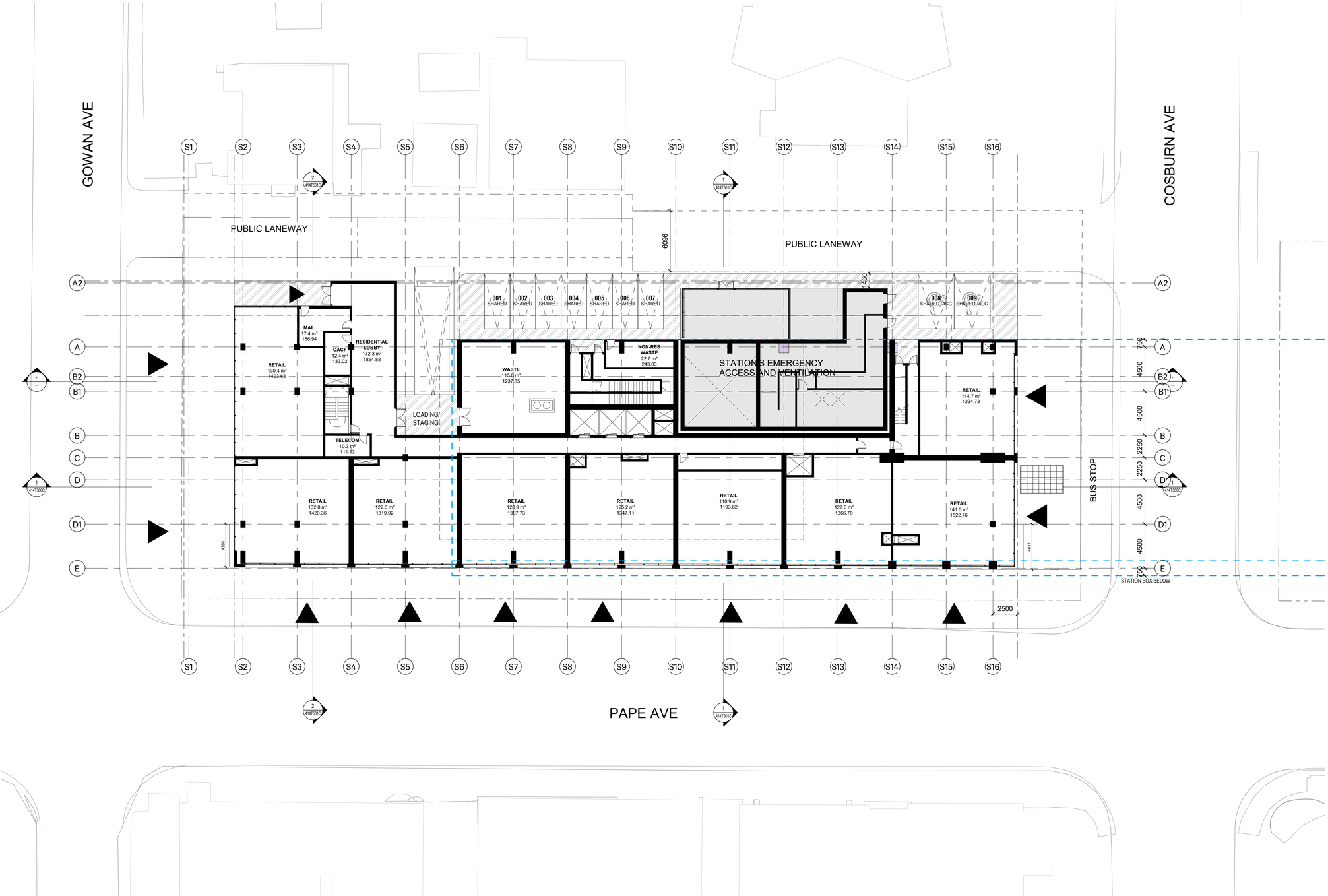
DRAWING NUMBER
414T003C



FOR INTERNAL REVIEW ONLY

SHEET No. 414T100CFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014C-PAPE-COSBURN.rvt

ISSUANCE	PROJECT STATUS				ONTARIO LINE	Plot Date: 2022-08-08 1:29:36 PM
		SvN NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	ONETEAM ONTARIO LINE TECHNICAL ADVISOR	DESIGNED Designer DRAWN Author CHECKED Checker APPROVED Approver	TITLE ITOC NORTH | COSBURN LEVEL B1	METROLINX Infrastructure Ontario SCALE 1 : 200 | DRAWING NUMBER 414T100C



FOR INTERNAL REVIEW ONLY

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ISSUANCE		

PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
LEVEL 01

Plot Date: 2022-08-08 1:29:41 PM

METROLINX Infrastructure Ontario

SCALE	DRAWING NUMBER
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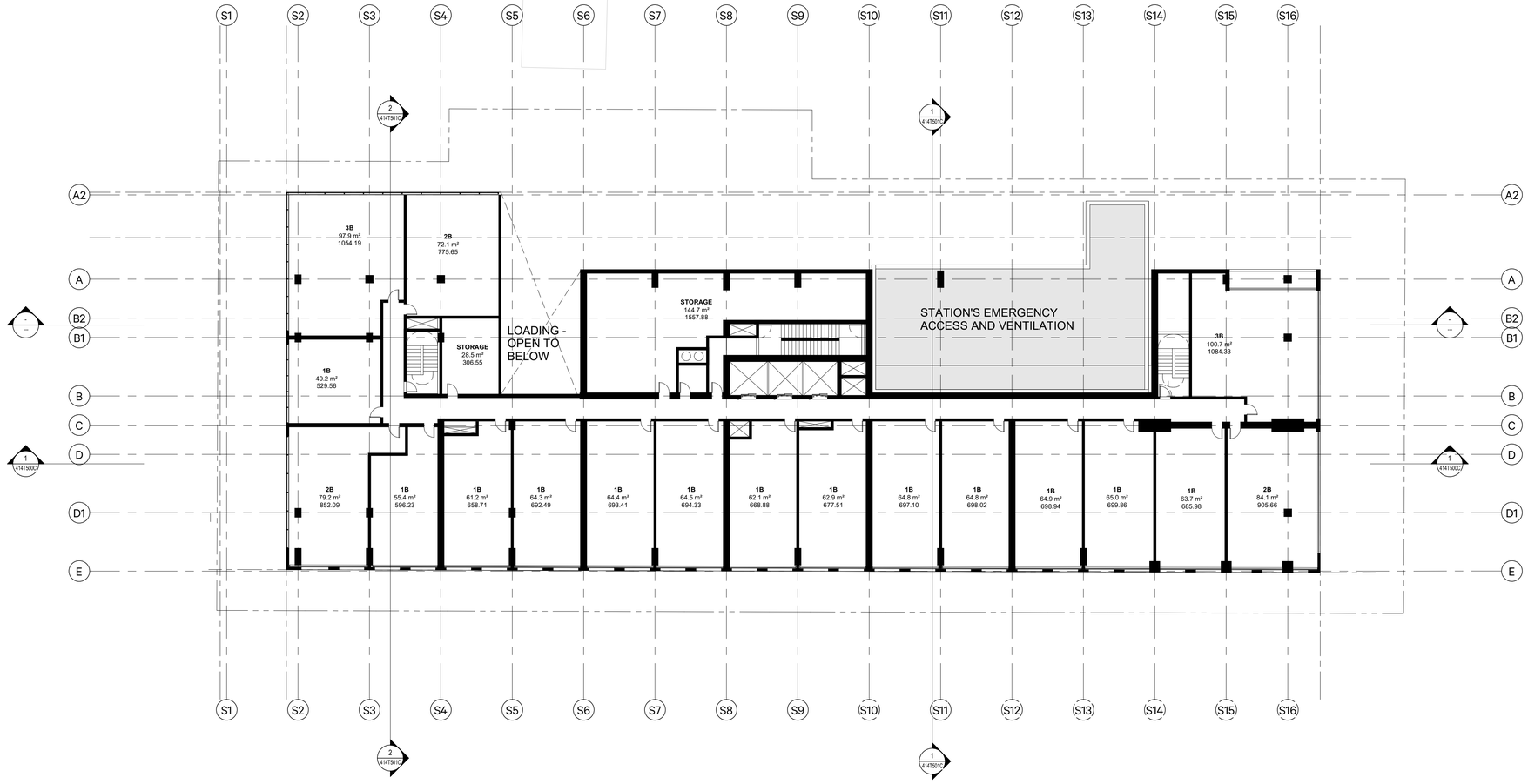

FOR INTERNAL REVIEW ONLY

SHEET No. 414T201CFILE: BIM 360://10206938_OLTA_Planning/10206938-TD014C-PAPE-COSBURN.rvt

ISSUANCE		

PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
LEVEL 02

Plot Date: 2022-08-08 1:29:44 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
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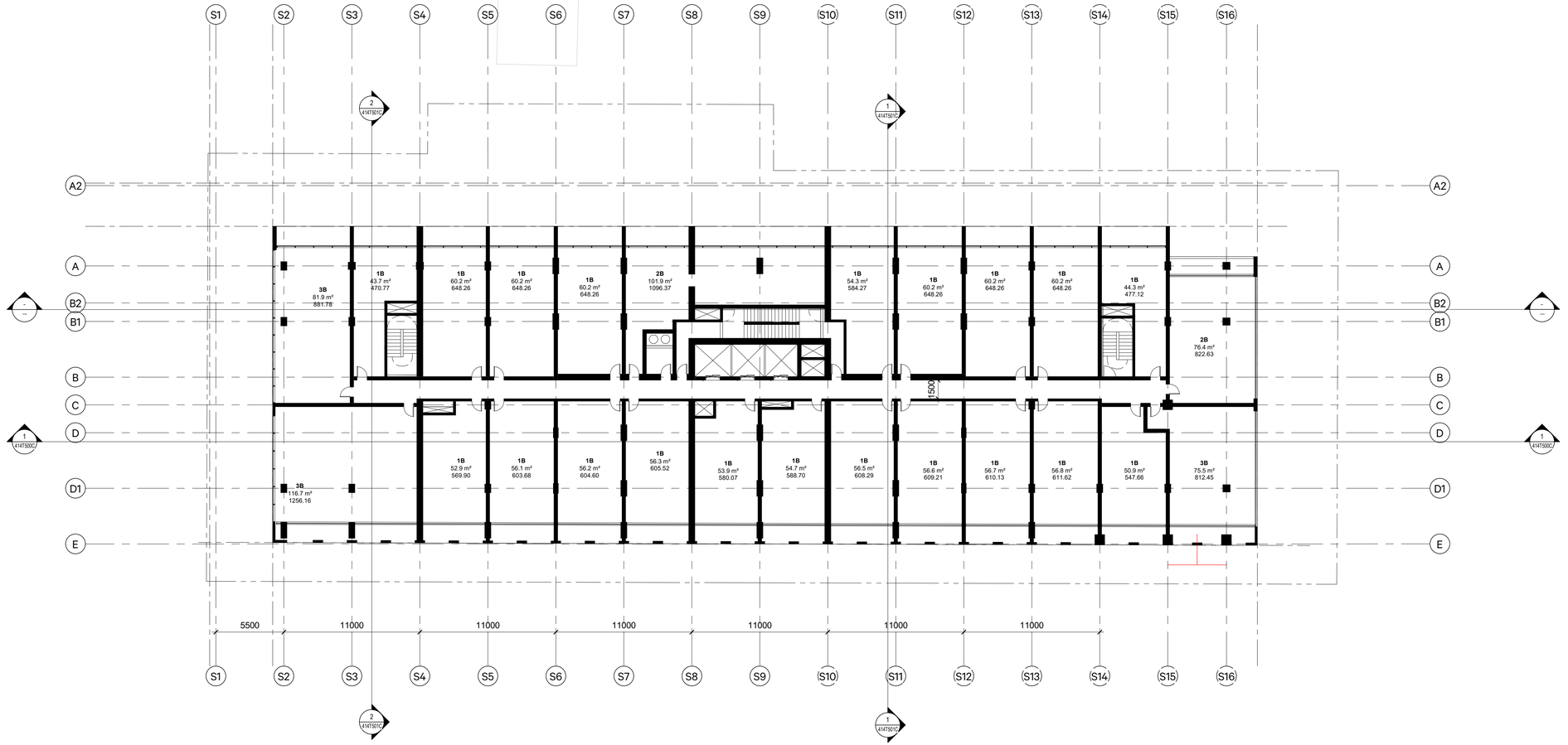

FOR INTERNAL REVIEW ONLY

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ISSUANCE		

PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
PODIUM TYPICAL

Plot Date: 2022-08-08 1:29:47 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
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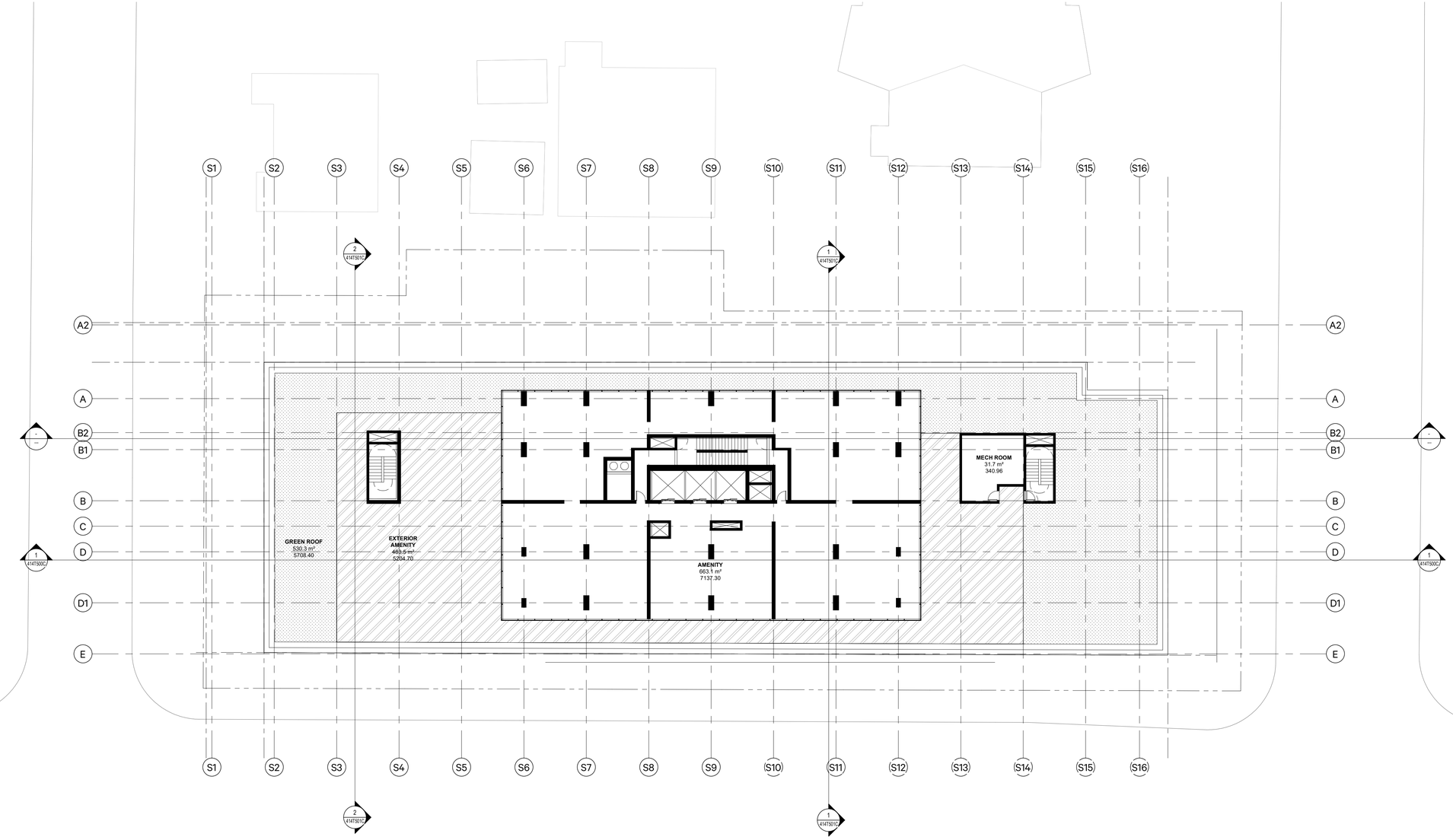

FOR INTERNAL REVIEW ONLY

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ISSUANCE		

PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
LEVEL 06

Plot Date: 2022-08-08 1:29:51 PM

METROLINX
Infrastructure Ontario

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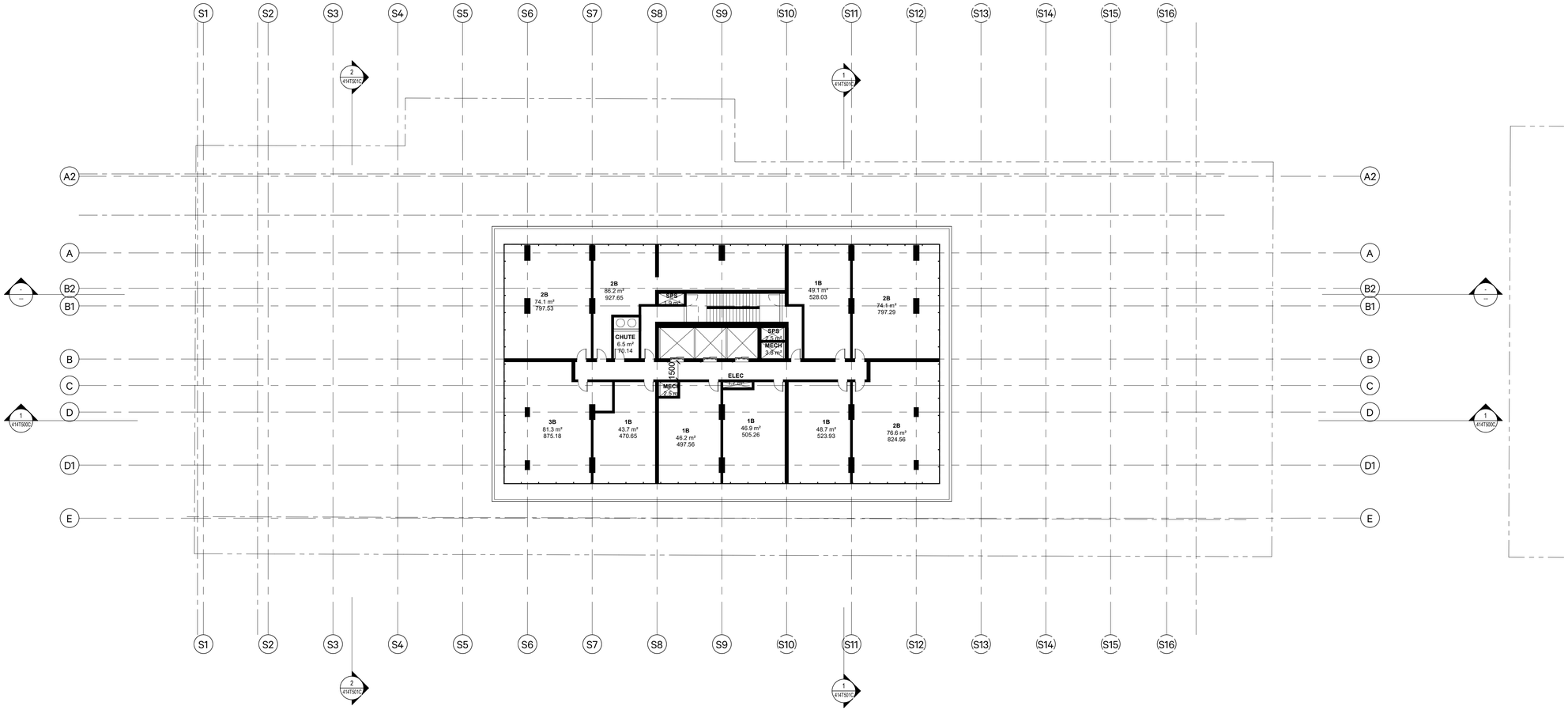

FOR INTERNAL REVIEW ONLY

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ISSUANCE		

PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
TOWER TYPICAL

Plot Date: 2022-08-08 1:29:54 PM

METROLINX
Infrastructure Ontario

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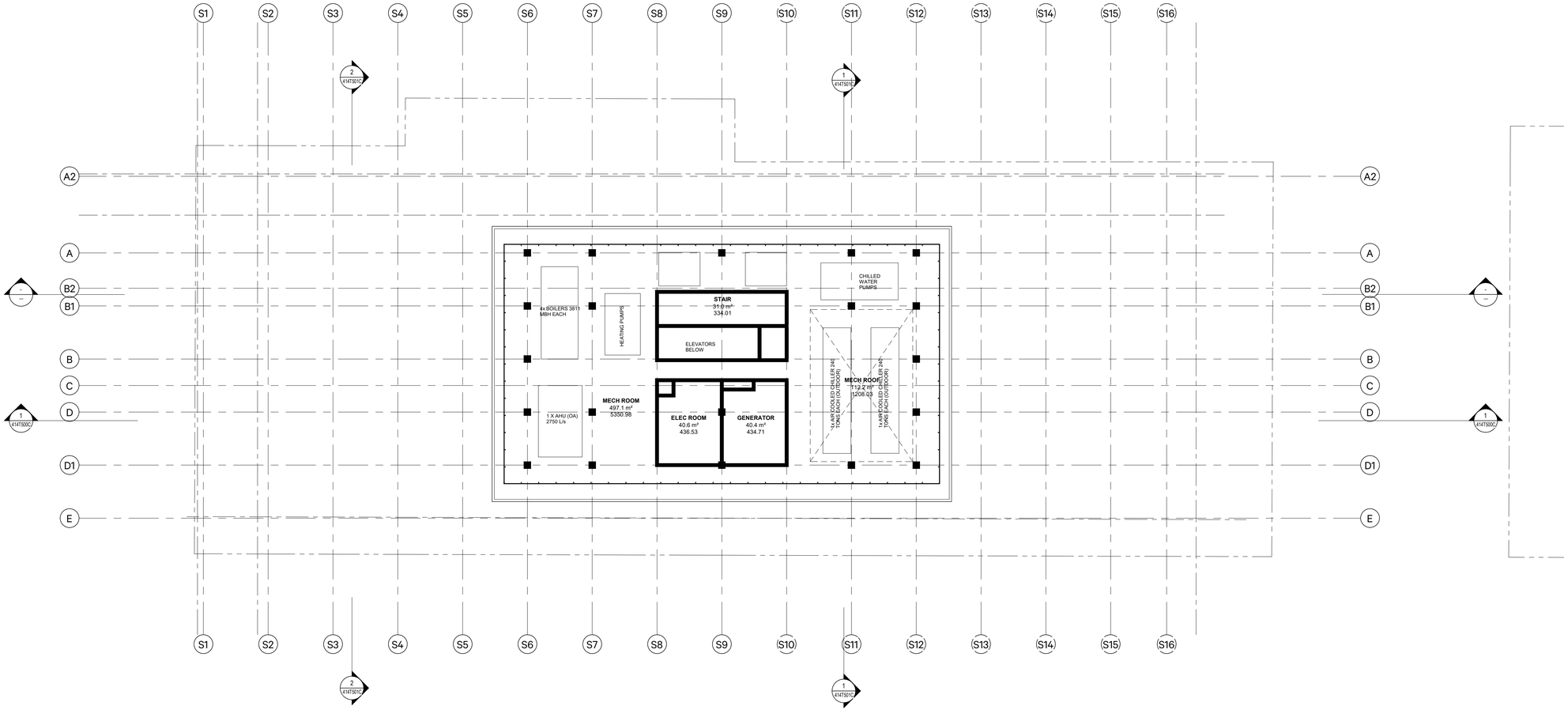

FOR INTERNAL REVIEW ONLY

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ISSUANCE		

PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
MECH PH

Plot Date: 2022-08-08 1:29:56 PM

METROLINX
Infrastructure Ontario

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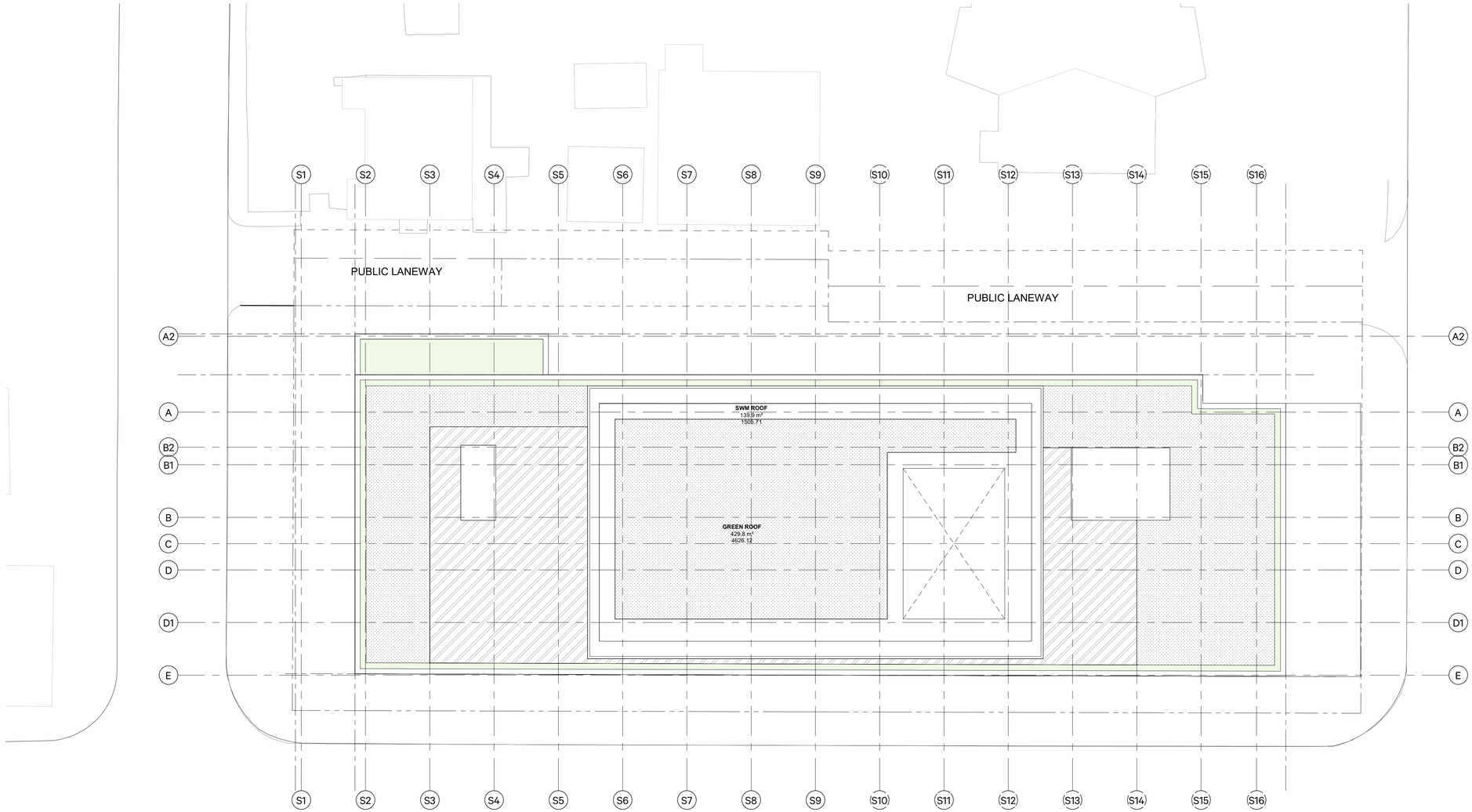

FOR INTERNAL REVIEW ONLY

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ISSUANCE		

PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
ROOF PLAN

Plot Date: 2022-08-08 1:29:59 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
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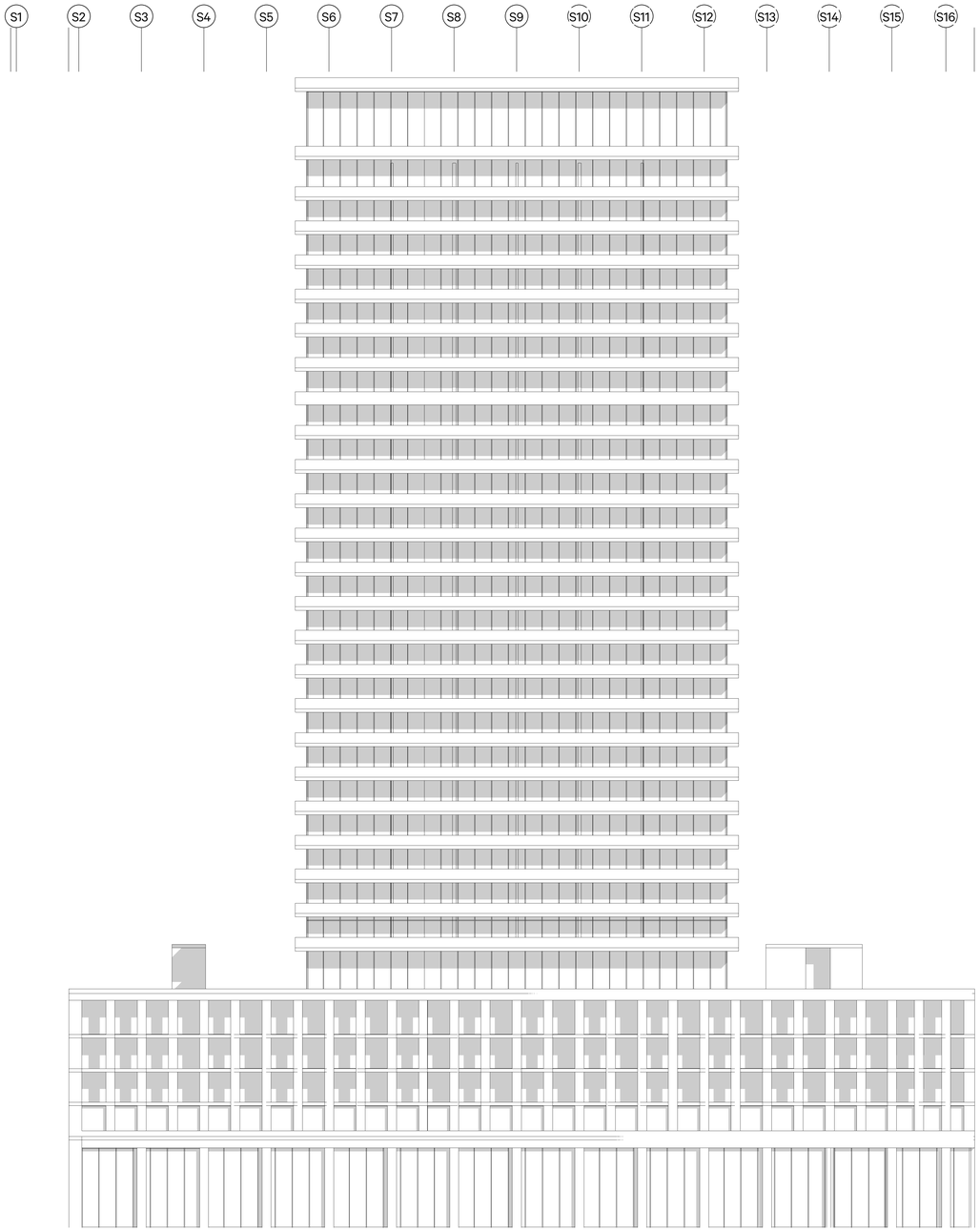
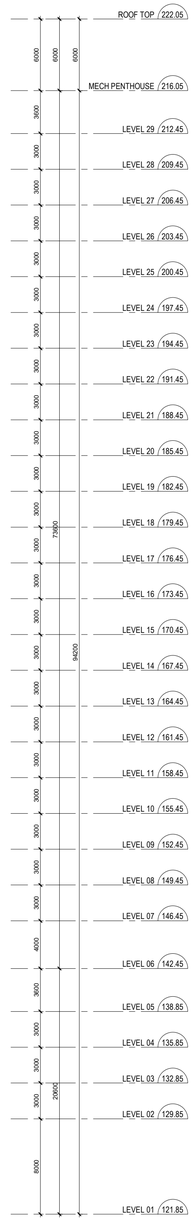
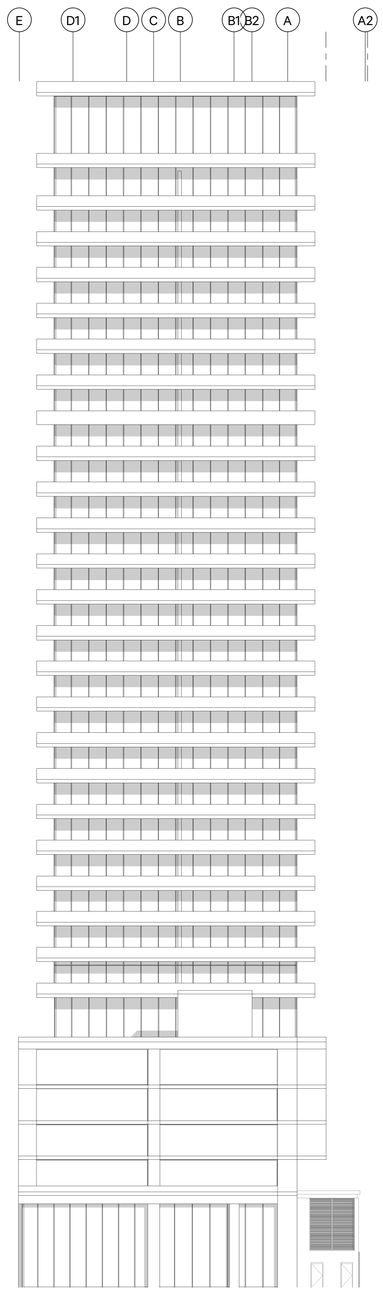
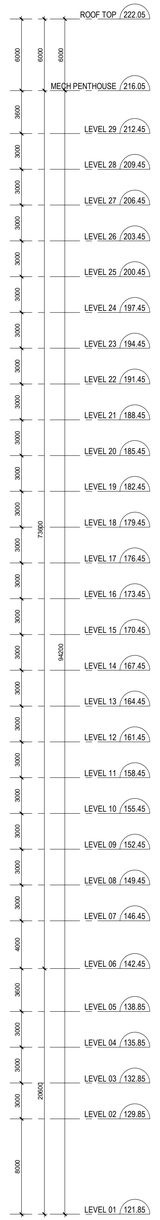


1 ELEVATION - PAPE AVE
414T400C 1 : 250





2 ELEVATION - COSBURN AVE
414T400C 1 : 250



FOR INTERNAL REVIEW ONLY

SHEET No. 414T400C FILE: BIM 360://10206938_OLTA_Planning/10206938-TD014C-PAPE-COSBURN.rvt

ISSUANCE		

PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
ELEVATIONS

Plot Date: 2022-08-08 1:30:06 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
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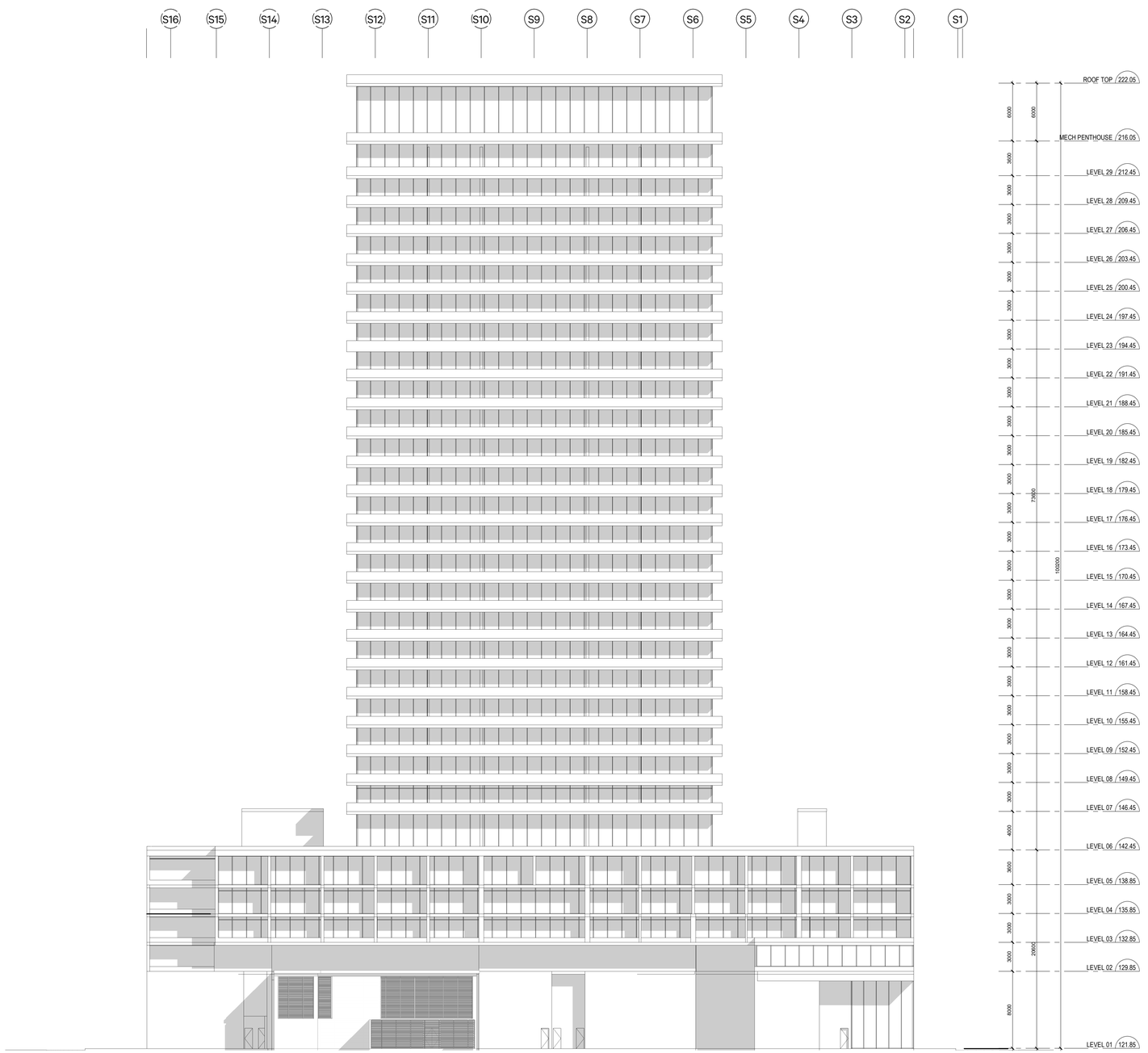
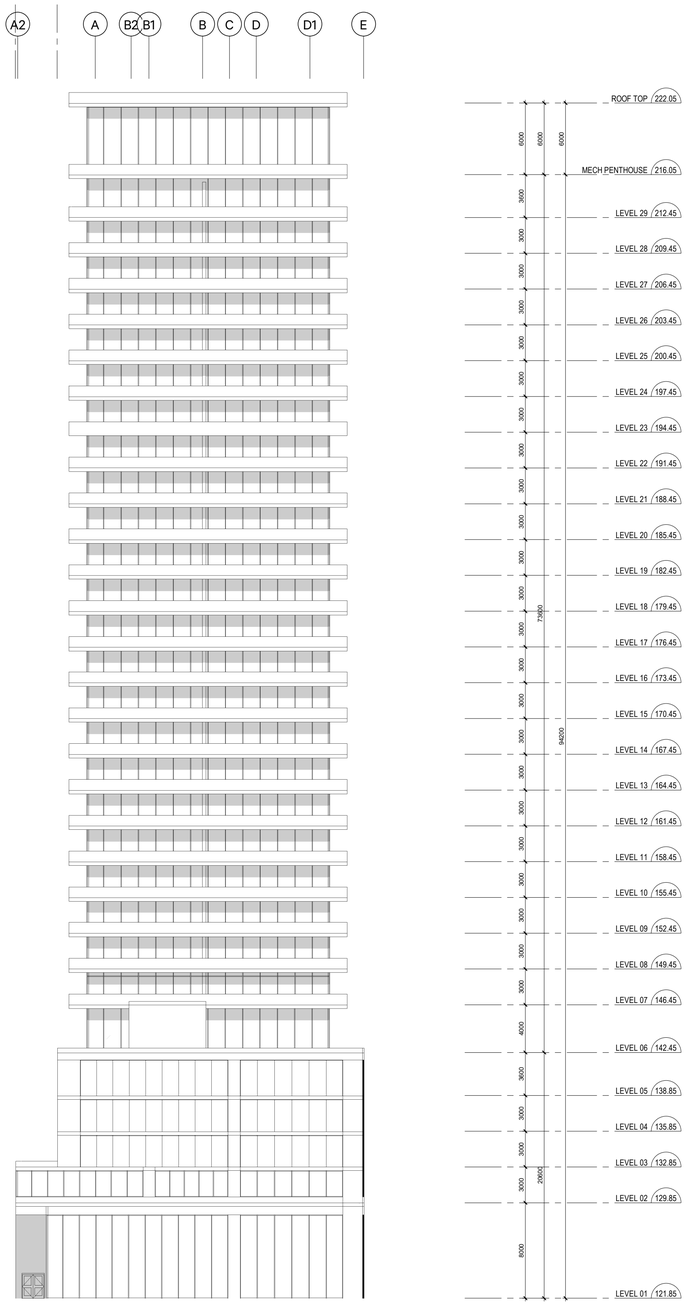


1 ELEVATION - LANEWAY
414T401C1 : 250



2 ELEVATION - GOWAN AVE
414T401C1 : 250

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ISSUANCE	PROJECT STATUS				
		SvN NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	ONETEAM ONTARIO LINE TECHNICAL ADVISOR	DESIGNED Designer DRAWN Author CHECKED Checker APPROVED Approver	TITLE ONTARIO LINE ITOC NORTH | COSBURN ELEVATIONS

Plot Date: 2022-08-08 1:30:14 PM

METROLINX Infrastructure Ontario

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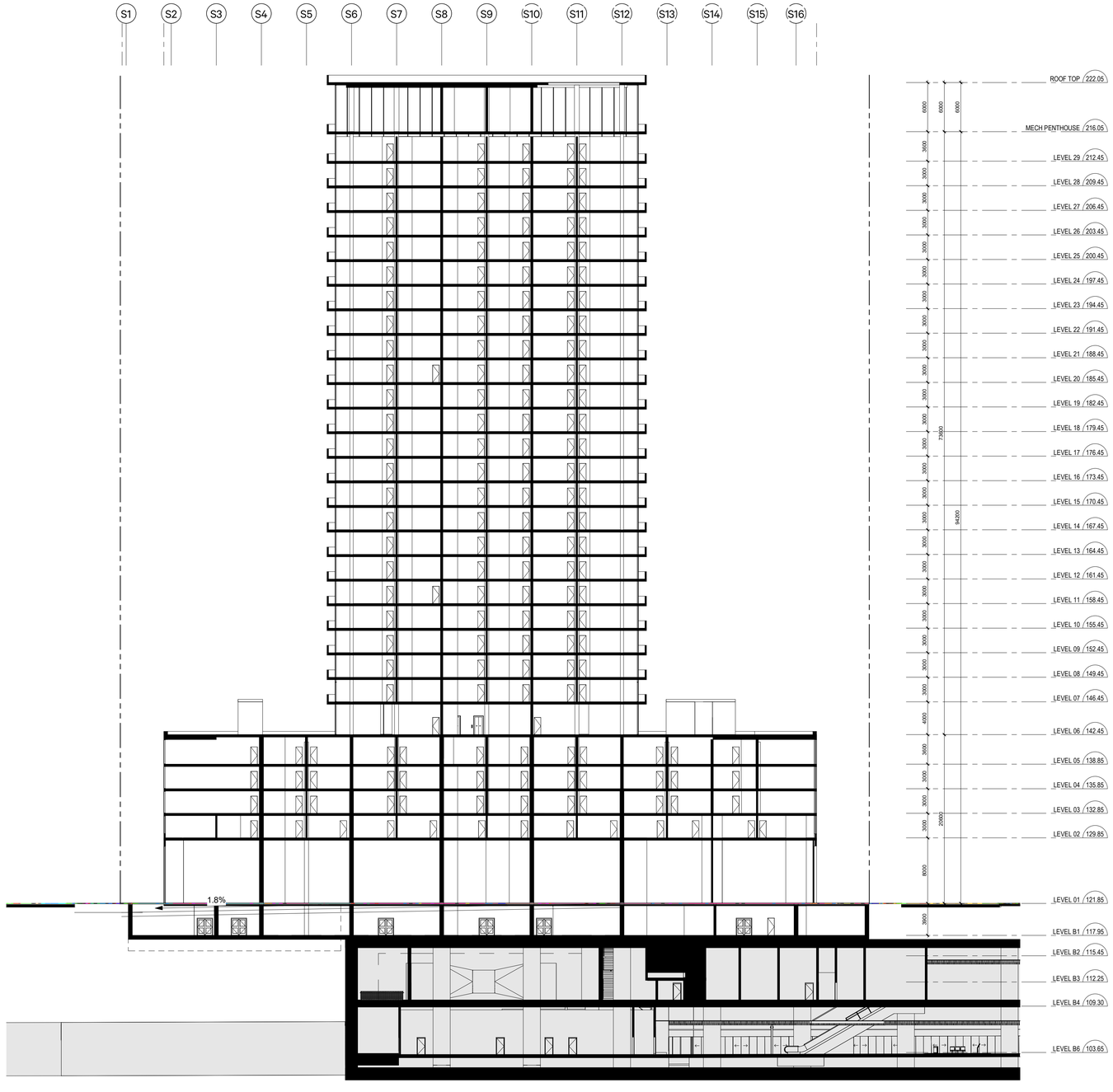

FOR INTERNAL REVIEW ONLY

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ISSUANCE							
		PROJECT STATUS	SvN NOT FOR ESTIMATING OR BIDDING NOT FOR CONSTRUCTION	ONETEAM ONTARIO LINE TECHNICAL ADVISOR		DESIGNED Designer DRAWN Author CHECKED Checker APPROVED Approver	ONTARIO LINE TITLE ITOC NORTH | COSBURN SECTION 1

Plot Date: 2022-08-08 1:30:23 PM

METROLINX Infrastructure Ontario

SCALE	DRAWING NUMBER
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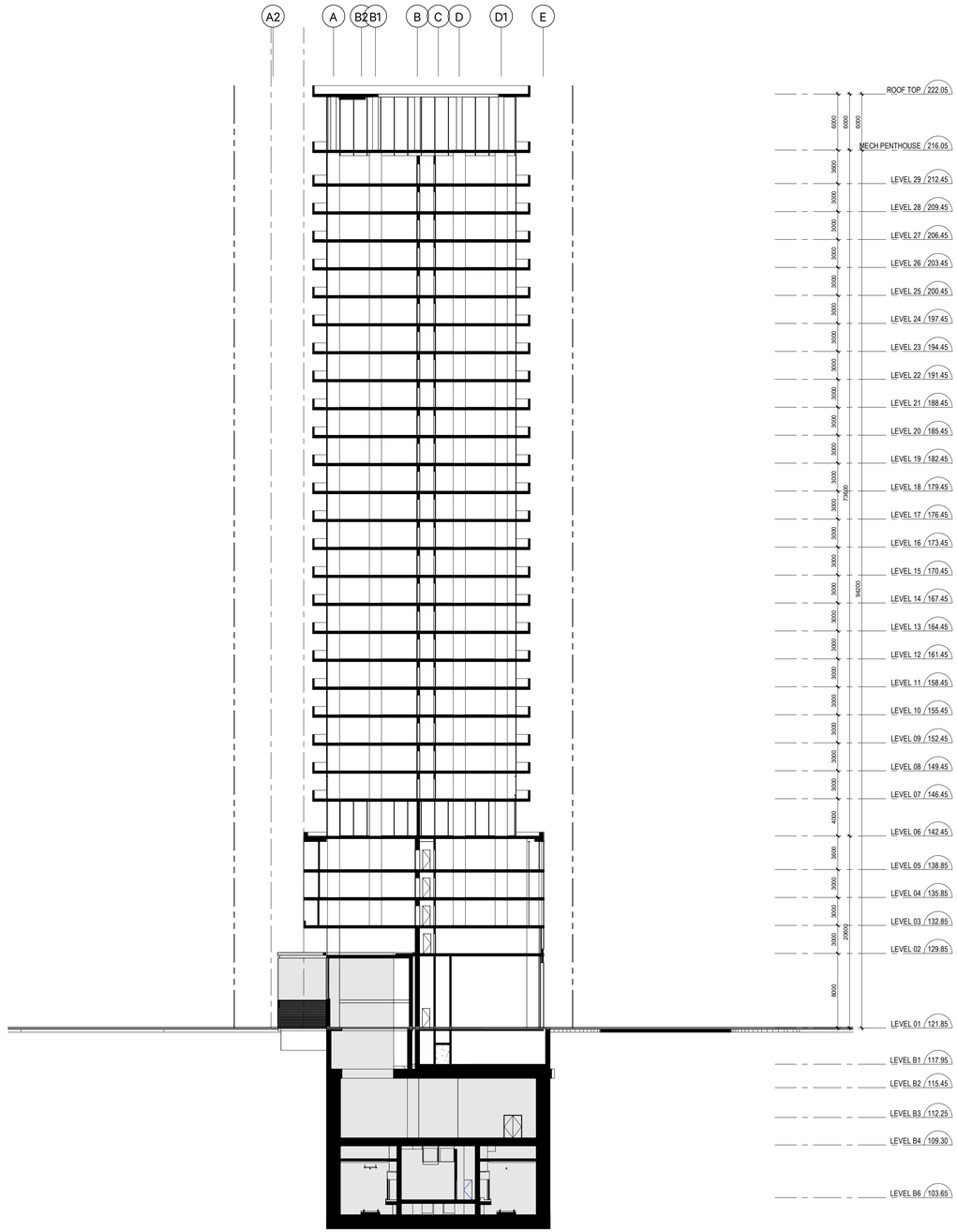

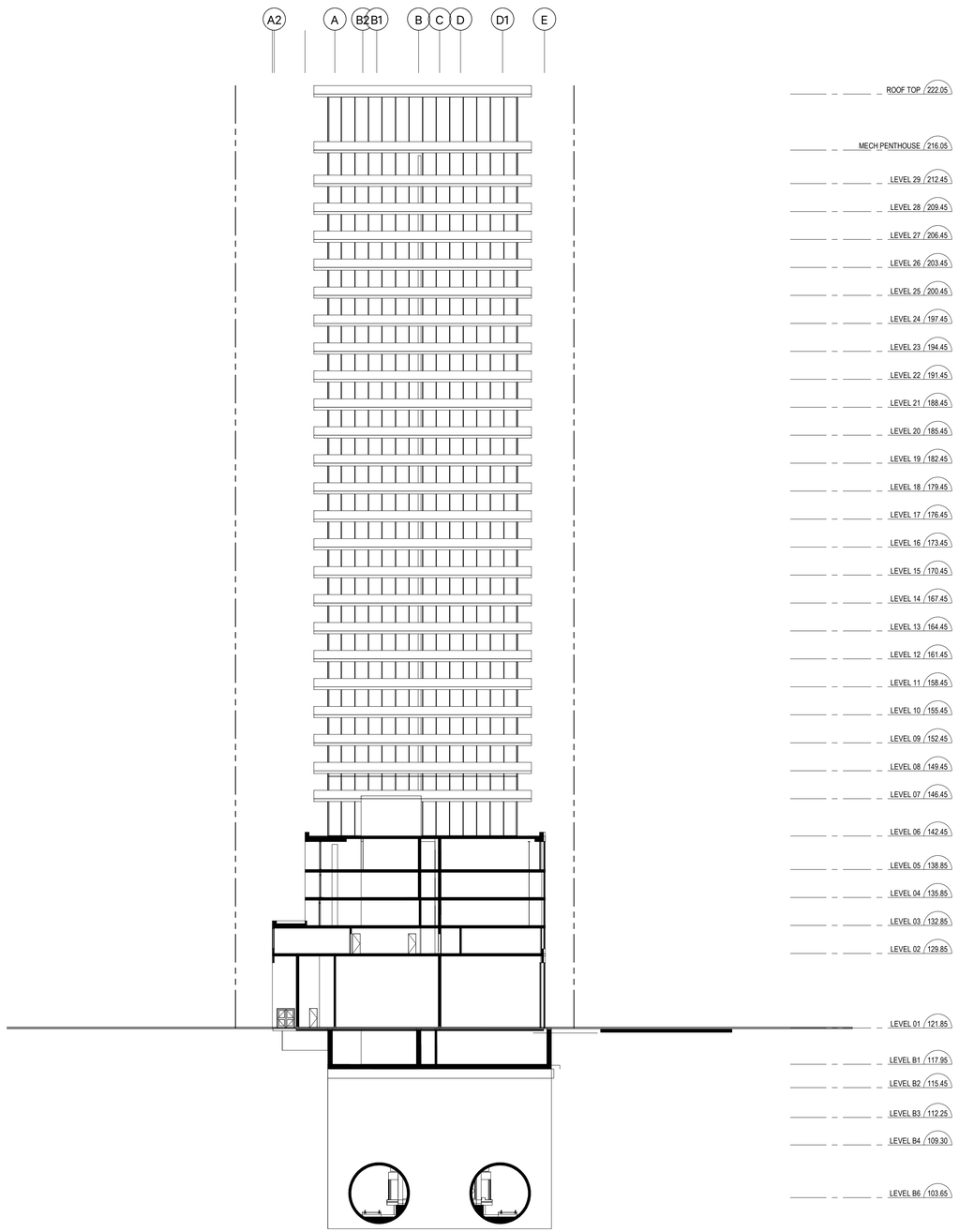

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SHEET No. 414T501C FILE: BIM 360://10206938_OLTA_Planning/10206938-TD014C-PAPE-COSBURN.rvt

ISSUANCE		
		PROJECT STATUS

SvN
NOT FOR ESTIMATING OR BIDDING
NOT FOR CONSTRUCTION

ONETEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED Designer
DRAWN Author
CHECKED Checker
APPROVED Approver

ONTARIO LINE

TITLE
ITOC
NORTH | COSBURN
SECTION 2 AND SECTION 3

Plot Date: 2022-08-08 1:30:32 PM

METROLINX
Infrastructure Ontario

SCALE	DRAWING NUMBER
1 : 300	414T501C

Appendix B. Cosburn Station Design Drawings

METROLINX

ONTARIO LINE

PAPE SEGMENT - COSBURN
TORONTO, ONTARIO

Plot Date: 18 FEBRUARY 2022

14-COSBURN DRAWING LIST		
SHEET COUNT	**DRAWING NUMBER**	**DRAWING NAME**
01	414A001	COVER PAGE
02	414A002	SCHEDULES, SYMBOLS AND ABBREVIATIONS
03	414A003	NEIGHBORHOOD PLAN
04	414A010	SITE PLAN
05	414A100	ROOF LEVEL PLAN
06	414A101	STREET LEVEL PLAN
07	414A102	CONCOURSE LEVEL PLAN
08	414A103	PLATFORM LEVEL PLAN
09	414A201	LONGITUDINAL SECTION
10	414A210	CROSS SECTIONS
11	414A301	ELEVATIONS
12	414A302	ELEVATIONS
13	414A502	3D/ VISUALIZATIONS

METROLINX CONTRACT NUMBER 10069951
HDR PROJECT NUMBER 10206938

SHEET No. 414A001 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS			REVISIONS
1	RSSOM RCD	2020-11-25	
2	RSSOM ADDENDUM	2021-06-25	

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

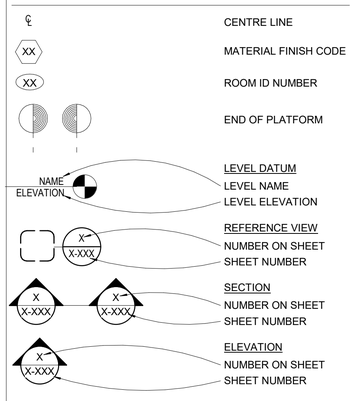
SAFETY FIRST

Dwg. No.	Sheet No.
414A001	01 OF 10

ABBREVIATIONS

AVM	ADD VALUE MACHINE
BOH	BACK OF HOUSE
C.B.	CATCH BASIN
CL	CENTRE LINE
DEMO	DEMOLITION
DN	DOWN (STAIR DIRECTION)
DWA	DESIGNATED WAITING AREA
EB	EAST BOUND
EEB	EMERGENCY EXIT BUILDING
ELEV.	ELEVATOR
EOP	END OF PLATFORM
EXIST.	EXISTING
F.D.	FLOOR DRAIN
FFA	FIRE FIGHTERS ACCESS
FFE	FINISH FLOOR ELEVATION
FVM	FARE VENDING MACHINE
GFRC	GLASS FIBRE REINFORCED CONCRETE
GL.	GLASS
H.P.	HIGH POINT
HVAC	HEATING, COOLING & AIR CONDITIONING
N	NORTH
NB	NORTHBOUND
NTS	NOT TO SCALE
OCR	OVERHEAD CONDUCTOR RAIL
O.C.	ON CENTER
OL	ONTARIO LINE
PATH	TORONTO'S DOWNTOWN PEDESTRIAN WALKWAY
PSD	PLATFORM SCREEN DOOR
RM	ROOM
ROW	RIGHT OF WAY
S	SOUTH
SB	SOUTHBOUND
SOE	SUPPORT OF EXCAVATION
SSRM	SELF-SERVE RELOADING MACHINE
STL.	STEEL
TOC	TRANSIT ORIENTED COMMUNITY
T.O.FL	TOP OF FLOOR
TPSS	TRACTION POWER SUBSTATION
TTC	TORONTO TRANSIT COMMISSION
TVS	TUNNEL VENTILATION SYSTEM
TYP	TYPICAL
UP	UP (STAIR DIRECTION)
UPS	UNINTERRUPTABLE POWER SUPPLY
VCE	VERTICAL CIRCULATION ELEMENT
WB	WESTBOUND
W.P.	WORKING POINT

SYMBOLS



ROOM SCHEDULE

ROOM ID	
01	MAIN ENTRANCE
03	SECURE BIKE STORAGE
05	EMERGENCY EXIT
06	VCE
07	PUBLIC CONCOURSE
08	STATION PLATFORM
09	EMERGENCY MANAGEMENT PANEL
10	FARE CONTROL AREA
13	STATION AMBASSADOR OFFICE
14	STATION AMBASSADOR ANTEROOM
16	STAFF UNIVERSAL WASHROOM
18	RETAIL AND CONCESSIONS
21	SECURITY UNIVERSAL WASHROOM
30	COMMUNICATIONS CLOSET
31	COMMUNICATIONS EQUIPMENT ROOM
32	MECHANICAL ROOM FOR COMMUNICATIONS EQUIPMENT ROOM
33	SUMP PUMP ROOM
34	SCRUBBER MACHINE ROOM
35	VALVE ROOM
36	MECHANICAL ROOM
37	SUBWAY FIRE VENTILATION ROOM
38	SUBWAY VENTILATION EQUIPMENT CONTROL ROOM
39	SIGNALLING ROOM
41	TELEPHONE ROOM
42	JANITOR CLOSET
43	JANITORS STORAGE ROOM
44	ELEVATOR CONTROL ROOM
45	ESCALATOR CONTROL ROOM
46	REFUSE STORAGE ROOM
47	STATION UPS ROOM
48	FARE CONTROL EQUIPMENT ROOM
49	PLATFORM SCREEN DOORS ROOM
50	FIRE FIGHTER ACCESS
52	MECHANICAL ROOM
56	MECHANICAL ROOM FOR ESCALATOR MACHINE ROOM
71	TPS MV CABLE
72	STATION POWER SUBSTATION
73	STATION ELECTRICAL ROOM
74	STATION UPS ROOM
75	CONDENSER YARD

FINISHES & SYSTEMS

FLOOR FINISH SYSTEMS

F1	LARGE FORMAT PORCELAIN TILE
F2	DENSIFIED POLISHED CONCRETE
F3	PORCELAIN TILE
F4	HARDENED & SEALED CONCRETE
F5	CONDUCTIVE ELECTROSTATIC DISCHARGE EPOXY
F5C	NON-CONDUCTIVE STATIC DISSIPATIVE EPOXY
F6	EPOXY
F7	TRANSLUCENT FLOORING
F8	RAISED ACCESS FLOOR
F9	TACTILE FLOORING
F10	FOOT GRILLE

WALL FINISH SYSTEMS

W1	METAL STICK-FRAME GLAZING SYSTEM
W2	GLAZING SYSTEM
W3	PORCELAIN ENAMEL PANEL SYSTEM
W4	GFRC PANEL SYSTEM
W4A	PORCELAIN PANEL SYSTEM - CONCRETE FINISH
W5	EXTERIOR GFRC PANEL SYSTEM
W6	PORCELAIN ENAMEL PANEL SYSTEM - FEATURE WALL
W7	PLATFORM CURTAIN WALL SYSTEM
W8	GLAZED TERRACOTTA PANEL SYSTEM
W9	STAINLESS STEEL PANEL
W10	GLAZED TERRACOTTA BAGUETTE SYSTEM
W11	METAL FACADE LOUVRES
W23	GLAZED CURTAIN WALL SYSTEM
W24	GRANITE BASE
W25	VINE/PRECAST CONCRETE PANEL SYSTEM

CEILING FINISH SYSTEMS

C1	ACOUSTICAL METAL CEILING
C2	GYPSUM BOARD
C3	ACOUSTIC TILES
C4	GFRC CEILING PANEL
C5	ILLUMINATED CEILING
C6	COLOURED ALUMINUM BAFFLE CEILING
C8	WOOD PANEL SOFFIT
C9	COLOURED ALUMINUM SOFFIT

ROOF FINISH SYSTEMS

R1	MEMBRANE ROOF
R2	GREEN ROOF
R3	COOL ROOF
R4	METAL ENCLOSURES
R5	STANDING SEAM METAL ROOF

CANOPIES

CP1	METAL ENCLOSURES
CP2	METAL ROOF

ELEVATORS

E1	METAL CLADDING
E2	GLAZED CLADDING

ESCALATORS

ES1	STAINLESS STEEL CLADDING
ES2	PERFORATED STAINLESS STEEL ACOUSTIC CLADDING

STAIRS

SS1	PRECAST CONCRETE STAIRS

RAILINGS

RL1	STEEL AND GLASS
RL2	STEEL AND PERFORATED METAL

DOORS

D1	AUTOMATIC SLIDING GLASS DOOR
D2	GLAZED BIKE ROOM DOOR
D3	METAL DOORS

COLUMN ENCLOSURE

CL1	CLADDING-METAL
CL2	STAINLESS STEEL CHASE PANEL

ARCHITECTURALLY EXPOSED STRUCTURAL STEEL

HC1	HIGH PERFORMANCE COATING

SHEET No. 414A002 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS			REVISIONS	
1	RSSOM RCD	2020-11-25		
2	RSSOM ADDENDUM	2021-06-25		
3	RCD Ver 01	2022-02-24		

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) NOT APPLICABLE

STATUS

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

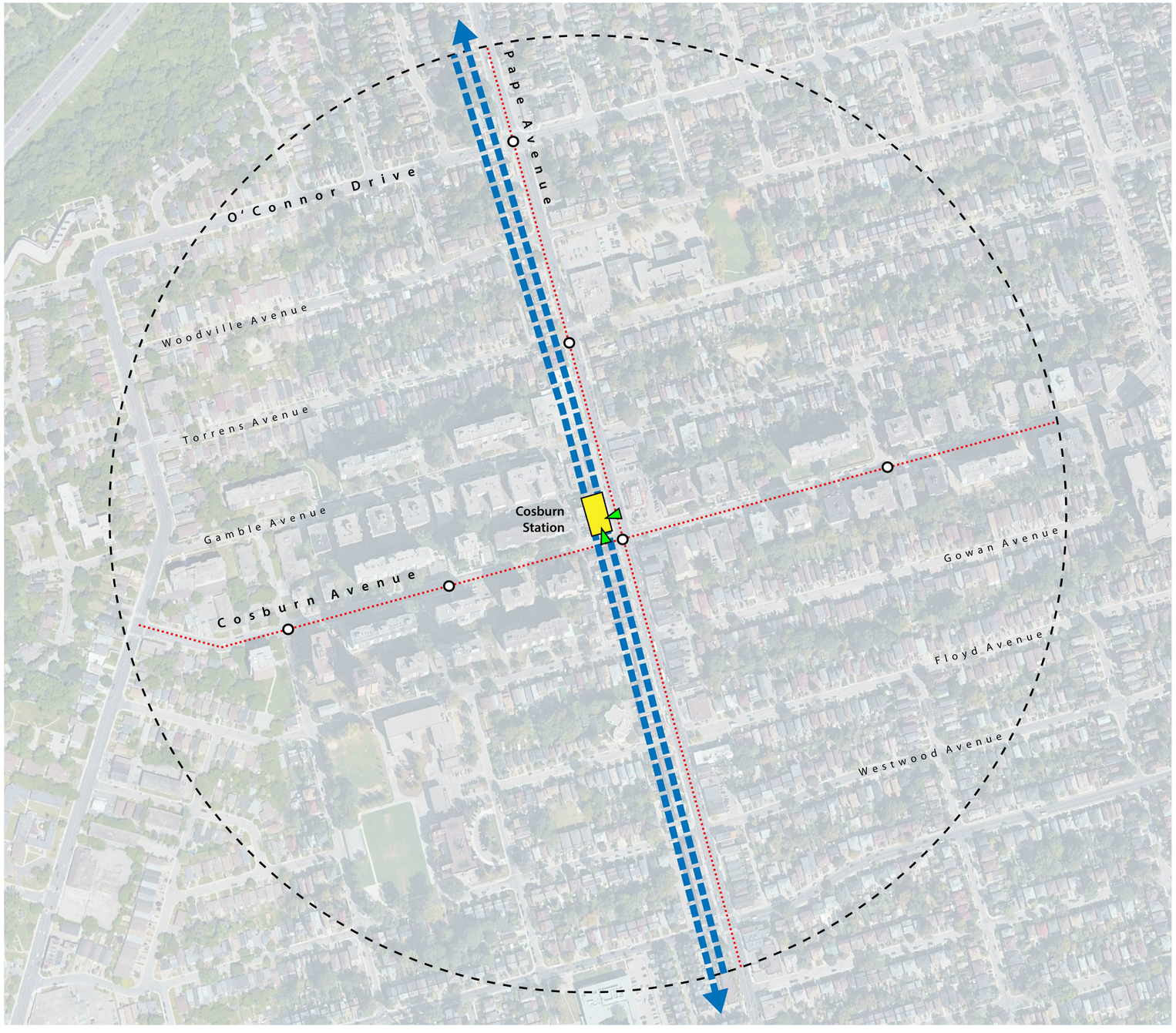
TITLE STATION ARCHITECTURE
PAPE | COSBURN
SCHEDULES, SYMBOLS AND ABBREVIATIONS

Plot Date: 24 FEBRUARY 2022

METROLINX Infrastructure Ontario

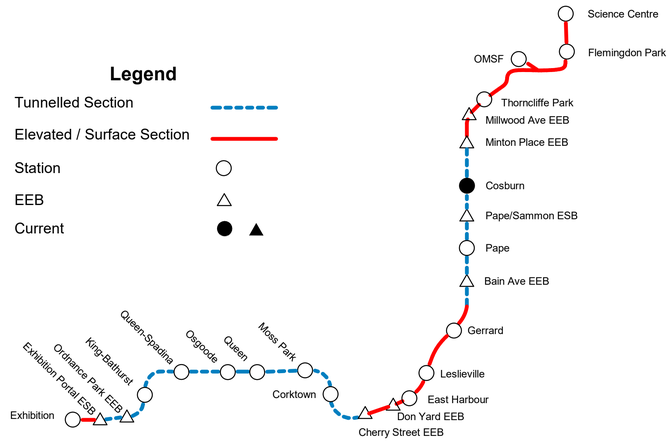
Dwg. No. 414A002

Sheet No. 02 OF 13



Legend

- 500m Radius
- Tunnelled Section
- Elevated/Surface Section
- GO Line
- Station Building
- Building Entry Points
- Existing Station Building
- Existing Station Below
- Bus/Streetcar Stops
- Bus/Streetcar Lines



KEY PLAN

REVISIONS			REVISIONS	
1	RCD Ver 01	2022-02-24		

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 2500

STATUS

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

TITLE
STATION ARCHITECTURE
PAPE | COSBURN
NEIGHBORHOOD PLAN

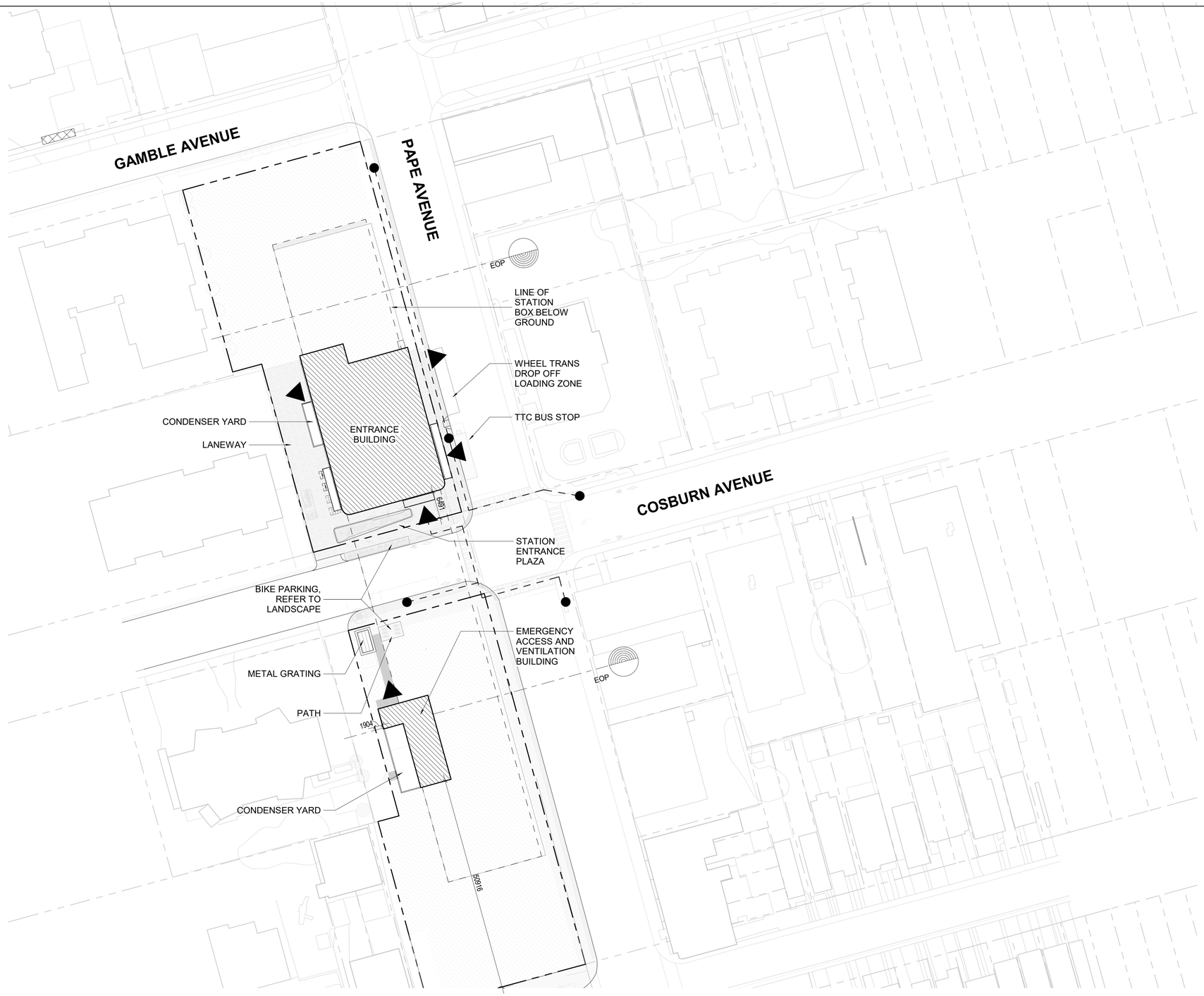
Plot Date: 24 FEBRUARY 2022

METROLINX
Infrastructure Ontario

Dwg. No. 414A003

Sheet No. 03 OF 13

SHEET No. 414A003 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt



ENTRANCE
EMERGENCY EXIT
BUS STOP
STREET CAR STOP
BICYCLE SHARE
PROPERTY LINE
ONTARIO LINE TRACK CENTERLINE
TTC STREETCAR TRACK CENTERLINE
BIKE PATH
HARDSCAPE PLAZA
ENTRANCE BUILDING
STATION BOX BELOW

SHEET No. 414A010 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS		
1	RSSOM RCD	2020-11-25
2	RSSOM ADDENDUM	2021-06-25
3	RCD Ver 01	2022-02-24

REVISIONS

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 500

STATUS

HDR

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

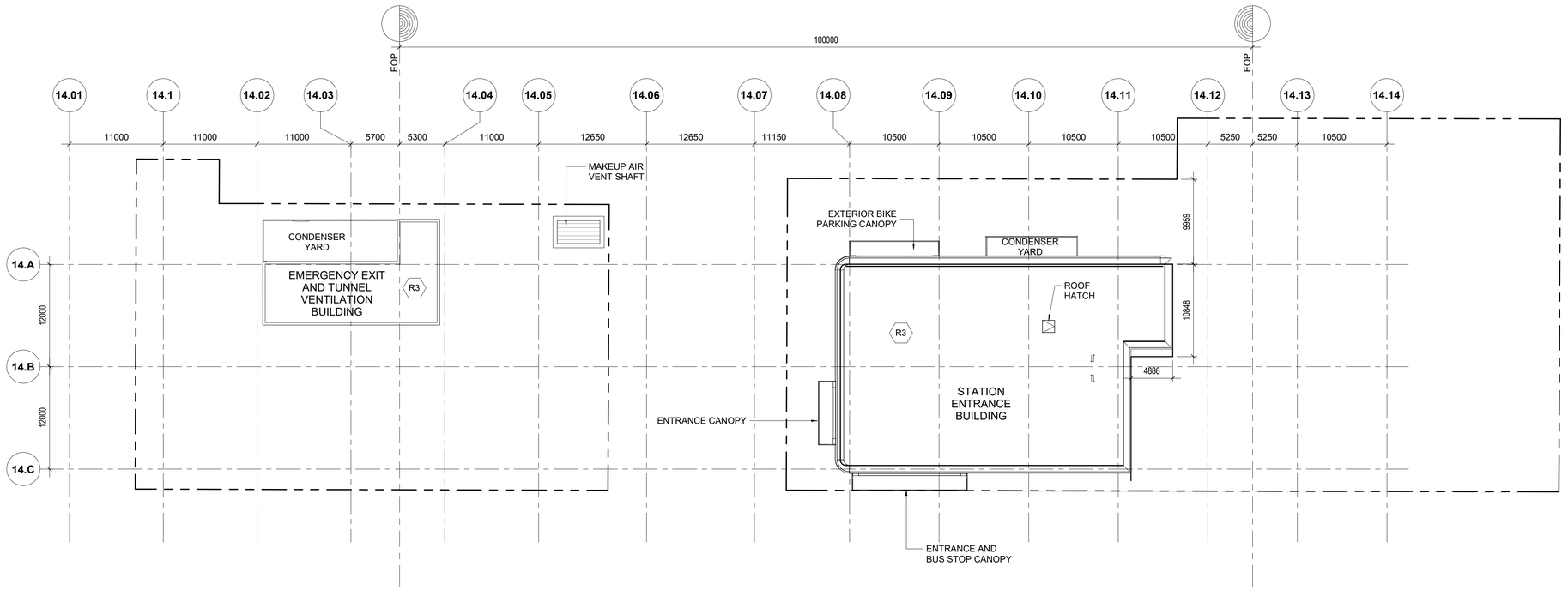
TITLE
STATION ARCHITECTURE
PAPE | COSBURN
SITE PLAN

Plot Date: 24 FEBRUARY 2022

METROLINX
Infrastructure Ontario

Dwg. No. 414A010

Sheet No. 04 OF 13



1 14-ROOF PLAN
1 : 300

ENTRANCE
EMERGENCY EXIT
BUS STOP
STREET CAR STOP
END OF PLATFORM
BICYCLE SHARE
PROPERTY LINE
TRACK CENTERLINE
BIKE PATH
HARDSCAPE PLAZA
PLATFORM ROOF
STATION BOX BELOW

REVISIONS		
1	RSSOM RCD	2020-11-25
2	RSSOM ADDENDUM	2021-06-25
3	RCD Ver 01	2022-02-24

REVISIONS

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) As indicated

STATUS

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

TITLE
PAPE | COSBURN
ROOF LEVEL PLAN

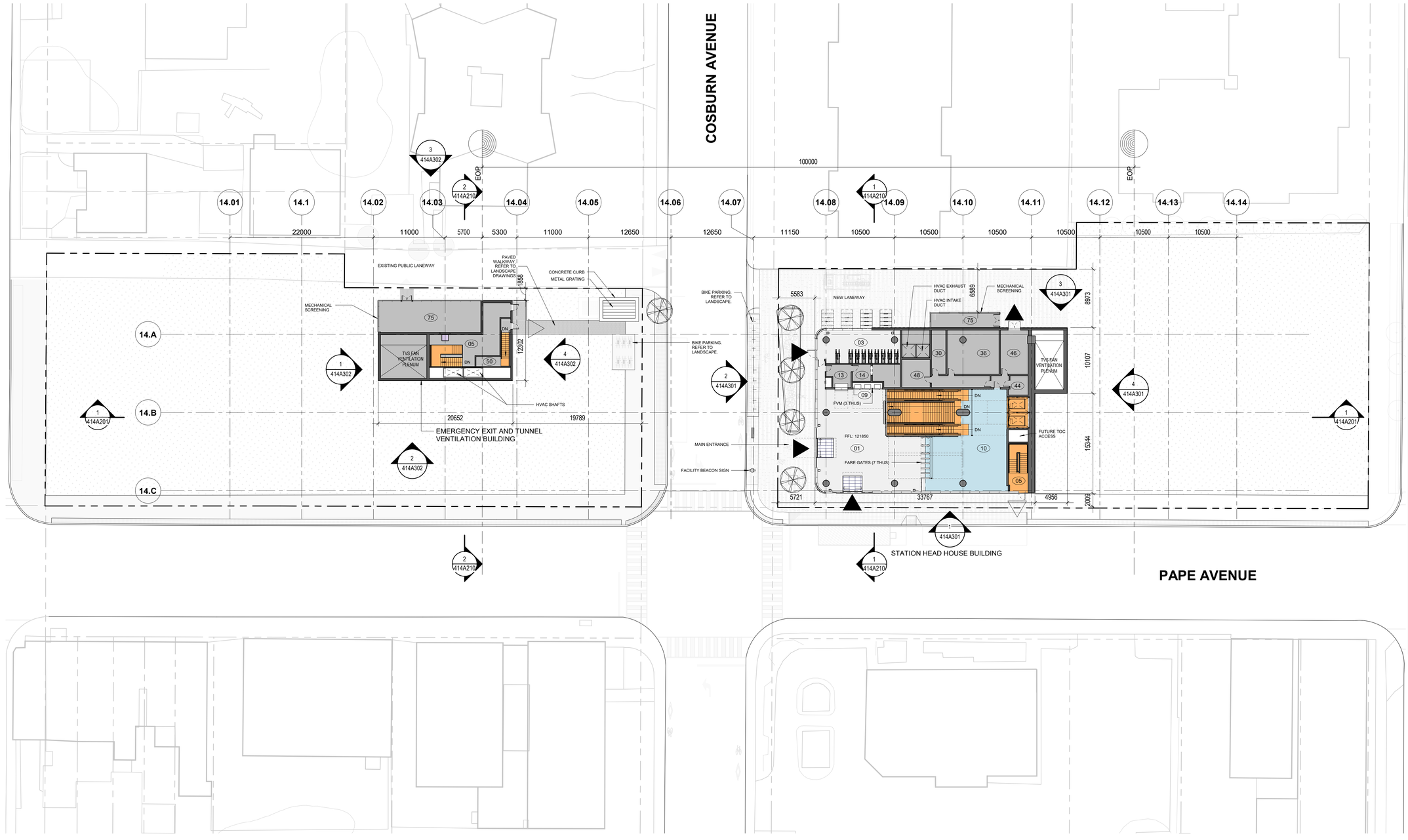
Plot Date: 24 FEBRUARY 2022

METROLINX
Infrastructure Ontario

Dwg. No. 414A100

Sheet No. 05 OF 13

SHEET No. 414A100 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt



COLOR LEGEND

- STATION FARE PAID AREA
- BACK OF HOUSE SPACE
- VERTICAL CIRCULATION ELEMENTS
- PUBLIC & PRE-FARE AREA
- NEW PAVED AREA
- FLOOR GRILL

ROOM ID

01	MAIN ENTRANCE
03	SECURE BIKE STORAGE
05	EMERGENCY EXIT
06	VCE
07	PUBLIC CONCOURSE
08	STATION PLATFORM
09	EMERGENCY MANAGEMENT PANEL
10	FARE CONTROL AREA
13	STATION AMBASSADOR OFFICE
14	STATION AMBASSADOR ANTEROOM
16	STAFF UNIVERSAL WASHROOM
18	RETAIL AND CONCESSIONS
21	SECURITY UNIVERSAL WASHROOM
30	COMMUNICATIONS CLOSET
31	COMMUNICATIONS EQUIPMENT ROOM
32	MECHANICAL ROOM FOR COMMUNICATIONS EQUIPMENT ROOM
33	SUMP PUMP ROOM
34	SCRUBBER MACHINE ROOM
35	VALVE ROOM
36	MECHANICAL ROOM
37	SUBWAY FIRE VENTILATION ROOM
38	SUBWAY VENTILATION EQUIPMENT CONTROL ROOM
39	SIGNALLING ROOM
41	TELEPHONE ROOM
42	JANITOR CLOSET
43	JANITORS STORAGE ROOM
44	ELEVATOR CONTROL ROOM
45	ESCALATOR CONTROL ROOM
46	REFUSE STORAGE ROOM
47	STATION UPS ROOM
48	FARE CONTROL EQUIPMENT ROOM
49	PLATFORM SCREEN DOORS ROOM
50	FIRE FIGHTER ACCESS
52	MECHANICAL ROOM
56	MECHANICAL ROOM FOR ESCALATOR MACHINE ROOM
71	TPS MV CABLE
72	STATION POWER SUBSTATION
73	STATION ELECTRICAL ROOM
74	STATION UPS ROOM
75	CONDENSER YARD

1 STREET LEVEL PLAN

1 : 300

REVISIONS		
1	RSSOM RCD	2020-11-25
2	RSSOM ADDENDUM	2021-06-25
3	RCD Ver 01	2022-02-24

REVISIONS

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 300

STATUS

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

TITLE STATION ARCHITECTURE
PAPE | COSBURN
STREET LEVEL PLAN

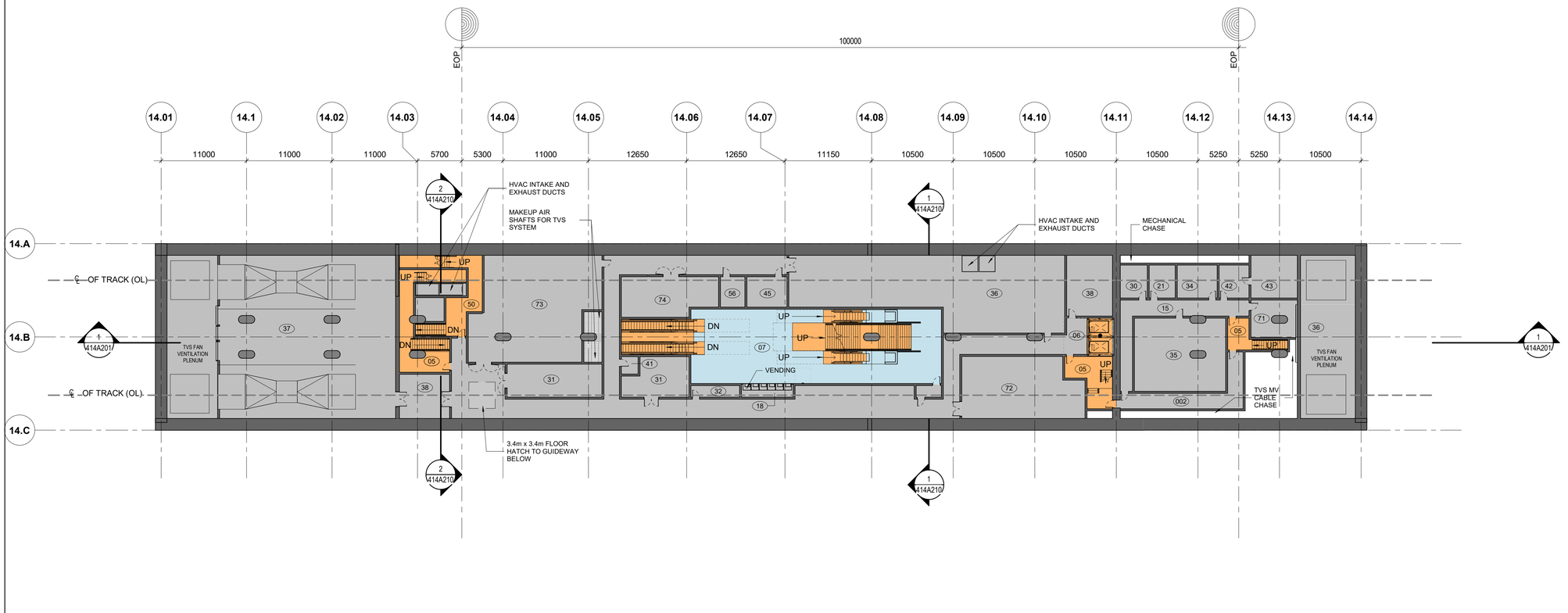
Plot Date: 24 FEBRUARY 2022

METROLINX
Infrastructure Ontario

Dwg. No. 414A101

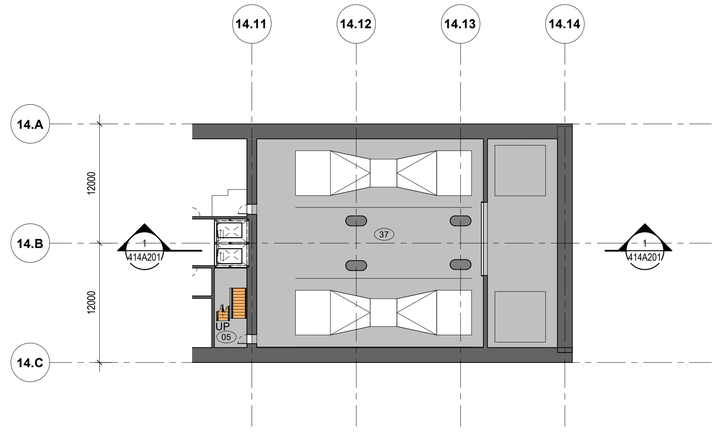
Sheet No. 06 OF 13

SHEET No. 414A101 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt



2 CONCOURSE LEVEL PLAN

1 : 300



1 NORTH TVS MEZZANINE

1 : 300

COLOR LEGEND

- STATION FARE PAID AREA
- BACK OF HOUSE SPACE
- VERTICAL CIRCULATION ELEMENTS
- PUBLIC & PRE-FARE AREA
- NEW PAVED AREA
- FLOOR GRILL

ROOM ID

01	MAIN ENTRANCE
03	SECURE BIKE STORAGE
05	EMERGENCY EXIT
06	VCE
07	PUBLIC CONCOURSE
08	STATION PLATFORM
09	EMERGENCY MANAGEMENT PANEL
10	FARE CONTROL AREA
13	STATION AMBASSADOR OFFICE
14	STATION AMBASSADOR ANTEROOM
16	STAFF UNIVERSAL WASHROOM
18	RETAIL AND CONCESSIONS
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32	MECHANICAL ROOM FOR COMMUNICATIONS EQUIPMENT ROOM
33	SUMP PUMP ROOM
34	SCRUBBER MACHINE ROOM
35	VALVE ROOM
36	MECHANICAL ROOM
37	SUBWAY FIRE VENTILATION ROOM
38	SUBWAY VENTILATION EQUIPMENT CONTROL ROOM
39	SIGNALLING ROOM
41	TELEPHONE ROOM
42	JANITOR CLOSET
43	JANITORS STORAGE ROOM
44	ELEVATOR CONTROL ROOM
45	ESCALATOR CONTROL ROOM
46	REFUSE STORAGE ROOM
47	STATION UPS ROOM
48	FARE CONTROL EQUIPMENT ROOM
49	PLATFORM SCREEN DOORS ROOM
50	FIRE FIGHTER ACCESS
52	MECHANICAL ROOM
56	MECHANICAL ROOM FOR ESCALATOR MACHINE ROOM
71	TPS MV CABLE
72	STATION POWER SUBSTATION
73	STATION ELECTRICAL ROOM
74	STATION UPS ROOM
75	CONDENSER YARD

SHEET No. 414A102 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS		
1	RSSOM RCD	2020-11-25
2	RSSOM ADDENDUM	2021-06-25
3	RCD Ver 01	2022-02-24

REVISIONS

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 300

STATUS

HDR

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

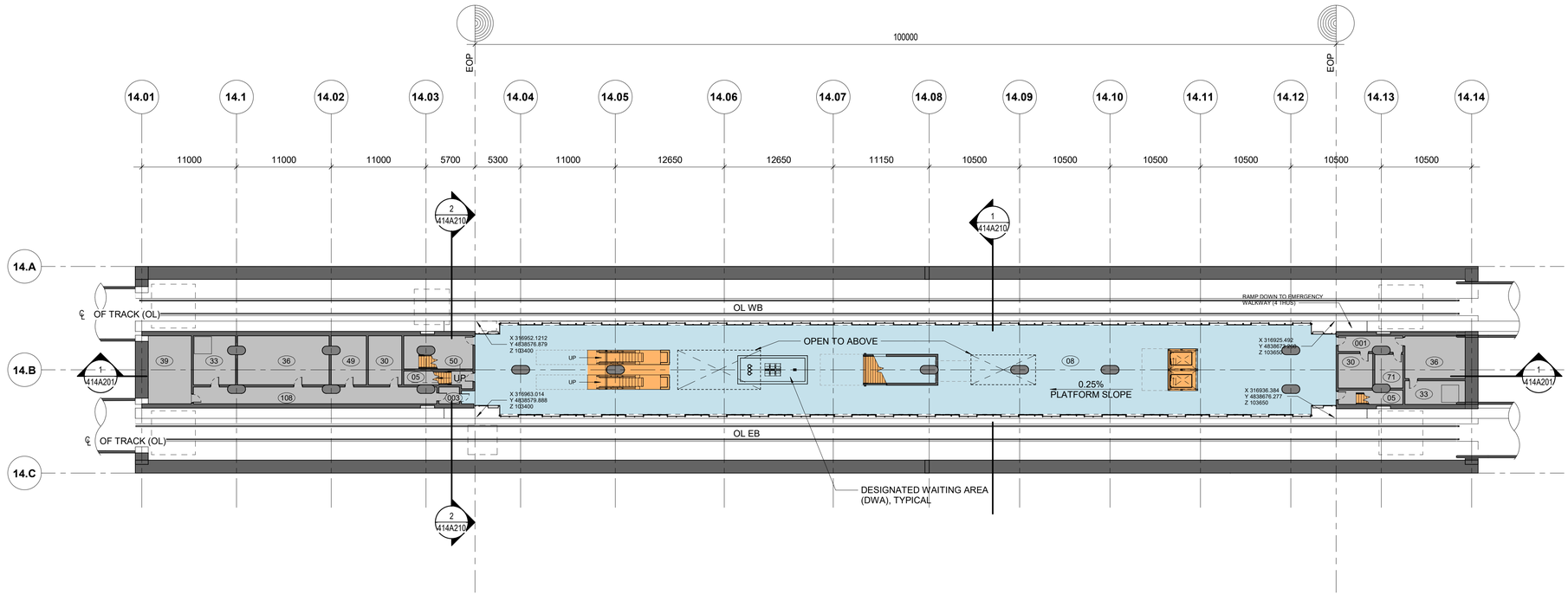
TITLE
STATION ARCHITECTURE
PAPE | COSBURN
CONCOURSE LEVEL PLAN

Plot Date: 24 FEBRUARY 2022

METROLINX
Infrastructure Ontario

Dwg. No. 414A102

Sheet No. 07 OF 13



COLOR LEGEND

- STATION FARE PAID AREA
- BACK OF HOUSE SPACE
- VERTICAL CIRCULATION ELEMENTS
- PUBLIC & PRE-FARE AREA
- NEW PAVED AREA
- FLOOR GRILL

ROOM ID

01	MAIN ENTRANCE
03	SECURE BIKE STORAGE
05	EMERGENCY EXIT
06	VCE
07	PUBLIC CONCOURSE
08	STATION PLATFORM
09	EMERGENCY MANAGEMENT PANEL
10	FARE CONTROL AREA
13	STATION AMBASSADOR OFFICE
14	STATION AMBASSADOR ANTEROOM
16	STAFF UNIVERSAL WASHROOM
18	RETAIL AND CONCESSIONS
21	SECURITY UNIVERSAL WASHROOM
30	COMMUNICATIONS CLOSET
31	COMMUNICATIONS EQUIPMENT ROOM
32	MECHANICAL ROOM FOR COMMUNICATIONS EQUIPMENT ROOM
33	SUMP PUMP ROOM
34	SCRUBBER MACHINE ROOM
35	VALVE ROOM
36	MECHANICAL ROOM
37	SUBWAY FIRE VENTILATION ROOM
38	SUBWAY VENTILATION EQUIPMENT CONTROL ROOM
39	SIGNALLING ROOM
41	TELEPHONE ROOM
42	JANITOR CLOSET
43	JANITORS STORAGE ROOM
44	ELEVATOR CONTROL ROOM
45	ESCALATOR CONTROL ROOM
46	REFUSE STORAGE ROOM
47	STATION UPS ROOM
48	FARE CONTROL EQUIPMENT ROOM
49	PLATFORM SCREEN DOORS ROOM
50	FIRE FIGHTER ACCESS
52	MECHANICAL ROOM
56	MECHANICAL ROOM FOR ESCALATOR MACHINE ROOM
71	TPS MV CABLE
72	STATION POWER SUBSTATION
73	STATION ELECTRICAL ROOM
74	STATION UPS ROOM
75	CONDENSER YARD

1 PLATFORM LEVEL PLAN

1 : 300

SHEET No. 414A103 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS		
1	RSSOM RCD	2020-11-25
2	RSSOM ADDENDUM	2021-06-25
3	RCD Ver 01	2022-02-24

REVISIONS

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 300

STATUS

HDR

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

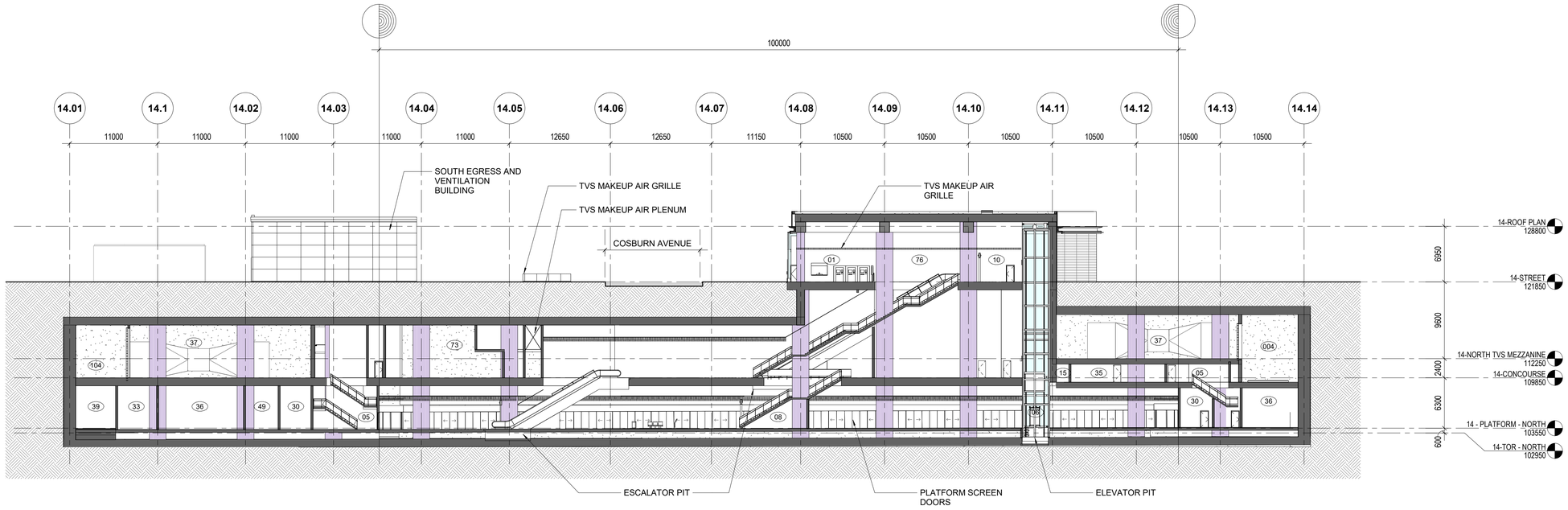
TITLE
STATION ARCHITECTURE
PAPE | COSBURN
PLATFORM LEVEL PLAN

Plot Date: 24 FEBRUARY 2022

METROLINX
Infrastructure Ontario

Dwg. No. 414A103

Sheet No. 08 OF 13



1 LONGITUDINAL SECTION
1 : 300

KEY PLAN

REVISIONS		
1	RSSOM RCD	2020-11-25
2	RSSOM ADDENDUM	2021-06-25
3	RCD Ver 01	2022-02-24

REVISIONS

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 300

STATUS

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

TITLE STATION ARCHITECTURE
PAPE | COSBURN
LONGITUDINAL SECTION

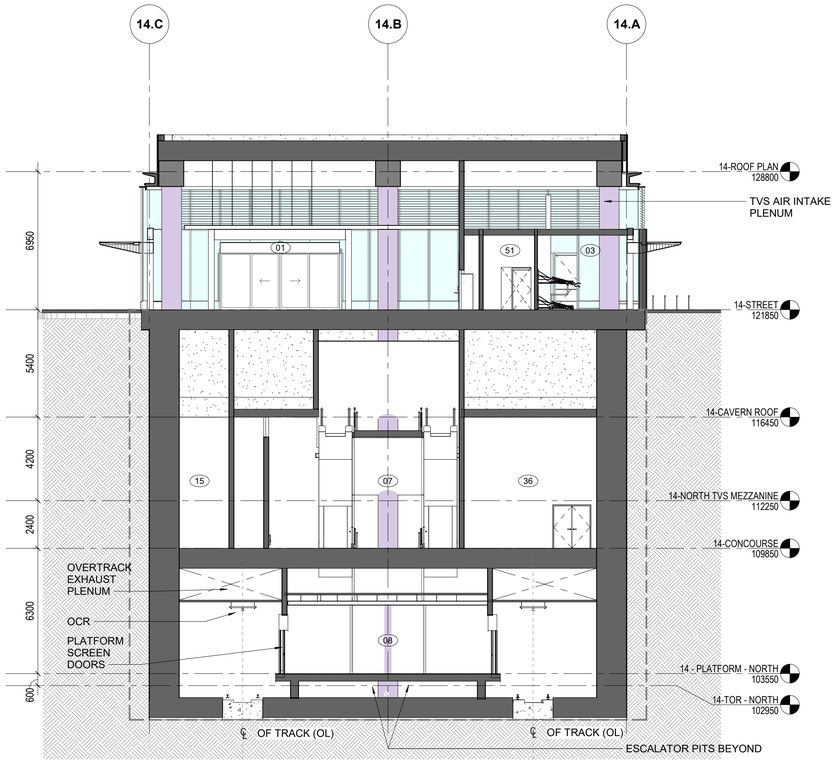
Plot Date: 24 FEBRUARY 2022

METROLINX Infrastructure Ontario

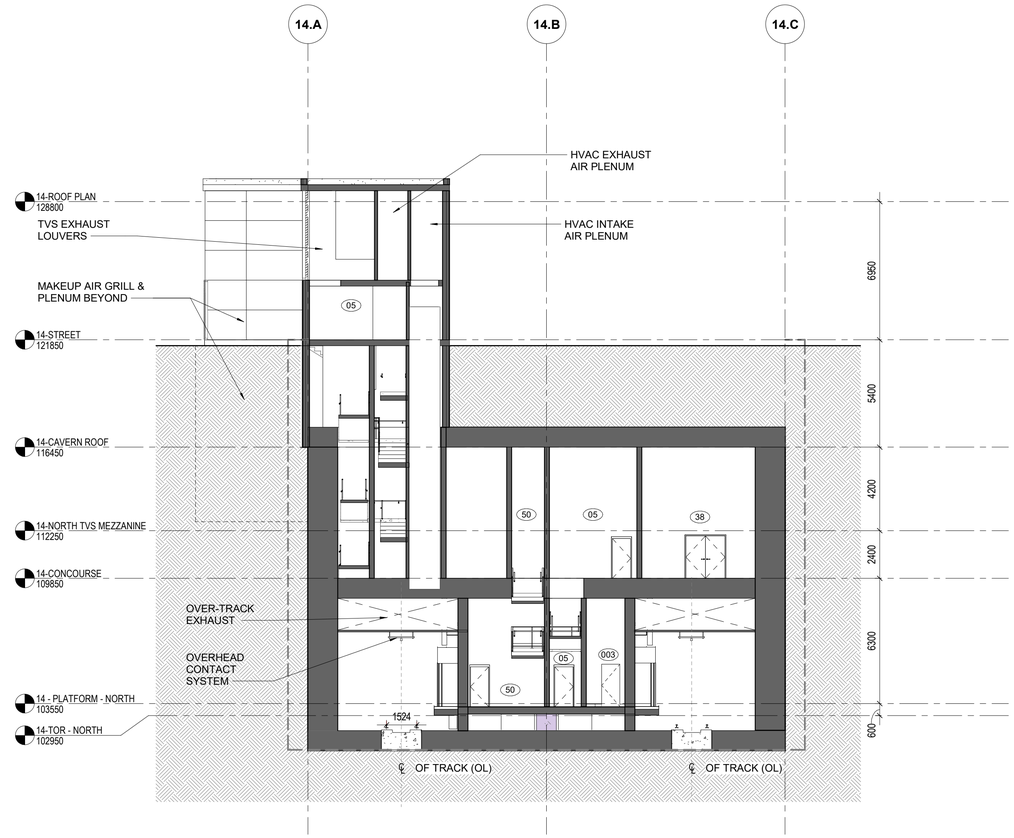
Dwg. No. 414A201

Sheet No. 09 OF 13

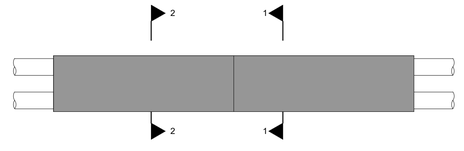
SHEET No. 414A201 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt



1 SECTION @ STATION ATRIUM
1 : 150



2 14 - SECTION @ SOUTH EMERGENCY EXIT BUILDING
1 : 150



KEY PLAN

SHEET No. 414A210 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS		
1	RSSOM RCD	2020-11-25
2	RSSOM ADDENDUM	2021-06-25
3	RCD Ver 01	2022-02-24

REVISIONS

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 150

STATUS

HDR

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

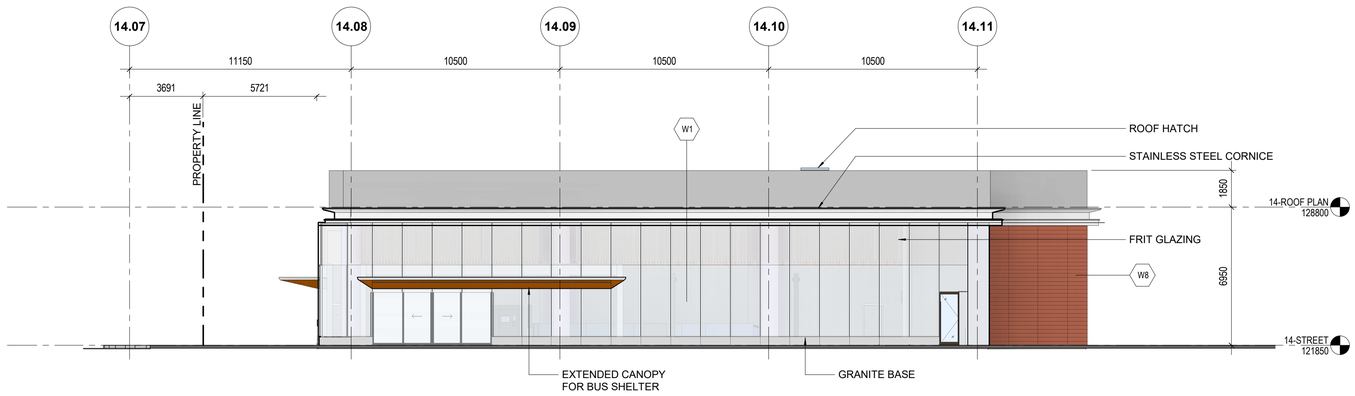
TITLE STATION ARCHITECTURE
PAPE | COSBURN
CROSS SECTIONS

Plot Date: 24 FEBRUARY 2022

METROLINX
Infrastructure Ontario

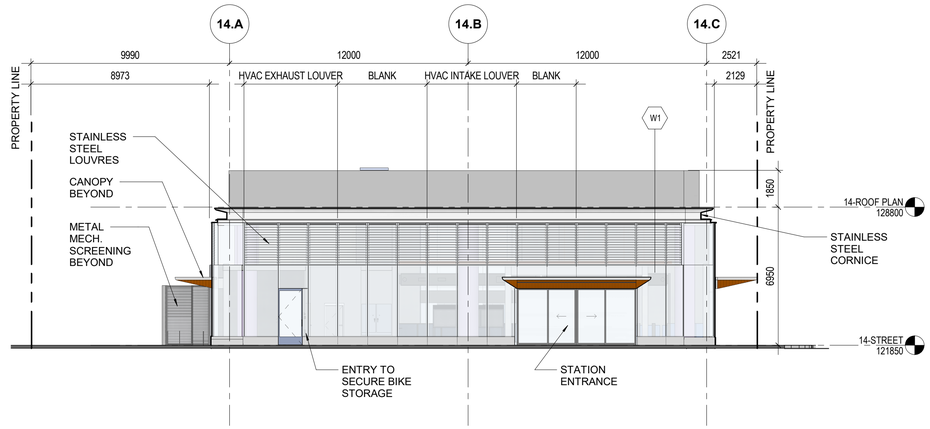
Dwg. No. 414A210

Sheet No. 10 OF 13



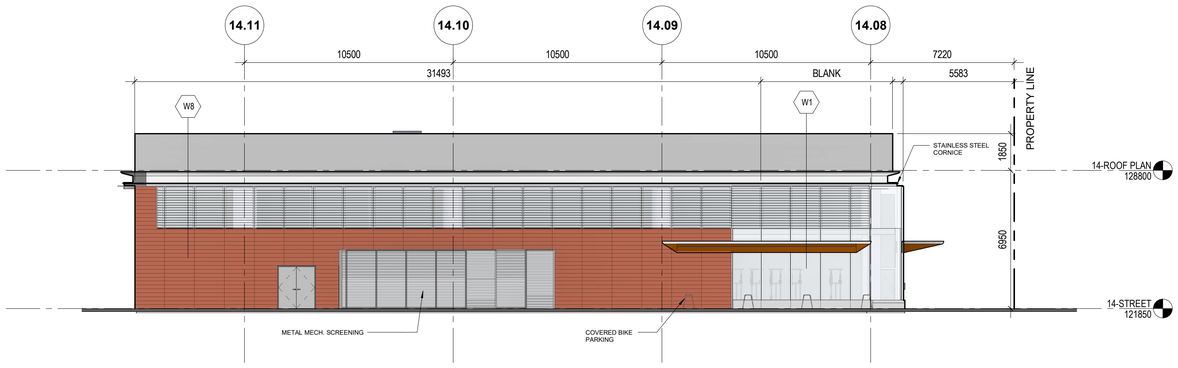
1 14 ENTRANCE BUILDING - EAST ELEVATION

1 : 150



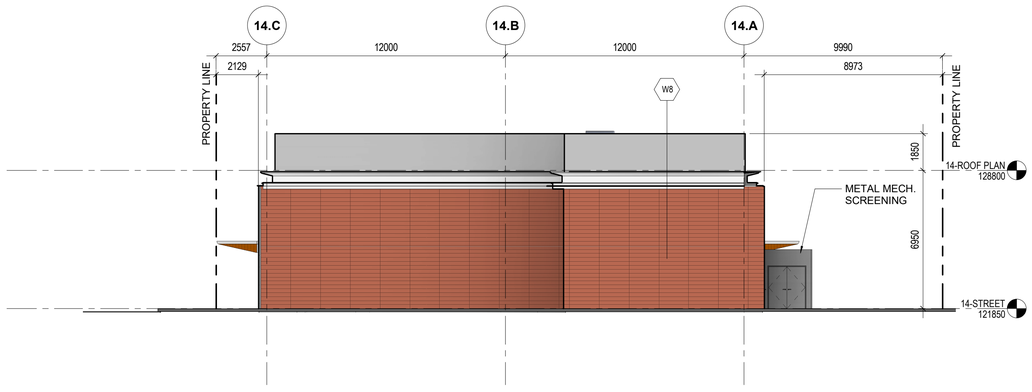
2 14 ENTRANCE BUILDING - SOUTH ELEVATION

1 : 150



3 14 - ENTRANCE BUILDING - WEST ELEVATION

1 : 150



4 14 ENTRANCE BUILDING - NORTH ELEVATION

1 : 150

SHEET No. 414A301 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS			REVISIONS		
1	RCD Ver 01	2022-02-24			

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 150

STATUS

HDR

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

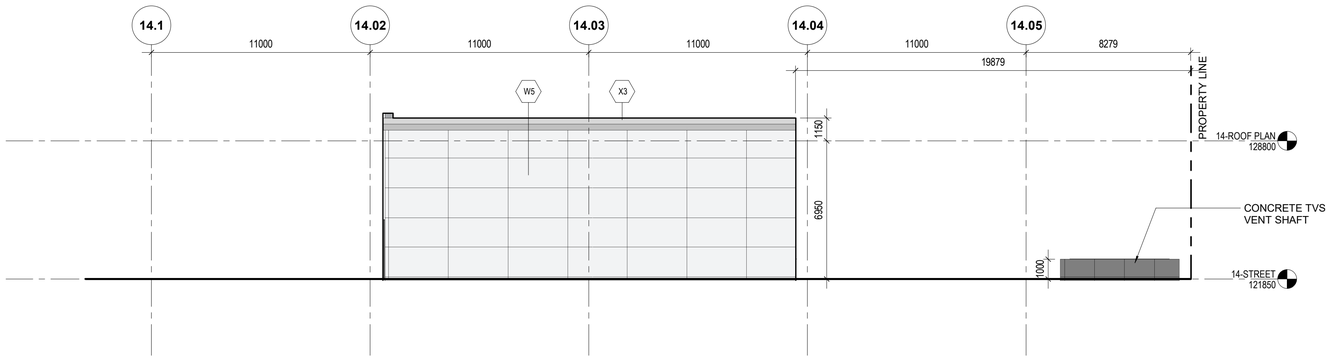
TITLE STATION ARCHITECTURE
PAPE | COSBURN
ELEVATIONS

Plot Date: 24 FEBRUARY 2022

METROLINX
Infrastructure Ontario

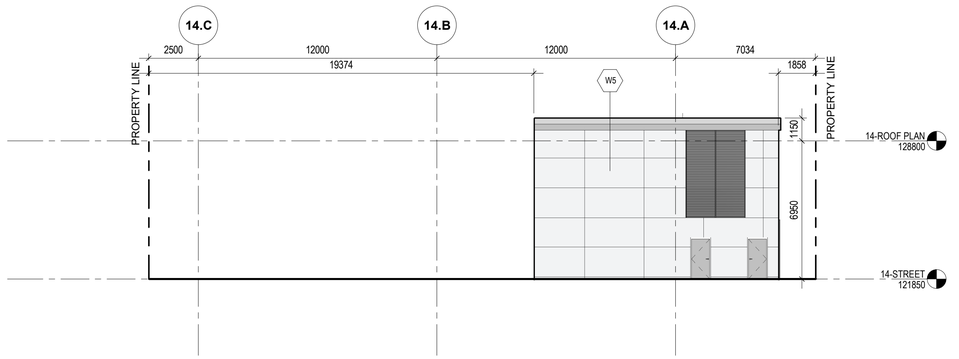
Dwg. No. 414A301

Sheet No. 11 OF 13



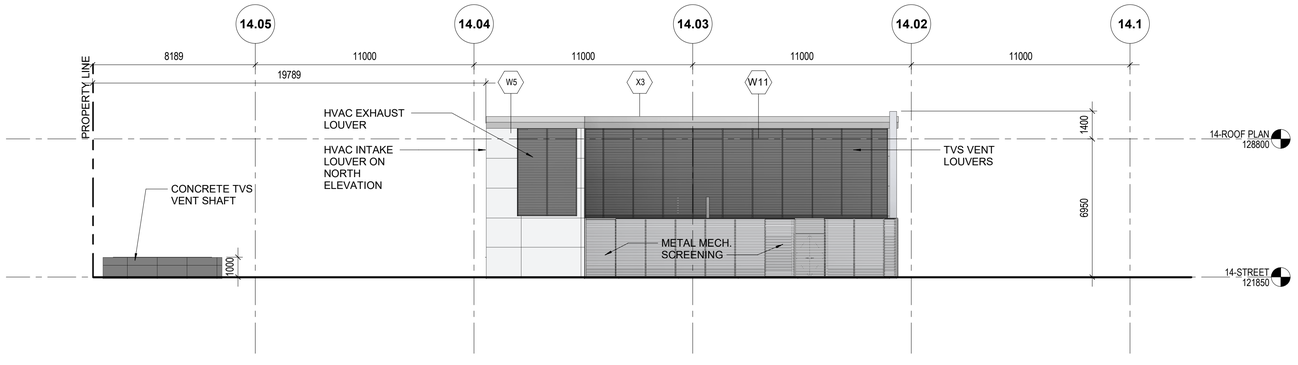
2 14 SOUTH EXIT STAIR - EAST ELEVATION

1 : 150



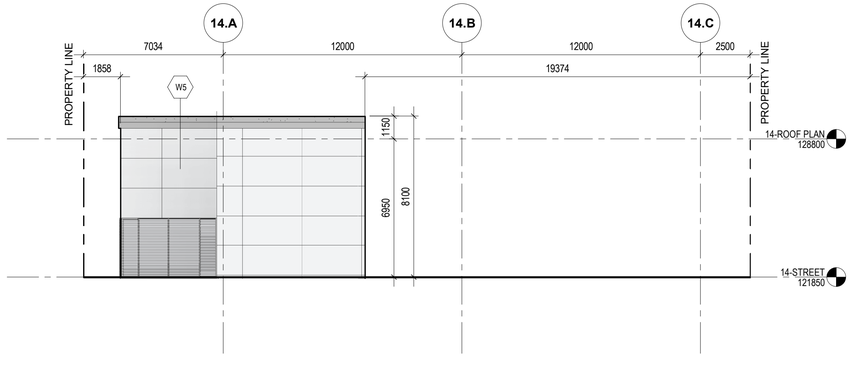
4 14 SOUTH EXIT STAIR - NORTH ELEVATION

1 : 150



3 14- SOUTH EXIT STAIR - WEST ELEVATION

1 : 150



1 14 SOUTH EXIT STAIR - SOUTH ELEVATION

1 : 150

SHEET No. 414A302 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS			REVISIONS	
1	RCD Ver 01	2022-02-24		

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 150

STATUS

HDR

ONE TEAM
ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED I.MILES
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

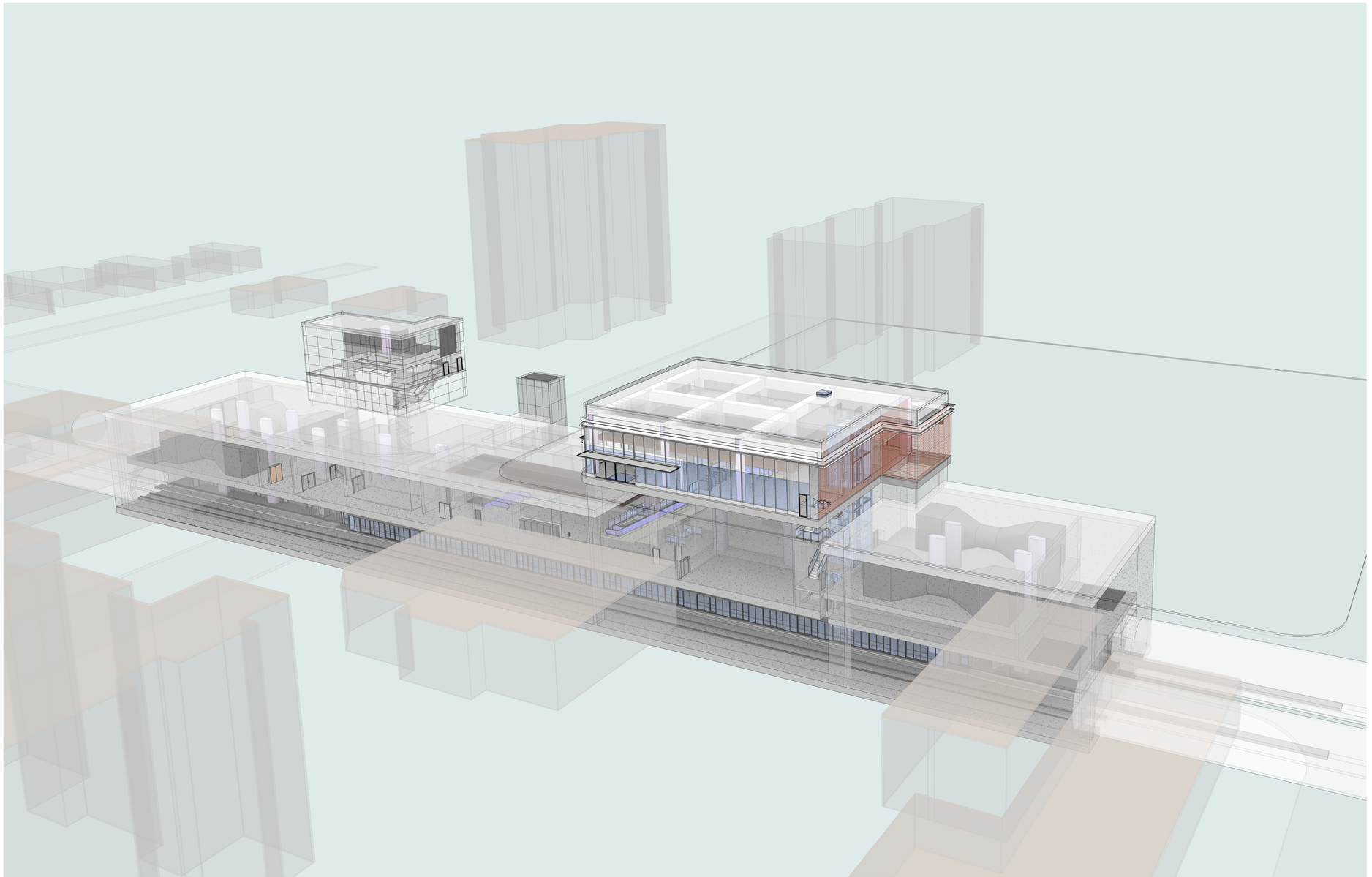
TITLE STATION ARCHIECTURE
PAPE | COSBURN
ELEVATIONS

Plot Date: 24 FEBRUARY 2022

METROLINX
Infrastructure Ontario

Dwg. No. 414A302

Sheet No. 12 OF 13



REVISIONS			REVISIONS		
1	RSSOM RCD	2020-11-25			
2	RSSOM ADDENDUM	2021-06-25			
3	RCD Ver 01	2022-02-24			

RCD Ver 01

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24 FEBRUARY 2022

SCALE (S)

STATUS

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ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

TITLE
STATION ARCHITECTURE
PAPE | COSBURN
3D/ VISUALIZATIONS

Plot Date: 24 FEBRUARY 2022

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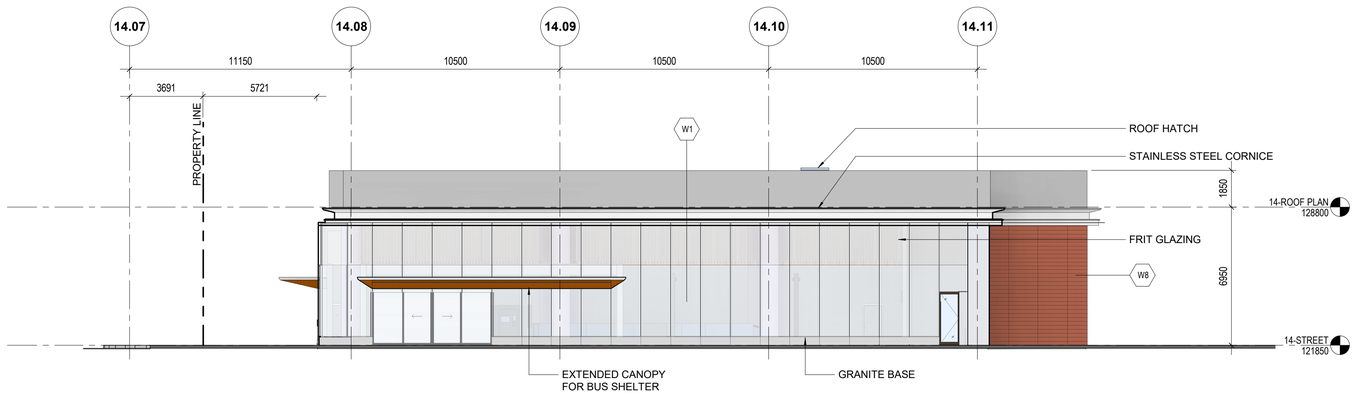
Dwg. No. 414A502

Sheet No. 13 OF 13

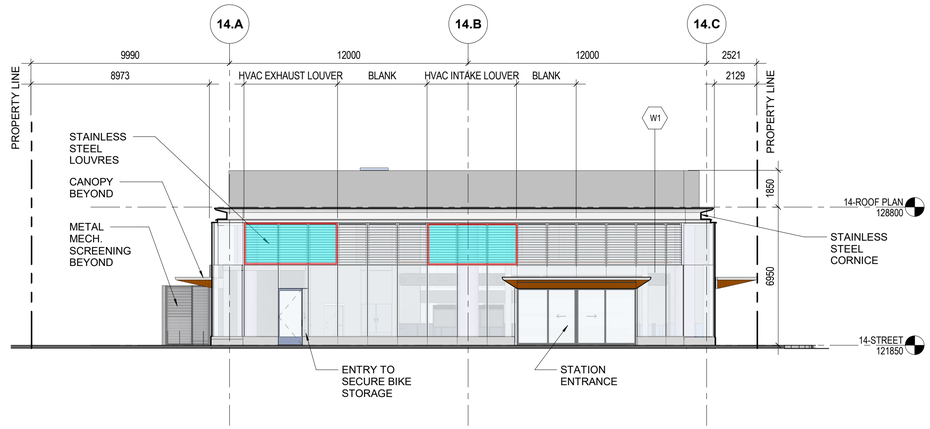
SHEET No. 414A502 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

Appendix C. Cosburn Station Noise Sources



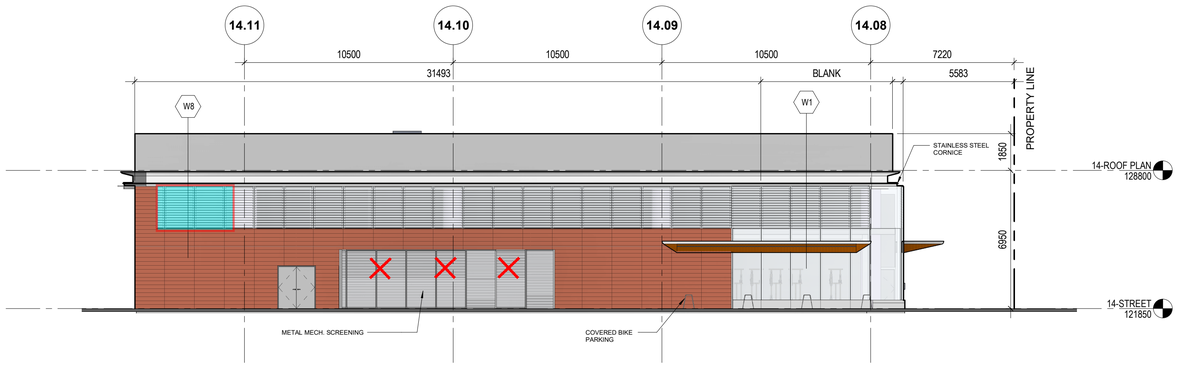
1 14 ENTRANCE BUILDING - EAST ELEVATION

1 : 150



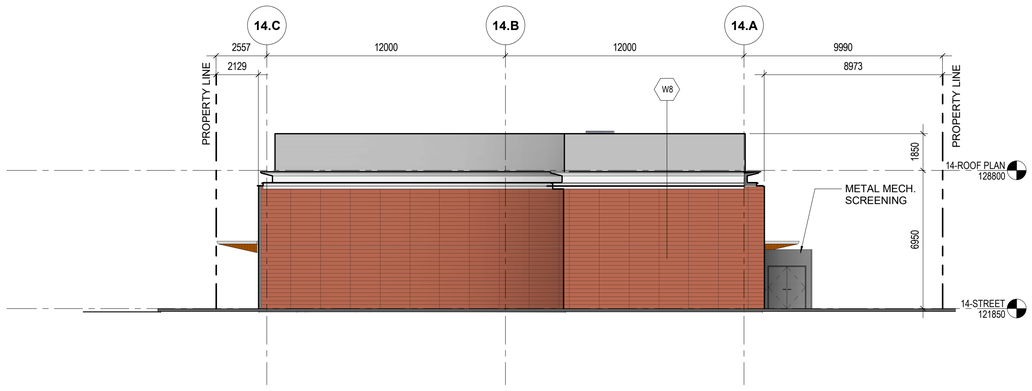
2 14 ENTRANCE BUILDING - SOUTH ELEVATION

1 : 150



3 14 - ENTRANCE BUILDING - WEST ELEVATION

1 : 150



4 14 ENTRANCE BUILDING - NORTH ELEVATION

1 : 150

SHEET No. 414A301 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS		REVISIONS	
1	RCD Ver 01 2022-02-24		

RCD Ver 01
NOT FOR CONSTRUCTION
24 FEBRUARY 2022

SCALE (S) 1 : 150

STATUS

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ONTARIO LINE TECHNICAL ADVISOR

DESIGNED B.MCCABE
DRAWN D.SHEPPARD
CHECKED R.CARLAN
APPROVED C. JOHNSTONE

ONTARIO LINE SUBWAY

TITLE STATION ARCHITECTURE
PAPE | COSBURN
ELEVATIONS

Plot Date: 24 FEBRUARY 2022

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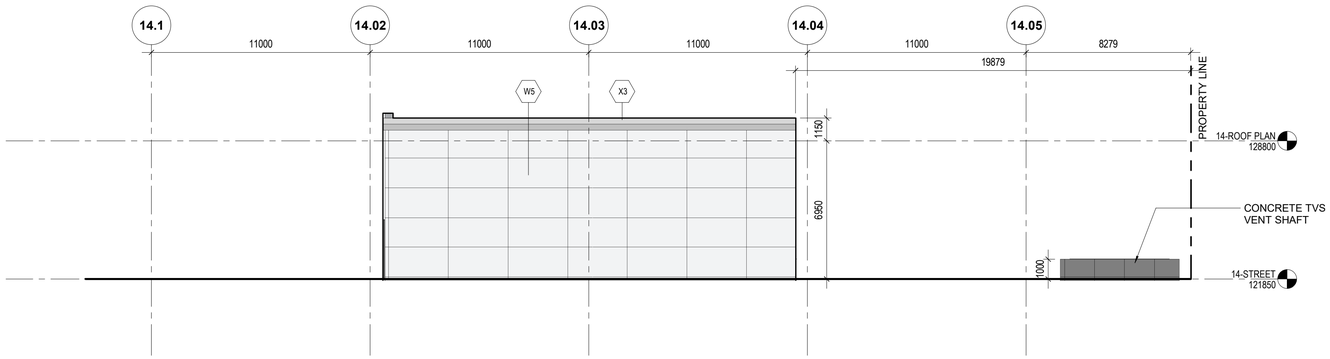
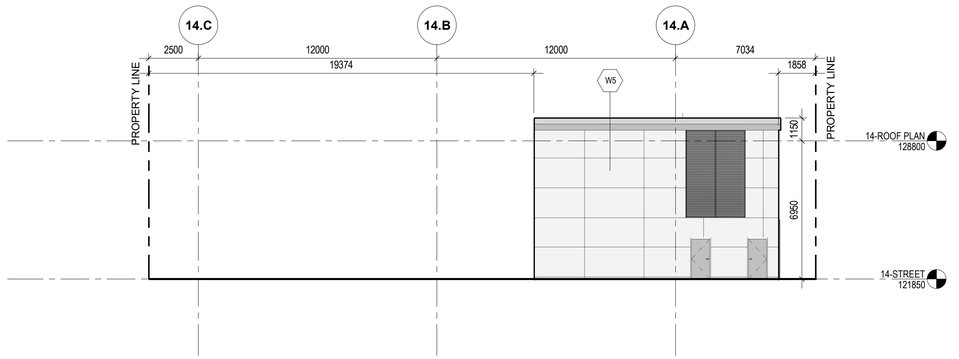
Dwg. No. 414A301

Sheet No. 11 OF 13



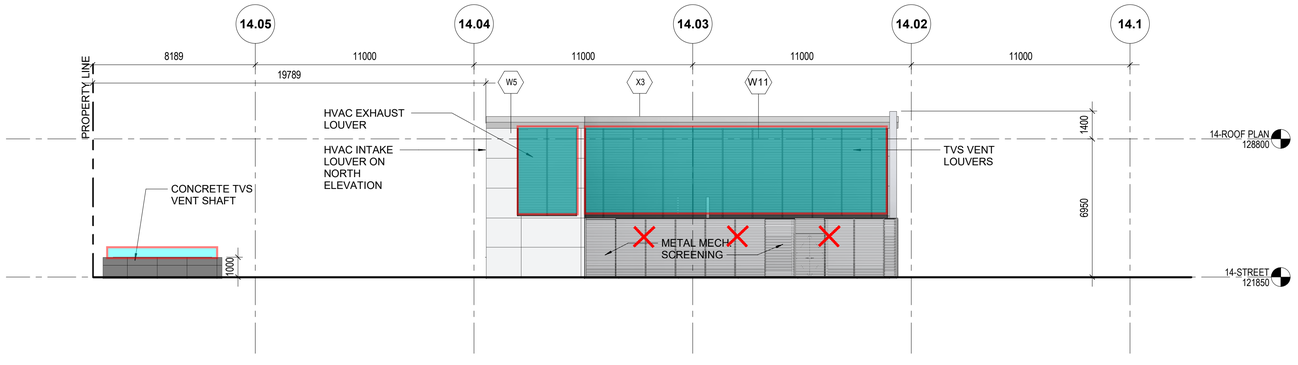
2 14 SOUTH EXIT STAIR - EAST ELEVATION

1 : 150



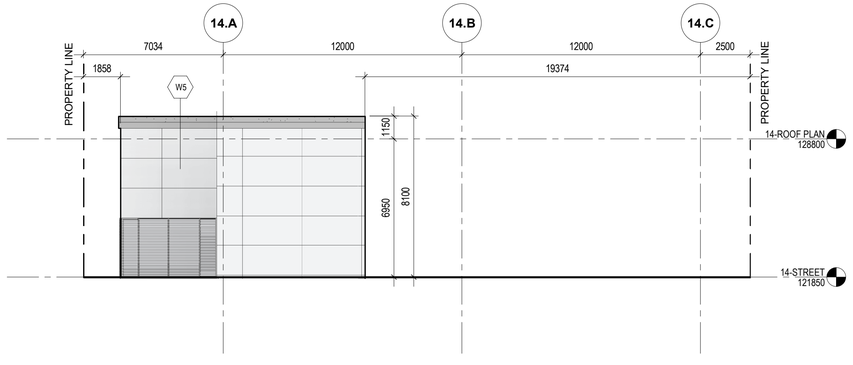
4 14 SOUTH EXIT STAIR - NORTH ELEVATION

1 : 150



3 14- SOUTH EXIT STAIR - WEST ELEVATION

1 : 150



1 14 SOUTH EXIT STAIR - SOUTH ELEVATION

1 : 150

SHEET No. 414A302 FILE: BIM 360://10206938_OLTA_Planning/10206938-AR000-000-Container.rvt

REVISIONS			REVISIONS	
1	RCD Ver 01	2022-02-24		

RCD Ver 01
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Sheet No. 12 OF 13