ENTUITIVE

PROXIMITY STUDY

GLADSTONE & LORETTA, OTTAWA

C019.1960

FOR: TIP GLADSTONE LP | **DATE:** MARCH 07, 2022

ENTUITIVE

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1. INTRODUCTION

TIP Gladstone LP will be proceeding with the design and construction of a new mixed-use development located at 951 Gladstone Ave. and 145 Loretta Ave. North in Ottawa, Ontario (the Project). The Project includes three residential towers sitting on top of a mixed-use podium with commercial office space and retail units. The ground floor of the development supports the mixed-use component and allows for pedestrian and vehicular access around the complex. The entire mixed-use component will be supported by and built above a below grade parking area. The development is located adjacent to the Trillium LRT line and Gladstone Station.

The proposed development at Gladstone and Loretta will support the City's investment in rapid transit by placing significant density adjacent to the Gladstone Station. The development has been carefully designed to complement the Gladstone Station.

This Proximity Study will address the impact of the proposed development on the following adjacent public infrastructure:

1. Gladstone Station
2. Trillium LRT Line (O-Train) infrastructure

This study is to be read in conjunction with the referenced drawings as included in the report and as attached in the Appendices.

2. PROJECT DESCRIPTION

The Project will include towers of 27, 28, and 31 levels. The total building heights at the towers will be 31, 33, and 36 storeys. The north podium has live/work studios and amenity space on the ground floor with residential units above. The south podium consists of three levels of office space over ground floor retail.

The Project will be designed to the requirements of the Ontario Building Code; the Canadian Highway Bridge Code, with respect to the urban driveways; the Guidelines for New Development in Proximity to Railway Operations prepared for the Federation of Canadian Municipalities and the Railway Association of Canada - May 2013, the Basis of Design Summary prepared by Entuitive for the client; and the appropriate material design standards prepared by the Canadian Standards Association.

The Project is to be constructed generally of reinforced concrete framing with reinforced concrete walls, reinforced concrete columns, and generally conventionally reinforced concrete slab construction. The Project will be founded on the existing rock stratum using conventional strip and spread footings, located generally between elevation 54.70 and 58.10 with the finished ground floor elevation at approximately 65.50.

The ground floor structure will support areas of the public realm which includes driveways and privately-owned publicly accessible spaces (P.O.P.S.) constructed over suspended slab areas. The earth retention system design (shoring piles, lagging and tiebacks) varies with the depth of the excavation and the existing grade. It is generally anticipated that the depth of the excavation relative to the Trillium Line LRT (O-Train) will have negligible impact.

An aerial view of the site (shown in red) is shown in *Figure 1.1* and the site plan is shown on *Figure 1.2*. The site is relatively flat and sloping ground to the rail track at the east and north-east boundary of the property. The urban access is approximately mid site with access from Loretta Avenue at elevation 66.0 approximately. The underground construction consists of two levels of below grade parking. The lowest level of parking (P2) is at approximately elevation 58.5.

The construction of the lower levels of parking generally requires the removal of the existing fill, clay and sandy clay material, and interbedded limestone and shale bedrock. This is done to achieve the depths required and to accommodate the planned parking slab elevations and to construct the building foundation support condition. According to the geotechnical and hydro-geological investigation carried out by DST Consulting Engineers Inc., based on an investigation date of June and July 2017**,** groundwater monitoring wells indicated that groundwater was found at elevations varying from 60 to 63 elevations over the site. The proposed buildings are to be founded on conventional spread footings placed on clean sound rock. The report identifies a requirement for waterproofing below the floor slab and around the basement walls.

The proposed development will be separated from the Trillium LRT line (O-Train) corridor by an area of landscaping – a horizontal distance in excess of 25 metres measured from the centerline of the nearest track.

Figure 1.1 | Aerial View of Site

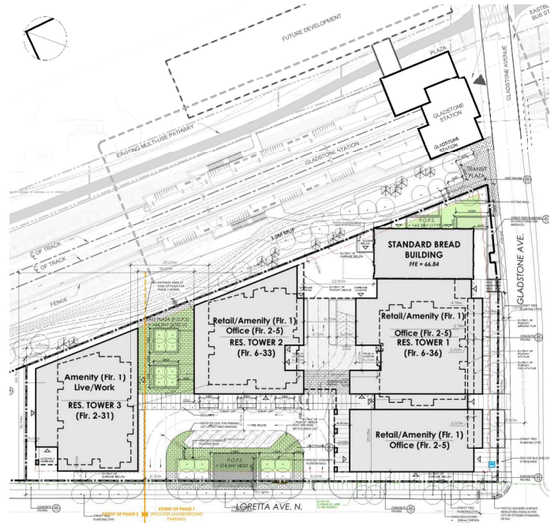


Figure 1.2 | Architectural Ground Floor Plan

2.1 SITE PLAN, PROPERTY AND TOPOGRAPICAL SURVEYS

A Site Plan as prepared by Hobin Architects indicating the centerline of the Trillium Line and the distances between the centerline and easement lines to the proposed structure, is presented in *Figure 2.1* below. The representative drawing prepared by Hobin Architects for SPA Submission is included in **Appendix A1** of this document.

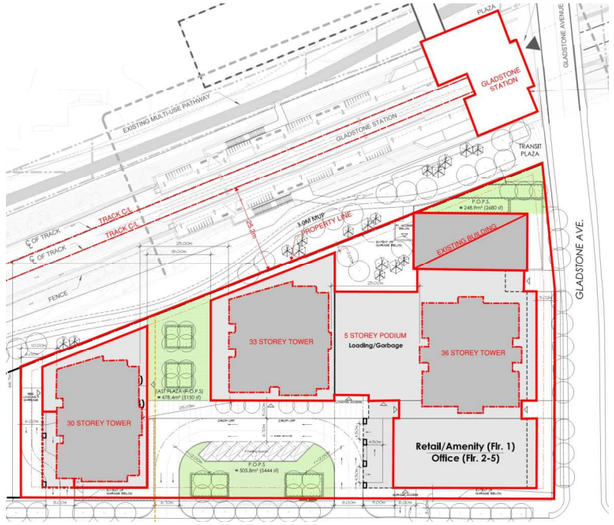


Figure 2.1 | Site Plan

Ventilation for the below grade program areas will be done primarily along the perimeter of the development through area wells with exhaust shafts located on the south and west sides of the development. Ventilation for the above grade program areas is still being developed but is anticipated to done through the roof and louvres in the podium and towers. No impact is anticipated on the Gladstone station and/or platforms based on the location of the intake and exhaust shafts and the distance from the proposed development to the Gladstone station. As well, there is no anticipated operational impacts to the use or maintenance of the Trillium LRT lines from the proposed development.

The survey information from the Topological Survey completed by Stantec Geomatics LTD on Part of Lot 38 Concession 1 (Ottawa Front) and Lots 1, 2 & 3 (West Champagne Avenue) Block C and Lots 1, 2, & 3 (East Loretta Avenue) Block C and Lots 4, 5, 6, 7, 8 Block C and Part of Block C and Part of Champagne Street (Closed by By-Law 4763) Registered Plan 73 City of Ottawa is shown on the Property Survey prepared by Stantec. These drawings indicate the property lines and existing topographic information including the existing surface elevations, location of buildings and rail tracks, as well as the existing contours of the surface elevations and are included in **Appendix A2**.

2.2 DEVELOPMENT DRAWINGS

The Architectural plan (prepared by Hobin Architects) of the lowest levels of the planned development, indicate the centerline of the Trillium Line, the distances between the centerline to the proposed structure for the development. This is presented in *Figure 2.2* below. Drawings can be found in **Appendix B1**.

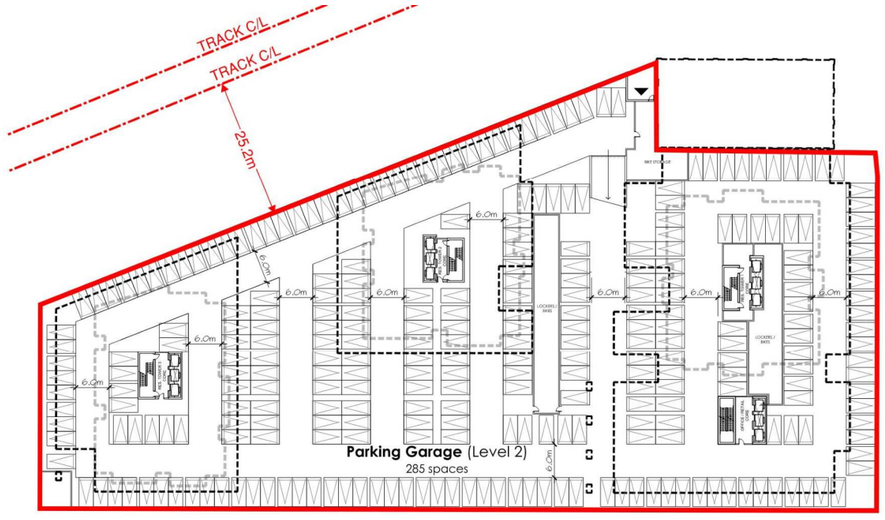


Figure 2.2 | Architectural Plan of Lowest Level

A Proximity Plan prepared by Entuitive, dated April 09, 2021, indicating the centerline and easement line of the Trillium Line; and the distances between the centerlines and easement lines to the proposed structure for the development is presented in *Figure 2.3*. Included in **Appendix B3**, are the available Gladstone Station drawings. The general size of the required foundation for the buildings are indicated in *Figure 2.4*. We have included the Entuitive substructure drawings in **Appendix B4**. These drawings generally indicate that soldier piles with wood lagging will form the temporary vertical wall of the excavation. Drilled and installed rock anchors as the project excavation proceeds will provide lateral support for this shored (Earth Retention) wall. These tie backs are necessary to control the horizontal and vertical deflection and subsidence of the shored wall as the excavation proceeds. The structural sections included in the Entuitive drawings demonstrate that there is no undermining of the rail beds for the O-Train/Trillium Line LRT.

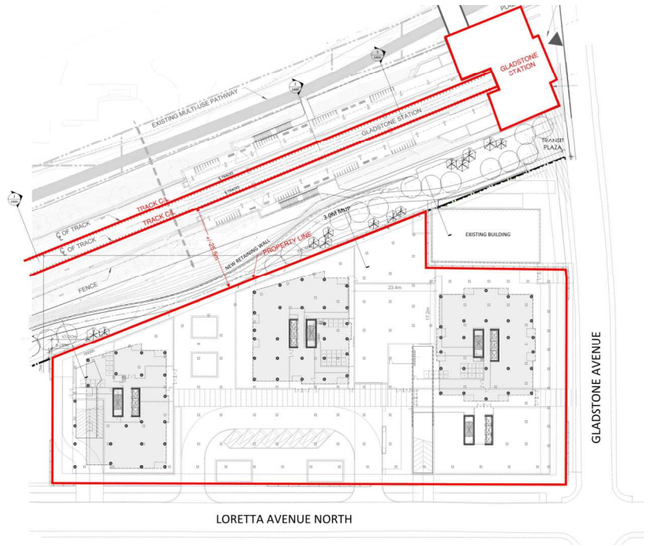


Figure 2.3 | Proximity Plan

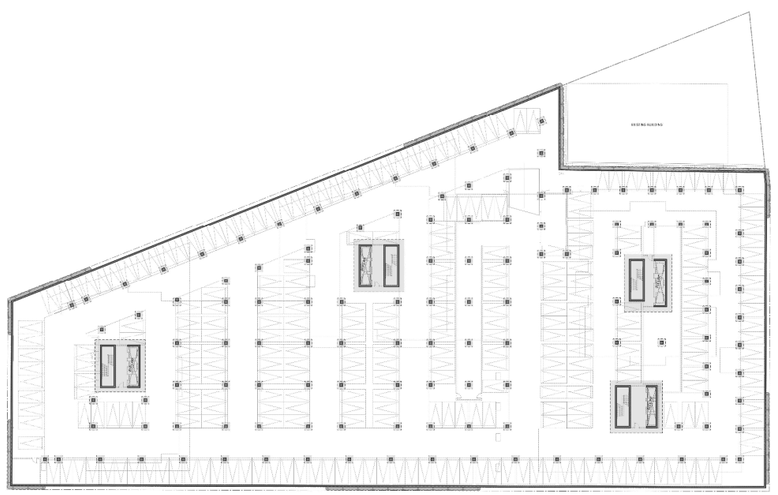


Figure 2.4 | Foundation Plan

Presented in *Figures 2.5, 2.6 and 2.7*, are a series of north-south sections looking east indicating the centerline of the Trillium Line structure, and the distance between the centerline and the proposed development. This separation of over 25 metres indicates that there is effectively no influence of the excavation on the Trillium Line. Additionally, the retaining wall proposed as part of the landscaping is also shown which based on its zone of influence will not impact the existing earth retention wall. The foundation walls for the development adjacent to the Trillium Line property are designed for an at-rest earth pressure coefficient (ko) of 0.5

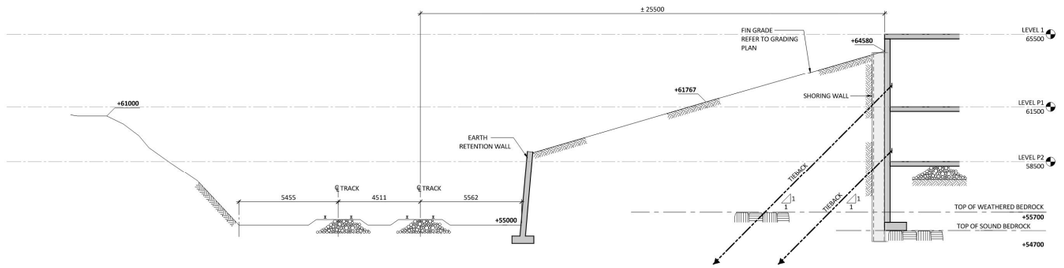


Figure 2.5 | East-West Section at Northern Boundary of Site

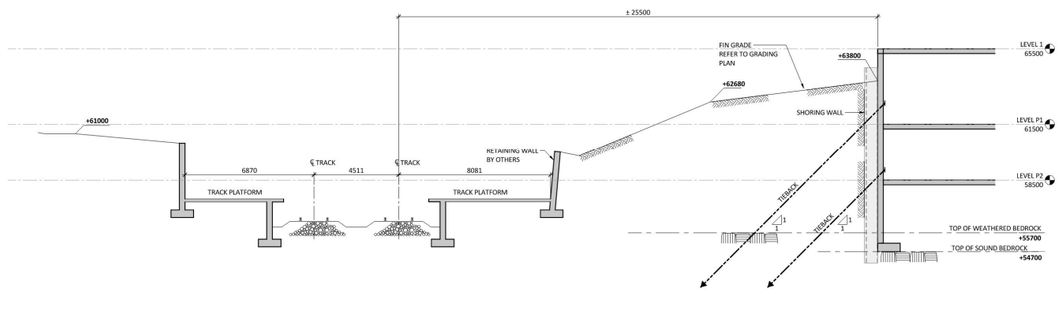


Figure 2.6 | East-West Section at Mid-Site

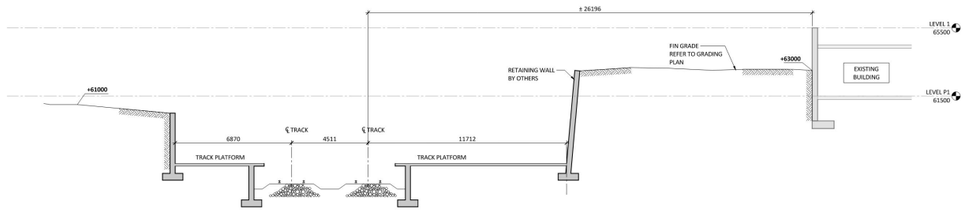


Figure 2.7 | East-West Section at Southern Boundary of Site

3. GEOTECHNICAL BACKGROUND

The following geotechnical report for the proposed development was prepared by DST Consulting Engineers Inc. and is included in **Appendix C**:

- Geotechnical Investigation Report TS-SO-029563, dated August 16, 2017

The site is currently occupied by existing buildings and surface parking lots. The subsurface profile consists of varying fill material overlying fine grained deposits of silt and clay. The clay/sandy clay overlies an interbedded limestone and shale bedrock. Fill depth is from 1 to 4 metres below the existing grade. A clay was encountered, underlying the fill layer. The clay was soft to very stiff in consistency. Bedrock appears to be fair to good quality based on Rock Quality Designation (RQD) results. The groundwater levels measured in the ground water monitor wells are subject to seasonal fluctuations up to 1 or 2 m based on the report.

The building is expected to be founded on conventional spread footings on clean, sound bedrock. Some localized bedrock removal is anticipated to be required to complete the underground parking levels and foundation construction. Line drilling and controlled blasting will be used for the bedrock removal. The blasting operations will be planned and completed under the guidance of a professional engineer with experience in blasting operation.

4. EXCAVATION SUPPORT SYSTEM AND TEMPORARY DEWATERING

Conventional timber lagging with steel piles using a combination of tiebacks and rakers will be used for the excavation system. Only the excavation support system adjacent to the Trillium Line property has been designed using the at-rest earth pressure coefficient (k_o) of 0.5. The remainder of the site will be designed to an active earth pressure coefficient of ka=0.30. Excavation and shoring drawings prepared by a professional engineer will be prepared during the building design phase. The monitoring plan for movement of the excavation support system and Trillium Line structures during construction of the development including an Action Protocol will also be prepared during the building design phase.

5. ELECTRO-MAGNETIC INTERFERENCE AND STRAY CURRENT

The details and quantum of the electro-magnetic interference at the property line and what mitigation measures have been included in the design of the O-Train/Trillium Line system is required from the City as the full design characteristics of the electrification of the O-Train/Trillium Line system would be intrinsic to any proposed solution.

6. GEOTECHNICAL HYDROGEOLOGICAL ANALYSIS

Control and management of the ground water will be required. During the excavation and subsequent construction of the substructure, it is anticipated that there will be a minor drawdown of the water table. The extent of the drawdowns predicted by the geotechnical and hydro-geotechnical engineers is stated to be minor and unlikely to cause settlement of the adjacent building structures, the rail lines and adjacent bridge structures. A ground water control plan, including short-term (during construction) and long-term effects of dewatering on the Trillium Line structures is described below.

6.1 TEMPORARY CONDITION

Local sump pits throughout the site excavation will be necessary for the collection of ground water and any seasonal precipitation. The quality of the collected water will be testing for possible excessive contamination levels. If required, temporary filtering will occur such that disposal water will meet the municipal requirements.

6.2 PERMANENT DESIGN CONDITION

Waterproofing in combination with underfloor and perimeter drainage will be required. The perimeter foundation walls would be founded on strip foundations bearing approximately 1500 mm below the top of the slab on grade for frost protection within a heated parking garage. This perimeter foundation level will be generally through the weathered rock and will act somewhat as a cut off wall to the perimeter ground water condition. Ground settlement analysis and impact assessment due to dewatering will also be analyzed and evaluated during the detailed design stage to avoid impact on Trillium Line system.

7. CONSTRUCTION ACCESS/STAGING

A Construction Logistics and a Traffic Management Plan will be prepared by the Construction Manager indicating site access provisions during and after construction, including limited lane closures. The staging of construction operations will be broken down into excavation, substructure construction and superstructure construction. Drawings/documentation of construction method, hoarding, construction access, and haul routes are not available currently from the Construction Manager.

7.1 EXCAVATION

In advance to the bulk excavation, auguring and installation perimeter shoring piles will commence around the site to facilitate the start of the excavation work. Wood lagging work will proceed with the excavation along the perimeter to the top tie back level. A berm will remain along the perimeter to allow for more interior excavation and allow the drill rig to set up in a stabilized condition so

that the tie-back holes may be drilled and grouted into the rock. Excavation will proceed to the next tie back level and again after tieback installation continues to the bottom of the hole. The soldier piles will be drilled to a depth at least 600 mm below the depth of excavation at the perimeter to provide a toe-anchor to the pile.

7.2 SUBSTRUCTION CONSTRUCTION

With the completion of the bulk excavation, finer excavation work will continue for the building footings and the tower raft foundations. We anticipate the perimeter of the footing or raft will be pre-drilled rather than excavated with a hoe-ram excavator to limit the excavation and to avoid the need for formwork to the excavated hole. As the installation of the foundation proceeds, work will commence with the erection of formwork for the columns and walls, as well as the soffit formwork of the substructure floors. We anticipate that the work in the initial area of substructure construction will tier out (as in a "wedding cake" manner), particularly in the tower and podium areas to facilitate the construction of the podium and tower areas perhaps in advance of the completion of certain areas of the parking garage. The flow of the work will be determined in conversations with the Construction Manager as well as the Trade Contractor in a manner consistent with the required occupancy dates for the lease and sale commitments determined by the Owner. As the ground floor is completed, the need to monitor the perimeter of the excavation for shoring pile movements will be redundant. At this time, where necessary, the shoring tiebacks will be destressed.

7.3 SUPERSTRUCTURE CONSTRUCTION

The superstructure work will commence in the critical path areas as determined by the Owner. The work to complete the substructure may continue in other areas of the development as the schedule requires but the focus of the work will occur where there are lease and sales commitments. Generally, the construction of the podium and tower areas will proceed in a manner that puts a higher priority on the areas of the development that require completion to satisfy the lease and sales requirements. As the structure is completed, the area will be turned over to the follow-on trades such as cladding, building services (mechanical, electrical and plumbing (MEP) as well as other finishing trades.

8. PRE AND POST CONSTRUCTION SURVEYS

Pre-construction condition surveys of the Trillium Line and Gladstone station structure to confirm locations of existing walls and foundations will be undertaken prior to construction. The as-built horizontal and vertical alignment data for the existing Trillium Line and Gladstone station (once constructed) is required from the City of Ottawa.

9. CRANE SWING AND LIFTING LOADS LIMITATIONS

The proposed crane locations and their swings will be subject to the final selection of the Construction Manager and the Formwork Trade Contractor, The Ministry of Labour and the Ontario Occupational Health and Safety Act, and the Construction Health and Safety Manual prepared by Construction Safety Association of Ontario (CSAO). It is important to note that although the crane swing may pass over the Trillium LRT line the lifting and swinging of loads over the rail line is not anticipated.

10. CONSTRUCTION AS-BUILT DRAWINGS

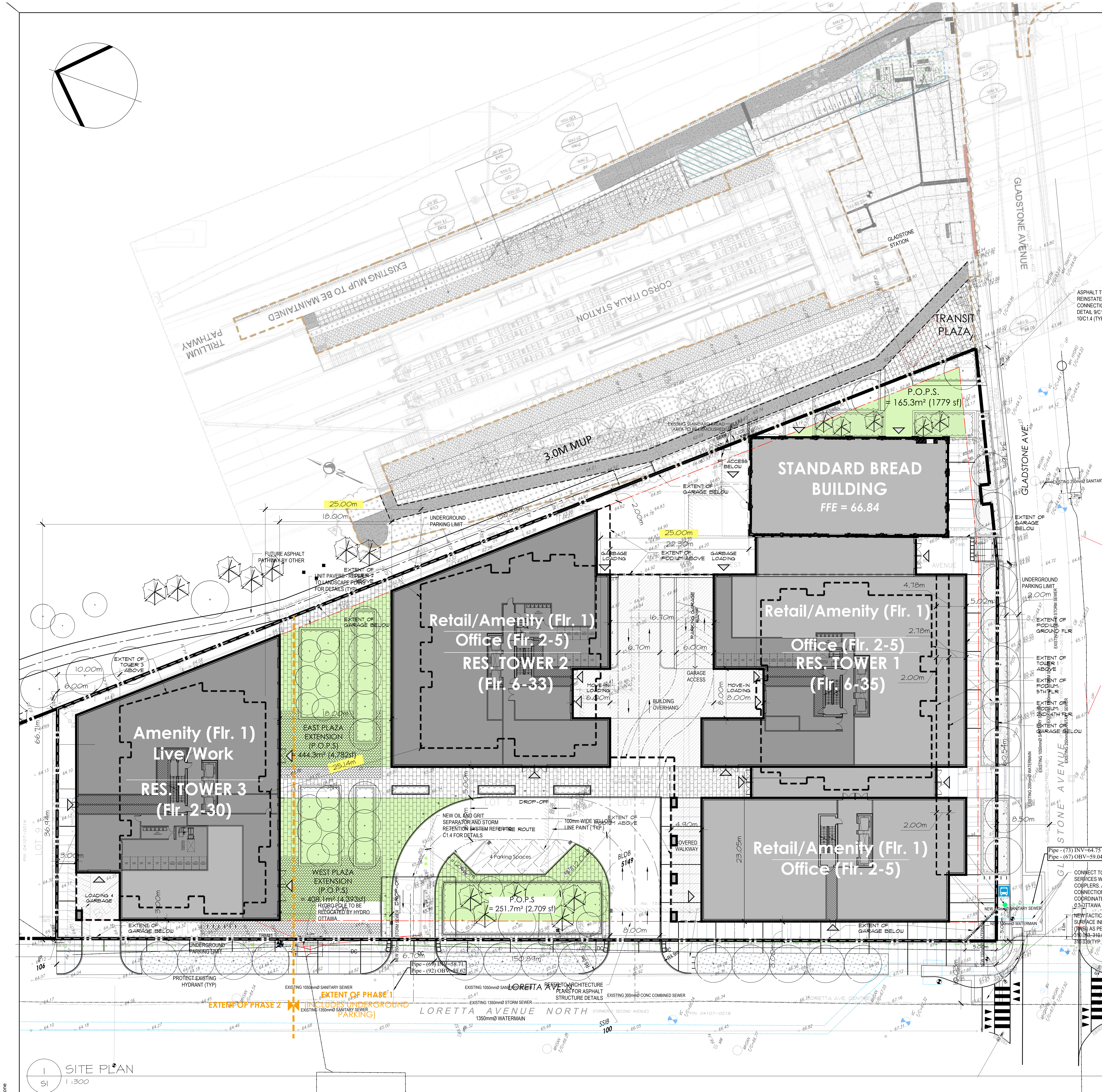
Construction record (as-built) drawings and electronic files for municipal documentation records in PDF and Microstation (.dgn) format will be provided at project completion.

APPENDIX A

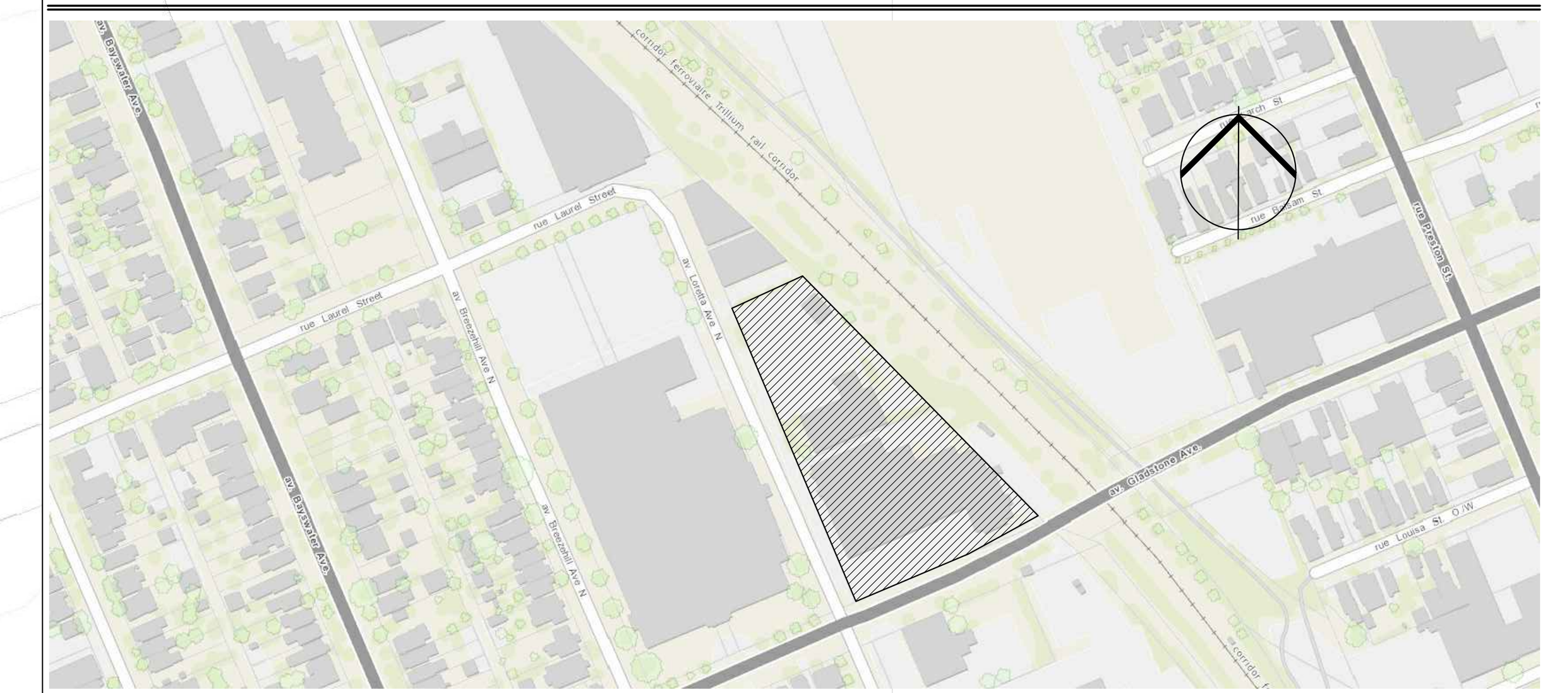
SITE DRAWINGS

APPENDIX A1

ARCHITECTURAL SITE PLAN



LOCATION PLAN



Gladstone and Loretta Mixed-Use Hub
Draft Zoning Table

MC[XXXX] SYYY-h		Requirement	Proposed
Minimum Lot Width (m)		No minimum	Complies
Minimum Lot Area (m²)		No minimum	Complies
Minimum Front Yard Setback (m)		5 metres; aside from Standard Bread Building (See S.YYY)	5m
Minimum Rear Yard Setback (m)		6 metres (See S.YYY)	6m
Interior Side Yard Setback (m)		2 metres, aside from Standard Bread Building (See S.YYY)	2m
Corner Side Yard Setback (m)		3 metres, (See S.YYY)	3m
Minimum Building Height (m)		6.7m (See S. YYY)	Complies
Maximum Building Height (m)		0m to 132m (See S. YYY)	Complies
Maximum Floor Space Index		No maximum	N/A
Minimum Width of Landscaped Area		No minimum, except that where a yard is provided and not used for required driveways, aisles, parking, loading spaces or outdoor commercial patio, the whole yard must be landscaped	Complies
Minimum Tower Separation Distance		23 metres	Complies
Minimum Tower Podium Stepback Distance		2 metres	2m at Gladstone
Parking Requirements (Sec. 101, 102, 106, 111)		**Requirement**	**Proposed**
Area Z of Schedule 1A 0 spaces/unit (resident) 0.1 spaces/unit, less first 12 units (visitor), but no more than 30		Resident: 0 Visitor: 30	Surface: 4 P1: 274 P2: 282 Total: 560
Vehicle Space Dimensions		- Must be 2.6m-3.1m by 5.2m - Up to 40% of required parking aside from visitors spaces may be 2.4m x 4.6m	Complies
Bicycle Parking Res: 0.5/unit Office, Retail, Studio: 1 space per 250m² GFA		0.5 x 846 units = 423 bicycles 79 bicycles Total Bicycle Spaces: 502	502 spaces proposed
Bicycle Space Dimensions		Horizontal: 0.6m by 1.8m Vertical: 0.5m by 1.5m (max 50% of required spaces)	Complies
Drive Aisle Width (Double Traffic Lane)	Parking Lot	Minimum: 6.7m	6.7m – 8m
	Parking Garage	Minimum: 6m Maximum: 6.7m	6m
Amenity Space Requirements (Sec. 137)		**Requirement**	**Proposed**
Total: 6m² per unit **Communal: 50% of total required**		Total: 4,470 m² Communal: 2,235 m²	Rooftop Terrace: 3,179m² Indoor Communal Amenity: 2,137.3 m² Balconies: 1,894m²
POPS [Privately Owned Public Space			POPS: 1,269.4 m²

NOTE: ALL EXISTING SITE INFORMATION AS PER SITE SURVEY PLAN DATED ___, 2018 AND PREPARED BY STANTEC

LEGEND

BUS STOP		PROPERTY LINE	
OVERHEAD WIRE		SETBACK LINE	
FIRE HYDRANT		RETAINING WALL	
EXISTING HYDRO POLE		ROAD CENTRELINE	

0 m 10 m 25 m 50 m

PBCGROUP
205-485 Bank Street,
Ottawa, ON, K2P 1Z2

CLV GROUP
485 Bank Street, Suite 200
Ottawa, ON, K2P 1Z2

no.	date	revision
04	MAR 02, 2022	SITE PLAN COMMENTS
03	APR 09, 2021	SITE PLAN
02	FEB 12, 2020	ZONING & OPA
01	DEC 04, 2019	CITY COMMENTS

It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/or omissions to the architect.

All contractors must comply with all pertinent codes and by-laws.

Do not scale drawings.

This drawing may not be used for construction until signed.

ONTARIO ASSOCIATION OF ARCHITECTS
BARRY J. HOBIN
LICENCE
3049

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HOBIN ARCHITECTURE

PROJECT/LOCATION:
951 GLADSTONE AVE.
& 145 LORETTA AVE. NORTH

DRAWING TITLE:
SITE PLAN

DRAWN BY:	DATE:	SCALE:
TD	19/04/17	1:300

PROJECT: 1726

DRAWING NO.: S1

REVISION NO.:

APPENDIX A2

SURVEY DRAWINGS

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2011886

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR
In accordance with Regulation 1026, Section 29(3)

SURVEYOR'S REAL PROPERTY REPORT
PART 1 - PLAN OF

LOTS 1, 2 & 3 (WEST CHAMPAGNE AVENUE)
BLOCK C AND
LOTS 1, 2 & 3 (EAST LORETTA AVENUE)
BLOCK C AND
LOTS 4, 5, 6, 7 & 8
BLOCK C AND
PART OF BLOCK C AND
PART OF CHAMPAGNE STREET
(CLOSED BY BY-LAW 4863)
REGISTERED PLAN 73
CITY OF OTTAWA

Scale 1:200
0 5 10 15 METRES

METRIC CONVERSION

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

BEARING NOTE

BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE EASTERLY LIMIT OF LORETTA STREET NORTH AS SHOWN ON PLAN 4R-207, HAVING A BEARING OF N 23° 00' 15" W.

ELEVATION NOTE

POSITION OF SITE BENCHMARKS AS SHOWN HEREON.

ELEVATIONS SHOWN HEREON ARE GEODETIC (CGVD-1928:1978) AND ARE DERIVED FROM CITY OF OTTAWA VERTICAL CONTROL MONUMENTS No.'s 2011-0106 (ELEV=62.968m) AND 2011-0107 (ELEV=55.863m).

UTILITY NOTE

LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE AND ARE PER THE CITY OF OTTAWA SHEET No.'s___AND___ AND MUST BE VERIFIED PRIOR TO CONSTRUCTION.

NOTE

- THIS PLAN OF SURVEY IS TO BE READ IN CONJUNCTION WITH THE REPORT SUMMARY NOTED AS PART 2 HEREON.
- THIS REPORT CAN ONLY BE UPDATED BY THIS OFFICE. NO ADDITIONAL PRINTS OF THIS ORIGINAL REPORT WILL BE ISSUED SUBSEQUENT TO THE DATE OF CERTIFICATION.
- ALL TIES ARE MINIMUM UNLESS OTHERWISE NOTED.
- ALL TIES TO CURVED BOUNDARY ARE RADIAL TO ARC.
- RISK OF UNDERGROUND SERVICES. MONUMENTATION PLANTED ACCORDINGLY.

PART 2

This Report was prepared for _____ and the undersigned accepts no responsibility for the use by other parties.

1. REGISTERED RIGHTS-OF-WAY/EASEMENTS
No rights-of-way or easements were found to be registered against the subject properties.
2. PROPERTY IMPROVEMENTS

3. COMPLIANCE WITH MUNICIPAL ZONING BYLAWS
Compliance is not certified by this report.
4. ADDITIONAL REMARKS

LEGEND (IF APPLICABLE)

■	DENOTES	FOUND MONUMENTS
□	-	SET MONUMENTS
IB	-	IRON BAR
IB#	-	ROUND IRON BAR
SIB	-	STANDARD IRON BAR
SSIB	-	SHORT STANDARD IRON BAR
CC	-	CUT CROSS
CP	-	CONCRETE PIN
WIT	-	WITNESS
PIN	-	PROPERTY IDENTIFICATION NUMBER
MEAS	-	MEASURED
PROP	-	PROPORTIONED
OU	-	ORIGIN UNKNOWN
SG	-	STANTEC GEOMATICS LTD.
P	-	REGISTERED PLAN 73
P1	-	PLAN BY 725 DATED AUGUST 23, 1967
P2	-	PLAN BY 857 DATED AUGUST 10, 1979
P3	-	PLAN BY GCM DATED AUGUST 10, 1951
P4	-	PLAN BY 857 DATED JUNE 21, 2001
P5	-	PLAN BY A&M DATED NOVEMBER 6, 1963
P6	-	PLAN 4R-207
P7	-	PLAN 4R-22151

ACU	-	AIR CONDITIONING UNIT
AN	-	ANCHOR
AP	-	AIR PUMP
ANT	-	ANTENNA
BH	-	BOREHOLE
BIB	-	HOSE BIB
BKP	-	BIKE RACK
BENCH	-	BENCH
BOL	-	BOLLARD
BOUL	-	BOULDER
CB	-	CATCH BASIN
DCB	-	DOUBLE CB
CBMH	-	CB MANHOLE
DCBMH	-	DOUBLE CB MANHOLE
CBSI	-	SIDE INLET CB
CHM	-	CHIMNEY
CSV	-	VALVE CURB STOP
DRN	-	DRAIN
EPOST	-	ELECTRICAL OUTLET
FP	-	FLAG POLE
FL	-	FLOOD LIGHT
FTF	-	FUEL TANK FILLER CAP
GC	-	GARBAGE CAN
GFL	-	PIPE FLANGE (GAS)
GFP	-	GAS FUEL PUMP
GP	-	POLE GUYWIRE
GSR	-	GAS SERVICE REGULATOR
GV	-	GAS VALVE
HHC	-	HICKENBOTTOM
HDS	-	HEADSTONE
HLS	-	LIGHT STANDARD HYDRO
HM	-	HYDRO METER
HTR	-	HYDRO TRANSFORMER
HW	-	HAND WELL
HYD	-	FIRE HYDRANT
JBX	-	JUNCTION BOX
MB	-	MAILBOX
MP	-	MONITORING PIN
MH	-	MAINTENANCE HOLE UNIDENTIFIED
MHB	-	MAINTENANCE HOLE BELL
MHF	-	MAINTENANCE HOLE FIBRE OPTIC
MHH	-	MAINTENANCE HOLE HYDRO
MHI	-	MAINTENANCE HOLE INVERT
MHSA	-	MAINTENANCE HOLE SANITARY
MHST	-	MAINTENANCE HOLE STORM
MHT	-	MAINTENANCE HOLE TRAFFIC
MW	-	MONITORING WELL
NPB	-	NEWS PAPER BOX
OLP	-	LIGHT STANDARD ORNAMENTAL
OHW	-	OVERHEAD UTILITY WIRES
PKM	-	PARKING METER
PLBX	-	PULL BOX
PLQ	-	PLAQUE
PLR	-	PILLAR
PZ	-	PIEZOMETER
RLC	-	RED LIGHT CAMERA
RWSL	-	RAILWAY SIGNAL LIGHT
RWSS	-	RAILWAY SWITCH STAND
SAT	-	SATELLITE DISH
SCLP	-	SCULPTURE
SCP	-	SUMP/CATCH PIT
SCV	-	SPRINKLER CONTROL VALVE
SH	-	SPRINKLER HEAD
SIA	-	SIAMESE CONNECTION
SN	-	SIGN
SPAN	-	SOLAR PANEL
SPT	-	SEPTIC TANK LID
TBL	-	TABLE
TB BELL	-	TERMINAL BOX - BELL
TB CATV	-	TERMINAL BOX - CABLE
TCP	-	TRAFFIC CONTROL BOX
TPIT	-	TEST PIT
TSL	-	TRAFFIC SIGNAL LIGHT
UMB	-	MARKER BELL UNDERGROUND
UMC	-	MARKER CABLE UNDERGROUND
UMG	-	MARKER GAS UNDERGROUND
UMO	-	MARKER OIL UNDERGROUND
UP	-	UTILITY POLE
VB	-	VALVE BOX
VC	-	VALVE CHAMBER
WV	-	WATER VALVE

SURVEYOR'S CERTIFICATE

I CERTIFY THAT :
1. THE SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE _ DAY OF _, 2017.

DATE

BRIAN J. WEBSTER
ONTARIO LAND SURVEYOR

SRO MAP COORDS: X= 366205, Y= 5029655

Stantec Geomatics Ltd.
CANADA LAND SURVEYORS
ONTARIO LAND SURVEYORS
1331 CLYDE AVENUE, SUITE 400
OTTAWA, ONTARIO, K2C 3G4
TEL. 613.722.4420 FAX. 613.722.2799
stantec.com

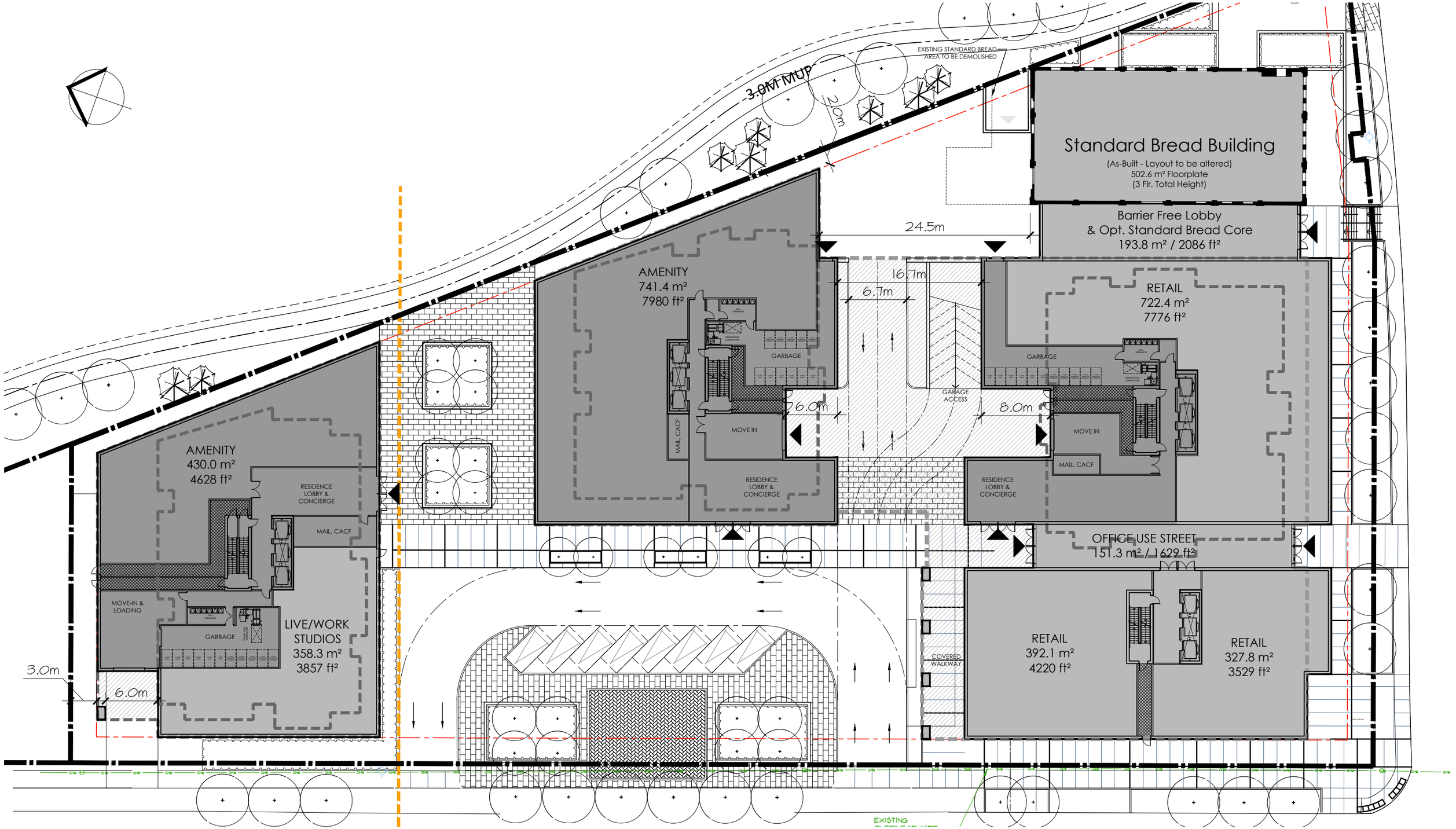
DRAWN: ME | CHECKED: * | PM: BW | FIELD: ES | PROJECT No.: 161613694-110

APPENDIX B

DEVELOPMENT DRAWINGS

APPENDIX B1

ARCHITECTURAL DRAWINGS



HOBIN

GLADSTONE + LORETTA

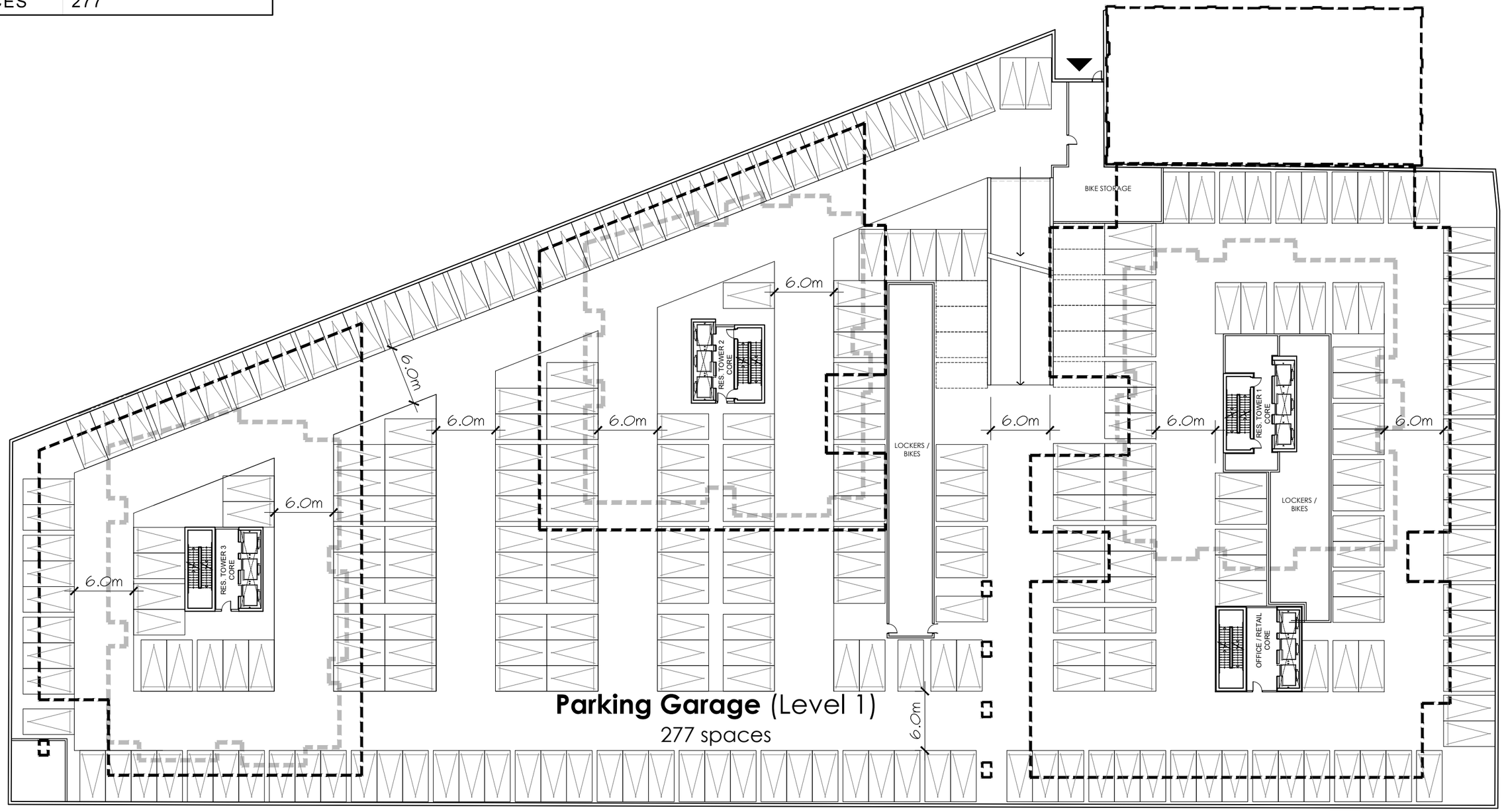
Site Plan Option

MARCH 4, 2021
scale 1:400

PBCGROUP

CLV GROUP

PARKING LEVEL P1	
GFA	98,231 ft²
# SPACES	277



GLADSTONE + LORETTA

Residential Towers 1, 2 & 3

Parking Plan P1

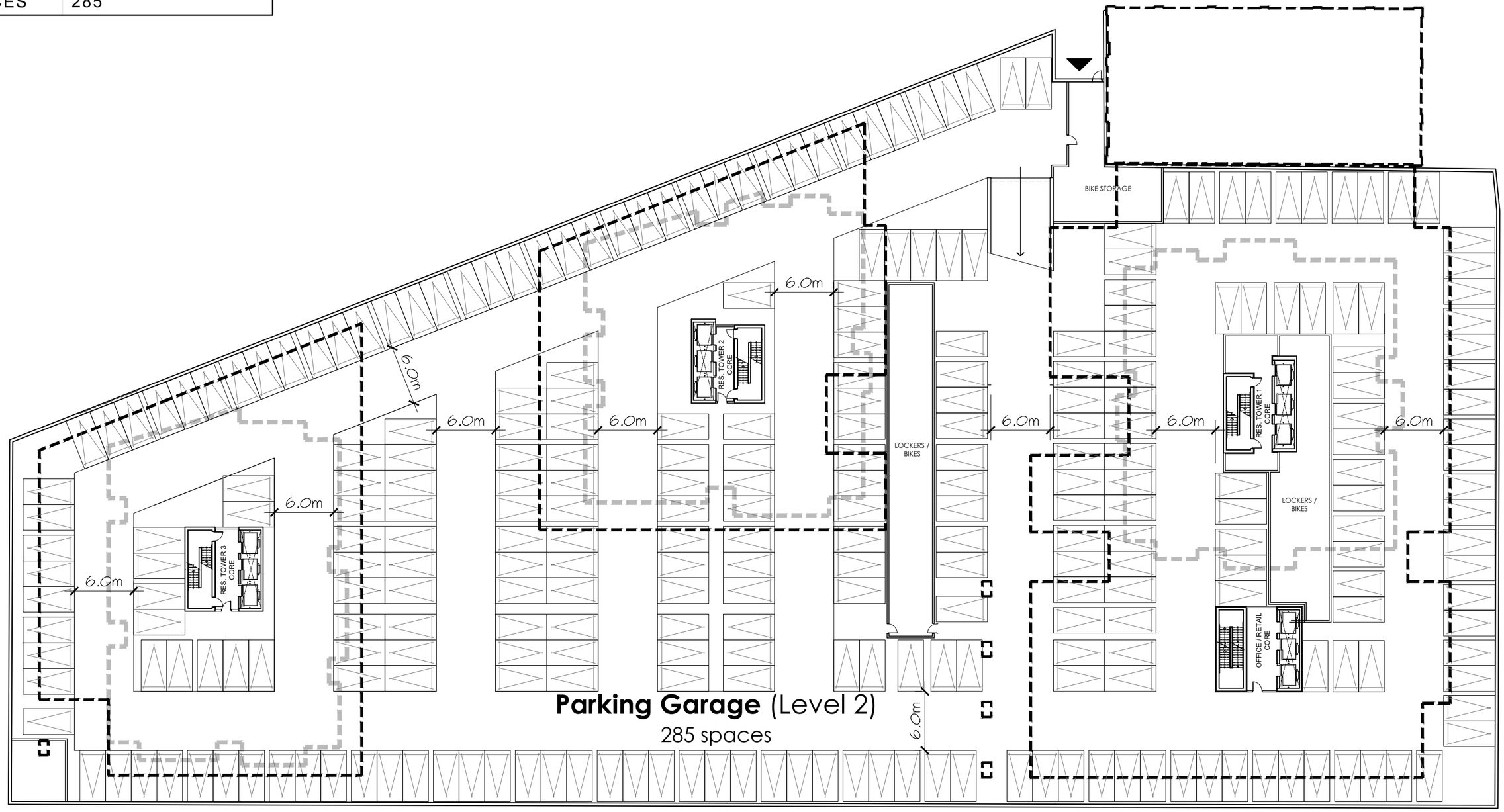
MARCH 4, 2021
scale 1:400

HOBIN

PBCGROUP

CLV GROUP

PARKING LEVEL P2	
GFA	98,231 ft²
# SPACES	285



GLADSTONE + LORETTA

Residential Towers 1, 2 & 3

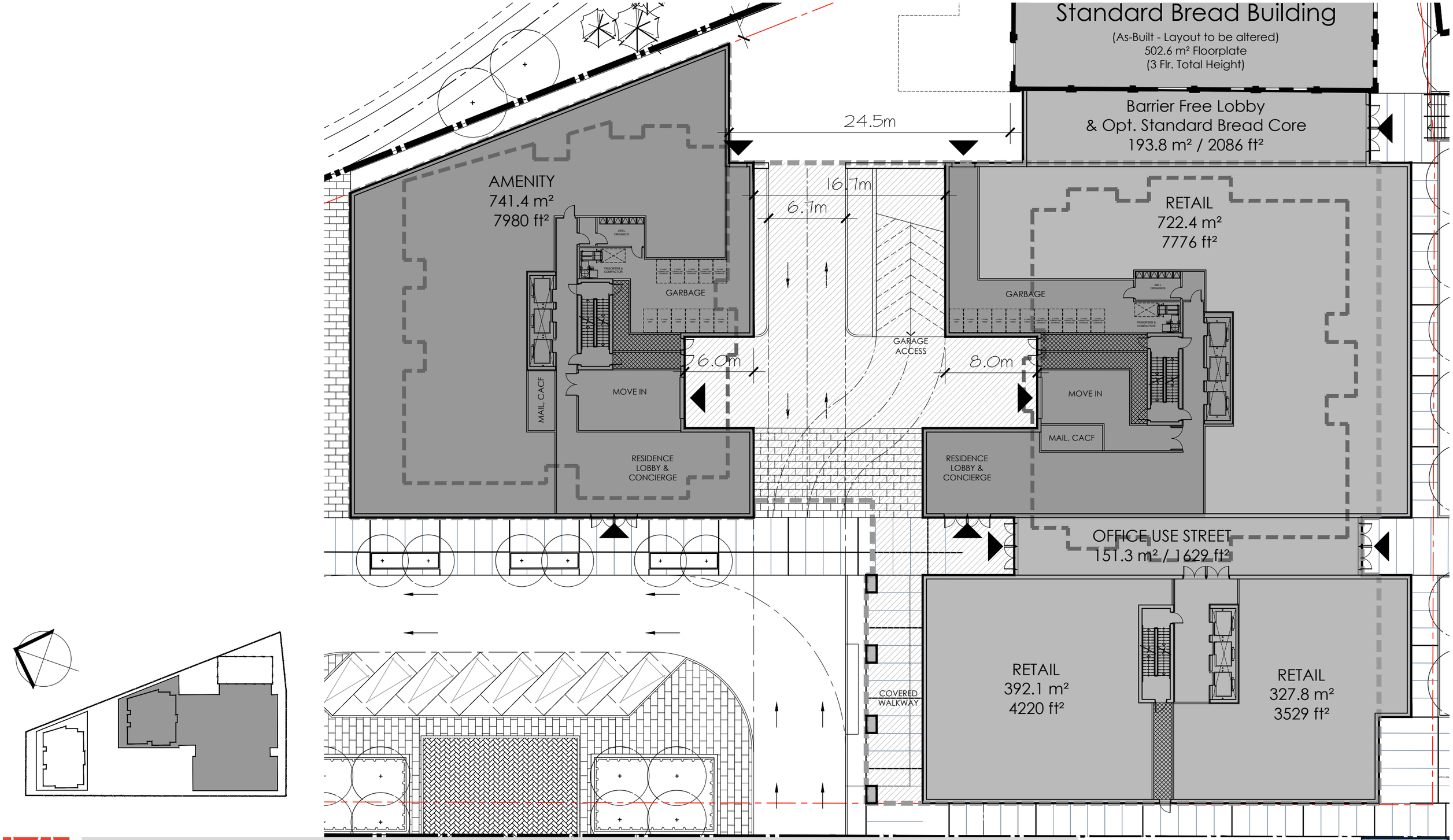
Parking Plan P2

MARCH 4, 2021
scale 1:400

HOBIN

PBCGROUP

CLV GROUP



GLADSTONE + LORETTA

Residential Towers 1 & 2

Ground Floor Plan

MARCH 4, 2021
scale 1:300

HOBIN

PBCGROUP

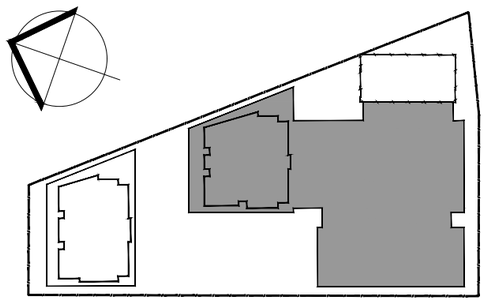
CLV GROUP

Standard Bread Building

502.6 m² Floorplate
(3 Flr. Total Height)

OFFICE

Floorplate GFA =
4,149.6 m^2 / 44,666 ft²
Floorplate GLA =
± 3,928.5 m^2 / 42,286 ft²
(x2)
(5 Flr. Total Height - Retail on Ground Flr.)



HOBIN

GLADSTONE + LORETTA
Residential Towers 1 & 2

Podium Plan (Flr. 2-3)

MARCH 4, 2021
scale 1:300

PBCGROUP

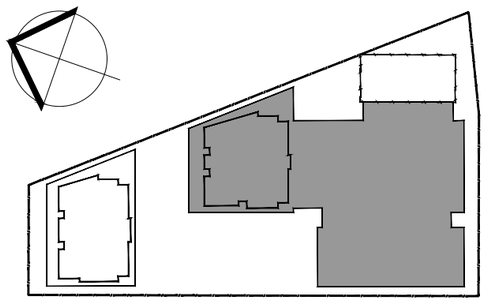
CLV GROUP

Standard Bread Building

502.6 m² Floorplate
(3 Flr. Total Height)

OFFICE

Floorplate GFA =
3992.6 m^2 / 42,976 ft²
Floorplate GLA =
± 3,771.5 m^2 / 40,596 ft²
(x1)
(5 Flr. Total Height - Retail on Ground Flr.)



GLADSTONE + LORETTA
Residential Towers 1 & 2

Podium Plan (Flr. 4)

MARCH 4, 2021
scale 1:300

HOBIN

PBCGROUP

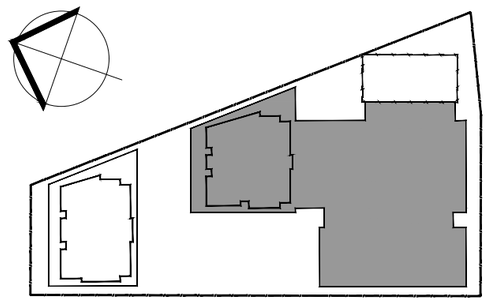
CLV GROUP

Standard Bread Building

502.6 m² Floorplate
(3 Flr. Total Height)

OFFICE

Floorplate GFA =
3,903.6 m^2 / 42,029 ft²
Floorplate GLA =
± 3,683.5 m^2 / 39,649 ft²
(x1)
(5 Flr. Total Height - Retail on Ground Flr.)



GLADSTONE + LORETTA
Residential Towers 1 & 2

Podium Plan (Flr. 5)

MARCH 4, 2021
scale 1:300

HOBIN

PBCGROUP

CLV GROUP

ROOF of STANDARD BREAD BUILDING

2 BED + DEN
91.1 m²
980 ft²

1 BED
49.3 m²
530 ft²

1 BED
61.7 m²
664 ft²

URBAN 1-BED
53.7 m²
578 ft²

AMENITY
245.4 m²
2641 ft²

2 BED
88.2 m²
949 ft²

BACH.
41.2 m²
443 ft²

2 BED
78.2 m²
842 ft²

LEVEL 6 Roof Terrace
1441.9 m²

1 BED
59.9 m²
645 ft²

1 BED
59.9 m²
645 ft²

2 BED
86.5 m²
931.0 ft²

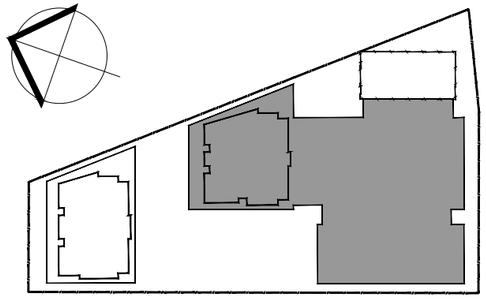
AMENITY
242.8 m²
2613 ft²

URBAN 1-BED
53.9 m²
576.9 ft²

1 BED
59.9 m²
645 ft²

1 BED
59.9 m²
645 ft²

2 BED
88.0 m²
947.2 ft²



HOBIN

GLADSTONE + LORETTA
Residential Towers 1 & 2

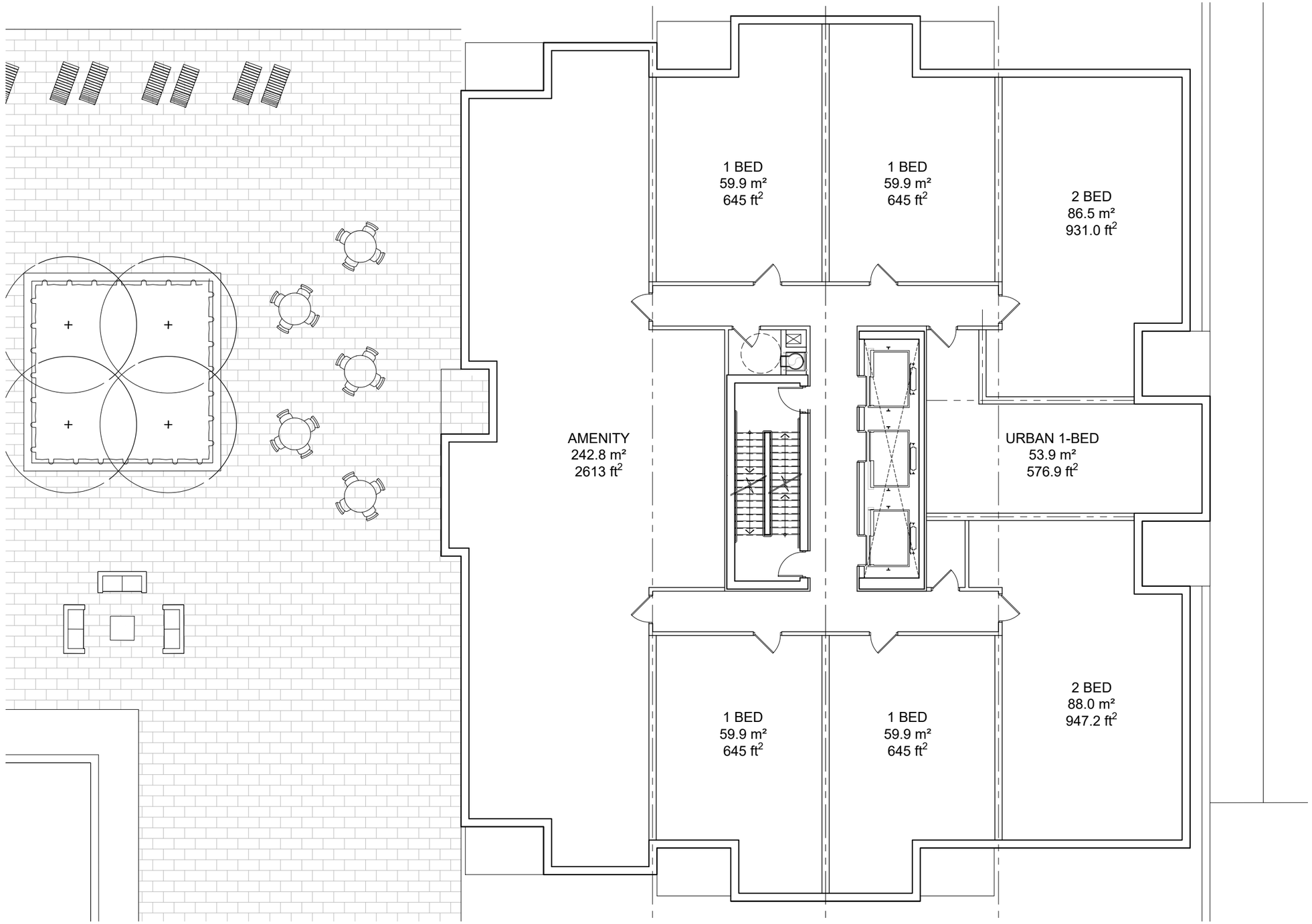
Podium Plan (Flr. 6)

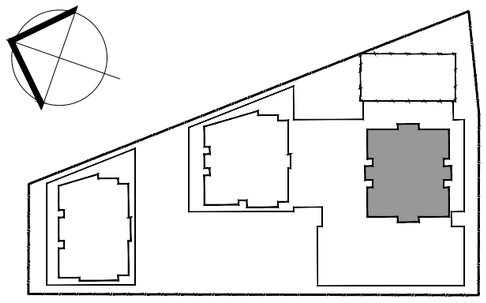
MARCH 4, 2021
scale 1:300

PBCGROUP

CLV GROUP

PODIUM ROOF FLOOR x1 (Flr. 6)	
GFA	8,928 ft²
NET RES.	5,035 ft²
EFFICIENCY	56.4%
UNITS	7
Bachelor	0
Urban 1B	1
1 Bed	4
1B+Den	0
2 Bed	2





HOBIN

GLADSTONE + LORETTA

Residential Tower 1

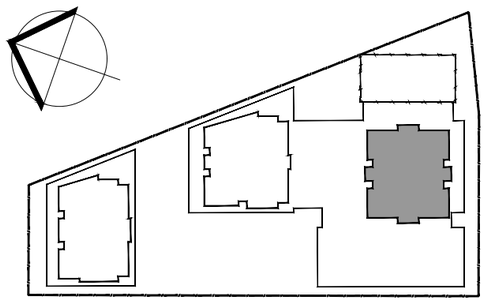
Podium Roof Floor Plan (Flr. 6)

MARCH 4, 2021
scale 1:150

PBCGROUP

CLV GROUP

TYPICAL FLOOR A x26 (Flr. 7-32)	
GFA	8,928 ft²
NET RES.	7,598 ft²
EFFICIENCY	85.1%
UNITS	10
Bachelor	0
Urban 1B	1
1 Bed	4
1B+Den	1
2 Bed	4



HOBIN

GLADSTONE + LORETTA
Residential Tower 1

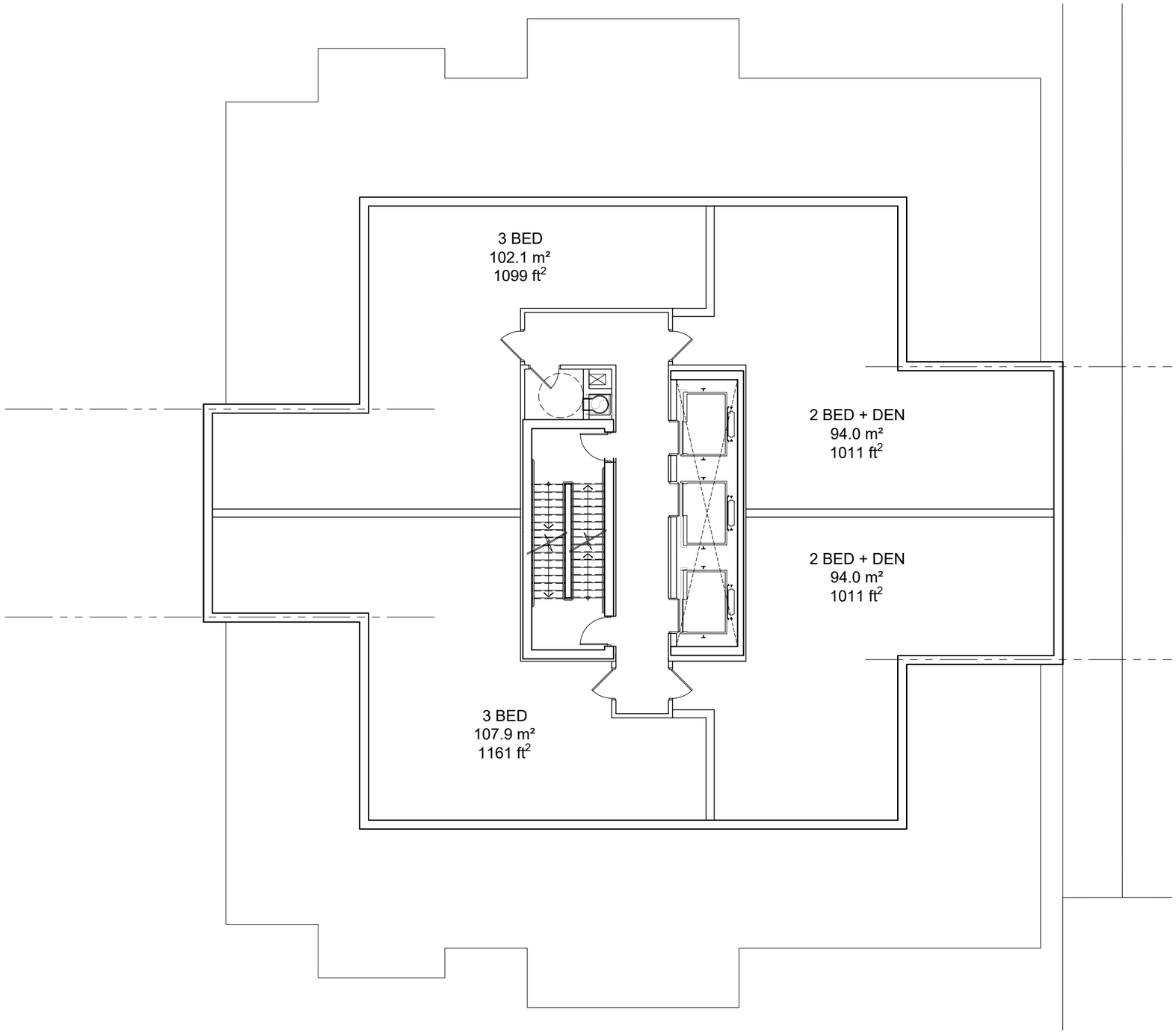
Typical Floor Plan (Flr. 7-32)

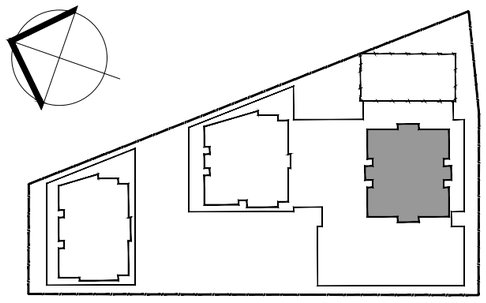
MARCH 4, 2021
scale 1:150

PBCGROUP

CLV GROUP

PENTHOUSE FLOOR x3 (Flr. 33-35)	
GFA	5,198 ft²
NET RES.	4,282 ft²
EFFICIENCY	82.4%
UNITS	4
2B + Den	2
3 Bed	2





HOBIN

GLADSTONE + LORETTA
Residential Tower 1

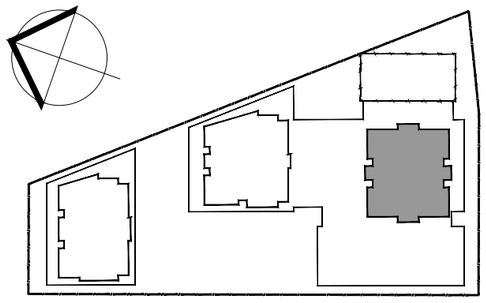
Penthouse Floor Plan (Flr. 33-35)
MARCH 4, 2021
scale 1:150

PBCGROUP

CLV GROUP

SKYBOX LOUNGE
199.2 m^2
2144 ft^2

MECHANICAL
107.9 m^2
1106 ft^2



HOBIN

GLADSTONE + LORETTA
Residential Tower 1

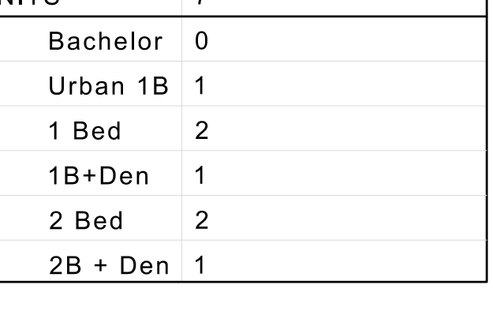
Skybox & Mech Floor Plan
(Flr. 36)

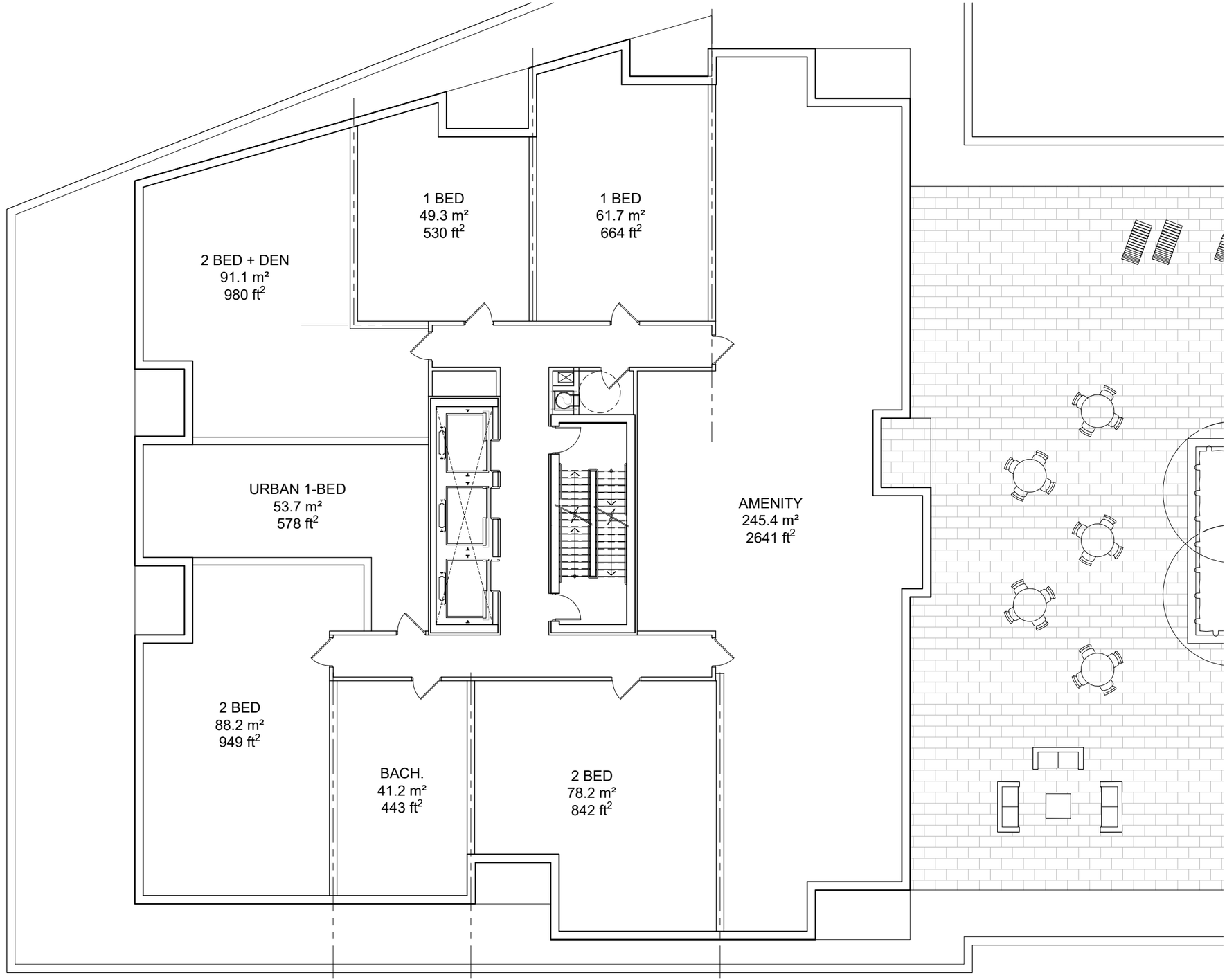
JANUARY 20, 2021
scale 1:150

PBCGROUP

CLV GROUP

PODIUM ROOF FLOOR x1 (Flr. 6)	
GFA	8,807 ft²
NET RES.	4,986 ft²
EFFICIENCY	56.6%
UNITS	7
Bachelor	0
Urban 1B	1
1 Bed	2
1B+Den	1
2 Bed	2
2B + Den	1





HOBIN

GLADSTONE + LORETTA
Residential Tower 2

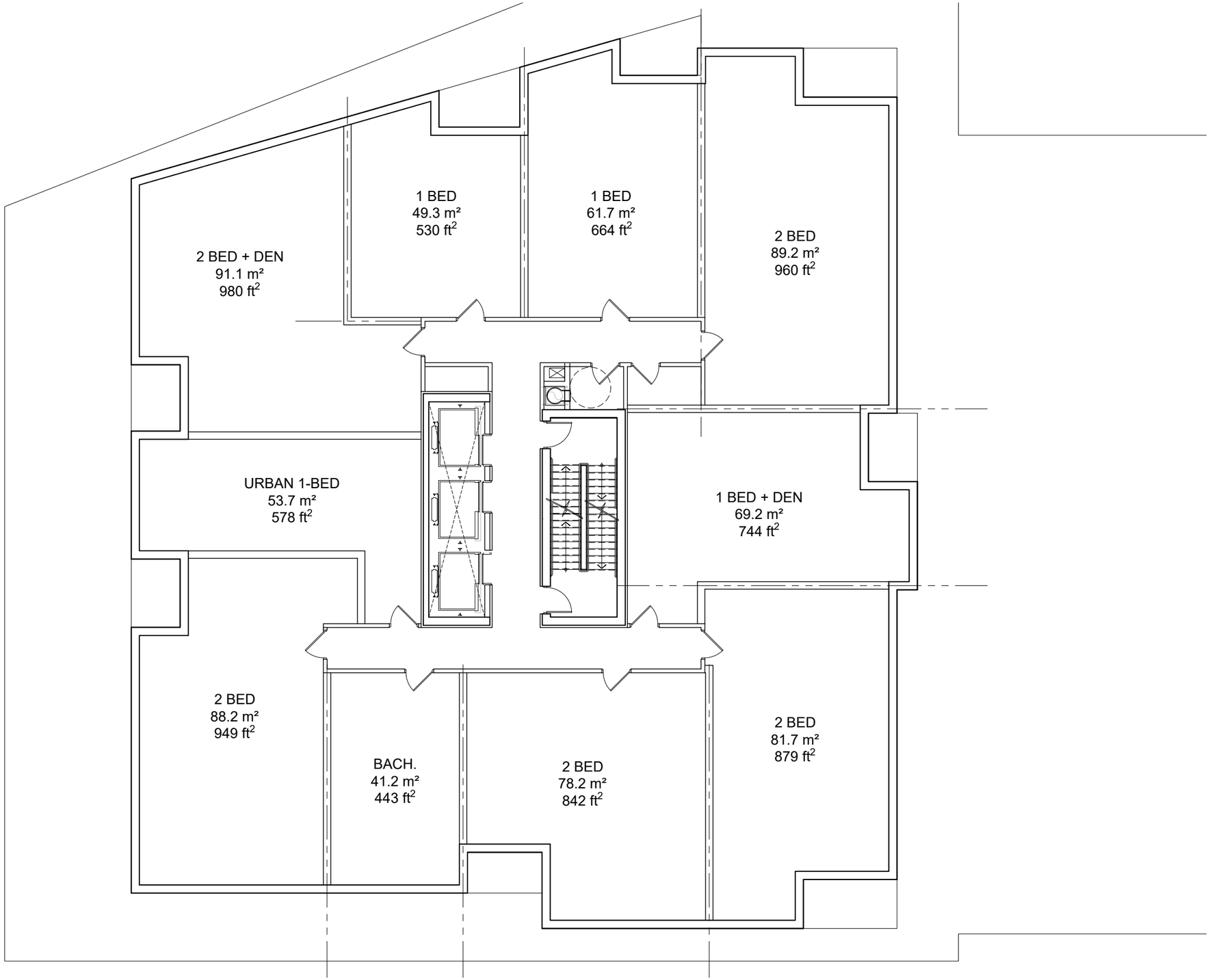
Podium Roof Floor Plan (Flr. 6)

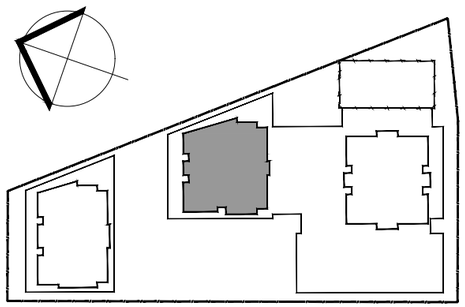
MARCH 4, 2021
scale 1:150

PBCGROUP

CLV GROUP

TYPICAL FLOOR x24 (Flr. 7-30)	
GFA	8,807 ft²
NET RES.	7,569 ft²
EFFICIENCY	85.9%
UNITS	10
Bachelor	1
Urban 1B	1
1 Bed	2
1B+Den	1
2 Bed	4
2B + Den	1





GLADSTONE + LORETTA
Residential Tower 2

Typical Floor Plan
(Flr. 7-30)

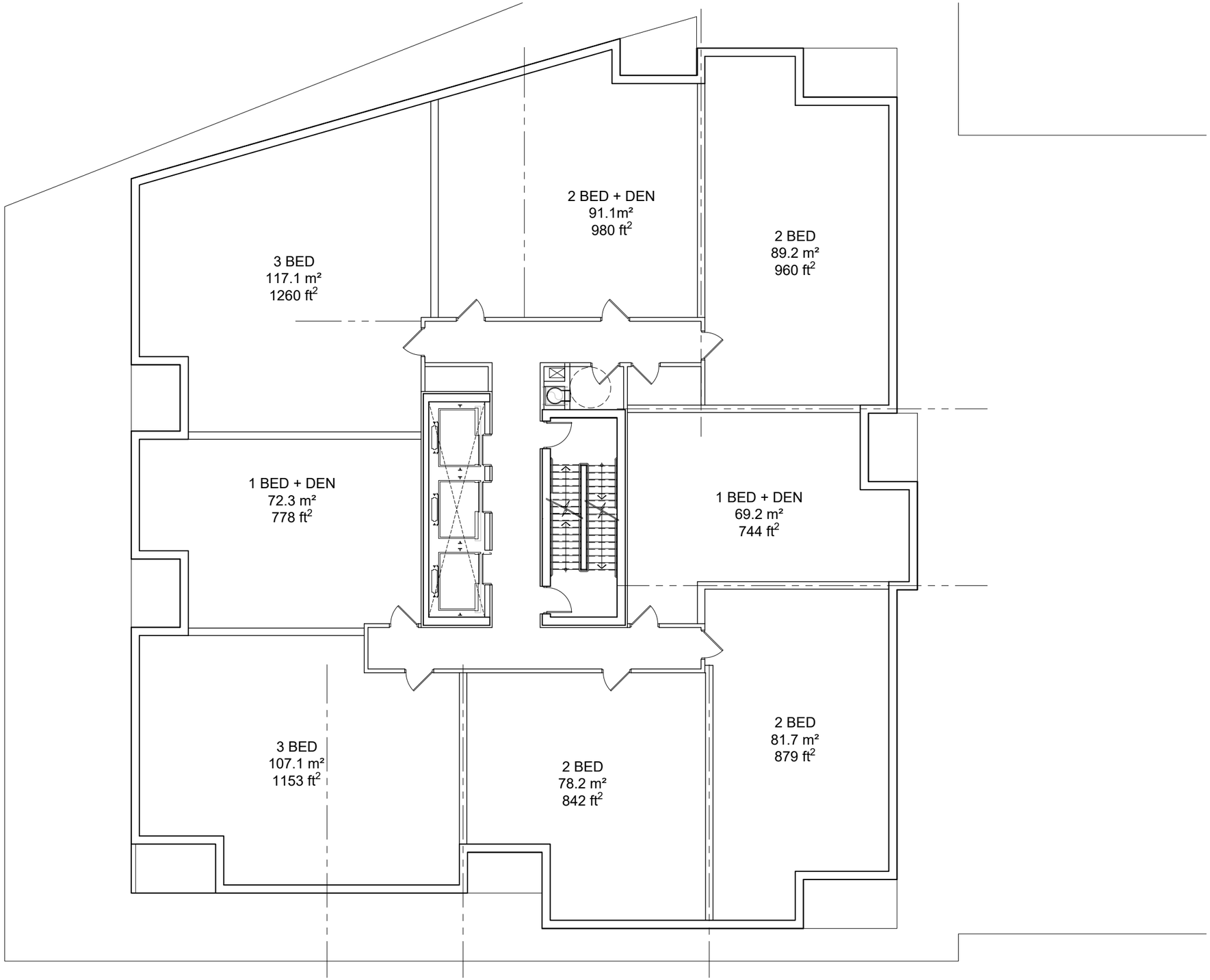
MARCH 4, 2021
scale 1:150

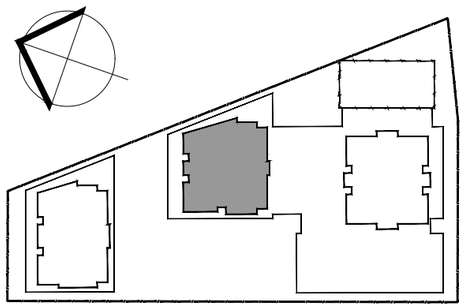
HOBIN

PBCGROUP

CLV GROUP

PENTHOUSE FLOOR x3 (Flr. 31-33)	
GFA	8,864 ft²
NET RES.	7,596 ft²
EFFICIENCY	85.7%
UNITS	8
Bachelor	0
Urban 1B	0
1 Bed	0
1B+Den	2
2 Bed	3
2B + Den	1
3 Bed	2





GLADSTONE + LORETTA
Residential Tower 2

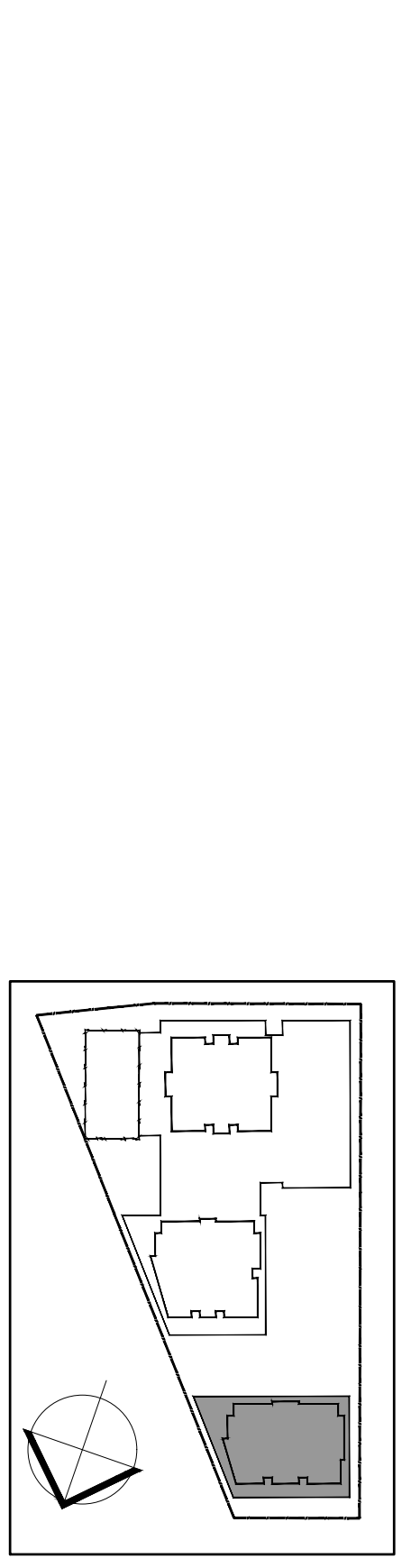
HOBIN

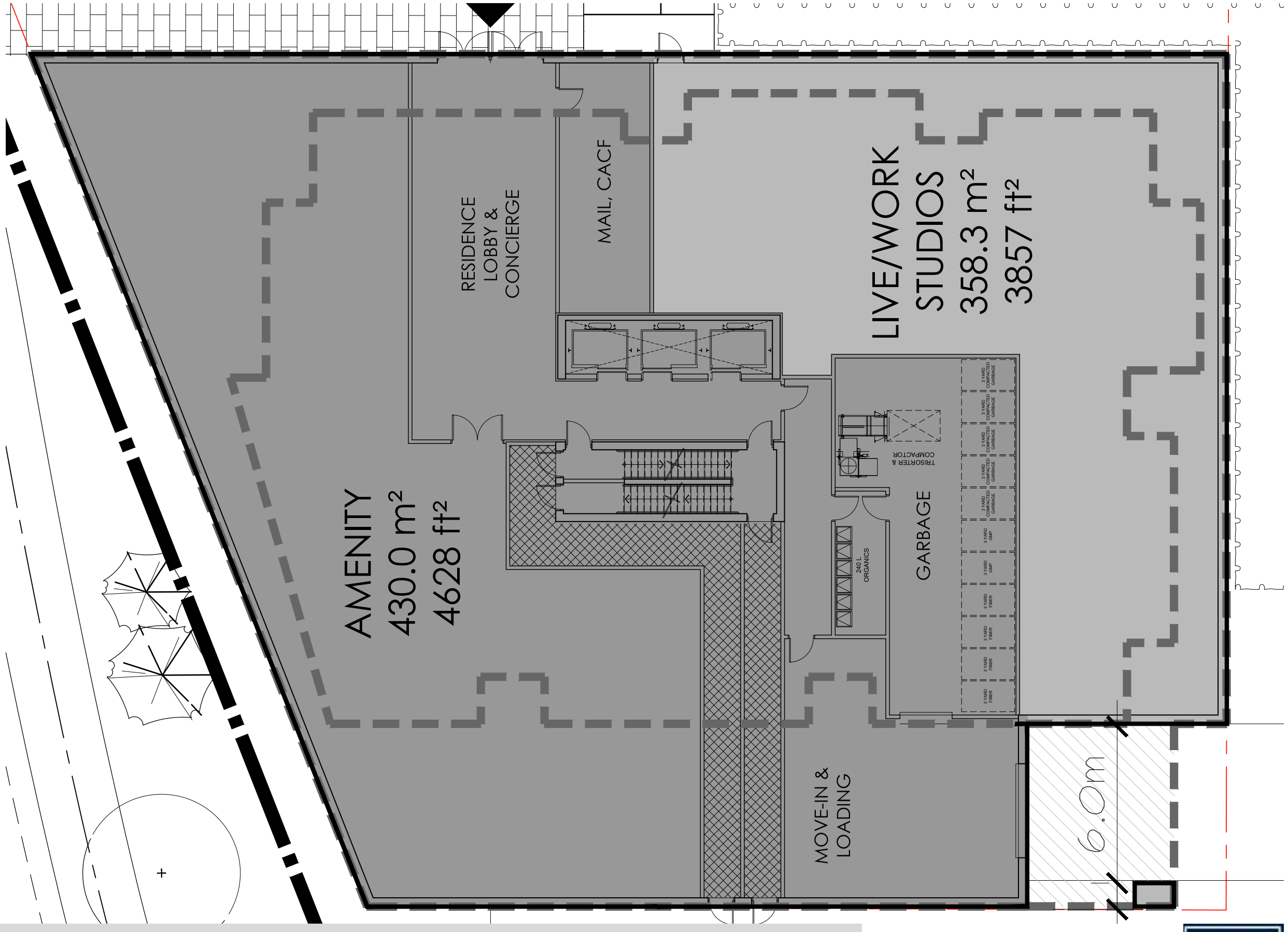
Penthouse Floor Plan (Flr. 31-33)

MARCH 4, 2021
scale 1:150

PBCGROUP

CLV GROUP





GLADSTONE + LORETTA

Residential Tower 3

Ground Floor Plan

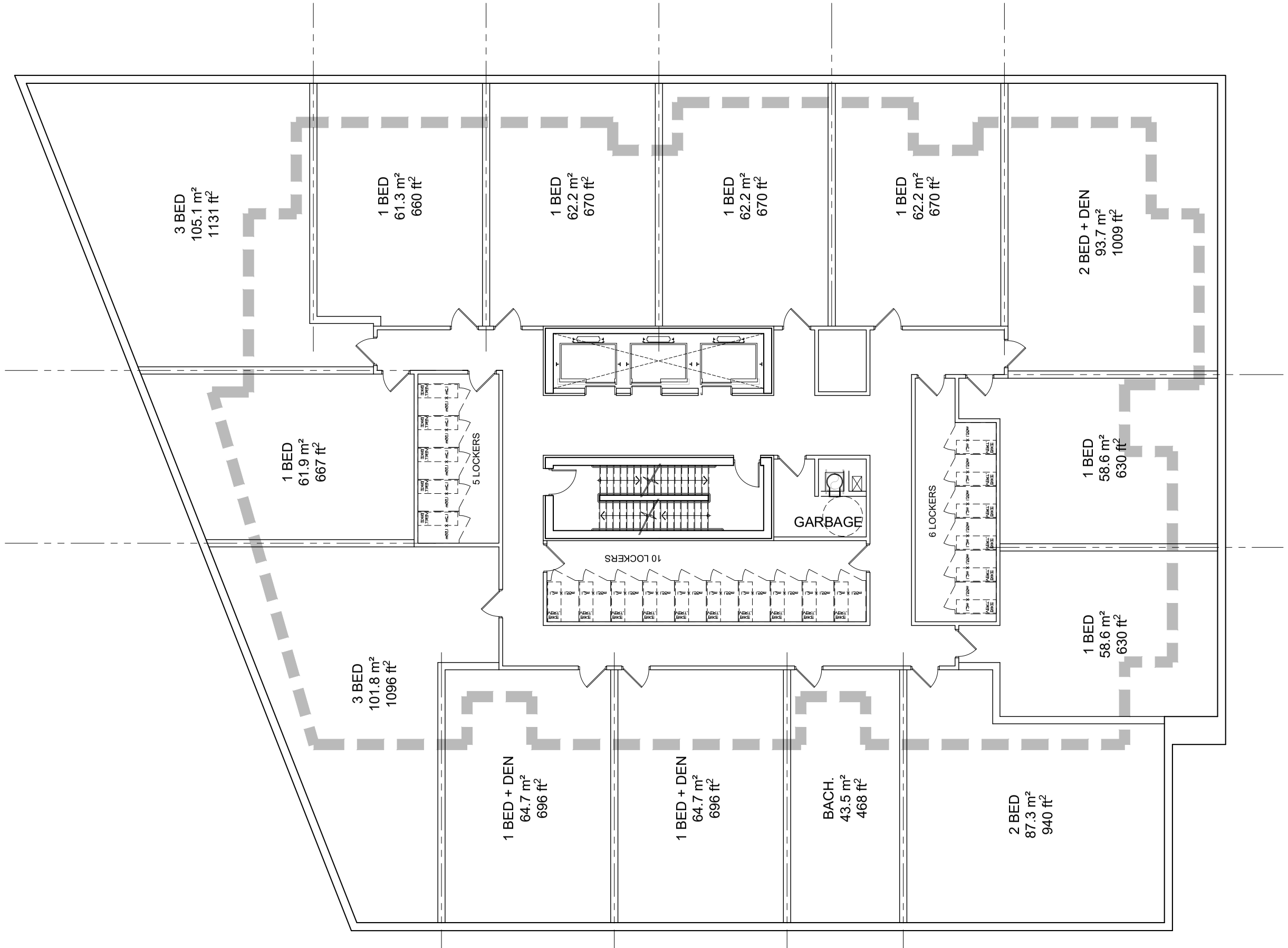
MARCH 4, 2021
scale 1:150

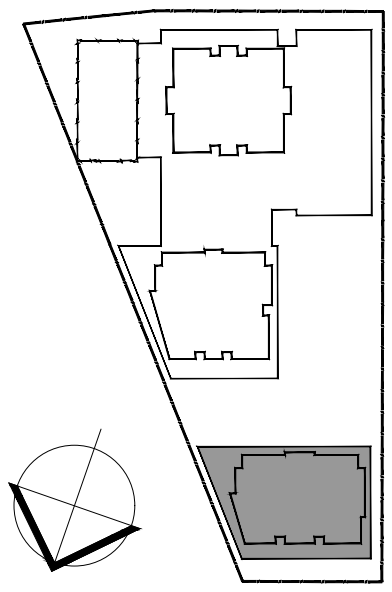
HOBIN

PBCGROUP

CLV GROUP

PODIUM FLOOR x3 (Flr. 2-4)	
GFA	13,433 ft²
NET RES.	10,633 ft²
EFFICIENCY	79.2%
UNITS	14
Bachelor	1
Urban 1B	0
1 Bed	7
1B+Den	2
2 Bed	1
2B + Den	1
3 Bed	2





HOBIN

GLADSTONE + LORETTA

Residential Tower 3

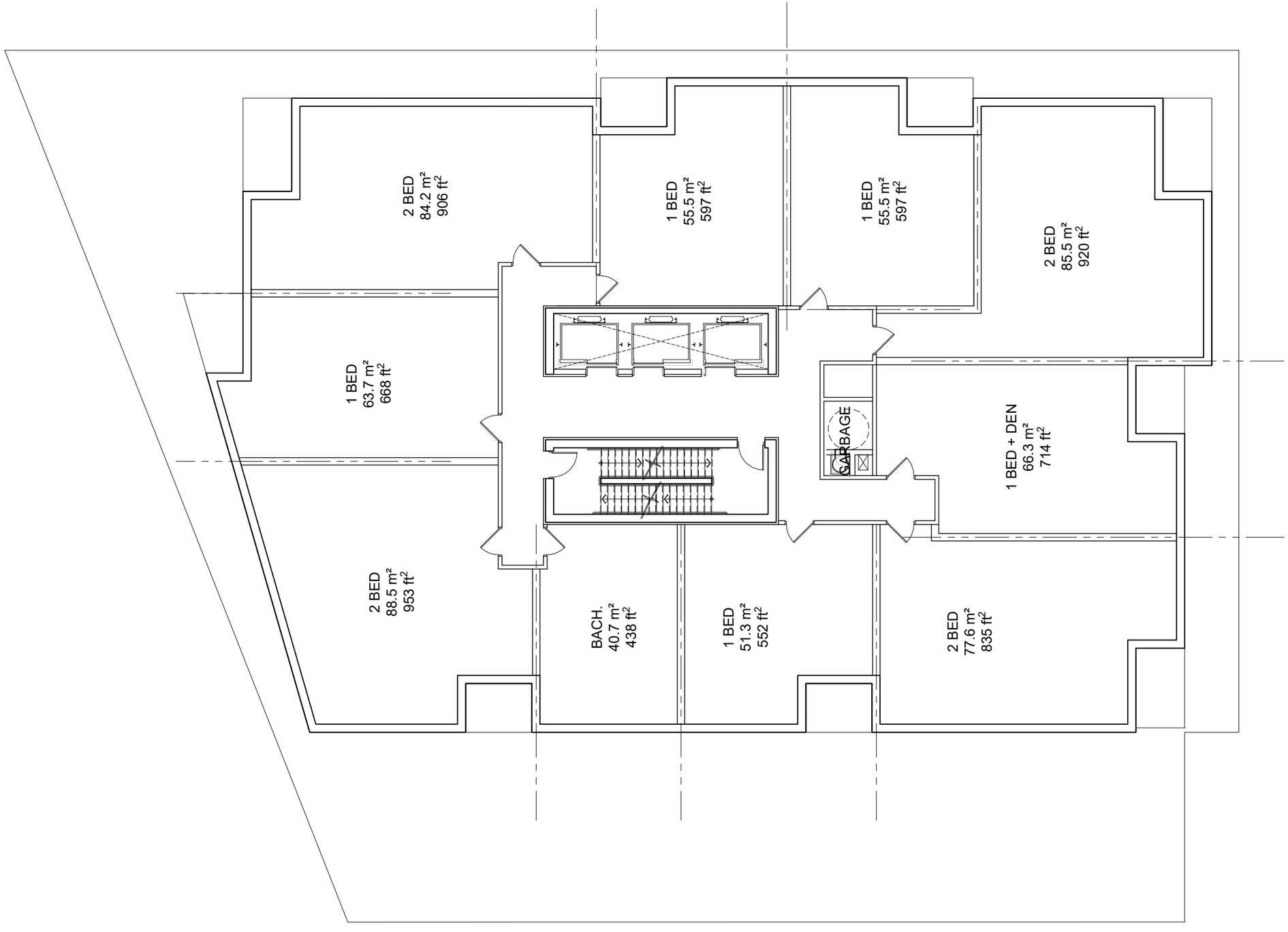
Typical Podium Floor Plan (Flr. 2-4)

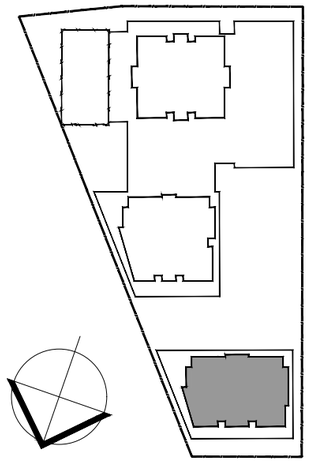
MARCH 4, 2021
scale 1:150

PBCGROUP

CLV GROUP

TYPICAL FLOOR x23 (Flr. 5-27)	
GFA	8,464 ft²
NET RES.	7,180 ft²
EFFICIENCY	84.8%
UNITS	10
Bachelor	1
Urban 1B	0
1 Bed	4
1B+Den	1
2 Bed	4
2B + Den	0





HOBIN

GLADSTONE + LORETTA
Residential Tower 3

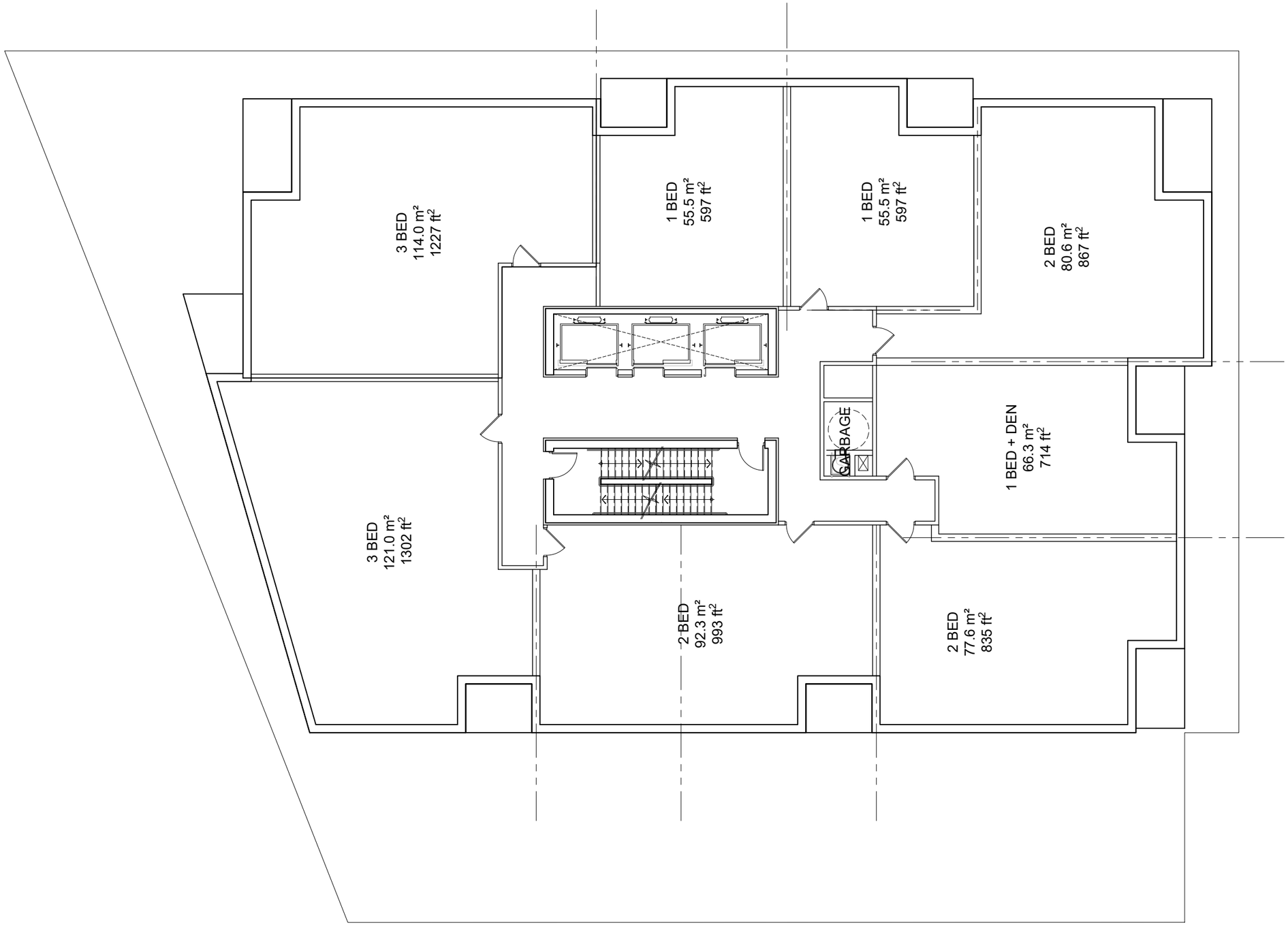
Typical Floor Plan (Flr. 5-27)

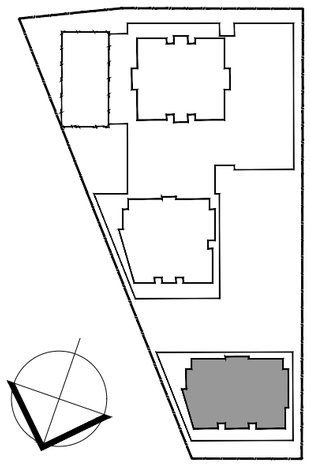
MARCH 4, 2021
scale 1:150

PBCGROUP

CLV GROUP

PENTHOUSE FLOOR x3 (Flr. 28-30)	
GFA	8,464 ft²
NET RES.	7,180 ft²
EFFICIENCY	84.8%
UNITS	8
Urban 1B	0
1 Bed	2
1B+Den	1
2 Bed	2
2B + Den	1
3 Bed	2





HOBIN

GLADSTONE + LORETTA
Residential Tower 3

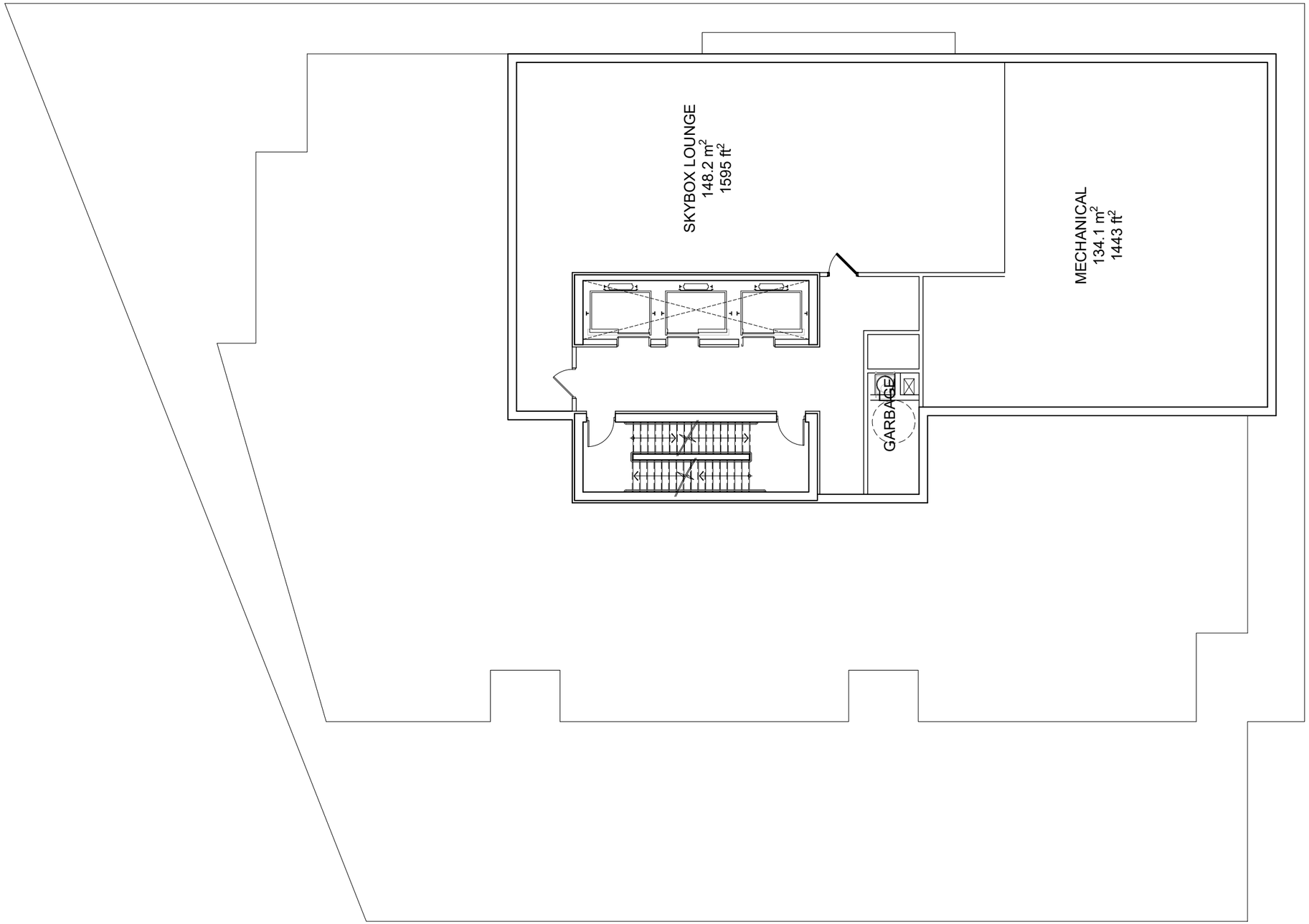
Penthouse Floor Plan
(Flr. 28-30)

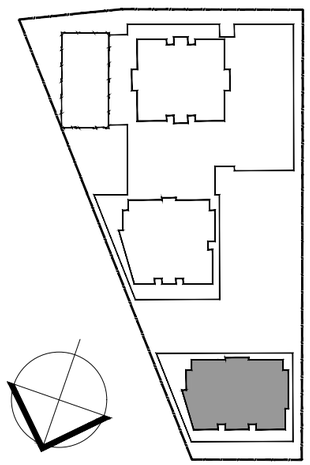
MARCH 4, 2021
scale 1:150

PBCGROUP

CLV GROUP

SKYBOX & MECH. x1 (Flr. 31)	
GFA	4,087 ft²





HOBIN

GLADSTONE + LORETTA
Residential Tower 3

Skybox & Mech Floor Plan (Flr. 31)

MARCH 4, 2021
scale 1:150

PBCGROUP

CLV GROUP

APPENDIX B2

COMPOSITE UTILITY DRAWING

LAUREL STREET

LORETTA AVENUE NORTH

GLADSTONE AVENUE

LOT 10

LOT 9

LOT 8

LOT 7

LOT 6

LOT 5

LOT 4

LOT 3

LOT 2

LOT 1

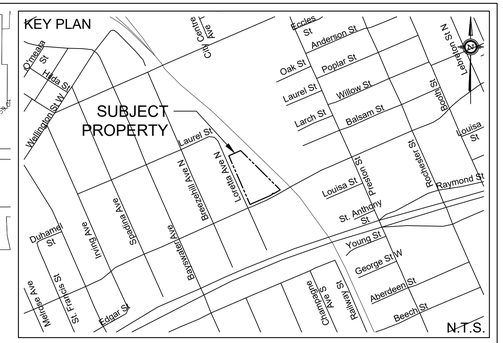
LANE

CHAMPAGNE AVENUE

SITE BENCH MARK 1
TOP OF SPINDLE ON
FIRE HYDRANT
ELEVATION=65.38m

SITE BENCH MARK 2
TOP OF SPINDLE ON
FIRE HYDRANT
ELEVATION=65.35m

KEY PLAN



LEGEND

- PROPERTY LINE
- PROPOSED GAS LINE
- PROPOSED COMMUNICATIONS DUCT
- PROPOSED HYDRO PRIMARY CABLE
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING MANHOLE
- EXISTING CATCH BASIN MANHOLE
- EXISTING CATCH BASIN
- EXISTING FIRE HYDRANT
- EXISTING VALVE BOX
- EXISTING 1050mmø SAN TRUNK COLLECTOR
- EXISTING 1350mmø STM SEWER
- EXISTING 1350ø WATERMAIN
- EXISTING BELL
- EXISTING GAS
- EXISTING HYDRO
- EXISTING UTILITY POLE

NOT FOR CONSTRUCTION

NOTE: THIS COMPOSITE UTILITY PLAN WAS PREPARED FOR COORDINATION PURPOSES ONLY. UTILITY DESIGN PREPARED BY OTHERS.

TOPOGRAPHIC INFORMATION
TOPOGRAPHIC INFORMATION PROVIDED BY STANTEC GEOMATICS LTD.
PROJ. NO. 161613694-110
DATED JULY 6th, 2017

SITE PLAN INFORMATION
SITE PLAN PROVIDED BY HOBIN ARCHITECTURE
PROJ. NO.
DATED FEBRUARY 2018

STORM, SANITARY, AND WATER SERVICING
DESIGN PREPARED BY DSEL
PLAN TITLE EXISTING COMPOSITE UTILITY PLAN
PROJ. NO. 18-1026
DATED REV MARCH 2019

HYDRO AND TELECOMMUNICATIONS SERVICES
DESIGN PREPARED BY
PLAN TITLE
PROJ. NO.
DATED REV

NATURAL GAS SERVICING
DESIGN PREPARED BY
PLAN TITLE
PROJ. NO.
DATED REV

SITE LIGHTING
DESIGN PREPARED BY
PLAN TITLE
PROJ. NO.
DATED REV

UTILITY LOCATIONS ARE ESTABLISHED USING SURVEY PLAN, AS-BUILT AND UCC PLAN.

BENCH MARK
SITE BENCH MARK 1 LOCATED AT TOP OF SPINDLE ON FIRE HYDRANT
ELEVATION=65.38m
SITE BENCH MARK 2 LOCATED AT TOP OF SPINDLE ON FIRE HYDRANT
ELEVATION=65.35m

DRAFT

No.	BY	YY.MM.DD	DESCRIPTION
1.	A.W.T.	19.03.28	EXISTING COMPOSITE UTILITY PLAN – CIRCULATION 1

PROJECT No18-1026

REVIEWED BY

EXISTING COMPOSITE UTILITY PLAN
145 LORETTA AVE N / 951 GLADSTONE AVE

TRINITY DEVELOPMENT GROUP INC.

3250 Bloor St. W., Suite 1000
Toronto, ON M8X 2X9
Tel. (416) 255-8800 x240

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SMART SUBDIVISIONS™
120 Iber Road Unit 103
Stittsville, Ontario, K2S 1E9
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DRAWN BY:	A.W.T.	CHECKED BY:	A.D.F.	DRAWING NO.	SHEET NO.
DESIGNED BY:	S.L.M.	CHECKED BY:	S.L.M.	CUP-1	1 of 1
SCALE:	1:500	DATE:	MARCH 2019		

CITY FILE No.: D07-12-XX-XXXX CITY PLAN No.: XXXXX

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APPENDIX B3

GLADSTONE STATION DRAWINGS

TITLEBLOCK 790mm x 534mm

TRILLIUM LINE EXTENSION PROJECT

ARCHITECTURAL

CORSO ITALIA

1GSS

ISSUED FOR CONSTRUCTION
JULY 30, 2021

CONTRACT NO. - LRT19-1025

JULY 30, 2021 C:\Users\nbarrett\Documents\660373-1GSS-001-44DM-1000_NBarrett-VF3UM.rvt

DRAWING No. 660373-1GSS-001-44DD-0001 | 03

SUPERCEDES PRINTS TO THIS NUMBER WITH LETTER PREVIOUS TO

ARCHITECTURAL DRAWING INDEX

DRAWING NUMBER	DRAWING DESCRIPTION	REV
660373-1GSS-001-44DD-0001	GENERAL INFORMATION - COVER PAGE	03
660373-1GSS-001-44DD-0010	GENERAL INFORMATION - ARCHITECTURAL DRAWING INDEX	04
660373-1GSS-001-44DD-0020	GENERAL INFORMATION - GENERAL NOTES AND ABBREVIATIONS	00
660373-1GSS-001-44DD-0030	GENERAL INFORMATION - ACCESSIBILITY DESIGN STANDARDS	00
660373-1GSS-001-44DD-0050	GENERAL INFORMATION - SCHEDULES & ASSEMBLIES	00
660373-1GSS-001-44DD-0060	GENERAL INFORMATION - OBC MATRIX & GENERAL NOTES	00
660373-1GSS-001-44DD-0061	GENERAL INFORMATION - FIRE SEPARATION PLANS	00
660373-1GSS-001-44DD-0062	GENERAL INFORMATION - FIRE SEPARATION SECTIONS	00
660373-1GSS-001-44DD-0070	GENERAL INFORMATION - DOOR SCHEDULE AND TYPE	01
660373-1GSS-001-44DD-0071	GENERAL INFORMATION - DOOR AND FRAME DETAILS	00
660373-1GSS-001-44DD-0080	GENERAL INFORMATION - ROOM FINISH SCHEDULE	00
660373-1GSS-001-44DD-0100	GENERAL INFORMATION - SETTING OUT DIAGRAM	00
660373-1GSS-001-44DD-1000	SITE DRAWINGS - CONTEXT SITE PLAN	00
660373-1GSS-001-44DD-1010	SITE DRAWINGS - SITE PLAN	00
660373-1GSS-001-44DD-2000	PASSENGER FLOW PLAN - CONCOURSE	00
660373-1GSS-001-44DD-2010	PASSENGER FLOW PLAN - PLATFORM	00
660373-1GSS-001-44DD-2100	OVERALL FLOOR PLAN - CONCOURSE	00
660373-1GSS-001-44DD-2110	OVERALL FLOOR PLAN - PLATFORM	00
660373-1GSS-001-44DD-2120	OVERALL PLAN - OVERALL ROOF PLAN - CONCOURSE	00
660373-1GSS-001-44DD-2121	OVERALL PLAN - OVERALL ROOF PLAN - PLATFORM	00
660373-1GSS-001-44DD-2150	SLAB EDGE PLANS - CONCOURSE SECTOR 1	00
660373-1GSS-001-44DD-2151	SLAB EDGE PLANS - CONCOURSE SECTOR 2	00
660373-1GSS-001-44DD-2160	SLAB EDGE PLANS - PLATFORM SECTOR 1	01
660373-1GSS-001-44DD-2161	SLAB EDGE PLANS - PLATFORM SECTOR 2	01
660373-1GSS-001-44DD-2201	ENLARGED PLAN - CONCOURSE SECTOR 1	01
660373-1GSS-001-44DD-2202	ENLARGED PLAN - CONCOURSE SECTOR 2	00
660373-1GSS-001-44DD-2205	ENLARGED FLOOR PLAN - STATION ENTRANCE	00
660373-1GSS-001-44DD-2211	ENLARGED PLAN - PLATFORM SECTOR 1	00
660373-1GSS-001-44DD-2212	ENLARGED PLAN - PLATFORM SECTOR 2	01
660373-1GSS-001-44DD-2213	ENLARGED PLAN - ANCILLARY SPACE	00
660373-1GSS-001-44DD-2221	ENLARGED ROOF PLANS - CONCOURSE	01
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660373-1GSS-001-44DD-2300	REFLECTED CEILING PLAN - CONCOURSE	00
660373-1GSS-001-44DD-2310	RELFECTED CEILNG PLAN - PLATFORM	00
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660373-1GSS-001-44DD-2502	FLOOR FINISH PLAN - CONCOURSE SECTOR 2	00
660373-1GSS-001-44DD-2511	FLOOR FINISH PLAN - PLATFORM SECTOR 1	00
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660373-1GSS-001-44DD-3001	ELEVATIONS - EXTERIOR ELEVATIONS	00
660373-1GSS-001-44DD-3002	ELEVATIONS - EXTERIOR ELEVATIONS	00
660373-1GSS-001-44DD-3100	ELEVATIONS - INTERIOR ELEVATIONS	00
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660373-1GSS-001-44DD-6004	VERTICAL CIRCULATION - STAIRS	01
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660373-1GSS-001-44DD-6054	VERTICAL CIRCULATION - STAIR DETAILS	00
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660373-1GSS-001-44DD-6201	VERTICAL CIRCULATION - ELEVATORS	00
660373-1GSS-001-44DD-6202	VERTICAL CIRCULATION - ELEVATORS	00
660373-1GSS-001-44DD-6203	VERTICAL CIRCULATION - ELEVATORS	00
660373-1GSS-001-44DD-6204	VERTICAL CIRCULATION - ELEVATORS	00
660373-1GSS-001-44DD-6250	VERTICAL CIRCULATION - ELEVATOR DETAILS	00
660373-1GSS-001-44DD-6251	VERTICAL CIRCULATION - ELEVATOR DETAILS	00
660373-1GSS-001-44DD-6252	VERTICAL CIRCULATION - ELEVATOR DETAILS	00
660373-1GSS-001-44DD-6253	VERTICAL CIRCULATION - ELEVATOR DETAILS	00
660373-1GSS-001-44DD-6254	VERTICAL CIRCULATION - ELEVATOR DETAILS	00
660373-1GSS-001-44DD-6256	VERTICAL CIRCULATION - ELEVATOR DETAILS	00
660373-1GSS-001-44DD-7012	VERTICAL CIRCULATION - FARE GATE DETAILS	00
660373-1GSS-001-44DD-7019	VERTICAL CIRCULATION - FARE GATE DETAILS	00
660373-1GSS-001-44DD-8301	FUTURE PHASE - FLOOR PLANS	00
660373-1GSS-001-44DD-8302	FUTURE PHASE - ELEVATIONS & SECTIONS	00
660373-1GSS-001-44DD-9000	EXTERIOR RENDERINGS	00
660373-1GSS-001-44DD-9100	INTERIOR RENDERINGS	00

04

TITLEBLOCK: 790mm x 534mm

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04/11/19

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
ARCHITECTURAL DRAWING INDEX

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER: 660373-1GSS-001-44DD-0010

MODEL NUMBER: 660373-1GSS-001-44DM-1000

PRIMARY SEAL: ONTARIO ASSOCIATION OF ARCHITECTS — RICHARD BRISBIN — LICENCE 3782

DESIGN/BUILDER: SNC·LAVALIN — TransitNEXT

DESIGN FIRM: bbb architects ottawa inc.

SECONDARY SEAL (IF REQUIRED)

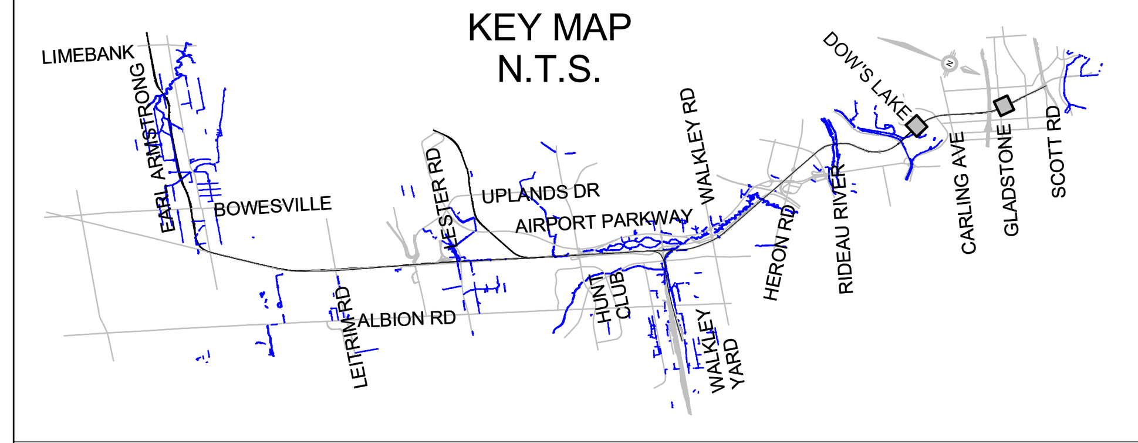
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS, FOUNDATIONS ONLY	JJ	2020/09/25
01	ISSUED FOR BUILDING PERMIT	JJ	2020/11/27
02	ISSUED FOR CLIENT REVIEW - FDD SUBMISSION	JJ	2020/11/27
03	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
04	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.

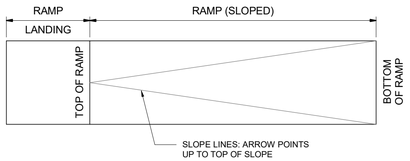


ISSUED FOR CONSTRUCTION
2021-07-30

04

TITLEBLOCK: 790mm x 534mm

RAMP GRAPHICS

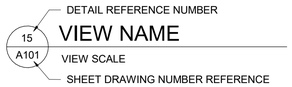


ABBREVIATION LIST

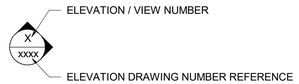
A BOLT	Anchor Bolt	GBLK	Glazed Block	PTDD	Paper Towel Dispenser/Disposal
AC	Alternating Current	GCM	Galvanized Corrugated Metal	PTERR	Precast Terrazzo
ACF	Architectural Concrete Finsih	GCT	Glazed Ceramic Tile	PTN	Partition
ACPL	Acoustical Plaster	GFS	Garage Floor Sealer	PVC	Polyvinyl Chloride
ACS	Adult Changing Station	GI	Galvanized Iron	PWT	Porcelain Wall Tile
ACT	Acoustic Tile	GL	Glass		
AD	Area Drain	GR	Grille	QT	Quarry Tile
ADD	Addendum	GRAN	Granite	QTZ	Quartz
ADH	Adhesive	GRND	Ground		
AFC	Air Fan Coil Unit	GRT	Grout	R	Radius
AFF	Above Finished Floor	GS	Galvanized Steel	RB	Rubber Base
AIFB	Asphalt Impregnated Fibreboard	GWB	Gypsum Wallboard	RBCB	Rubber Cove Base
ALUM	Aluminum	GYP	Gypsum	RBSF	Rubber Sheet Flooring
AMT	Agglomerate Tile	GYPL	Gypsum Lath	RBT	Rubber Tile
ANOD	Anodized			RBTL	Rubber Tightlock
APPROX	Approximate	HALUM	Hardcolour Aluminum	RD	Roof Drain
APT	Apartment	HAGL	Heat Absorbing Glass	REC	Recessed
ARCH	Architectural	HB	Hose Bib	REF	Referenced
ASB	Asbestos	HCONC	Hardened Concrete	REFLGL	Reflected Glass
ASB CEM	Asbestos Cement	HD	Hand Dryer	REINF	Reinforced
ASF	Acrylic Stucco Finish	HDWR	Hardware	RENOV	Renovation
ASPH	Asphalt	HT	Height	REV	Revision
ASPH PVG	Asphalt Paving	HM	Hollow Metal	RH	Right Handed
AT	Ashtray	HMDR	Hollow Metal Door	RHR	Right Hand Reverse
ATT	Asphalt Traffic Topping	HOR	Horizontal	RI	Rigid Insulation
AUTO	Automatic	HP	House Phone	RLG	Railing
@	At	HR	Hour	RM	Room
		HSGL	Heat Strengthened Glass	RSF	Resilient Sheet Flooring
BE	Baked Enamel	HVAC	Heating Ventilating and Air Conditioning	RWL	Rainwater Leader
BED	Bedroom			S	South
BF	Barrier Free	ICOM	Intercom	SAB	Sound Attenuation Blanket
BFD	Barrier Free Door Hardware	ID	Inside Diameter	SC	Special Coating
BH	Borehole	IN(")	Inch	SCHED	Schedule
BHD	Bulkhead	IND	Induction	SD	Soap Dispenser
BIPD	Bi Parting Doors	INS	Insulation	SDT	Static Dissipative Tile
BLDG	Building	INT	Interior	SEAL	Sealer
BLK	Block	INVT	Invert	SECT	Section
BM	Bench Mark			SFL	Seamless Flooring
BOT	Bottom	JAN	Janitor	SFRM	Spray Applied Fireproofing
BPL	Base Plate	JT	Joint	SGL	Safety Glass
BR	Brick			SH	Shower
BRP	Brick Paver	KAL	Kalemein	SHC	Shower Curtain
BRZ	Bronze	KD	Knocked Down	SHCR	Shower Curtain Rod
BSMT	Basement	KIT	Kitchen	SHGL	Sheet Glass
BTU	British Thermal Unit	KP	Kick Plate	SHTHG	Sheathing
BTWN	Between			SIM	Similar
		L	Length	SL	Slab
CABT	Cabinet	LAM	Laminate	SLD	Sliding Door
CARP	Carpet	LAMGL	Laminated Glass	SLNT	Sealant
CB	Catch Basin	LAV	Lavatory	SLT	Slate
CBD	Chalkboard	LB	Pound	SMF	Sprayed Mineral Fireproofing
C CONC	Coloured Concrete	LBR	Lumber	SND	Sanitary Napkin Dispenser
CEM	Cement	LCB	Lightweight Concrete Block	SNDU	Sanitary Napkin Disposal Unit
CER	Ceramic	LH	Left Hand	SP	Spandrel
CGWG	Cast Georgian Wire and Glass	LHR	Left Hand Reverse	SPEC	Specification
CHAN	Channel	LINO	Linoleum	SPF	Spray Foam Insulation
CI	Cast Iron	LL	Live Load	SPHP	Solid Phenolic Panel
CIP	Cast in Place	LONG	Longitudinal	SPT	Special Paint
CJ	Control Joint	LSSJ	Long Span Steel Joist	SS	Solid Surface
CL	Centre Line			SST	Stainless Steel
CLG	Ceiling	MAP	Metal Acoustical Panel	SSTGR	Stainless Steel Grille
CLOS	Closet	MAT	Material	ST	Steel
CLR	Colour	MAX	Maximum	STD	Steel Deck
CLT	Clay Tile	MC	Medicine Cabinet	STN	Stain
CMP	Composite Metal Panel	MECH	Mechanical	STR	Stair
CMU	Concrete Masonry Unit	MET	Metal	STRUC	Structural
CO	Clean Out	METACT	Metal Acoustical Tile	STUC GLAZ	Stucco Glazed
COL	Column	METL	Metal Lath	SUSP	Suspend
CONC	Concrete	MH	Manhole	SUSPD	Suspended
CONC BLK	Concrete Block	MIN	Minimum	SV	Sheet Vinyl
CONST	Construction	MISC	Miscellaneous		
CONT	Continuous	MLC	Metal Linear Ceiling	TB	Thermal Barrier
CONTR	Contractor			TEL	Telephone
CONV	Convector	MO	Masonry Opening	TEMP	Temperature
CORR	Corridor	MP	Metal Panel	TEMPGL	Tempered Glass
CRS	Courses	MPE	Metal Panel Exterior	TER	Terrazzo
CT	Ceramic Tile	MPL	Maple	T & G	Tongue and Groove
CU	Cubic	MR	Mirror	TH	Threshold
CWB	Cement Wall Board	MSNRY	Masonry	TMBR	Timber
C/W	Complete With	MWP	Membrane Waterproofing	TP	Toilet Partition
				TPD	Toilet Paper Dispenser
DAMPG	Damp-proofing	N	North	TR	Transom
DB (db)	Decibel	NAT	Natural	TRAV	Travertine
DC	Direct Current	ND	Napkin Dispenser	TS	Touch Screen
DET	Detail	NGAS	Neoprene Gasket	TT	Traffic Topping
DF	Drinking Fountain	NHYP	Neoprene – Hypalon	TWR	Tower
DG	Door Grille	NIC	Not in Contract	TXF	Textured Finish
DIA (Ø)	Diameter	NO	Number	TYP	Typical
DIM	Dimension	NOM	Nominal		
DIV	Division	NS	Non-Slip	UCT	Unglazed Ceramic Tile
DL	Dead Lead	NTD	Napkin/Tampon Disposal	UNO	Unless Otherwise Noted
DML	Demolition	NTS	Not to Scale	UR	Urinal
DS	Digital Screen			U/S	Underside
DSHWR	Dishwasher	OBS	Obscure	USSG	United States Steel Gauge
DWL	Dowel	OC	On Centre		
DWG	Drawing	OD	Outside Diameter	VAN	Vanity
		OFF	Office	VB	Vapour Barrier
E	East	OH	Overhead	VCB	Vinyl Cove Base
EA	Each	OHD	Overhead Door	VCT	Vinyl Composition Tile
ELEC	Electric	OPNG	Opening	VERT	Vertical
ELEV	Elevation	OPP	Opposite	VOL	Volume
EMW	Elastomeric Membrane Waterproofing	OWSJ	Open Web Steel Joist	VS	Vinyl Stucco
EPY-PT	Epoxy Paint			VSS	Vinyl Safety Sheet
EPY-PT-NC	Epoxy Paint Nonconductive	PCONC	Precast Concrete	VWC	Vinyl Wall Covering
EPY-SDF	Epoxy Static Dissipative Flooring	PDS	Parking Deck Sealer		
EQ	Equal	PDO	Power Door Operator	W	West
EWP	Elastomeric Waterproofing	PERF MET	Perforated Metal	W/	Wit
EXIST	Existing	PFL	Pedestal Floor	WC	Water Closet
EXP	Exposed	PFT	Porcelain Floor Tile	WD	Wood
EXP AG	Exposed Aggregate	PGWG	Polished Georgian Wired Glass	WDSLT	Wood Slat
EXP STR	Exposed Structure	PL	Plate	WDU	Waste Disposal Unit
EXT	Exterior	PLAM	Plastic Laminate	WDV	Wood Veneer
		PLAS	Plaster	WEATHST	Weathering Steel
FA	Fire Alarm	PLF	Pounds per Lineal Foot	WG	Wired Glass
FB	Face Brick	PLGL	Plate Glass	WI	Wrought Iron
FD	Floor Drain	PLWD	Plywood	WM	Wire Mesh
FG	Foot Grille	PM	Pressed Metal	WP	Waterproofing
FHC	Fire Hose Cabinet	PMT	Painted Metal	WS	Weather-Stripping
FHR	Fire Hose Rack	POL	Polished	WWT	Window Washing Track
FIN	Finish	PP	Porcelain Panels		
FLR	Floor	PPGL	Polished Plate Glass	YD	Yard
FP	Fabric Panel	PPT	Prime Painted		
FR	Fire Rated	PRCST T	Precast Concete Tread	Z	Zinc
FS	Full Size	PREFAB	Prefabricated		
FT	Feet	PROJ	Projection		
FTG	Footing	PS	Pressed Steel		
FUT	Future	PSF	Pounds per Square Foot		
		PSI	Pounds per Square Inch		
GA	Gauge	PT	Paint		
GALV	Galvanized	P.T.	Pressure Treated		
GB	Grab Bar	PTD	Paper Towel Dispenser		

SYMBOLS & NOTES

DRAWING TITLE



ELEVATION REFERENCE



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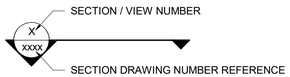

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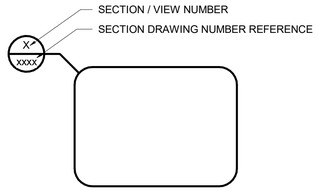
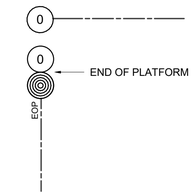


ELEVATION

SPOT ELEVATION

GRID BUBBLE & LINE



NORTH ARROW

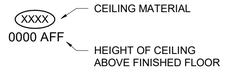
CENTER LINE

BREAKLINE

TAGS

ROOM TAGS

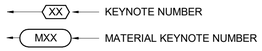
CEILING TAGS



WALL TYPES

REFER TO WALL TYPES FOR NUMBERING

KEYNOTE TAG



HATCH & GRAPHICS

PATTERN	MATERIAL
	CONCRETE
	CONCRETE BLOCK (CMU)
	GYPSUM BOARD
	RIGID INSULATION
	SEMI-RIGID INSULATION
	CEMENTITIOUS SPRAY
	METAL
	EARTH
	GRAVEL
	EXISTING
	CLEAN AGENT
	SPRINKLERED SPACE

ELEVATIONS

	GLASS
	CONCRETE (CIP)
	CONCRETE (PRECAST)
	CONCRETE BLOCK
	PERFORATED METAL PANEL
	COMPOSITE METAL PANEL

CEILING TYPES

	GYPSUM
	ACOUSTIC CEILING TILE
	METAL LINEAR CEILING
	MINERAL FIBRE CEMENT SPRAY
	COMPOSITE METAL PANEL
	EXPOSED STRUCTURE

GENERAL NOTES

1. THE ARCHITECT IS NOT RESPONSIBLE FOR INFORMATION CONCERNING THE SITE AND SURVEY INFORMATION PREPARED BY OTHERS
2. THE CONTRACTOR SHALL SITE VERIFY SURVEY INFORMATION PRIOR TO PROCEEDING WITH THE WORK. FAILURE TO REPORT ANY DISCREPANCIES SHALL CONSTITUTE ACCEPTANCE OF THE SITE CONDITIONS
3. THE CONTRACT DOCUMENTS PREPARED BY THE ARCHITECT ARE THE ARCHITECTS COPYRIGHT PROPERTY AND SHALL BE RETURNED TO THE ARCHITECT UPON REQUEST. REPRODUCTION OF THESE CONTRACT DOCUMENTS IN WHOLE OR IN PART IS FORBIDDEN WITHOUT THE ARCHITECTS WRITTEN PERMISSION.
4. THE CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS FOR SCOPE OF DEMOLITION AND NEW WORK, INCLUDING ALL DISCIPLINES, AND SHALL COORDINATE WITH NEW WORK DRAWINGS FOR EXACT EXTENT OF DEMOLITION.
5. SCOPE OF WORK SHALL NOT BE LIMITED TO THAT SHOWN ON THE DRAWINGS AND SHALL INCLUDE WORK REQUIRED TO ELIMINATE ALL EXISTING, ABANDONED OR REDUNDANT COMPONENTS, AND TO FACILITATE PROPER EXECUTION OF THE WORK.
6. ALL DIMENSIONS AND SETTING-OUT GEOMETRIES, SHALL BE SITE VERIFIED BY THE CONTRACTOR PRIOR TO PROCEEDING WITH THE WORK.
7. REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
8. UNLESS NOTED OTHERWISE, MAKE GOOD ALL AREAS DISTURBED BY EXCAVATION AND/OR INSTALLATION OF CIVIL, MECHANICAL AND ELECTRICAL SERVICES, REFER TO CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS.
9. THE CONTRACTOR SHALL COORDINATE BASE BUILDING WORKS WITH WORK OF OTHER CONTRACTORS, INCLUDING TENANT WORKS AS REQUIRED TO FACILITATE PROPER INSTALLATIONS.
10. ALL GLASS SHALL BE TEMPERED LAMINATE UNLESS NOTED OTHERWISE ON THE DRAWINGS OR AS INDICATED IN THE SPECIFICATIONS.
11. TOP OF PLATFORM HEIGHT AT EDGE OF PLATFORM FOR ALL STATIONS IS SET TO 565mm ABOVE TOP OF RAIL.
12. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR MECHANICAL, ELECTRICAL, AND SYSTEMS CEILING FIXTURE LOCATIONS ONLY.
13. REFER TO LANDSCAPE DRAWINGS FOR LANDSCAPE FEATURES
14. REFER CIVIL DRAWINGS FOR RIGHT OF WAY (ROW) DEFINITIONS
15. REFER TO POWER SUPPLY + DISTRIBUTION OVERHEAD CATENARY SYSTEM SUBMISSION FOR OCS AND TPSS INFORMATION
16. FARE LINE AND GATE EQUIPMENT SHOWN FOR SPACEPROOFING PURPOSES ONLY AND IS SUPPLIED BY THE CITY OF OTTAWA
17. REFER TO CPTED REPORT
18. REFER TO ACCESSIBILITY REPORT AND MATRIX FOR ADDITIONAL INFORMATION
19. REFER TO SIGNAGE AND WAYFINDING SUBMISSION FOR ALL STATION SIGNAGE
20. REFER TO CODE REPORTS FOR FIRE RATINGS, EXIT CALCULATIONS, AND ADDITIONAL INFORMATION
21. REFER TO COMBINED SERVICES SYSTEM WIDE SUBMISSION FOR SYSTEM WIDE REQUIREMENTS ASSOCIATED WITH THE GUIDEWAY DESIGN
22. REFER TO DESIGN CRITERIA TRACK ALIGNMENT AND GEOMETRIC DESIGN SUBMISSION FOR VEHICLE INFORMATION AND CLEARANCES
23. REFER TO TRACKWORK INSTALLATION SUBMISSION FOR TRACKWORK INFORMATION
24. REFER TO STRUCTURAL SUBMISSION FOR ALL STRUCTURAL INFORMATION
25. REFER TO ELECTRICAL SUBMISSION FOR ALL ELECTRICAL INFORMATION
26. REFER TO MECHANICAL SUBMISSION FOR ALL MECHANICAL INFORMATION
27. REFER TO CIVIL SUBMISSION FOR ALL GRADING, SITE SERVICES AND ROAD RELATED INFORMATION
28. REFER TO INTEGRATED ART DESIGN FOR ALL INTEGRATED PUBLIC ART
29. ALL WORK TO BE DONE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2012 (OBC), THE NATIONAL BUILDING CODE OF CANADA 2015 (NBCC) , THE ONTARIO FIRE CODE 2015 (OFC), NFPA 130 AND ALL RELEVANT REVISIONS, RULES, REGULATIONS, CITY BYLAWS AND ACT RELATED TO THE WORK.
30. ARCHITECTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH STRUCTURAL, MECHANICAL, ELECTRICAL, CIVIL AND LANDSCAPE DRAWINGS, SPECIFICATIONS AND ALL OTHER RELEVANT DOCUMENTATION.
31. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
32. DRAWINGS ARE NOT TO BE SCALED.
33. DIMENSIONS ON THIS DRAWING ARE SET TO CONCRETE, CONCRETE BLOCK OR TO STRUCTURAL GRID LINES AND CRITICAL WIDTH DIMENSIONS UNLESS OTHERWISE NOTED.
34. THE GENERAL CONTRACTOR HEREIN REFERRED TO AS THE CONTRACTOR.
35. THE CONTRACTOR SHALL CONFIRM AND PROVIDE STORM, SANITARY, WATER, ELECTRICITY AND GAS REQUIREMENTS. INSTALLATION SHALL MEET ALL APPLICABLE CODES AND LOCAL INSPECTIONS.
36. DOOR AND WINDOW SIZES ARE NOMINAL. CONTRACTOR TO CONSULT SUPPLIER FOR EXACT SIZES AND ROUGH OPENINGS.
37. PROVIDE ALL FRAMING / BLOCKING AS REQUIRED TO ENSURE PROPER SECUREMENT OF ALL MATERIALS, EQUIPMENT, ACCESSORIES, AND RELATED ITEMS.
38. PROVIDE FIRE AND SMOKE SEALS AT MECHANICAL DUCT AND ELECTRICAL CONDUIT PENETRATIONS THROUGH FIRE SEPARATIONS OR WALLS WHICH ARE CONSTRUCTED TO THE U/S OF STRUCTURE. SOUND SEALS SHALL BE PROVIDED AT ALL OTHER WALLS.
39. STATION-SPECIFIC DETAILS GOVERN OVER COMMON ELEMENTS DETAILS. REPORT ANY DISCREPANCIES FOR CLARIFICATION.
40. ALL GLASS WITH AN AREA LARGER THAN 2.0sqm SHALL BE BIRD FRIENDLY SAFETY GLASS.

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
GENERAL NOTES AND ABBREVIATIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	T.KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-0020

MODEL NUMBER 660373-1GSS-001-44DM-1000

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
R. BRISBIN LICENSE 3782

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

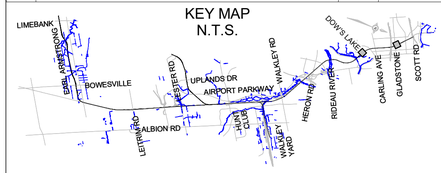
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

LINE TYPES

	LRT - GRID
	LRT - GRIDLINE
	LRT - ROOF OVERHEAD
	LRT - SECTION LINE
	LRT - STATION EXTENTS
	LRT - PLATFORM EXTENTS
	LRT - EGRESS PATH
	LRT - SCOPE OF WORK
	LRT - 45min FRR
	LRT - 60min FRR
	LRT - 90min FRR
	LRT - 120min FRR
	LRT - 180min FRR
	LRT - POINT OF SAFETY
	LRT - FIRE ROUTE ACCESS
	LRT - PERMANENT PROPERTY LINE
	LRT - TEMPORARY PROPERTY LINE

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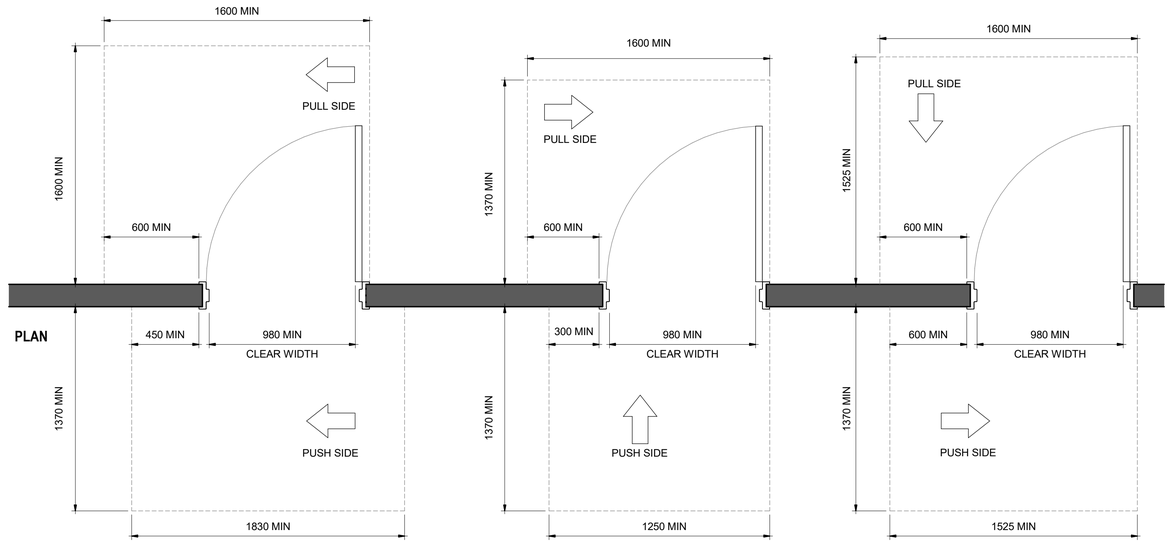
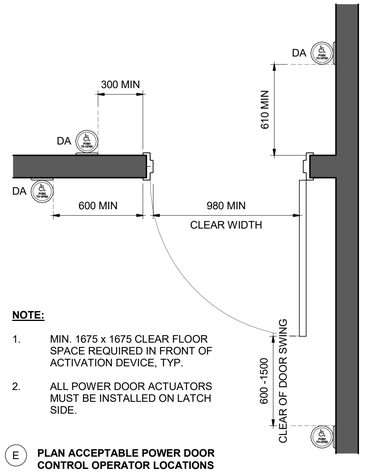
02/04/20

TITLEBLOCK: 790mm x 534mm



F **PLAN DOOR APPROACH CLEARANCES**



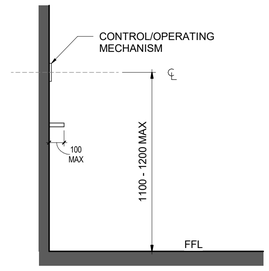
NOTE:

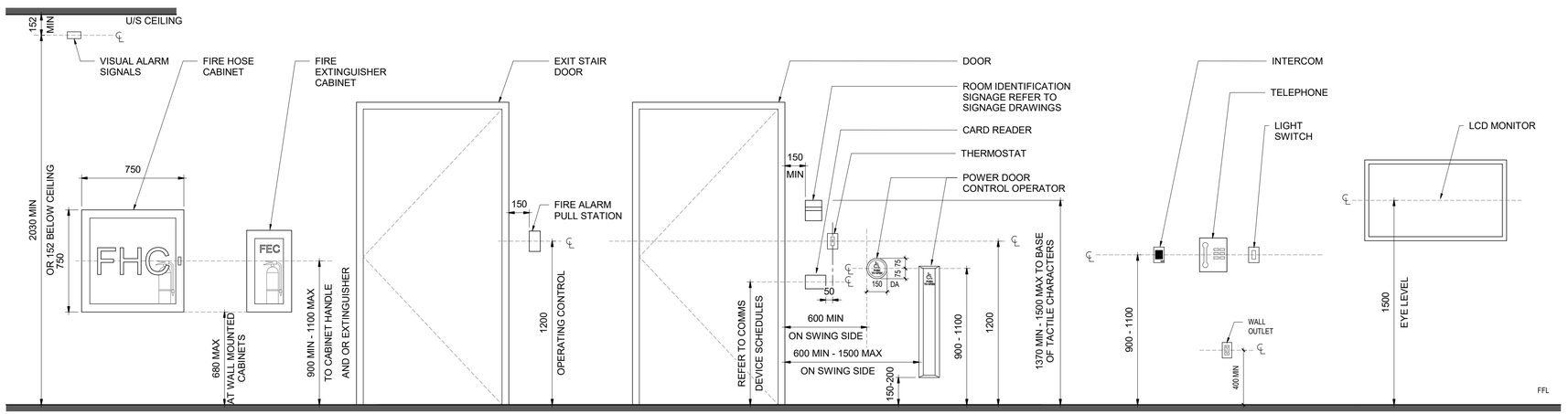
1. MIN. 1675 x 1675 CLEAR FLOOR SPACE REQUIRED IN FRONT OF ACTIVATION DEVICE, TYP.
2. ALL POWER DOOR ACTUATORS MUST BE INSTALLED ON LATCH SIDE.

E **PLAN ACCEPTABLE POWER DOOR CONTROL OPERATOR LOCATIONS**

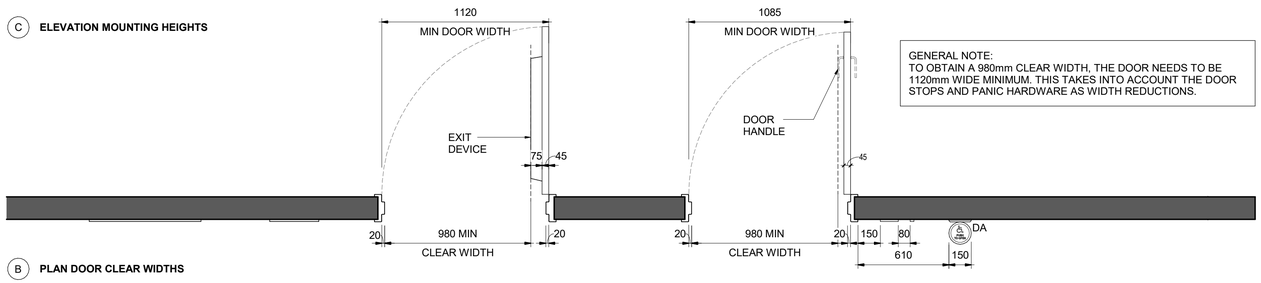
MOUNTING HEIGHTS AT OBSTRUCTIONS

SECTION



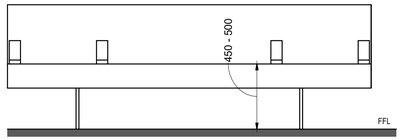


C **ELEVATION MOUNTING HEIGHTS**

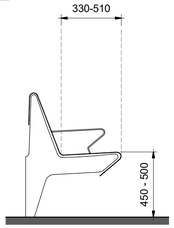


GENERAL NOTE:
TO OBTAIN A 980mm CLEAR WIDTH, THE DOOR NEEDS TO BE 1120mm WIDE MINIMUM. THIS TAKES INTO ACCOUNT THE DOOR STOPS AND PANIC HARDWARE AS WIDTH REDUCTIONS.

B **PLAN DOOR CLEAR WIDTHS**



A **ELEVATION BENCH**



ABBREVIATIONS

DA	DOOR ACTIVATOR
CB CR	CALL BUTTON CARD READER
FA	FIRE ALARM
HD	HAND DRYER
IC	INTERCOM
LS	LIGHT SWTICH
T	THERMOSTAT
TEL	TELEPHONE

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
ACCESSIBILITY DESIGN STANDARDS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-0030

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER SNC·LAVALIN TransitNEXT

PRIMARY SEAL — ONTARIO ASSOCIATION OF ARCHITECTS — ROBERT BRISBIN LICENCE 3782

DESIGN FIRM bbb architects ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

ASSET No.

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KEY MAP
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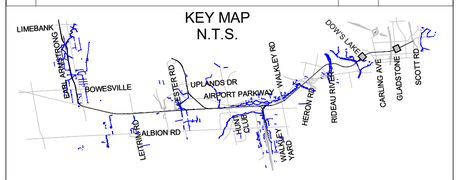

ISSUED FOR CONSTRUCTION
2021-03-29

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04/13/20

TITLEBLOCK: 790mm x 534mm

ROOF TYPES

R1

13mm TPO ROOF MEMBRANE
ROOF SHEATHING
ON SLOPE STEEL DECK (REFER TO STRUCTURAL DRAWINGS)
TAPERED RIGID INSULATION (IF/AS REQUIRED TO ACHIEVE ROOF SLOPES)

R2

13mm TPO ROOF MEMBRANE
ROOF SHEATHING
152mm MIN. INSULATION SLOPED
VAPOUR BARRIER
13mm ROOF SHEATHING
ON STEEL DECK (REFER TO STRUCTURAL DRAWINGS)

RSI: 5.3

CEILING TYPES

CL01

STEEL STUD FRAMING, MAX. 1200mm OC OR AS REQUIRED FOR LOADING
22mm METAL FURRING @ 400mm OC
16mm MOISTURE RESISTANCE GYPSUM

CL01a

22mm METAL FURRING @ 400mm OC
16mm MOISTURE RESISTANCE GYPSUM

CL01b

REINFORCED CONCRETE SLAB, REFER TO STRUCTURAL DRAWINGS
92mm STEEL STUD @ 400mm OC
92mm CEMENTITIOUS SPRAY
22mm METAL FURRING CHANNELS @ 400mm O.C.
16mm MOISTURE RESISTANCE GYPSUM BOARD

CL02

STRUCTURAL SLAB, REFER TO STRUCTURAL DRAWINGS
92mm STEEL STUD @ 400mm OC
92mm CEMENTITIOUS SPRAY

CL03

92mm STEEL STUD @ 400mm OC
22mm METAL FURRING @ 400mm OC
12mm GYPSUM BOARD

CL04

PERF. ACOUSTIC

STEEL STUD FRAMING, MAX. 1200mm OC OR AS REQUIRED FOR LOADING (REFER TO DRAWINGS AND RCP FOR CEILING LAYOUT)
22mm METAL FURRING @ 400mm OC
25mm BLACK FACED ACOUSTIC INSULATION BOARD AT VENTED LINEAR PANELS, AS REQUIRED BY ACOUSTIC REPORT
12mm ALUMINUM WOODGRAIN LINEAR SOFFIT PANEL

CL05

STEEL STUD FRAMING, MAX. 1200mm OC OR AS REQUIRED FOR LOADING
50mm COMPOSITE METAL PANEL SYSTEM C/W NON-FERROUS CLIPS, FASTENERS AND SUPPORT

CL06

CEILING TEES
610mm x 1220mm ACOUSTIC CEILING TILE

NRC: 0.50

CL07

50mm ACOUSTIC TREATMENT

CL08

COMPRESSION POST AND HANGERS
45mm TEES
508mm x 1524mm(20"x 60") PERFORATED METAL ACOUSTIC PANEL W/ ACOUSTIBOND BACKER AND EDGE PERIMETER TRIM

NRC: 0.70

FLOOR TYPES

FL01

VARIES

FINISHED FLOOR, AS REQUIRED (REFER TO FINISH SCHEDULE)
CONCRETE TOPPING
WATERPROOFING MEMBRANE, REFER TO DETAILS
REINFORCED CONCRETE SLAB, REFER TO STRUCTURAL DRAWINGS

REFER TO STATION DETAILS FOR CONCRETE TOPPING THICKNESS

FL01a

VARIES

FINISHED FLOOR, AS REQUIRED (REFER TO FINISH SCHEDULE)
CONCRETE TOPPING W/ HEAT TRACE
WATERPROOFING MEMBRANE, REFER TO DETAILS
REINFORCED CONCRETE SLAB, REFER TO STRUCTURAL DRAWINGS

REFER TO STATION DETAILS FOR CONCRETE TOPPING THICKNESS

FL01b

VARIES

FINISHED FLOOR, AS REQUIRED (REFER TO FINISH SCHEDULE)
CONCRETE TOPPING
WATERPROOFING MEMBRANE, REFER TO DETAILS
PREFAB DIPSO SLAB SYSTEM, BY OTHERS

REFER TO STATION DETAILS FOR CONCRETE TOPPING THICKNESS

FL01c

VARIES

FINISHED FLOOR, AS REQUIRED (REFER TO FINISH SCHEDULE)
CONCRETE TOPPING W/ HEAT TRACE
WATERPROOFING MEMBRANE, REFER TO DETAILS
PREFAB DIPSO SLAB SYSTEM, BY OTHERS

REFER TO STATION DETAILS FOR CONCRETE TOPPING THICKNESS

FL02

VARIES

FINISHED FLOOR, AS REQUIRED (REFER TO FINISH SCHEDULE)
100mm MIN. CONCRETE TOPPING, UNLESS NOTED OTHERWISE
SEPARATION SHEET ON REINFORCED CONCRETE SLAB, REFER TO STRUCTURAL DRAWINGS
10mil POLYETHYLENE VAPOUR RETARDER ALL JOINTS SEALED WITH A 150mm MIN. OVERLAP
COMPACTED GRAVEL (REFER TO STRUCTURAL DRAWINGS)

25 mm MIN. RIGID FOAM INSULATION BELOW SLAB AT CONDITIONED SPACES, REFER TO STATION PACKAGES FOR LOCATIONS

FL02a

VARIES

FINISHED FLOOR, AS REQUIRED (REFER TO FINISH SCHEDULE)
100mm MIN. CONCRETE TOPPING
SEPARATION SHEET ON REINFORCED CONCRETE SLAB, (REFER TO STRUCTURAL DRAWINGS)
PVC WATERPROOFING AND HYDRO CARBON RESISTANT MEMBRANE (REFER TO STRUCTURAL DRAWINGS)
EPS (TYP.) (REFER TO STRUCTURAL DRAWINGS)

FL02b

RESERVED

FL02c

VARIES

FINISHED FLOOR, AS REQUIRED (REFER TO FINISH SCHEDULE)
100mm CONCRETE TOPPING
25mm RIGID FOAM INSULATION
SEPARATION SHEET
REINFORCED CONCRETE SLAB , REFER TO STRUCTURAL DRAWINGS
10mil POLYETHYLENE VAPOUR RETARDER ALL JOINTS SEALED WITH A 150mm MIN. OVERLAP

REFER TO DRAWINGS FOR SLOPES (WHERE REQUIRED)

FL02d

VARIES

FINISHED FLOOR, AS REQUIRED (REFER TO FINISH SCHEDULE)
100mm CONCRETE TOPPING
WATERPROOFING MEMBRANE, REFER TO DETAILS
REINFORCED CONCRETE SLAB, REFER TO STRUCTURAL DRAWINGS
WATERPROOFING MEMBRANE, REFER TO DETAILS
25mm HIGH DENSITY RIGID INSULATION
COMPACTED GRAVEL, REFER TO STRUCTURAL DRAWINGS

REFER TO DRAWINGS FOR SLOPES (WHERE REQUIRED)

FL02e

VARIES

FINISHED FLOOR, AS REQUIRED
REINFORCED CONCRETE SLAB , REFER TO STRUCTURAL DRAWINGS
WATERPROOFING MEMBRANE, REFER TO DETAILS
50mm HIGH DENSITY RIGID INSULATION
COMPACTED GRAVEL, REFER TO STRUCTURAL DRAWINGS

REFER TO DRAWINGS FOR SLOPES (WHERE REQUIRED)

FL02f

VARIES

FINISHED FLOOR, AS REQUIRED
100mm CONCRETE TOPPING W/ HEAT TRACE
WATERPROOFING MEMBRANE, REFER TO DETAILS
REINFORCED CONCRETE SLAB , REFER TO STRUCTURAL DRAWINGS
WATERPROOFING MEMBRANE, REFER TO DETAILS
25mm HIGH DENSITY RIGID INSULATION
COMPACTED GRAVEL, REFER TO STRUCTURAL DRAWINGS

REFER TO DRAWINGS FOR SLOPES (WHERE REQUIRED)

FL03

SLOPE

VARIES

100mm GRANULAR COVER
PROTECTION BOARD
WATERPROOFING MEMBRANE, REFER TO DETAILS
CONCRETE TOPPING, REFER TO STRUCTURAL DRAWINGS
PREFAB DIPSO SLAB SYSTEM, BY OTHERS

FL04

FINISHED FLOOR, AS REQUIRED (REFER TO FINISH SCHEDULE)
CONCRETE SLAB ON DECK (REFER TO STRUCTURAL DRWAINGS)

WALL TYPES

W01

102x203mm DOCK & PIN HSS MULLION
GLASS PANELS: 2 PANES OF MIN. 6mm THICK EACH TEMPERED LAMINATED GLASS WITH 1.6mm CLEAR SGP INTERLAYER W/ 13mm SEALED JOINTS (GLTL-01)
REFER TO STRUCTURAL FOR HSS MULLION

W01a

CAPLESS ALUMINUM MULLION
GLASS PANELS: 2 PANES OF MIN. 6mm THICK EACH TEMPERED LAMINATED GLASS WITH 1.6mm CLEAR SGP INTERLAYER W/ 13mm SEALED JOINTS (GLTL-01)

W01b

14mm FOUR ARM SPIDER W/ TAPERED-FACE BOLTS
GLASS PANELS: 2 PANES OF MIN. 6mm THICK EACH TEMPERED LAMINATED GLASS WITH 1.6mm CLEAR SGP INTERLAYER W/ 13mm SEALED JOINTS (GLTL-01)
REFER TO STRUCTURAL FOR HSS MULLION

W01c

102x203mm DOCK & PIN HSS MULLION
6mm MIN. TEMPERED CLEAR GLASS LAMINATED TO 6mm TEMPERED SOLARGRAY GLASS WITH 1.6mm CLEAR SGP INTERLAYER W/ 13mm SEALED JOINTS (GLTL-03)
REFER TO STRUCTURAL FOR HSS MULLION

W02

STRUCTURAL WALL (REFER TO STRUCTURAL)

W02a

BACKFILL
50mm RIGID INSULATION
DRAINAGE MAT
SUBGRADE WATERPROOFING MEMBRANE, REFER TO DETAILS
STRUCTURAL WALL (REFER TO STRUCTURAL)

W03

STRUCTURAL WALL (REFER TO STRUCTURAL)
92mm STEEL STUD FRAMING @ 400mm O.C. W/
92mm SEMI-RIGID INSULATION
AIR/VAPOUR BARRIER
16mm CEMENT BOARD

RSI: 3.52 (REFER TO ARCHITECTURAL SPECIFICATIONS)

W03a

50mm RIGID INSULATION
DRAINAGE MAT
SUBGRADE WATERPROOFING MEMBRANE, REFER TO DETAILS
STRUCTURAL WALL (REFER TO STRUCTURAL)
92mm STEEL STUD FRAMING @ 400mm OC W/
92mm SEMI-RIGID INSULATION
AIR/VAPOUR BARRIER
16mm CEMENT BOARD

RSI: 3.52 (REFER TO ARCHITECTURAL SPECIFICATIONS)

W04

STRUCTURAL WALL (REFER TO STRUCTURAL)
AIR / VAPOUR BARRIER
152mm ADJUSTABLE Z-GIRTS - VERTICAL & HORIZONTAL
102mm SEMI-RIGID INSULATION
50mm COMPOSITE METAL PANEL SYSTEM C/W NON-FERROUS CLIPS, FASTENERS AND SUPPORT

RSI: 3.52 (REFER TO ARCHITECTURAL SPECIFICATIONS)

W04a

190mm CONCRETE BLOCK
AIR / VAPOUR BARRIER
152mm ADJUSTABLE Z-GIRTS - VERTICAL & HORIZONTAL
102mm SEMI-RIGID INSULATION
50mm COMPOSITE METAL PANEL SYSTEM C/W NON-FERROUS CLIPS, FASTENERS AND SUPPORT

RSI: 3.52 (REFER TO ARCHITECTURAL SPECIFICATIONS)

W04b

STRUCTURAL WALL (REFER TO STRUCTURAL)
VAPOUR BARRIER
22mm METAL FURRING @ 600 O.C.
50mm COMPOSITE METAL PANEL SYSTEM C/W NON-FERROUS CLIPS, FASTENERS AND SUPPORT

W04c

STRUCTURAL WALL (REFER TO STRUCTURAL)
AIR / VAPOUR BARRIER
92mm ADJUSTABLE Z-GIRTS - VERTICAL & HORIZONTAL
89mm SEMI-RIGID INSULATION
50mm COMPOSITE METAL PANEL SYSTEM C/W NON-FERROUS CLIPS, FASTENERS AND SUPPORT

RSI: 2.5 (REFER TO ARCHITECTURAL SPECIFICATIONS)

W04d

STRUCTURAL STEEL STUD FRAMING @ 400mm OC
16mm FIBERGLASS FACED SHEATHING
50mm COMPOSITE METAL PANEL SYSTEM C/W NON-FERROUS CLIPS, FASTENERS AND SUPPORT

W04e

STRUCTURAL WALL (REFER TO STRUCTURAL)
152mm STEEL STUD FRAMING @ 400mm OC
50mm COMPOSITE METAL PANEL SYSTEM C/W NON-FERROUS CLIPS, FASTENERS AND SUPPORT

W05

EPS SYSTEM (TYP.) (REFER TO STRUCTURAL DRAWINGS)
100mm AIRSPACE
150mm PRECAST CONCRETE PANEL SYSTEM (REFER TO STRUCTURAL DRAWINGS)

W05a

RESERVED

W06

190mm CONCRETE BLOCK

W06a

190mm CONCRETE BLOCK
1hr FRR - ULC NO. U905

W06b

190mm CONCRETE BLOCK
1.5hr FRR - ULC NO.

W07

140mm CONCRETE BLOCK

W07a

90mm CONCRETE BLOCK

W08

92mm STEEL STUD FRAMING @ 400mm OC
16mm GYPSUM BOARD

W08a

92mm STEEL STUD FRAMING @ 400mm OC W/
92mm SEMI-RIGID INSULATION
AIR / VAPOUR BARRIER
16mm CEMENT BOARD

W09

STRUCTURAL STEEL STUD @ 400mm O.C. W/
13mm EXTERIOR GRADE SHEATHING BOARD
2mm PREFINISHED METAL PANEL

W10

152mm STEEL STUD @ 400mm O.C. W/
16mm EXTERIOR GRADE SHEATHING BOARD
50mm COMPOSITE METAL PANEL SYSTEM C/W NON-FERROUS CLIPS, FASTENERS AND SUPPORT

W11

190mm CONCRETE BLOCK
SELF ADHESIVE EXTERIOR MEMBRANE
25mm AIR SPACE
90mm MASONRY VENEER C/W MASONRY TIES @ 400 E/W COLOUR AND FINISH TO MATCH EXISTING

W12

16mm GYPSUM BOARD
152mm STEEL STUD
W/ SOUND ATTENUATION FIRE BLANKETS
16mm GYPSUM BOARD

W13

16mm TYPE X DRYWALL
152mm STEEL STUD
W/ SOUND ATTENUATION FIRE BLANKETS
16mm TYPE X DRYWALL
1hr - ULC U411, cUL U465 OR APPROVED EQUIVALENT

W14a

92mm STEELL STUD
W/ SOUND ATTENUATION FIRE BLANKETS
16mm TYPE X DRYWALL
16mm TYPE X DRYWALL
1.5hr - ULC U411, cUL U411 OR APPROVED EQUIVALENT

W14b

13mm TYPE X DRYWALL
152mm STEEL STUD
W/ SOUND ATTENUATION FIRE BLANKETS
13mm TYPE X DRYWALL
13mm TYPE X DRYWALL
1.5hr - ULC U411, cUL U411 OR APPROVED EQUIVALENT

OTrain STAGE 2 ETAPE

Ottawa

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
SCHEDULES & ASSEMBLIES

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-0050

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS LICENSE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

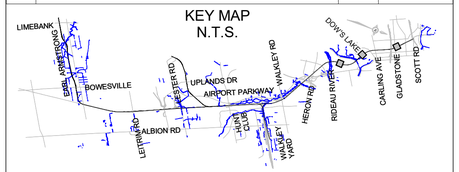
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

NOTE:

ALL ASSEMBLIES ARE AS PER SYSTEM WIDE DETAILS AND ARE NOT PRESENT IN ALL STATIONS

11/26/19

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TITLEBLOCK: 790mm x 534mm

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06/11/20

Date of last revision: 2020-11-26

This form has been developed for the exclusive use of TransitNEXT to communicate the requirements for construction of light rail transit facilities of the Trillium Line extension. All Building Code References are to Division B of the Ontario Building Code unless otherwise noted.

Item	Ontario Building Code Data Matrix - Trillium Line Extension		OBC Reference
1	Project Type	X New ___ Renovation ___ Addition ___ Addition and renovation	[A] 1.1.2.
2	Project Description	Construction of Gladstone Station light rail station on Trillium Line.	
3	Building Classification	Light rail rapid transit station	3.13.
4	Construction Type	___ Combustible X Non-combustible ___ Combination	3.13.2.1.
5	Required Fire-Resistance Ratings	Horizontal Assembly: Floors — Rating: 1 h — Supporting Assembly: 1 h — Non-Combustible in Lieu of Rating: N/A Mezzanine — N/A — N/A — N/A Roof — 1 h — 1 h — N/A	3.13.2.1.(11)
6	Gross Area (m^2)	Description: Platform level — Existing: 0 — New: 1191 — Total: 1191 Concourse level — 0 — 273 — 273 Total — 0 — 1464 — 1464	[A] 1.4.1.2.
7	Building Height	2 Storeys above grade Description:	[A] 1.4.1.2. & 3.2.1.1.
8	Open vs. Enclosed Station	X Open Station ___ Enclosed Station Description: The station is defined as an open station under NFPA 130-2017 Article 3.3.55.2.	NFPA 130 3.3.55.2.
9	Number of Streets / Firefighter Access	Description: The fire department access route is located on Gladstone Avenue.	3.2.2.10. & 3.2.5.
10	Sprinkler System	___ Required X Not required **Proposed:** ___ Entire building ___ Basement ___ Selected compartments ___ In lieu of roof rating X Selected floor areas ___ None Description: M+R room will be sprinklered. Sprinklers may be used to provide fire-resistance rating for exposing building faces.	3.2.5.13.-16., 3.2.2.17. & 3.13.5.10.
11	Suppression System	Description: Novec 1230 suppression system provided in Comms Room. Installed in accordance with the requirements of NFPA 2001.	
12	Standpipe System	X Required ___ Not required Description: Automatic dry standpipe system is provided. Hose stations provided with 38 mm and 64 mm valves.	3.13.5.11.
13	Water Service / Supply is Adequate	X Yes ___ No	
14	Fire Alarm System	X Required ___ Not required Description: New fire alarm control panel (FACP) provided for the station. FACP is part of Trillium Line network and connected to TOCC.	3.2.4. & 3.13.5.
15	Emergency Communication System	X Yes ___ No Description: One-way and two-way communication systems provided throughout fixed guideway transit and passenger rail systems.	3.13.5.8.
16	Emergency Lighting and Emergency Power	X Yes ___ No Description: Emergency lighting provided to average levels not less than 10 lx at floor or tread level in public areas for not less than 30 min after a power failure.	3.13.3.7.
17	Emergency Ventilation	___ Yes X No Description: Open stations do not require emergency ventilation. Ventilation provided as necessary in other areas.	3.13.7.
18	Importance Category	___ Low ___ High X Normal ___ Post-disaster	4.1.2.1.(3) & T4.1.2.1.B
19	Seismic Hazard Index	$(I_E F_a S_a(0.2))$ = 0.728 Seismic design required for Table 4.1.8.18. items 6 to 21 X Yes ___ No	4.1.2.1.(3) & 4.1.8.18.(2)
20	Occupant Load	Floor Level: Platform — Occupancy Type: A2 — Based On: Model — Occupant Load: 894 — Platform Clearance Time: 3.8	3.13.4.
21	Barrier-Free Design	X Yes ___ No Description: Refer to barrier-free design and accessibility report.	3.13.8.
22	Hazardous Substances	___ Yes X No Description: Not more than 30 L of gasoline to be stored in M&R room in an approved container. The M&R room will have a 1 h fire-resistance rating.	3.3.1.2. & OFC 4.2.4.2.
23	Spatial Separation	Wall: North — EBF Area (m^2): 121 — Limiting Distance (m): >50 — L/H or H/L: 3:1 to 10:1 — Required FRR: N/A — Construction Type Required: C or NC — Cladding Type Required: C or NC South — 119 — 18.948 — 3:1 to 10:1 — N/A — C or NC — C or NC East — 130 — 9.229 — 3:1 to 10:1 — 50% - 45 min — C or NC — NC West — 94 — 14.442 — 3:1 to 10:1 — N/A — C or NC — C or NC Description: The spatial separation requirements for the East exposing building face is the subject of an alternative solution to eliminate the FRR requirement. Refer to alternative solution 660373-0000-003-40FER-0005.	3.2.3.
24	Plumbing Fixture Requirements	Floor Level / Area: Men's — Occ. Load: N/A — OBC Table: 3.13.6.2. — Fixtures Required: N/A — Fixtures Provided: 0 Women's — N/A — 3.13.6.2. — N/A — 0 Description: Washrooms not required unless a terminal station.	3.13.6.2.
25	Energy Efficiency	Compliance Path: Climatic Zone:	

1 OBC MATRIX
0060 N.T.S

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
OBC MATRIX & GENERAL NOTES

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A.RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-0060

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS — ROBERT A. BRISBIN LICENCE 3782

DESIGN FIRM

bbb architects ottawa inc.

SECONDARY SEAL (IF REQUIRED)

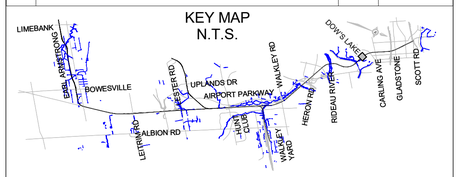
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



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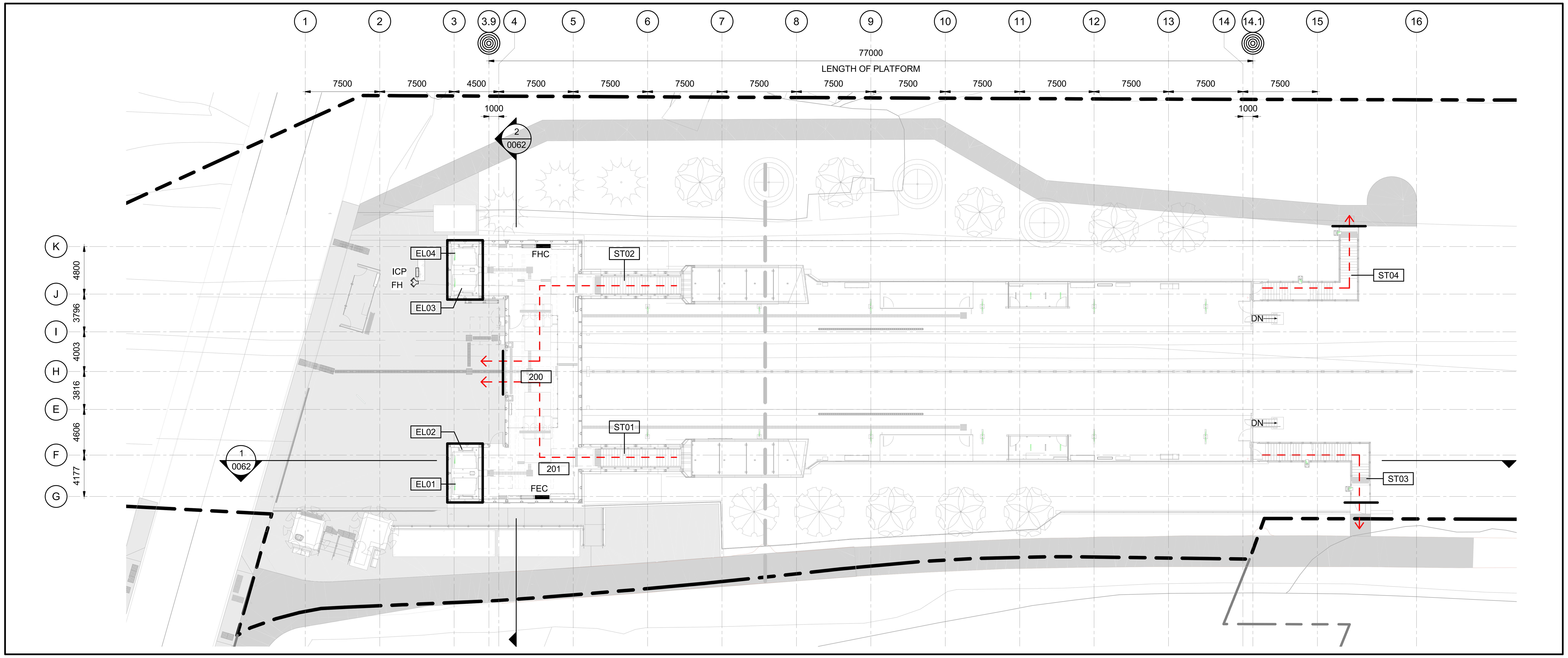
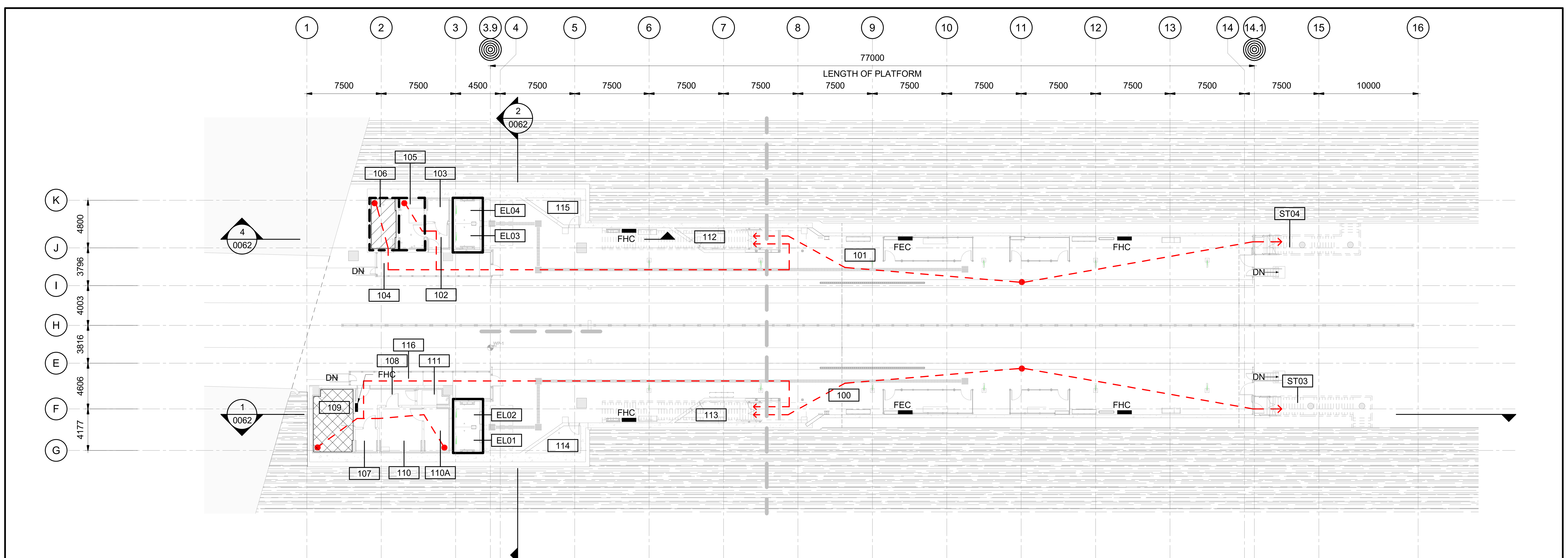
2021-03-29



FIRE SEPARATION PLAN - CONCOURSE

2 / 0061 — 1 : 250



FIRE SEPARATION PLAN - PLATFORM

1 / 0061 — 1 : 250

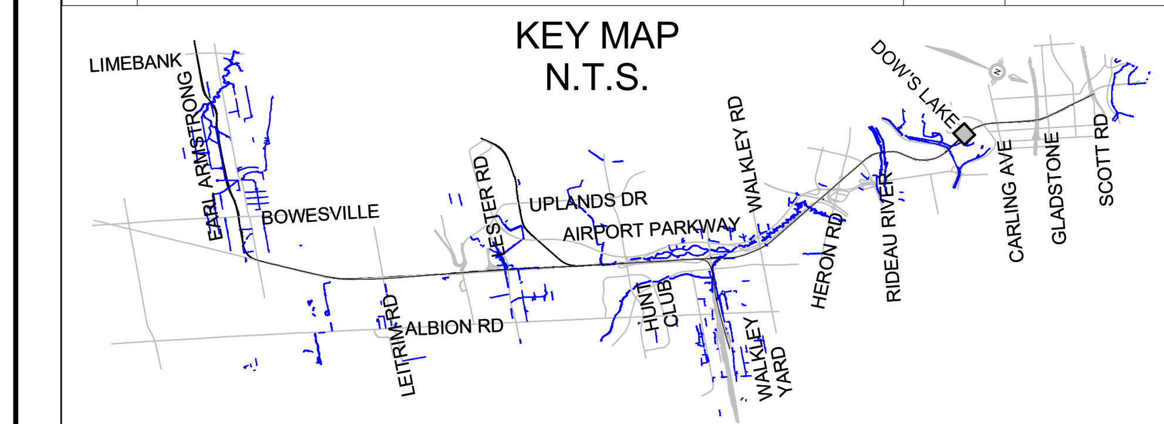
OTrain — STAGE 2 ÉTAPE — Ottawa

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
FIRE SEPARATION PLANS

CONTRACT No.	LRT19-1025
DESIGNED	R.BRISBIN
CHECKED	A.KOURKOUNAKIS
DRAWN	A.RAFIE
SEALED	R. BRISBIN
DRAWING NUMBER	00373-1GSS-001-44DD-0061
MODEL NUMBER	660373-1GSS-001-44DM-1000
DESIGN/BUILDER	SNC·LAVALIN TransitNEXT
DESIGN FIRM	bbb architects ottawa inc.
PRIMARY SEAL	
SECONDARY SEAL (IF REQUIRED)	
SCALE	
ASSET No.	
ASSET GROUP	

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

LEGEND

FIRE SEPARATION

LINE TYPE	WALL
long dash	45 MIN FIRE RESISTANCE RATING PROVIDE FIRE STOP ALL AROUND
dash-dot	1 HR FIRE RESISTANCE RATING PROVIDE FIRE STOP ALL AROUND
dash-dot-dot	1.5 HR FIRE RESISTANCE RATING PROVIDE FIRE STOP ALL AROUND
solid	2 HR FIRE RESISTANCE RATING FOR ELEVATOR SHAFT. ALTERNATE SOLUTIONS FOR RATINGS ARE IN PROGRESS
heavy solid	POINT OF SAFETY

HATCH TYPE	
cross hatch	CLEAN AGENT
diagonal hatch	SPRINKLERS

EXISITING

red arrow	TRAVEL PATH

FIRE CABINET

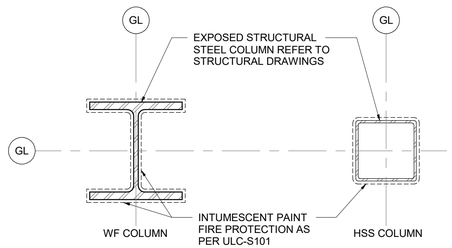
FHC	FIRE EXTINGUISHER & HOSE VALVE CABINET
FEC	FIRE EXTINGUISHER CABINET

NOTES

FIRE SEPARATION AND EXITING DRAWINGS TO BE READ IN CONJUNCTION WITH STATION FIRE SAFETY CODE REPORT FOR CORSO ITALIA. REFER TO CODE REPORT 660373-1GSS-0003-40FER-0001, INCLUDING ALTERNATE SOLUTION FOR SPATIAL SEPARATION AND EXPOSURE PROTECTION, 660373-0000-0003-40FER-0005.

1HR FIRE RATING FOR STEEL MEMBERS WILL BE INTUMESCENT PAINT WHERE EXPOSED AND SPRAYED CEMENTITIOUS FIRE PROOFING ABOVE CEILINGS.

TITLEBLOCK: 790mm x 534mm

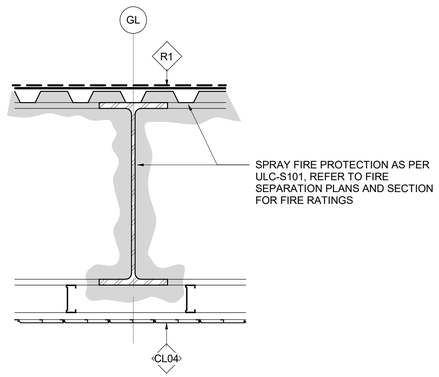


NOTES:

1. ENSURE COMPATIBILITY OF STEEL PAINT PROTECTION FROM PRIMER TO FINISH WITH INTUMESCENT PAINT.
2. PROVIDE CONTINUOUS FIRE PROTECTION AND OVERLAP AT TRANSITION BETWEEN SPRAY AND INTUMESCENT FIRE PROTECTION.
3. PROVIDE FIRE SEAL TO ALL FASTENERS AND SUPPORT PENETRATING FIRE PROTECTIVE COATING TO ENSURE CONTINUITY OF THE FIRE PROTECTION.
4. ENSURE CONTINUITY OF FIRE PROTECTION ON ALL TRANSITION COLUMN TO BEAM, BEAM TO METAL DECK AND ALL OTHER AREAS WHERE FIRE PROTECTION IS REQUIRED.

A

TYPICAL EXPOSED ARCHITECTURAL STRUCTURAL STEEL

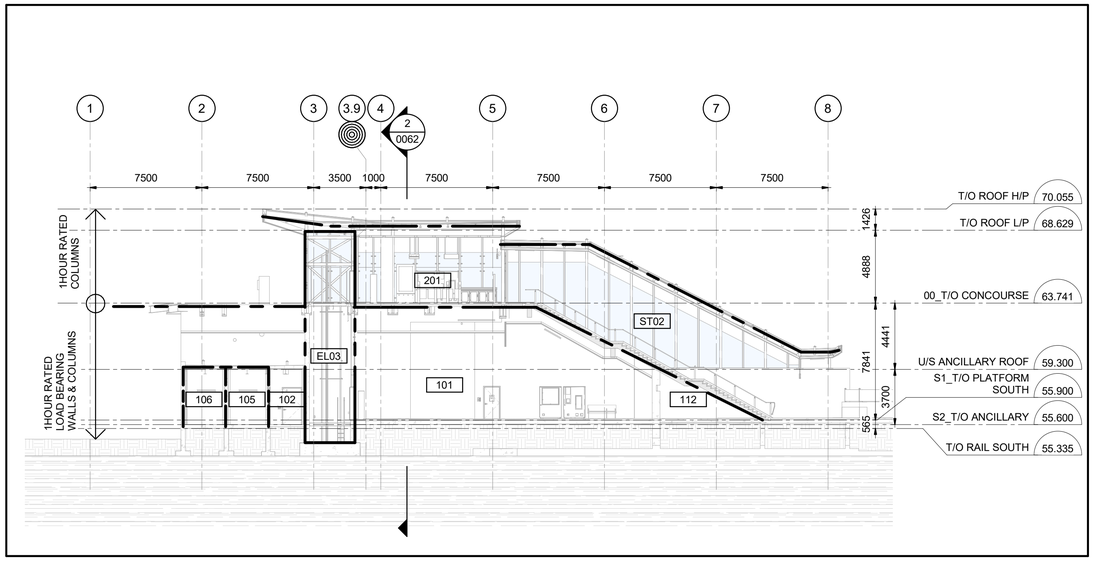


B

TYPICAL CONCEALED STRUCTURAL STEEL

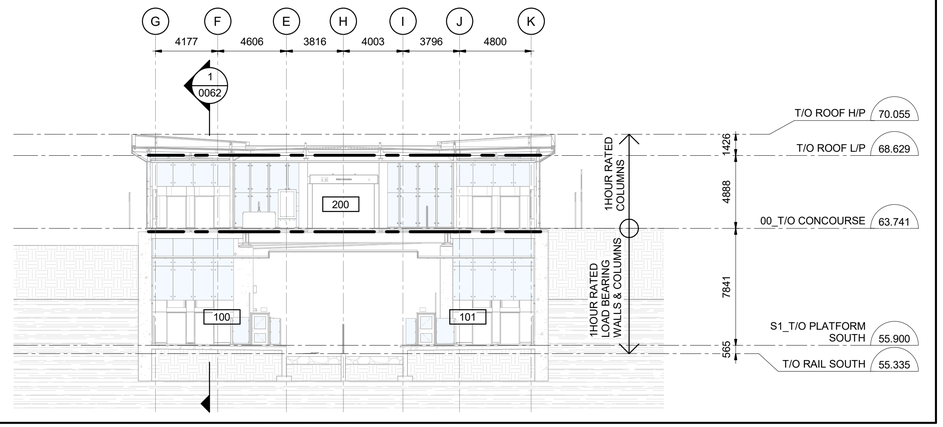
3 0062 TYPICAL FIRE PROTECTION DETAILS

1 : 10



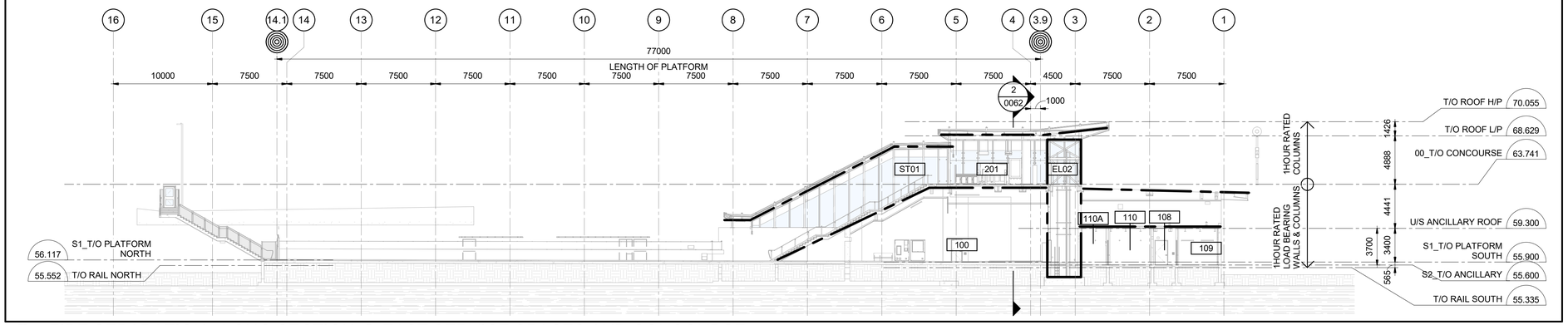
4 0062 FIRE SEPARATION - LONG SECTION @ WEST SERVICE SPACES AND CONCOURSE

1 : 200



2 0062 FIRE SEPARATION - CROSS SECTION @ CONCOURSE

1 : 200



1 0062 FIRE SEPARATION - LONG SECTION @ EAST SERVICE SPACES AND CONCOURSE

1 : 250

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
FIRE SEPARATION SECTIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A.RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-0062

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS ROBERT A. BRISBIN LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
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KEY MAP
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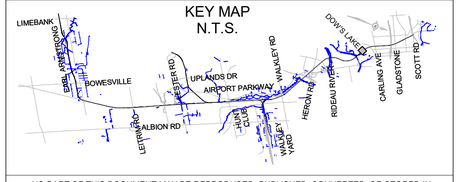

ISSUED FOR CONSTRUCTION

2021-03-29

LEGEND

FIRE SEPARATION	
LINE TYPE	WALL
	45 MIN FIRE RESISTANCE RATING PROVIDE FIRE STOP ALL AROUND
	1 HR FIRE RESISTANCE RATING PROVIDE FIRE STOP ALL AROUND
	1.5 HR FIRE RESISTANCE RATING PROVIDE FIRE STOP ALL AROUND
	2 HR FIRE RESISTANCE RATING FOR ELEVATOR SHAFT. ALTERNATE SOLUTIONS FOR RATINGS ARE IN PROGRESS
	POINT OF SAFETY
HATCH TYPE	
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FIRE CABINET	
FHC	FIRE EXTINGUISHER & HOSE VALVE CABINET
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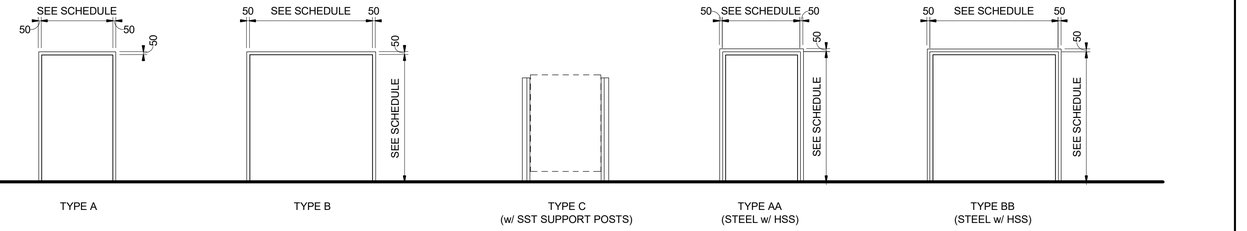
1HR FIRE RATING FOR STEEL MEMBERS WILL BE INTUMESCENT PAINT WHERE EXPOSED AND SPRAYED CEMENTITIOUS FIRE PROOFING ABOVE CEILINGS.

TITLEBLOCK: 790mm x 534mm

DOOR SCHEDULE

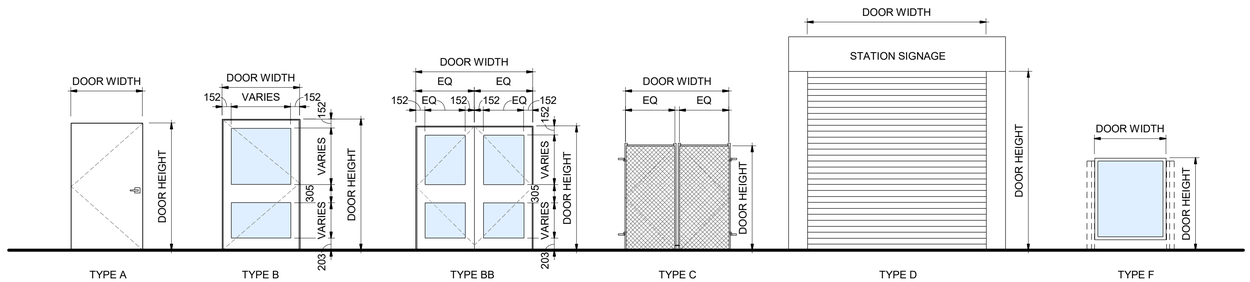
DOOR NUMBER	ROOM NAME	Construction Type	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	GLASS	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	FRR	STC RATING	SECURITY	BFO	COMMENTS
100.1	NORTH PLATFORM	1 x 1067mm	1067	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA		
100.2	NORTH PLATFORM	1 x 610mm	610	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA (A)		
100.3	NORTH PLATFORM	1 x 1220mm	1220	2134	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA		50mm (MIN.) UNDERCUT REQUIRED FOR SNOW CLEARANCE
100.4	ELEC CLOSET	1 x 1017mm	1017	1524	45	A	HM	PT		A	HM	PT			IAC		
101.1	SOUTH PLATFORM	1 x 1067mm	1067	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA		
101.2	SOUTH PLATFORM	1 x 610mm	610	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA (A)		
101.3	SOUTH PLATFORM	1 x 1220mm	1220	2134	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA		50mm (MIN.) UNDERCUT REQUIRED FOR SNOW CLEARANCE
101.4	ELEC CLOSET	1 x 1017mm	1017	1524	45	A	HM	PT		A	HM	PT			IAC		
102.1	VESTIBULE	1 x 1220mm	1220	2350	45	A	HM	PT		A	HM	PT			IAC		INSULATED DOOR C/W THERMAL BREAK FRAME
103.1	EMR	1 x 1220mm	1220	2438	45	A	HM	PT		A	HM	PT	45MIN	38-SC	IAC		DOOR HT TO COORD WITH CONC BLOCK COURSING
104.1	WEST ANCILARY WALKWAY	1 x 610mm	610	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA (A)		
105.1	WATER ENTRY / SUMP	1 x 1220mm	1220	2438	45	A	HM	PT		A	HM	PT	45MIN	38-SC	IAC		DOOR HT TO COORD WITH CONC BLOCK COURSING
106.1	M&R	1 x 1220mm	1220	2350	45	A	HM	PT		A	HM	PT	45MIN		IAC		
107.1	EMR	1 x 1220mm	1220	2438	45	A	HM	PT		A	HM	PT	45MIN	38-SC	IAC		DOOR HT TO COORD WITH CONC BLOCK COURSING
108.1	CORRIDOR	1 x 1220mm	1220	2350	45	A	HM	PT		A	HM	PT			IAC		INSULATED DOOR C/W THERMAL BREAK FRAME
109.1	COMMS	1 x 1220mm	1220	2438	45	A	HM	PT		A	HM	PT			IAC		DOOR HT TO COORD WITH CONC BLOCK COURSING
110.1	ELEC	1 x 1220mm	1220	2438	45	A	HM	PT		A	HM	PT			IAC		DOOR HT TO COORD WITH CONC BLOCK COURSING
110A.1	UPS ROOM	1 x 1220mm	1220	2438	45	A	HM	PT		A	HM	PT			IAC		DOOR HT TO COORD WITH CONC BLOCK COURSING
111.1	MECH CLOSET	1 x 1016mm	1016	2135	45	A	HM	PT		A	HM	PT			IAC		DOOR HT TO COORD WITH CONC BLOCK COURSING
111.2	SERVICE CLOSET	1 x 1016mm	1016	2135	45	A	HM	PT		A	HM	PT			IAC		
111.3	SERVICE CLOSET	1 x 1016mm	1016	2135	45	A	HM	PT		A	HM	PT			IAC		
116.1	EAST ANCILLARY WALKWAY	1 x 610mm	610	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA (A)		
200.1		1 x 4157mm	4157	3000	80	D	SST	_			SST	_			SCADA (C)		
200.2	PUBLIC PLAZA	1 x 1300mm	1300	2438	45	B	HM	PT	GLTL-02	A	HM	PT			IAC		
200.3	PUBLIC CONCOURSE	1 x 1300mm	1300	1524	45	F	SST	_	GLTL-02	C	SST	_			IAC		175mm UNDERCUT/SWING-GATE STYLE BARRIER FREE DOOR OPERATOR/CARD READER REQ'D
ST03.1	EXIT STAIR	1 x 1067mm	1067	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA		
ST03.2	EXIT STAIR	1 x 1067mm	1067	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA		
ST04.1	EXIT STAIR	1 x 1067mm	1067	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA		
ST04.2		1 x 1067mm	1067	2135	45	B	HM	PT	GLTL-02	AA	HM	PT			SCADA		

01



2 / 0070 FRAME TYPES

1 : 50



1 / 0070 DOOR TYPES

1 : 50

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
DOOR SCHEDULE AND TYPE

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-0070

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

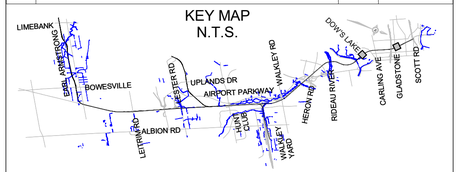
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

GENERAL NOTES

1. FOR HARDWARE TYPES - REFER TO HARDWARE SCHEDULE
2. FOR SECURITY INTERFACES AND DEVICES - REFER TO SECURITY DOCUMENT
3. DOOR GRILLES TO BE SAME RATING AS DOOR

FINISHES AND ABBREVIATIONS

ALUM	ALUMINUM
GL	GLASS
HM	HOLLOW METAL
HMDR	HOLLOW METAL DOOR
GALV	GALVANIZED
INS	INSULATION
PLAM	PLASTIC LAMINATED
PS	PRESSED STEEL FRAME
PT	PAINTED
ST	STEEL
SST	STAINLESS STEEL
IAC	INTRUSION ACCESS CONTROL
SCADA	MONITORING
SCADA (A)	MONITORING WITH ALARM
SCADA (C)	MONITORING WITH CONTROL

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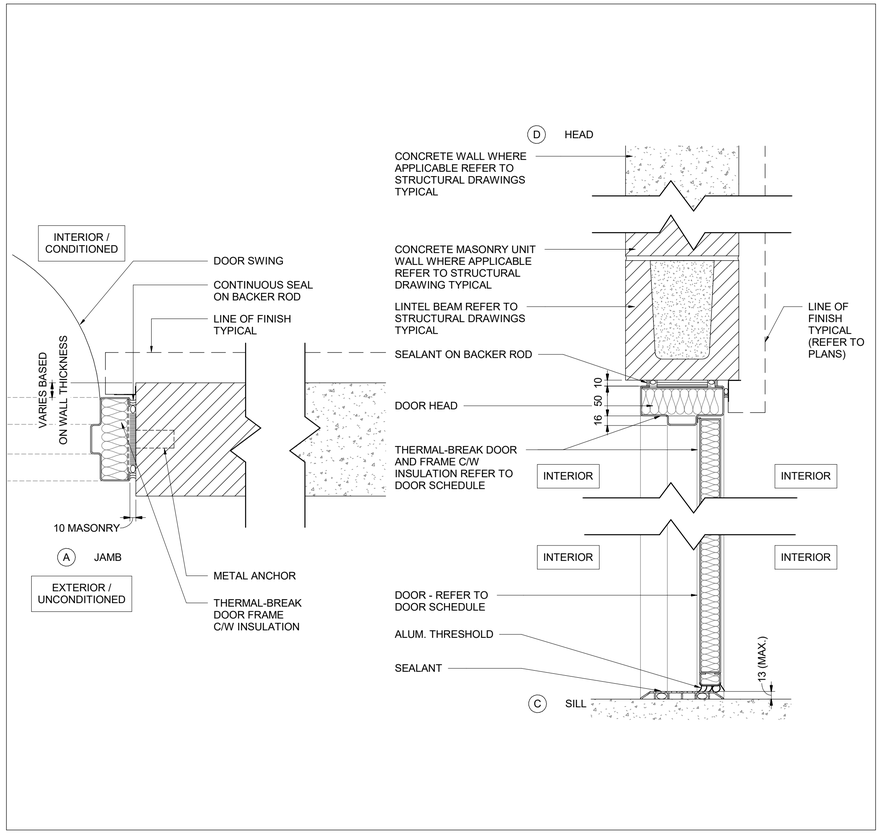
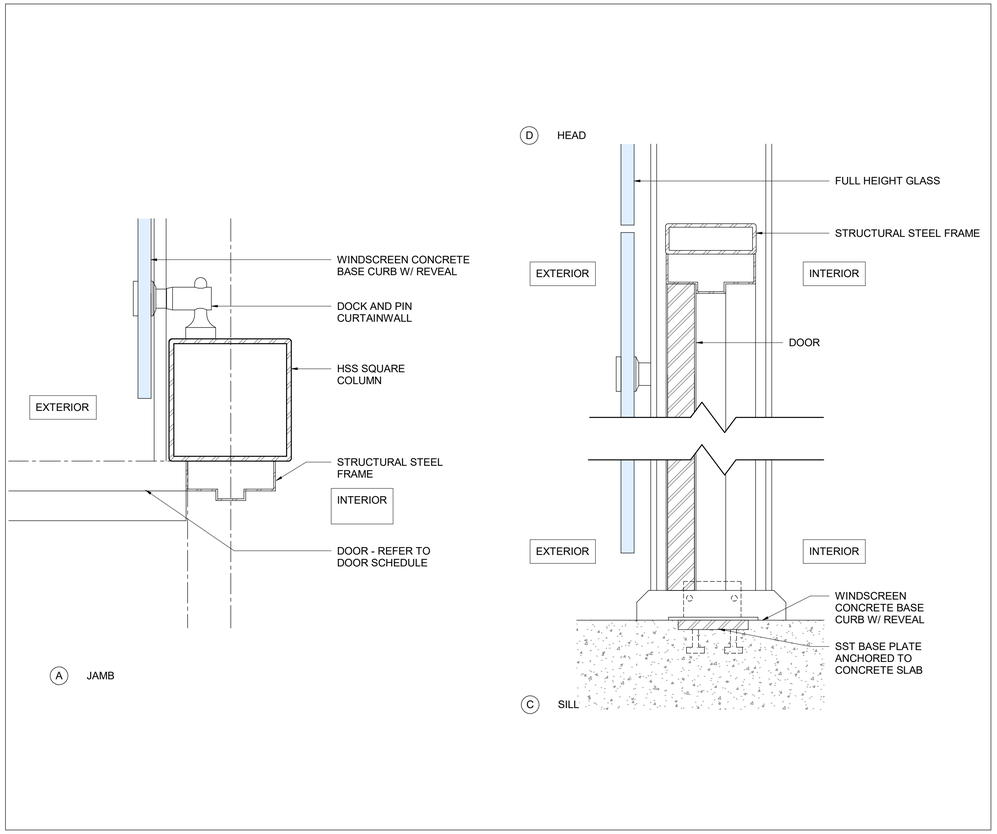


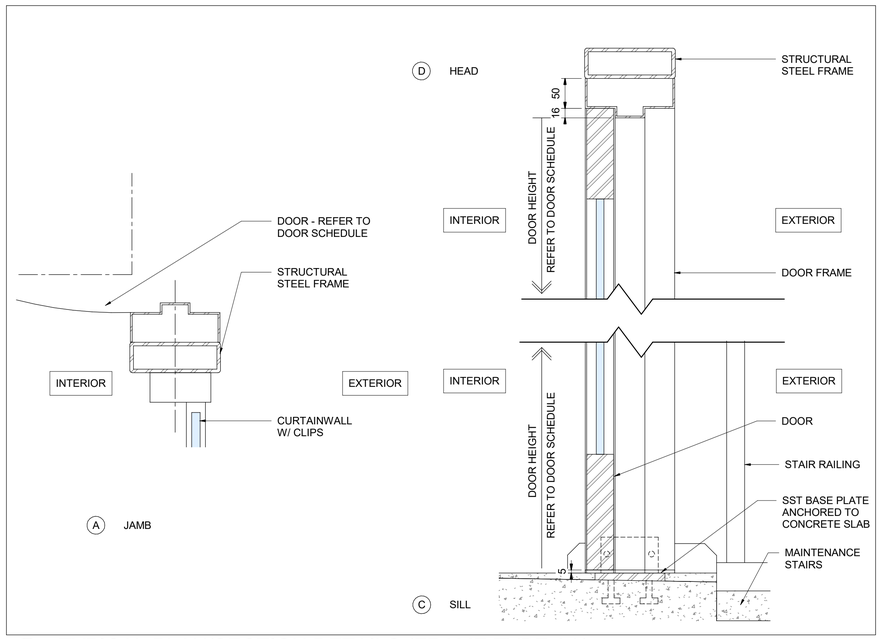
4 0071 TYPICAL PLAN/SECTION DETAILS (FRAME TYPE A W/ INSULATED DOOR)

1 : 5



3 0071 TYPICAL PLAN/SECTION DETAILS (FRAME TYPE AA AT FULL SIZE GLASS)

1 : 5



2 0071 TYPICAL PLAN/SECTION DETAILS (FRAME TYPE AA)

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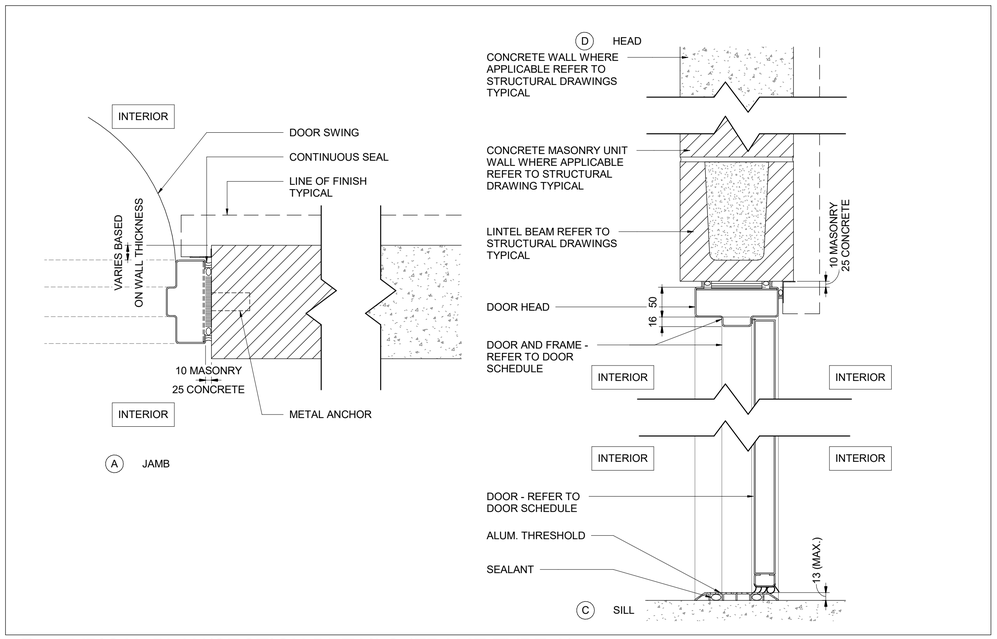


1 0071 TYPICAL PLAN/SECTION DETAILS (FRAME TYPE A)

1 : 5

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
DOOR AND FRAME DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A.RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-0071

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

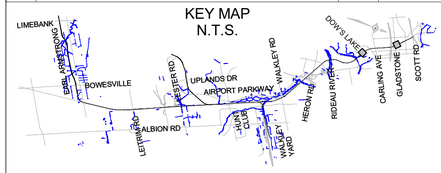
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

TITLEBLOCK: 790mm x 534mm

NET AREA SCHEDULE (ROOMS)

NUMBER	NAME	Area
S1_T/O PLATFORM SOUTH		
100	NORTH PLATFORM	433 m²
101	SOUTH PLATFORM	433 m²
102	VESTIBULE	6 m²
103	EMR	5 m²
104	WEST ANCILLARY WALKWAY	29 m²
105	WATER ENTRY / SUMP	12 m²
106	M&R	12 m²
107	EMR	5 m²
108	CORRIDOR	15 m²
109	COMMS	24 m²
110	ELEC	19 m²
110A	UPS ROOM	11 m²
111	MECH CLOSET	4 m²
112	ELEC CLOSET	8 m²
113	ELEC CLOSET	10 m²
114	SERVICE CLOSET	10 m²
115	SERVICE CLOSET	10 m²
116	EAST ANCILLARY WALKWAY	26 m²
		1072 m²
00_T/O CONCOURSE		
200	PUBLIC CONCOURSE	59 m²
201	FARE PAID CONCOURSE	173 m²
EL01	ELEVATOR	8 m²
EL02	ELEVATOR	9 m²
EL03	ELEVATOR	9 m²
EL04	ELEVATOR	9 m²
ST01	PUBLIC STAIR	25 m²
ST02	PUBLIC STAIR	31 m²
ST03	EXIT STAIR	32 m²
ST04	EXIT STAIR	30 m²
		386 m²
TOTAL NET AREA		1458 m²

GROSS AREA SCHEDULE

NAME	AREA
PLATFORM LEVEL	1191 m²
T/O CONCOURSE	273 m²
TOTAL GROSS AREA	1464 m²

ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR		WALLS				CEILING		REMARKS
		FLOOR	BASE	NORTH	EAST	SOUTH	WEST	FINISH	HEIGHT	
S1_T/O PLATFORM SOUTH										
100	NORTH PLATFORM	CONC-02	CONC	-	ACF/-	-	-	-	-	REFER TO DRAWINGS FOR RAILINGS
101	SOUTH PLATFORM	CONC-02	CONC	-	-	-	ACF/-	-	-	REFER TO DRAWINGS FOR RAILINGS
102	VESTIBULE	EPY-PT	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
103	EMR	SDFAF	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
104	WEST ANCILLARY WALKWAY									REFER TO DRAWINGS FOR RAILINGS
105	WATER ENTRY / SUMP	EPY-PT	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
106	M&R	EPY-PT	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
107	EMR	SDFAF	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
108	CORRIDOR	EPY-PT	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
109	COMMS	SDFAF	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
110	ELEC	SDFAF	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
110A	UPS ROOM	SDFAF	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
111	MECH CLOSET	EPY-PT	RB	CMU (PT)	CMU (PT)	CMU (PT)	CMU (PT)	EXP	3484	
112	ELEC CLOSET	SDFAF	CONC	CONC (PT)	CONC (PT)	CONC (PT)	CONC (PT)	EXP	VARIES	
113	ELEC CLOSET	SDFAF	CONC	CONC (PT)	CONC (PT)	CONC (PT)	CONC (PT)	EXP	VARIES	
114	SERVICE CLOSET	SDFAF	CONC	CONC (PT)	CONC (PT)	CONC (PT)	CONC (PT)	EXP	7407	
115	SERVICE CLOSET	SDFAF	CONC	CONC (PT)	CONC (PT)	CONC (PT)	CONC (PT)	EXP	7407	
116	EAST ANCILLARY WALKWAY	CONC-01	CONC	-	ACF/-	-	-	-	VARIES	REFER TO DRAWINGS FOR RAILINGS
00_T/O CONCOURSE										
200	PUBLIC CONCOURSE	CONC-01	CONC	GL	GL	GL	GL	MLC	4500	
201	FARE PAID CONCOURSE	CONC-01	CONC	GL	GL	GL	GL	MLC	4500	
ST01	PUBLIC STAIR	PRCST-T	-	-	GL	-	GL	MLC	VARIES	
ST02	PUBLIC STAIR	PRCST-T	-	-	GL	-	GL	MLC	VARIES	
ST03	EXIT STAIR	PRCST-T	-	-	-	-		-	-	REFER TO DRAWINGS FOR RAILINGS
ST04	EXIT STAIR	PRCST-T	-	-	-	-		-	-	REFER TO DRAWINGS FOR RAILINGS

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
ROOM FINISH SCHEDULE

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-0080

MODEL NUMBER
660373-1GSS-001-44DM-1000

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN
LICENCE
3782

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

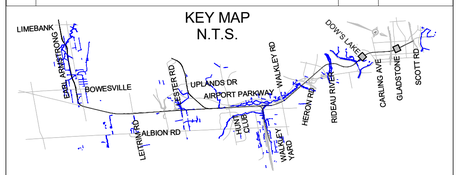
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

GENERAL NOTES

1. REFER TO ARCHITECTURAL SPECIFICATIONS 660373-0000-004-44EG-0001 FOR THE MATERIALS LIST.
2. REFER TO DRAWING 0050 FOR ASSEMBLY TYPES.
3. REFER TO FLOOR PLANS FOR WALL FINISH INFORMATION.
4. REFER TO REFLECTED CEILING PLANS FOR CEILING FINISH INFORMATION.
5. REFER TO FLOOR FINISH PLANS FOR FLOOR FINISH INFORMATION.

FINISHES AND ABBREVIATIONS

ACF	ARCHITECTURAL CONCRETE FINISH
ACT	ACOUSTIC CEILING TILE
CMP	COMPOSITE METAL PANEL
CONC	CONCRETE
CONC BLK	CONCRETE BLOCK
CWB	CEMENT WALL BOARD
CWT	CERAMIC GLAZED TILE
EPY-PT	EPOXY RESINOUS FLOORING
EXP STR	EXPOSED STRUCTURE
GLHSL	HEAT STRENGTHENED LAMINATED GLASS
GLTL	TEMPERED LAMINATED GLASS
GWB	GYPSUM WALL BOARD
MLC	EXTRUDED ALUMINUM LINEAR PANEL
MP	PERFORATED METAL PANEL
MTL	METAL
PFT	PORCELAIN TILE
PRCST	PRECAST
PT	PAINT
RB	RUBBER
SDFAF	STATIC DISSIPATED FLUID APPLIED FLOORING
SFRM	SPRAY FIRE RESISTIVE MATERIAL

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02/04/20

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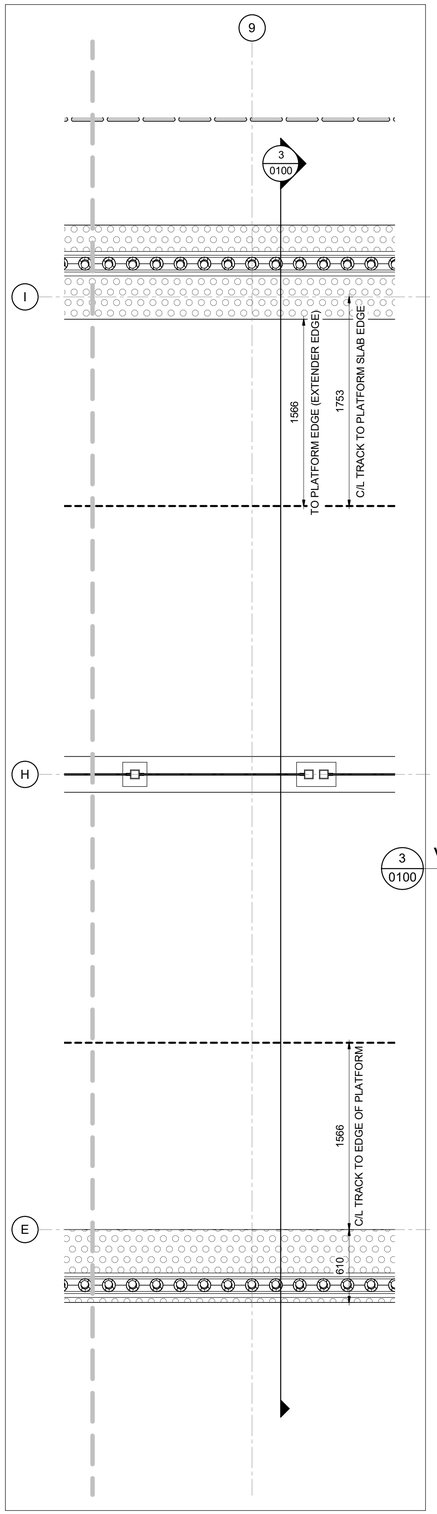
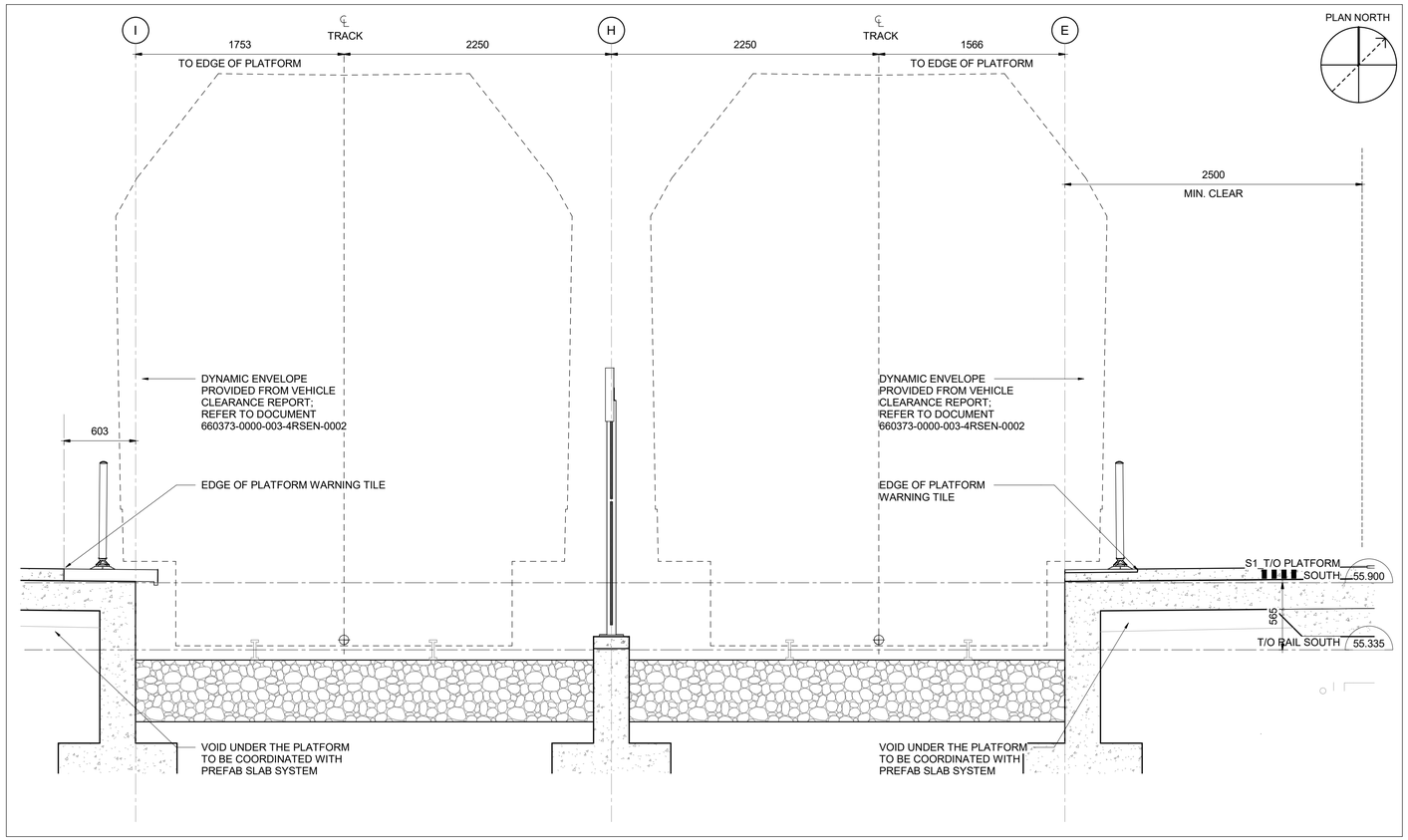
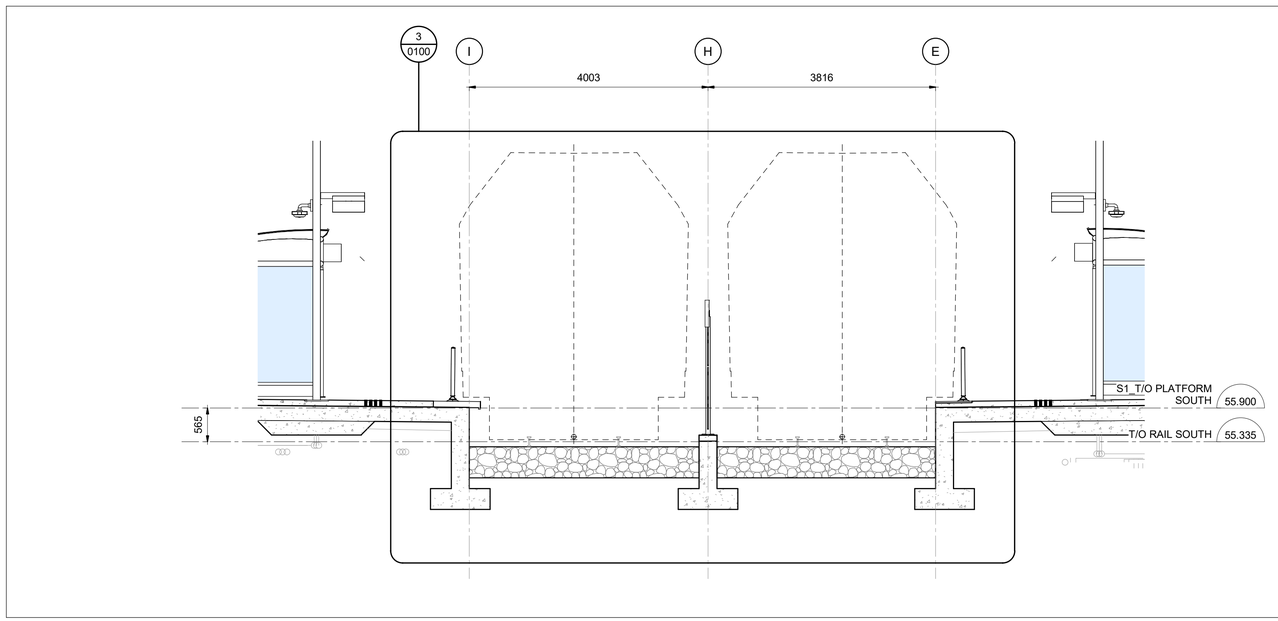




3 0100 VEHICLE SPACE ALLOWANCE DIAGRAM

1 : 25



2 0100 SETTING OUT DIAGRAM - PLAN

1 : 25

1 0100 SECTION TRACK SETTING OUT DIAGRAM

1 : 50

ARCHITECTURAL
CORSO ITALIA
GENERAL INFORMATION
SETTING OUT DIAGRAM

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	M. PERKIC
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-0100

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE AS SHOWN

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION

2021-03-29

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02/25/21

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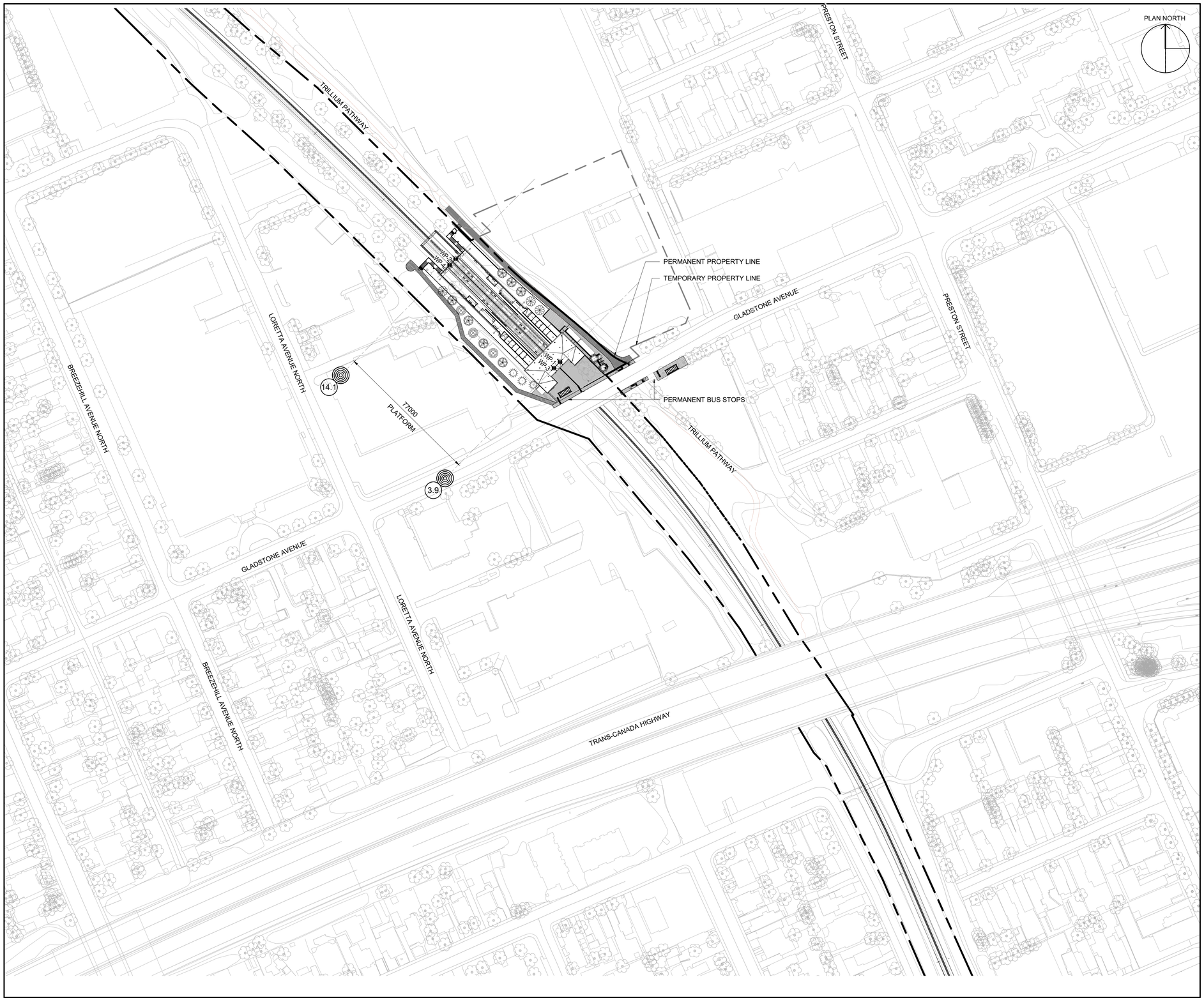

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SITE DRAWINGS
CONTEXT SITE PLAN

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-1000

MODEL NUMBER
660373-1GSS-001-44DM-1000

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN
LICENCE
3782

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 1000 FULLSIZE / 1 : 2000 HALF SIZE
0 10 20 40 80 m
VERTICAL 1 : 1000 FULLSIZE / 1 : 2000 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION
2021-03-29

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03/23/16

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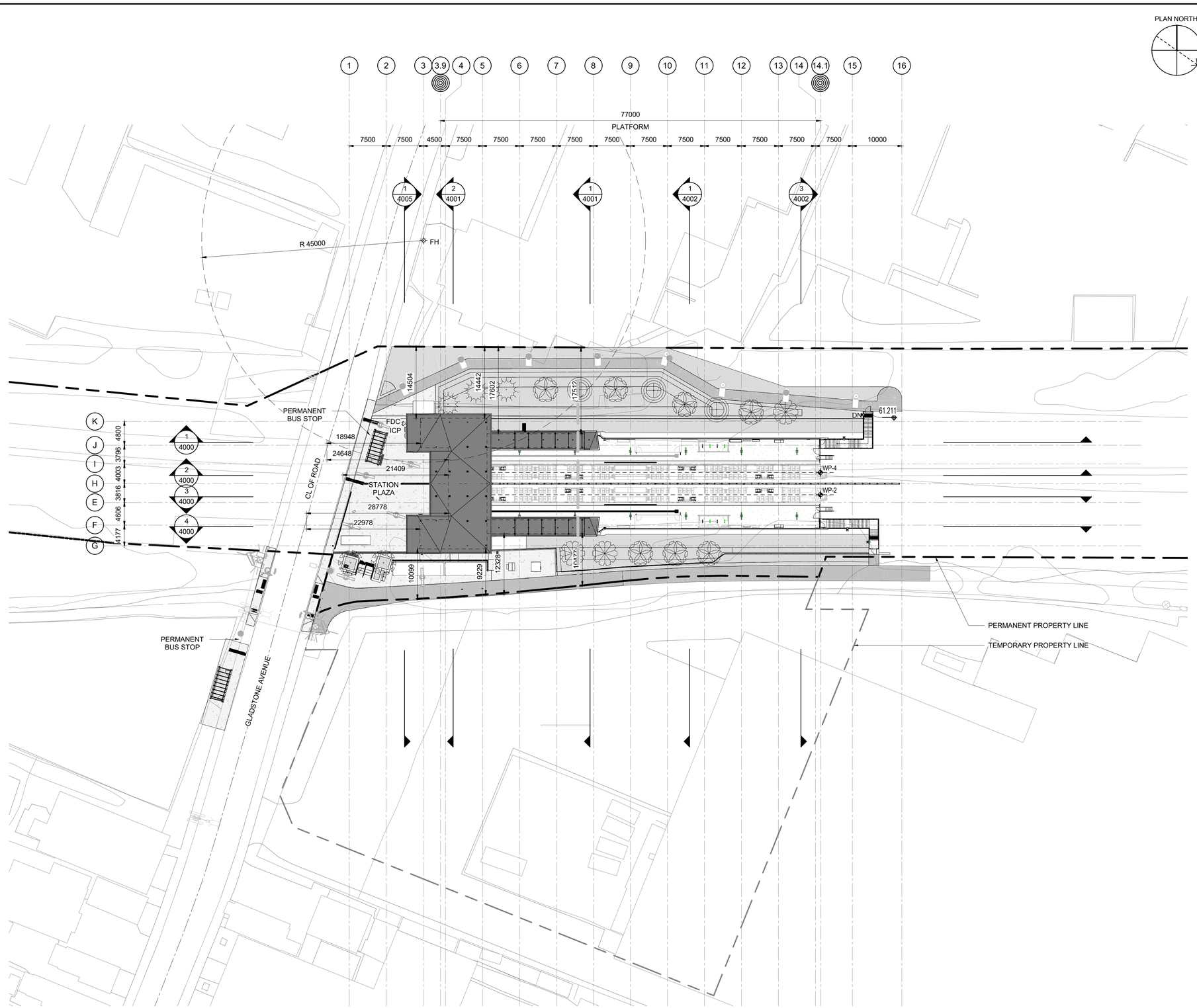


OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SITE DRAWINGS
SITE PLAN

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-1010

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
R. BRISBIN LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

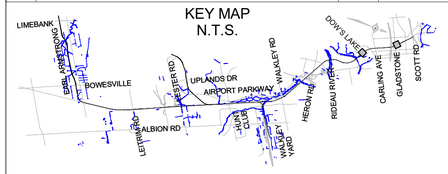
SCALE
HORIZONTAL 1 : 400 FULLSIZE / 1 : 800 HALF SIZE
0 2 4 16 32m
VERTICAL 1 : 400 FULLSIZE / 1 : 800 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

GENERAL NOTES

PRIMARY ENTRANCE

SECONDARY ENTRANCE / EXIT

FIRE HYDRANT	FH
FIRE DEPARTMENT CONNECTION	FDC
INCIDENT COMMAND POST c/w ANNUCIATOR PANEL	ICP
	LRT - FIRE ROUTE ACCESS
	LRT - PERMANENT PROPERTY LINE
	LRT - TEMPORARY PROPERTY LINE

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04/11/19

TITLEBLOCK: 790mm x 534mm

NET AREA SCHEDULE (ROOMS)

NUMBER	NAME	Area
S1_T/O PLATFORM SOUTH		
100	NORTH PLATFORM	433 m²
101	SOUTH PLATFORM	433 m²
102	VESTIBULE	6 m²
103	EMR	5 m²
104	WEST ANCILLARY WALKWAY	29 m²
105	WATER ENTRY / SUMP	12 m²
106	M&R	12 m²
107	EMR	5 m²
108	CORRIDOR	15 m²
109	COMMS	24 m²
110	ELEC	19 m²
110A	UPS ROOM	11 m²
111	MECH CLOSET	4 m²
112	ELEC CLOSET	8 m²
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116	EAST ANCILLARY WALKWAY	26 m²
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201	FARE PAID CONCOURSE	173 m²
EL01	ELEVATOR	8 m²
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EL03	ELEVATOR	9 m²
EL04	ELEVATOR	9 m²
ST01	PUBLIC STAIR	25 m²
ST02	PUBLIC STAIR	31 m²
ST03	EXIT STAIR	32 m²
ST04	EXIT STAIR	30 m²
		386 m²
TOTAL NET AREA		1458 m²

GROSS BUILDING SCHEDULE

NAME	AREA
PLATFORM LEVEL	1191 m²
T/O CONCOURSE	273 m²
TOTAL GROSS AREA	1464 m²

BUILDING AREA SCHEDULE

STATION	635m²

PASSENGER FLOW LEGEND

- BUILDING ENTRANCE INDICATOR
- MAJOR PASSENGER FLOW
- SECONDARY PASSENGER FLOW

OCCUPANCY LEGEND

- CIRCULATION
- PAID CONCOURSE
- UNPAID CONCOURSE

PASSENGER FLOW NORMAL OPERATION - AM PEAK PASSENGER DEMAND

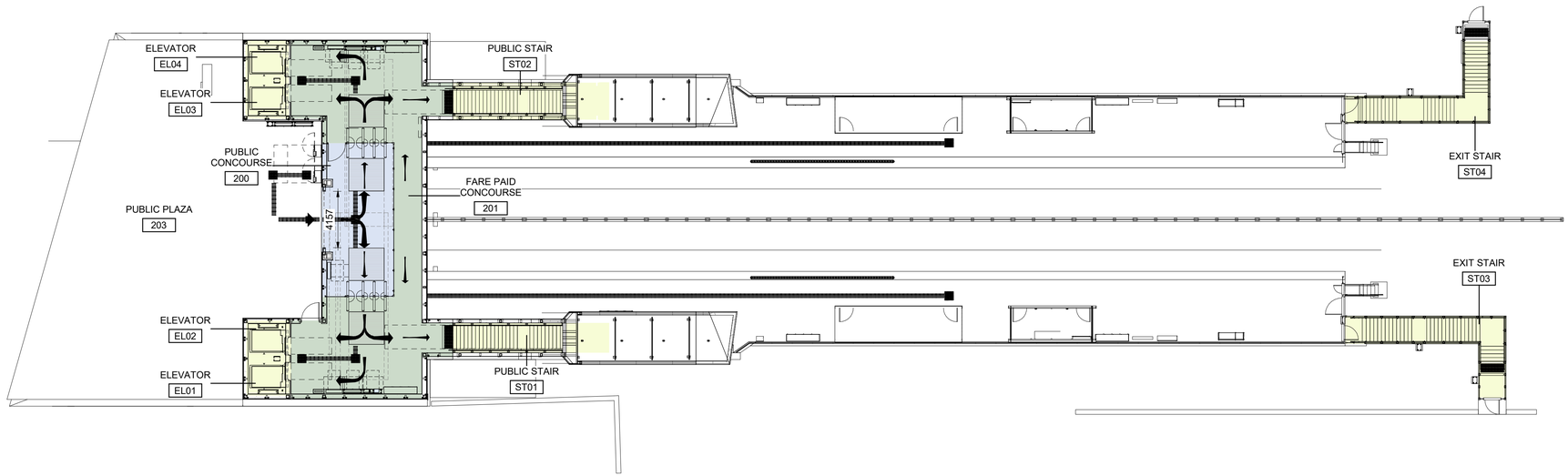
ENTRANCE 1	3900mm (WIDTH), PASSING REQUIREMENT: 40 ppl/m/min
FARE GATES	6 GATES, TOTAL FLOW RATE: 19.1p/min
PUBLIC STAIRS, ST01	1750mm (WIDTH), PASSING REQUIREMENT: 35 ppl/m/min
PUBLIC STAIRS, ST02	1750mm (WIDTH), PASSING REQUIREMENT: 35 ppl/m/min
EXIT STAIRS, ST03	REFER TO 660373-1GSS-003-4SEA-0001 FOR EGRESS CALCULATIONS
EXIT STAIRS, ST04	REFER TO 660373-1GSS-003-4SEA-0001 FOR EGRESS CALCULATIONS

	NET AREA* (m^2)	BOARDING LOAD	ALIGHTING LOAD	PLATFORM DENSITY (m^2/p)	CALCULATED CLEARANCE TIME (min)
SOUTH PLATFORM (101)	410	0	29	8.6	1.5
NORTH PLATFORM (100)	401	47	0	14.3	1.5

*NET AREA IS CLEAR PLATFORM AREA, EXCLUDING SHELTERS

DATA OBTAINED FROM PASSENGER MODELING REPORT, 660373-1GSS-003-4SEA-0001.
REFER TO THIS REPORT FOR MORE INFORMATION

PLAN NORTH



1 / 2000 PASSENGER FLOOW PLAN - CONCOURSE

1 : 200

OTrain STAGE 2 ÉTAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
PASSENGER FLOW PLAN
CONCOURSE

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-2000

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT M. BRISBIN
LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

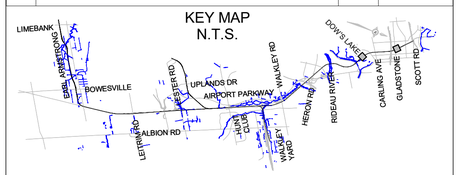
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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03/23/16

TITLEBLOCK: 790mm x 534mm

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GROSS BUILDING SCHEDULE

NAME	AREA
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T/O CONCOURSE	273 m²
TOTAL GROSS AREA	1464 m²

BUILDING AREA SCHEDULE

STATION	635m²

PASSENGER FLOW LEGEND

- BUILDING ENTRANCE INDICATOR
- MAJOR PASSENGER FLOW
- SECONDARY PASSENGER FLOW

OCCUPANCY LEGEND

- BACK OF HOUSE
- CIRCULATION
- PLATFORM

PASSENGER FLOW NORMAL OPERATION - AM PEAK PASSENGER DEMAND

ENTRANCE 1	3900mm (WIDTH), PASSING REQUIREMENT: 40 ppl/m/min
FARE GATES	6 GATES, TOTAL FLOW RATE: 19.1p/min
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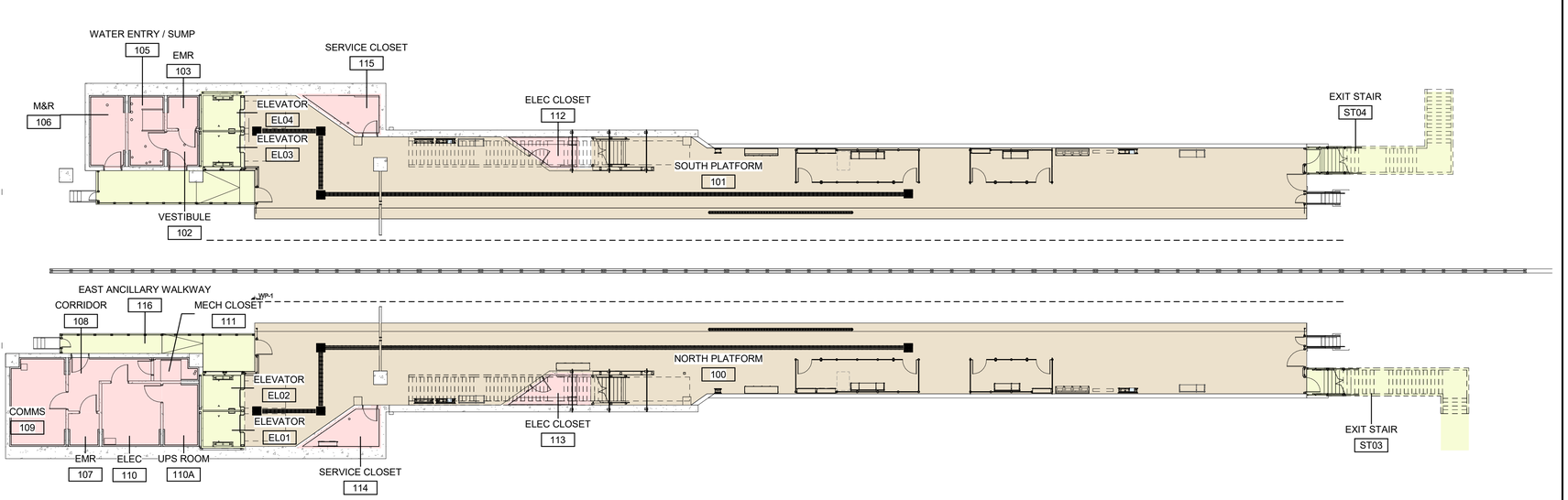
DATA OBTAINED FROM PASSENGER MODELING REPORT, 660373-1GSS-003-4SEA-0001.
REFER TO THIS REPORT FOR MORE INFORMATION

PLAN NORTH



1 / 2010 PASSENGER FLOW PLAN - PLATFORM

1 : 200

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
PASSENGER FLOW PLAN
PLATFORM

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-2010

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN
LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

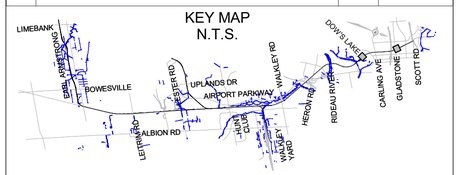
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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04/11/19

TITLEBLOCK: 790mm x 534mm

PLAN NORTH

1 2 3 3.9 4 5 6 7 8 9 10 11 12 13 14 14.1 15 16

77000
LENGTH OF PLATFORM

7500 7500 4500 7500 7500 7500 7500 7500 7500 7500 7500 7500 7500 7500 7500

1000 1000

1 4005 | 2 4001 | 1 4001 | 1 4002 | 3 4002

3 3000

1 2201 | 1 2212

K J I H E F G

4800 3796 4003 3816 4606 4177

1 4000 | 2 4000 | 2 3000 | 3 4000 | 4 4000

EL04 EL03 EL02 EL01

ST02 ST01 ST04 ST03 DN

203 201 200

1 3001 | 1 7012

WP-4 WP-2

4 3000

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04/11/19

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
OVERALL FLOOR PLAN
CONCOURSE

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2100

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

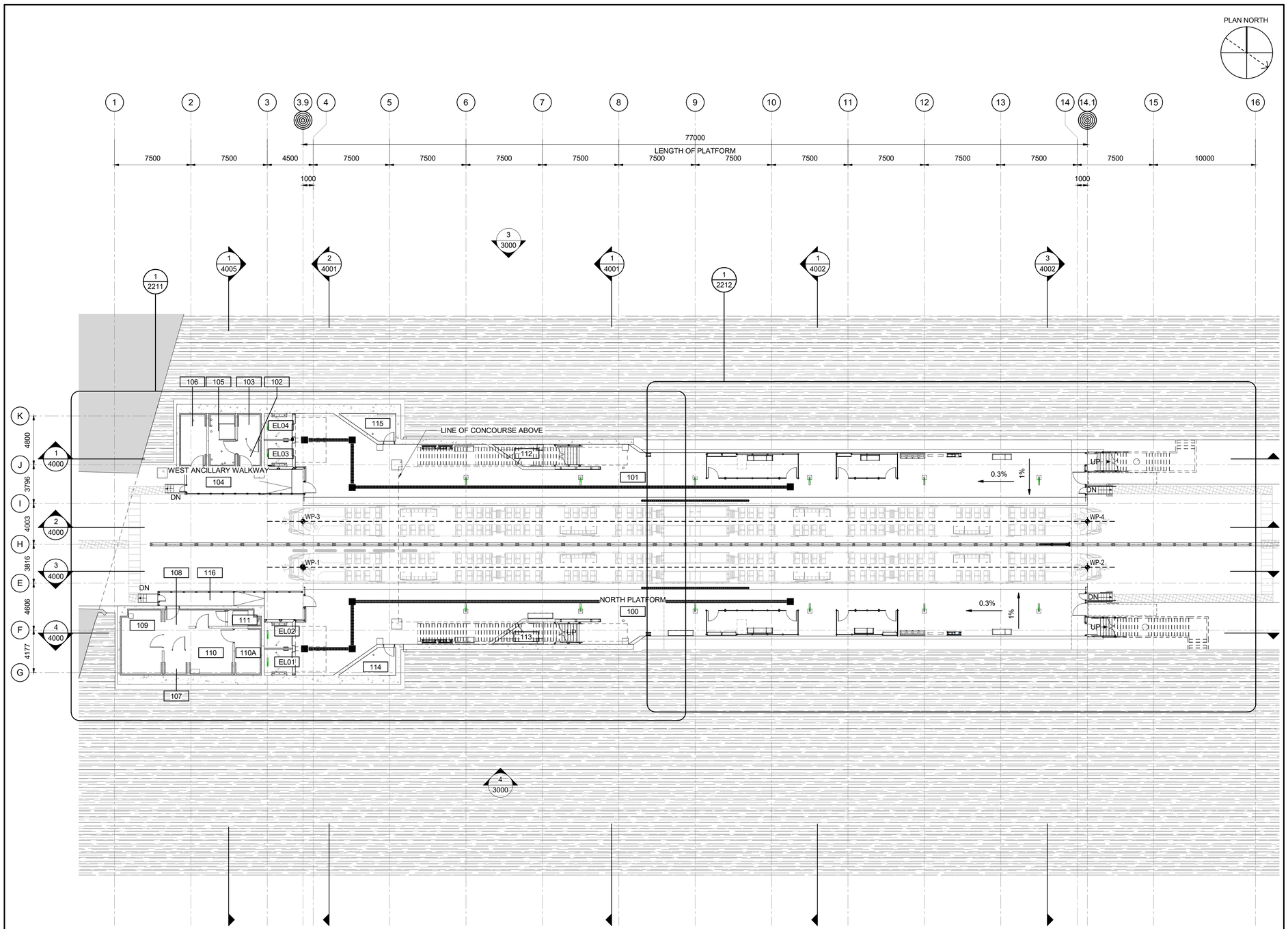
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION
2021-03-29

TITLEBLOCK: 790mm x 534mm



OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
OVERALL FLOOR PLAN
PLATFORM

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2110

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS LICENSED 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

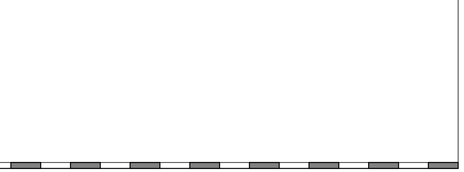
SCALE
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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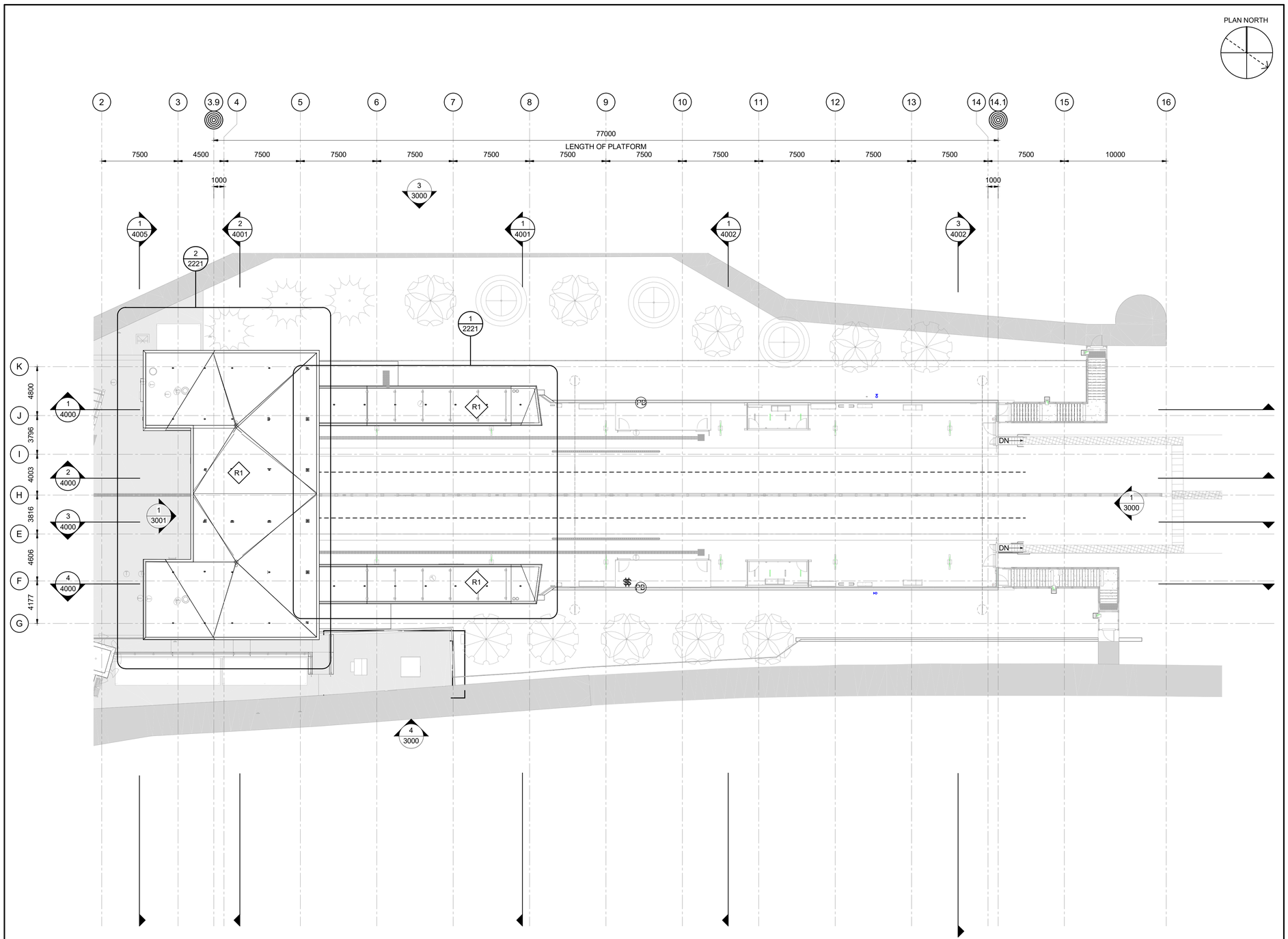
04/11/19

TITLEBLOCK: 790mm x 534mm



OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
OVERALL PLAN
OVERALL ROOF PLAN - CONCOURSE

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	T.KAMPMAN
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2120

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

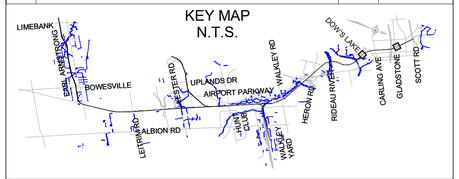
SCALE
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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02/04/20

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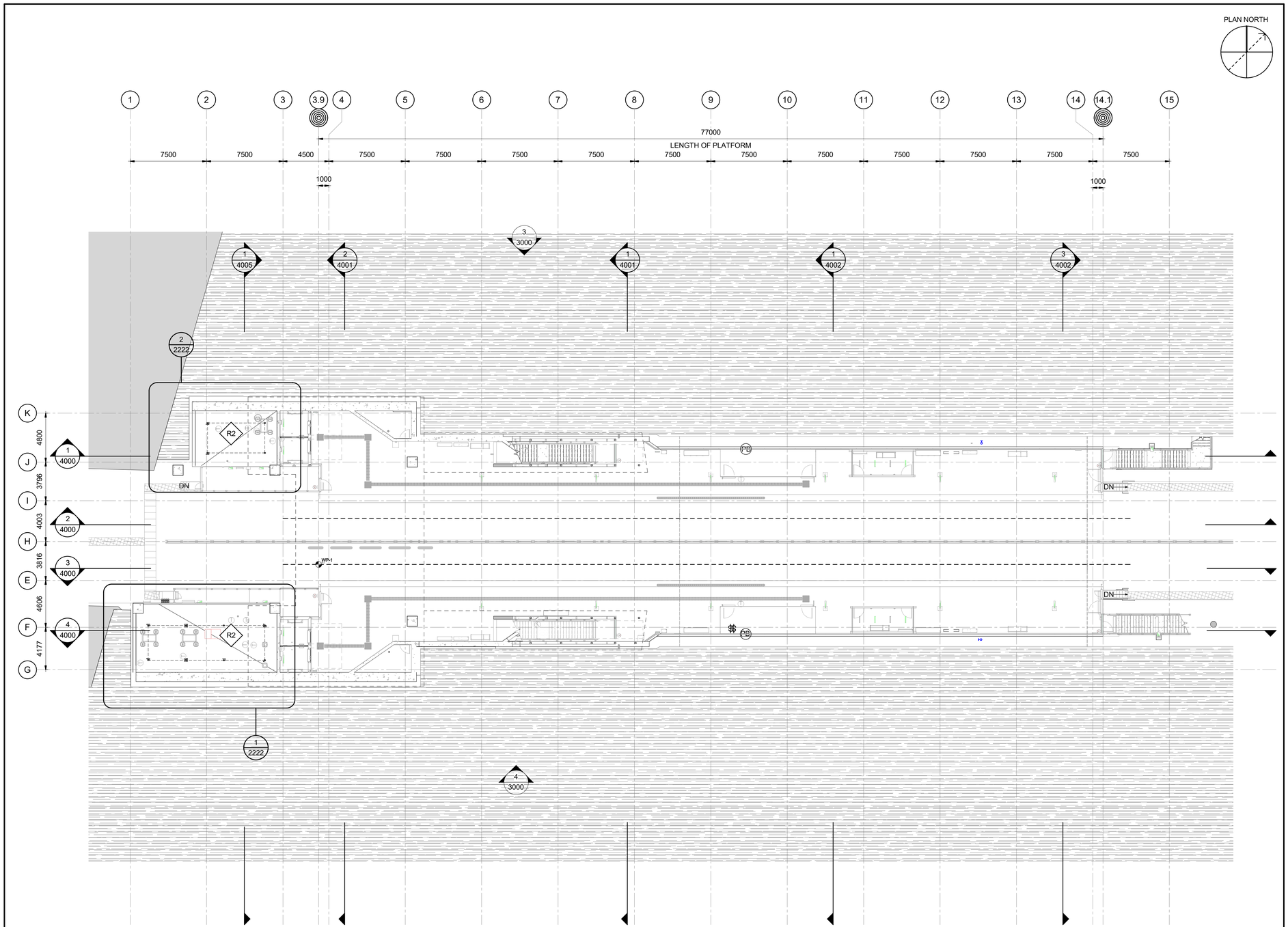


OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
OVERALL PLAN
OVERALL ROOF PLAN - PLATFORM

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2121

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN
LICENCE
3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

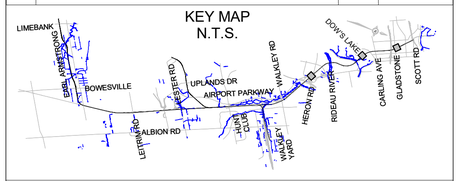
SCALE
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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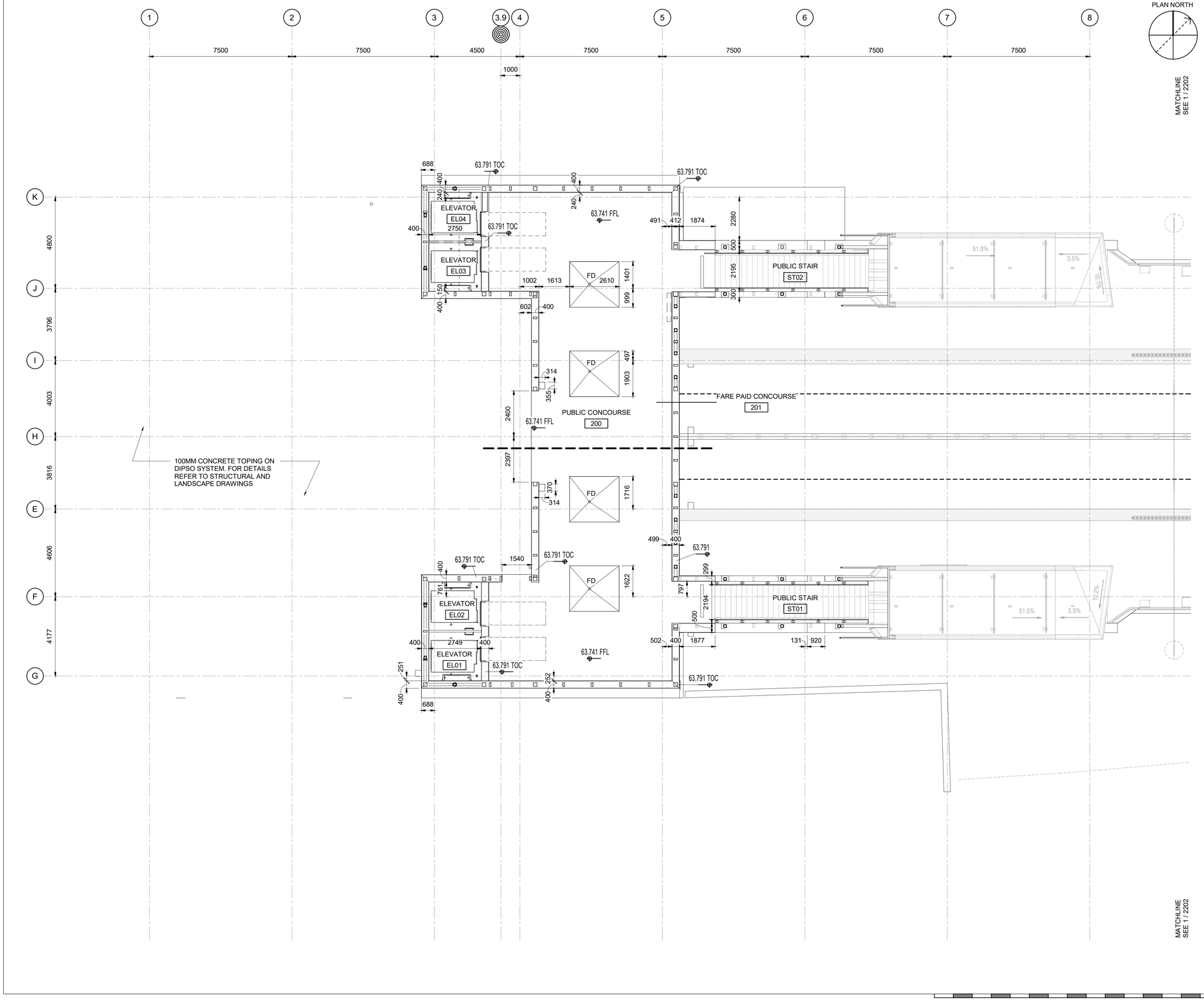
06/11/20

TITLEBLOCK: 790mm x 534mm



OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SLAB EDGE PLANS
CONCOURSE SECTOR 1

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2150

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

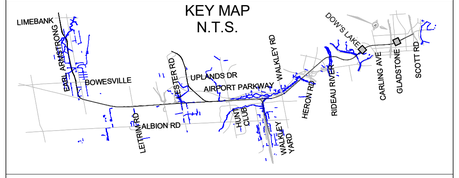
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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09/23/20

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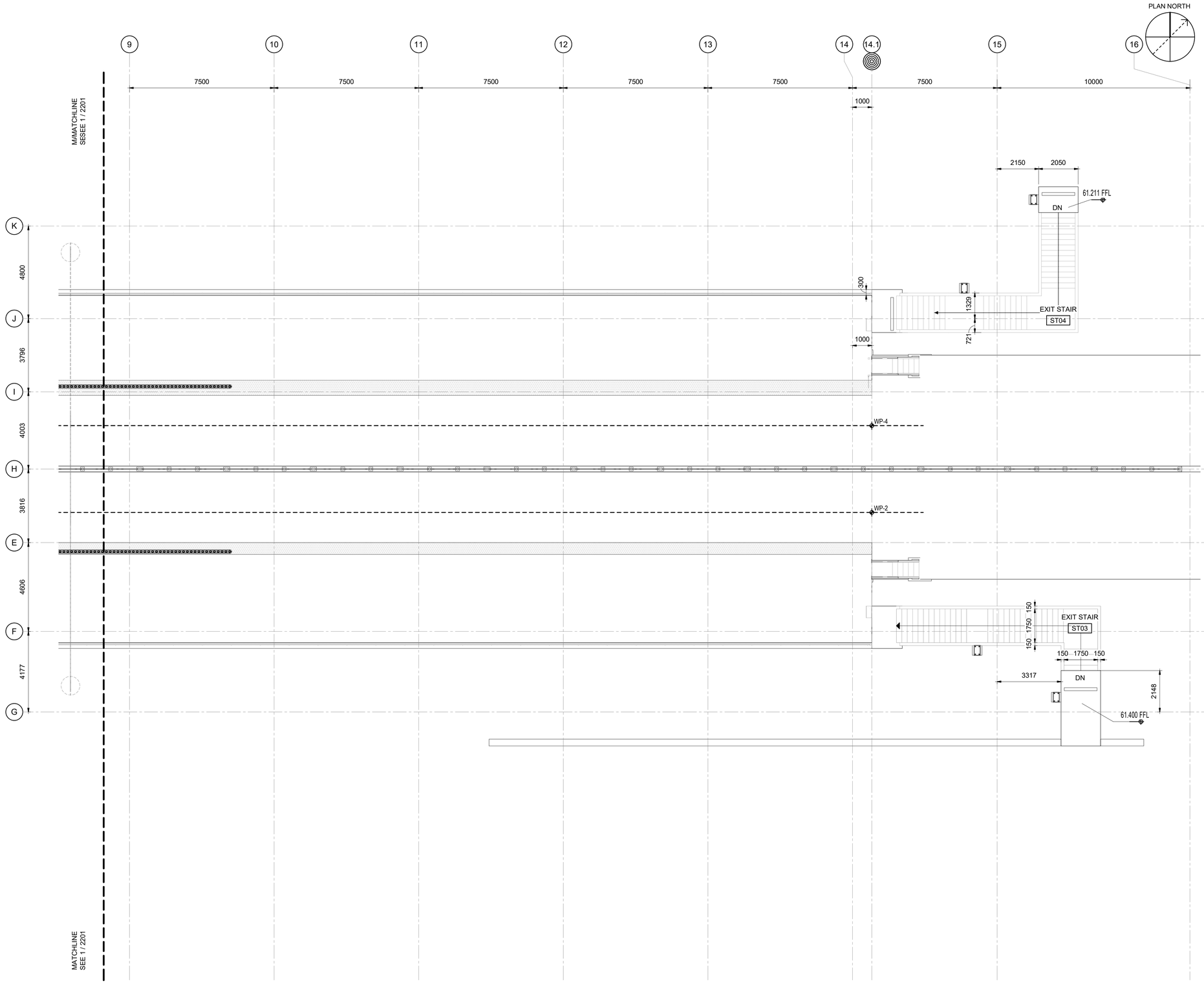


OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SLAB EDGE PLANS
CONCOURSE SECTOR 2

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2151

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

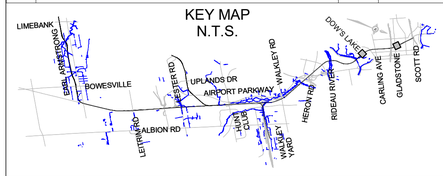
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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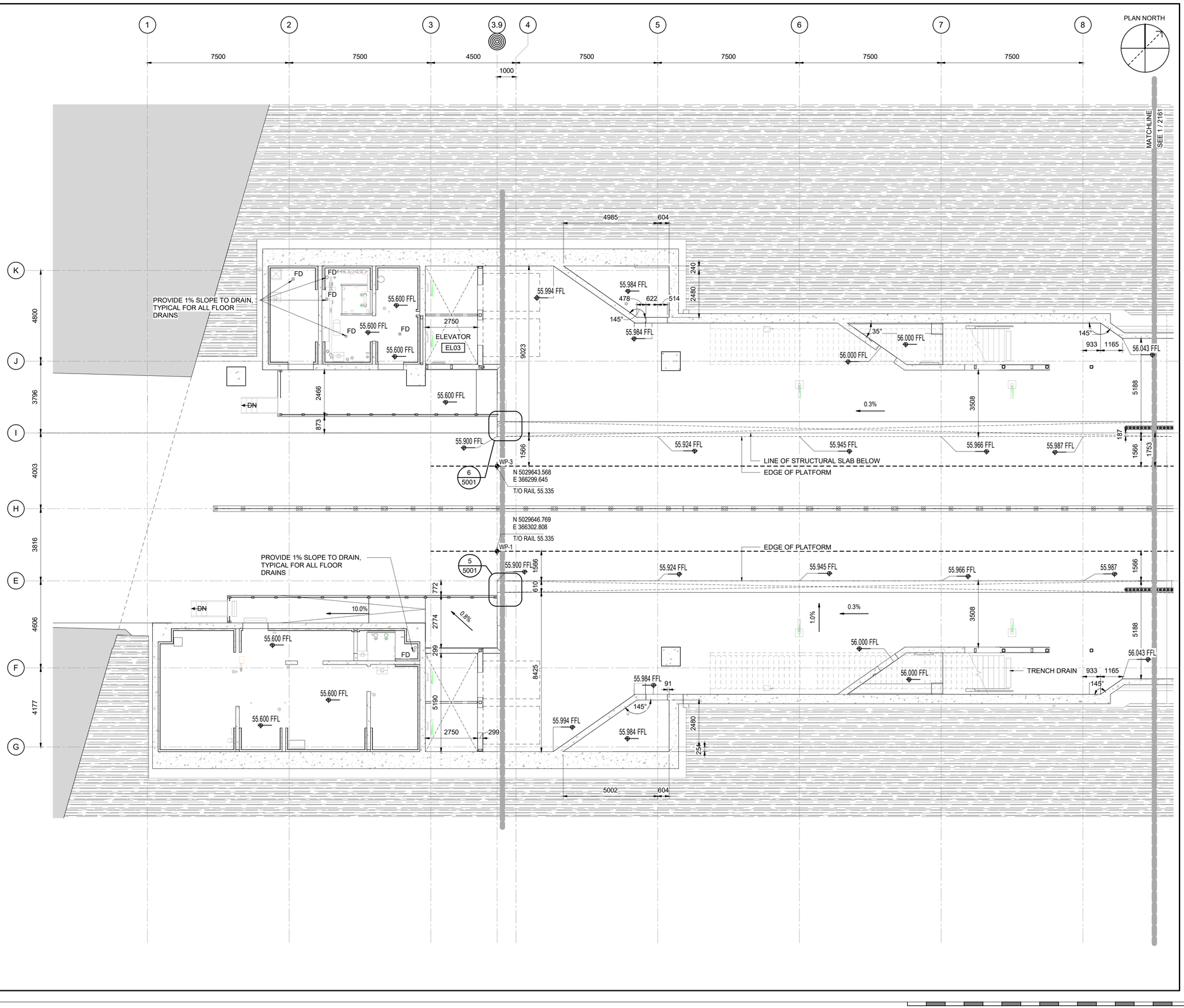


OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SLAB EDGE PLANS
PLATFORM SECTOR 1

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A.RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2160

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN
LICENCE
3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

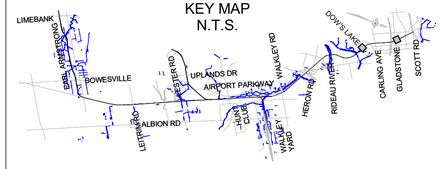
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS, FOUNDATIONS ONLY	JJ	2020/09/25
01	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

09/23/20
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TITLEBLOCK: 790mm x 534mm

PLAN NORTH

9 10 11 12 13 14 14.1 15 16

7500 7500 7500 7500 7500 7500 1000 10000

MATCHLINE
SEE 1 / 2160

K J I H E F G

4800 3796 4003 3816 4606 4177

56.058 FFL 56.079 FFL 56.100 FFL 56.121 FFL 56.142 FFL

TRENCH DRAIN AT TSA SHELTERS, REFER TO PLANS FOR SHELTER LOCATIONS

300 5188

SOUTH PLATFORM
101

56.008 FFL 56.030 FFL 56.051 FFL 56.072 FFL 56.093 FFL

1753 1566 187

LINE OF STRUCTURAL SLAB BELOW

EDGE OF PLATFORM

57.238 TOW
56.166 FFL
56.184 FFL
56.204 TOC
56.198 TOC
56.178 FFL
56.130 FFL
56.117 FFL

977 150 450 1676
1217 1505 721 630 305
1348 1100 3341 DN 1200 1200 3405 738

TRENCH DRAIN

600MM ROUND CONCRETE COLUM. REFER TO STRUCTURAL DRAWINGS.

4
5001

N 5029697.688
E 366244.873
T/O RAIL 55.522
WP-4

N 5029700.889
E 366248.036
T/O RAIL 55.522
WP-2

3
5001

EDGE OF PLATFORM

56.008 FFL 56.030 FFL 56.051 FFL 56.072 FFL 56.093 FFL 56.117 FFL

1566 5188 300

NORTH PLATFORM
100

1.0% 0.3%

56.130 FFL
56.148 FFL
56.198 TOC
56.204 TOC
56.154 FFL
56.166 FFL
57.239 TOW

1073 1375 784
3290 DN 1200
1895 1200
604 1319
1294 882

TRENCH DRAIN

600MM ROUND CONCRETE COLUM. REFER TO STRUCTURAL DRAWINGS.

56.058 FFL 56.079 FFL 56.100 FFL 56.121 FFL 56.142 FFL

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SLAB EDGE PLANS
PLATFORM SECTOR 2

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRSIBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2161

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENSED
3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

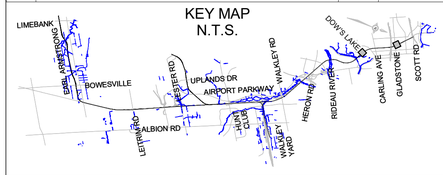
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS, FOUNDATIONS ONLY	JJ	2020/09/25
01	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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09/29/20

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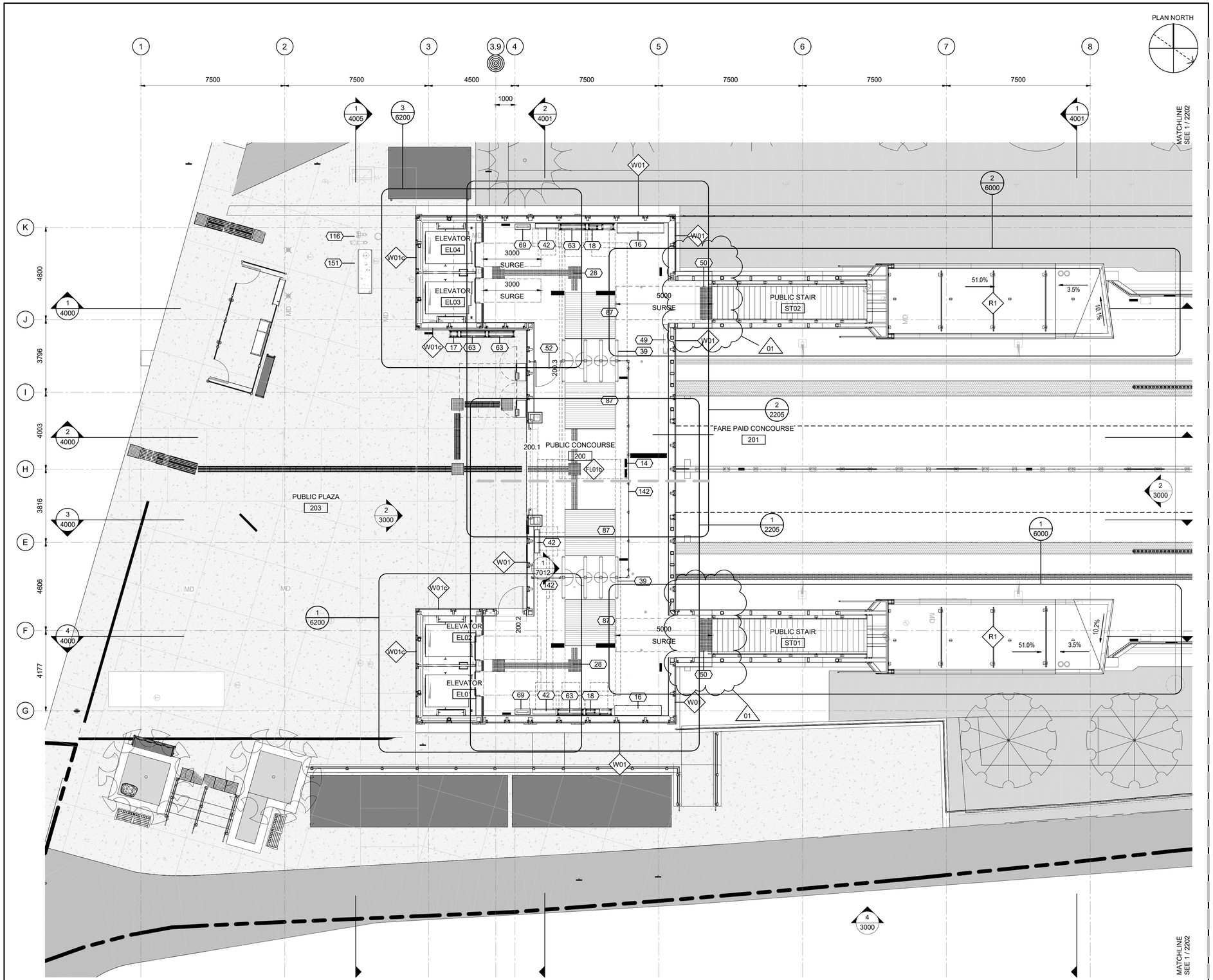


TransitNEXT STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ENLARGED PLAN
CONCOURSE SECTOR 1

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2201

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENSED
3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

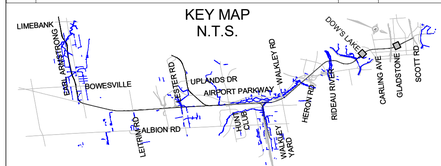
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
16	WASTE RECPETACLE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7305
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116
18	UC-02, FIRE CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7105/7106
28	TACTILE WALKING SURFACE INDICATOR (TWSI)
39	FARE GATE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7012/7019
42	NEXUS PASSENGER INFORMATION DISPLAY, PROVIDED BY THE CITY
49	FUTURE ADVERTISING PANEL, TO BE PROVIDED BY CITY
50	ATTENTION STRIP, 610mm MIN
52	SECURITY GATE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7210
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
69	VERTICAL ELECTRICAL CHASE
87	RECESSED FLOOR GRILLE WITH HEAT TRACE DRAIN AND DRAINAGE PAN, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7012/7019
116	FIRE DEPARTMENT CONNECTION (FDC)
142	TYPE 1, GLASS GUARD, MIN 1800mm HIGH, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7215/7216
151	INCIDENT COMMAND POST (ICP) WITH ANNUNCIATOR PANEL

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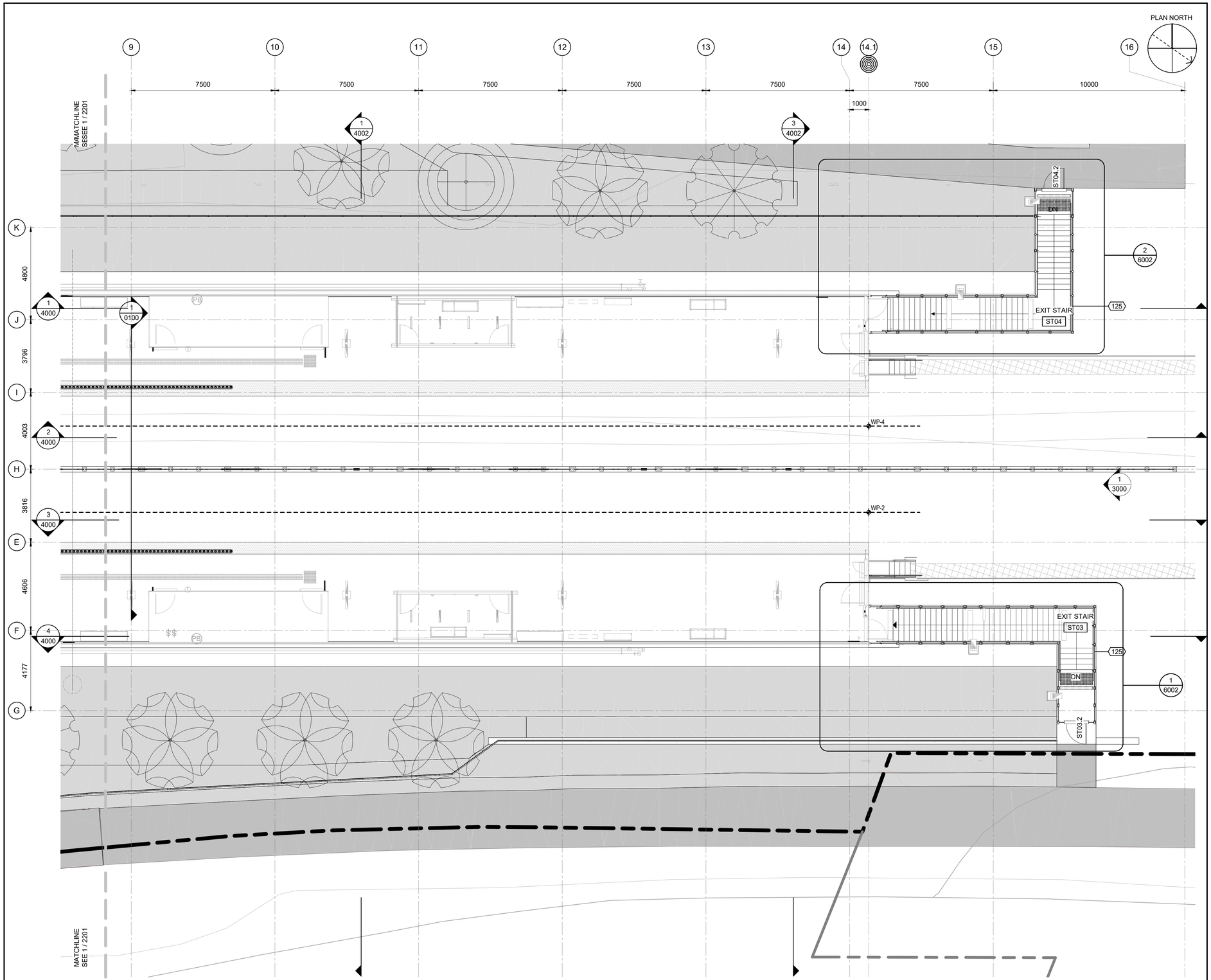
04/11/19

TITLEBLOCK: 790mm x 534mm



OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ENLARGED PLAN
CONCOURSE SECTOR 2

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2202

MODEL NUMBER
660373-1GSS-001-44DM-1000

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN
LICENCE
3782

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

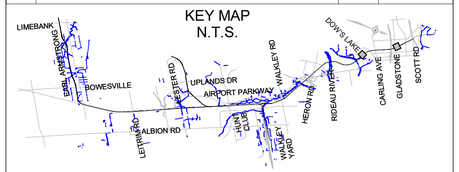
HORIZONTAL 1 : 100 FULLSIZE
1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE
1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

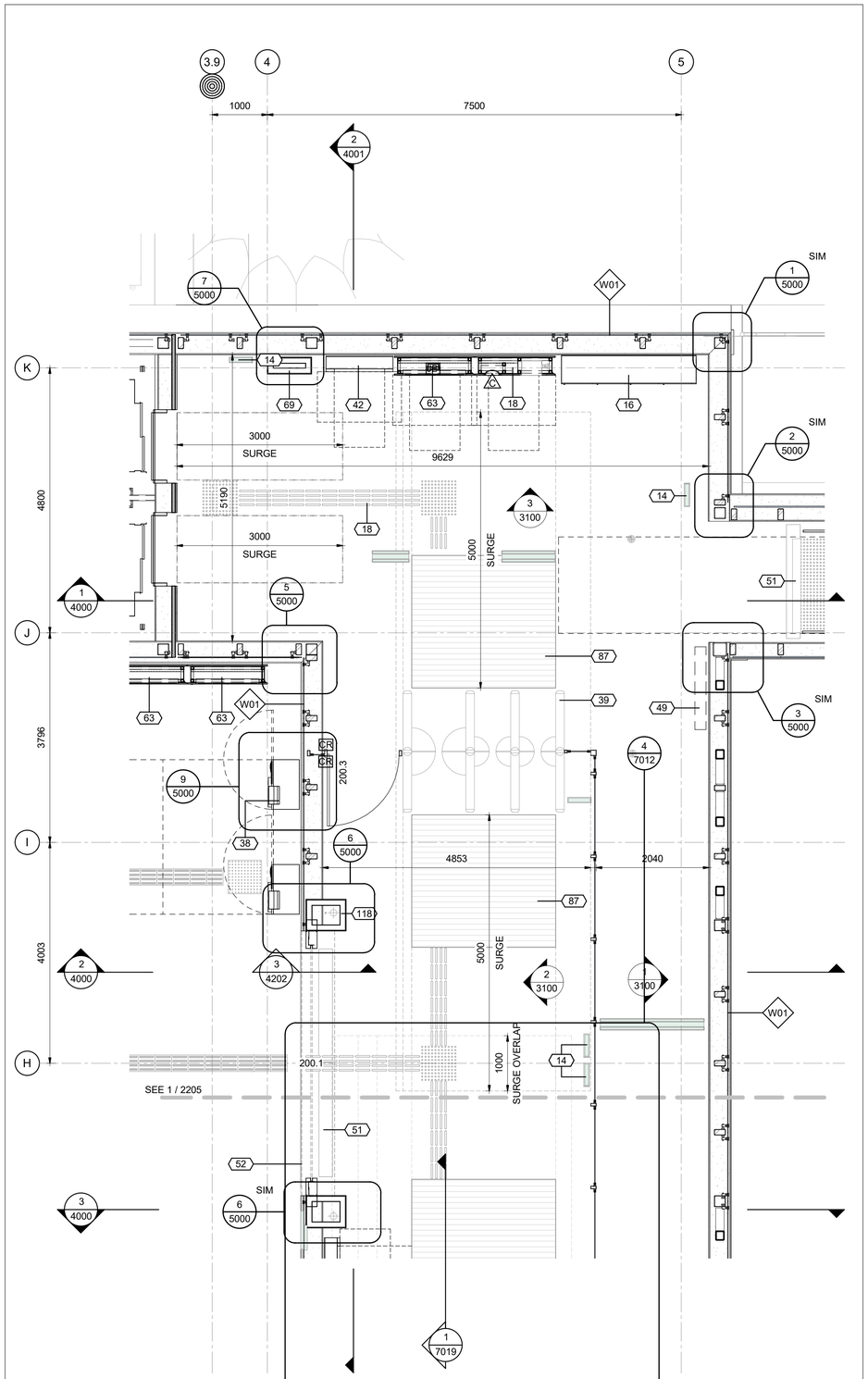
KEYNOTE LEGEND

Key Value	Keynote Text
125	TYPE 2 RAILING, PERFORATED METAL PANEL, MIN. 1070mm HIGH, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7220

C:\Users\nbarrett\Documents\660373-1GSS-001-44DM-1000_NBarrettVF3UM.rvt

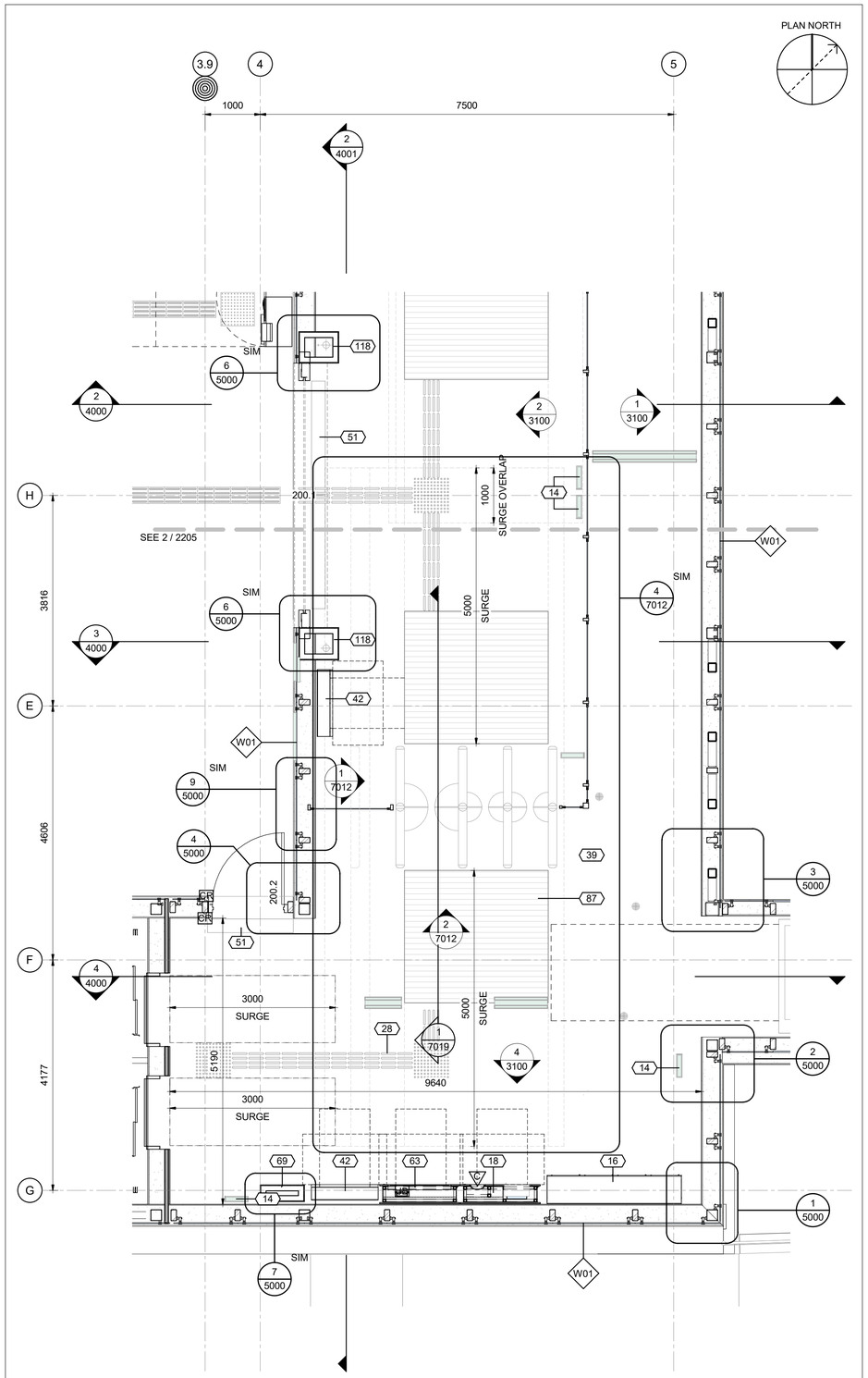
04/11/19

TITLEBLOCK: 790mm x 534mm



2 / 2205 ENLARGED PLAN - STATION ENTRANCE - WEST

1 : 50



1 / 2205 ENLARGED PLAN - STATION ENTRANCE - EAST

1 : 50

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09/23/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ENLARGED FLOOR PLAN
STATION ENTRANCE

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2205

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

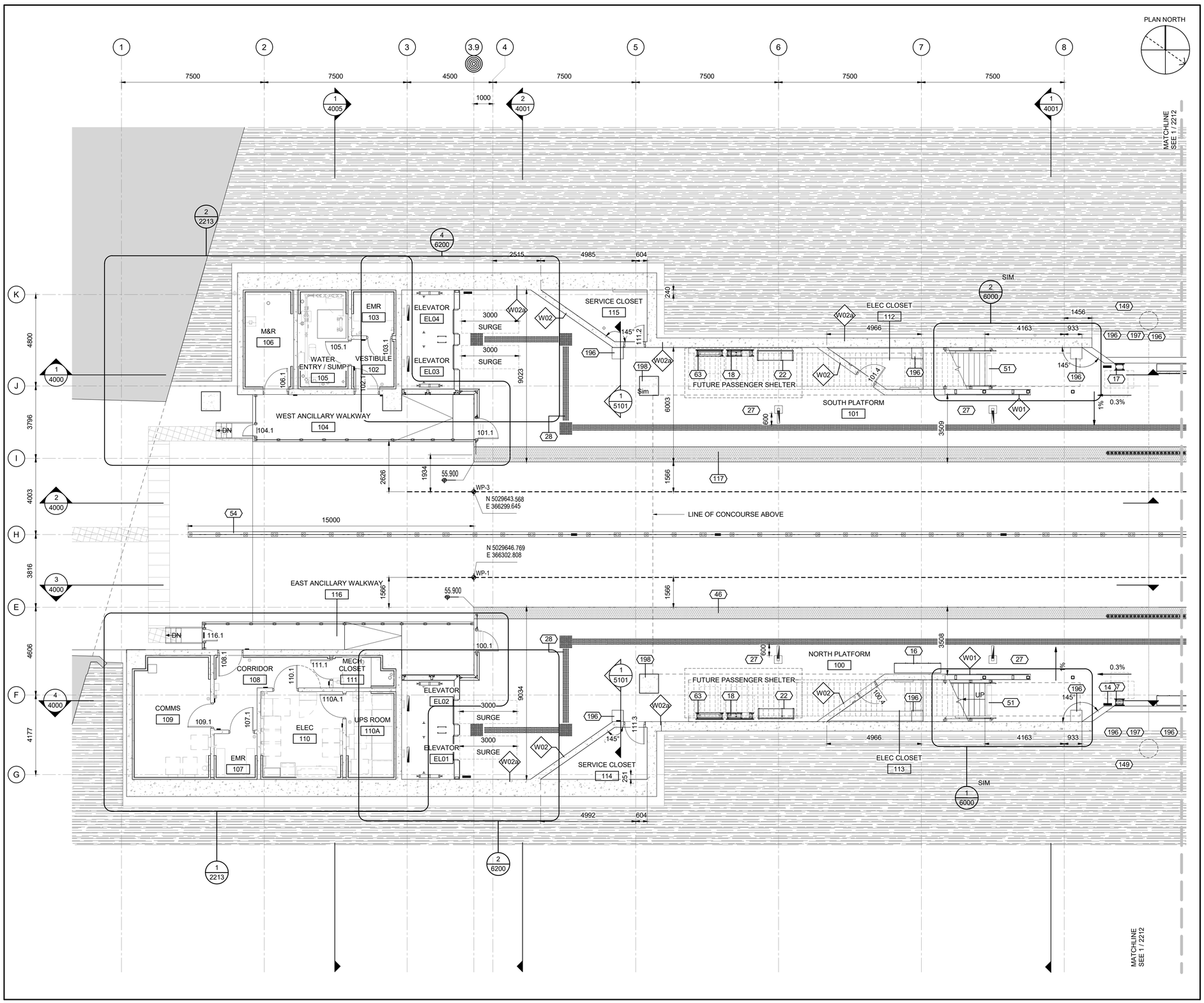
KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
16	WASTE RECPETACLE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7305
18	UC-02, FIRE CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7105/7106
28	TACTILE WALKING SURFACE INDICATOR (TWSI)
38	TICKET VENDING MACHINE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7013
39	FARE GATE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7012/7019
42	NEXUS PASSENGER INFORMATION DISPLAY, PROVIDED BY THE CITY
49	FUTURE ADVERTISING PANEL, TO BE PROVIDED BY CITY
51	TRENCH DRAIN, REFER TO MECHANICAL DRAWGINS
52	SECURITY GATE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7210
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
69	VERTICAL ELECTRICAL CHASE
87	RECESSED FLOOR GRILLE WITH HEAT TRACE DRAIN AND DRAINAGE PAN, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7012/7019
118	ROOF DRAIN CHASE

TITLEBLOCK: 790mm x 534mm



OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ENLARGED PLAN
PLATFORM SECTOR 1

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2211

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
Ontario Association of Architects — Licensed — 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

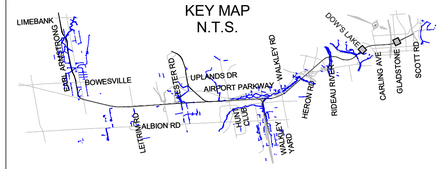
SCALE
HORIZONTAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

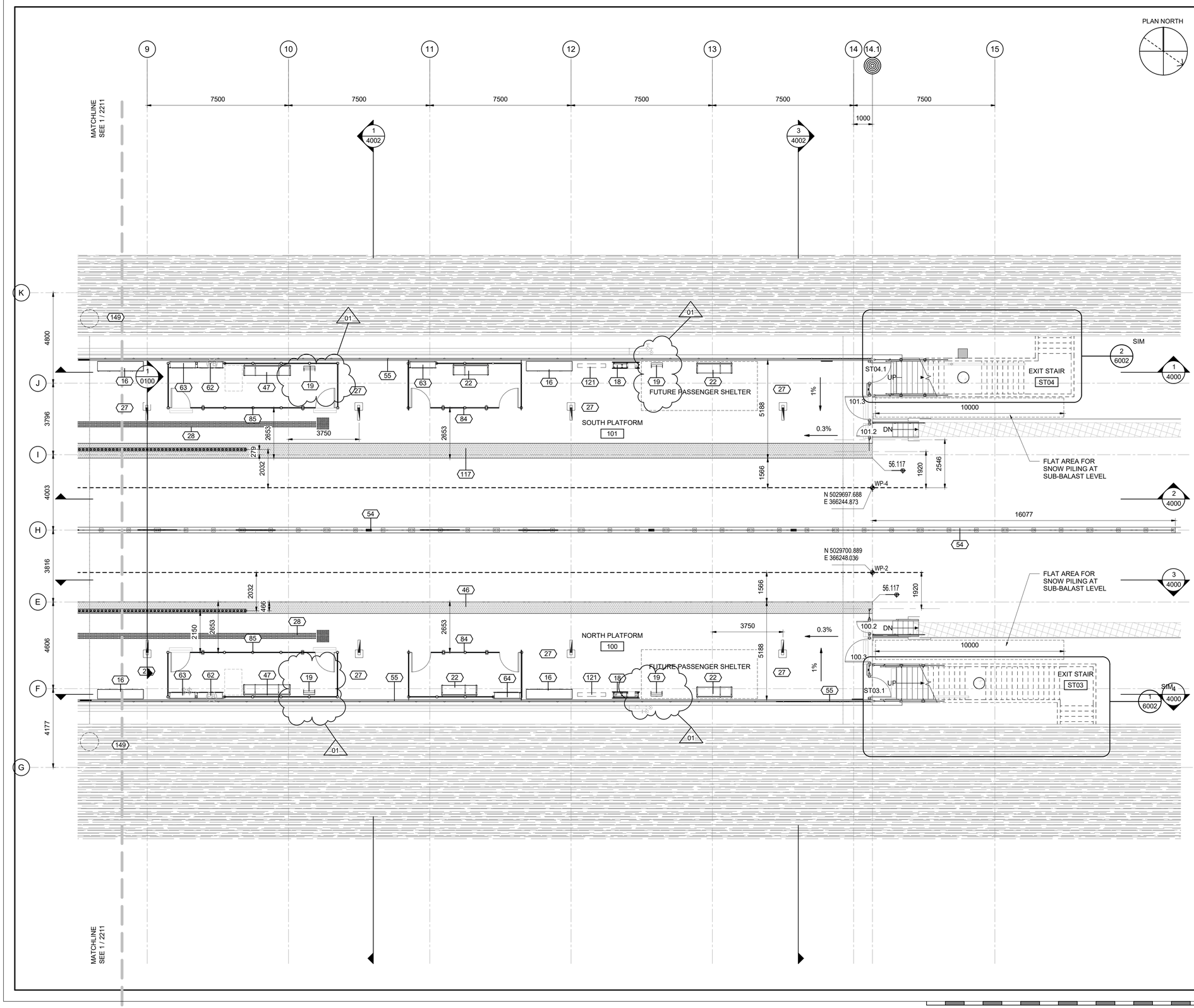


ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
16	WASTE RECPETACLE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7305
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116
18	UC-02, FIRE CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7105/7106
22	BENCH WITH SEATING FOR 3
28	TACTILE WALKING SURFACE INDICATOR (TWSI)
46	PLATFORM EDGE
51	TRENCH DRAIN, REFER TO MECHANICAL DRAWGINS
54	TYPE 4, INTERTRACK BARRIER w/ REMOVABLE TOP, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7230
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
117	RETRACTABLE PLATFORM EDGE TILE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7315
196	SST ACCESS PANEL WITH CONCRETE INFILL FOR SERVICE TRENCH, COLOUR TO MATCH FLOOR FINISH
198	CONCRETE COLUMN, REFER TO STRUCTURAL DRAWINGS

TITLEBLOCK: 790mm x 534mm



TransitNEXT

ARCHITECTURAL
CORSO ITALIA
ENLARGED PLAN
PLATFORM SECTOR 2

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2212

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

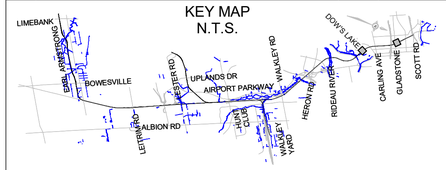
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



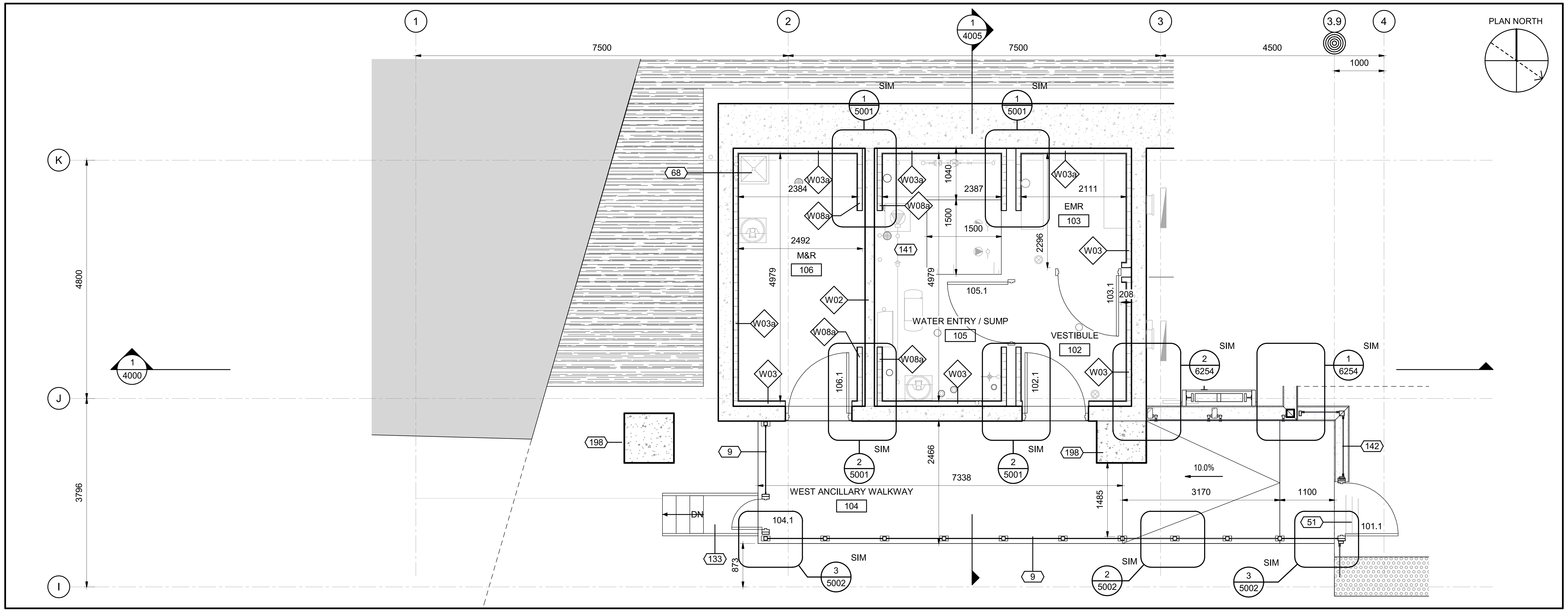
ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
16	WASTE RECPETACLE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7305
18	UC-02, FIRE CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7105/7106
19	PAYPHONE (CONDUIT AND STRUCTURE), PROVIDED BY THE CITY
22	BENCH WITH SEATING FOR 3
28	TACTILE WALKING SURFACE INDICATOR (TWSI)
46	PLATFORM EDGE
47	BENCH WITH SEATING FOR 4
54	TYPE 4, INTERTRACK BARRIER w/ REMOVABLE TOP, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7230
55	TYPE 3, CHAINLINK FENCE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7225
62	UC-03, TSA FIRE EXTINGUISHER CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7110/7111/7112
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
64	UC-01, TIP CABINET c/w ROUGH-IN FOR FUTURE SHELTER, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
84	PASSENGER SHELTER, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7200/7201
85	TSA SHELTER, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7205/7206
117	RETRACTABLE PLATFORM EDGE TILE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7315
121	ADVERTISING PANEL, 1.5m x 2.5m, TO BE PROVIDED BY THE CITY, PROVIDE PROVISIONS FOR POWER AND DATA

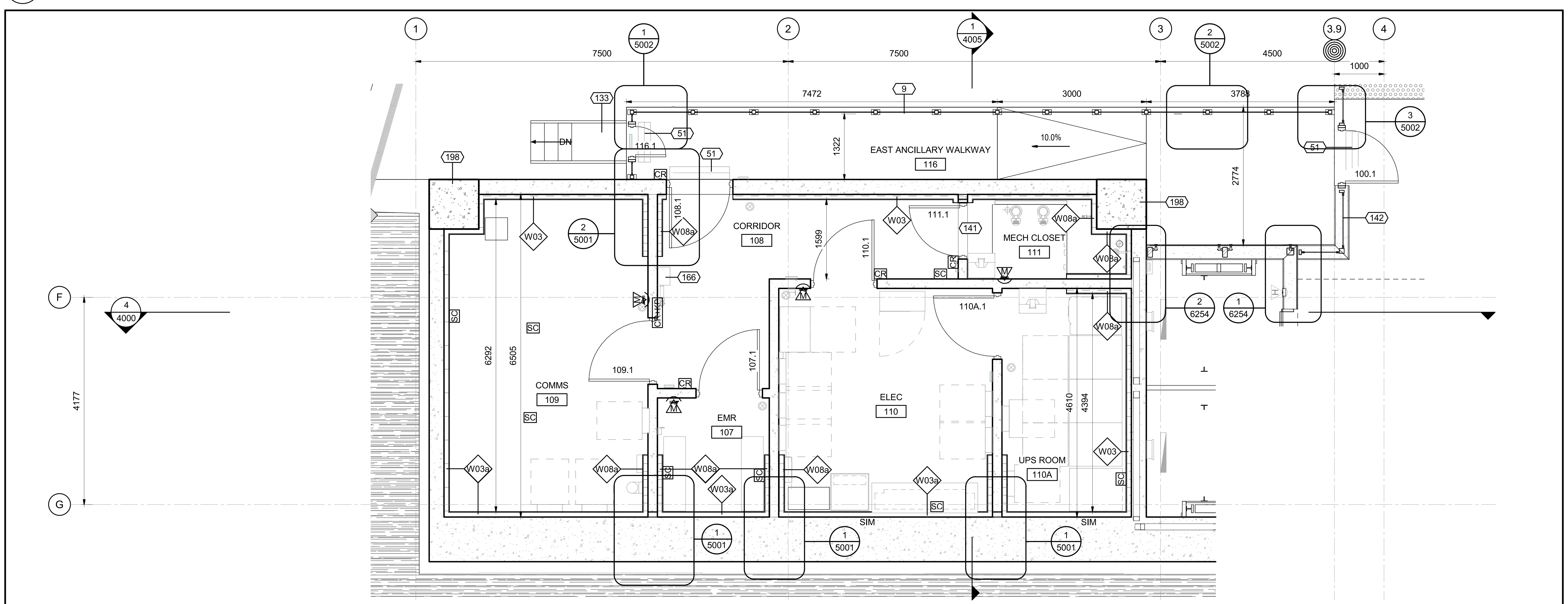
04/11/19 C:\Users\nbarrett\Documents\660373-1GSS-001-44DM-1000_NBarrettVF5JUM.rvt

TITLEBLOCK: 790mm x 534mm



2213 ENLARGED PLAN - SOUTH PLATFORM ANCILLARY

1 : 50



2213 ENLARGED PLAN - NORTH PLATFORM ANCILLARY

1 : 50

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03/18/20

ARCHITECTURAL
CORSO ITALIA
ENLARGED PLAN
ANCILLARY SPACE

CONTRACT No.	LRT19-1025
DESIGNED	R. BRISBIN
CHECKED	T. KAMPMAN
DRAWN	A. RAFIE
SEALED	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-2213

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS RICHARD BRISBIN LICENCE 3782

DESIGN FIRM

bbb architects ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

0 0.5 1 2 4 m

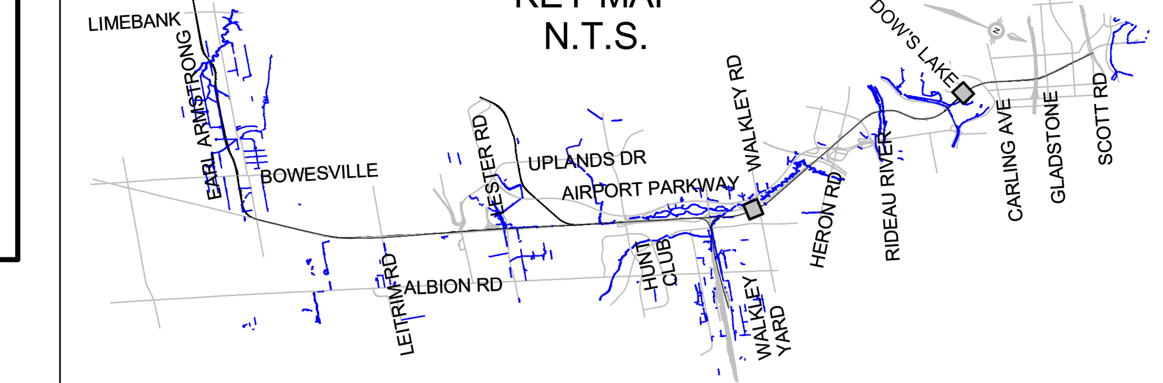
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

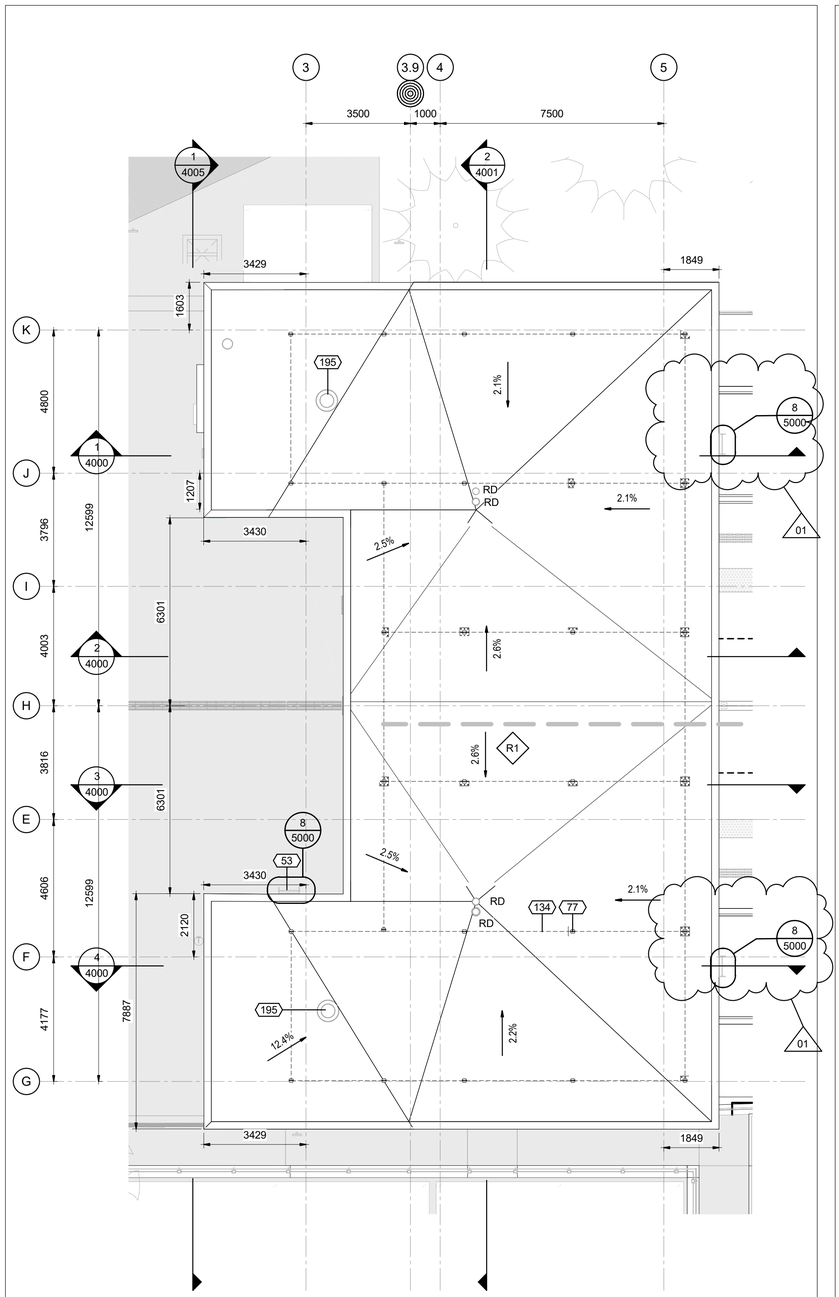


ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

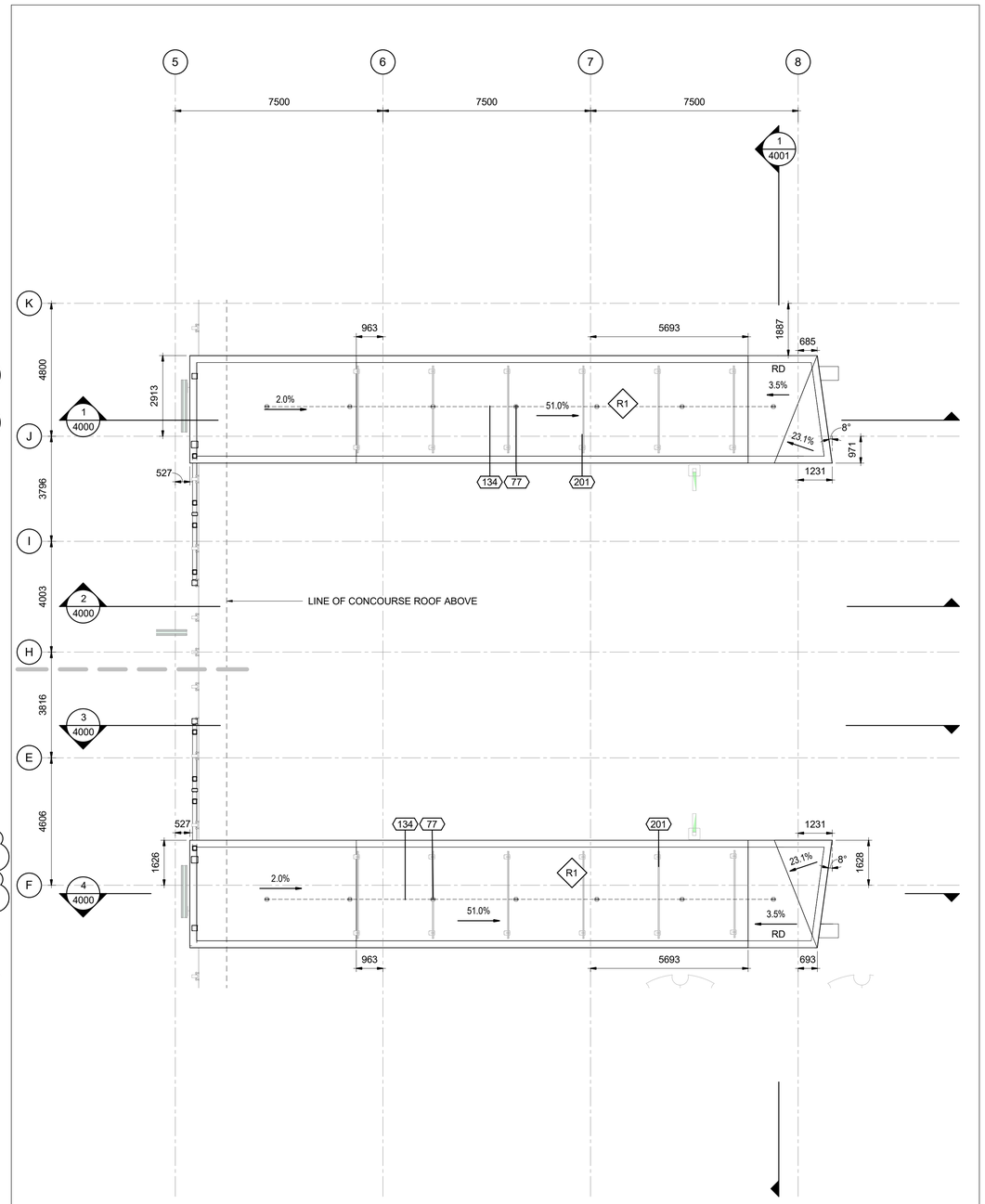
Key Value	Keynote Text
9	TYPE 2, PERFORATED METAL PANEL GUARD, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7220
51	TRENCH DRAIN, REFER TO MECHANICAL DRAWGINS
68	MOP SINK
133	GUIDEWAY EGRESS METAL STAIR WITH HANDRAIL, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7320/7321
142	TYPE 1, GLASS GUARD, MIN 1800mm HIGH, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7215/7216
166	RECESSED FIRE HOSE CABINET
198	CONCRETE COLUMN, REFER TO STRUCTURAL DRAWINGS

TITLEBLOCK: 790mm x 534mm



2 2221 ENLARGED ROOF PLAN - CONCOURSE

1 : 100



1 2221 ENLARGED ROOF PLAN - PUBLIC STAIRS

1 : 100

PLAN NORTH

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ENLARGED ROOF PLANS
CONCOURSE

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A.RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2221

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
53	LADDER BUMP
77	FALL ARREST ANCHOR FASTENED TO STRUCTURE - REFER TO STRUCTURAL FOR BEAM LOCATIONS, ANCHORS AND ANCHOR LAYOUT TO BE DESIGNED AND PROVIDED BY OTHERS, TYP.
134	LIFELINE AIRCRAFT CABLE, REFER TO FALL ARREST DRAWINGS, TYP.
195	ROOF TOP MECHANICAL EQUIPMENT, REFER TO MECHANICAL DRAWINGS
201	SNOW GUARD

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10/07/20

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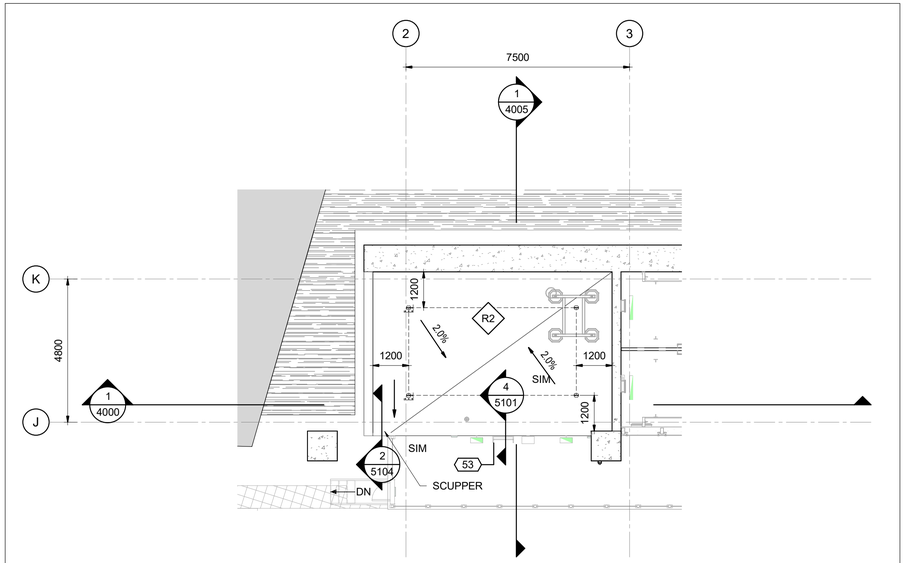
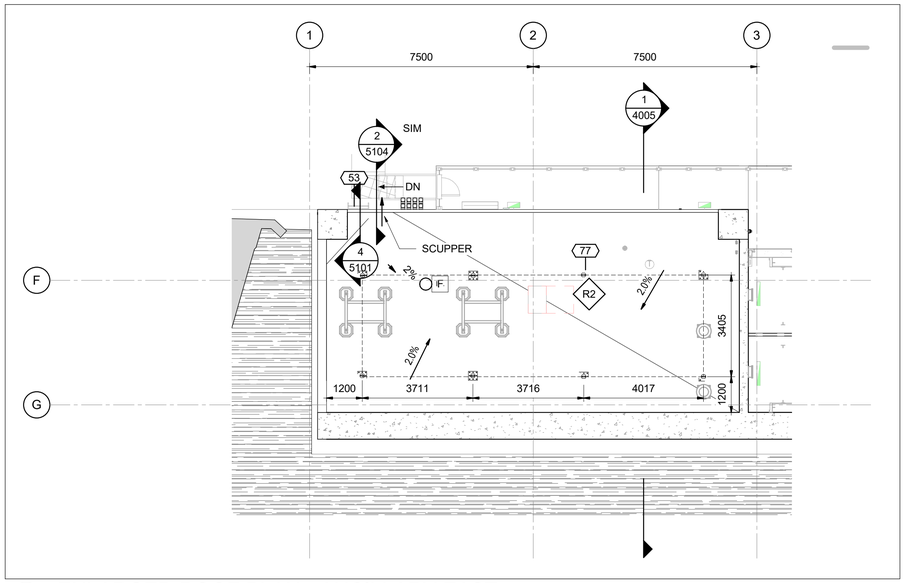


2 2222 ENLARGED ROOF PLAN - ANCILLARY WEST

1 : 100



1 2222 ENLARGED ROOF PLAN - ANCILLARY EAST

1 : 100

KEYNOTE LEGEND	
Key Value	Keynote Text
53	LADDER BUMP
77	FALL ARREST ANCHOR FASTENED TO STRUCTURE - REFER TO STRUCTURAL FOR BEAM LOCATIONS. ANCHORS AND ANCHOR LAYOUT TO BE DESIGNED AND PROVIDED BY OTHERS, TYP.
195	ROOF TOP MECHANICAL EQUIPMENT, REFER TO MECHANICAL DRAWINGS

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ENLARGED ROOF PLANS
PLATFORM

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A.RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2222

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

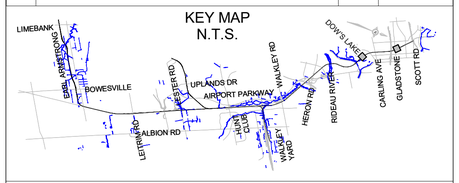
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

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10/07/20

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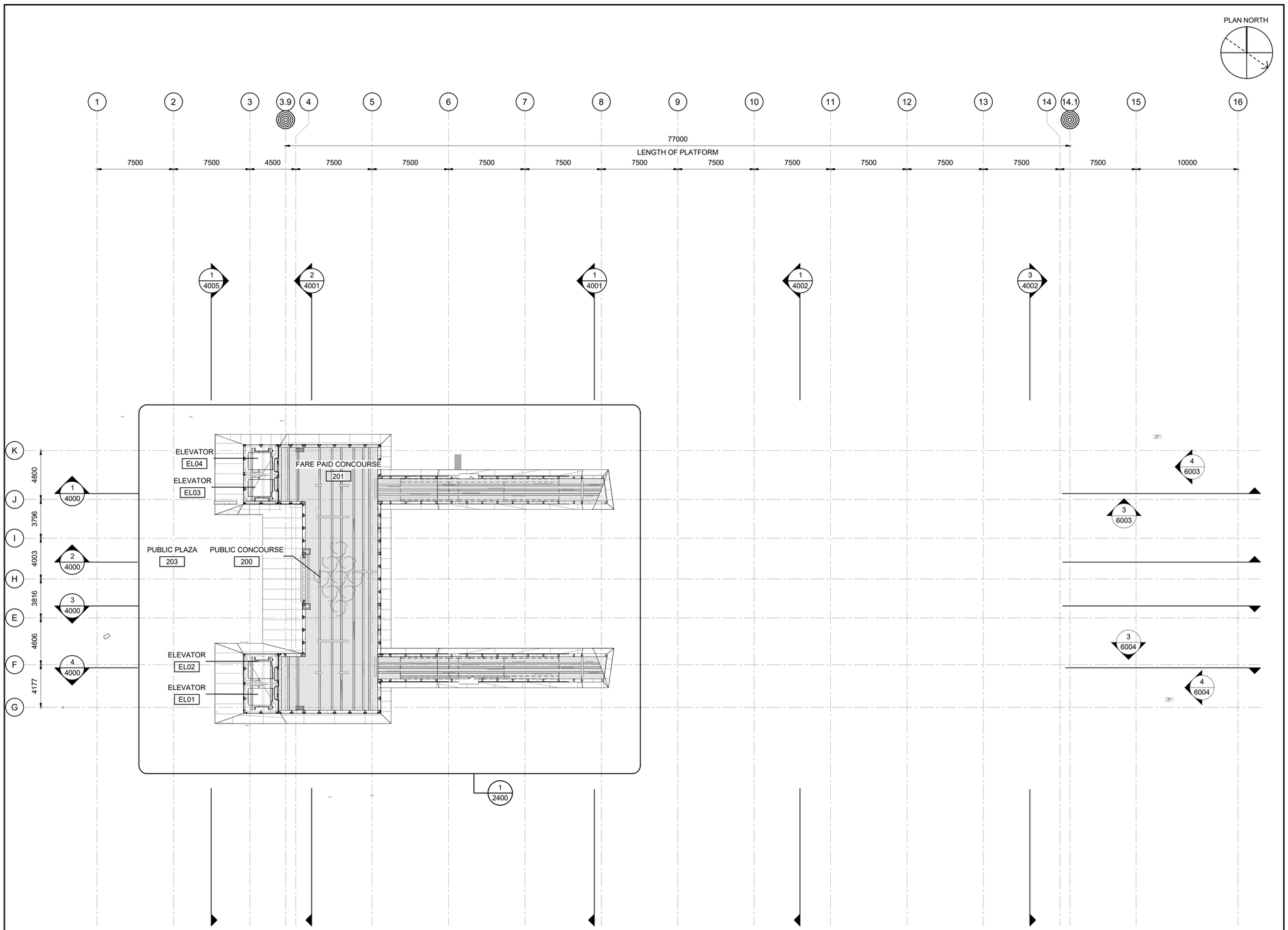

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02/04/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
REFLECTED CEILING PLAN
CONCOURSE

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	T.KAMPMAN
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2300

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

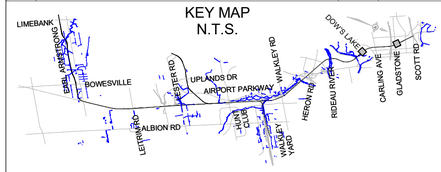
SCALE
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

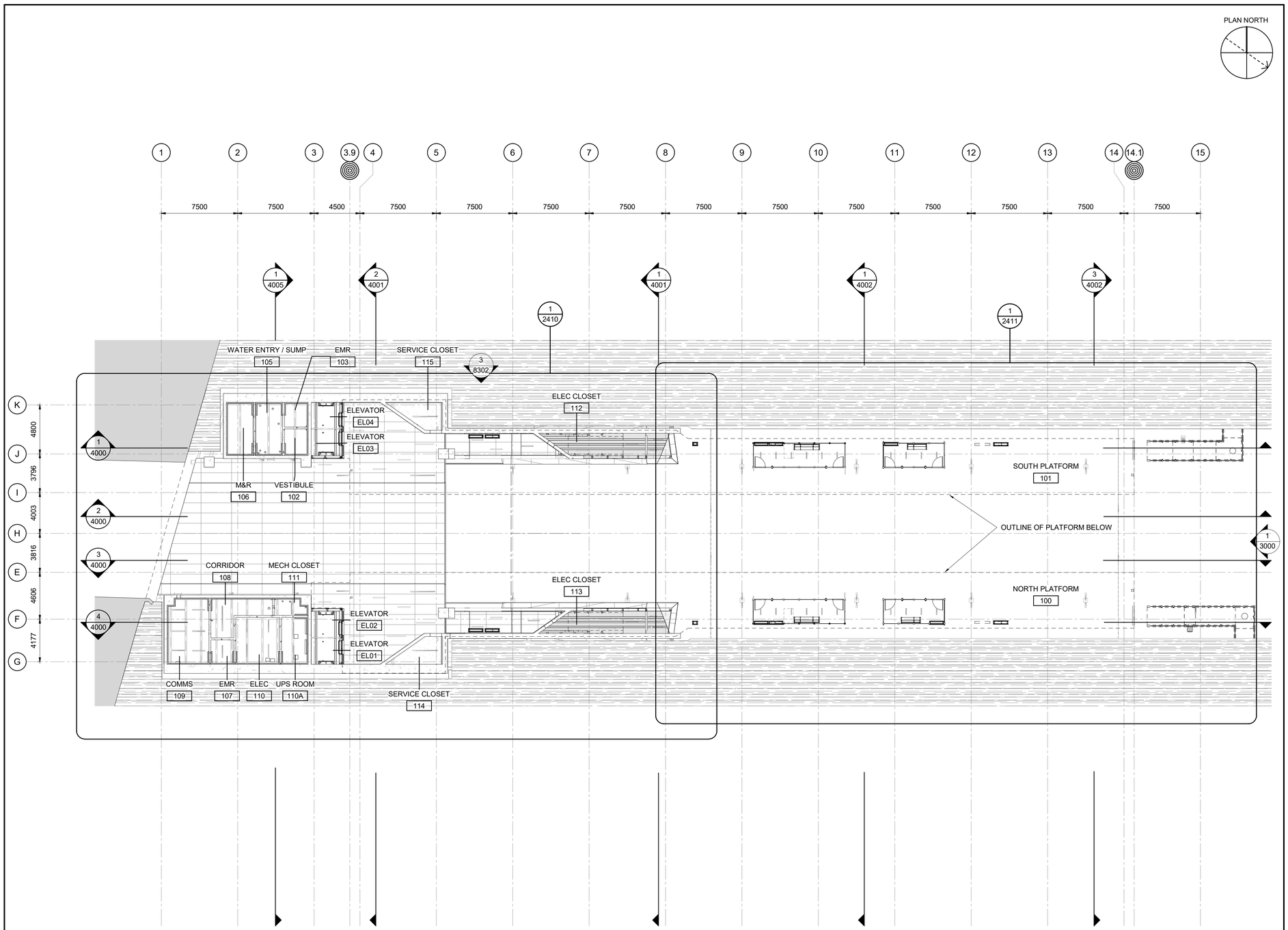
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

TITLEBLOCK: 790mm x 534mm



OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
RELFECTED CEILNG PLAN
PLATFORM

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	T.KAMPMAN
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2310

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENSE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

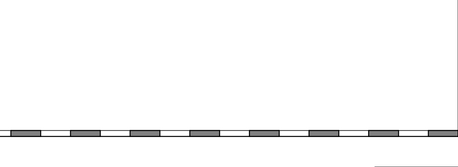
SCALE
HORIZONTAL 1 : 200 FULLSIZE; 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE; 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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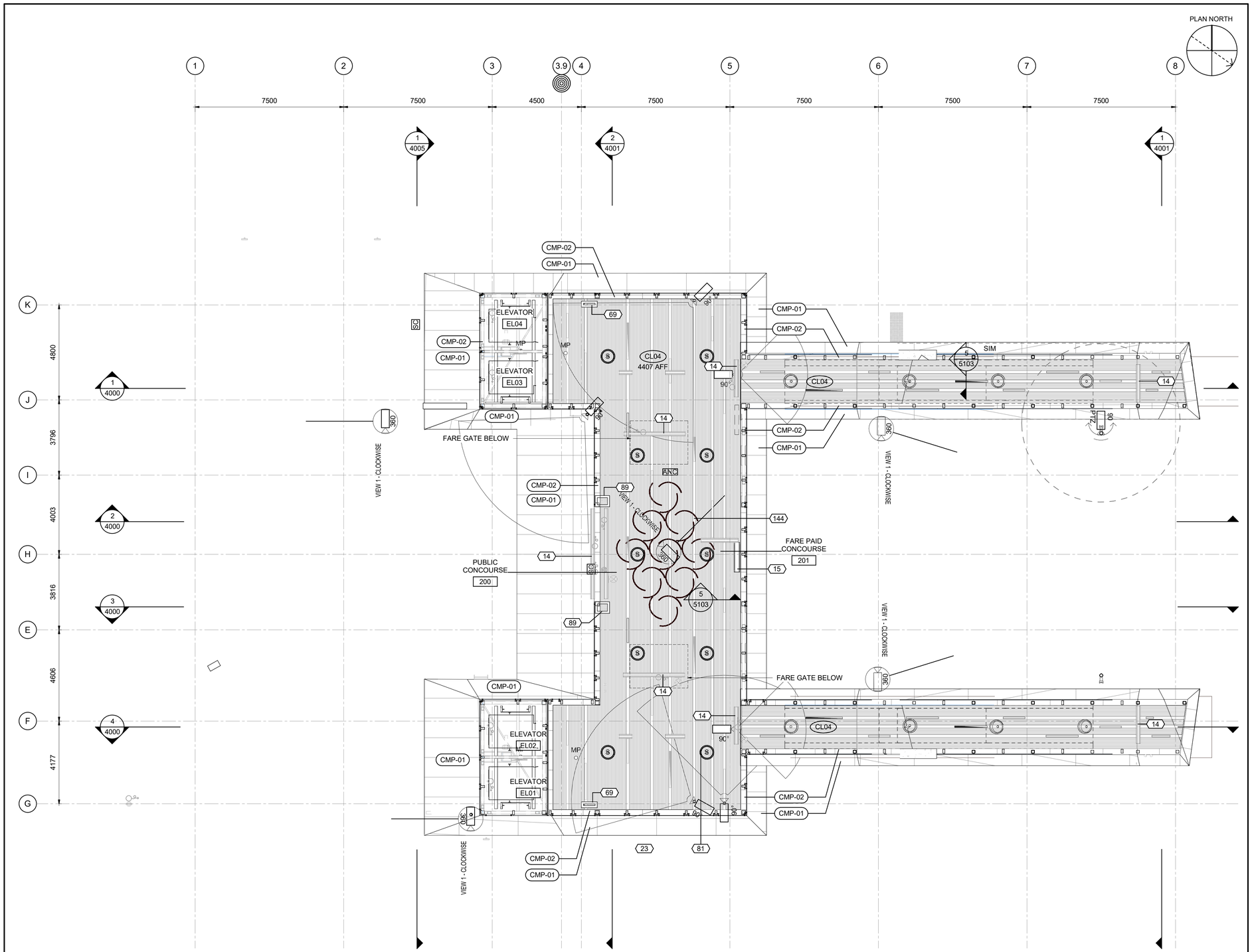
02/04/20

TITLEBLOCK: 790mm x 534mm



CONTRACT No.	LRT19-1025
DESIGNED	R. BRISBIN
CHECKED	T. KAMPMAN
DRAWN	K. SANIPE
SEALED	R. BRISBIN

ARCHITECTURAL
CORSO ITALIA
ENLARGED REFLECTED CEILING PLAN
CONCOURSE SECTOR 1

DRAWING NUMBER
660373-1GSS-001-44DD-2400

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
15	PASSENGER INFORMATION DISPLAY (PID), REFER TO SYSTEM COMMUNICATIONS PACKAGE
69	VERTICAL ELECTRICAL CHASE
81	SPEAKER, REFER TO SYSTEM COMMUNICATIONS DRAWINGS
89	RAIN WATER LEADER ENCLOSURE
144	PUBLIC ART INSTALLATION, REFER TO ARTIST PACKAGE

GENERAL NOTES

1. ALL CEILING MOUNTED FIXTURES TO BE MOUNTED IN CENTRE OF CEILING PANEL, UNO.
2. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING IN MECHANICAL, ELECTRICAL AND SERVICE SPACES.
3. REFER TO SIGNAGE AND WAYFINDING DRAWINGS FOR ALL SIGN TYPES, SIZES, LOCATION AND MOUTING TYPES.
4. REFER TO SYSTEMS DRAWINGS FOR ALL CAMERAS, SPEAKERS AND PIDS TYPES, SIZES, LOCATION AND MOUTING TYPES.

CEILING MATERIAL	CEILING / WALL MOUNTED FIXTURES
CMP COMPOSITE METAL PANEL	LIGHT FIXTURE
GL GLASS	EXIT SIGN
EXP EXPOSED CONCRETE	FIRE ALARM (S, HS)
MLC-02 METAL LINEAR CEILING	FIRE HEAT DETECTOR (MP)
MLC-01 METAL LINEAR CEILING	SMOKE DETECTOR
	REFER TO ELECTRICAL DRAWINGS
	SECURITY CAMERA
	SPEAKER
	PASSENGER INFORMATION DISPLAY SCREEN
	REFER TO SYSTEMS DRAWINGS
	SIGNAGE
	REFER TO SIGNAGE AND WAYFINDING DWGS

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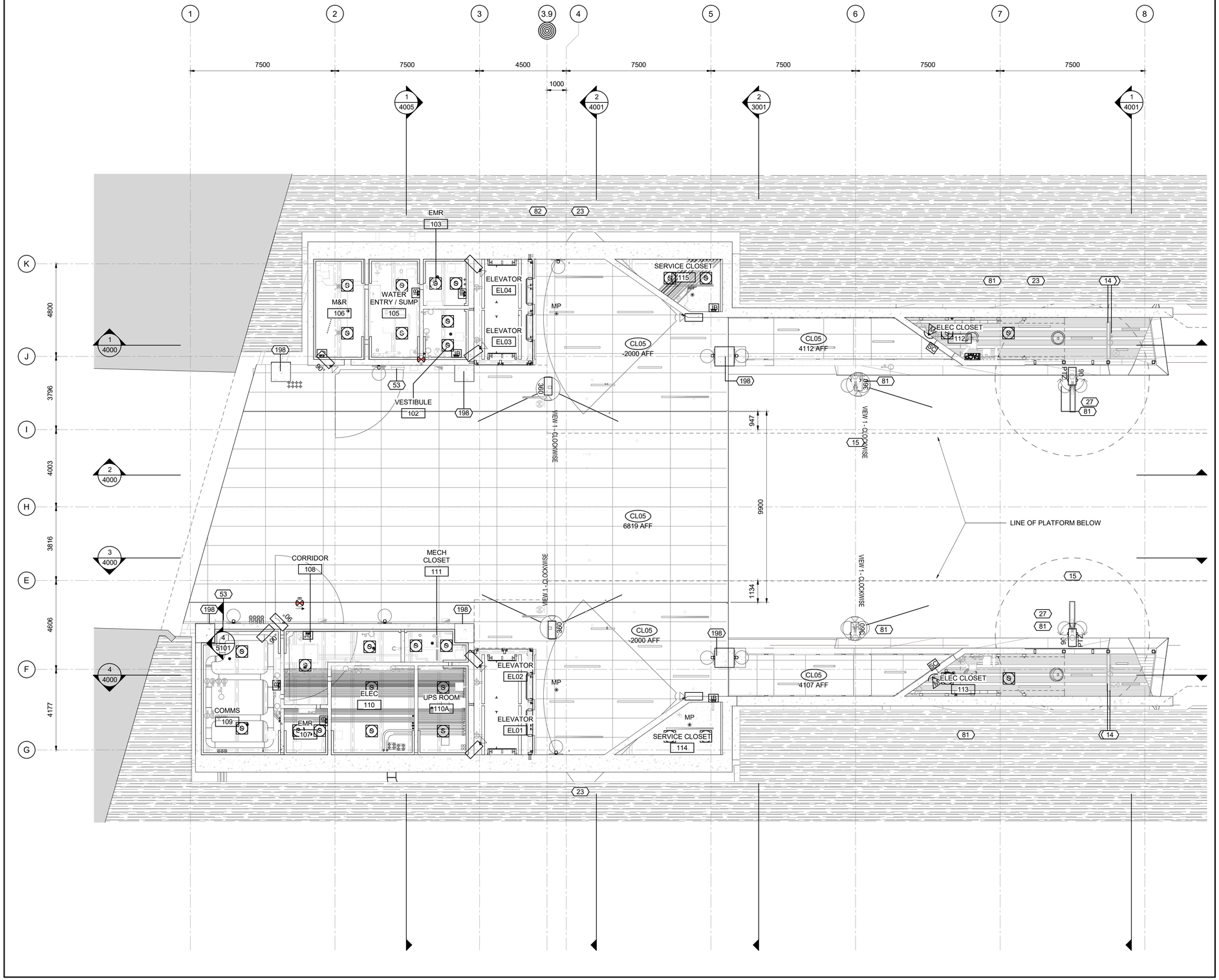
04/11/19

TITLEBLOCK: 790mm x 534mm



OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ENLARGED REFLECTED CEILING PLAN
PLATFORM SECTOR 1

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2410

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

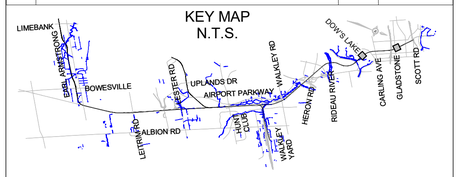
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
53	LADDER BUMP
81	SPEAKER, REFER TO SYSTEM COMMUNICATIONS DRAWINGS
198	CONCRETE COLUMN, REFER TO STRUCTURAL DRAWINGS

GENERAL NOTES

1. ALL CEILING MOUNTED FIXTURES TO BE MOUNTED IN CENTRE OF CEILING PANEL, UNO.
2. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING IN MECHANICAL, ELECTRICAL AND SERVICE SPACES.
3. REFER TO SIGNAGE AND WAYFINDING DRAWINGS FOR ALL SIGN TYPES, SIZES, LOCATION AND MOUTING TYPES.
4. REFER TO SYSTEMS DRAWINGS FOR ALL CAMERAS, SPEAKERS AND PIDS TYPES, SIZES, LOCATION AND MOUTING TYPES.

CEILING MATERIAL

- CMP — COMPOSITE METAL PANEL
- GL — GLASS
- EXP — EXPOSED CONCRETE
- MLC-02 — METAL LINEAR CEILING
- MLC-01 — METAL LINEAR CEILING

CEILING / WALL MOUNTED FIXTURES

- LIGHT FIXTURE
- EXIT SIGN
- S HS — FIRE ALARM
- MP — FIRE HEAT DETECTOR
- SMOKE DETECTOR

REFER TO ELECTRICAL DRAWINGS

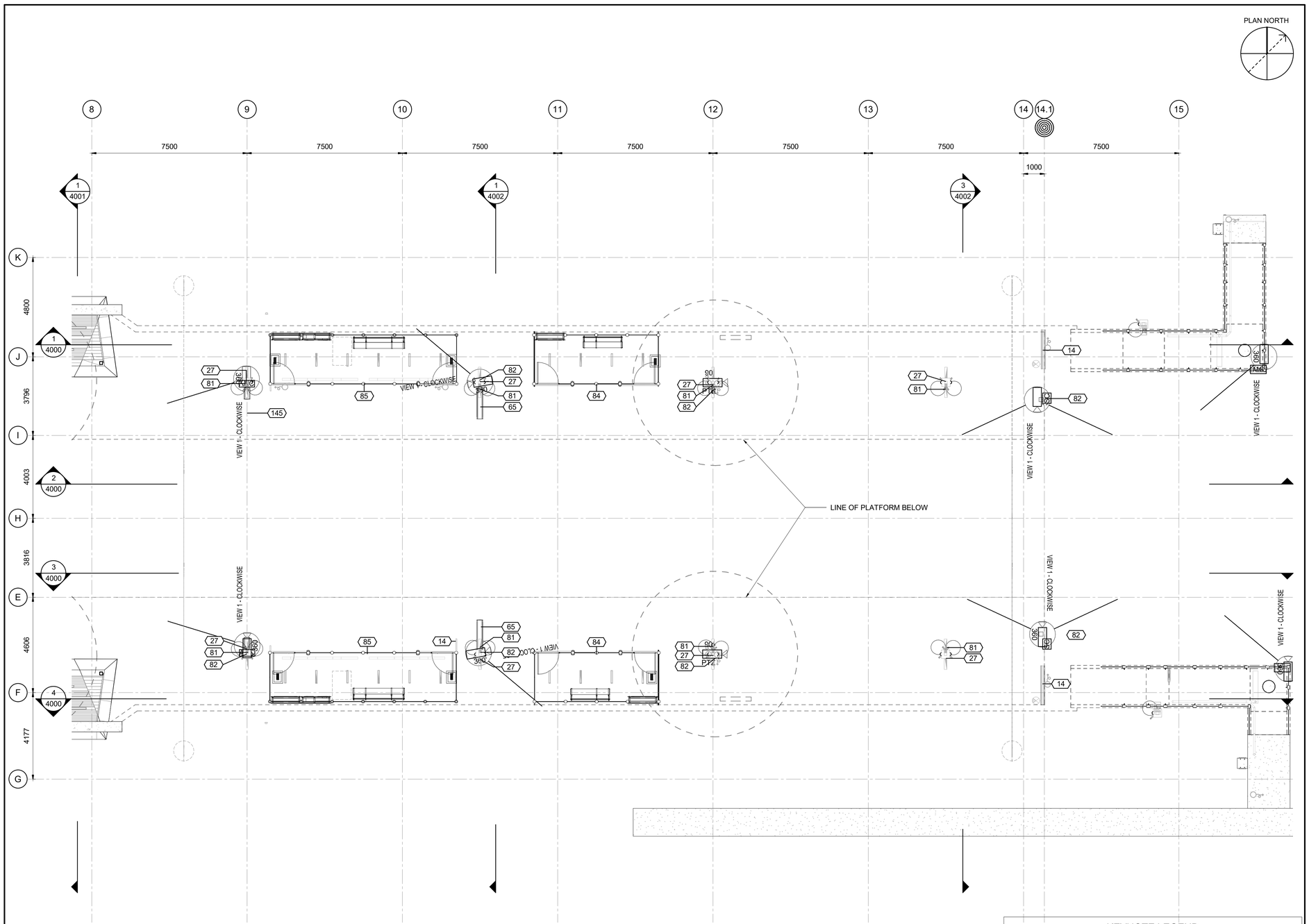
- SECURITY CAMERA
- SPEAKER
- PASSENGER INFORMATION DISPLAY SCREEN

REFER TO SYSTEMS DRAWINGS

- SIGNAGE

REFER TO SIGNAGE AND WAYFINDING DWGS

TITLEBLOCK: 790mm x 534mm



KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
27	LIGHT POLE, REFER TO ELECTRICAL AND STRUCTURAL DRAWINGS FOR LIGHT POLE AND FOUNDATION TYPE BASED ON LIGHT POLE LOCATION
65	PASSENGER INFORMATION DISPLAY (PID) - SUSPENDED FROM OUTRIGGER MOUNTED TO LIGHT POLE, REFER TO SYSTEM COMMUNCIATIONS PACKAGE
81	SPEAKER, REFER TO SYSTEM COMMUNICATIONS DRAWINGS
82	CAMERA, REFER TO SYSTEM COMMUNICATIONS DRAWINGS
84	PASSENGER SHELTER, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7200/7201
85	TSA SHELTER, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7205/7206
145	CLOCK, REFER TO SYSTEM COMMUNICATIONS

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ENLARGED REFLECTED CEILING PLAN
PLATFORM SECTOR 2

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2411

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENSED
3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

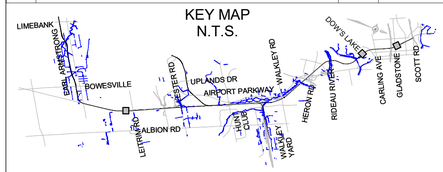
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

GENERAL NOTES

1. ALL CEILING MOUNTED FIXTURES TO BE MOUNTED IN CENTRE OF CEILING PANEL, UNO.
2. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING IN MECHANICAL, ELECTRICAL AND SERVICE SPACES.
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4. REFER TO SYSTEMS DRAWINGS FOR ALL CAMERAS, SPEAKERS AND PIDS TYPES, SIZES, LOCATION AND MOUTING TYPES.

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- GL — GLASS
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- LIGHT FIXTURE
- EXIT SIGN
- S HS — FIRE ALARM
- MP — FIRE HEAT DETECTOR
- SMOKE DETECTOR

REFER TO ELECTRICAL DRAWINGS

- SECURITY CAMERA
- SPEAKER
- PASSENGER INFORMATION DISPLAY SCREEN

REFER TO SYSTEMS DRAWINGS

- SIGNAGE

REFER TO SIGNAGE AND WAYFINDING DWGS

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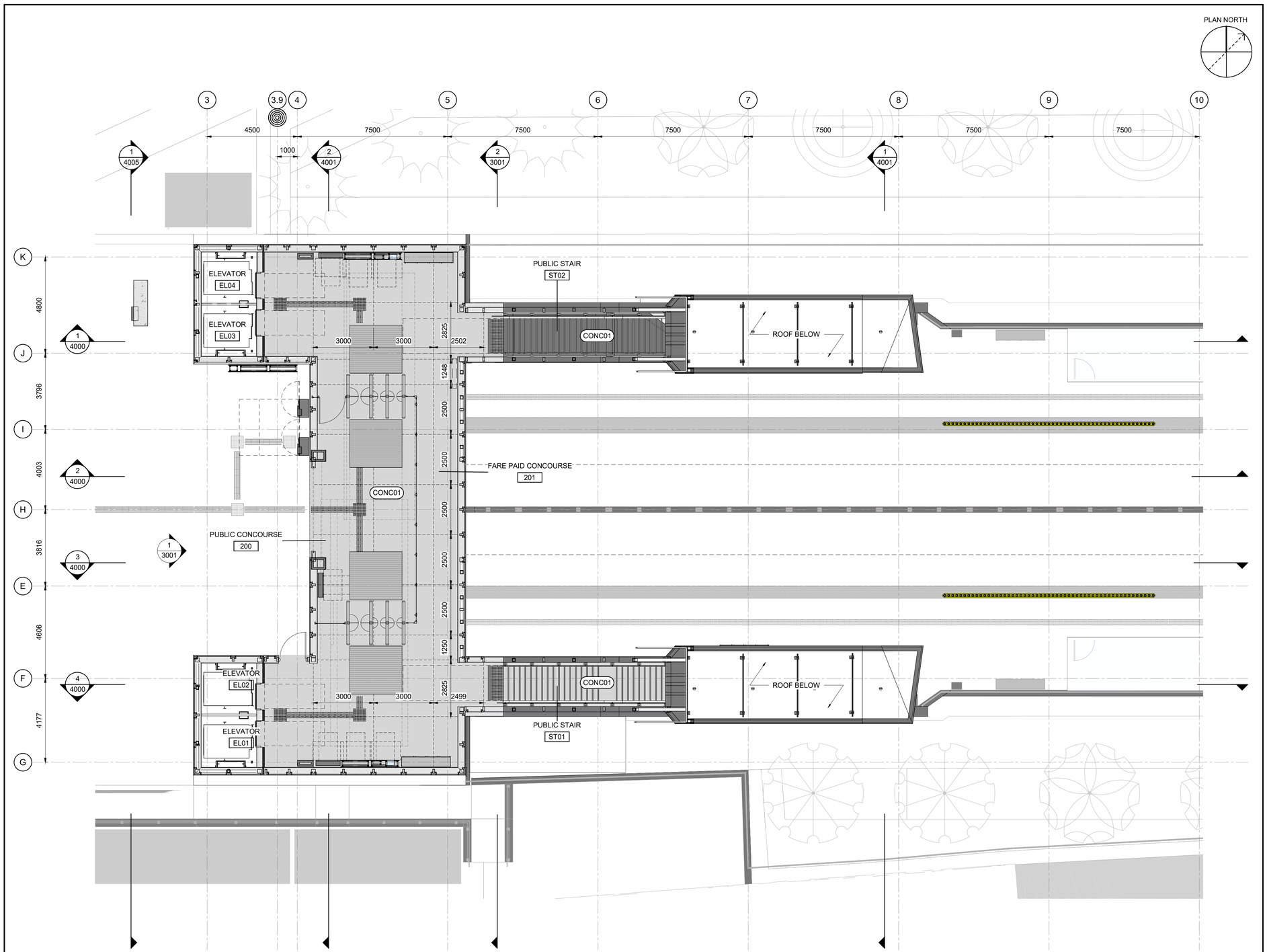
10/06/20

TITLEBLOCK: 790mm x 534mm



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10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
FLOOR FINISH PLAN
CONCOURSE SECTOR 1

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2501

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

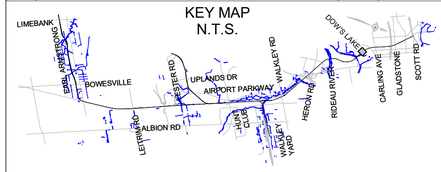
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

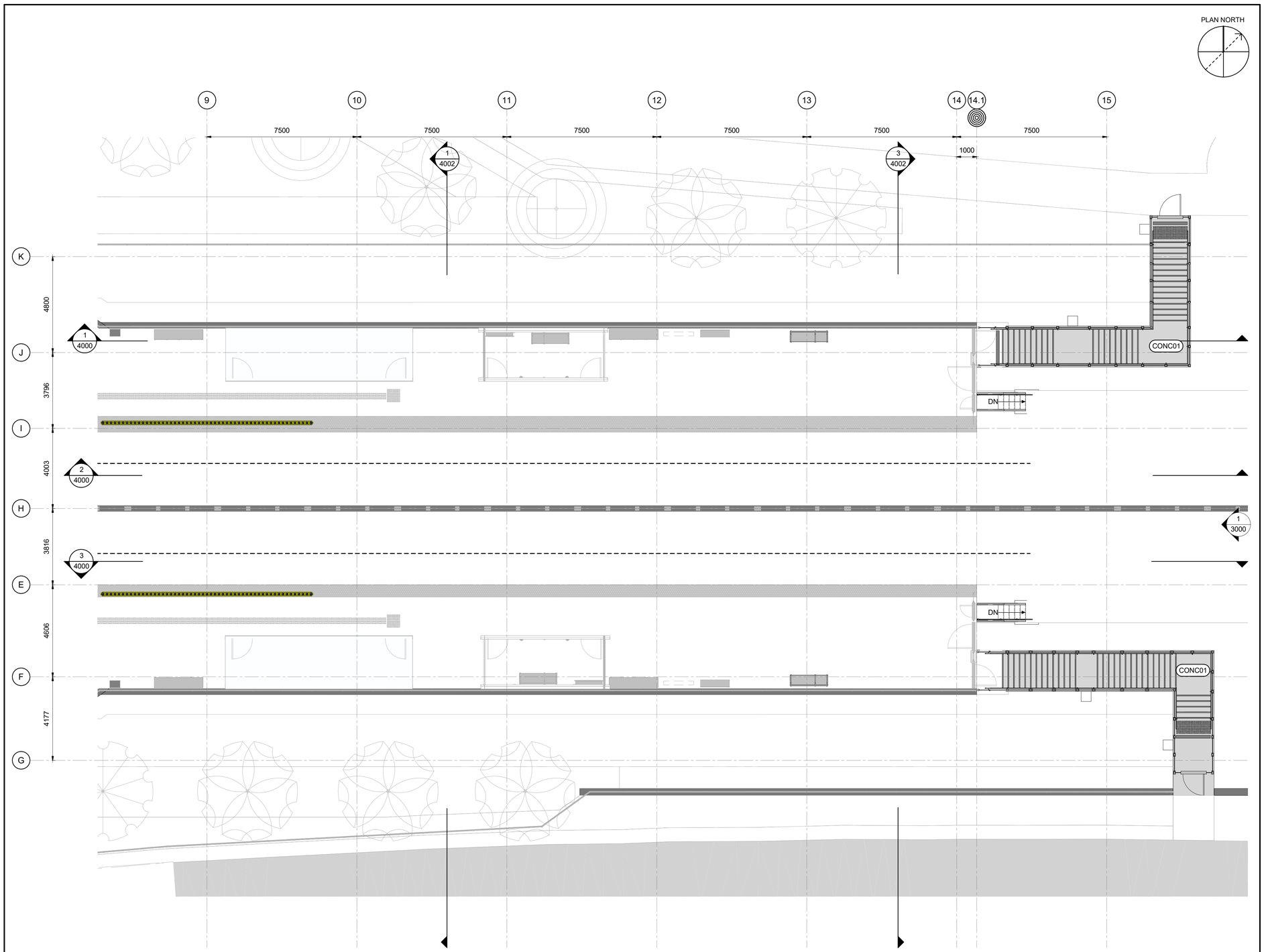
FLOOR PATTERN LEGEND

GENERAL NOTES:
1. TWSI LAYOUT PATTERNS TO FOLLOW ISO 23599
2. TWSI TO BE 600mm CLEAR FROM OBSTRUCTIONS

- TACTILE WARNING STRIP AT PLATFORM EDGE 610mm X 1200mm
- TACTILE WALKING SURFACE INDICATOR (TWSI)
- STAIR WARNING TRACK 610mm WIDE
- CONC 01
- CONC 02
- CONCRETE CONTROL JOINTS
- RECESSED SST FOOT GRILLE

CIP - CAST IN PLACE CONCRETE
EPY - EPOXY FINISH
EXIST - EXISTING FLOOR FINISH TO REMAIN
SDFAF - STATIC DISSIPATED FLUID APPLIED FLOORING

TITLEBLOCK: 790mm x 534mm



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10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
FLOOR FINISH PLAN
CONCOURSE SECTOR 2

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2502

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

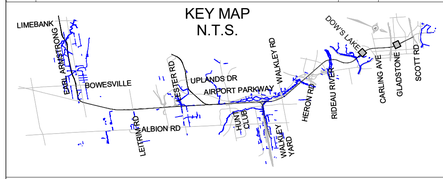
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

FLOOR PATTERN LEGEND

GENERAL NOTES:
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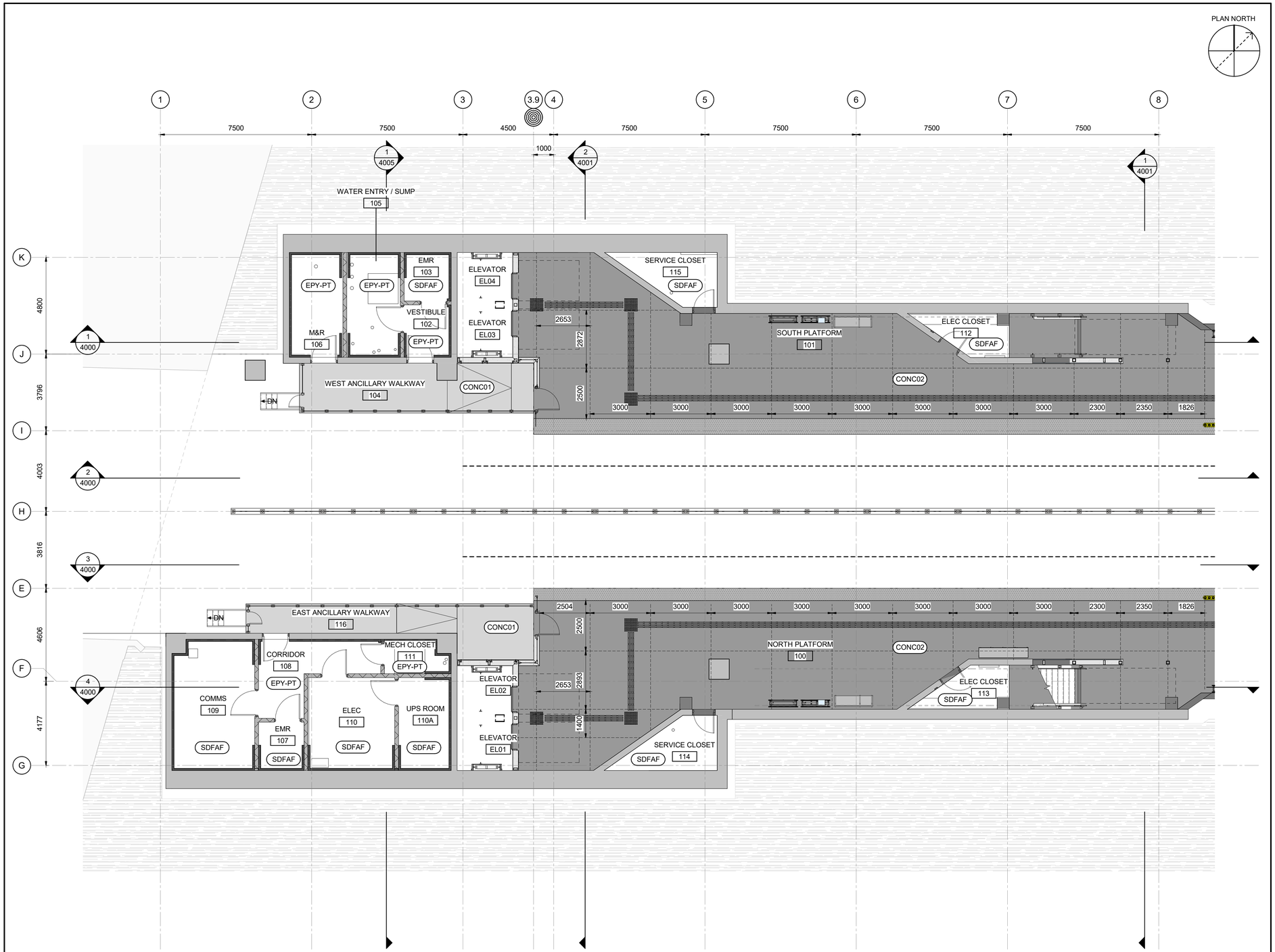
SDFAF - STATIC DISSIPATED FLUID APPLIED FLOORING

TITLEBLOCK: 790mm x 534mm



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10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
FLOOR FINISH PLAN
PLATFORM SECTOR 1

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2511

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

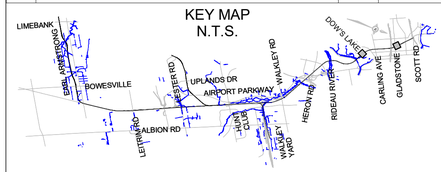
SCALE
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

FLOOR PATTERN LEGEND

GENERAL NOTES:
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2. TWSI TO BE 600mm CLEAR FROM OBSTRUCTIONS

- TACTILE WARNING STRIP AT PLATFORM EDGE 610mm X 1200mm
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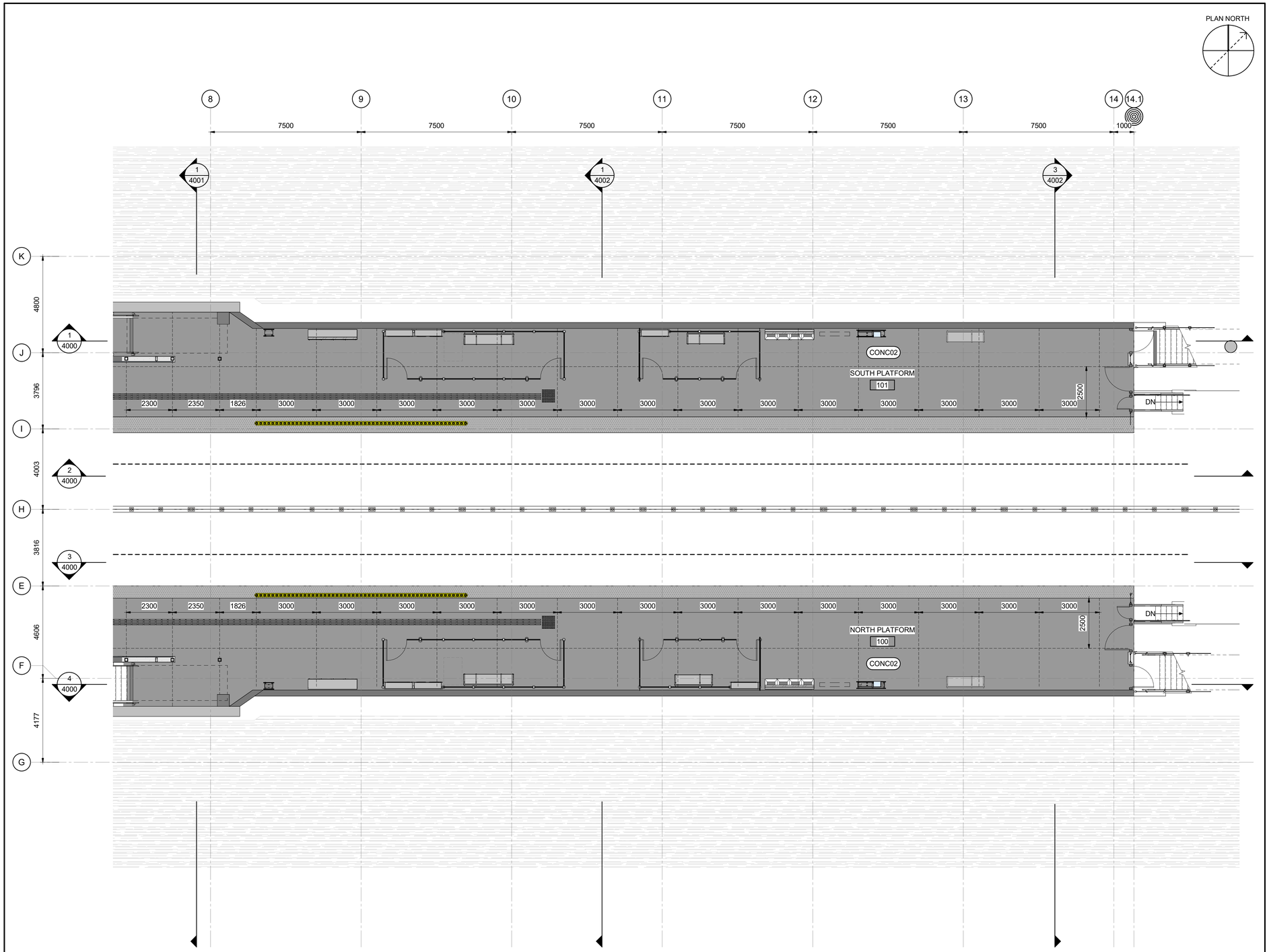
TITLEBLOCK: 790mm x 534mm



OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
FLOOR FINISH PLAN
PLATFORM SECTOR 2

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-2512

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

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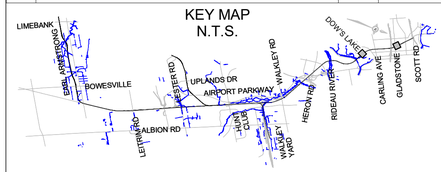

ISSUED FOR CONSTRUCTION
2021-03-29

FLOOR PATTERN LEGEND

GENERAL NOTES:
1. TWSI LAYOUT PATTERNS TO FOLLOW ISO 23599
2. TWSI TO BE 600mm CLEAR FROM OBSTRUCTIONS

- TACTILE WARNING STRIP AT PLATFORM EDGE 610mm X 1200mm
- TACTILE WALKING SURFACE INDICATOR (TWSI)
- STAIR WARNING TRACK 610mm WIDE
- CONC 01
- CONC 02
- CONCRETE CONTROL JOINTS
- RECESSED SST FOOT GRILLE

CIP - CAST IN PLACE CONCRETE
EPY - EPOXY FINISH
EXIST - EXISTING FLOOR FINISH TO REMAIN
SDFAF - STATIC DISSIPATED FLUID APPLIED FLOORING

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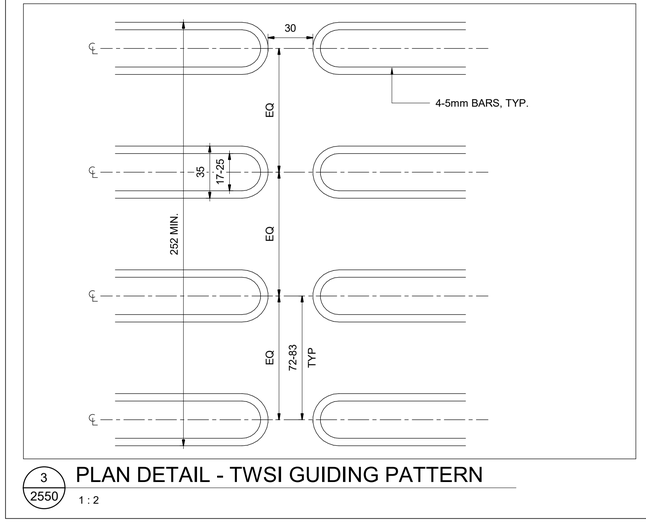
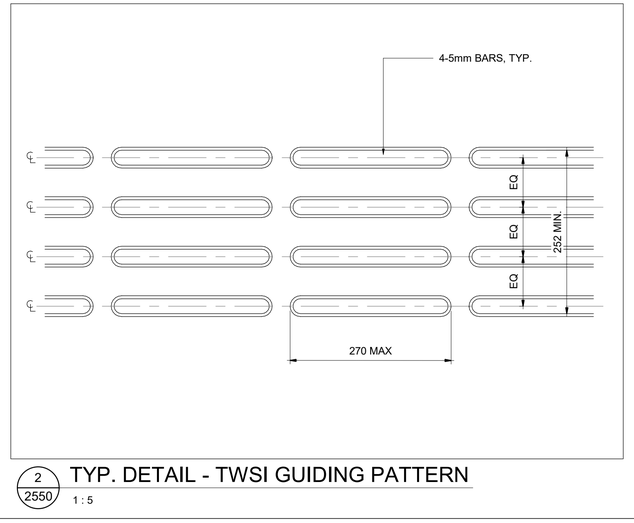
10/06/20

TITLEBLOCK: 790mm x 534mm



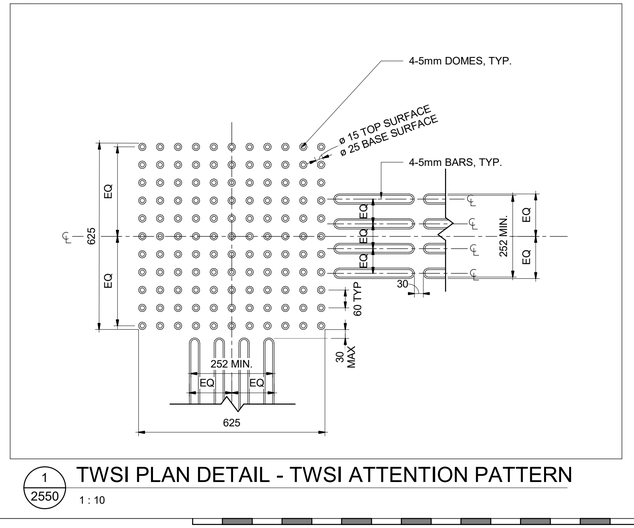
6 2550 JOINT AT CONCRETE AND COLUMN

1 : 2



5 2550 TYP. CONCRETE JOINT AT CURB

1 : 2



4 2550 TYP. CONCRETE SAW CUT

1 : 2

3 2550 PLAN DETAIL - TWSI GUIDING PATTERN

1 : 2

2 2550 TYP. DETAIL - TWSI GUIDING PATTERN

1 : 5

1 2550 TWSI PLAN DETAIL - TWSI ATTENTION PATTERN

1 : 10

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
FLOOR FINISH PLAN
DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A.RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-2550

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN
LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

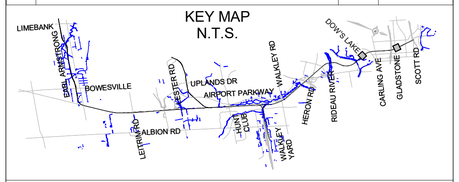
AS SHOWN

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

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10/07/20

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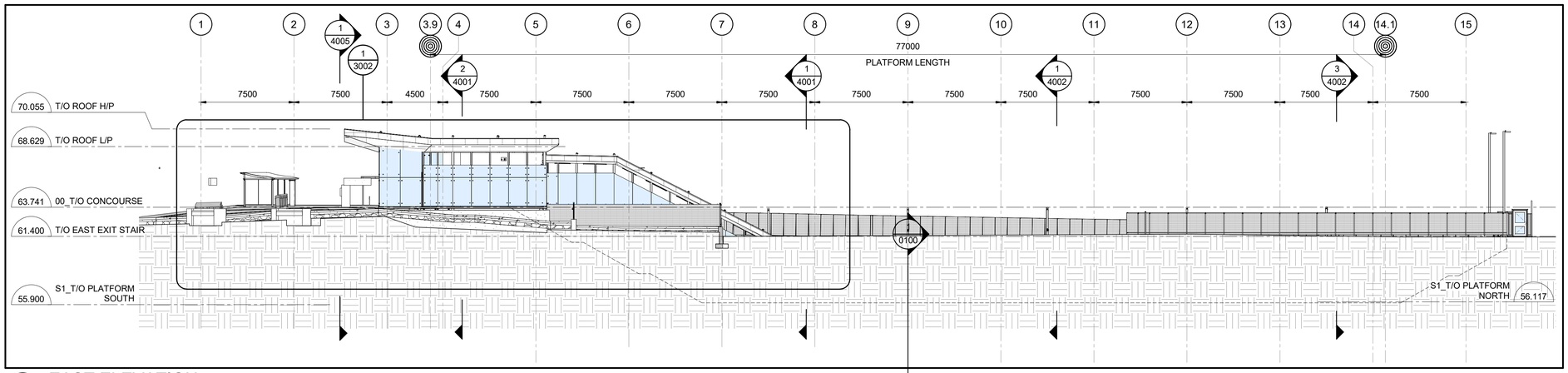
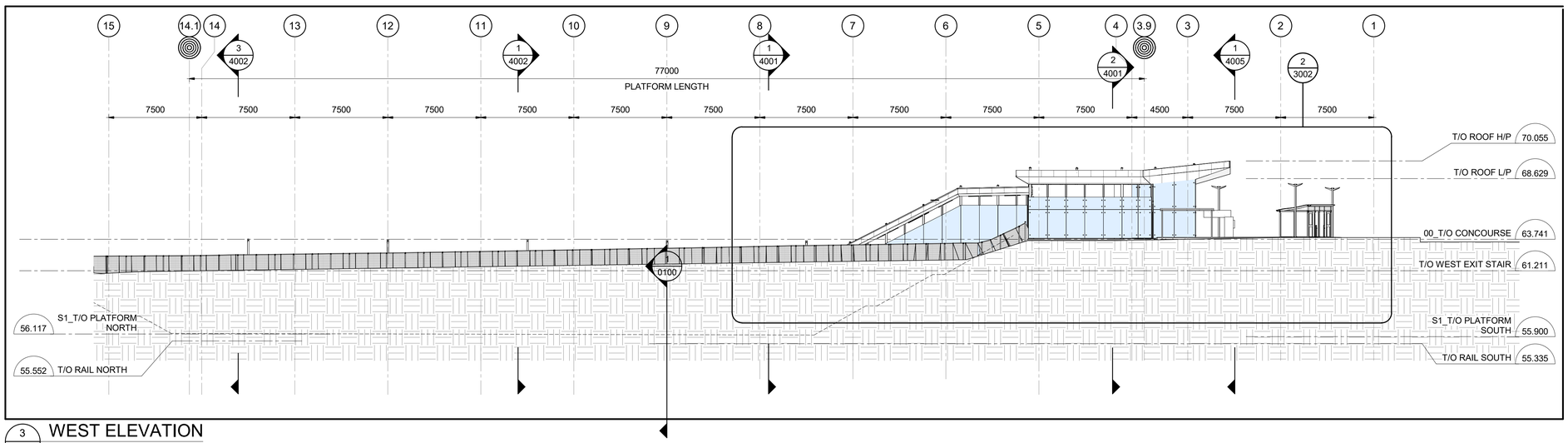


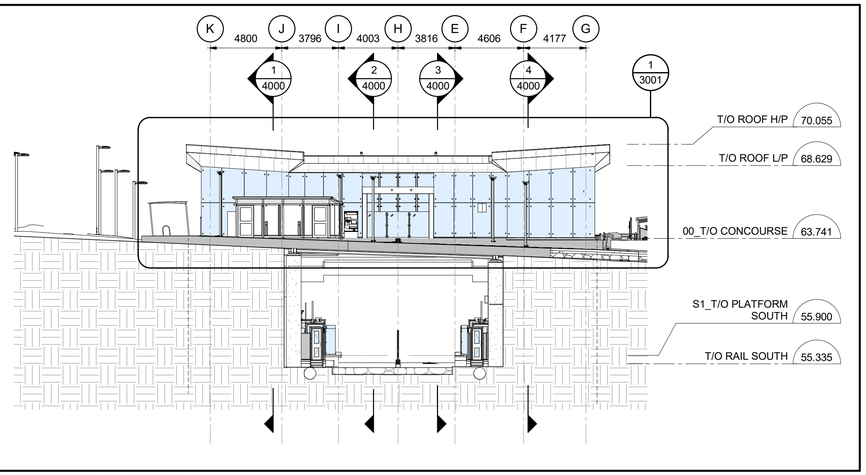
4 / 3000 EAST ELEVATION

1 : 200



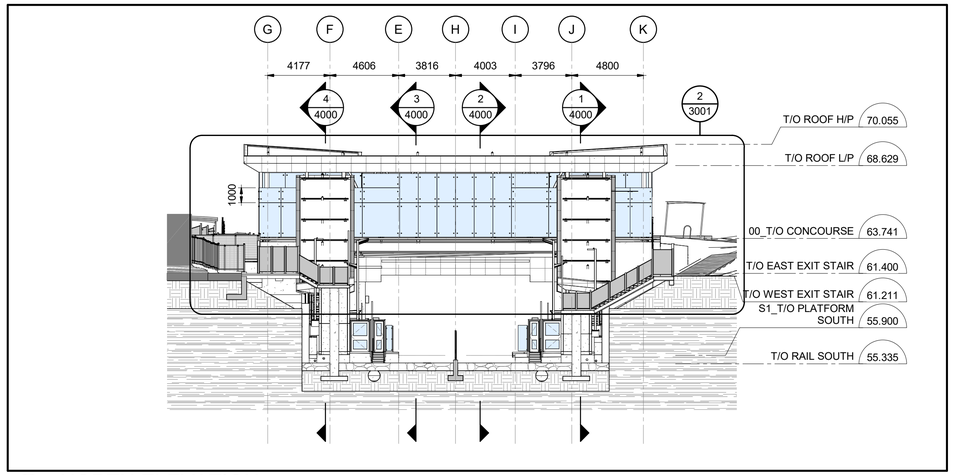
3 / 3000 WEST ELEVATION

1 : 200



2 / 3000 SOUTH ELEVATION

1 : 200



1 / 3000 NORTH ELEVATION

1 : 200

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03/23/16

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ELEVATIONS
EXTERIOR ELEVATIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-3000

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENSE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 200 FULLSIZE; 1 : 400 HALF SIZE

0 2 4 8 16 m

VERTICAL 1 : 200 FULLSIZE; 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

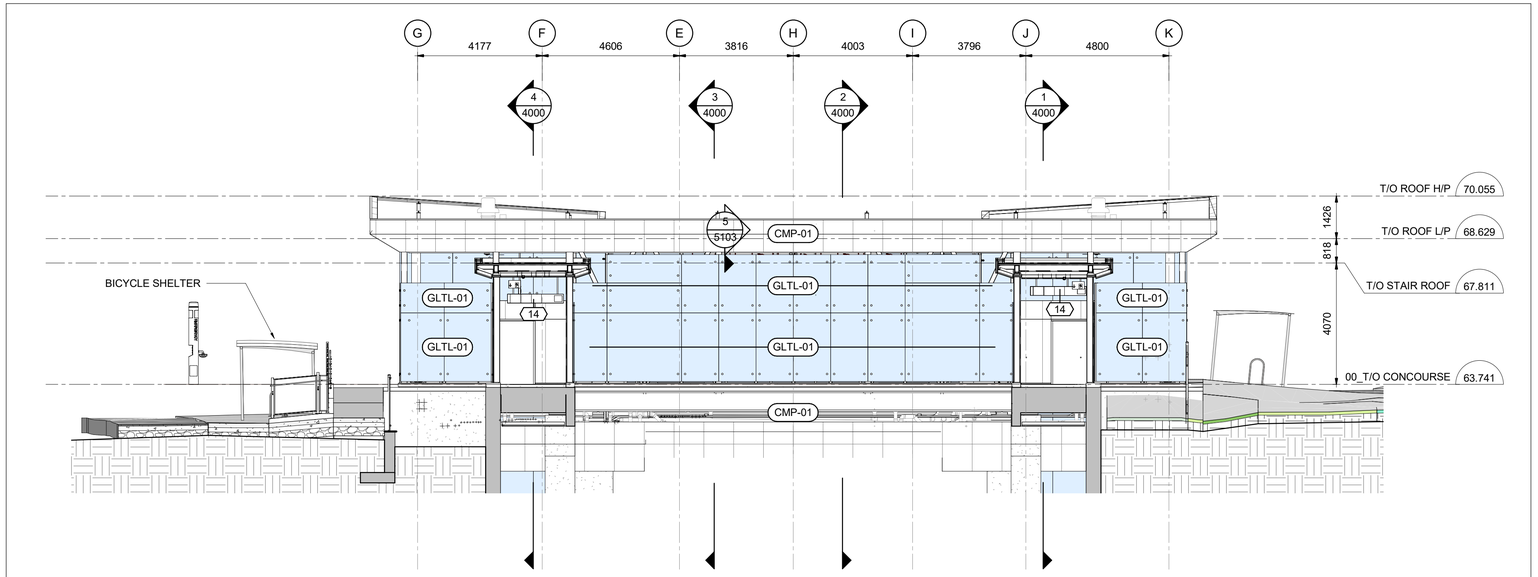
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION

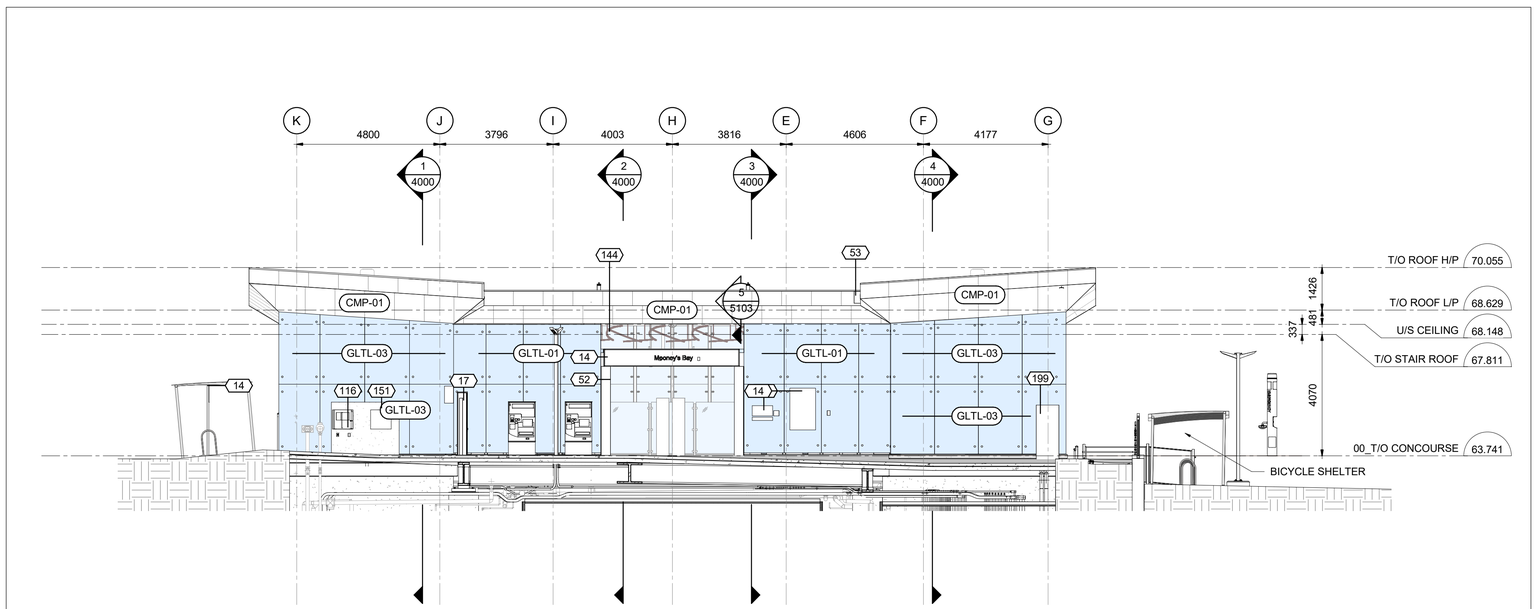
2021-03-29

TITLEBLOCK: 790mm x 534mm



2 / 3001 ENLARGED ELEVATION - CONCOURSE NORTH

1 : 100



1 / 3001 ENLARGED ELEVATION - CONCOURSE SOUTH

1 : 100

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ELEVATIONS
EXTERIOR ELEVATIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-3001

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS — ROBERT BRISBIN LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

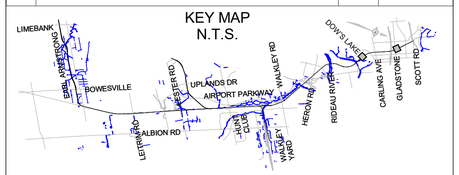
HORIZONTAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116
52	SECURITY GATE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7210
53	LADDER BUMP
116	FIRE DEPARTMENT CONNECTION (FDC)
144	PUBLIC ART INSTALLATION, REFER TO ARTIST PACKAGE
151	INCIDENT COMMAND POST (ICP) WITH ANNUNCIATOR PANEL
199	QUICK CONNECT FOR MOBILE GENERATOR, REFER TO ELECTRICAL DRAWINGS

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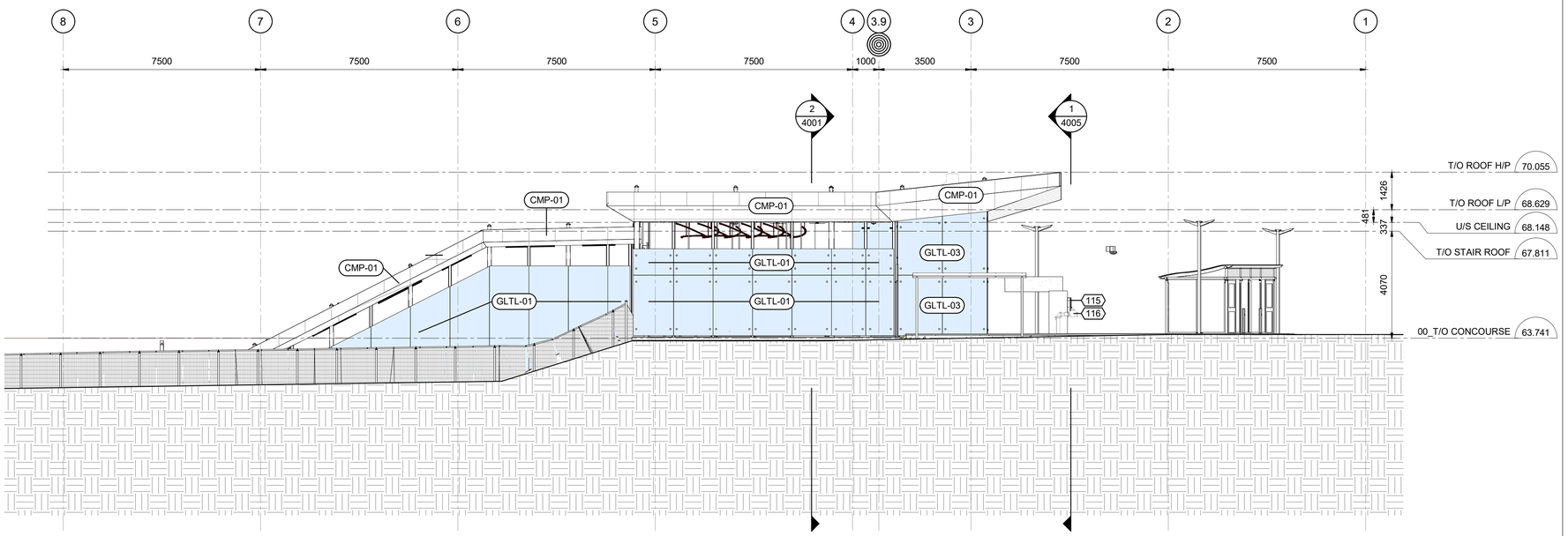
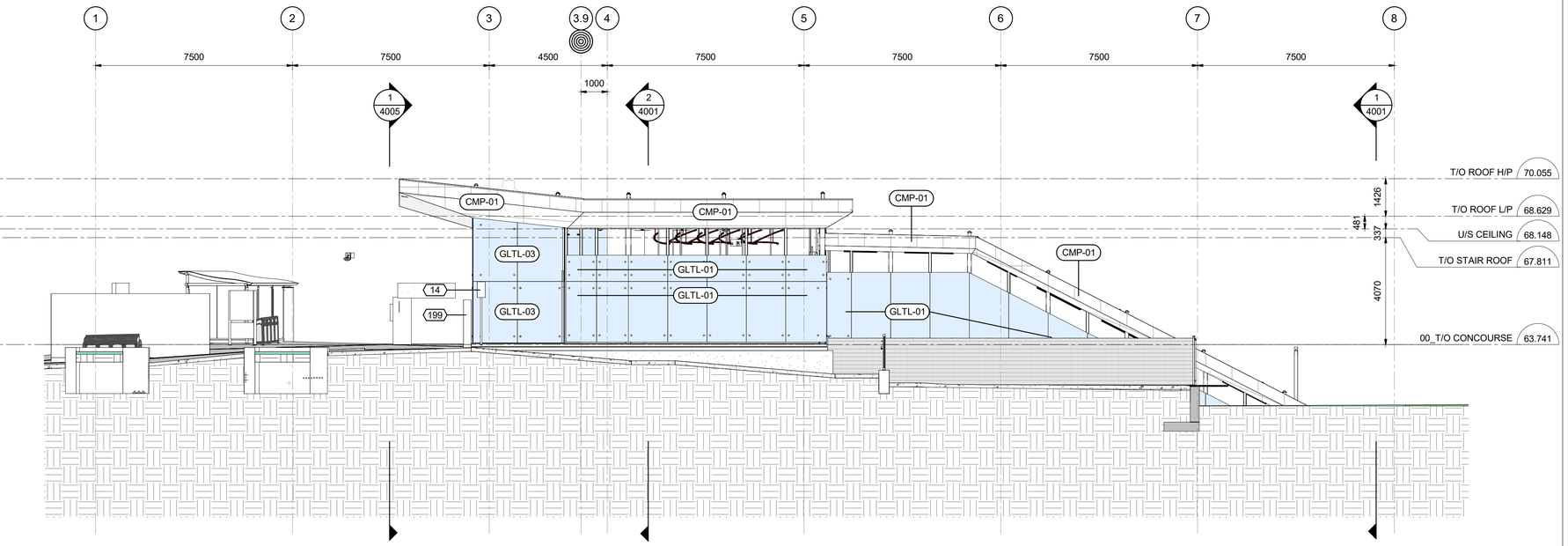
10/06/20

TITLEBLOCK: 790mm x 534mm



2 / 3002 ENLARGED ELEVATION - CONCOURSE WEST

1 : 100



1 / 3002 ENLARGED ELEVATION - CONCOURSE EAST

1 : 100

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10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ELEVATIONS
EXTERIOR ELEVATIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-3002

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN
LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

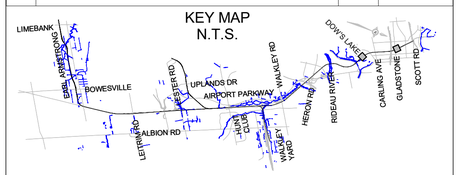
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

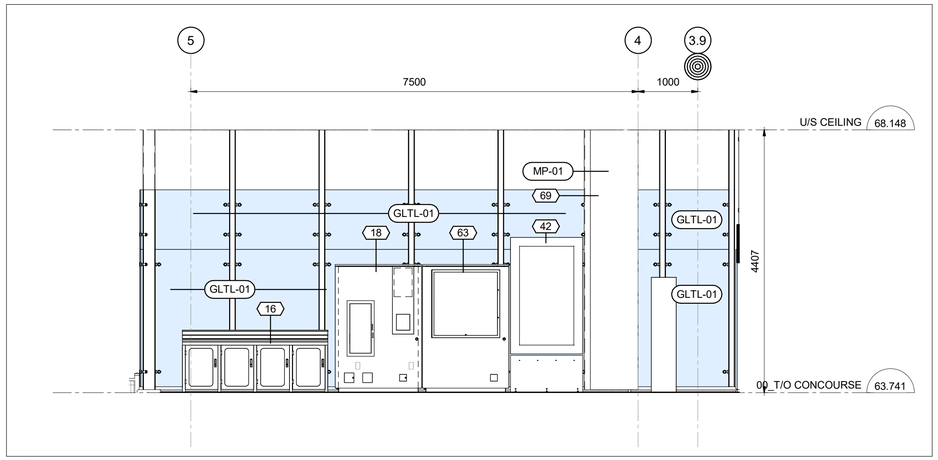


ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

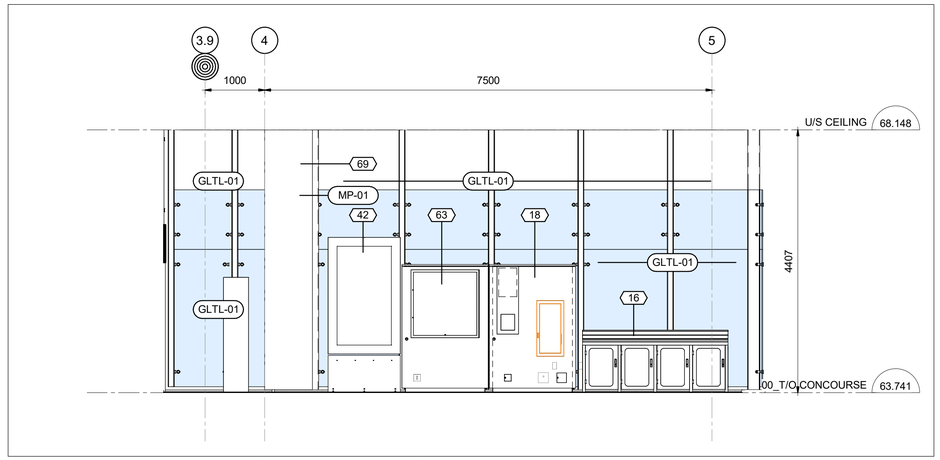
Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
115	SEMI-RECESSED INCIDENT COMMAND POST (ICP) WITH ANNUNCIATOR PANEL
116	FIRE DEPARTMENT CONNECTION (FDC)
199	QUICK CONNECT FOR MOBILE GENERATOR, REFER TO ELECTRICAL DRAWINGS

TITLEBLOCK: 790mm x 534mm



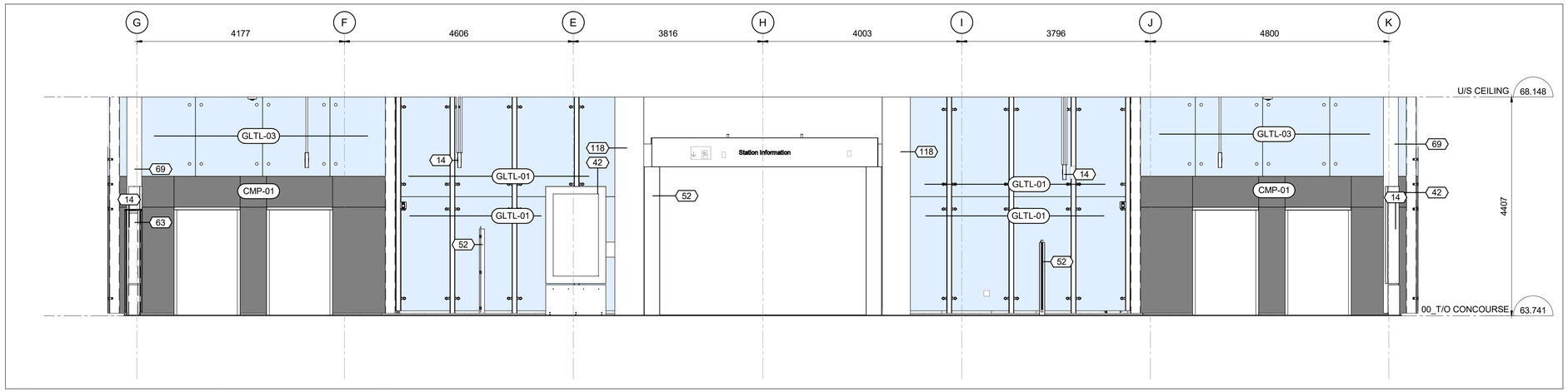
4 / 3100 INTERIOR ELEVATION - CONCOURSE EAST

1 : 50



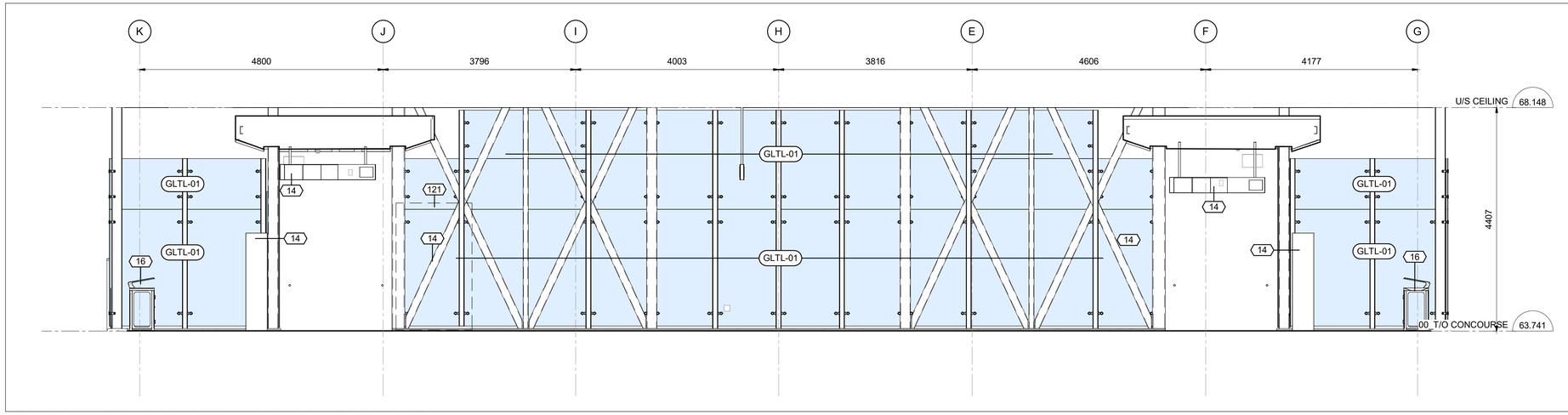
3 / 3100 INTERIOR ELEVATION - CONCOURSE WEST

1 : 50



2 / 3100 INTERIOR ELEVATION - CONCOURSE SOUTH

1 : 50



1 / 3100 INTERIOR ELEVATION - CONCOURSE NORTH

1 : 50

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04/11/19

STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
ELEVATIONS
INTERIOR ELEVATIONS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-3100

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN
LICENCE
3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

0 0.5 1 2 4 m

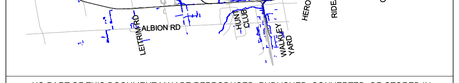
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



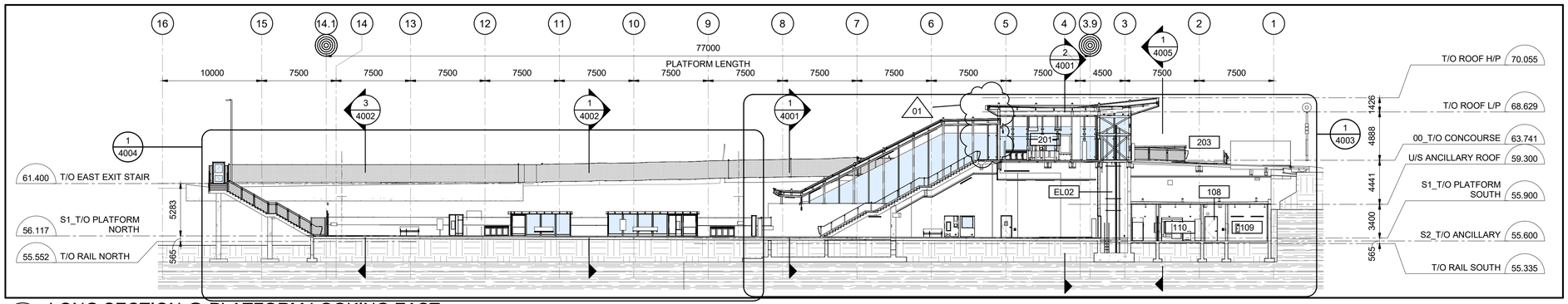
ISSUED FOR CONSTRUCTION

2021-03-29

KEYNOTE LEGEND

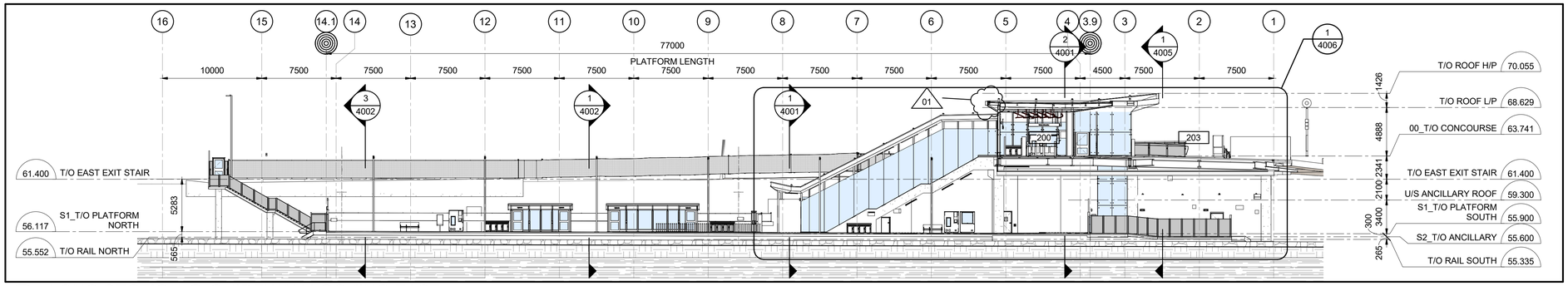
Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
16	WASTE RECPETACLE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7305
18	UC-02, FIRE CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7105/7106
42	NEXUS PASSENGER INFORMATION DISPLAY, PROVIDED BY THE CITY
52	SECURITY GATE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7210
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
69	VERTICAL ELECTRICAL CHASE
118	ROOF DRAIN CHASE
121	ADVERTISING PANEL, 1.5m x 2.5m, TO BE PROVIDED BY THE CITY, PROVIDE PROVISIONS FOR POWER AND DATA

TITLEBLOCK: 790mm x 534mm



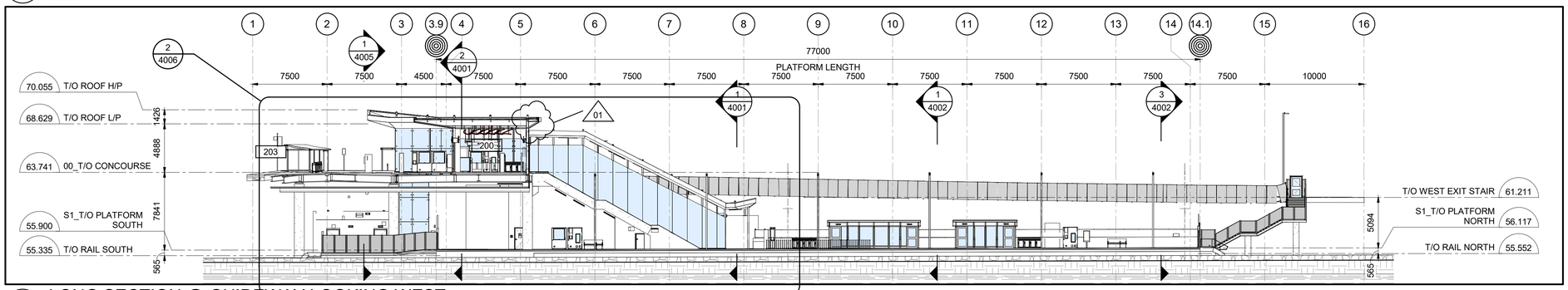
4 4000 LONG SECTION @ PLATFORM LOOKING EAST

1 : 250



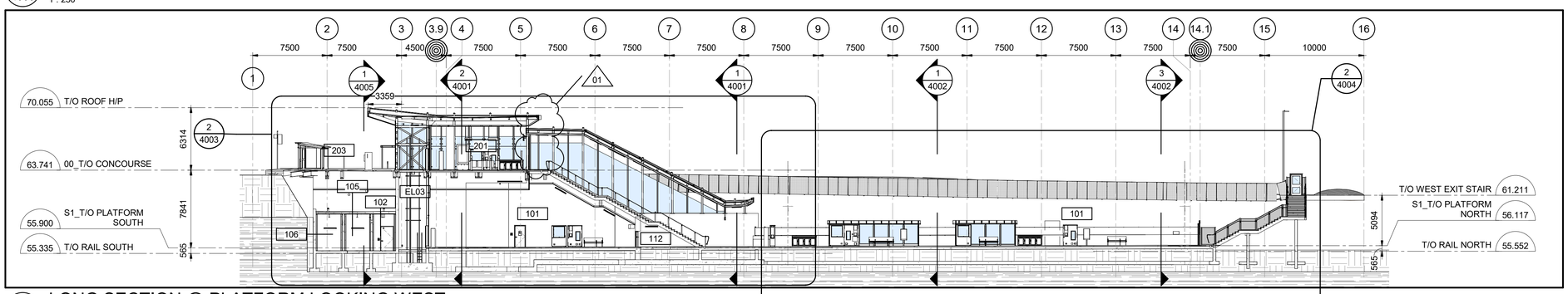
3 4000 LONG SECTION @ GUIDEWAY LOOKING EAST

1 : 250



2 4000 LONG SECTION @ GUIDEWAY LOOKING WEST

1 : 250



1 4000 LONG SECTION @ PLATFORM LOOKING WEST

1 : 250

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03/23/16

OTrain STAGE 2 ETAPE

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
BUILDING SECTIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-4000

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

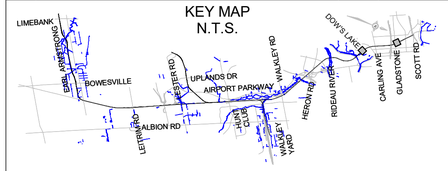
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

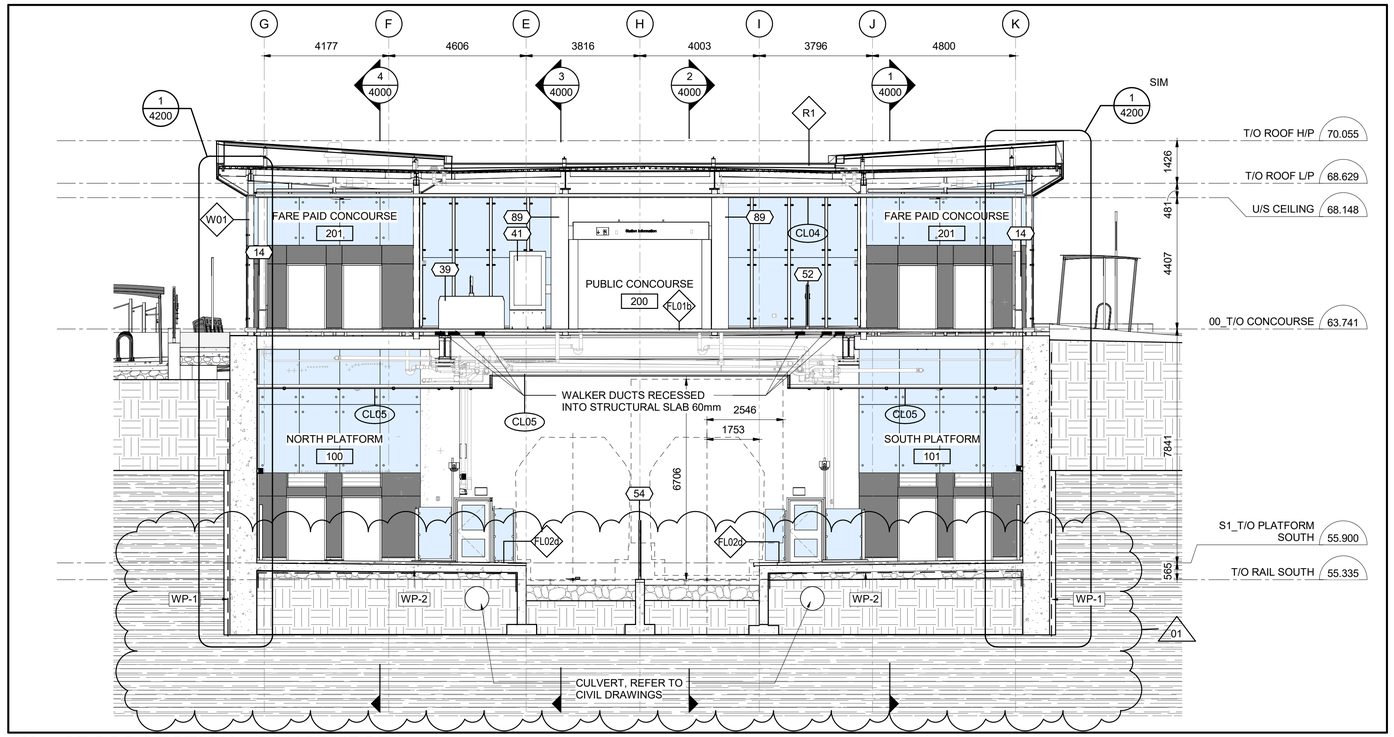
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

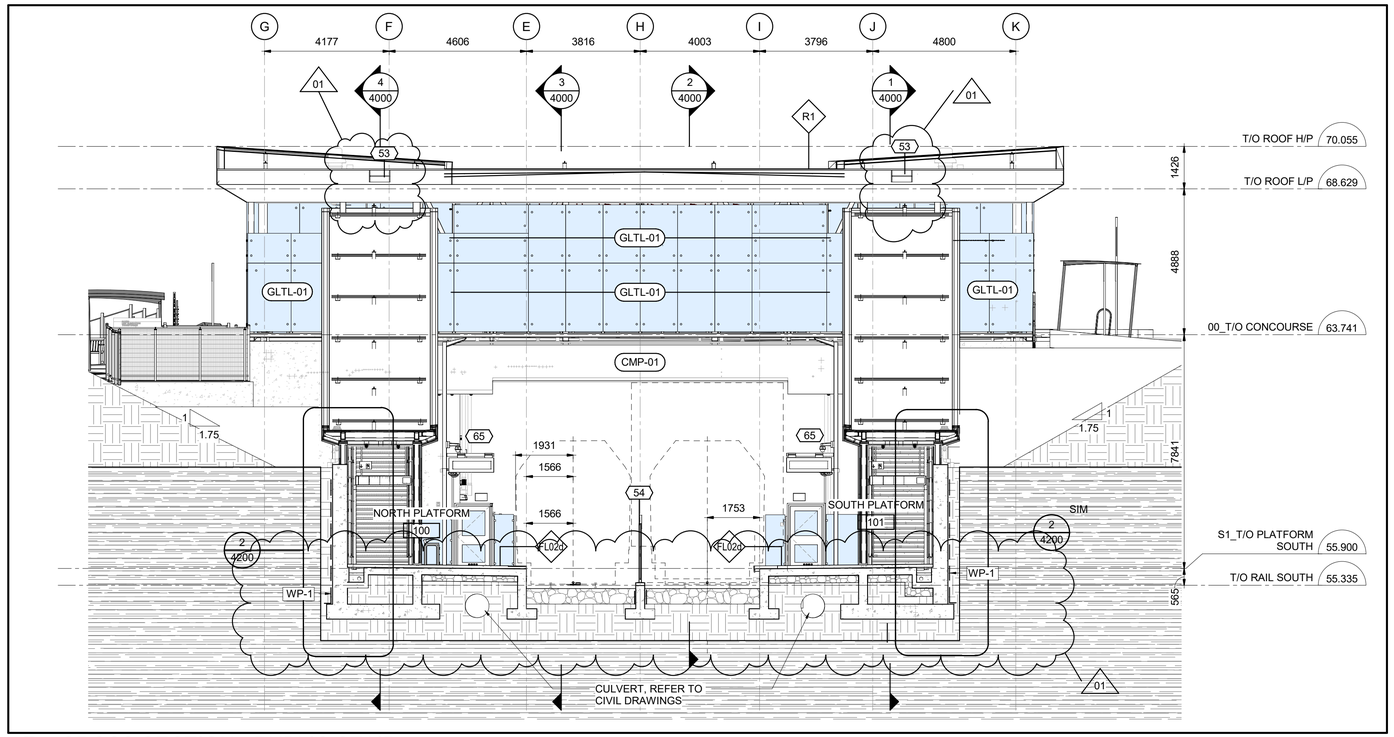
2021-07-30

01



2 / 4001 CROSS SECTION - CONCOURSE

1 : 100



1 / 4001 CROSS SECTION - PUBLIC STAIR

1 : 100

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
BUILDING SECTIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-4001

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

0 1 2 4 8 m

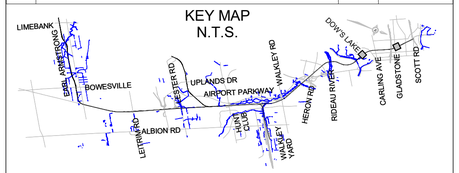
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.

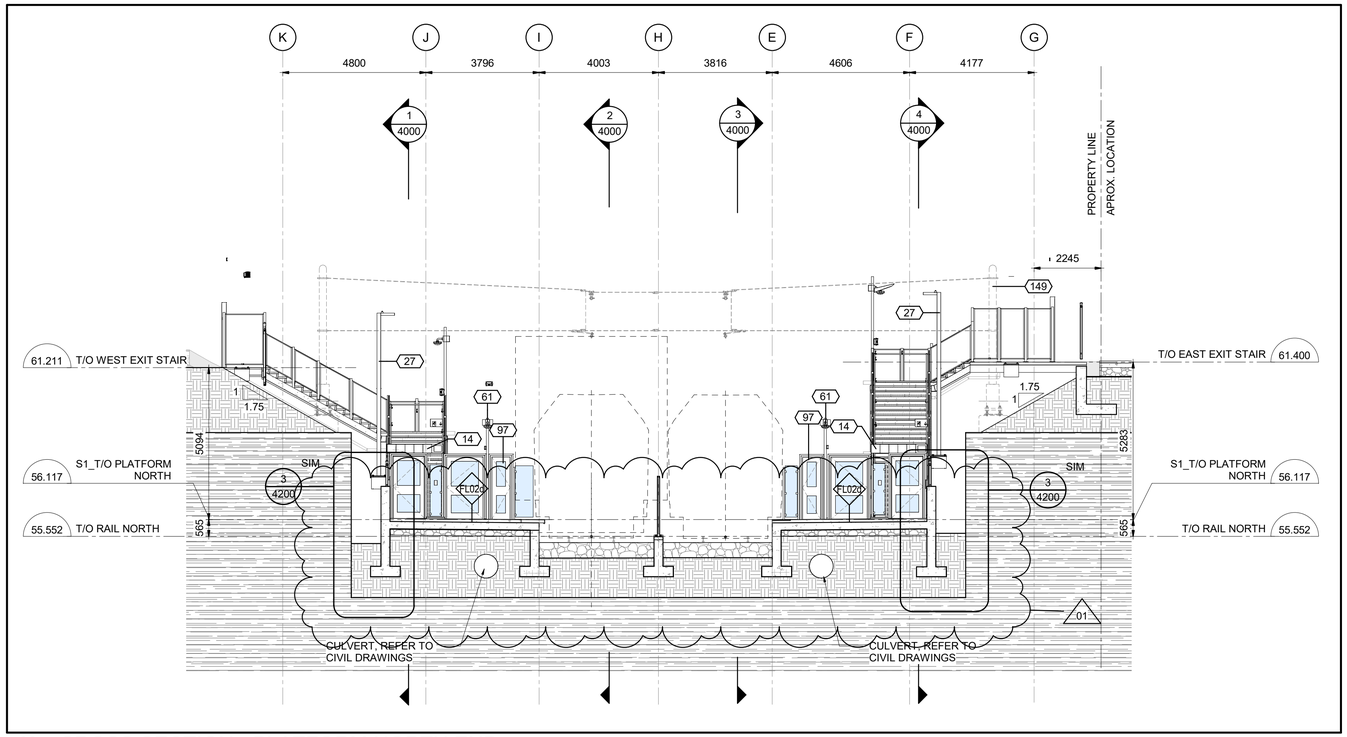


ISSUED FOR CONSTRUCTION

2021-07-30

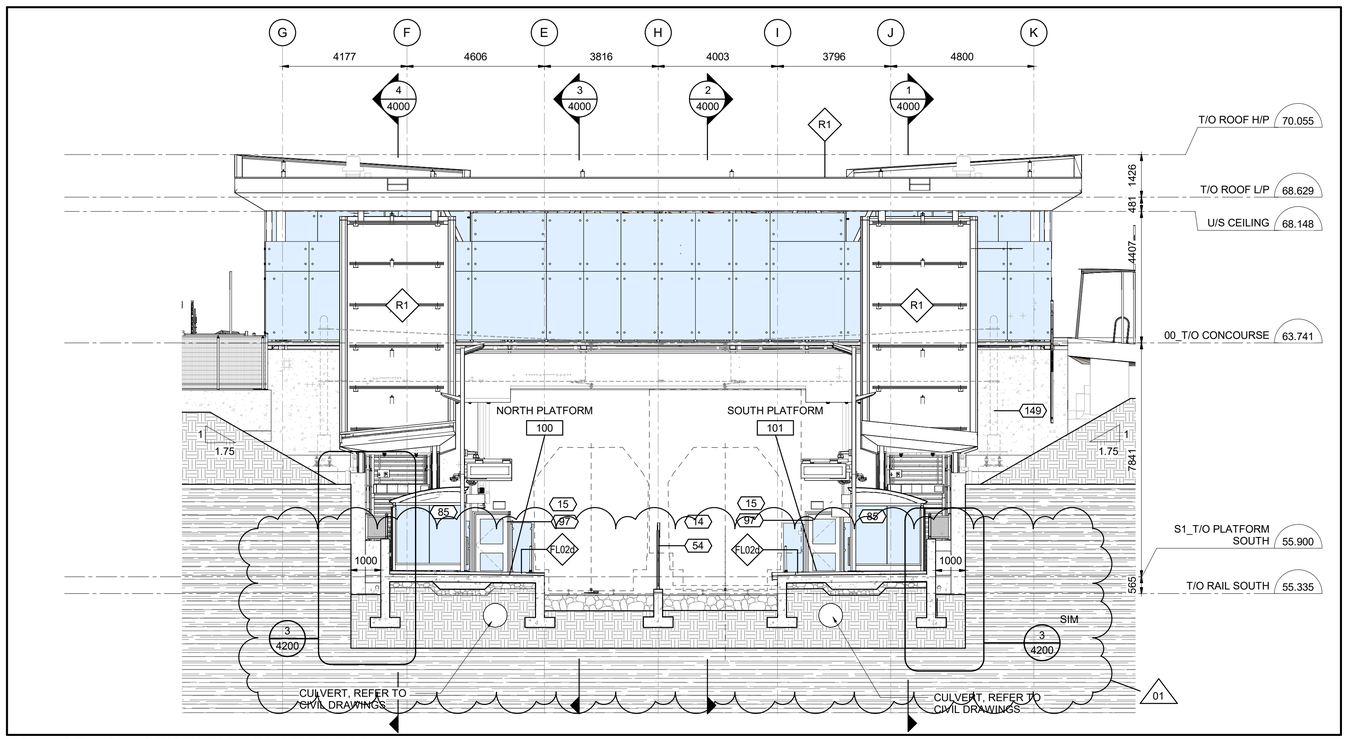
KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
39	FARE GATE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7012/7019
41	DOUBLE-SIDED NEXUS PASSENGER INFORMATION DISPLAY, PROVIDED BY THE CITY
52	SECURITY GATE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7210
53	LADDER BUMP
54	TYPE 4, INTERTRACK BARRIER w/ REMOVABLE TOP, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7230
89	RAIN WATER LEADER ENCLOSURE



3 4002 CROSS SECTION - PLATFORM NORTH END

1 : 100



1 4002 CROSS SECTION - PLATFORM

1 : 100

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
BUILDING SECTIONS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-4002

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

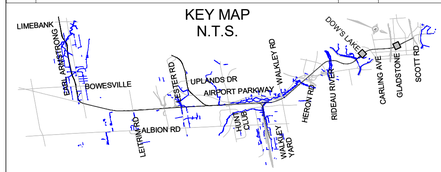
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.

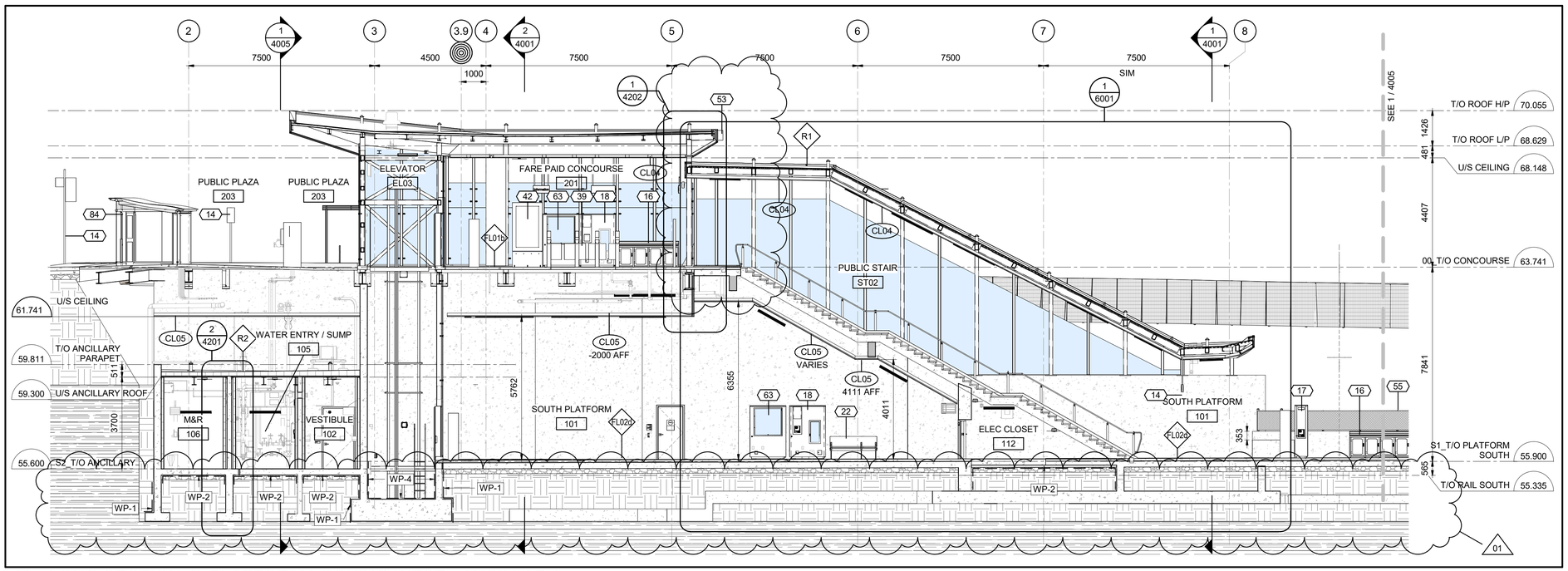


ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

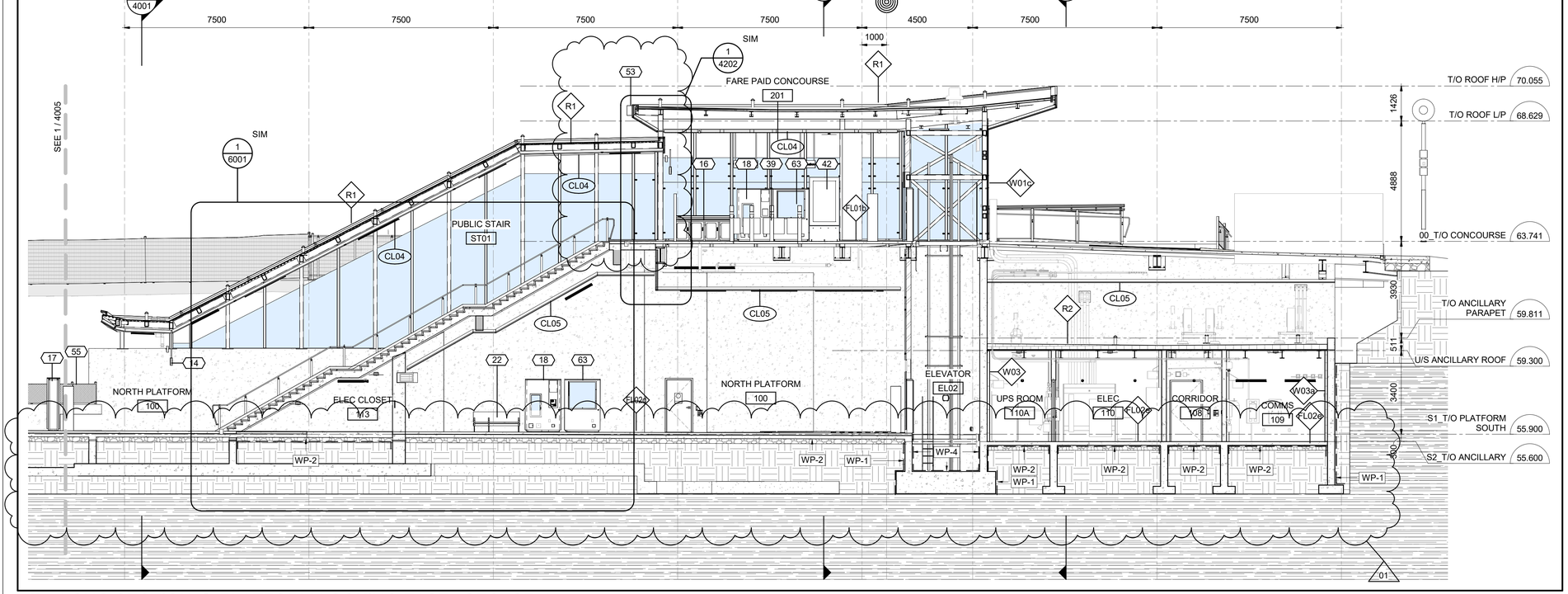
Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
27	LIGHT POLE, REFER TO ELECTRICAL AND STRUCTURAL DRAWINGS FOR LIGHT POLE AND FOUNDATION TYPE BASED ON LIGHT POLE LOCATION
54	TYPE 4, INTERTRACK BARRIER w/ REMOVABLE TOP, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7230
61	RAISED GUARD POST TO SUPPORT CAMERA, REFER TO SYSTEM COMMUNICATIONS FOR CAMERA SPECIFICATIONS
85	TSA SHELTER, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7205/7206
97	END OF PLATFORM GATE
149	FUTURE OCS, REFER TO TRACKWORK COMBINED SERVICES PAKCAGE

TITLEBLOCK: 790mm x 534mm



2 4003 LONG SECTION @ PLATFORM LOOKING WEST - ANCILLARY

1 : 100



1 4003 LONG SECTION @ PLATFORM LOOKING EAST - SECTOR 1

1 : 100

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
BUILDING SECTIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-4003

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

Ontario Association of Architects — Robert Brisbin — Licence 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 200 FULLSIZE; 1 : 400 HALF SIZE

0 2 4 8 16 m

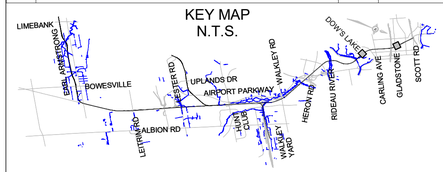
VERTICAL 1 : 200 FULLSIZE; 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
16	WASTE RECPETACLE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7305
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116
18	UC-02, FIRE CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7105/7106
22	BENCH WITH SEATING FOR 3
39	FARE GATE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7012/7019
42	NEXUS PASSENGER INFORMATION DISPLAY, PROVIDED BY THE CITY
53	LADDER BUMP
55	TYPE 3, CHAINLINK FENCE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7225
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
84	PASSENGER SHELTER, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7200/7201

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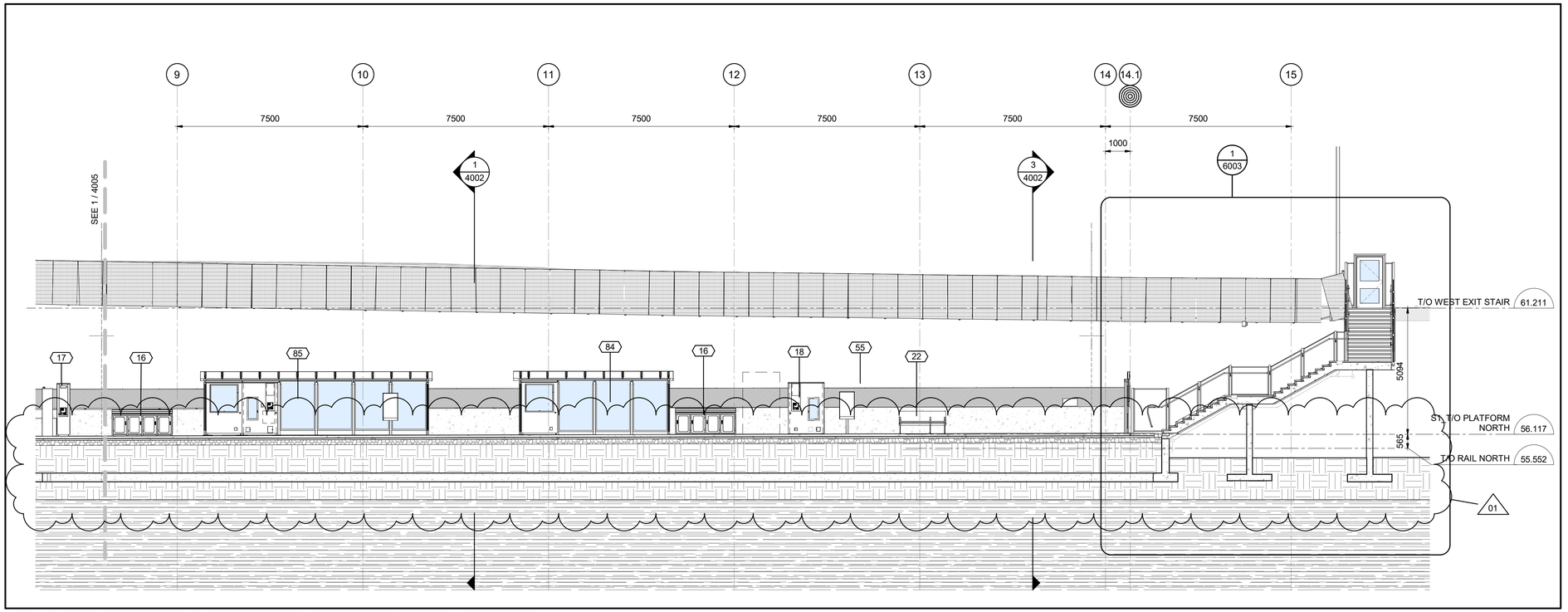
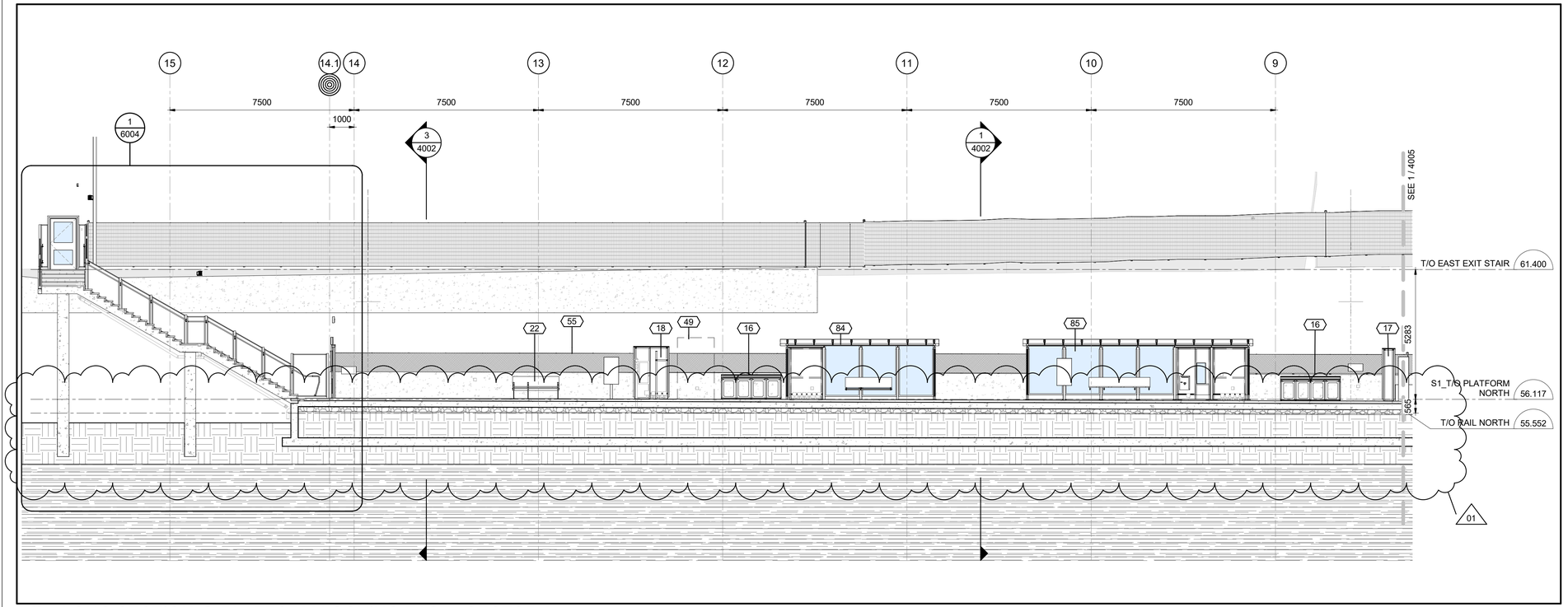
03/23/16



2 / 4004 LONG SECTION @ PLATFORM LOOKING WEST - SECTOR 1

1 : 100



1 / 4004 LONG SECTION @ PLATFORM LOOKING EAST - SECTOR 2

1 : 100

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
BUILDING SECTIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-4004

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS ROBERT A. BRISBIN LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

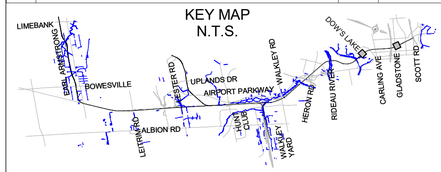
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



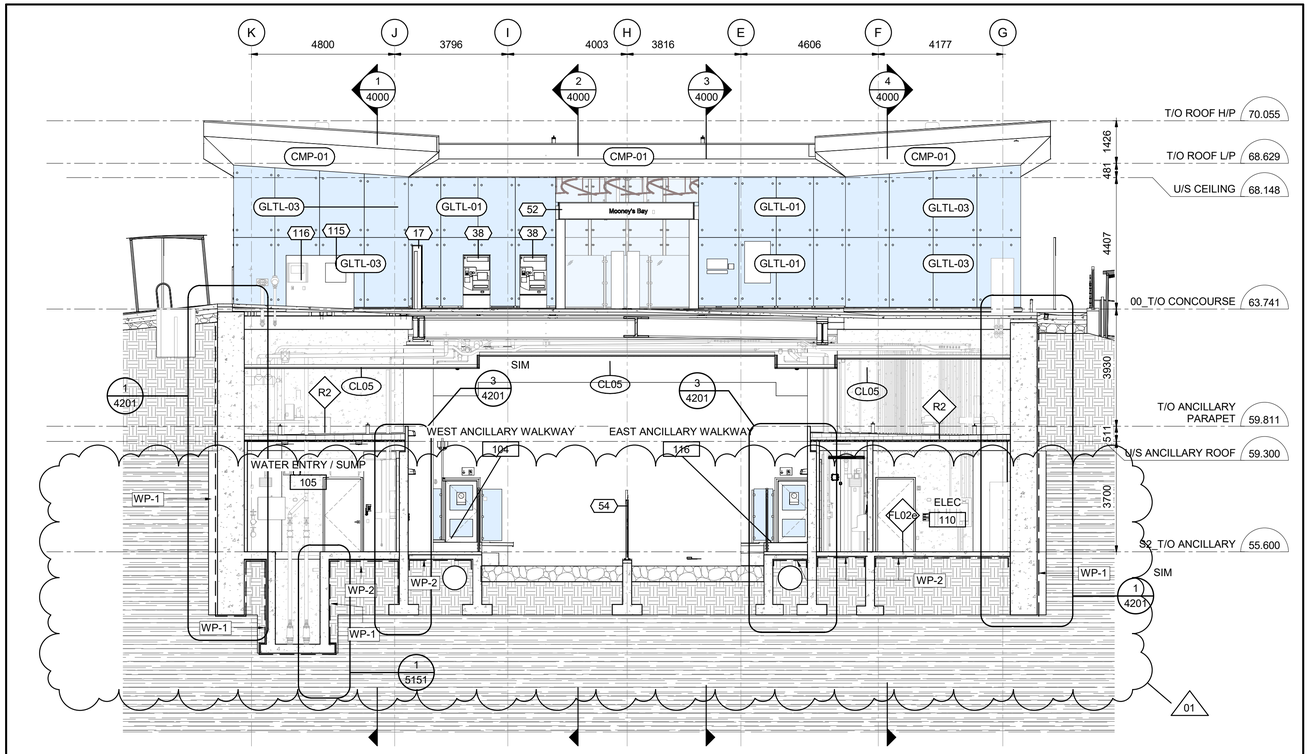
ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
16	WASTE RECPETACLE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7305
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116
18	UC-02, FIRE CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7105/7106
22	BENCH WITH SEATING FOR 3
49	FUTURE ADVERTISING PANEL, TO BE PROVIDED BY CITY
55	TYPE 3, CHAINLINK FENCE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7225
84	PASSENGER SHELTER, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7200/7201
85	TSA SHELTER, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7205/7206

03/23/16

TITLEBLOCK: 790mm x 534mm



1 4005 CROSS SECTION - ANCILLARY

1 : 100

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
BUILDING SECTIONS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-4005

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

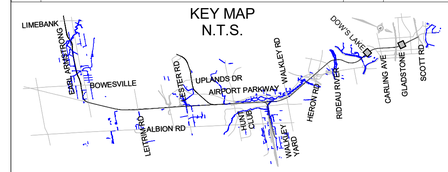
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116
38	TICKET VENDING MACHINE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7013
52	SECURITY GATE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7210
54	TYPE 4, INTERTRACK BARRIER w/ REMOVABLE TOP, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7230
115	SEMI-RECESSED INCIDENT COMMAND POST (ICP) WITH ANNUNCIATOR PANEL
116	FIRE DEPARTMENT CONNECTION (FDC)

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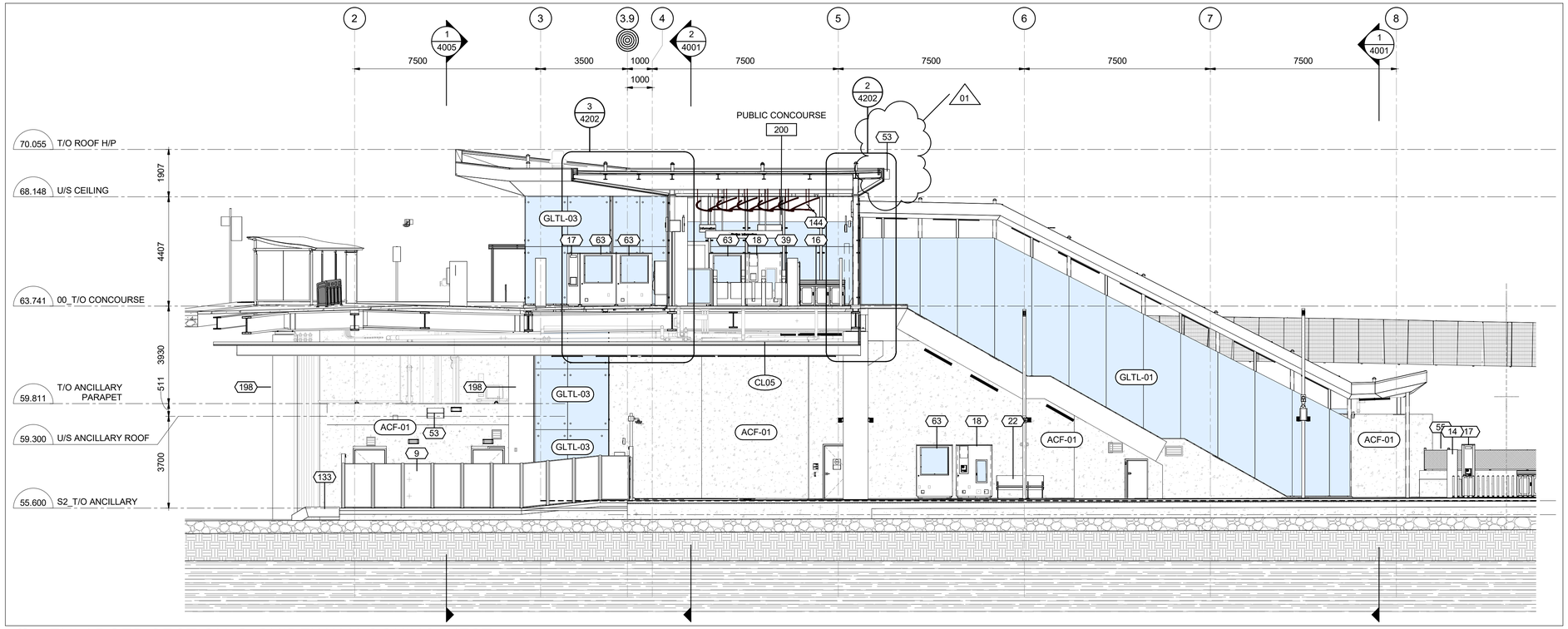
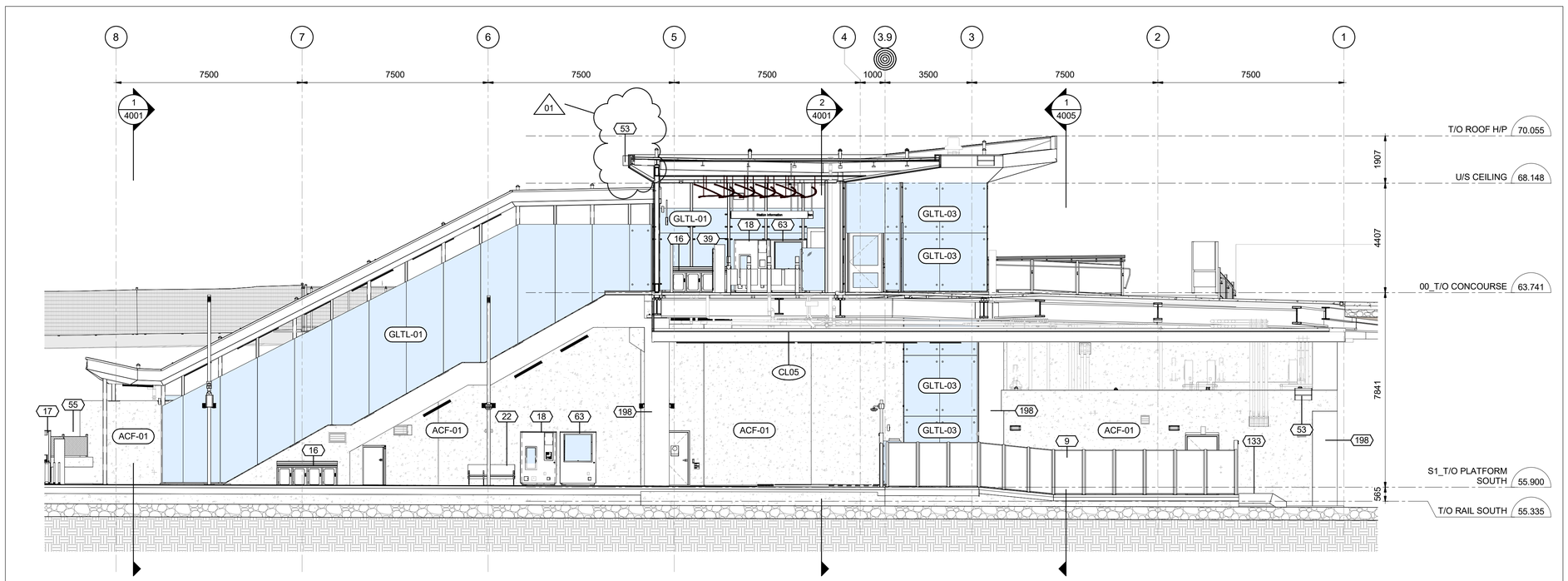
01



2/4006 ENLARGED SECTION @ GUIDEWAY LOOKING WEST

1 : 100



1/4006 ENLARGED SECTION @ GUIDEWAY LOOKING EAST

1 : 100

KEYNOTE LEGEND

Key Value	Keynote Text
9	TYPE 2, PERFORATED METAL PANEL GUARD, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7220
14	SIGN, REFER TO SIGNAGE PACKAGE
16	WASTE RECPETACLE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7305
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116
18	UC-02, FIRE CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7105/7106
22	BENCH WITH SEATING FOR 3
39	FARE GATE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7012/7019
53	LADDER BUMP
55	TYPE 3, CHAINLINK FENCE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7225
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
133	GUIDEWAY EGRESS METAL STAIR WITH HANDRAIL, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7320/7321
144	PUBLIC ART INSTALLATION, REFER TO ARTIST PACKAGE
198	CONCRETE COLUMN, REFER TO STRUCTURAL DRAWINGS

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
BUILDING SECTIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-4006

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

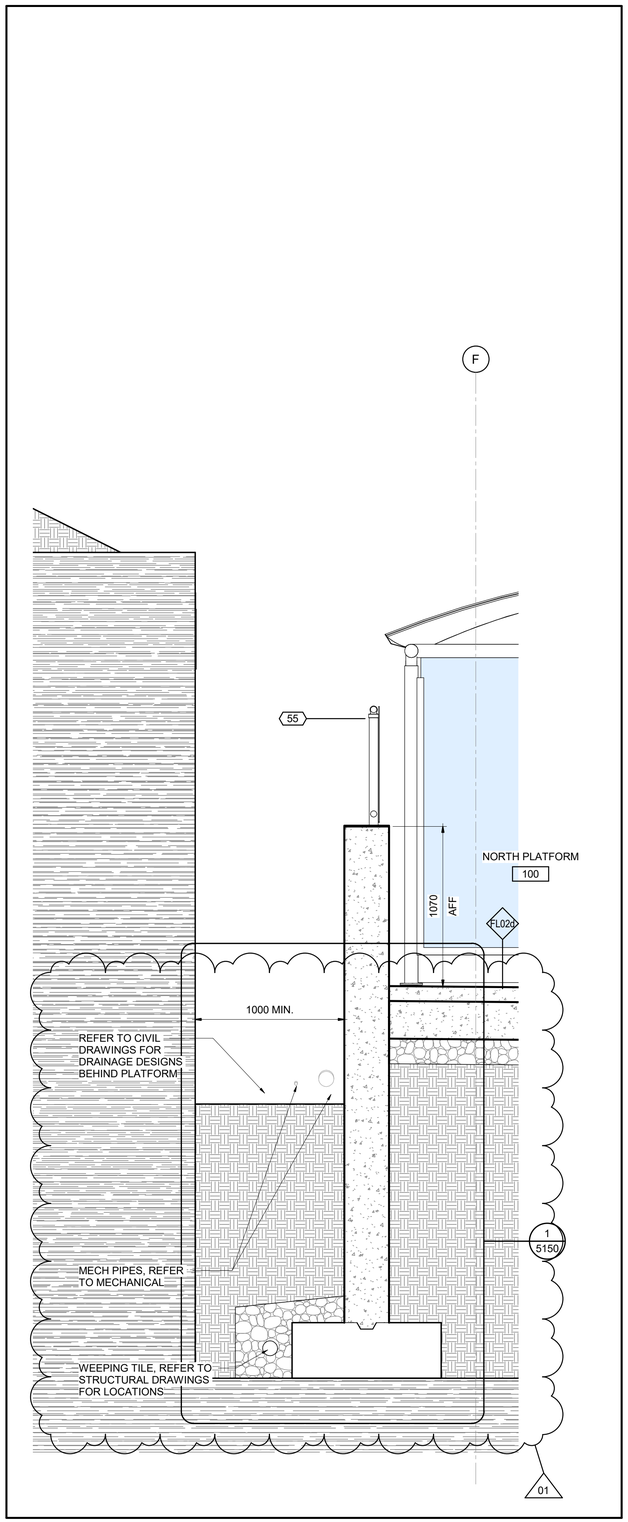
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION

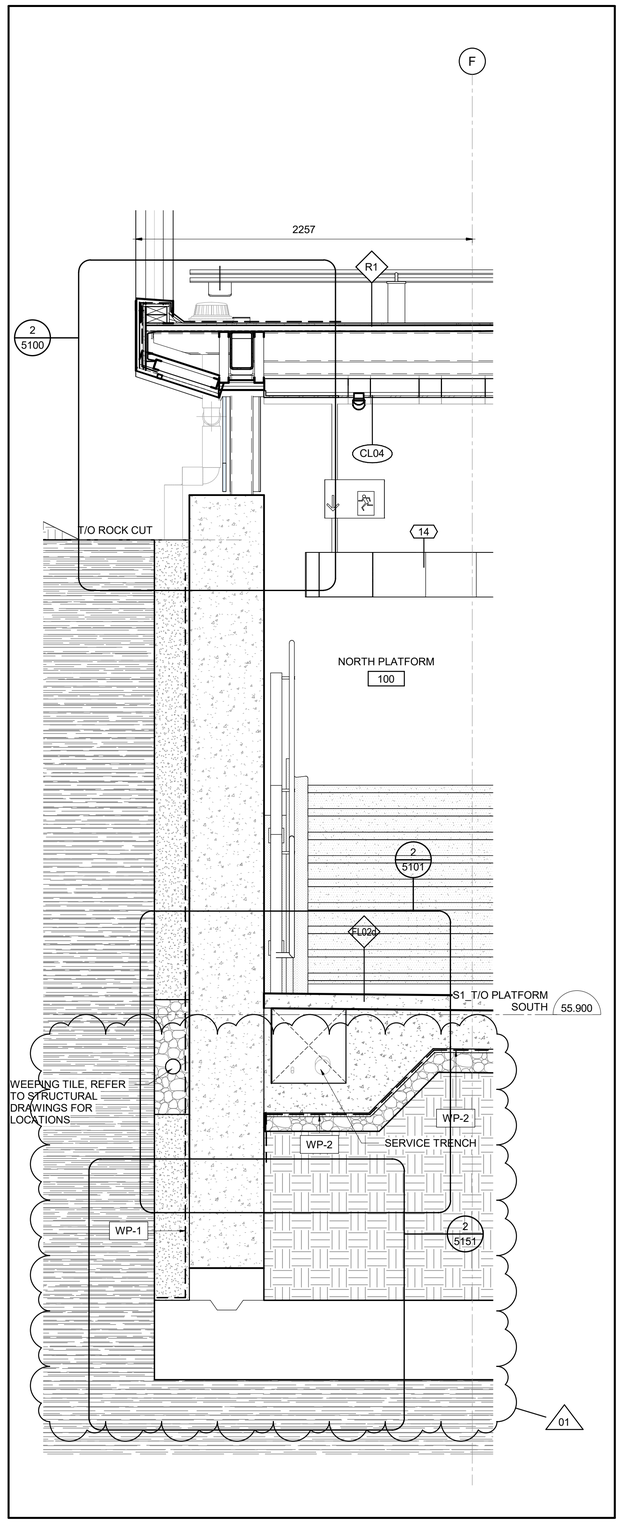
2021-07-30

TITLEBLOCK: 790mm x 534mm



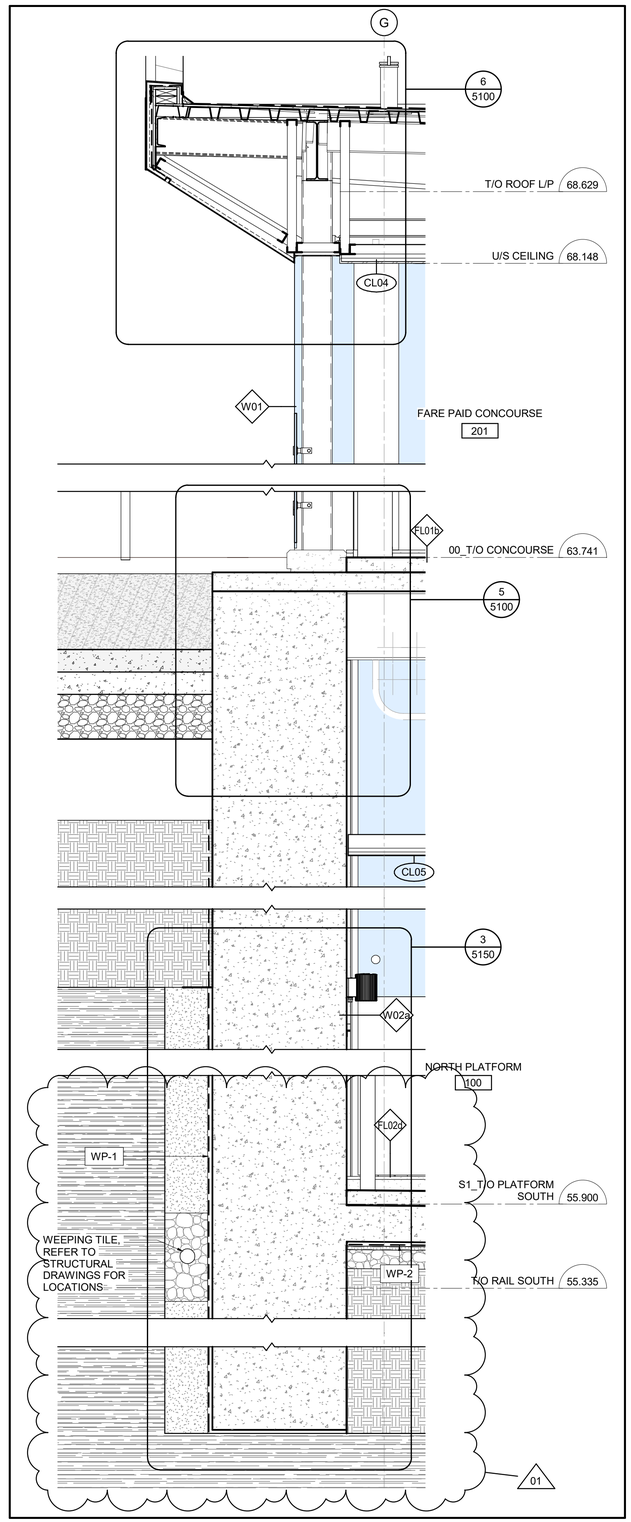
3 4200 WALL SECTION @ PLATFORM

1 : 20



2 4200 WALL SECTION @ PUBLIC STAIR

1 : 20



1 4200 WALL SECTION @ CONCOURSE

1 : 20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
WALL SECTIONS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-4200

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

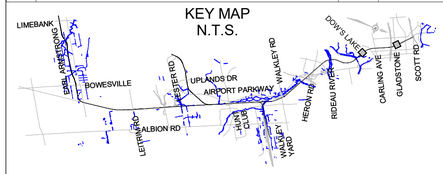
SCALE
HORIZONTAL 1 : 20 FULLSIZE / 1 : 40 HALF SIZE
0 0.2 0.4 0.8 1.6 m
VERTICAL 1 : 20 FULLSIZE / 1 : 40 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
55	TYPE 3, CHAINLINK FENCE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7225

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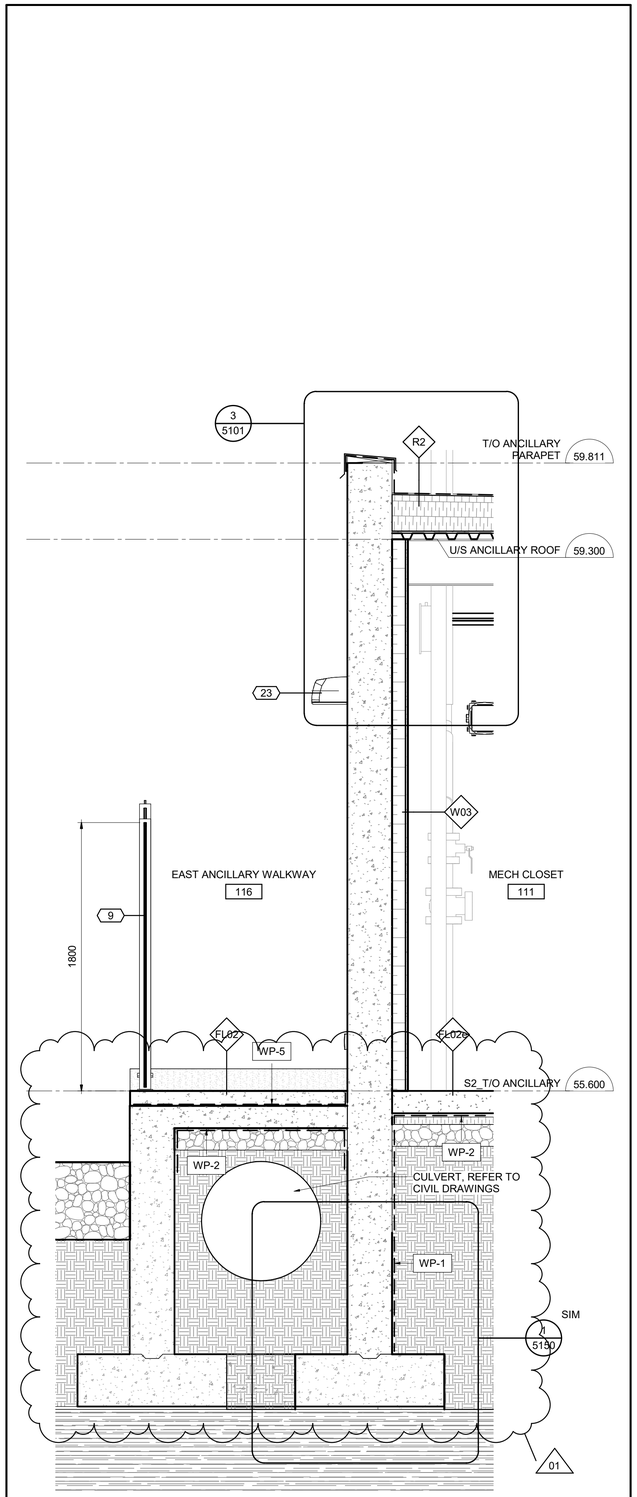
04/11/19

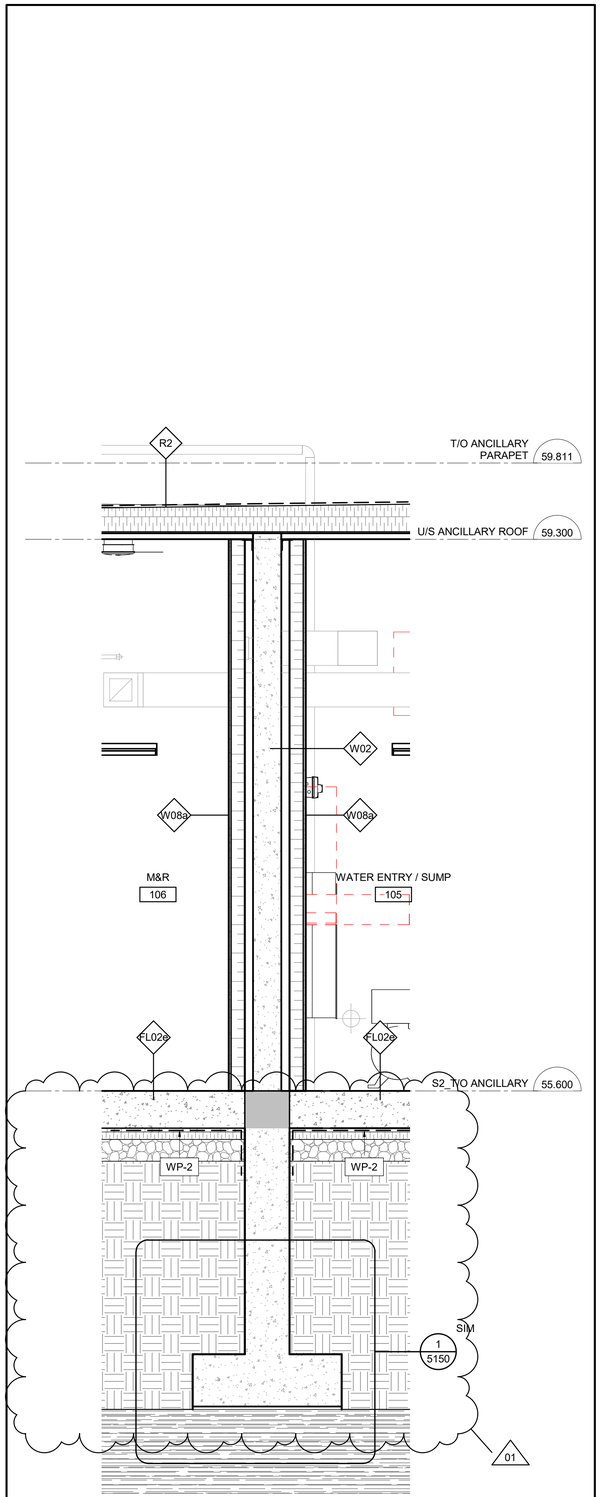
01

TITLEBLOCK: 790mm x 534mm



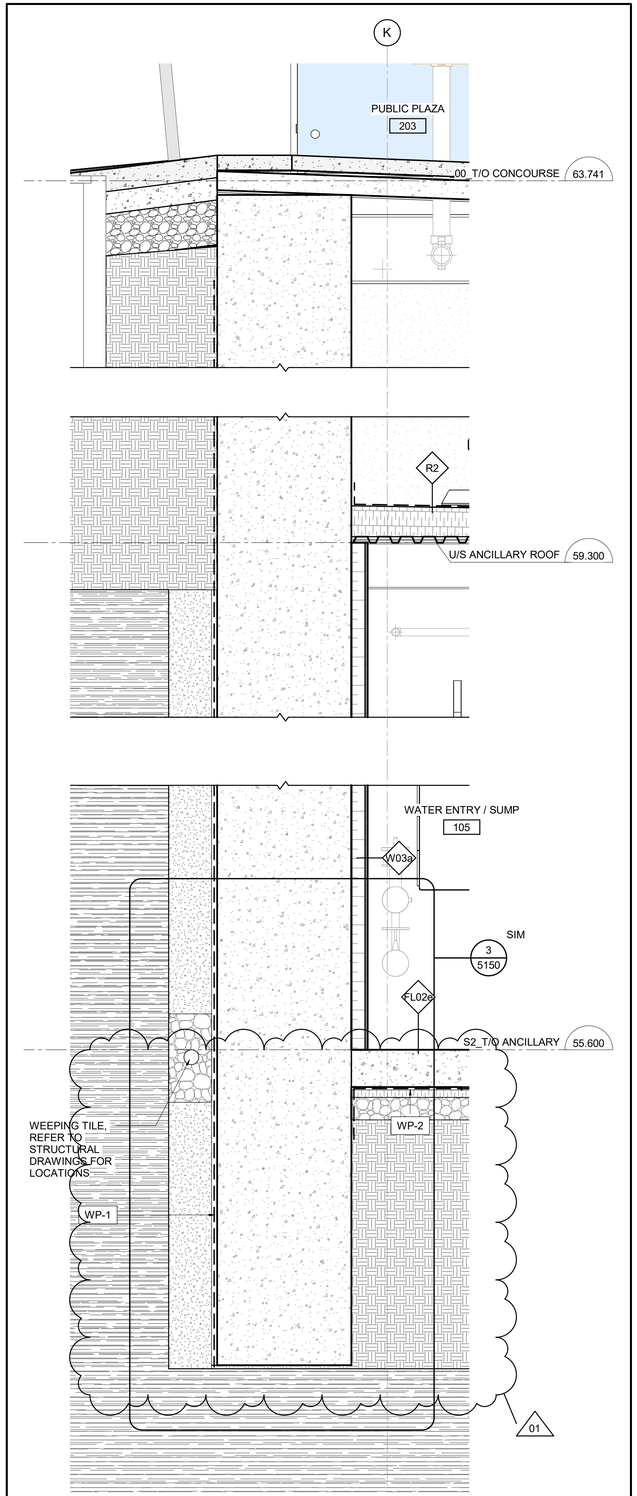
3 4201 WALL SECTION 3 @ ANCILLARY

1 : 20



2 4201 WALL SECTION 2 @ ANCILLARY

1 : 20



1 4201 WALL SECTION 1 @ ANCILLARY

1 : 20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
WALL SECTIONS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-4201

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ARCHITECTURAL FIRM LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

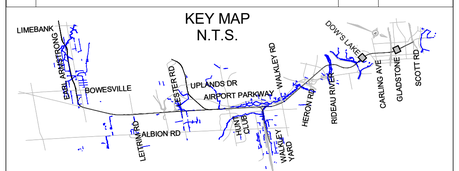
HORIZONTAL 1 : 20 FULLSIZE / 1 : 40 HALF SIZE
0 0.2 0.4 0.8 1.6 m
VERTICAL 1 : 20 FULLSIZE / 1 : 40 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
9	TYPE 2, PERFORATED METAL PANEL GUARD, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7220
23	LIGHT FIXTURE, REFER TO ELECTRICAL DRAWINGS

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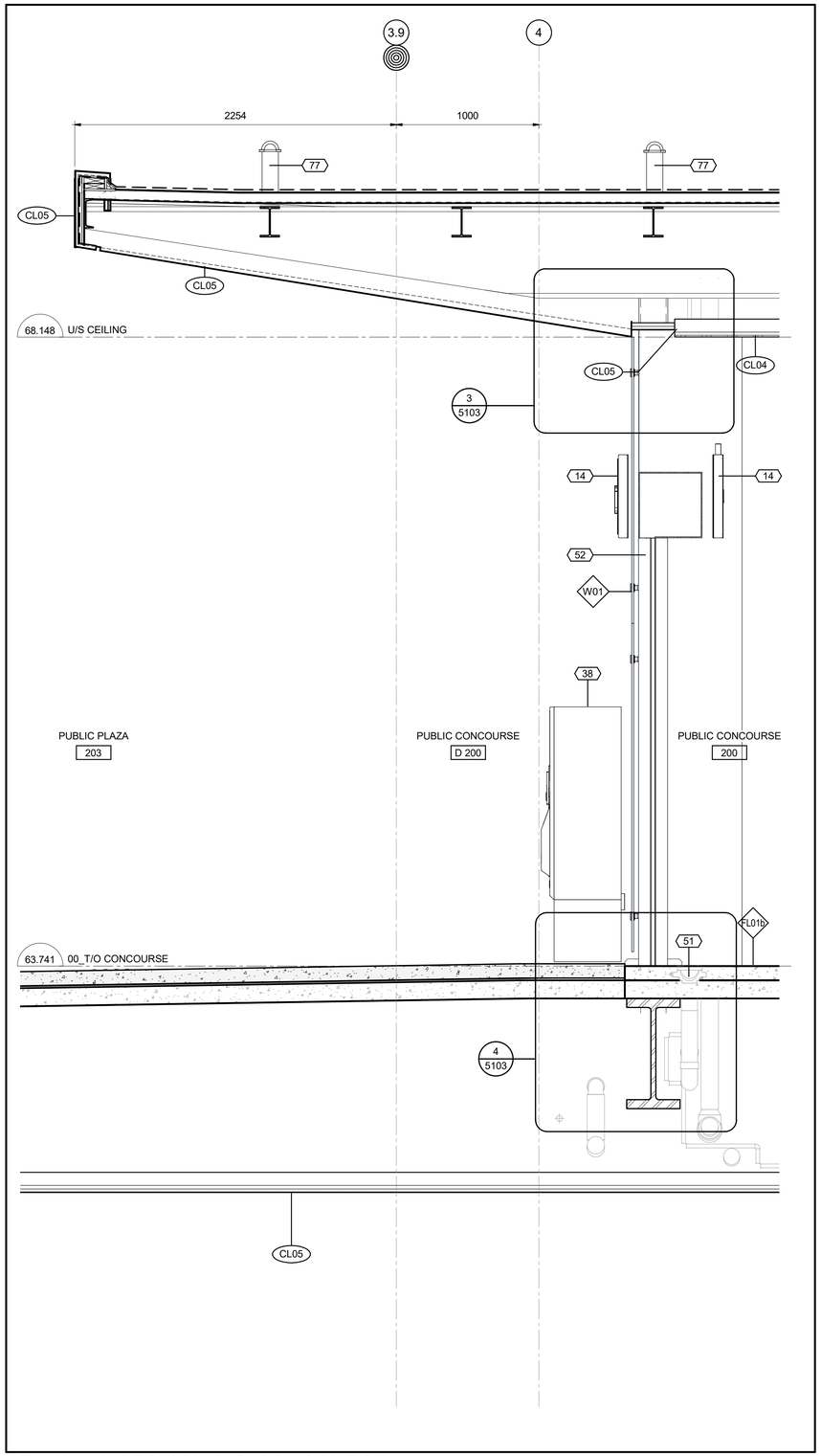
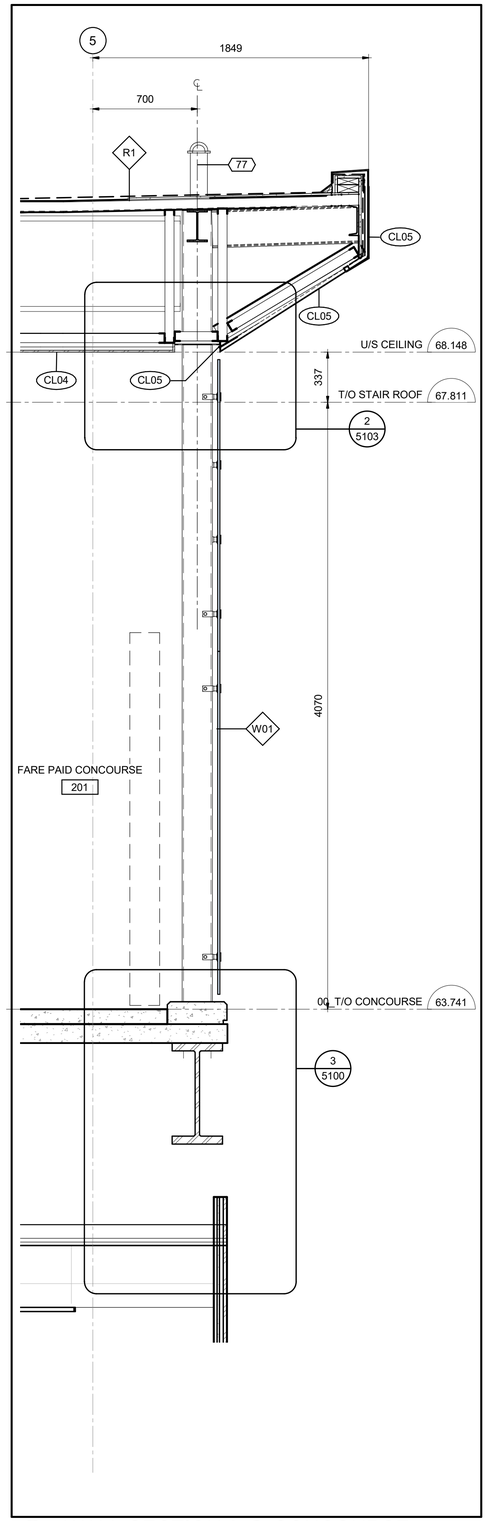
09/24/20

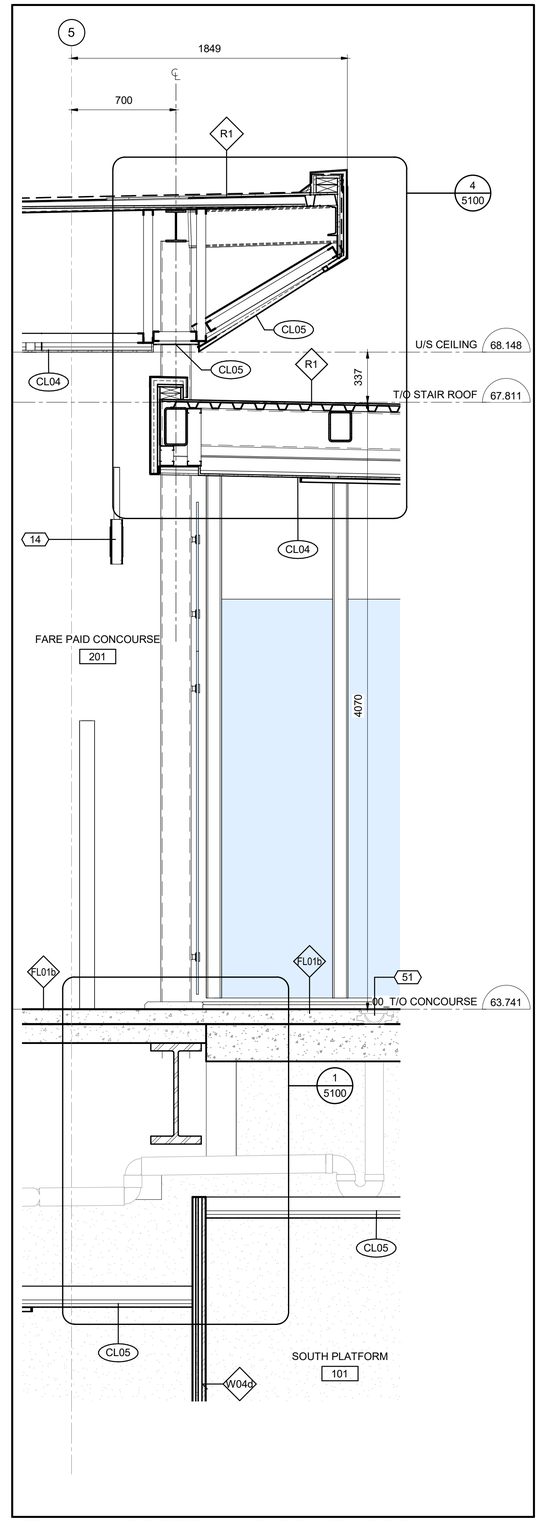
01



3 4202 WALL SECTION 3 @ CONCOURSE
1 : 20



2 4202 WALL SECTION 2 @ CONCOURSE
1 : 20



1 4202 WALL SECTION 1 @ CONCOURSE
1 : 20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
SECTIONS
WALL SECTIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-4202

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

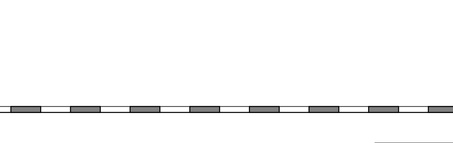
SCALE
HORIZONTAL 1 : 20 FULLSIZE / 1 : 40 HALF SIZE
0 0.2 0.4 0.8 1.6 m
VERTICAL 1 : 20 FULLSIZE / 1 : 40 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

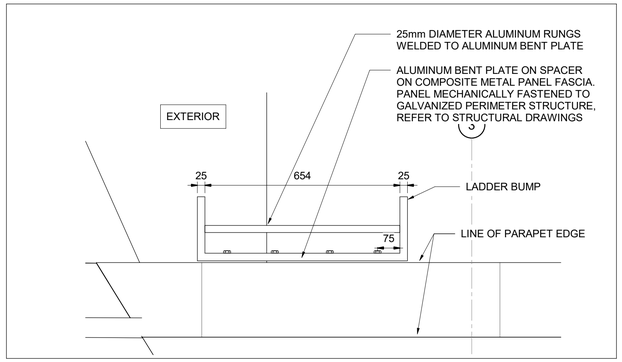


ISSUED FOR CONSTRUCTION
2021-03-29

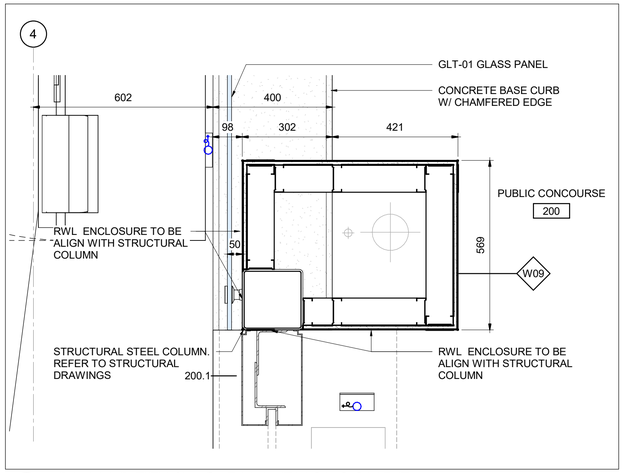
KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
38	TICKET VENDING MACHINE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7013
51	TRENCH DRAIN, REFER TO MECHANICAL DRAWGINS
52	SECURITY GATE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7210
77	FALL ARREST ANCHOR FASTENED TO STRUCTURE - REFER TO STRUCTURAL FOR BEAM LOCATIONS, ANCHORS AND ANCHOR LAYOUT TO BE DESIGNED AND PROVIDED BY OTHERS, TYP.

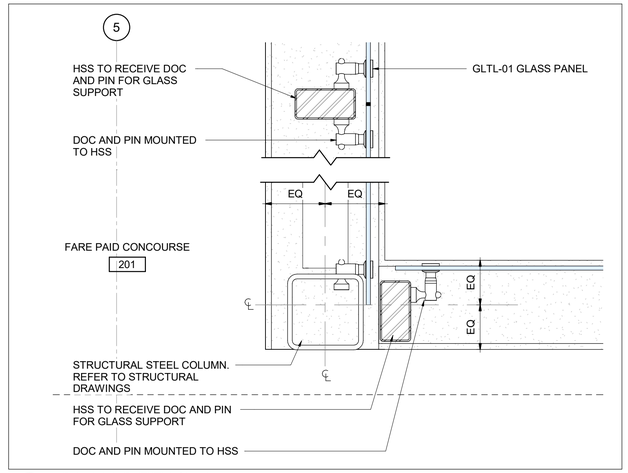
TITLEBLOCK: 790mm x 534mm



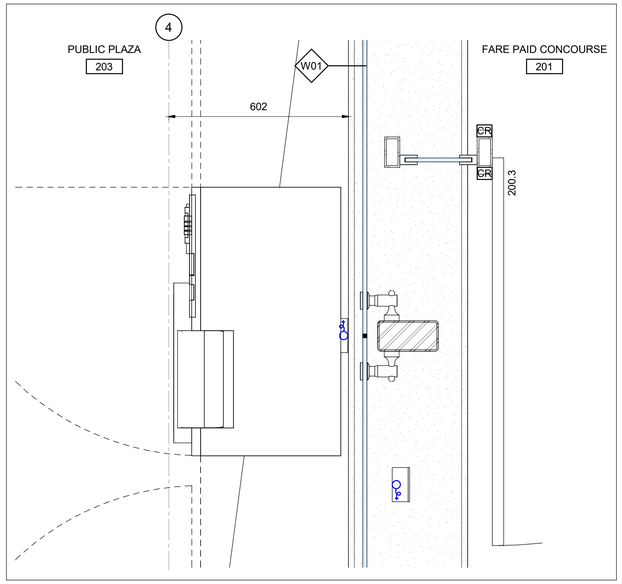
8/5000 PLAN DETAIL - LADDER BUMP
1 : 10



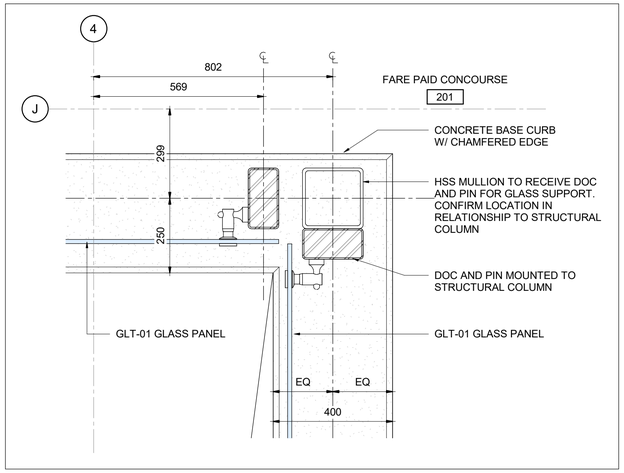
6/5000 PLAN DETAIL @ RWL ENCLOSURE
1 : 10



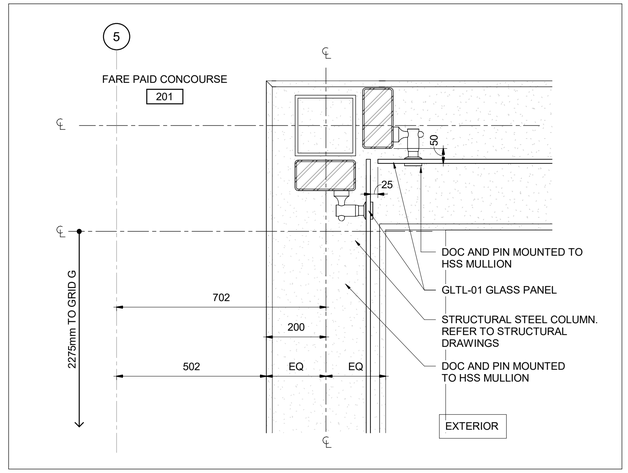
3/5000 PLAN DETAIL 3
1 : 10



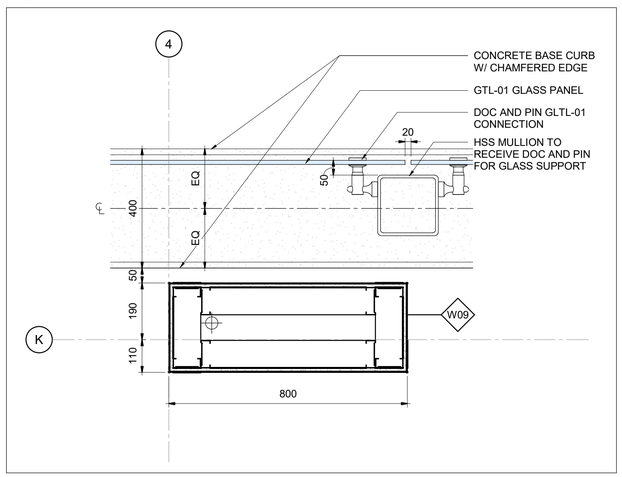
9/5000 PLAN DETAIL - FAIR GATE DOOR @ EXT. GLASS WALL
1 : 10



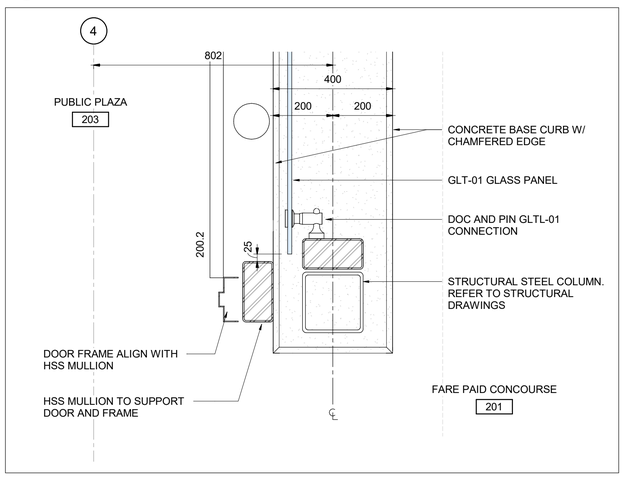
5/5000 PLAN DETAIL 5
1 : 10



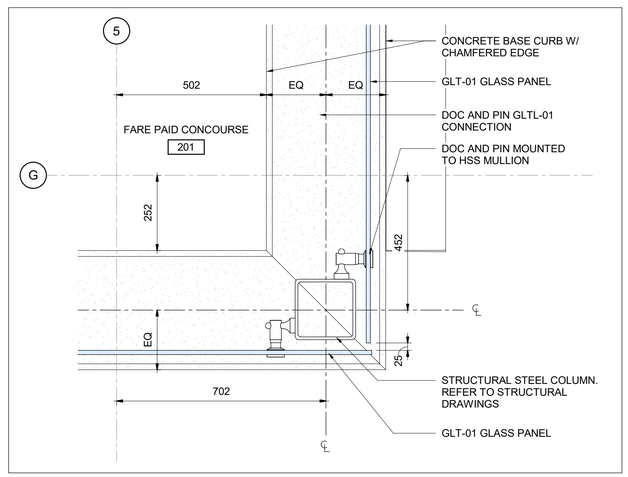
2/5000 PLAN DETAIL 2
1 : 10



7/5000 PLAN DETAIL @ ELECTRICAL VERT. CHASE
1 : 10



4/5000 PLAN DETAIL 4
1 : 10



1/5000 PLAN DETAIL 1
1 : 10

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03/23/16

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
DETAILS
PLAN DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-5000

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

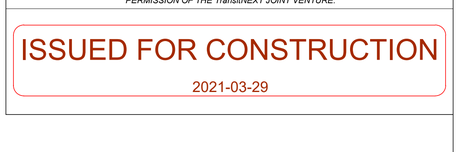
SCALE
HORIZONTAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE
0 0.05 0.1 0.2 0.4 m
VERTICAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE

ASSET No.

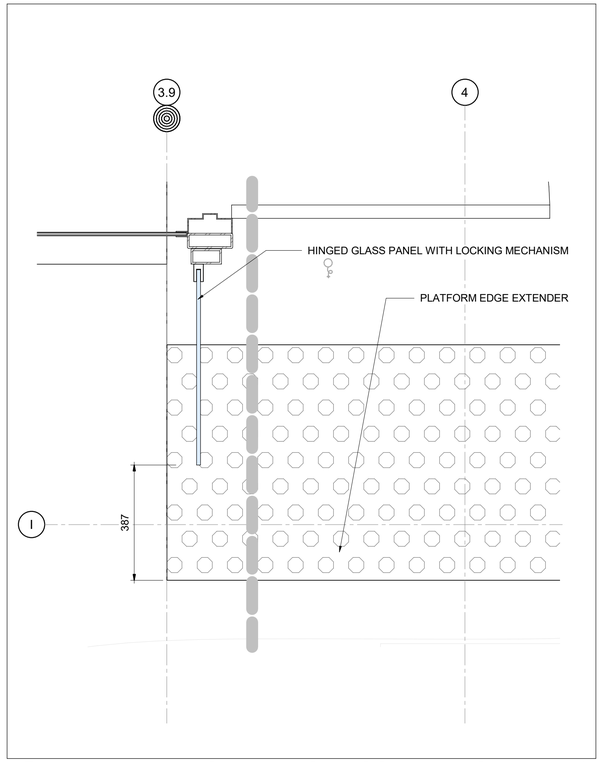
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

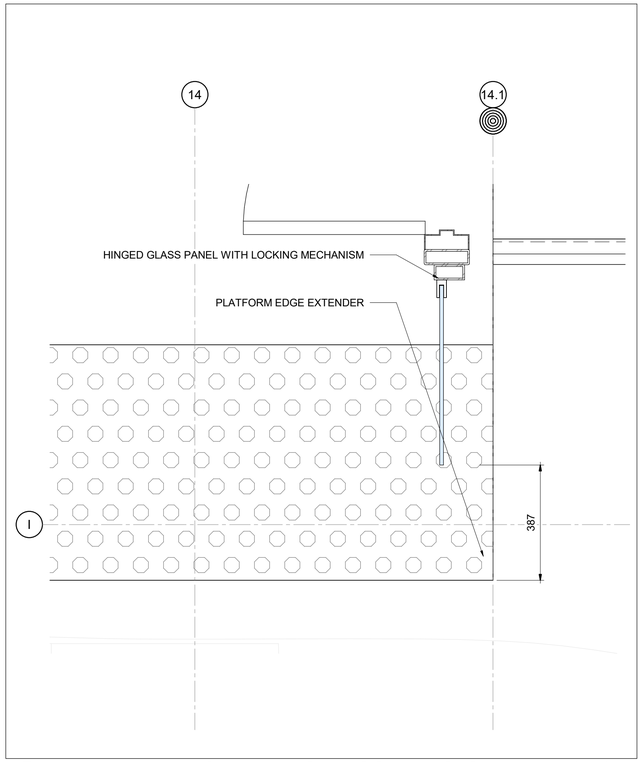


ISSUED FOR CONSTRUCTION
2021-03-29



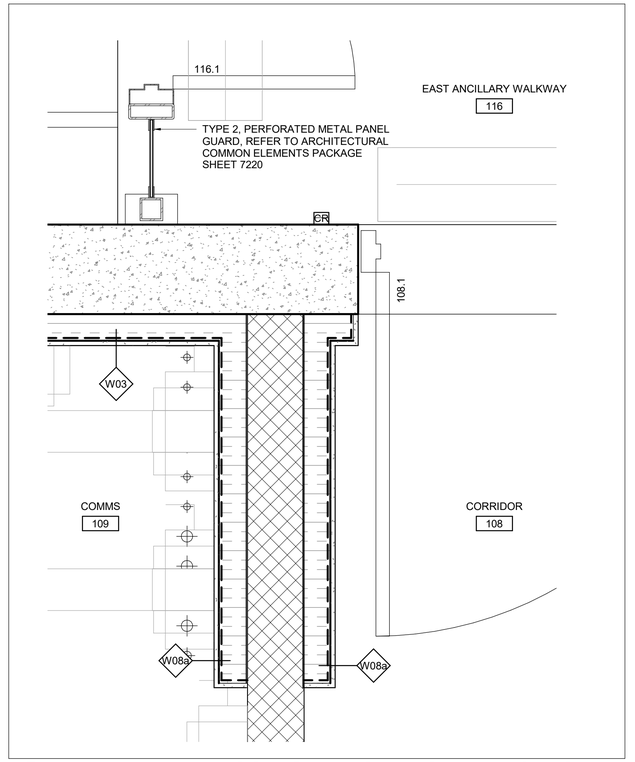
6/5001 DETAIL - END OF PLATFORM SOUTH AT GRIDLINE 3.9

1 : 10



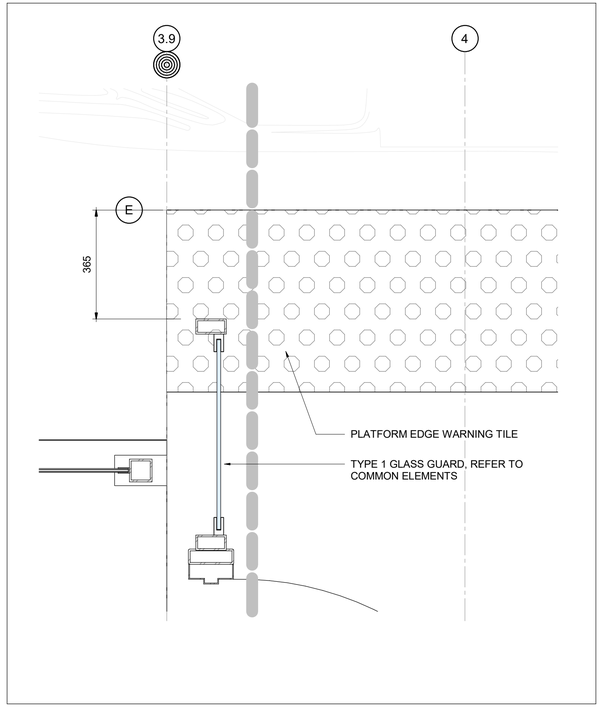
4/5001 DETAIL - END OF PLATFORM SOUTH @ GRIDLINE 14.1

1 : 10



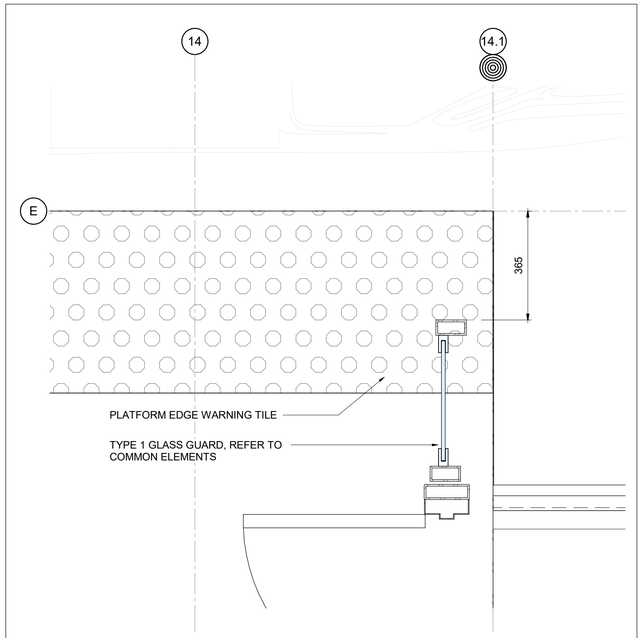
2/5001 PLAN DETAIL - DOOR @ EXT.OF ANCILLARY SPACE

1 : 10



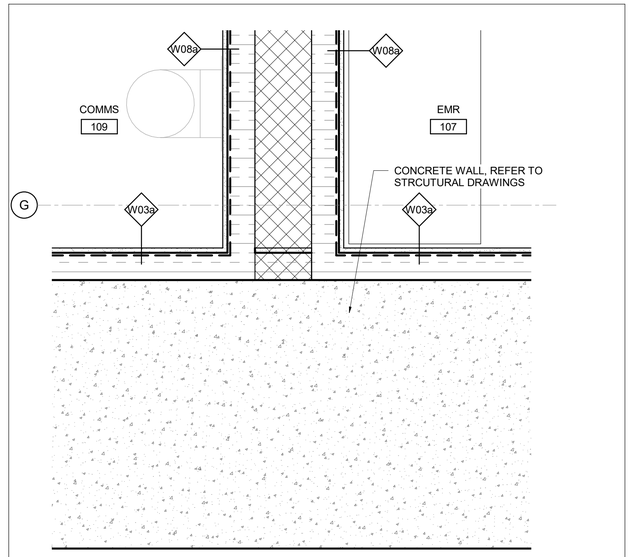
5/5001 DETAIL - END OF PLATFORM NORTH AT GRIDLINE 3.9

1 : 10



3/5001 DETAIL - END OF PLATFORM NORTH @ GRIDLINE 14.1

1 : 10



1/5001 PLAN DETAIL - DEMISING WALL AT EXTERIOR OF ANCILLARY SPACE

1 : 10

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
DETAILS
PLAN DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-5001

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

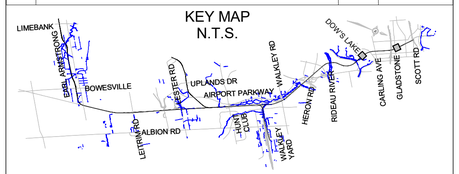
SCALE
HORIZONTAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE
0 0.05 0.1 0.2 0.4 m
VERTICAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE

ASSET No.

ASSET GROUP

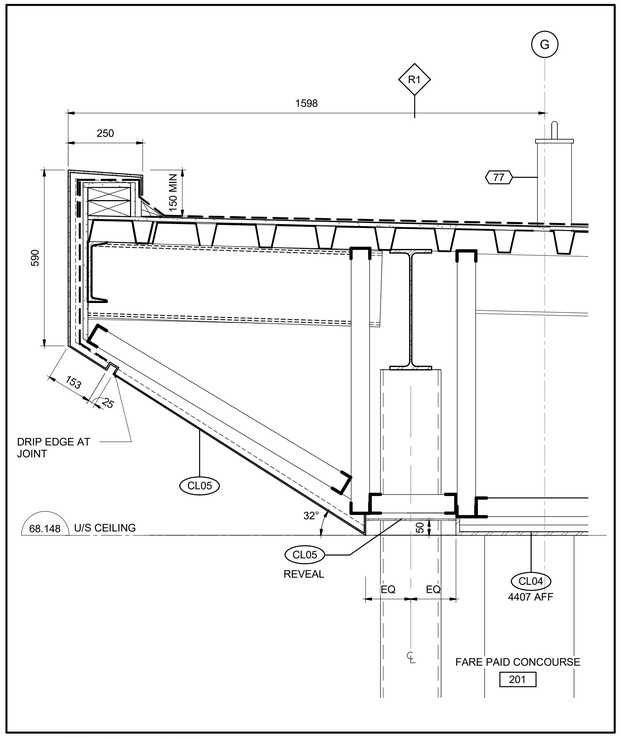
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



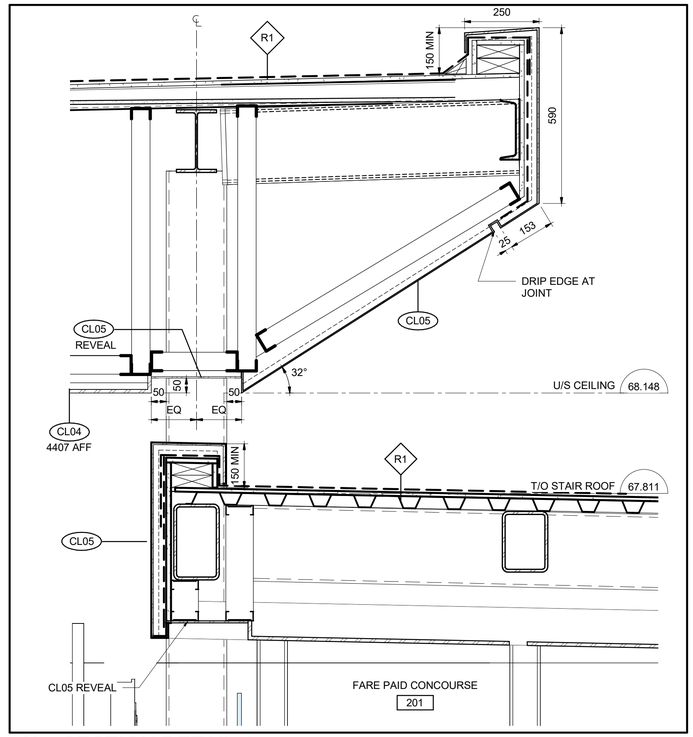
ISSUED FOR CONSTRUCTION
2021-03-29

TITLEBLOCK: 790mm x 534mm



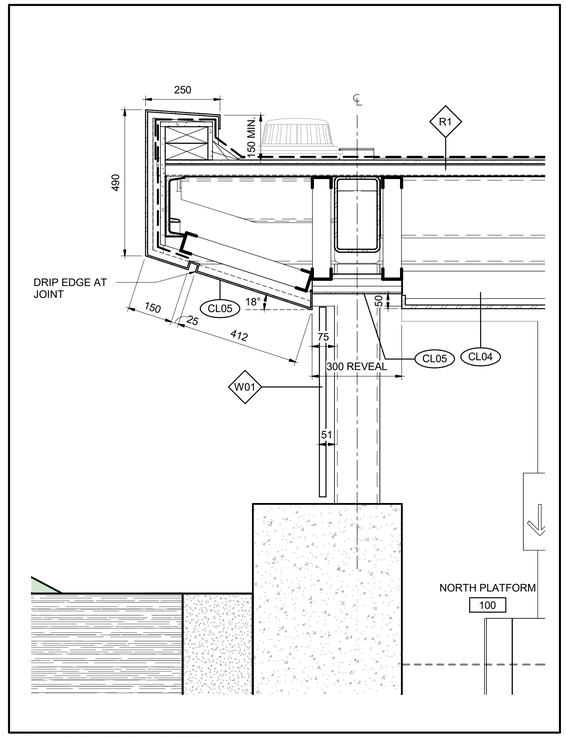
6 / 5100 SECTION DETAIL 6

1 : 10



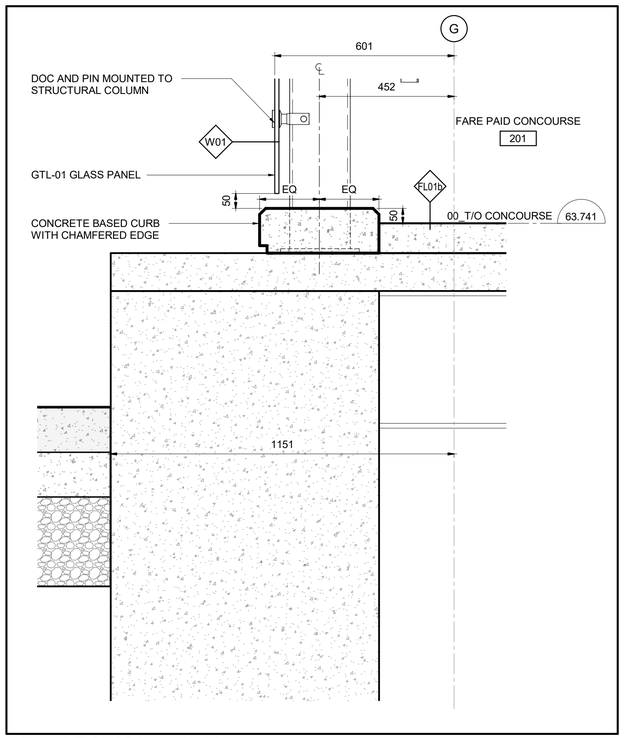
4 / 5100 SECTION DETAIL 4

1 : 10



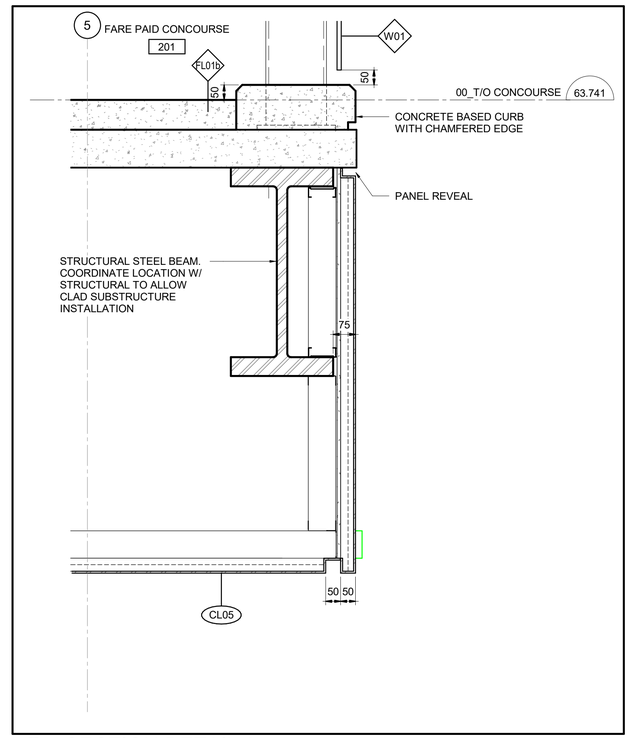
2 / 5100 SECTION DETAIL 2

1 : 10



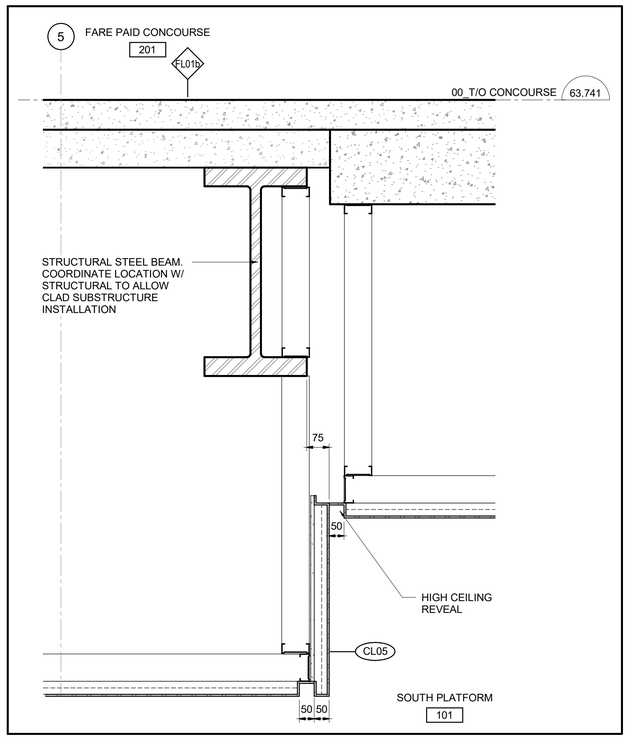
5 / 5100 SECTION DETAIL 5

1 : 10



3 / 5100 SECTION DETAIL 3

1 : 10



1 / 5100 SECTION DETAIL 1

1 : 10

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04/11/19

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
DETAILS
SECTION DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-5100

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER SNC·LAVALIN TransitNEXT

PRIMARY SEAL — ONTARIO ASSOCIATION OF ARCHITECTS — ROBERT BRISBIN LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

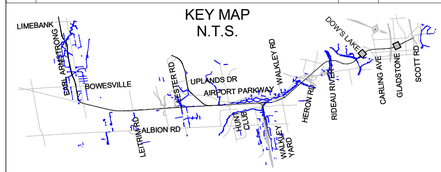
HORIZONTAL 1 : 10 FULLSIZE; 1 : 20 HALF SIZE
0 0.1 0.2
VERTICAL 0.4 1 : 10 FULLSIZE; 1 : 20 HALF SIZE 0.8 m

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

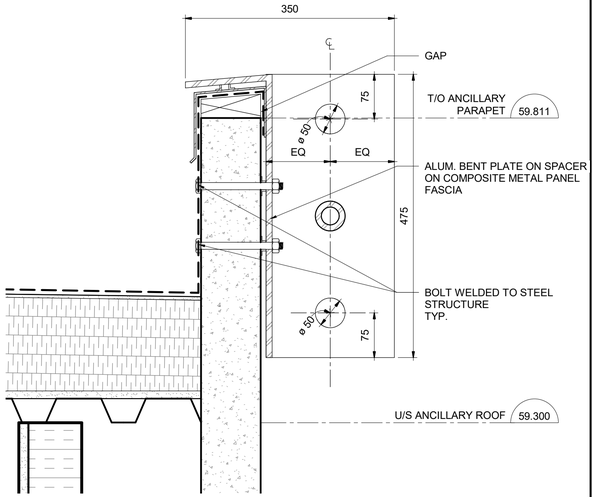
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

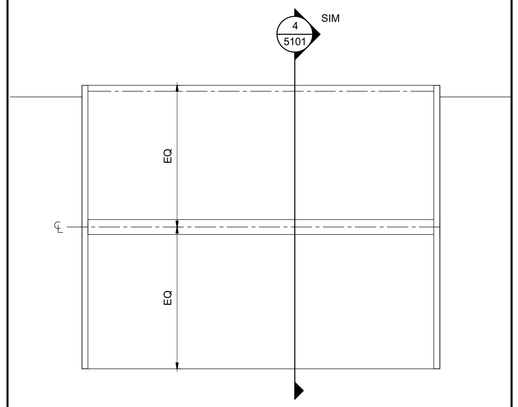
KEYNOTE LEGEND

Key Value	Keynote Text
77	FALL ARREST ANCHOR FASTENED TO STRUCTURE - REFER TO STRUCTURAL FOR BEAM LOCATIONS, ANCHORS AND ANCHOR LAYOUT TO BE DESIGNED AND PROVIDED BY OTHERS, TYP.



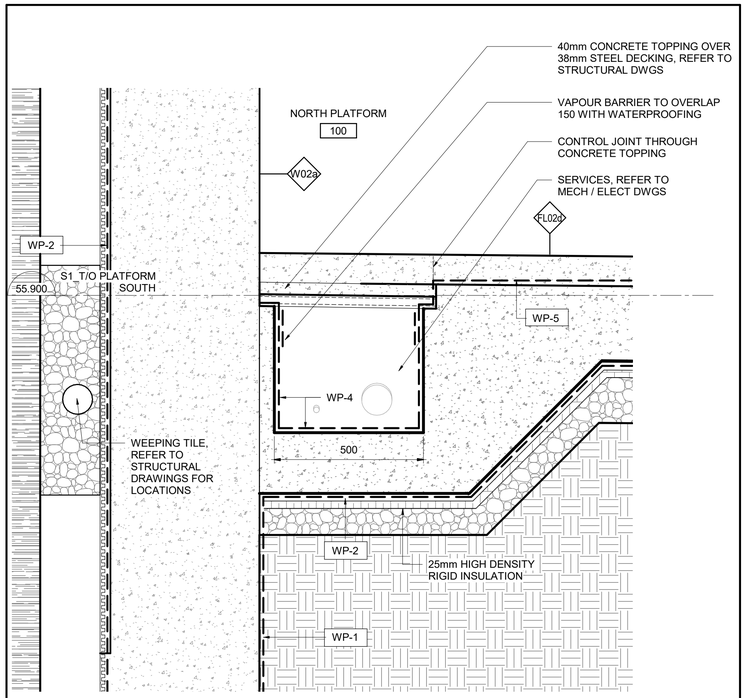
4/5101 SECTION DETAIL - LADDER BUMP

1 : 5



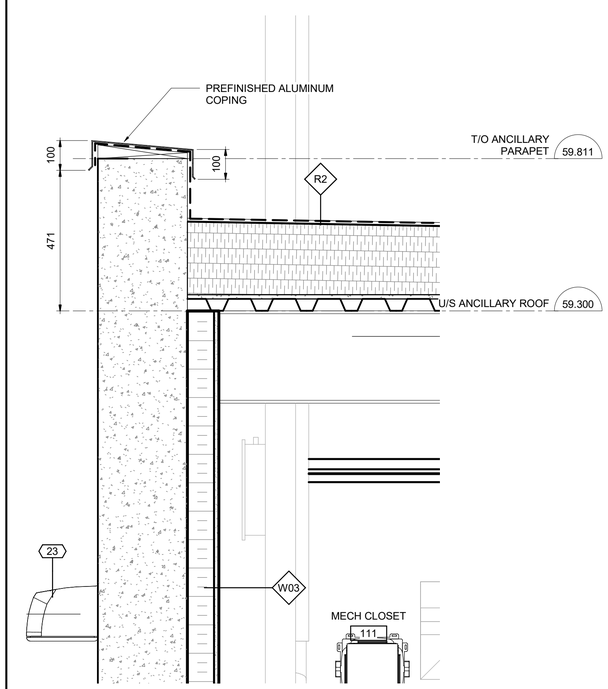
5/5101 ELEVATION - LADDER BUMPER ANCHOR

1 : 5



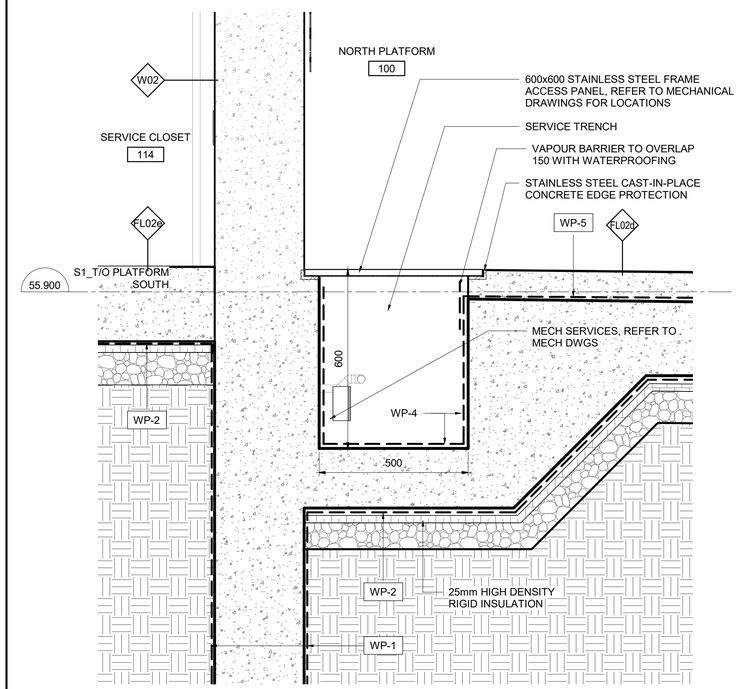
2/5101 SECTION DETAIL 8

1 : 10



3/5101 SECTION DETAIL 9

1 : 10



1/5101 SECTION DETAIL 7

1 : 10

OTrain STAGE 2 ETAPE

Ottawa

ARCHITECTURAL
CORSO ITALIA
DETAILS
SECTION DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-5101

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

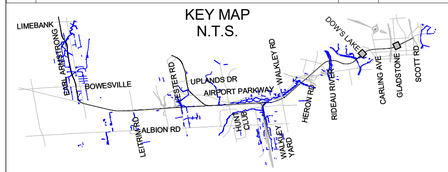
SCALE
HORIZONTAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE
0 0.05 0.1 0.2 0.4 m
VERTICAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

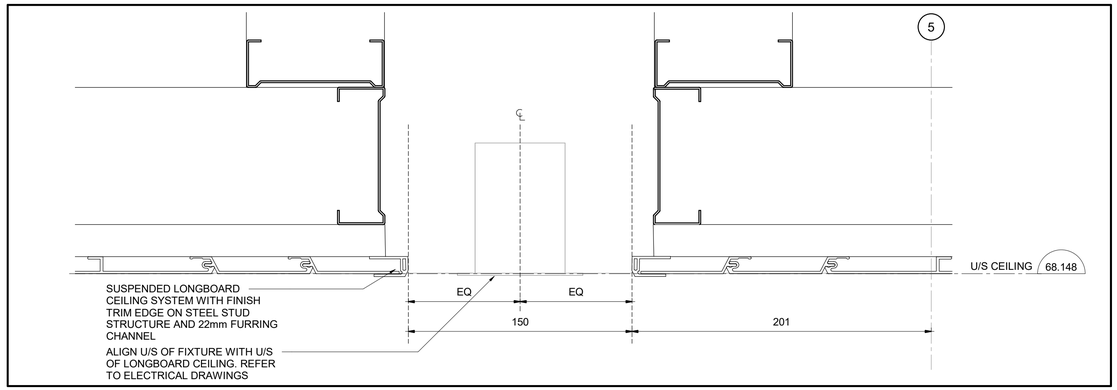
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

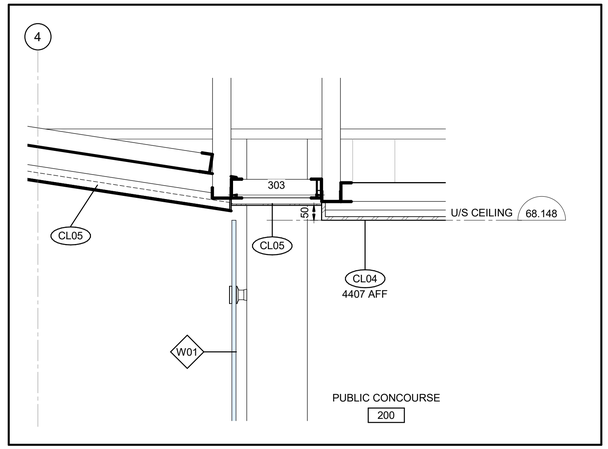
KEYNOTE LEGEND

Key Value	Keynote Text
23	LIGHT FIXTURE, REFER TO ELECTRICAL DRAWINGS



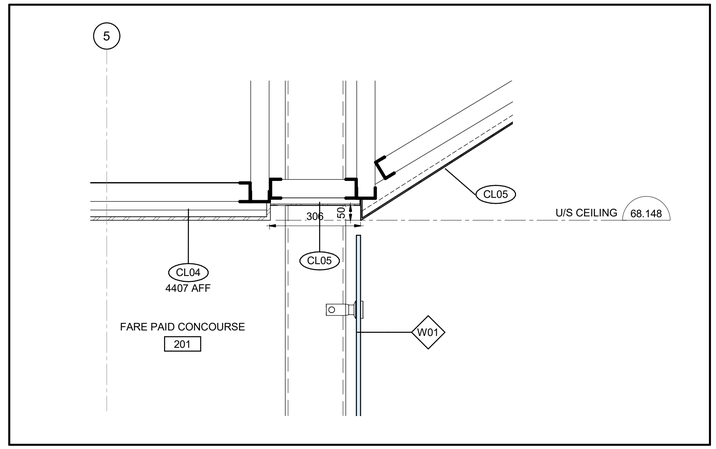
5 / 5103 SECTION DETAIL - CEILING SLOT W/ LINEAR LIGHTING

1 : 2



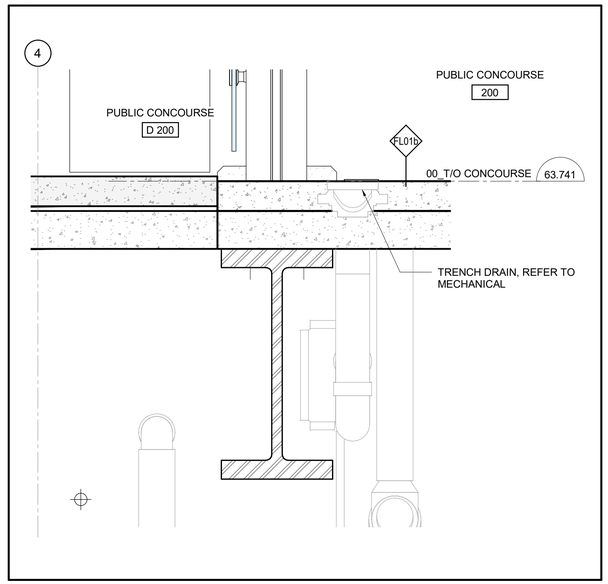
3 / 5103 SECTION DETAIL AT CEILING & GLAZING 2

1 : 10



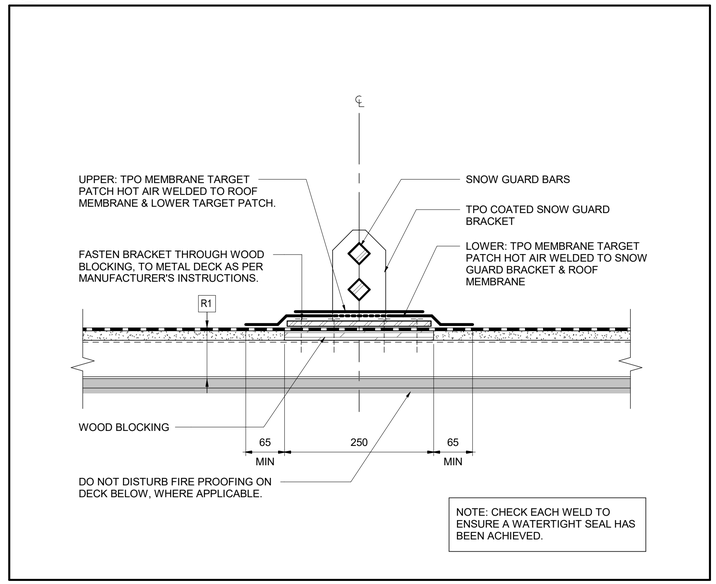
2 / 5103 SECTION DETAIL AT CEILING & GLAZING

1 : 10



4 / 5103 WALL SECTION 3 @ CONCOURSE - Callout 1

1 : 10



1 / 5103 SNOW GUARD

1 : 5

OTrain STAGE 2 ETAPE

Ottawa

ARCHITECTURAL
CORSO ITALIA
DETAILS
SECTION DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	M. PERKIC
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-5103

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN
LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

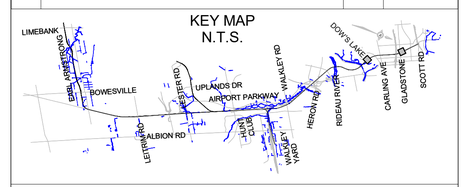
HORIZONTAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE
0 0.05 0.1 0.2 0.4 m
VERTICAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

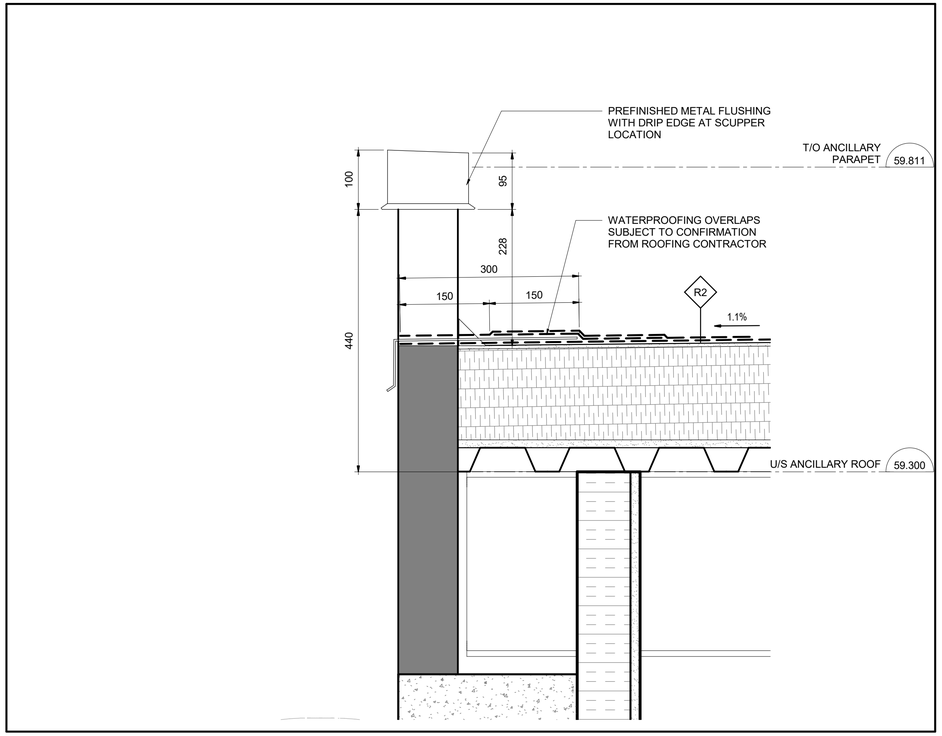
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

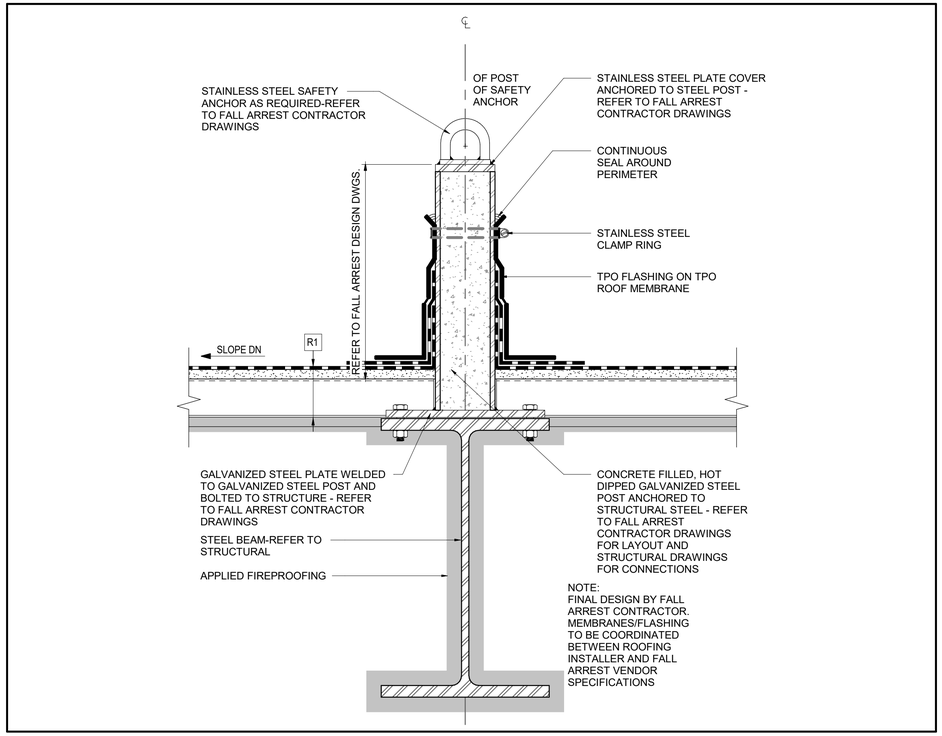
2021-03-29

TITLEBLOCK: 790mm x 534mm



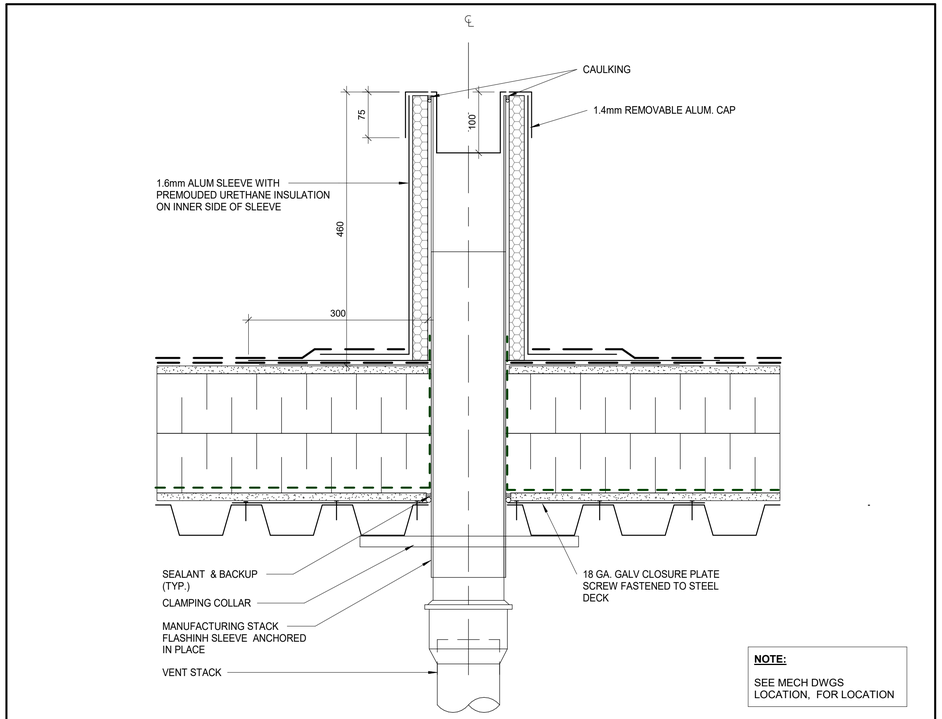
2 / 5104 SECTION DETAIL -SCUPPER

1 : 5



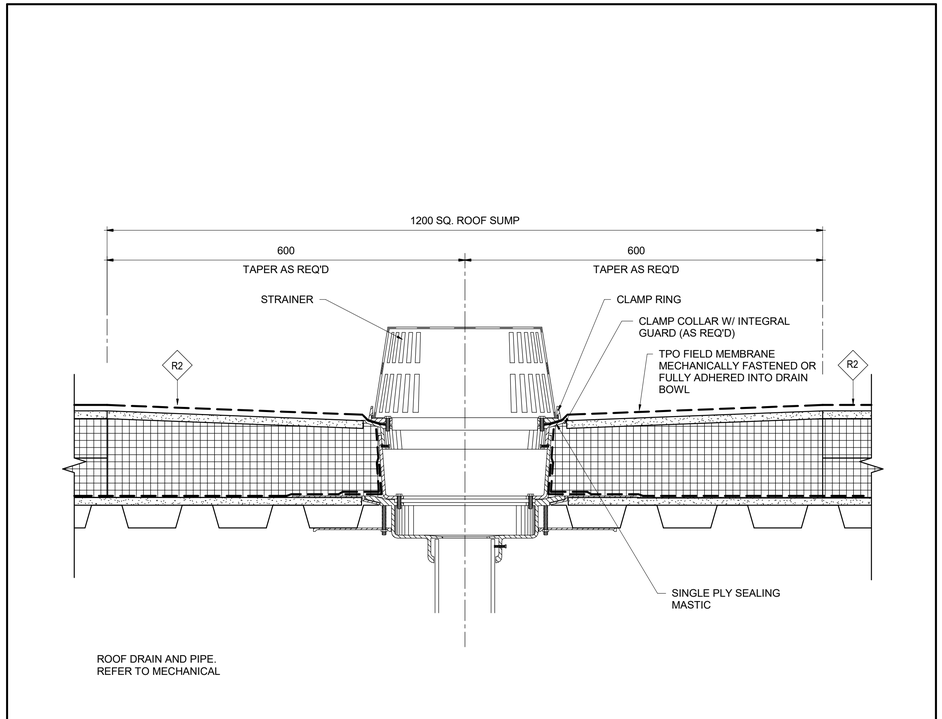
3 / 5104 FALL ARREST ANCHOR

1 : 5



C / 5104 PLUMBING PENETRATION

1 : 5



1 / 5104 ROOF DRAIN

1 : 5

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
DETAILS
SECTION DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	M. PERKIC
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-5104

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS ROBERT M. BRISBIN LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

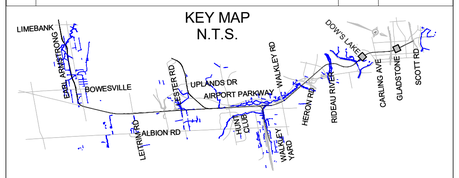
HORIZONTAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE
0 0.05 0.1 0.2 0.4 m
VERTICAL 1 : 5 FULLSIZE / 1 : 10 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

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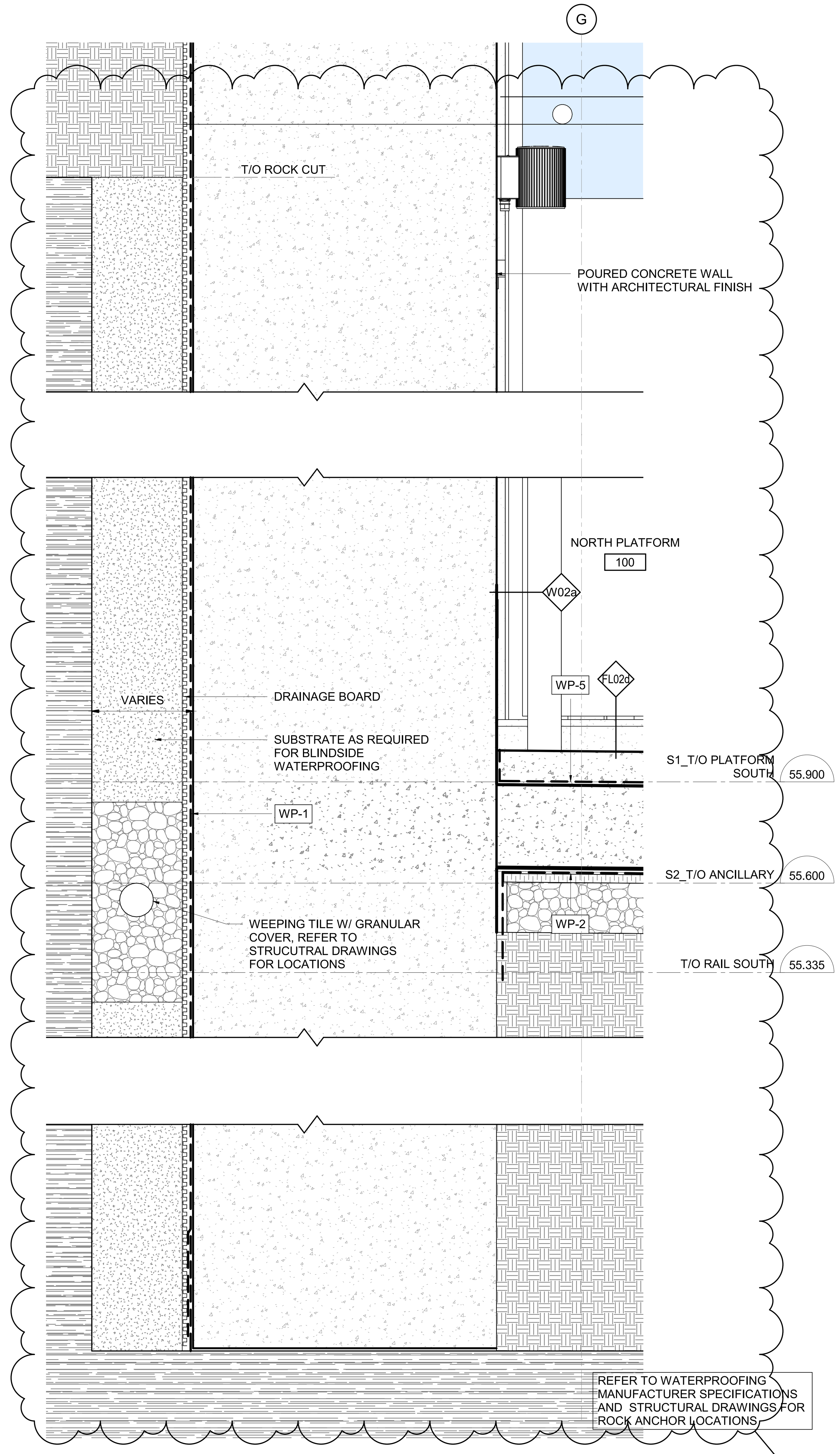
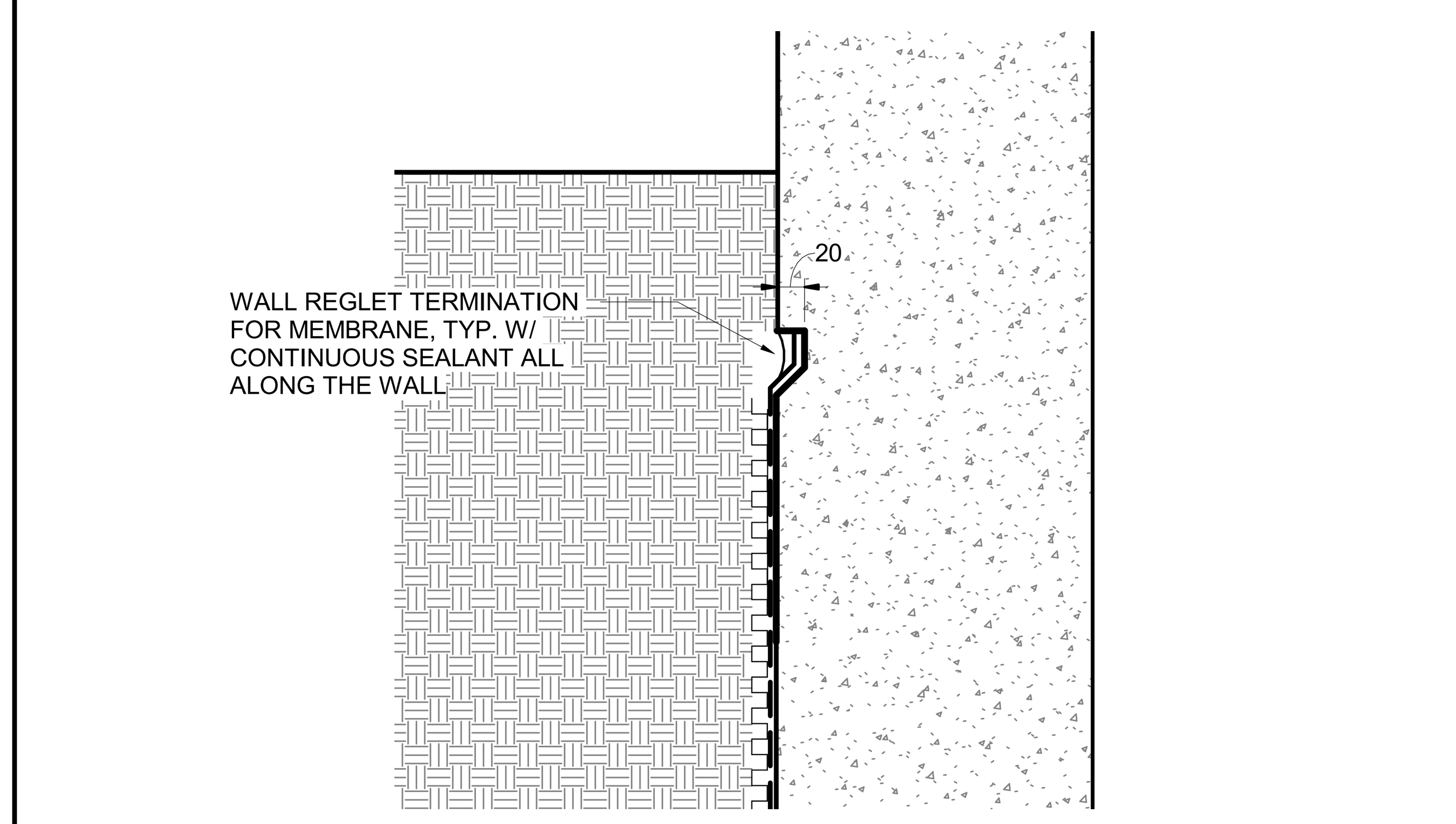
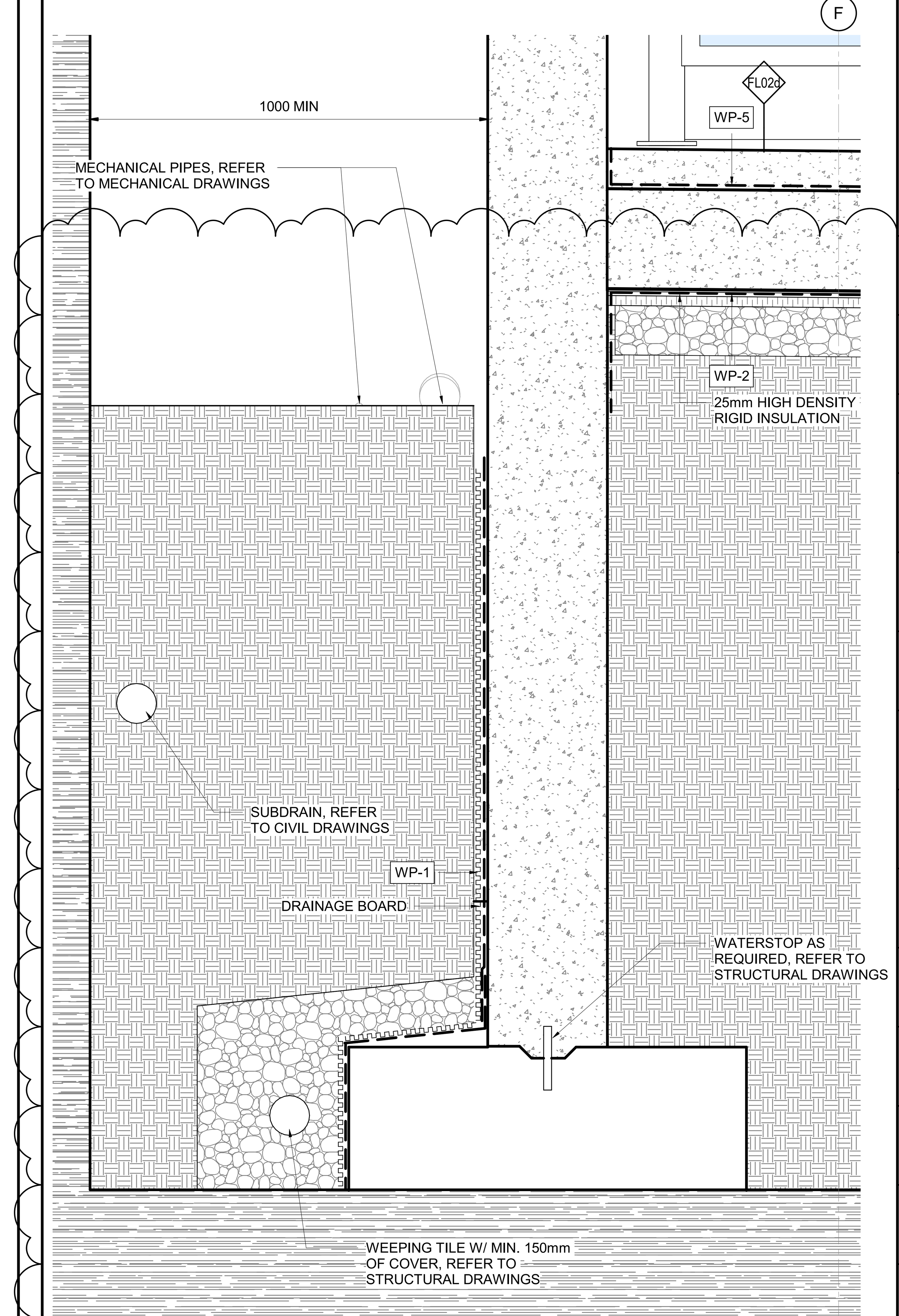
02/25/21



3
5150
WATERPROOFING DETAIL @ ROCK CUT
1 : 10



2
5150
WALL REGLET TERMINATION FOR MEMBRANE TYP.
1 : 5



1
5150
WATERPROOFING DETAIL - FULL WRAP AT FOOTING
1 : 10

O-Train STAGE 2 ÉTAPE

Ottawa

ARCHITECTURAL
CORSO ITALIA
DETAILS
SECTION DETAILS

CONTRACT No.	LRT19-1025
DESIGNED: R.RISBIN	CHECKED: A.KOURKOUNAKIS
DRAWN: N.BARRETT	SEALED: R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-5150

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

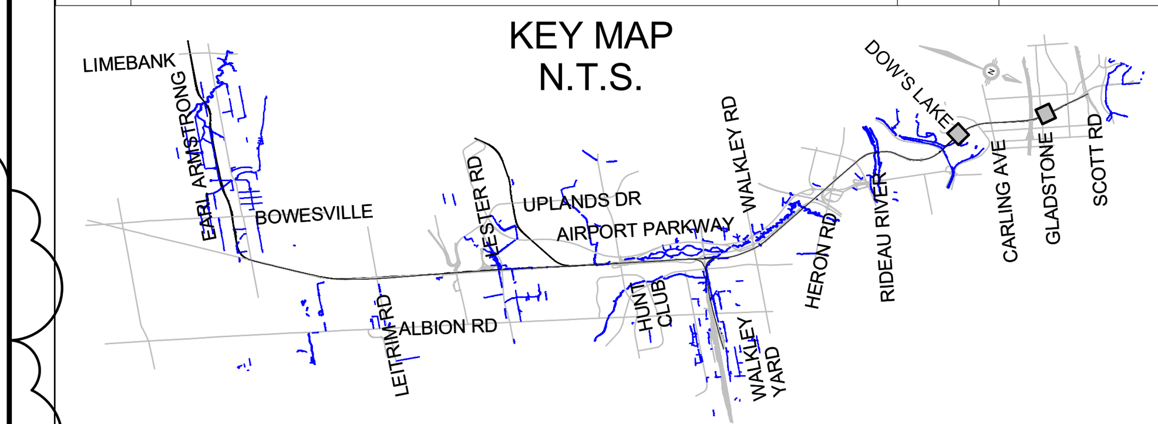
SCALE
HORIZONTAL 1 : 5 FULLSIZE, 1 : 10 HALF SIZE
0 0.05 0.1 0.2 0.4 m
VERTICAL 1 : 5 FULLSIZE, 1 : 10 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS, FOUNDATIONS ONLY	JJ	2020/09/25
01	ISSUED FOR BUILDING PERMIT	JJ	2020/11/27
02	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
03	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text

TITLEBLOCK: 790mm x 534mm

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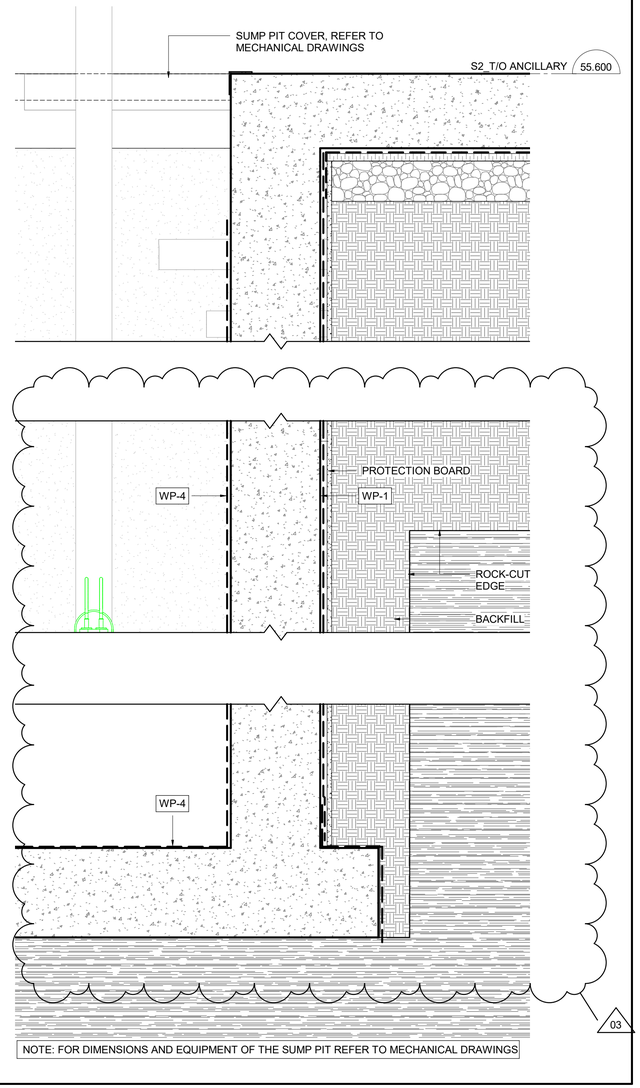
09/24/20

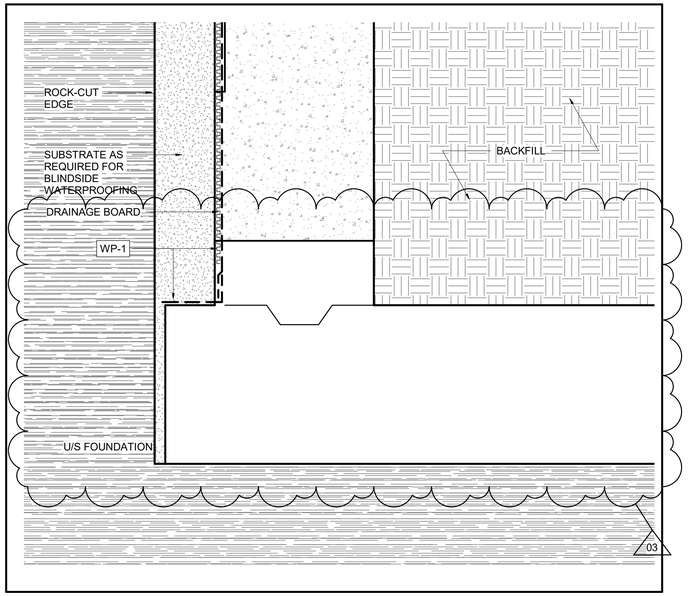
03

TITLEBLOCK: 790mm x 534mm



1 / 5151 SUMP PIT SECTION

1 : 10



2 / 5151 SECTION DETAIL @ PUBLIC STAIR

1 : 10

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
DETAILS
SECTION DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-5151

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

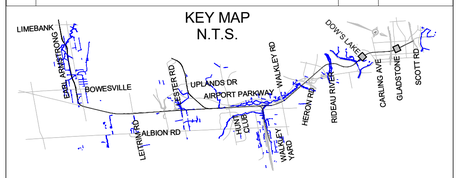
SCALE
HORIZONTAL 1 : 10 FULLSIZE
1 : 20 HALF SIZE
0 0.1 0.2 0.4 0.8 m
VERTICAL 1 : 10 FULLSIZE
1 : 20 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS, FOUNDATIONS ONLY	JJ	2020/09/25
01	ISSUED FOR BUILDING PERMIT	JJ	2020/11/27
02	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
03	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text

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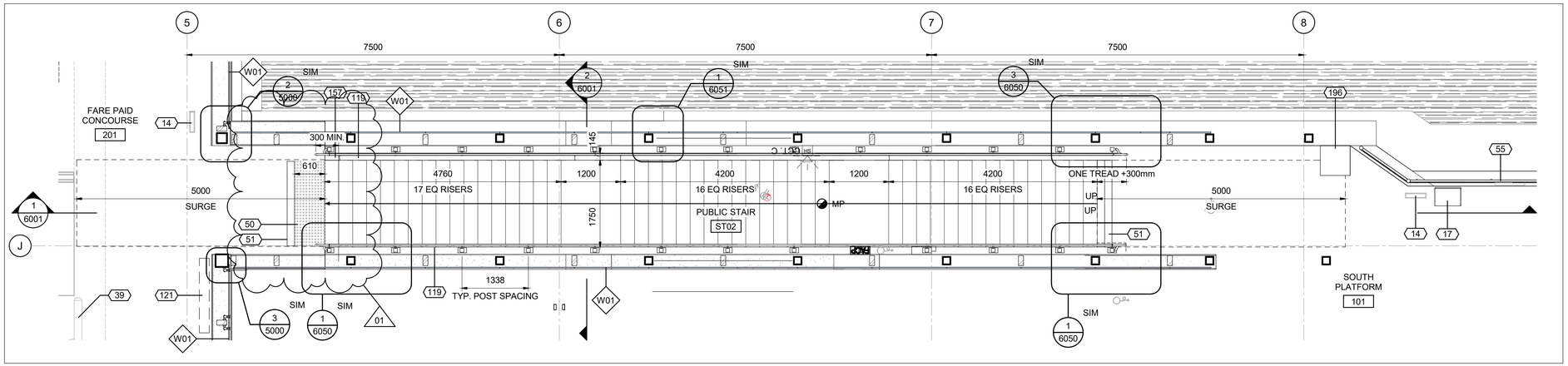
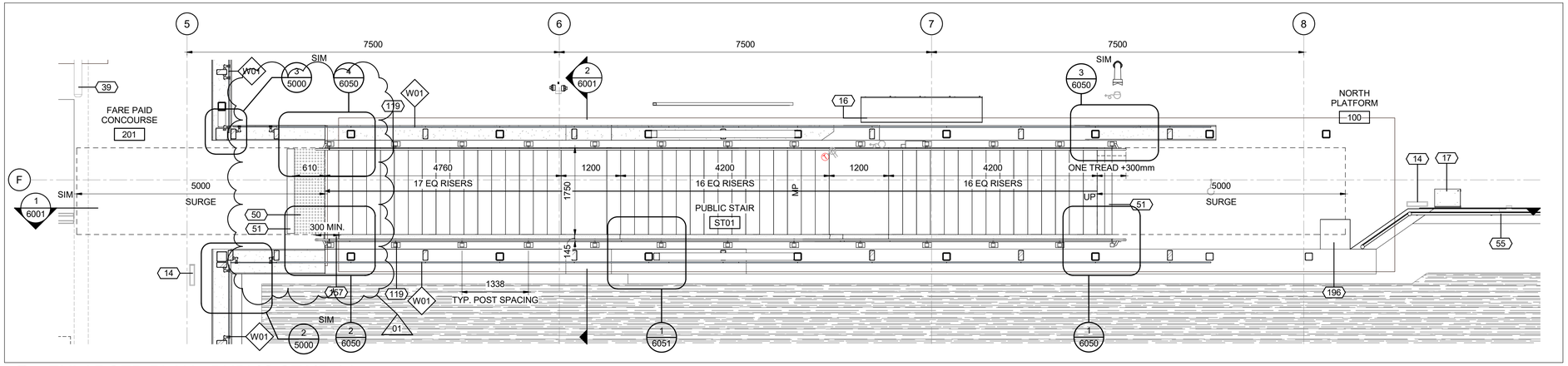
09/26/20

TITLEBLOCK: 790mm x 534mm



2 / 6000 ENLARGED PLAN - PUBLIC STAIR 02

1 : 50



1 / 6000 ENLARGED PLAN - PUBLIC STAIR 01

1 : 50

PLAN NORTH

OTrain STAGE 2 ÉTAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIRS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-6000

MODEL NUMBER
660373-1GSS-001-44DM-1000

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN
LICENCE
3782

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

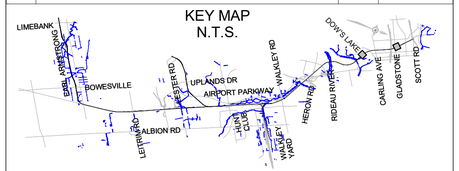
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
16	WASTE RECPETACLE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7305
39	FARE GATE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7012/7019
50	ATTENTION STRIP, 610mm MIN
51	TRENCH DRAIN, REFER TO MECHANICAL DRAWGINS
55	TYPE 3, CHAINLINK FENCE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7225
119	CONTINUOUS SST HANDRAIL
121	ADVERTISING PANEL, 1.5m x 2.5m, TO BE PROVIDED BY THE CITY, PROVIDE PROVISIONS FOR POWER AND DATA
157	PRECAST BIKE TROUGH
196	SST ACCESS PANEL WITH CONCRETE INFILL FOR SERVICE TRENCH, COLOUR TO MATCH FLOOR FINISH

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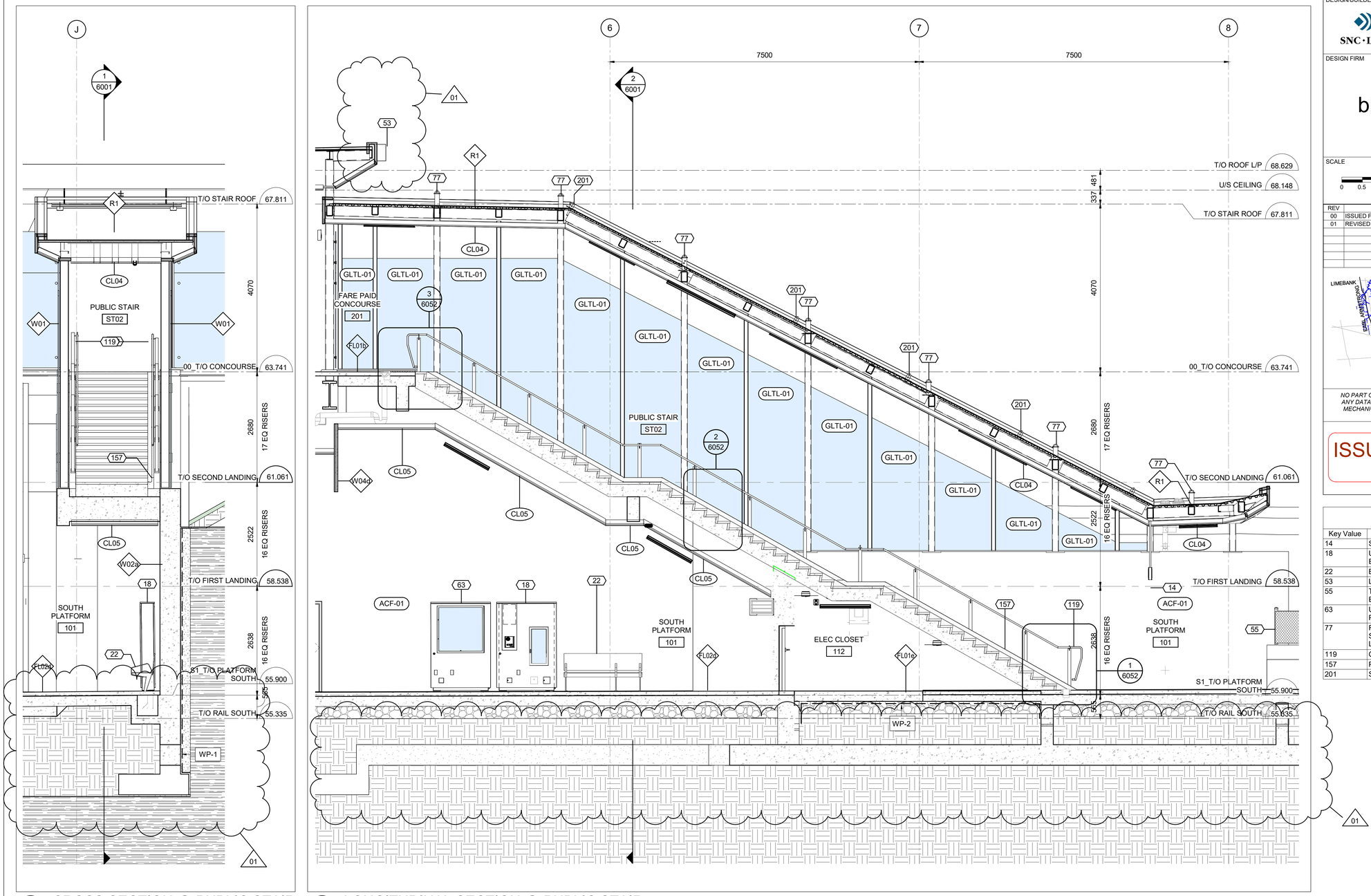
03/23/16

TITLEBLOCK: 790mm x 534mm



2 6001 CROSS SECTION @ PUBLIC STAIR
1 : 50

1 6001 LONGITUDINAL SECTION @ PUBLIC STAIR
1 : 50

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10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIRS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-6001

MODEL NUMBER
660373-1GSS-001-44DM-1000

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.

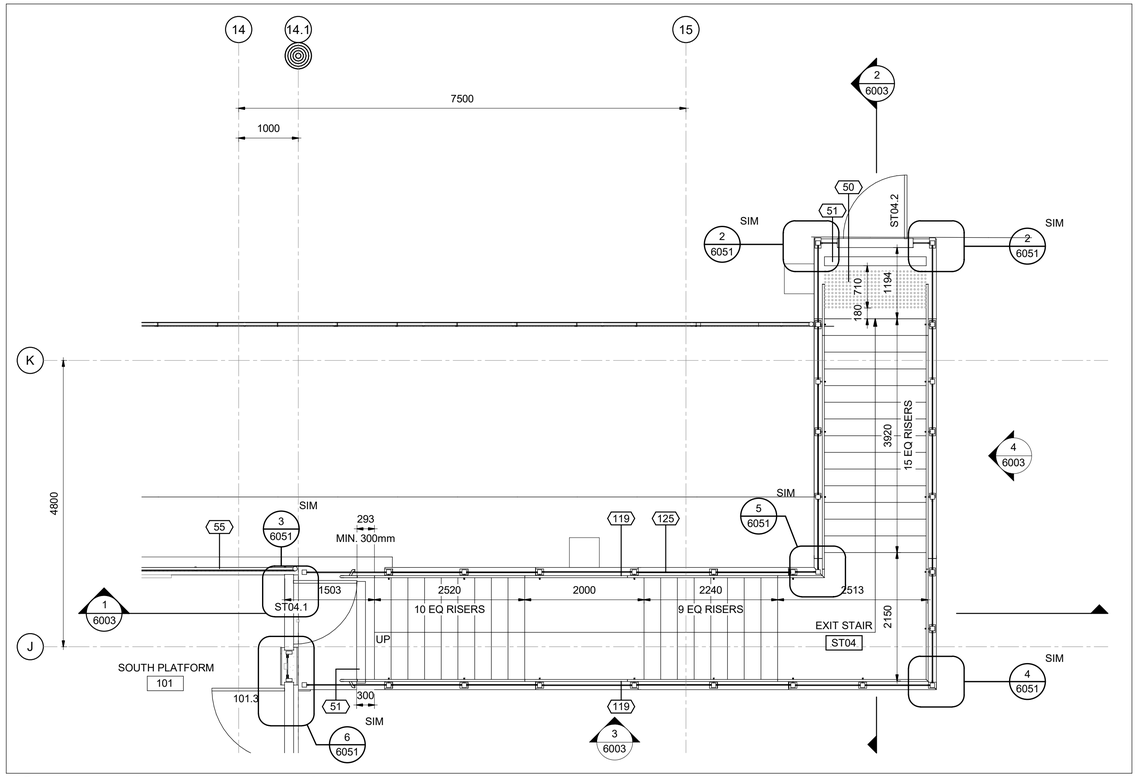
ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
18	UC-02, FIRE CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7105/7106
22	BENCH WITH SEATING FOR 3
53	LADDER BUMP
55	TYPE 3, CHAINLINK FENCE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7225
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
77	FALL ARREST ANCHOR FASTENED TO STRUCTURE - REFER TO STRUCTURAL FOR BEAM LOCATIONS, ANCHORS AND ANCHOR LAYOUT TO BE DESIGNED AND PROVIDED BY OTHERS, TYP.
119	CONTINUOUS SST HANDRAIL
157	PRECAST BIKE TROUGH
201	SNOW GUARD

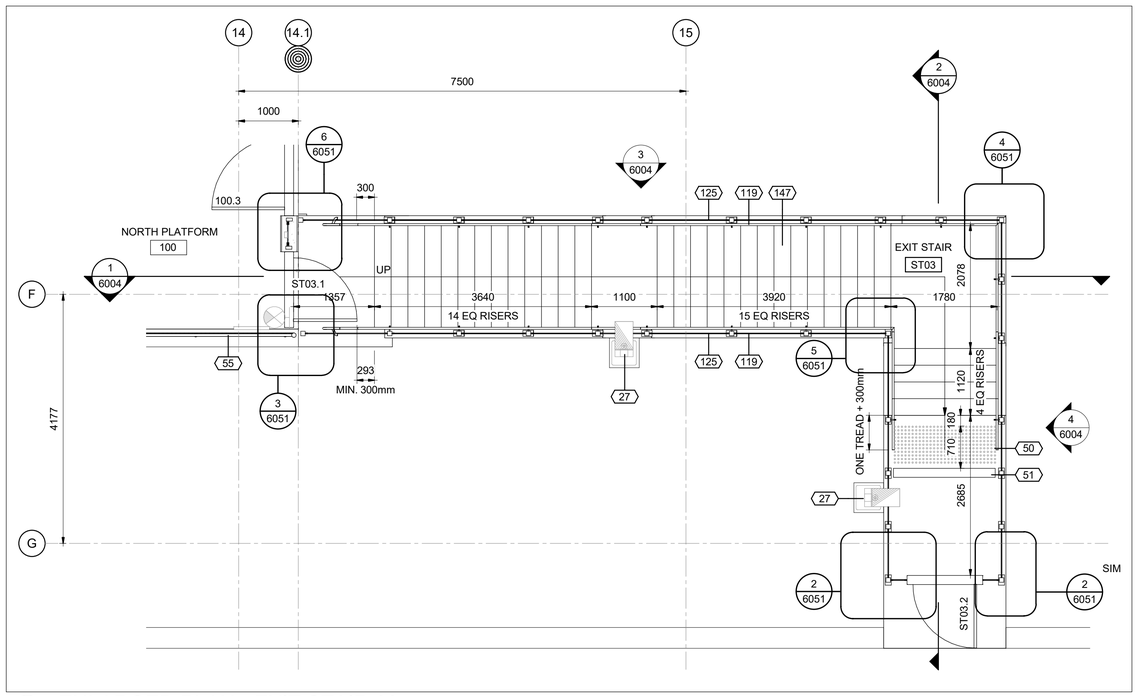
01

TITLEBLOCK: 790mm x 534mm



2 / 6002 ENLARGED PLAN - EXIT STAIR 04

1 : 50



1 / 6002 ENLARGED PLAN - EXIT STAIR 03

1 : 50

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIRS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-6002

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENSED 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

0 0.5 1 2 4 m

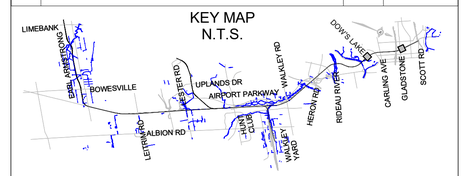
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

KEYNOTE LEGEND

Key Value	Keynote Text
27	LIGHT POLE, REFER TO ELECTRICAL AND STRUCTURAL DRAWINGS FOR LIGHT POLE AND FOUNDATION TYPE BASED ON LIGHT POLE LOCATION

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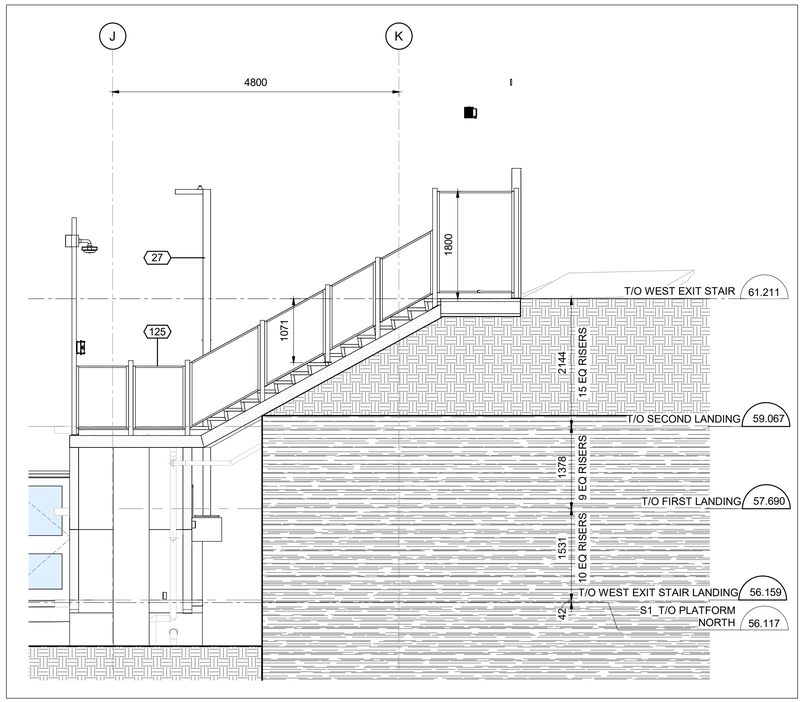
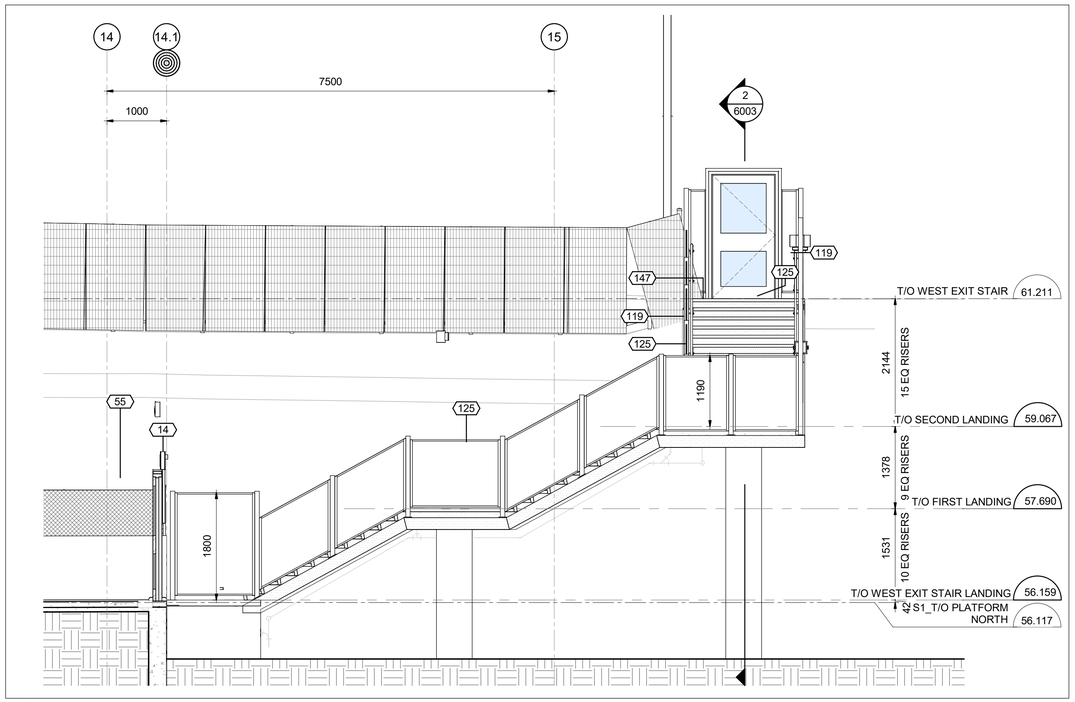
TITLEBLOCK: 790mm x 534mm



4 / 6003 NORTH ELEVATION @ EXIT STAIR 04

1 : 50



3 / 6003 EAST ELEVATION @ EXIT STAIR 04

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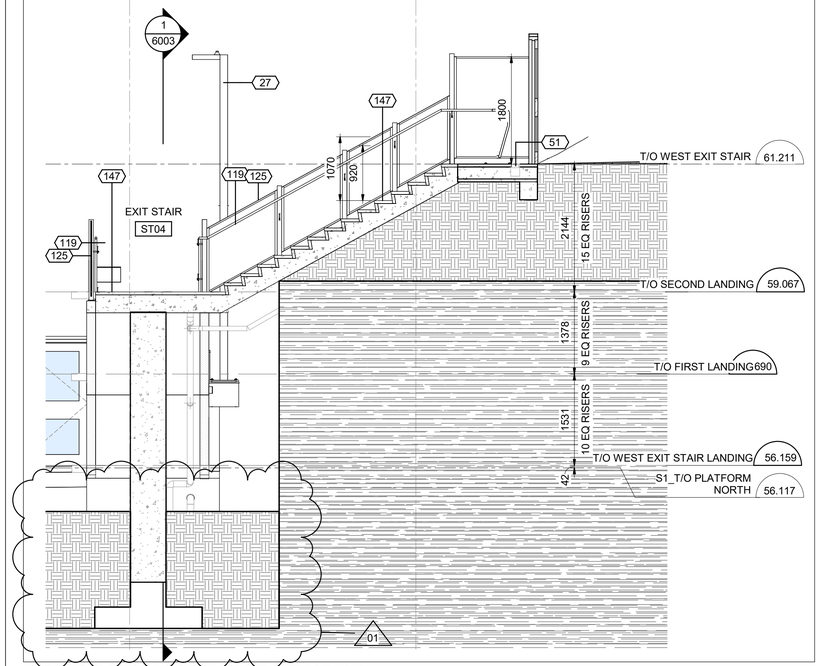

2 / 6003 SECTION 2 @ EXIT STAIR 04

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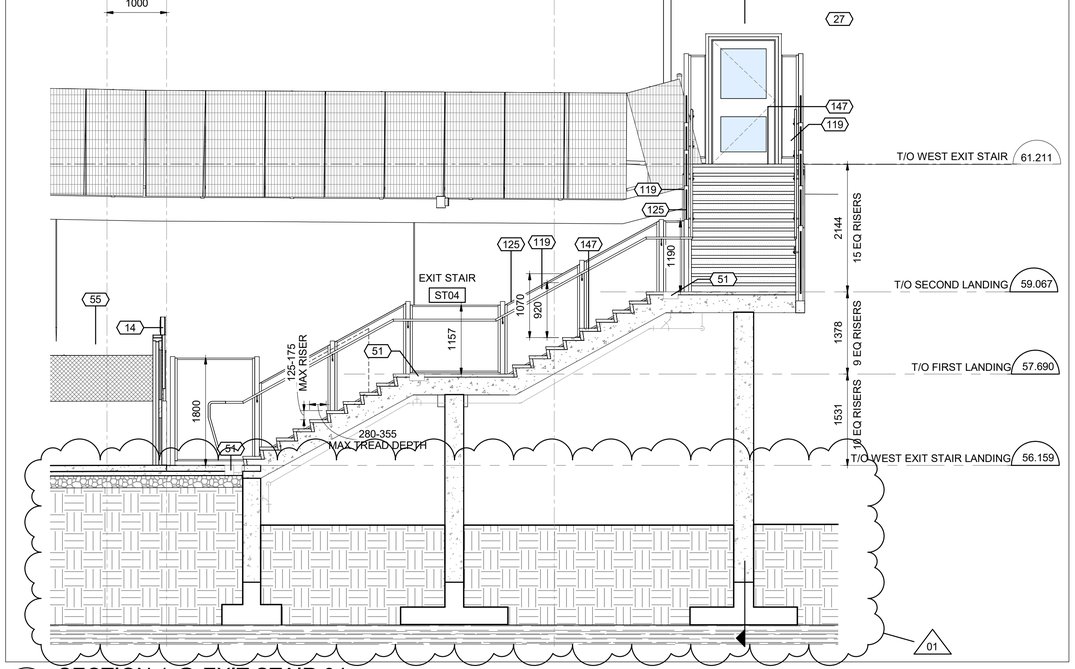

1 / 6003 SECTION 1 @ EXIT STAIR 04

1 : 50

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10/06/20

OTrain STAGE 2 ETAPE

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIRS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-6003

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

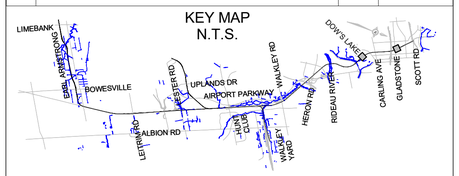
SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.

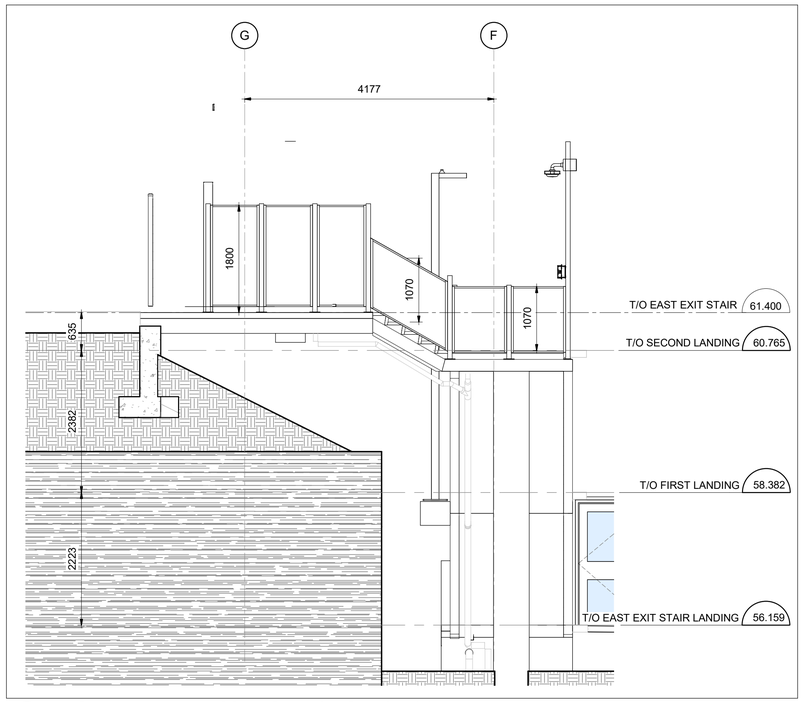


ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

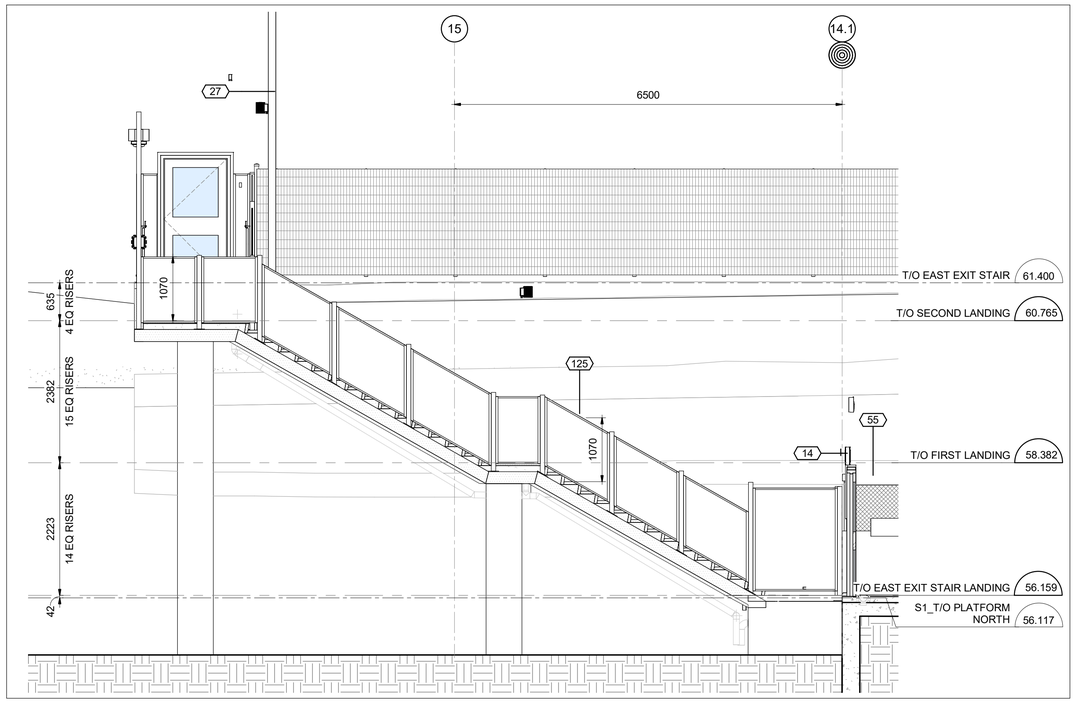
Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
27	LIGHT POLE, REFER TO ELECTRICAL AND STRUCTURAL DRAWINGS FOR LIGHT POLE AND FOUNDATION TYPE BASED ON LIGHT POLE LOCATION
51	TRENCH DRAIN, REFER TO MECHANICAL DRAWGINS
55	TYPE 3, CHAINLINK FENCE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7225
119	CONTINUOUS SST HANDRAIL
125	TYPE 2 RAILING, PERFORATED METAL PANEL, MIN. 1070mm HIGH, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7220
147	PRECAST TREADS ON CAST-IN-PLACE CONCRETE STAIRS C/W HEAT TRACE

TITLEBLOCK: 790mm x 534mm



4 / 6004 NORTH ELEVATION @ EXIT STAIR 03

1 : 50



3 / 6004 WEST ELEVATION @ EXIT STAIR ST03

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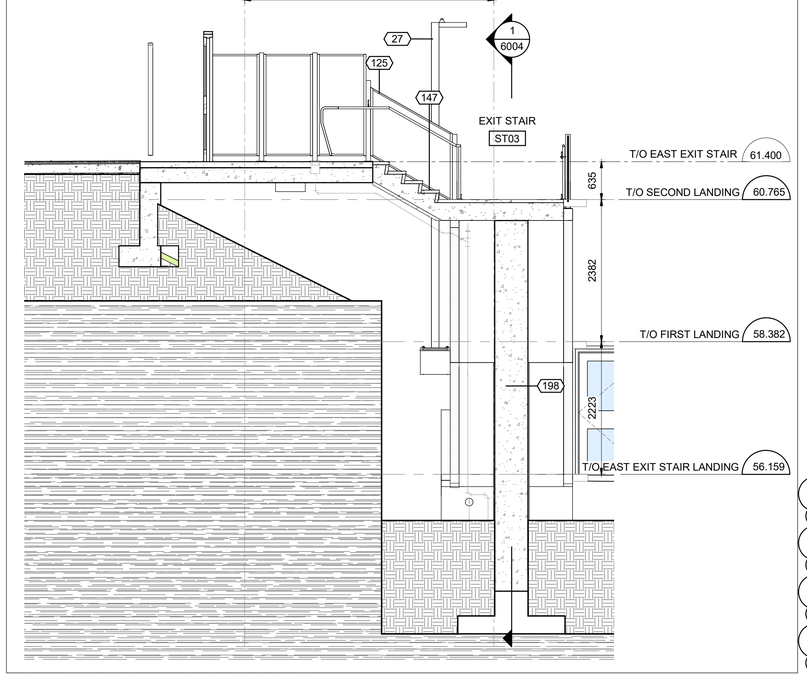
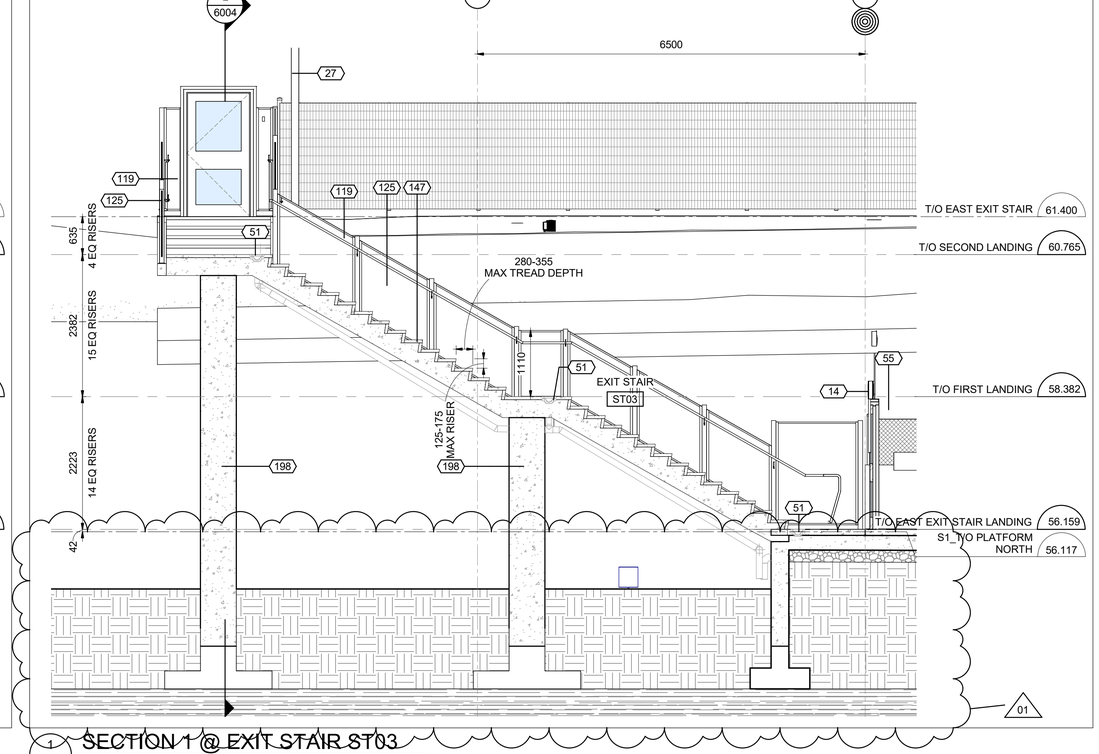


2 / 6004 SECTION 2 @ EXIT STAIR 03

1 : 50



1 / 6004 SECTION 1 @ EXIT STAIR ST03

1 : 50

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10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIRS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-6004

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

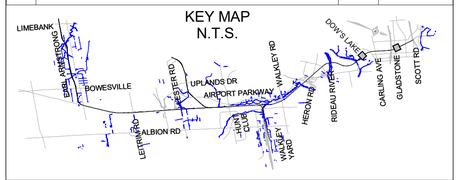
SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
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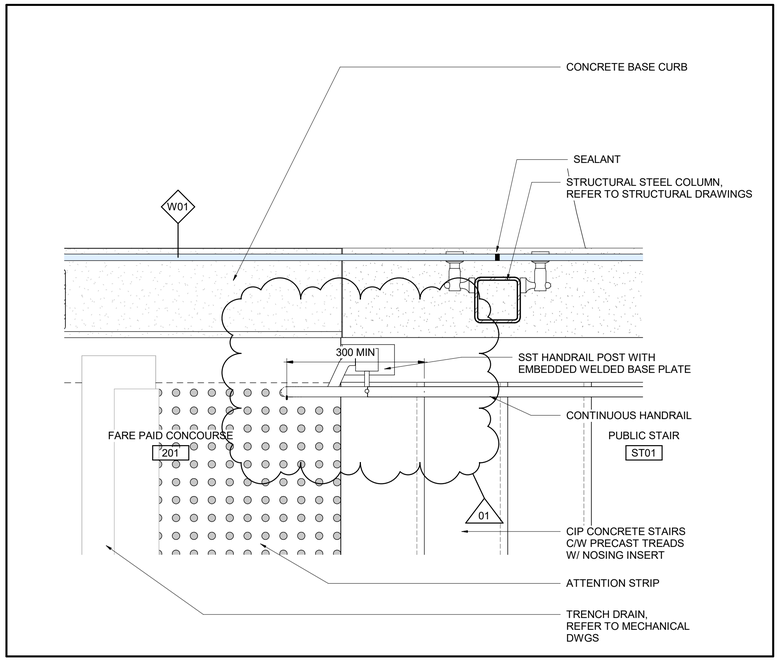
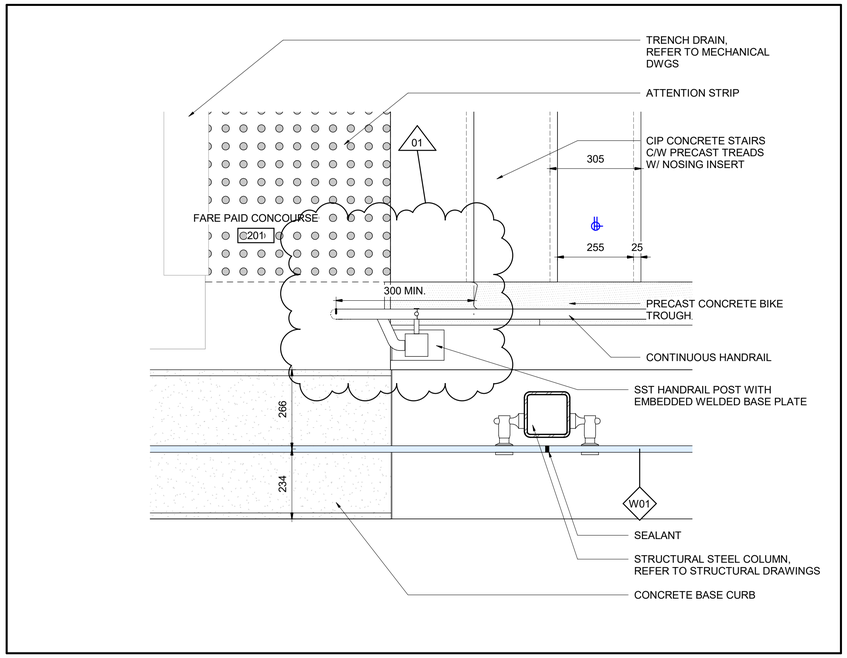
55	TYPE 3, CHAINLINK FENCE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7225
119	CONTINUOUS SST HANDRAIL
125	TYPE 2 RAILING, PERFORATED METAL PANEL, MIN. 1070mm HIGH, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7220
147	PRECAST TREADS ON CAST-IN-PLACE CONCRETE STAIRS C/W HEAT TRACE
198	CONCRETE COLUMN, REFER TO STRUCTURAL DRAWINGS



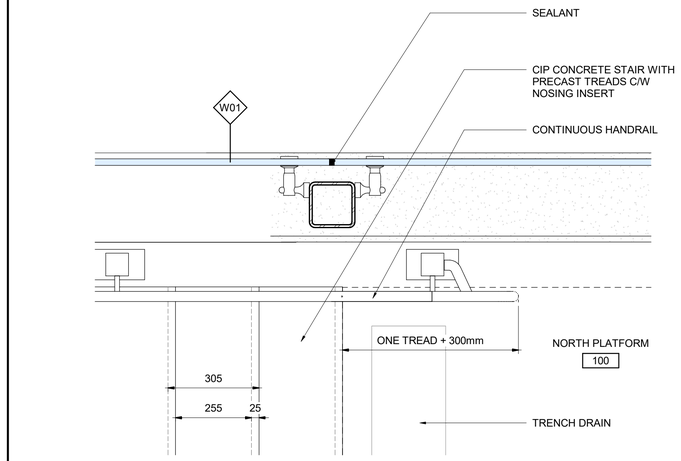
4 6050 PLAN DETAIL STAIR ST01 - CONCORSE LEVEL

1 : 10



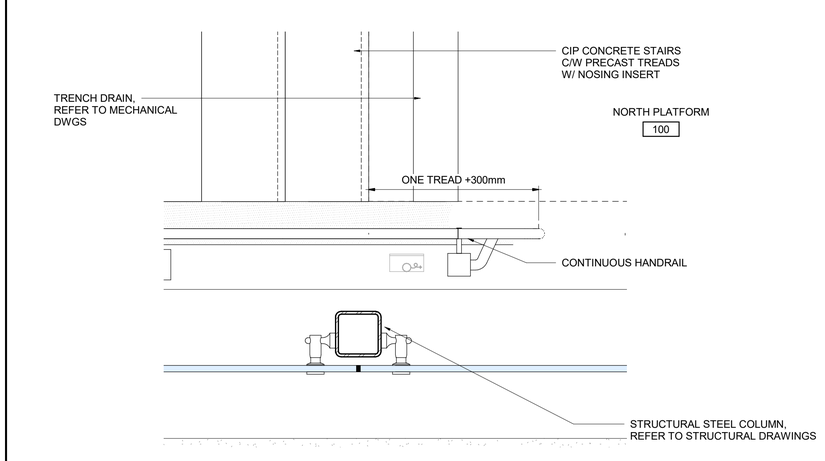
2 6050 PLAN DETAIL STAIR ST01 - CONCOURSE LEVEL

1 : 10



3 6050 PLAN DETAIL STAIR ST01- PLATFORM LEVEL

1 : 10



1 6050 PLAN DETAIL STAIR ST01 - PLATFORM LEVEL

1 : 10

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIR DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-6050

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

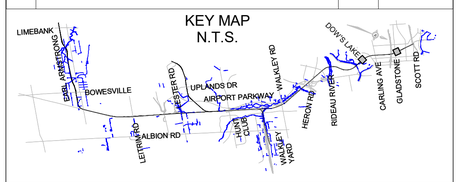
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

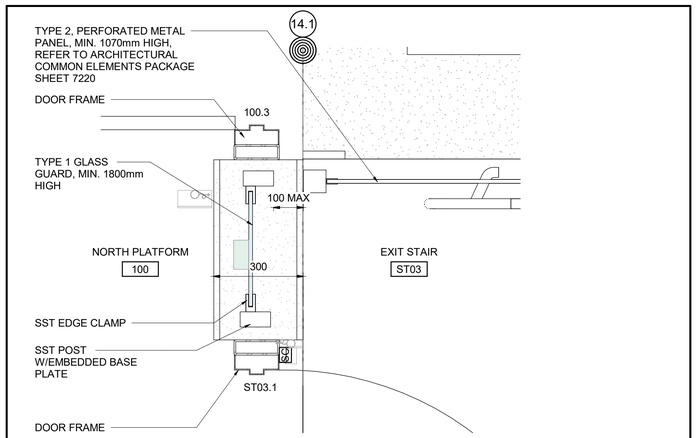
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.

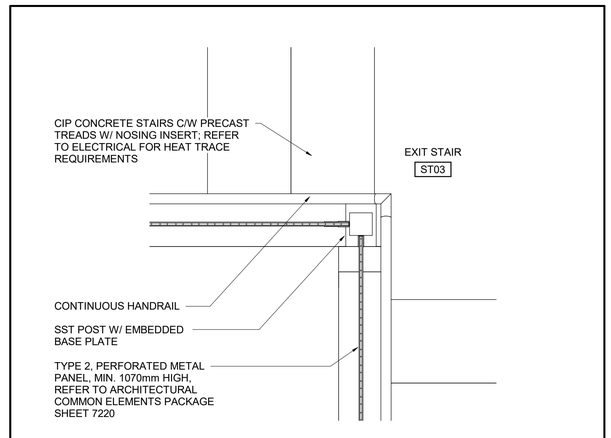


ISSUED FOR CONSTRUCTION
2021-07-30



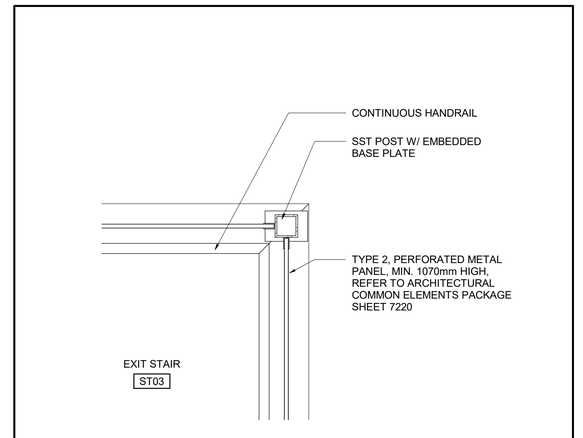
6 6051 DETAIL - ST03 GUARD/DOOR

1 : 10



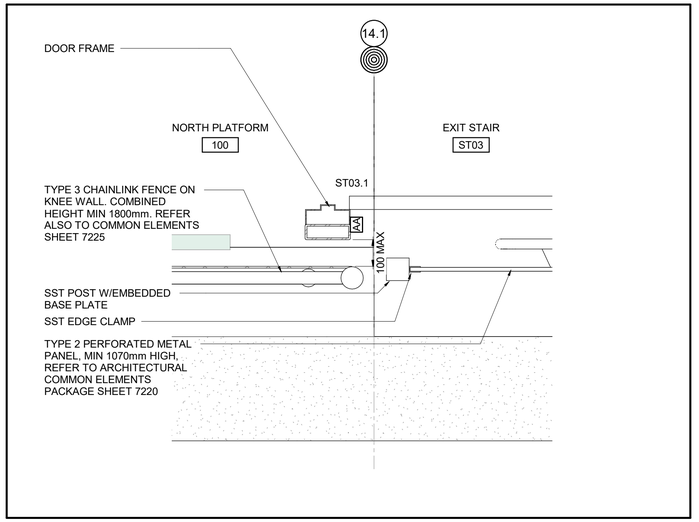
5 6051 DETAIL - ST03 INSIDE CORNER

1 : 10



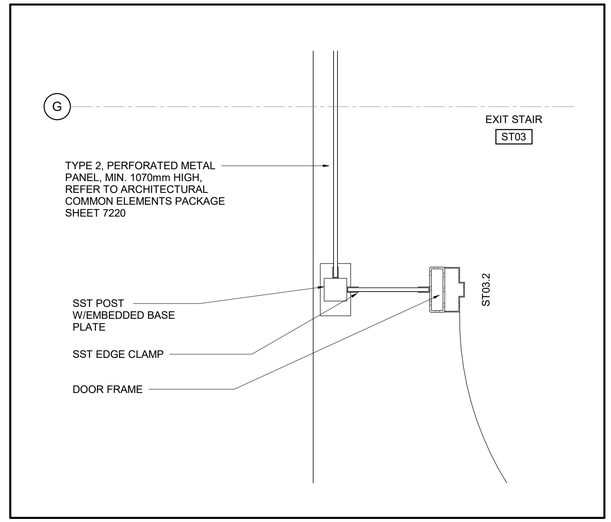
4 6051 DETAIL - ST03 OUTSIDE CORNER

1 : 10



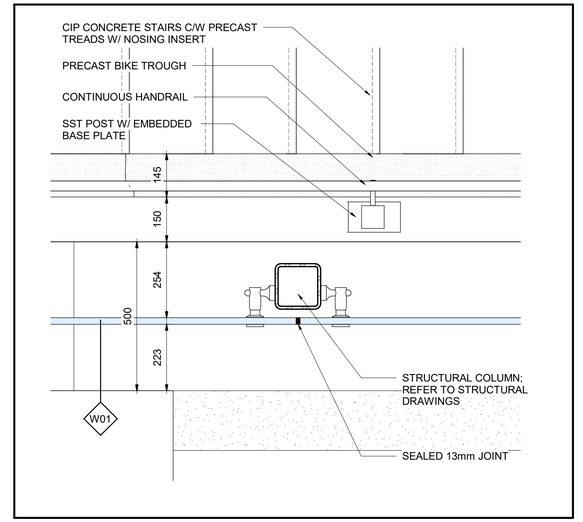
3 6051 PLAN DETAIL - GUARD @ CHAIN LINK FENCE PLATFORM LEVEL

1 : 10



2 6051 PLAN DETAIL - GUARD AT DOOR ST03

1 : 10



1 6051 PLAN DETAIL - ST01 AT FULL HEIGHT GLASS

1 : 10

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIR DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-6051

MODEL NUMBER
660373-1GSS-001-44DM-1000

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN
LICENCE 3782

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

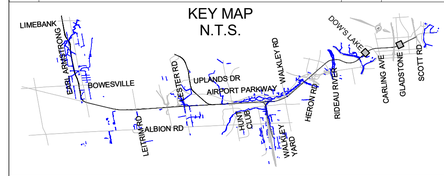
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

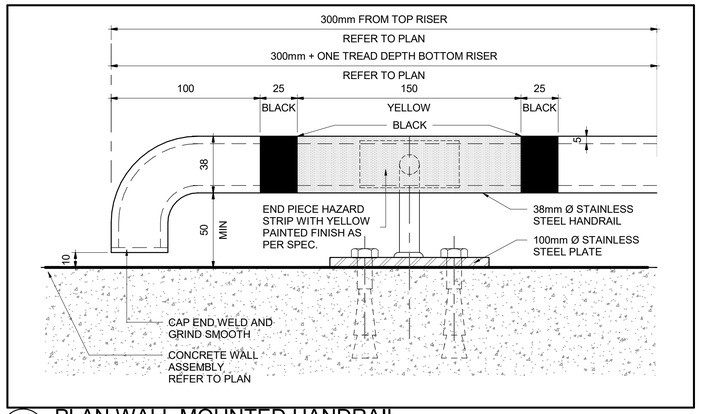
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



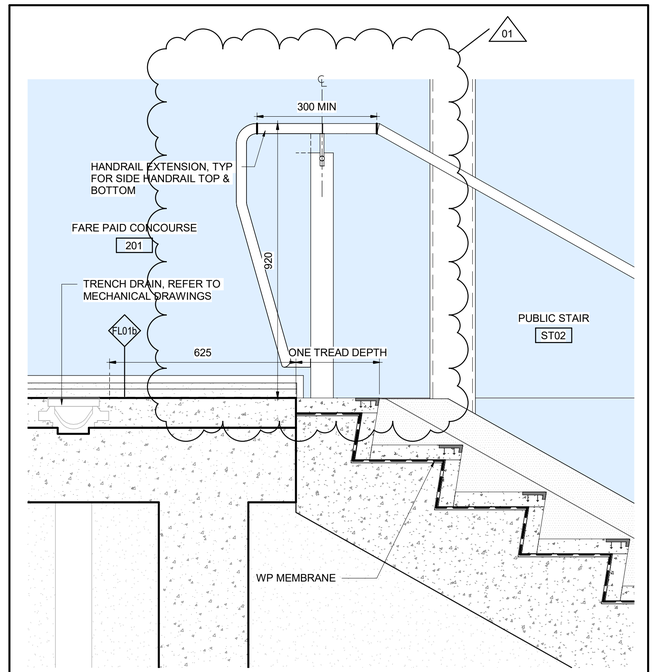
ISSUED FOR CONSTRUCTION
2021-02-25

TITLEBLOCK: 790mm x 534mm



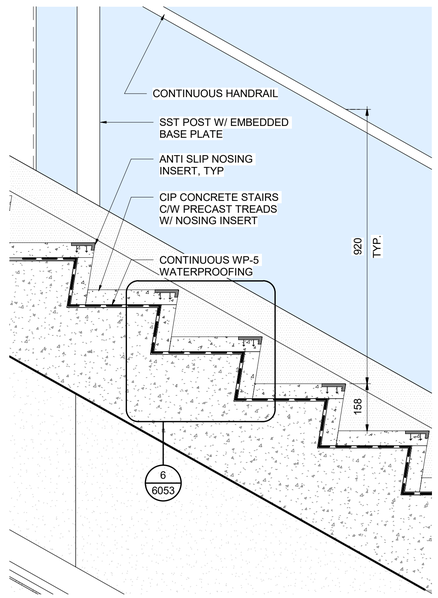
4 / 6052 PLAN WALL MOUNTED HANDRAIL

1 : 2



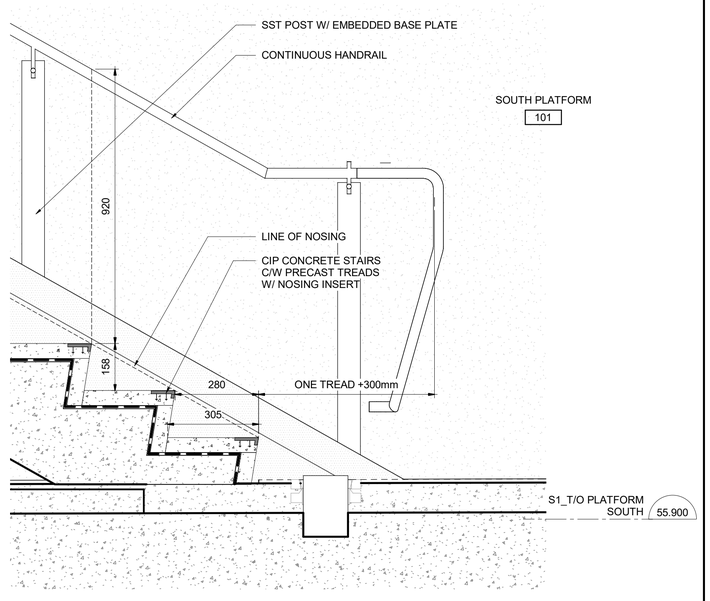
3 / 6052 SECTION - TOP OF STAIR

1 : 10



2 / 6052 SECTION - STAIR DETAIL

1 : 10



1 / 6052 SECTION DETAIL - BASE OF STAIR

1 : 10

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIR DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-6052

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
LICENSED
3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

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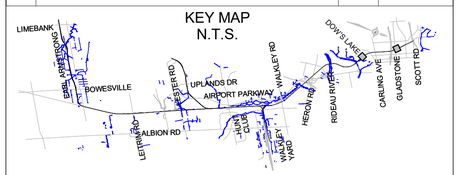
01	REVISED ISSUE FOR CONSTRUCTION	JJ	2021/07/30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-02-25

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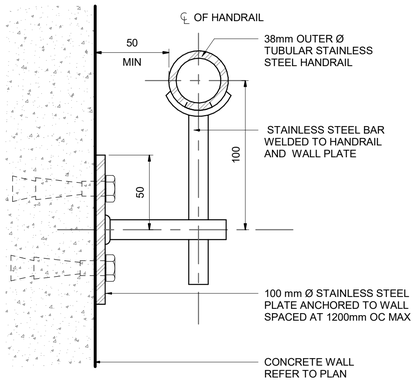
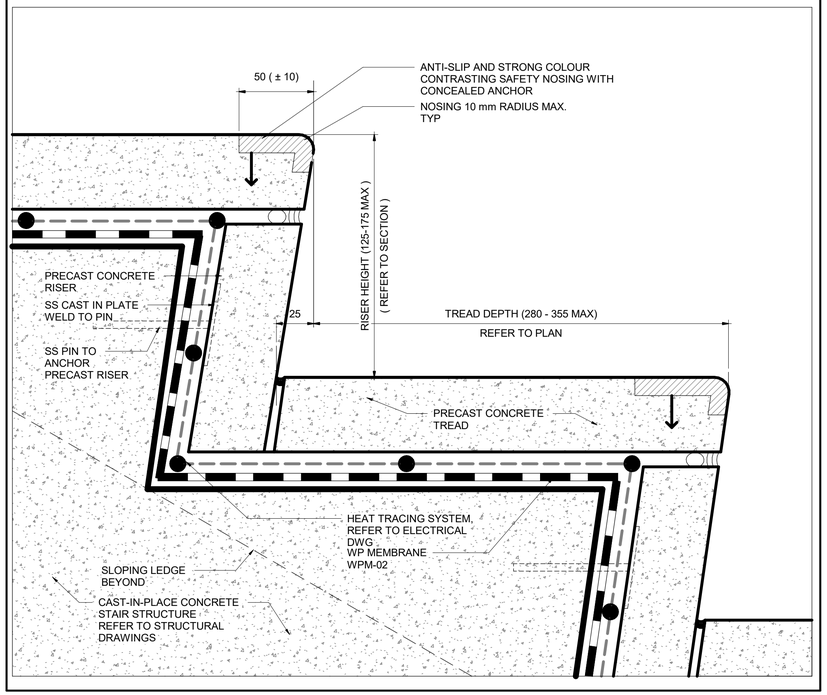
10/06/20



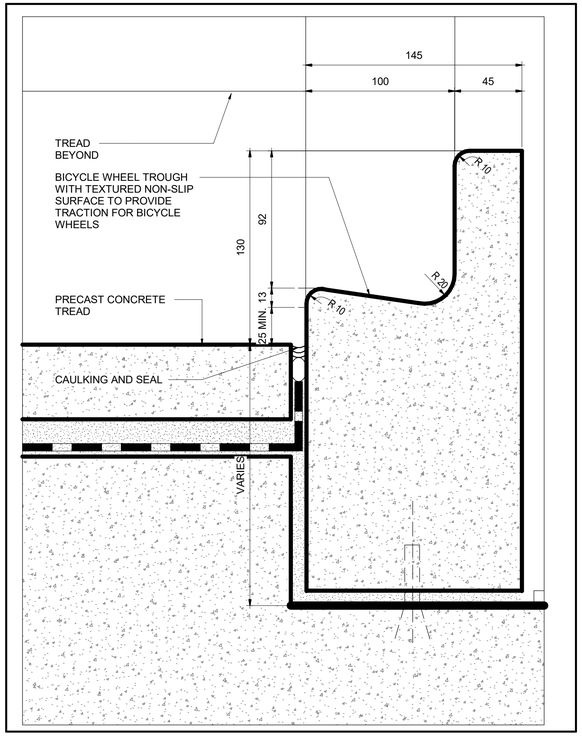
7 / 6053 SECTION - WALL MOUNTED HANDRAIL

1 : 2



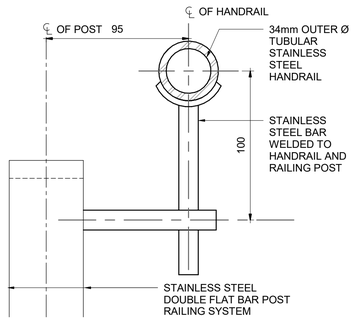
6 / 6053 SECTION - PRECAST STAIR TREAD

1 : 2



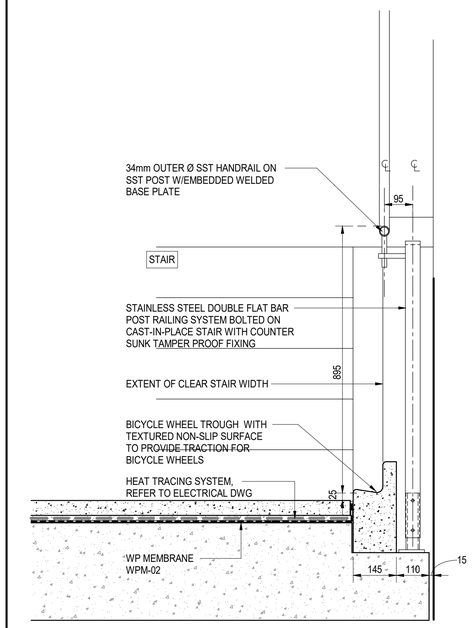
5 / 6053 BICYCLE WHEEL THROUGH DETAIL

1 : 2



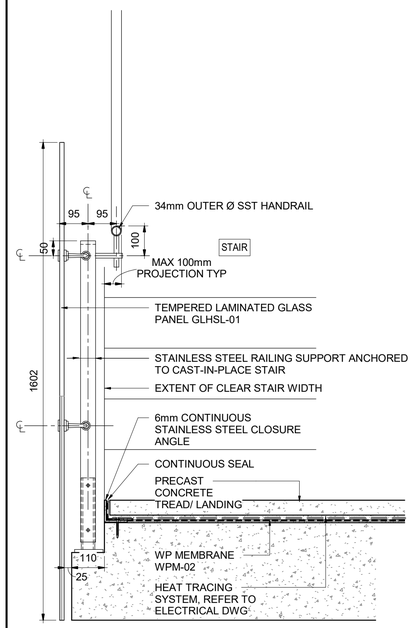
4 / 6053 HANDRAIL AT POST

1 : 2



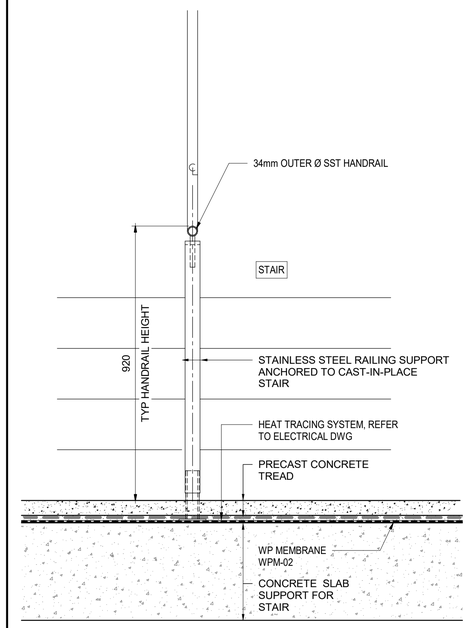
3 / 6053 SECTION AT BICYCLE WHEEL

1 : 10



2 / 6053 SECTION - STAIR HANDRAIL TYPE 3

1 : 10



1 / 6053 SECTION - STAIR HANDRAIL TYPE 2

1 : 10

OTrain STAGE 2 ETAPE

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIR DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-6053

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER: SNC·LAVALIN TransitNEXT

PRIMARY SEAL: ONTARIO ASSOCIATION OF ARCHITECTS — ROBERT BRISBIN LICENCE 3782

DESIGN FIRM: bbb architects ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

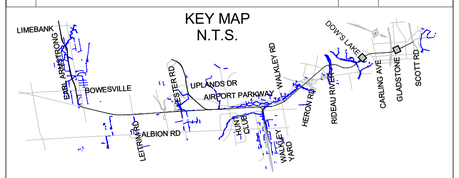
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

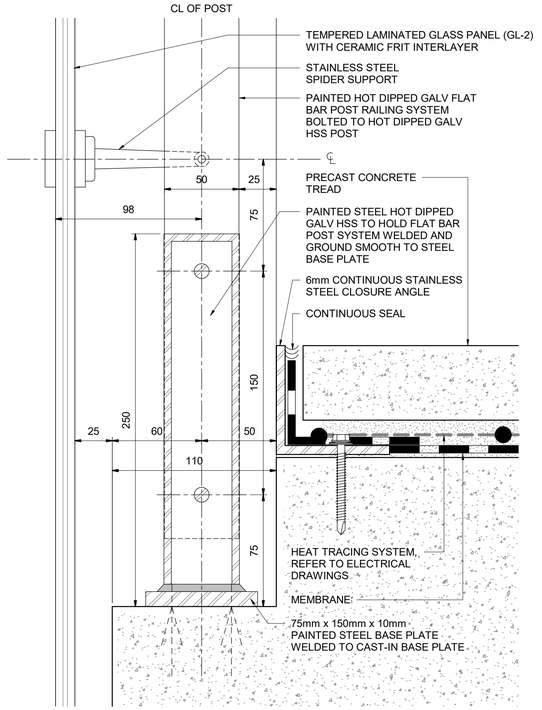


ISSUED FOR CONSTRUCTION

2021-02-25

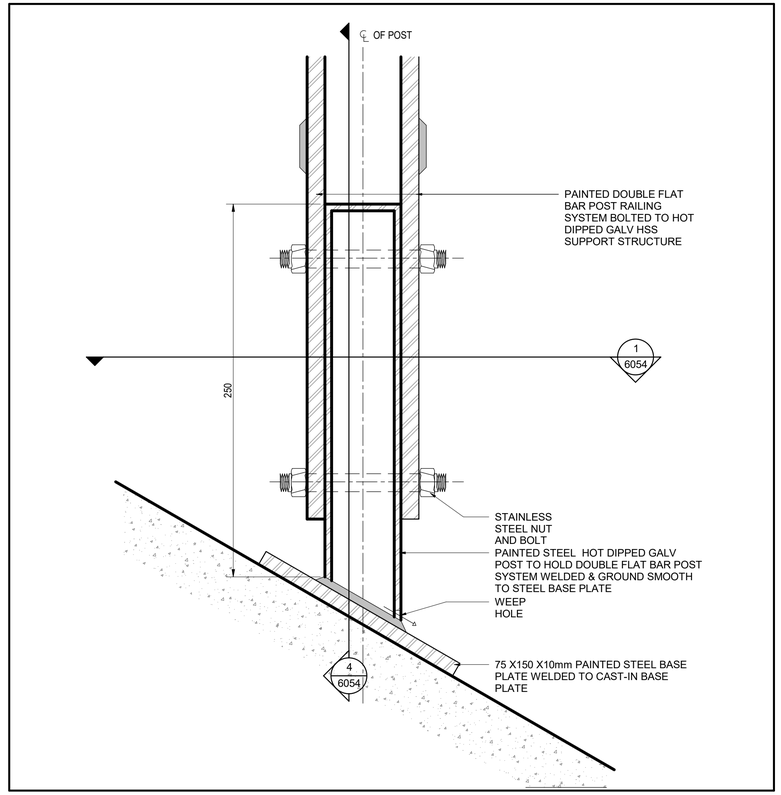
10/06/20

TITLEBLOCK: 790mm x 534mm



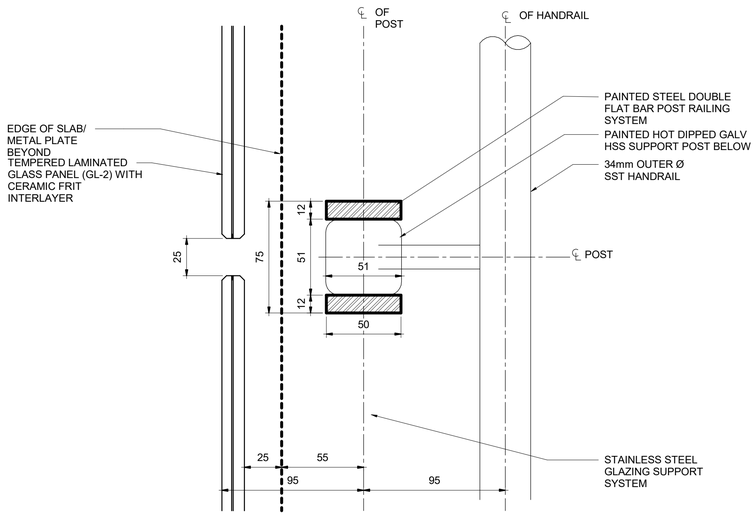
4 / 6054 SECTION DETAIL AT HANDRAIL POST

1 : 2



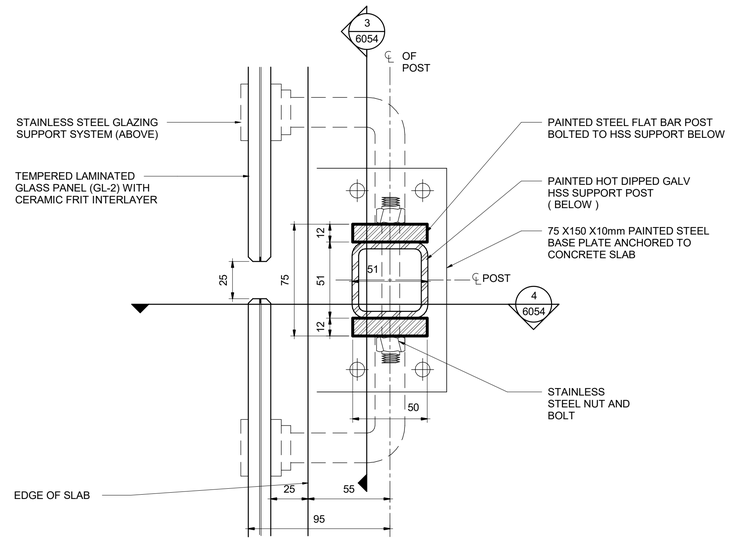
3 / 6054 SECTION DETAIL - HANDRAIL POST

1 : 2



2 / 6054 PLAN DETAIL AT HANDRAIL

1 : 2



1 / 6054 PLAN DETAIL - HANDRAIL POST - 3

1 : 2

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
STAIR DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-6054

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS R. BRISBIN LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

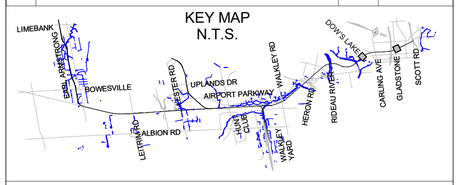
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-02-25

10/06/20

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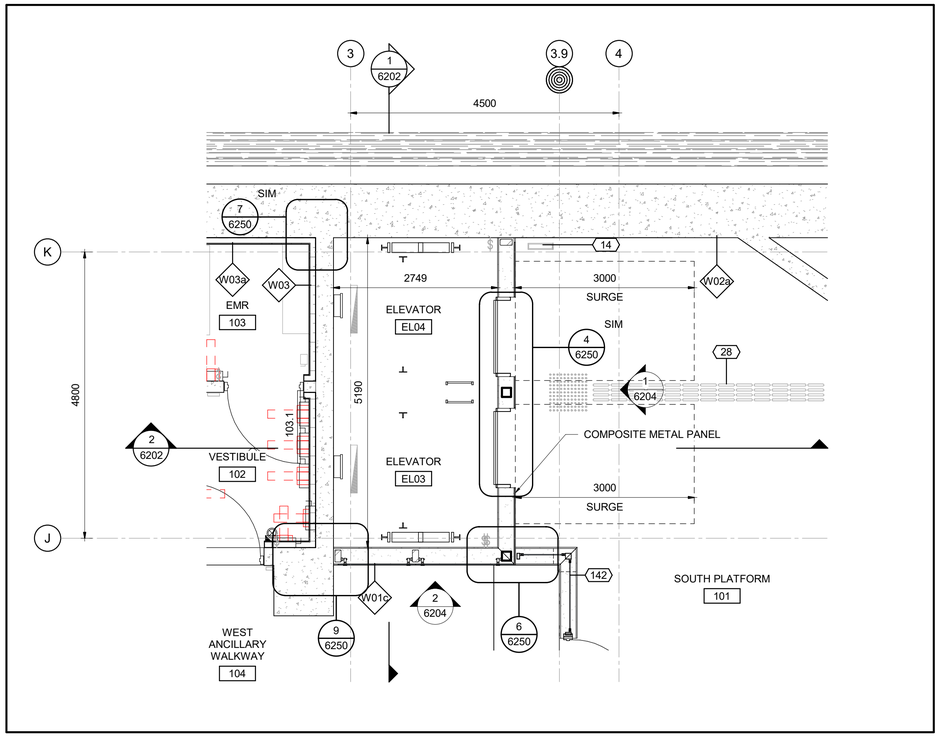
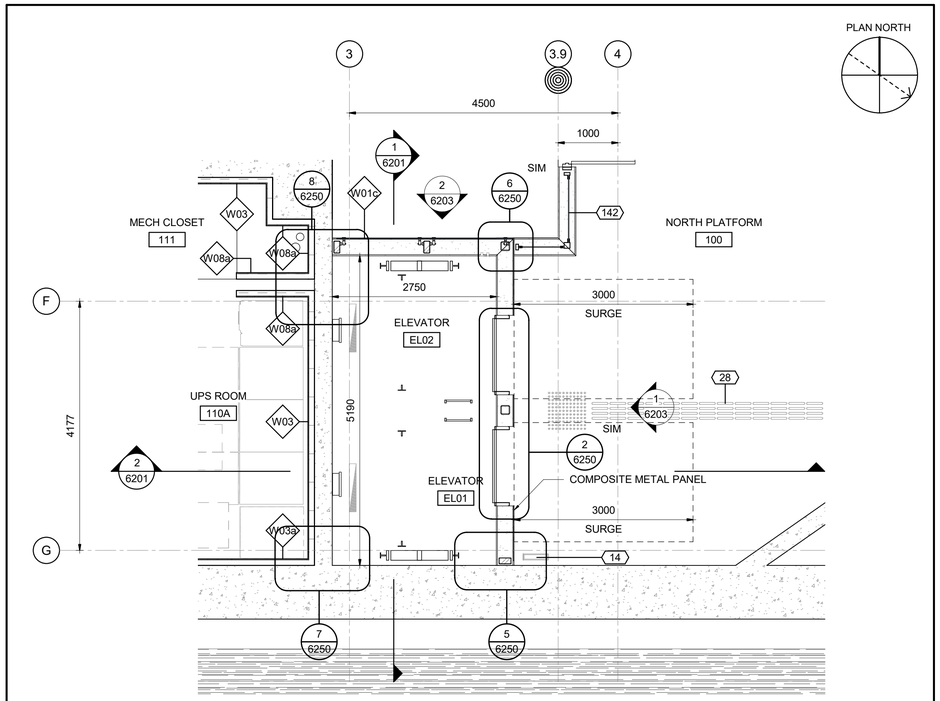
TITLEBLOCK: 790mm x 534mm



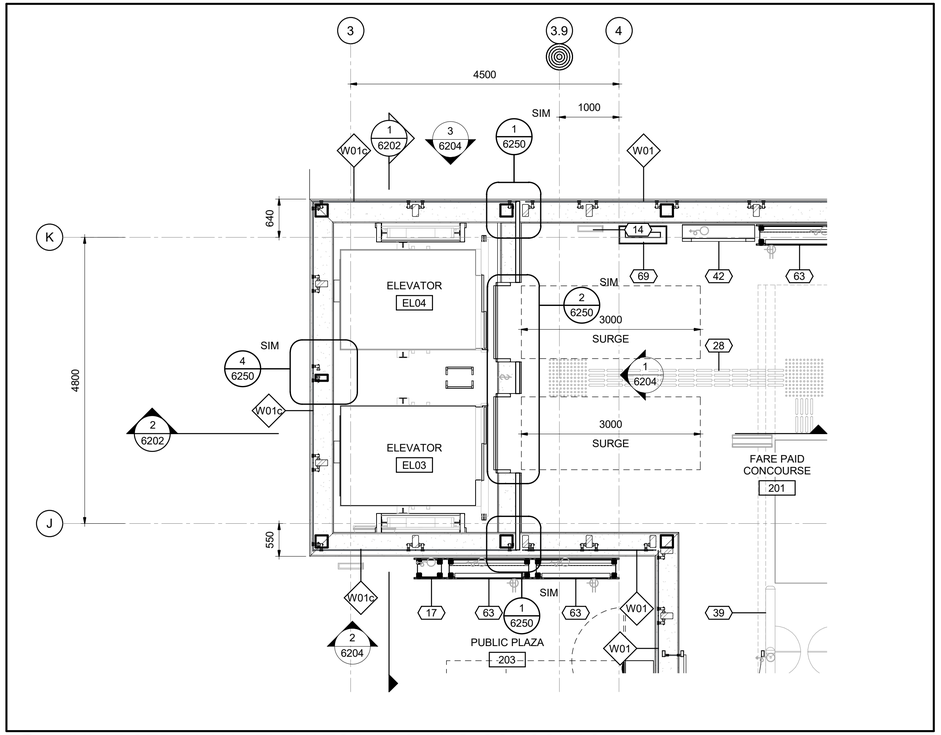
4 6200 ENLARGED PLAN - ELEVATOR 03 & 04 @ PLATFORM

1 : 50



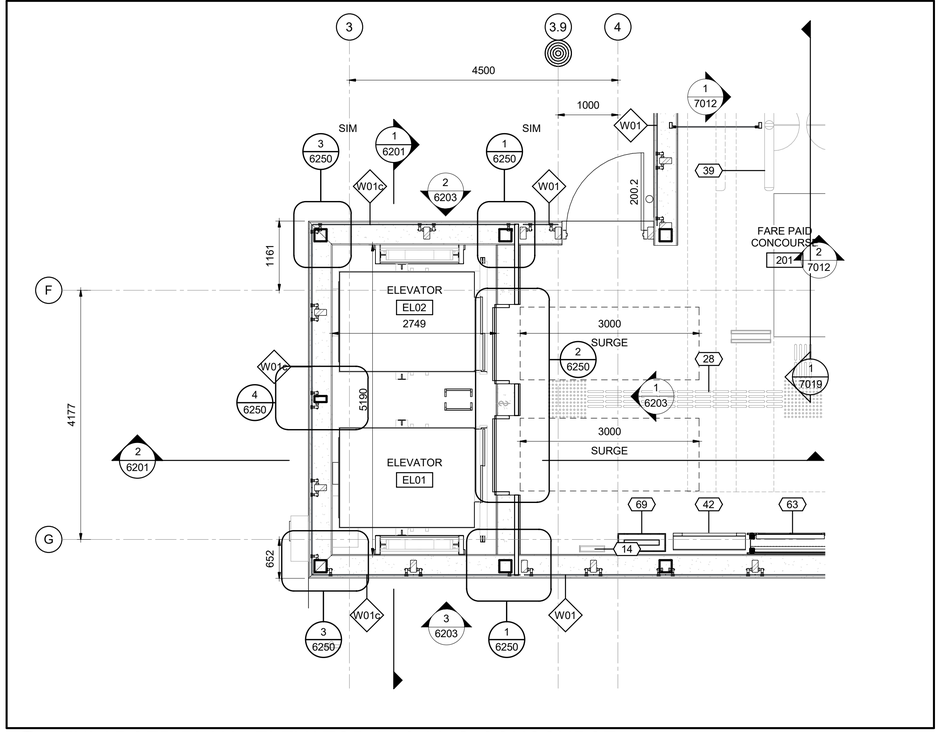
2 6200 ENLARGED PLAN - ELEVATOR 01 & 02 @ PLATFORM

1 : 50



3 6200 ENLARGED PLAN - ELEVATOR 03 & 04 @ CONCOURSE

1 : 50



1 6200 ENLARGED PLAN - ELEVATOR 01 & 02 @ CONCOURSE

1 : 50

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATORS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R.BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-6200

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

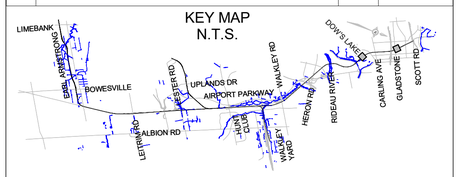
SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116
28	TACTILE WALKING SURFACE INDICATOR (TWSI)
39	FARE GATE, PROVIDED BY THE CITY, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7012/7019
42	NEXUS PASSENGER INFORMATION DISPLAY, PROVIDED BY THE CITY
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
69	VERTICAL ELECTRICAL CHASE
142	TYPE 1, GLASS GUARD, MIN 1800mm HIGH, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7215/7216

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04/11/19

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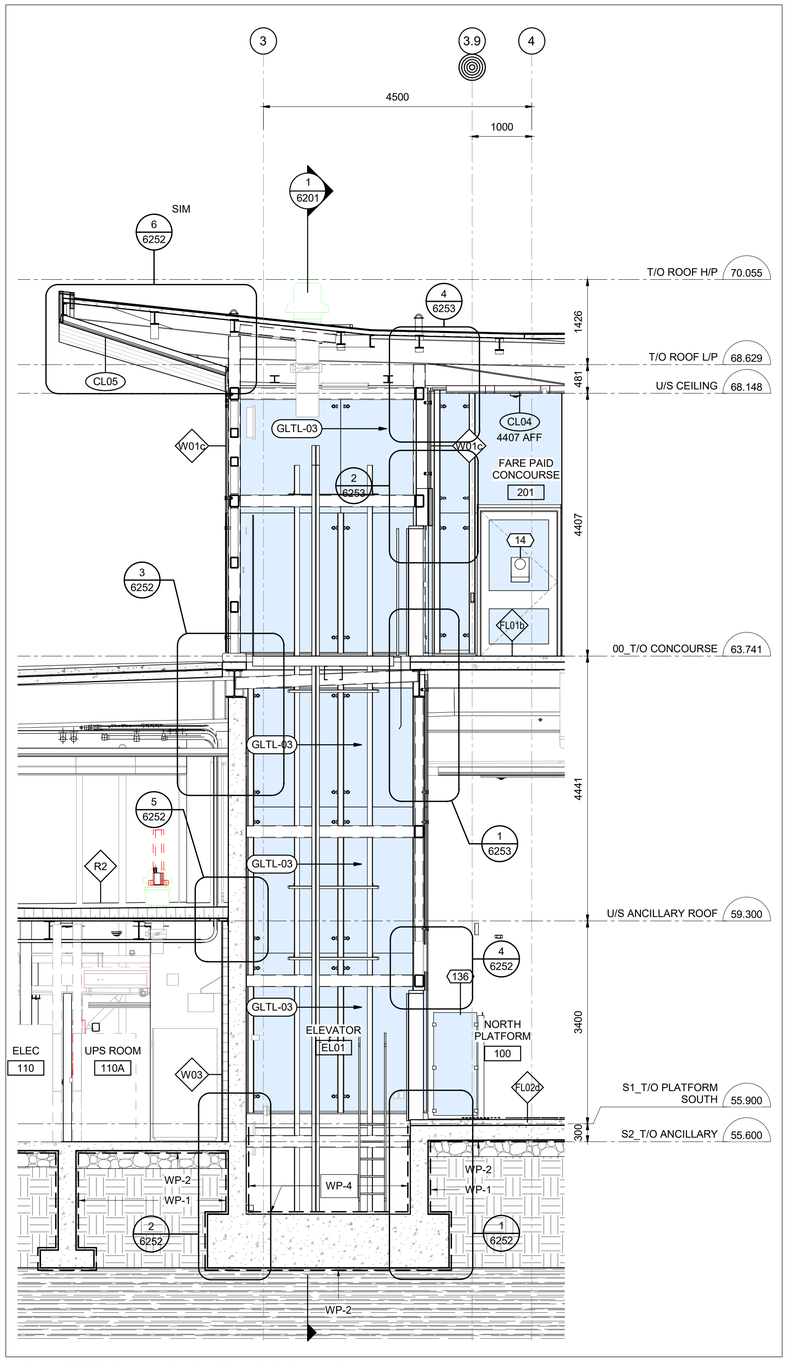
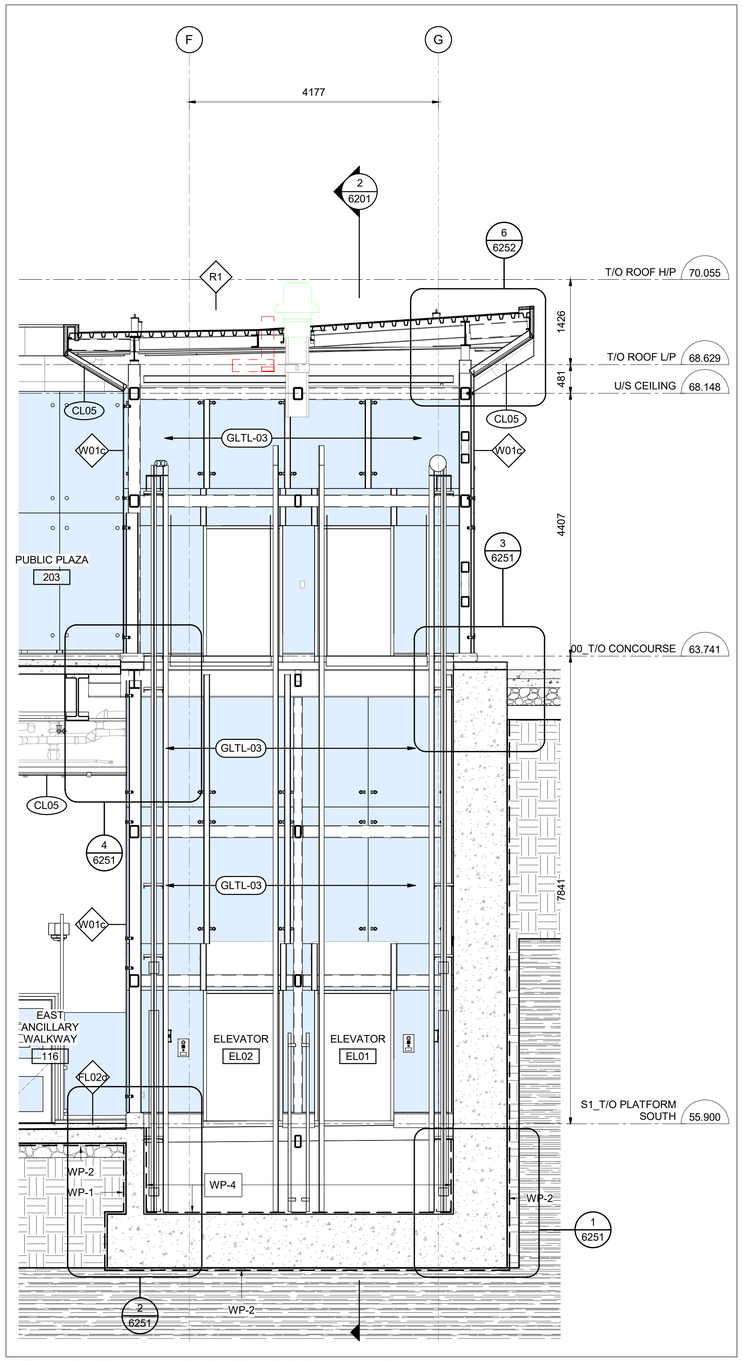


2 6201 SETION 2 @ ELEVATOR 01 & 02

1 : 50



1 6201 SECTION 1 @ ELEVATOR 01 & 02

1 : 50

OTrain STAGE ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATORS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-6201

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT A. BRISBIN
LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

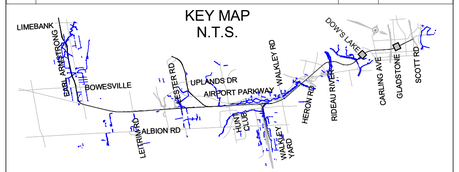
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



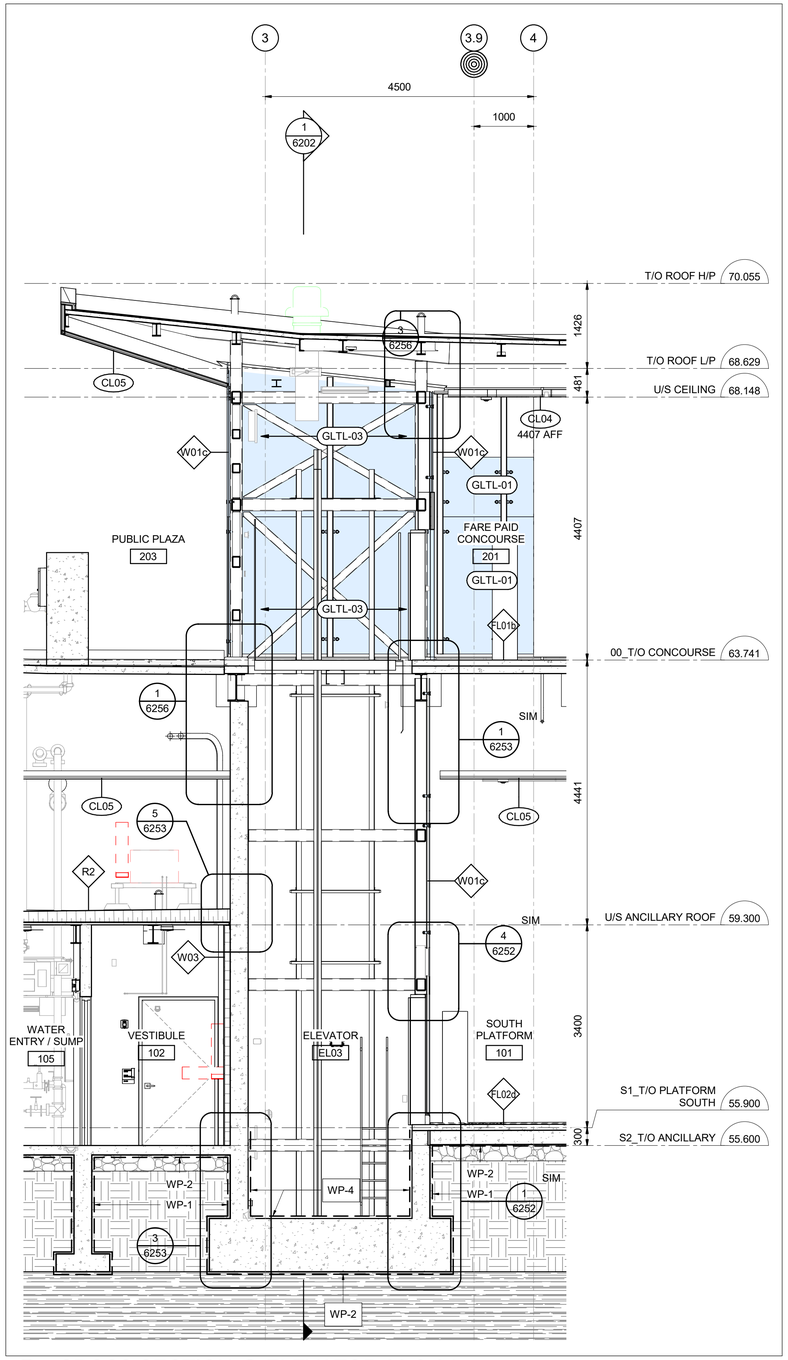
ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
136	TYPE 1, GLASS GUARD, MIN. 2180mm HIGH, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7215/7216

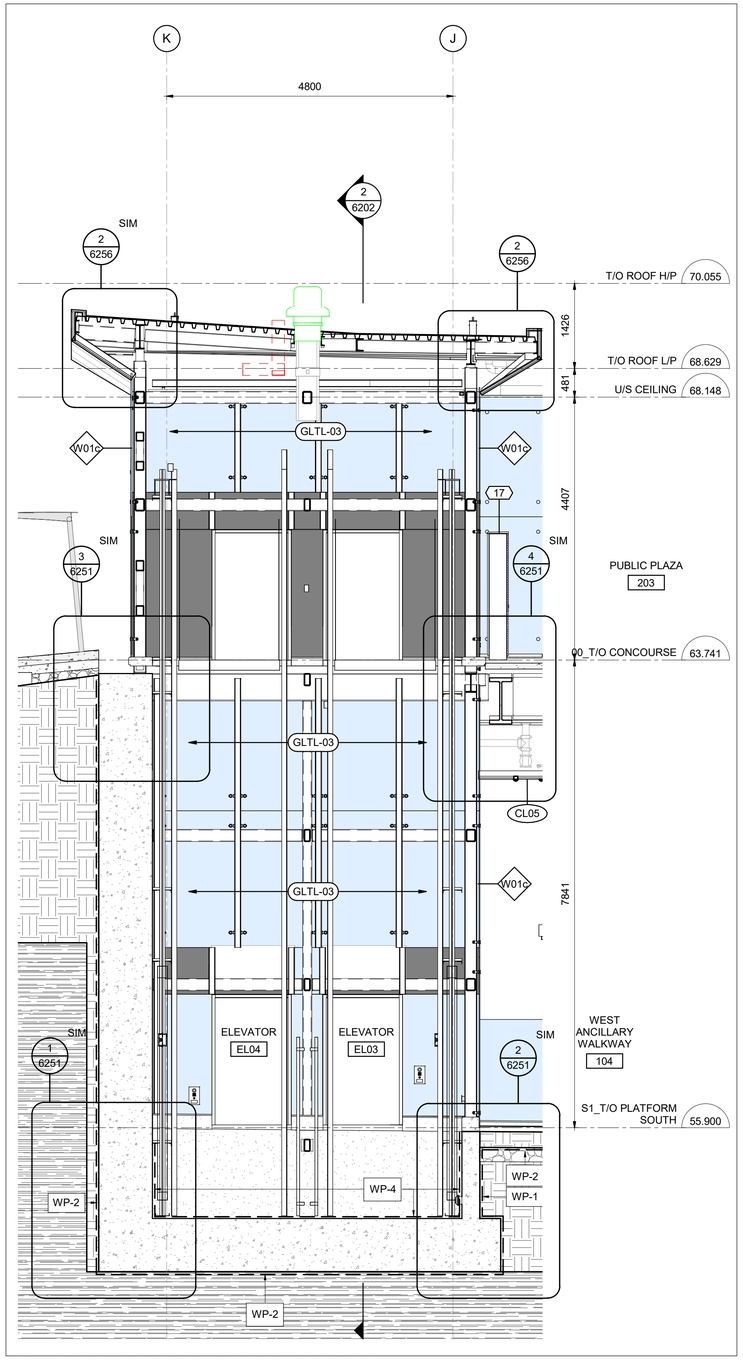
10/06/20 C:\Users\nbarrett\Documents\660373-1GSS-001-44DM-1000_NBarrettVF3UM.rvt

TITLEBLOCK: 790mm x 534mm



2 6202 CROSS SECTION @ ELEVATOR 03 & 04

1 : 50



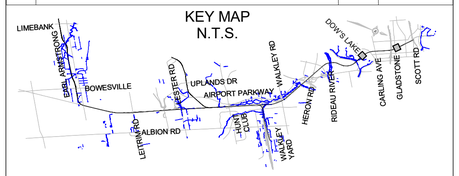
1 6202 SECTION @ ELEVATOR 03 & 04

1 : 50

OTrain STAGE 2 ETAPE 2	Ottawa
ARCHITECTURAL CORSO ITALIA VERTICAL CIRCULATION ELEVATORS	CONTRACT No. LRT19-1025
	DESIGNED R. BRISBIN / CHECKED A.KOURKOUNAKIS
	DRAWN A. RAFIE / SEALED R. BRISBIN
DRAWING NUMBER 660373-1GSS-001-44DD-6202	PRIMARY SEAL: ONTARIO ASSOCIATION OF ARCHITECTS, ROBERT BRISBIN, LICENCE 3782
MODEL NUMBER 660373-1GSS-001-44DM-1000	
DESIGN/BUILDER: SNC·LAVALIN TransitNEXT	
DESIGN FIRM: bbb architects ottawa inc.	SECONDARY SEAL (IF REQUIRED)
SCALE: HORIZONTAL 1 : 50 FULLSIZE, 1 : 100 HALF SIZE; 0 0.5 1 2 4 m; VERTICAL 1 : 50 FULLSIZE, 1 : 100 HALF SIZE	ASSET No. / ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

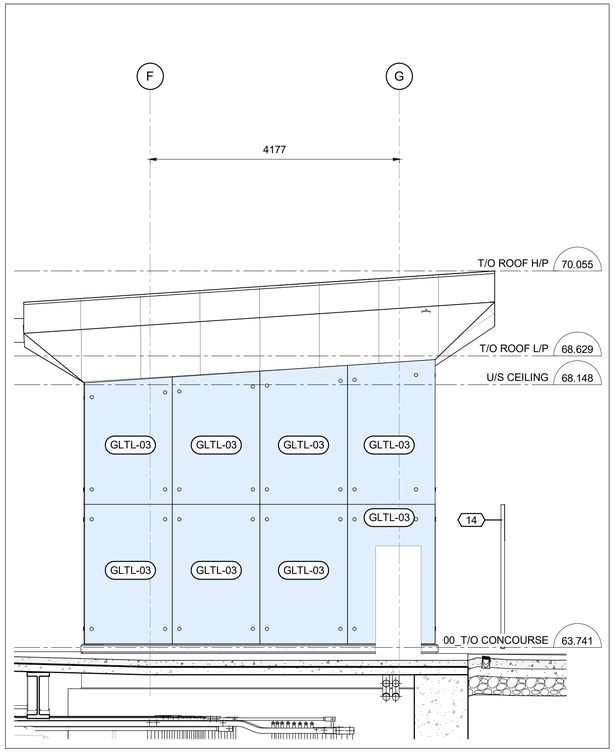


ISSUED FOR CONSTRUCTION
2021-03-29

KEYNOTE LEGEND

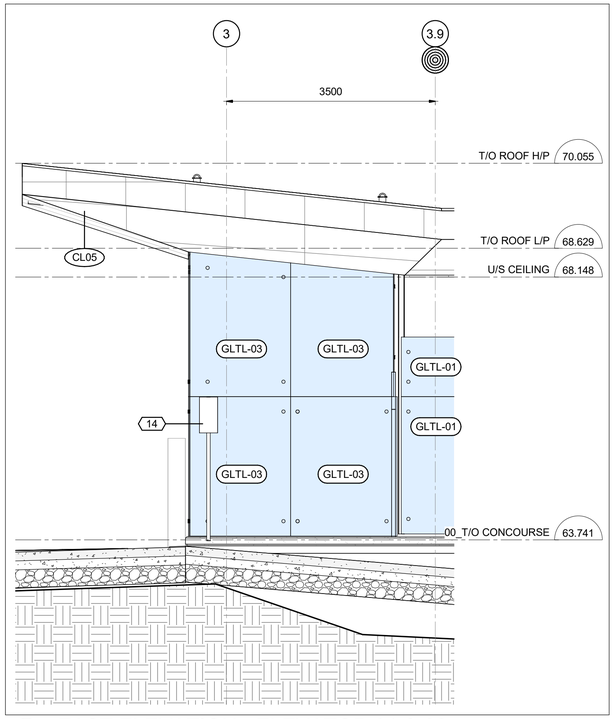
Key Value	Keynote Text
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116

10/06/20 C:\Users\nbarrett\Documents\660373-1GSS-001-44DM-1000_NBarrettVF9UM.rvt



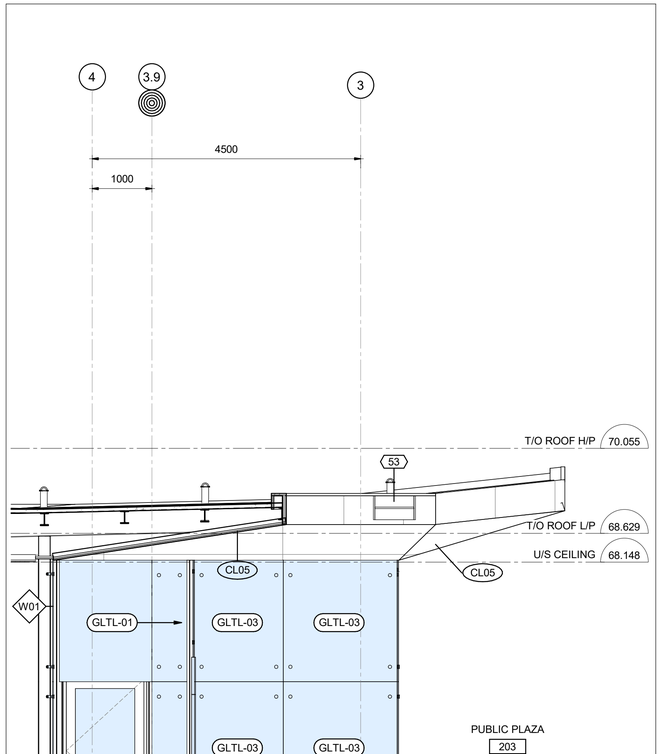
4 6203 SOUTH ELEVATION - ELEVATOR 01 & 02

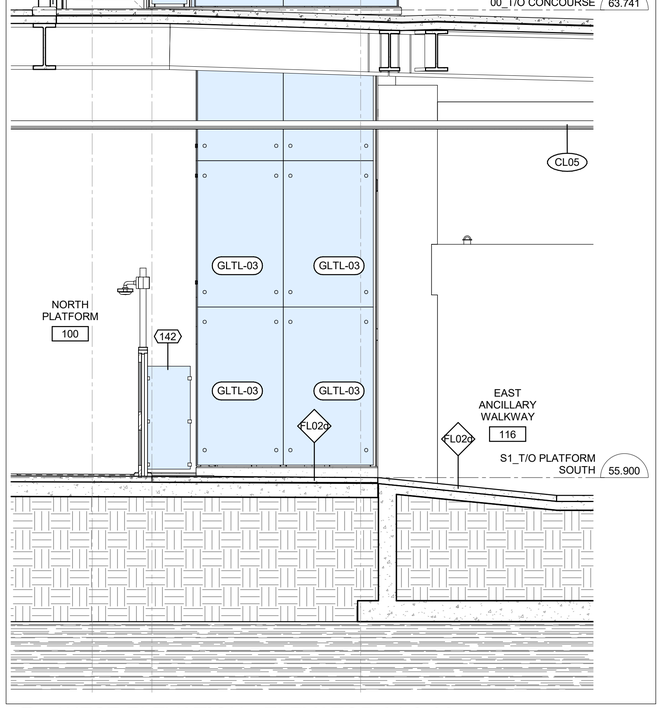
1 : 50



3 6203 EAST ELEVATION - ELEVATOR 01 & 02

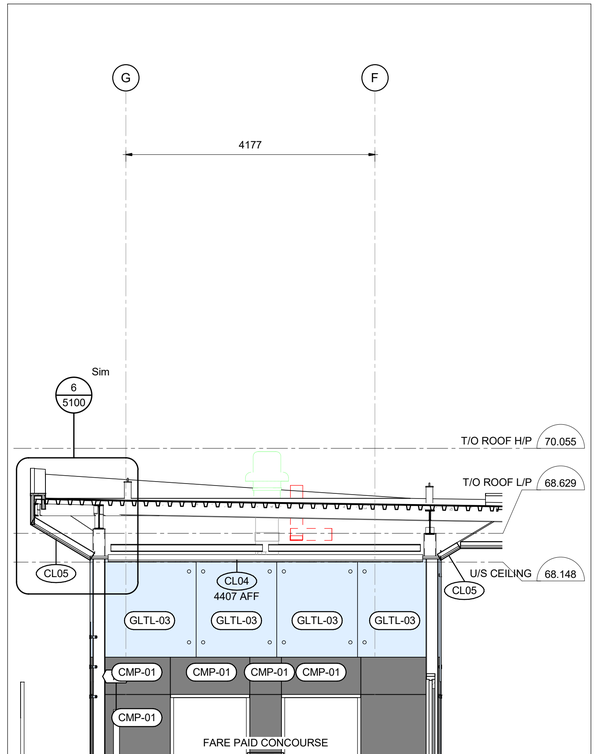
1 : 50

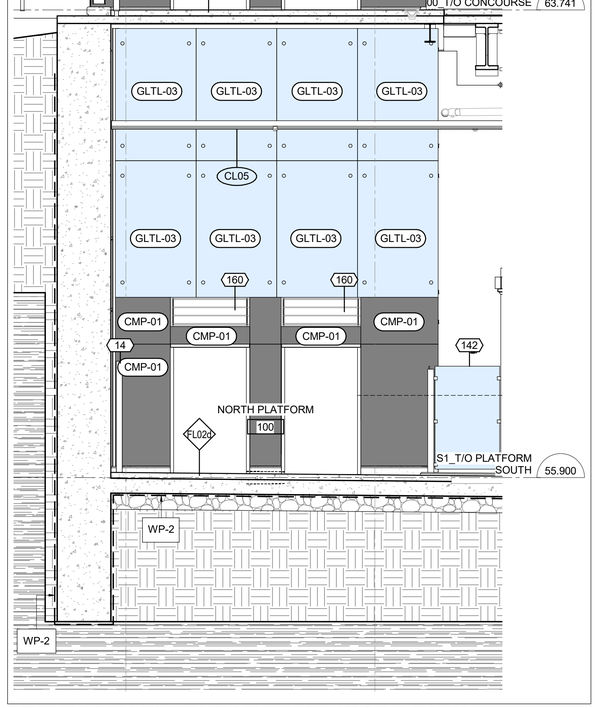




2 6203 WEST ELEVATION - ELEVATOR 01 & 02

1 : 50





1 6203 NORTH ELEVATION - ELEVATOR 01 & 02

1 : 50

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATORS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-6203

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

0 0.5 1 2 4 m

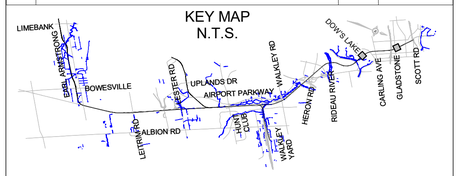
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

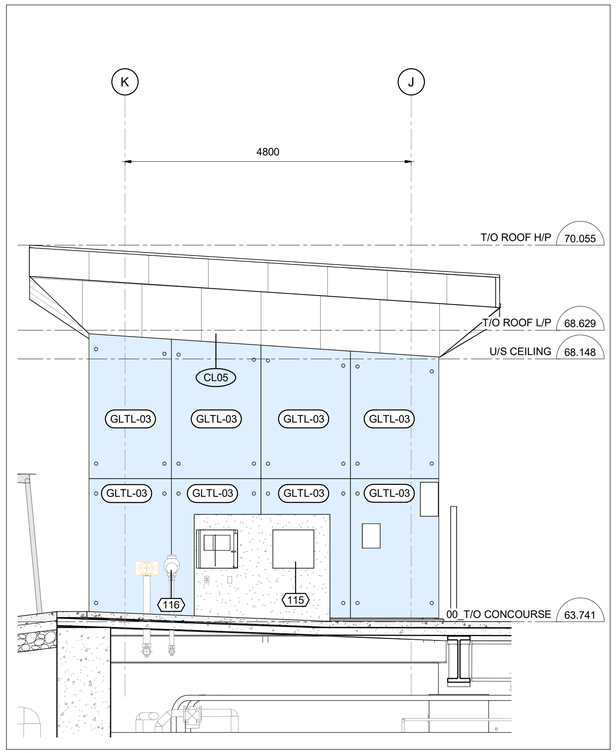
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

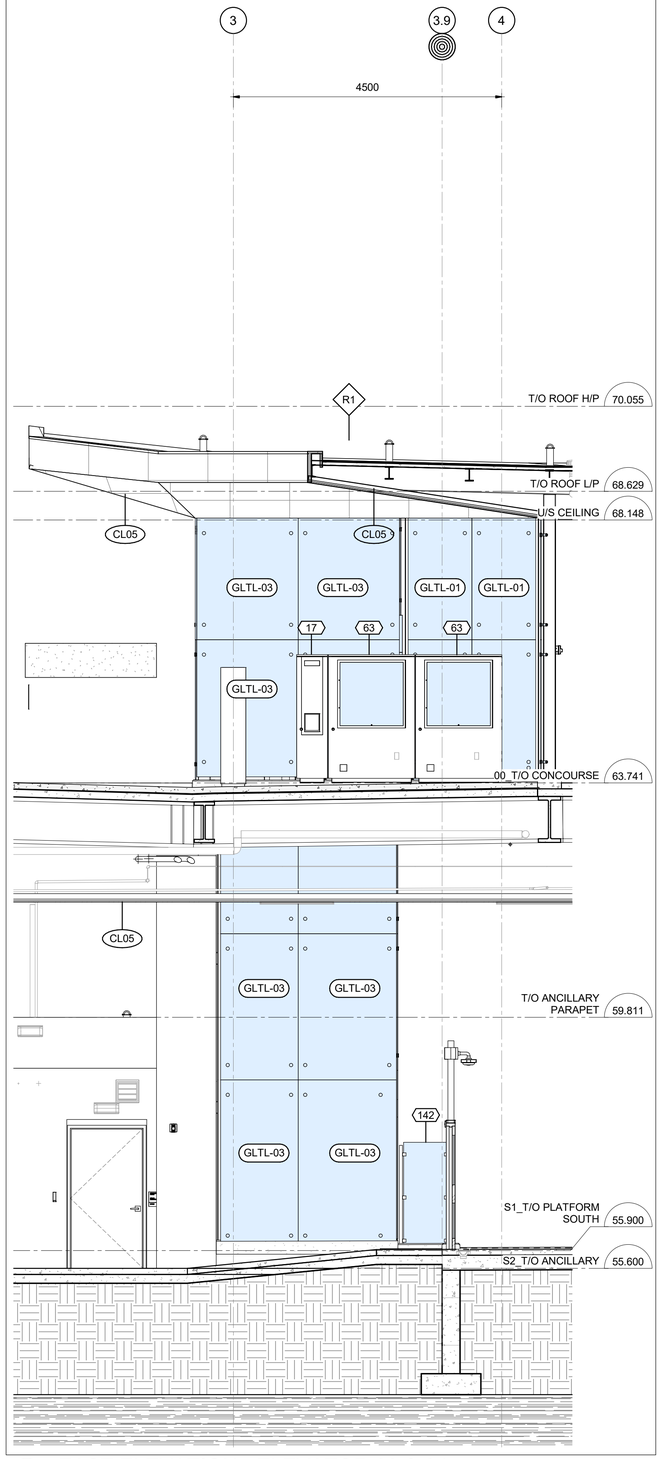
KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
53	LADDER BUMP
142	TYPE 1, GLASS GUARD, MIN 1800mm HIGH, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7215/7216
160	LOUVRE, REFER TO MECHANICAL DRAWINGS



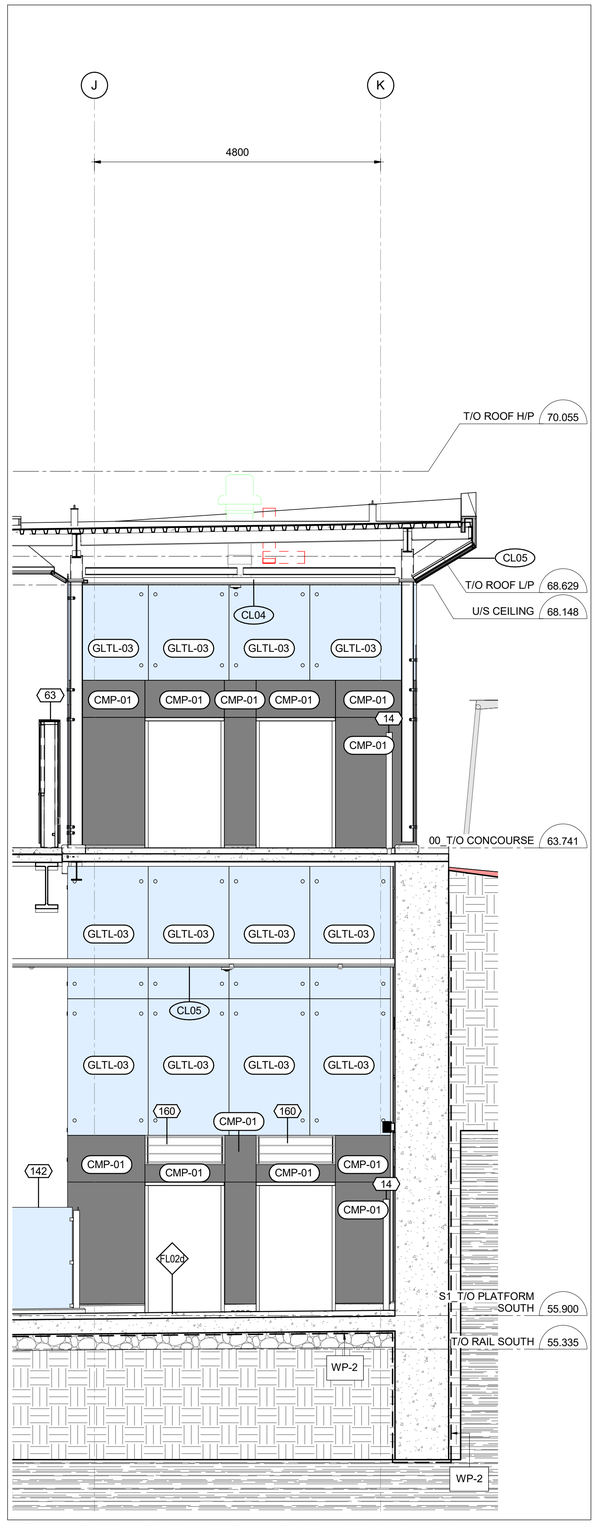
4 / 6204 SOUTH ELEVATION - ELEVATOR 03 & 04

1 : 50



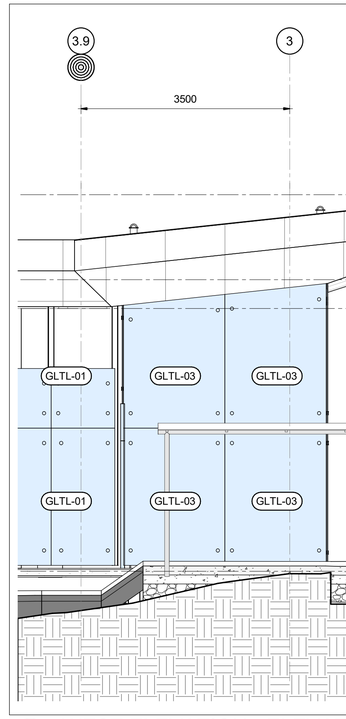
2 / 6204 EAST ELEVATION - ELEVATOR 03 & 04

1 : 50



1 / 6204 NORTH ELEVATION - ELEVATOR 03 & 04

1 : 50



3 / 6204 WEST ELEVATION - ELEVATOR 03 & 04

1 : 50

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATORS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-6204

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS — ARCHITECTURAL FIRM LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 50 FULLSIZE; 1 : 100 HALF SIZE

0 0.5 1 2 4 m

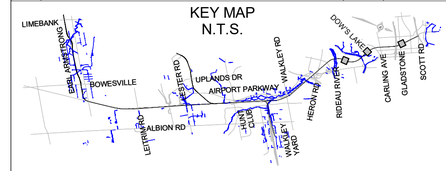
VERTICAL 1 : 50 FULLSIZE; 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

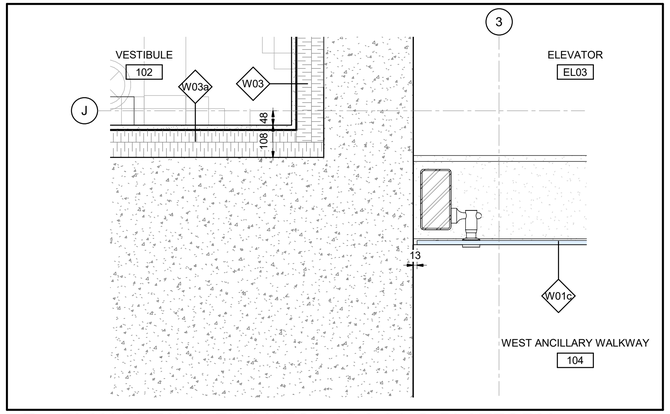


ISSUED FOR CONSTRUCTION

2021-03-29

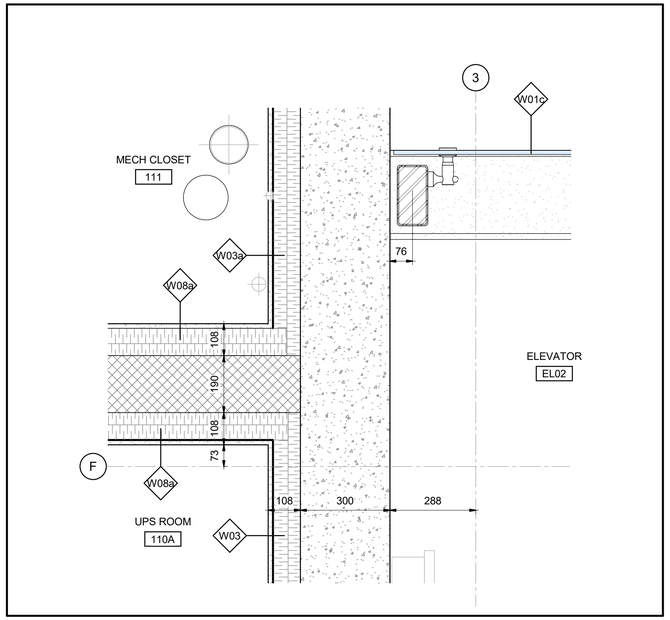
KEYNOTE LEGEND

Key Value	Keynote Text
14	SIGN, REFER TO SIGNAGE PACKAGE
17	UC-04, EMERGENCY PHONE, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7115/7116
63	UC-01, TIP CABINET, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7100/7102
115	SEMI-RECESSED INCIDENT COMMAND POST (ICP) WITH ANNUNCIATOR PANEL
116	FIRE DEPARTMENT CONNECTION (FDC)
142	TYPE 1, GLASS GUARD, MIN 1800mm HIGH, REFER TO ARCHITECTURAL COMMON ELEMENTS PACKAGE SHEET 7215/7216
160	LOUVRE, REFER TO MECHANICAL DRAWINGS



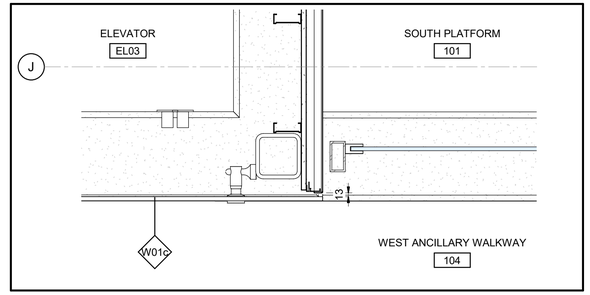
9/6250 PLAN DETAIL - ELEVATOR 03 & 04 @ PLATFORM

1 : 10



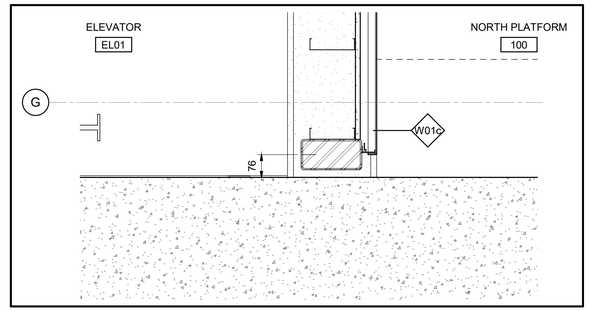
8/6250 PLAN DETAIL - ELEVATOR 02 & UPS ROOM WALL

1 : 10



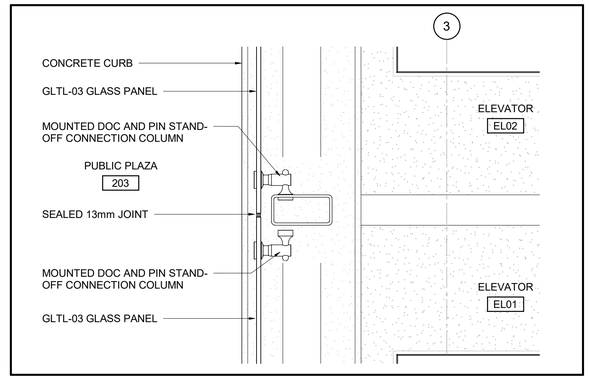
6/6250 ENLARGED PLAN - ELEVATOR 03 & 04 @PLATFORM

1 : 10



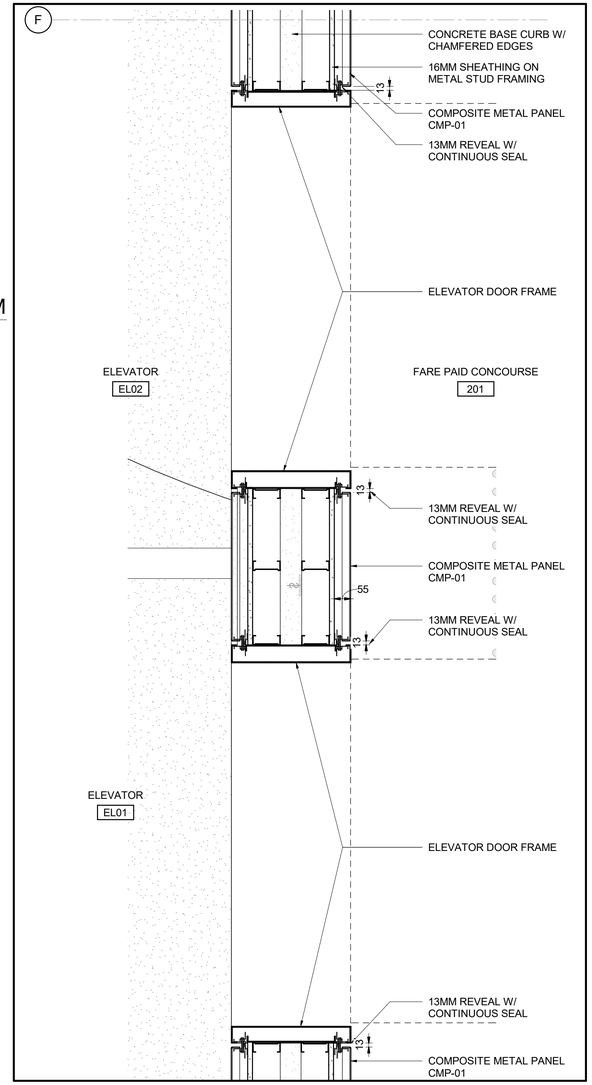
5/6250 PLAN - ELEVATOR 01 & 02 @ PLATFORM WALL

1 : 10



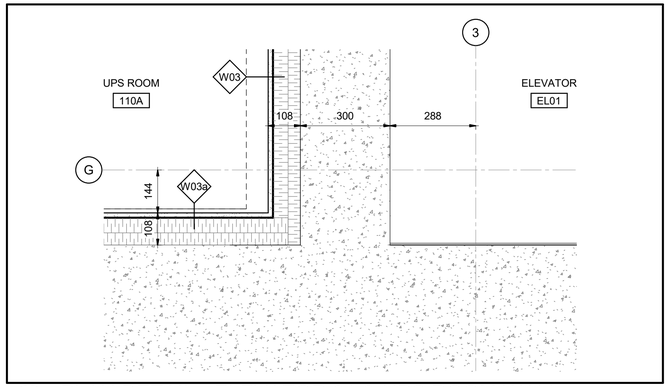
4/6250 PLAN DETAIL - EL01 & EL02 CONNECTION COLUMN

1 : 10



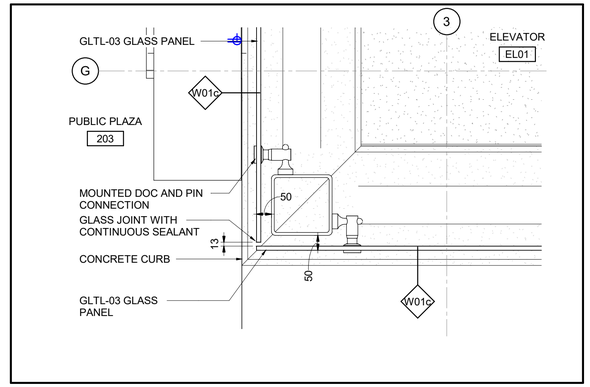
2/6250 PLAN DETAIL - ELEVATOR 01 & 02 @ CONCOURSE

1 : 10



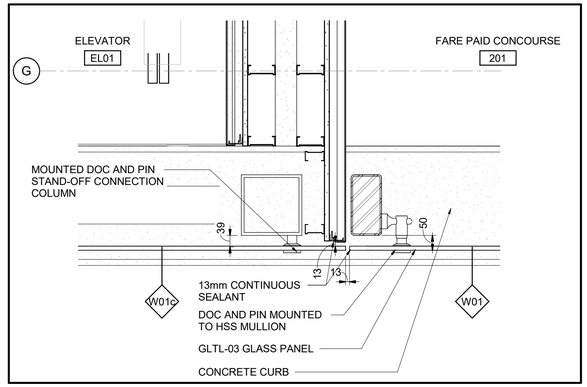
7/6250 PLAN DETAIL - ELEVATOR 01 & UPS ROOM WALL

1 : 10



3/6250 PLAN DETAIL - EL01 CORNER @ CONCOURSE

1 : 10



1/6250 PLAN DETAIL - EL01 CORNER @ HSS COLUMN

1 : 10

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATOR DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-6250

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

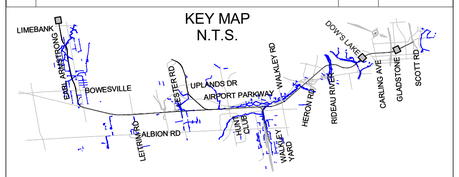
SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

TITLEBLOCK: 790mm x 534mm

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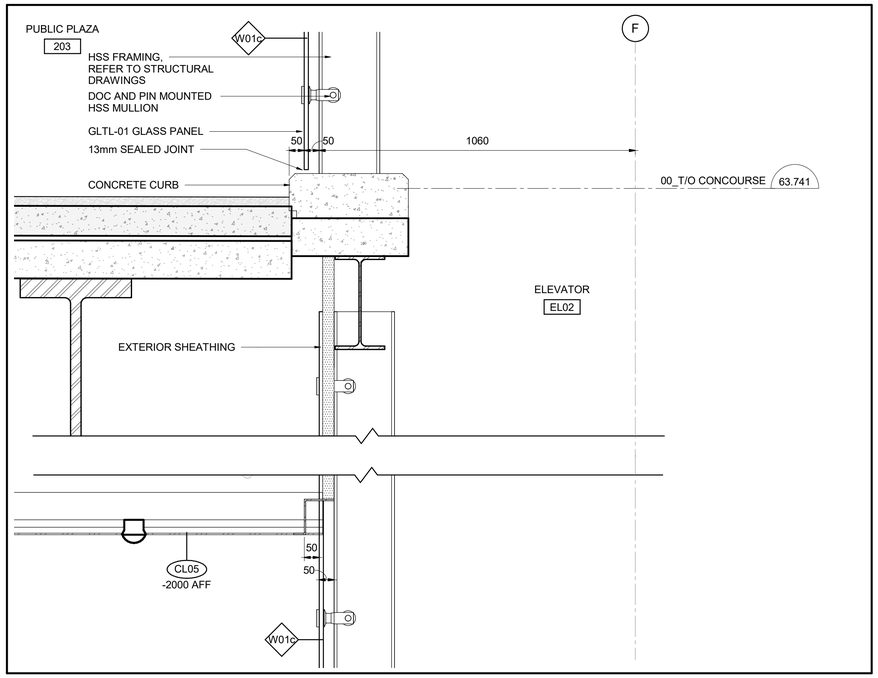
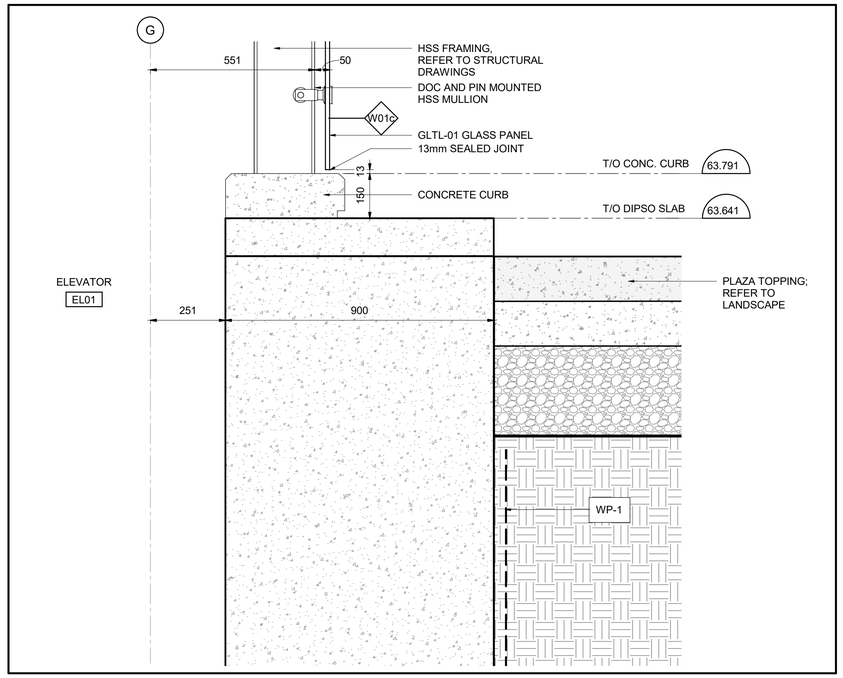
10/06/20



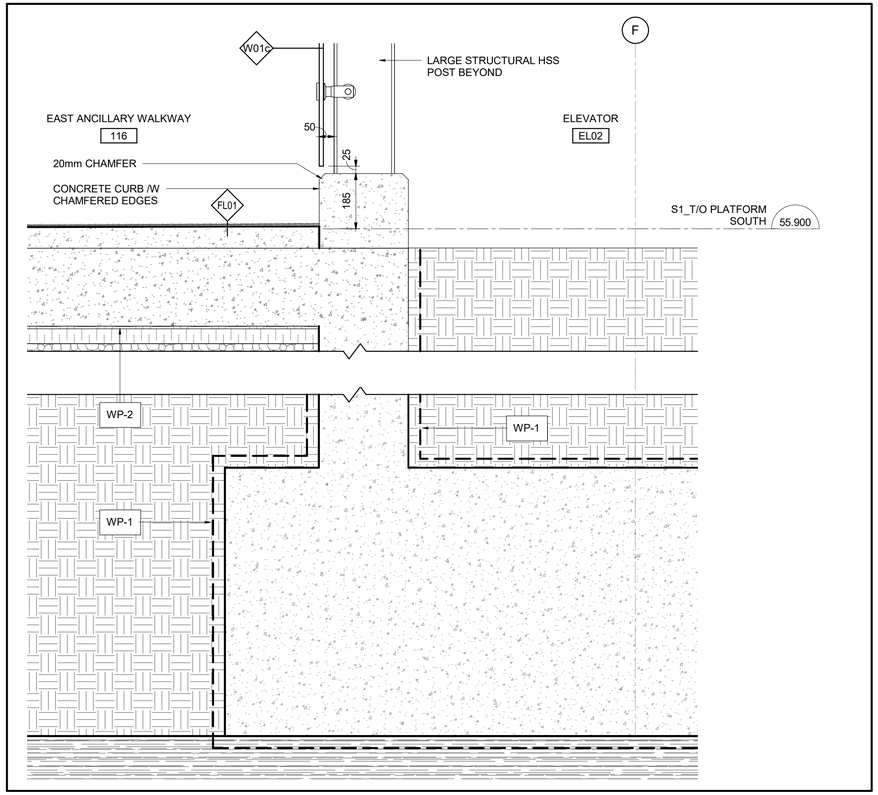
4 / 6251 SECTION 1 @ ELEVATOR 01 & 02 - PLAZA CURB

1 : 10



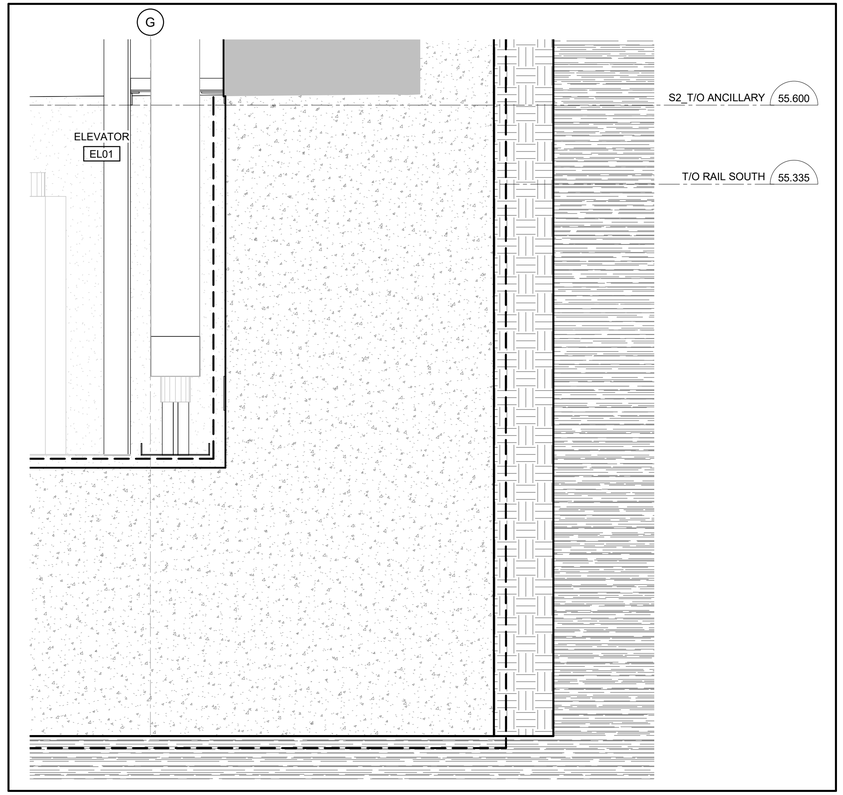
3 / 6251 SECTION 1 @ ELEVATOR 01 & 02 - PLAZA EDGE

1 : 10



2 / 6251 SECTION DETAIL - ELEVATOR 02 @ FOUNDATION WALL

1 : 10



1 / 6251 SECTION DETAIL - ELEVATOR 01 @ FOUNDATION WALL

1 : 10

TITLEBLOCK: 790mm x 534mm

C:\Users\nbarrett\Documents\660373-1GSS-001-44DM-1000_NBarrettVF3UM.rvt

10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATOR DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	

DRAWING NUMBER
660373-1GSS-001-44DD-6251

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

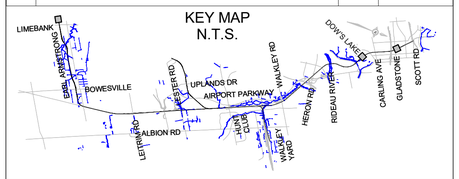
SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

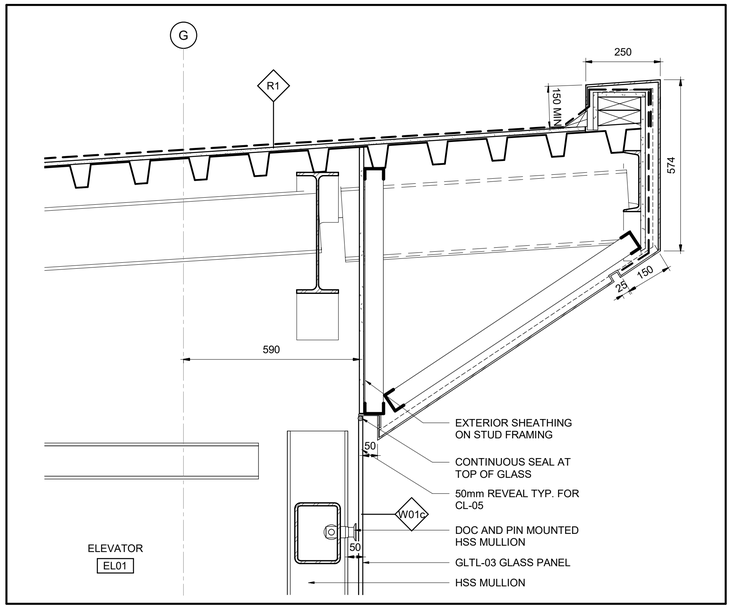
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



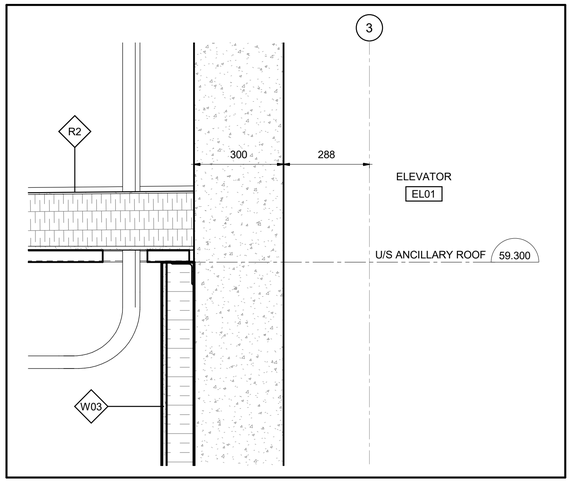
ISSUED FOR CONSTRUCTION

2021-02-25



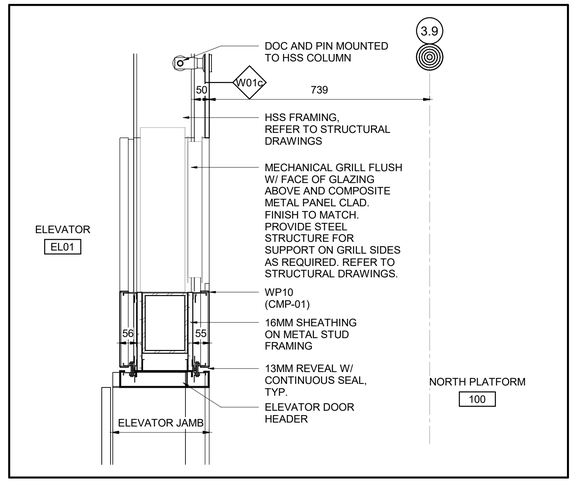
6 / 6252 SECTION DETAIL - EL01 & 02 @ ROOF SOFFIT

1 : 10



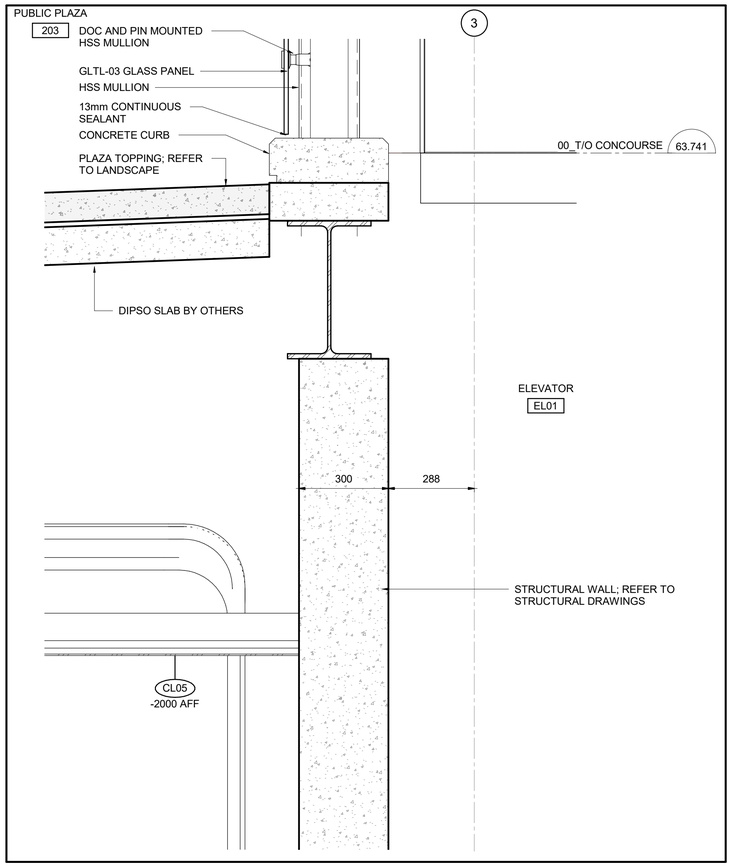
5 / 6252 SECTION DETAIL - EL01 & 02 @ ANCILLARY ROOF

1 : 10



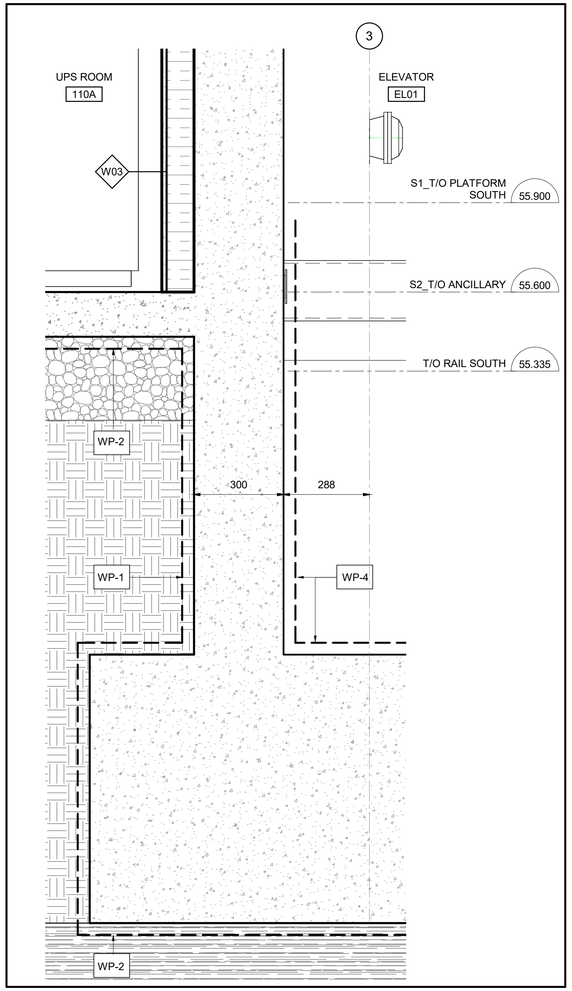
4 / 6252 SECTION DETAIL - ELEVATOR DOOR HEADER

1 : 10



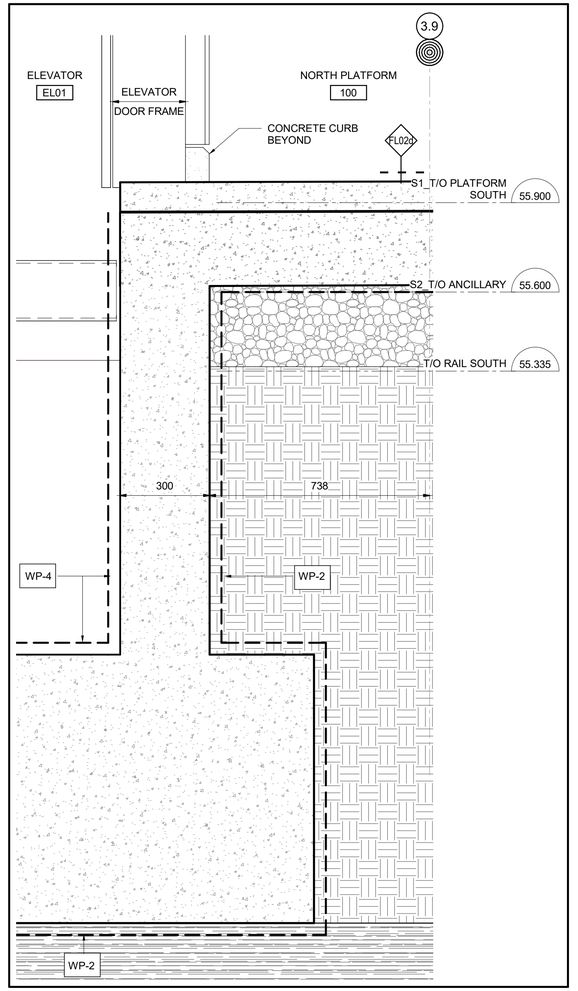
3 / 6252 SECTION DETAIL - EL01 & 02 @ PUBLIC PLAZA LEVEL

1 : 10



2 / 6252 SECTION DETAIL - EL01 & 02 @ FOUNDATION

1 : 10



1 / 6252 SECTION DETAIL - ELEVATOR DOOR @ PLATFORM LEVEL

1 : 10

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATOR DETAILS

CONTRACT No. LRT19-1025

DESIGNED R. BRISBIN | CHECKED A.KOURKOUNAKIS

DRAWN A. RAFIE | SEALED

DRAWING NUMBER 660373-1GSS-001-44DD-6252

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER SNC·LAVALIN TransitNEXT

PRIMARY SEAL — ONTARIO ASSOCIATION OF ARCHITECTS — LICENCE 3782

DESIGN FIRM bbb architects ottawa inc.

SECONDARY SEAL (IF REQUIRED)

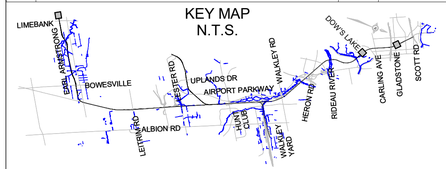
SCALE HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE; 0 0.5 1 2 4 m; VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

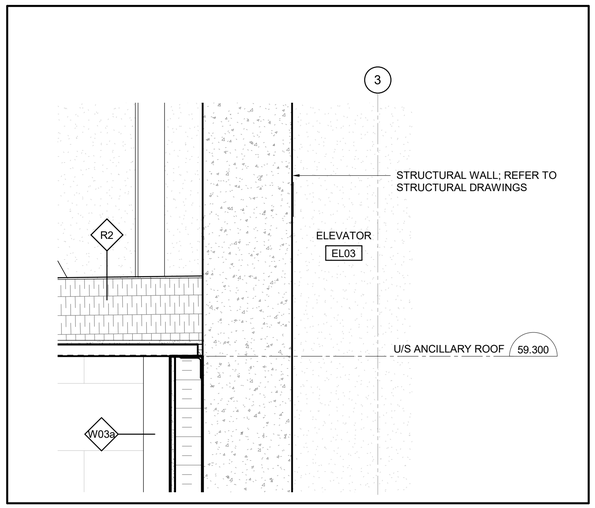
KEY MAP N.T.S.



ISSUED FOR CONSTRUCTION

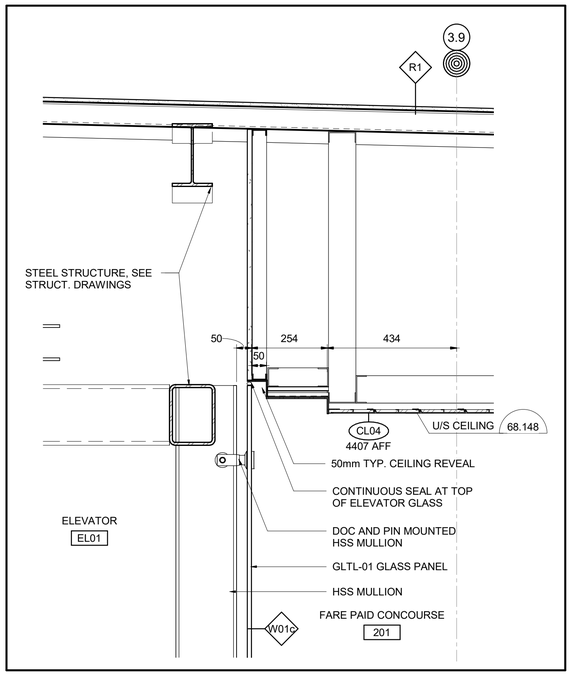
2021-02-25

10/06/20



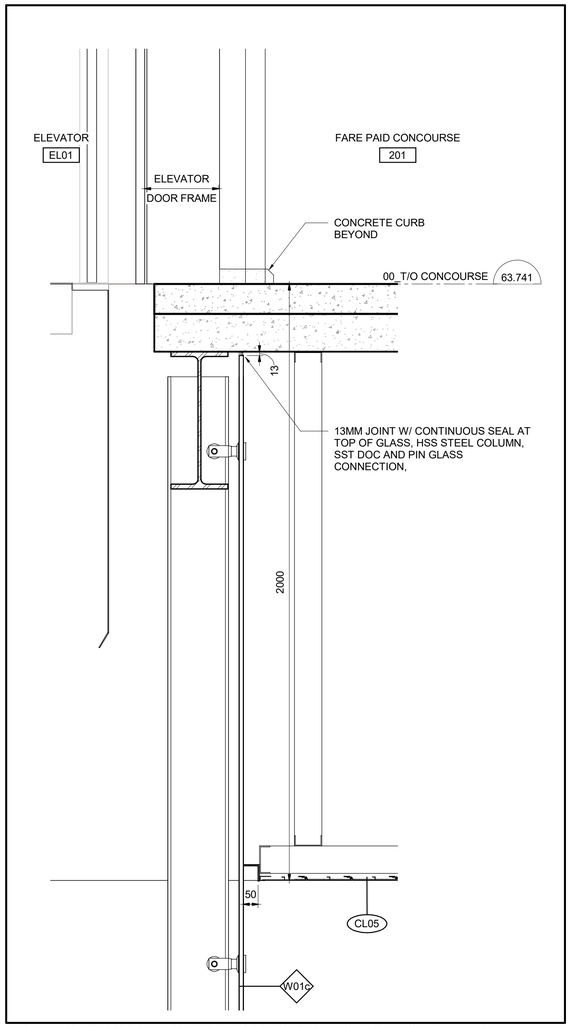
5 / 6253 SECTION DETAIL - EL0L 03 & 04 @ ANCILLARY ROOF

1 : 10



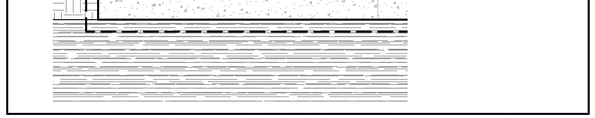
4 / 6253 SECTION DETAIL - EL01 & 02 @ CEILING REVEAL

1 : 10



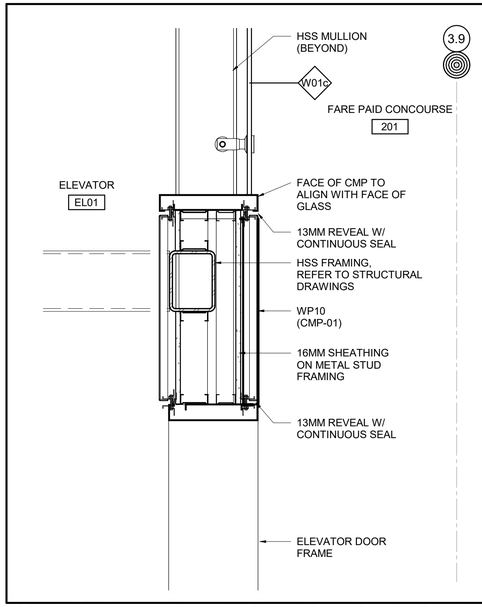
1 / 6253 SETION 2 @ ELEVATOR 01 & 02 - Callout 4

1 : 10



3 / 6253 SECTION DETAIL - EL0L 03 & 04 @ ANCILLARY WALL

1 : 10



2 / 6253 SECTION DETAIL - EL01 DOOR HEADER

1 : 10

Train STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATOR DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	

DRAWING NUMBER
660373-1GSS-001-44DD-6253

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 50 FULLSIZE; 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE; 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION
2021-02-25

TITLEBLOCK: 790mm x 534mm

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10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATOR DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-6254

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENSE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

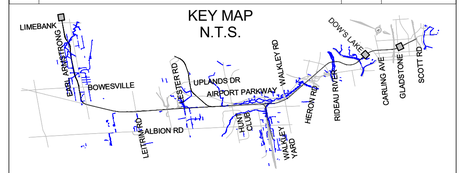
SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

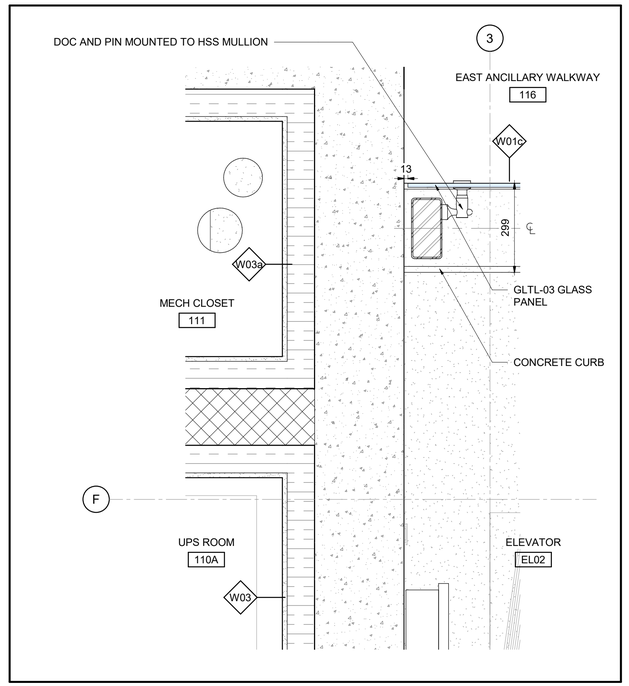
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

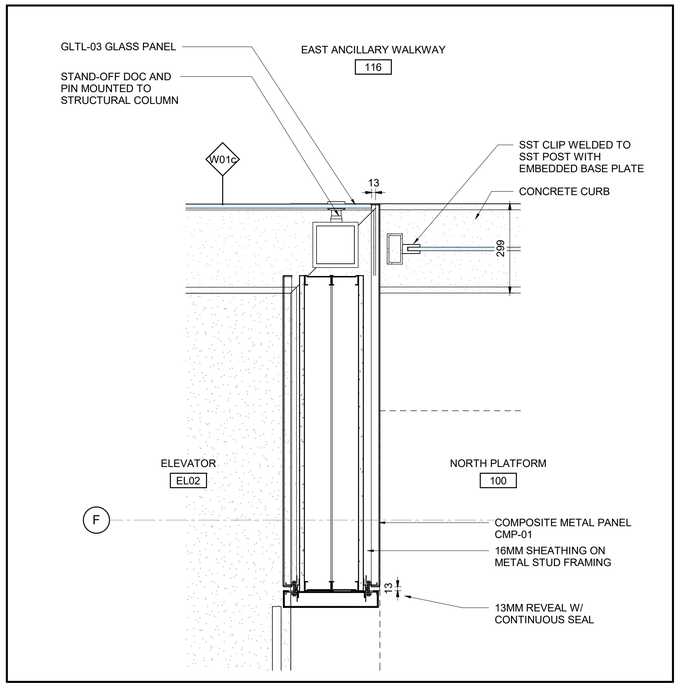
KEY MAP
N.T.S.



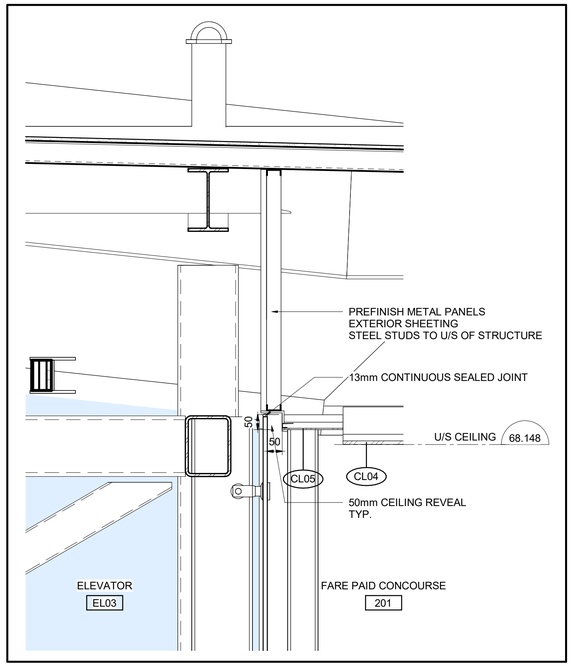
ISSUED FOR CONSTRUCTION
2021-03-29



2 / 6254 ENLARGED PLAN - NORTH PLATFORM WALL DETAIL
1 : 10

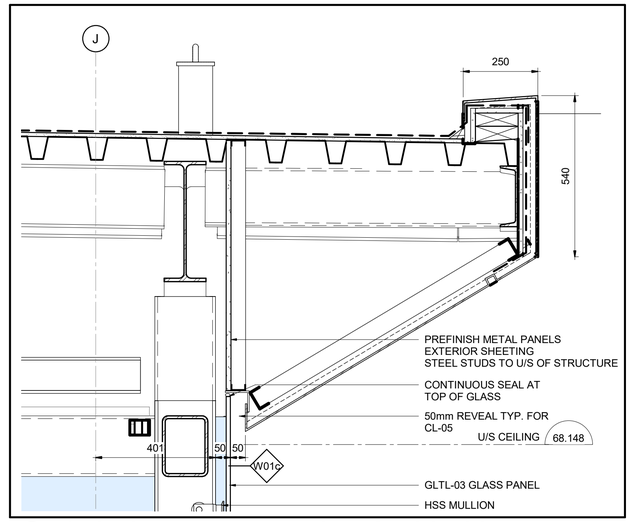


1 / 6254 ENLARGED PLAN - NORTH PLATFORM ANCILLARY WALKWAY
1 : 10



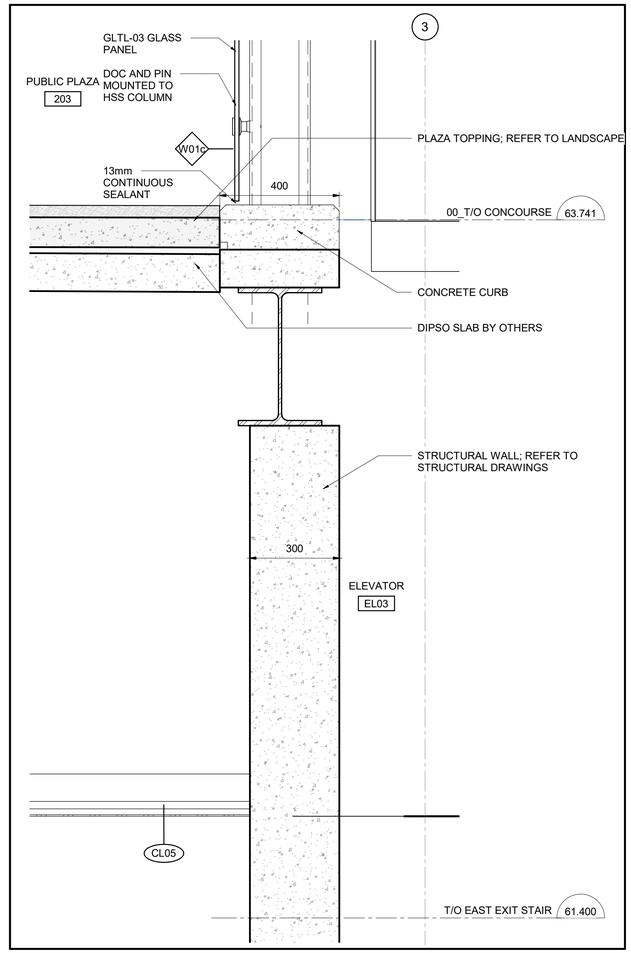
3 / 6256 ELEVATOR 03 & 04 - REVEAL

1 : 10



2 / 6256 SECTION DETAIL - EL03 & 04 @ ROOF SOFFIT

1 : 10



1 / 6256 CROSS SECTION @ ELEVATOR 03 & 04 - PLAZA CURB

1 : 10

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
ELEVATOR DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-6256

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

0 0.5 1 2 4 m

VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

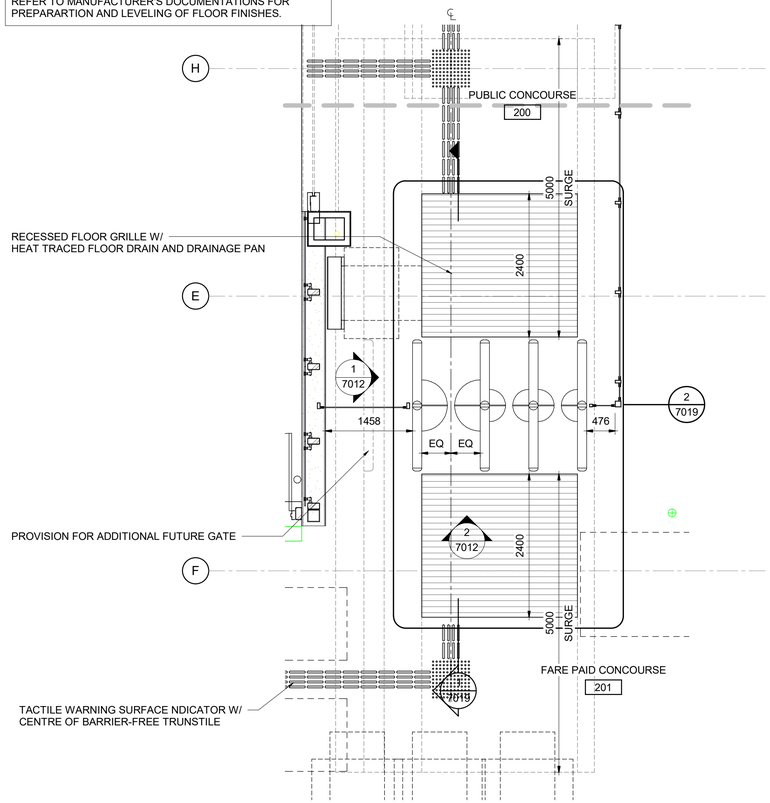
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

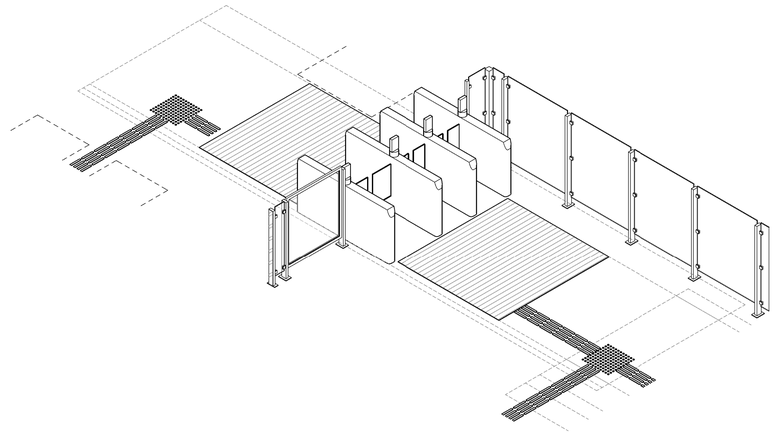
ISSUED FOR CONSTRUCTION

2021-03-29

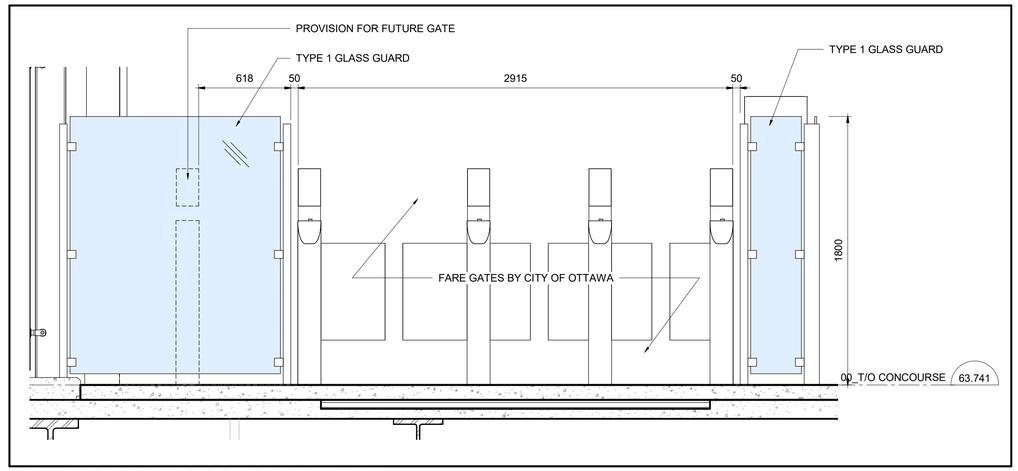
NOTE:
FARE GATE IS TO INSTALLED AND PROVIDED BY THE CITY.
REFER TO MANUFACTURER DRAWINGS AND SPECIFICATION.
REFER TO MANUFACTURER'S DOCUMENTATIONS FOR PREPARARTION AND LEVELING OF FLOOR FINISHES.



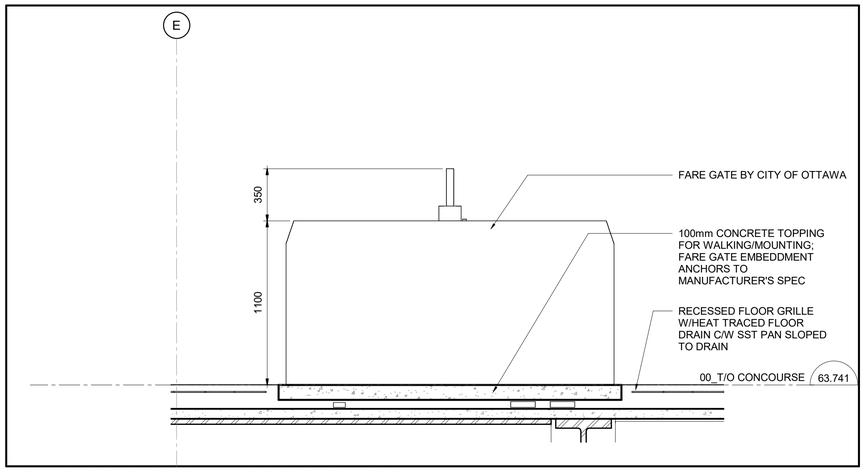
4 / 7012 FARE GATE PLAN
1 : 50



3 / 7012 FARE GATE ISOMETRIC VIEW



2 / 7012 FARE GATE FRONT ELEVATION
1 : 20



1 / 7012 FARE GATE PLAN SIDE ELEVATION
1 : 20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
FARE GATE DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-7012

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE
AS SHOWN

ASSET No.

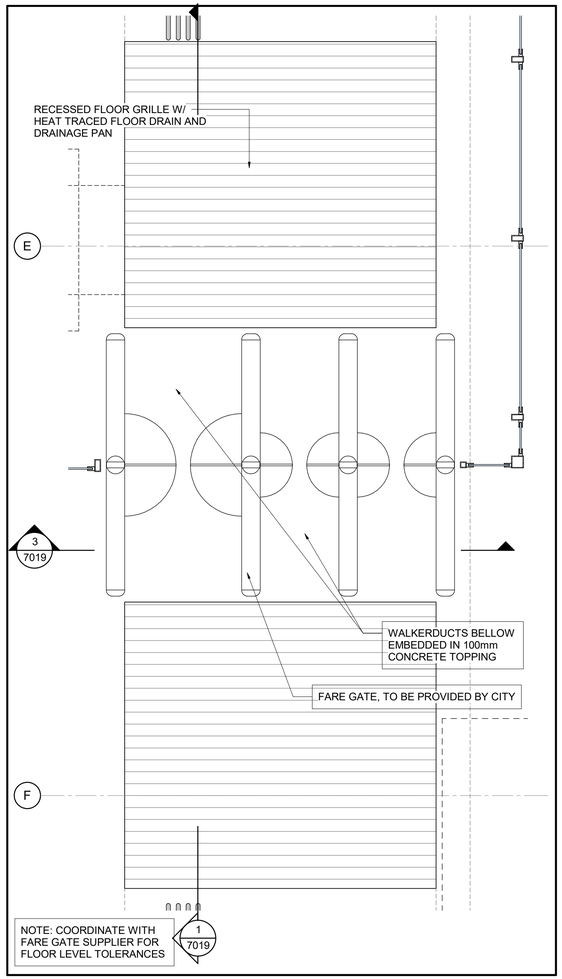
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.

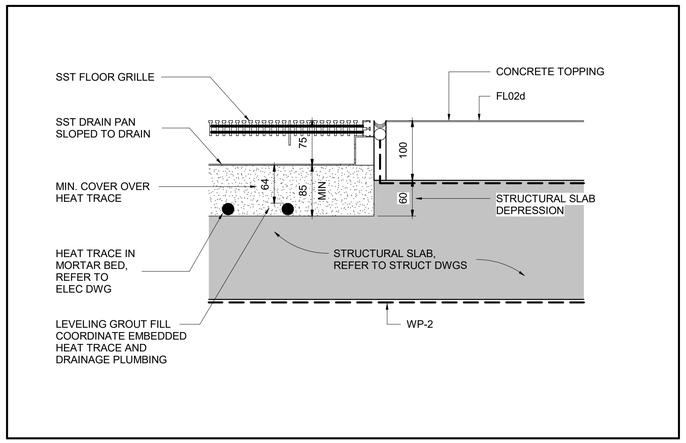
ISSUED FOR CONSTRUCTION
2021-02-25

TITLEBLOCK: 790mm x 534mm



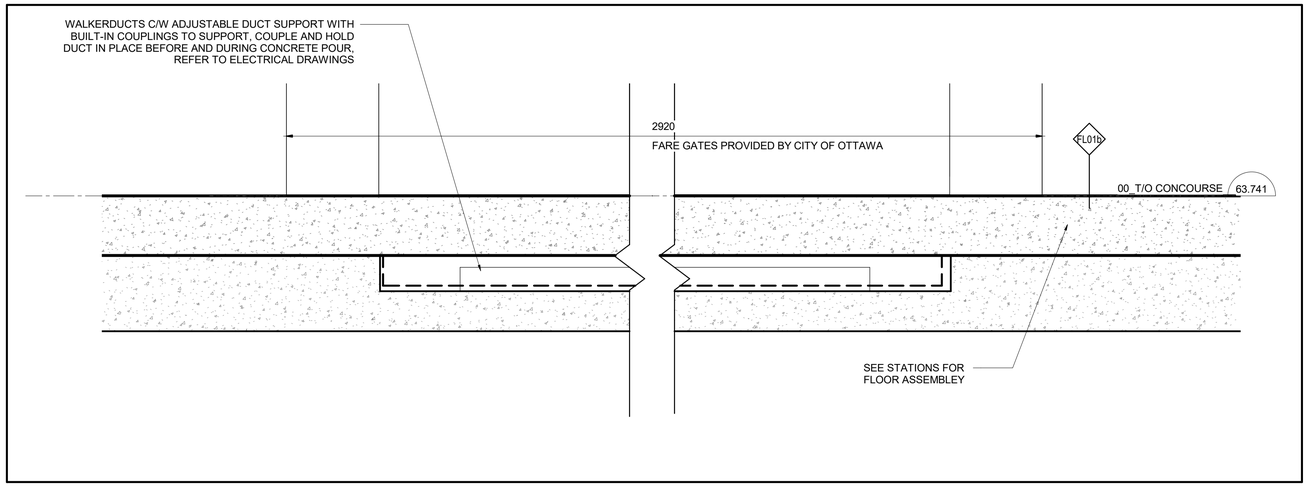
2 7019 WALKERDUCT PLAN DETAIL

1 : 25



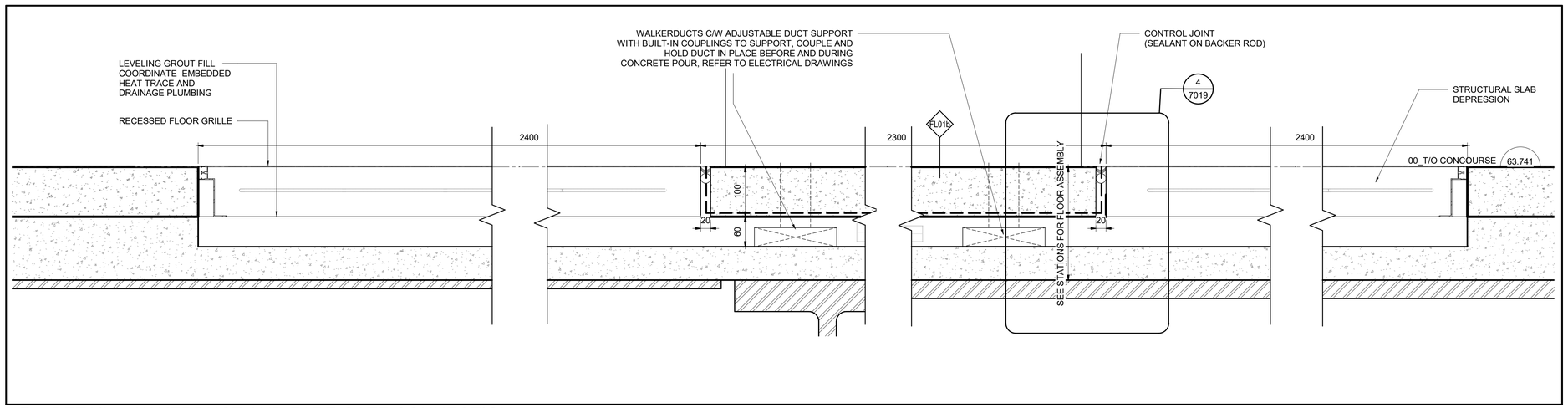
4 7019 DETAIL - FLOOR GRILLE CONNECTION

1 : 5



3 7019 DETAIL - WALKER DUCT CONNECTION TO JUNCTIONBOX

1 : 5



1 7019 DETAIL - WAKERDUCT AND FARE GATE CONNECTION

1 : 5

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10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
VERTICAL CIRCULATION
FARE GATE DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
A. RAFIE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-7019

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

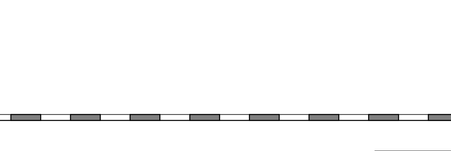
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

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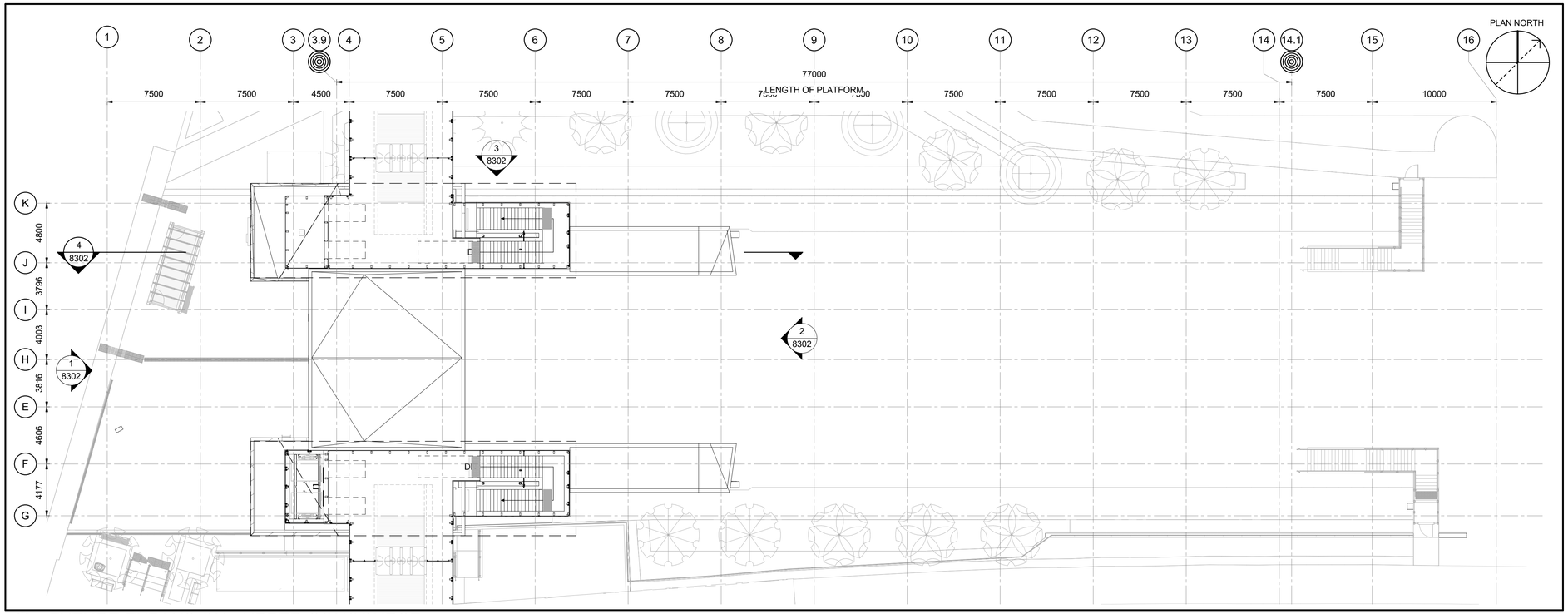

2 / 8301 FUTURE EXPANSION - UPPER CONCOURSE

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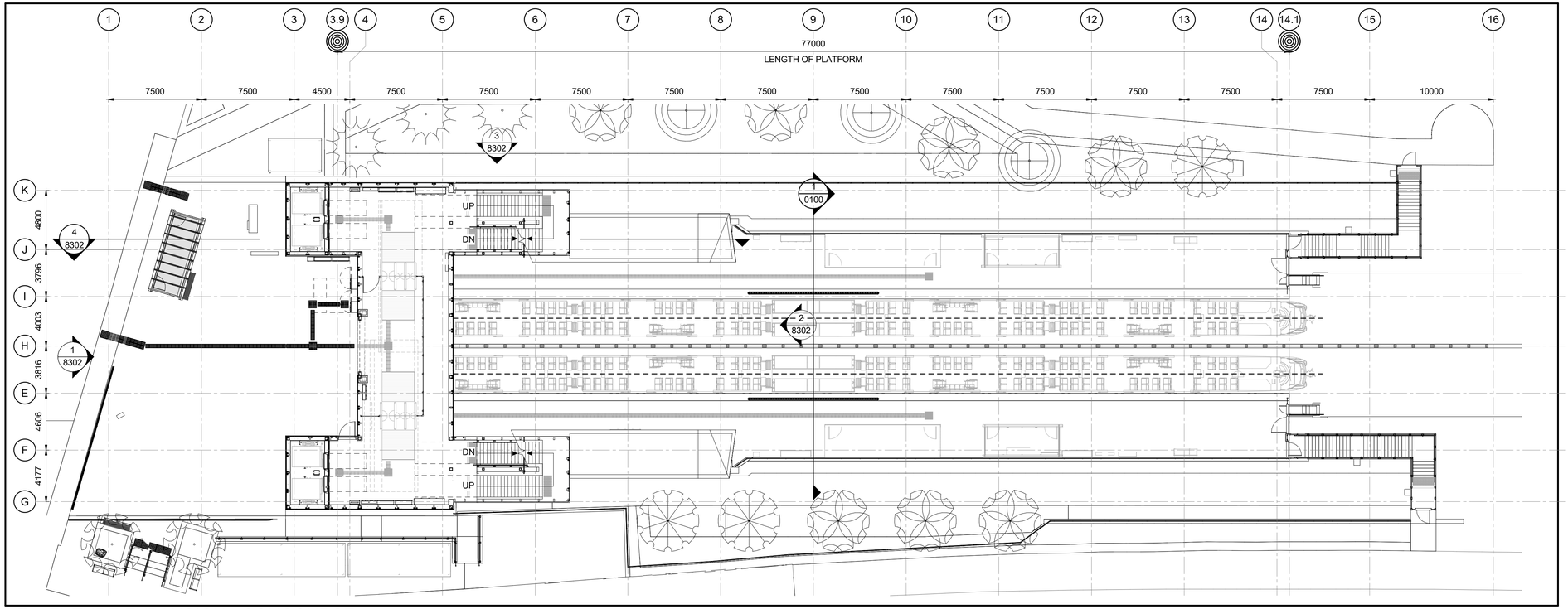

1 / 8301 FUTURE EXPANSION - CONCOURSE

1 : 200

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10/06/20

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
FUTURE PHASE
FLOOR PLANS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-8301

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

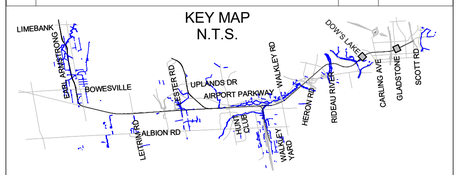
SCALE
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

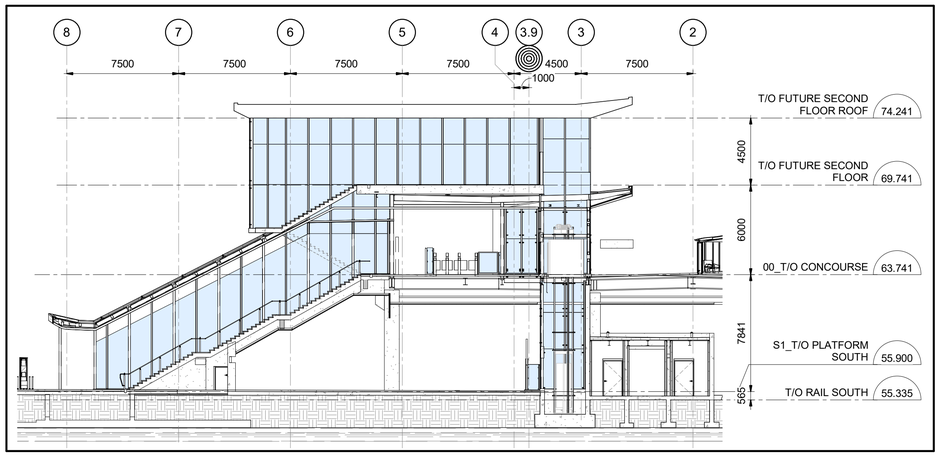
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

TITLEBLOCK: 790mm x 534mm



4 / 8302 FUTURE EXPANSION - PARTIAL SECTION

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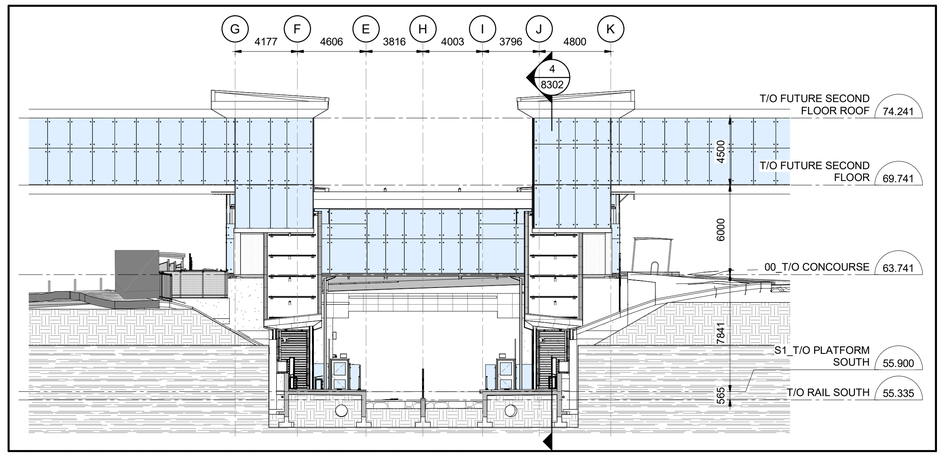
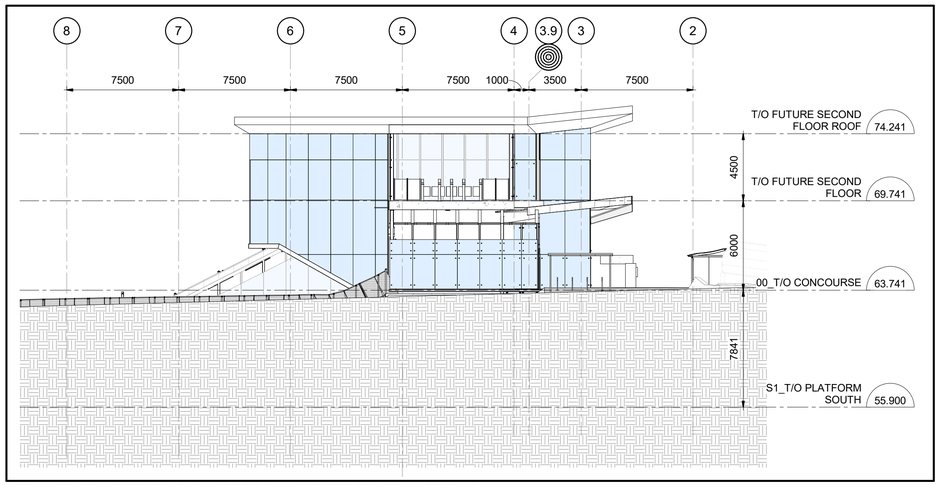


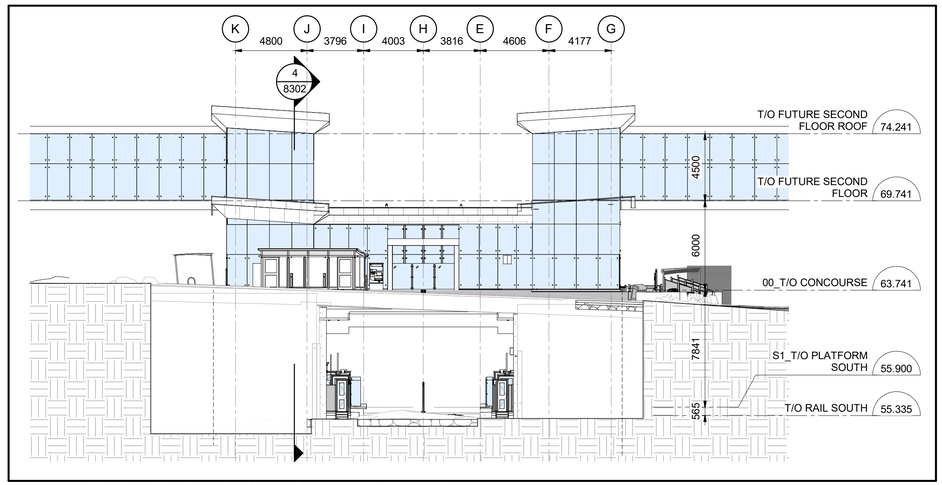
2 / 8302 FUTURE EXPANSION NORTH ELEVATION

1 : 200



3 / 8302 FUTURE EXPANSION - WEST ELEVATION

1 : 200



1 / 8302 FUTURE EXPANSION SOUTH ELEVATION

1 : 200

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA
FUTURE PHASE
ELEVATIONS & SECTIONS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	A.KOURKOUNAKIS
DRAWN	SEALED
N.BARRETT	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-8302

MODEL NUMBER
660373-1GSS-001-44DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN FIRM
bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

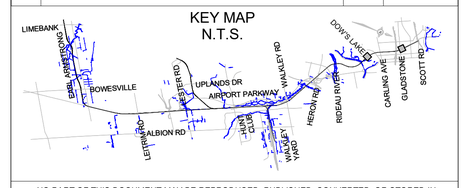
SCALE
HORIZONTAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE
0 2 4 8 16 m
VERTICAL 1 : 200 FULLSIZE / 1 : 400 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

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10/06/20

2
9000
EXTERIOR RENDERING 2
N.T.S

1
9000
EXTERIOR RENDERING 1
N.T.S

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA

EXTERIOR RENDERINGS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER
660373-1GSS-001-44DD-9000

MODEL NUMBER
660373-1GSS-001-44DM-1000

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
LICENCE 3782

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

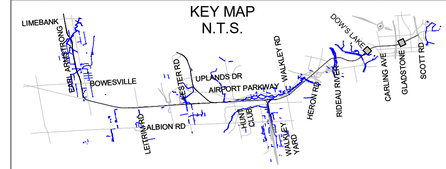
SCALE
NOT TO SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

NOTE:
RENDERINGS EXHIBIT THE EXPECTED OVERALL QUALITY OF DESIGN RELATED ARCHITECTURAL LANGUAGE, MATERIAL USAGE, SPATIAL DESIGN AND IDENTITY CREATION. RENDERINGS DO NOT INDICATE ALL REQUIRED ELEMENTS INCLUDING, BUT NOT LIMITED TO, FENCING, SIGNAGE, PASSENGER AMENITIES, BIRD FRIENDLY DESIGN REQUIREMENTS ETC.

TITLEBLOCK: 790mm x 534mm

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03/23/16

2/9100 INTERIOR RENDERING 2

N.T.S

1/9100 INTERIOR RENDERING 1

N.T.S

OTrain STAGE 2 ETAPE 2

Ottawa

ARCHITECTURAL
CORSO ITALIA

INTERIOR RENDERINGS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
R. BRISBIN	T. KAMPMAN
DRAWN	SEALED
K. SANIPE	R. BRISBIN

DRAWING NUMBER 660373-1GSS-001-44DD-9100

MODEL NUMBER 660373-1GSS-001-44DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
ROBERT BRISBIN
LICENCE 3782

DESIGN FIRM

bbb architects
ottawa inc.

SECONDARY SEAL (IF REQUIRED)

SCALE

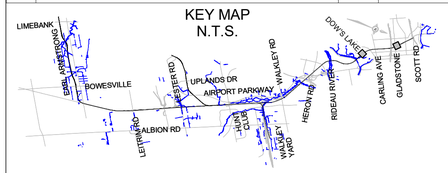
NOT TO SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	JJ	2021/03/29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

NOTE:
RENDERINGS EXHIBIT THE EXPECTED OVERALL QUALITY OF DESIGN RELATED ARCHITECTURAL LANGUAGE, MATERIAL USAGE, SPATIAL DESIGN AND IDENTITY CREATION. RENDERINGS DO NOT INDICATE ALL REQUIRED ELEMENTS INCLUDING, BUT NOT LIMITED TO, FENCING, SIGNAGE, PASSENGER AMENITIES, BIRD FRIENDLY DESIGN REQUIREMENTS ETC.

TRILLIUM LINE EXTENSION PROJECT

STRUCTURAL
CORSO ITALIA STATION

ISSUED FOR CONSTRUCTION

JULY 30, 2021

CONTRACT NO. - LRT19-1025

DRAWING No. 660373-1GSS-003-43DD-0001 | 03

SUPERCEDES PRINTS TO THIS NUMBER WITH LETTER PREVIOUS TO

TITLEBLOCK: 790mm x 534mm

DRAWING INDEX

DRAWING No	DESCRIPTION	REV.	
660373-1GSS-003-43DD-0001	COVER PAGE	03	
660373-1GSS-003-43DD-0002	DRAWING INDEX	03	
660373-1GSS-003-43DD-0003	GENERAL NOTES	03	
660373-1GSS-003-43DD-0004	TYPICAL DETAILS	02	
660373-1GSS-003-43DD-0005	MASONRY NOTES & DETAILS	02	03
660373-1GSS-003-43DD-0006	SCHEDULES AND DETAILS	03	
660373-1GSS-003-43DD-1001	OVERALL PLAN	03	
660373-1GSS-003-43DD-1002	FOUNDATION PLAN - SECTOR 1	02	03
660373-1GSS-003-43DD-1003	FOUNDATION PLAN - SECTOR 2	03	
660373-1GSS-003-43DD-1004	PLATFORM PLAN - SECTOR 1	02	
660373-1GSS-003-43DD-1005	PLATFORM PLAN - SECTOR 2	03	03
660373-1GSS-003-43DD-1006	ANCILLARY ROOMS ROOF PLAN	01	
660373-1GSS-003-43DD-1007	CONCOURSE FRAMING PLAN	01	
660373-1GSS-003-43DD-1008	CONCOURSE PLAN	01	
660373-1GSS-003-43DD-1009	ROOF FRAMING PLAN	01	
660373-1GSS-003-43DD-1010	PLATFORM STAIR PLAN	00	03
660373-1GSS-003-43DD-1011	PLATFORM STAIR ROOF FRAMING PLAN	01	
660373-1GSS-003-43DD-3001	SECTIONS/DETAILS	02	
660373-1GSS-003-43DD-3002	SECTIONS/DETAILS	03	03
660373-1GSS-003-43DD-3003	SECTIONS/DETAILS	03	
660373-1GSS-003-43DD-3004	SECTIONS/DETAILS	03	
660373-1GSS-003-43DD-3005	SECTIONS/DETAILS	03	
660373-1GSS-003-43DD-3006	SECTIONS/DETAILS	03	
660373-1GSS-003-43DD-3007	SECTIONS/DETAILS	00	03
660373-1GSS-003-43DD-3008	SECTIONS/DETAILS	01	
660373-1GSS-003-43DD-3009	SECTIONS/DETAILS	03	
660373-1GSS-003-43DD-3010	SECTIONS/DETAILS	03	
660373-1GSS-003-43DD-3011	SECTIONS/DETAILS	03	
660373-1GSS-003-43DD-3012	SECTIONS/DETAILS	03	

OTrain STAGE 2 ETAPE

Ottawa

STRUCTURAL
CORSO ITALIA STATION

DRAWING INDEX

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-0002

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

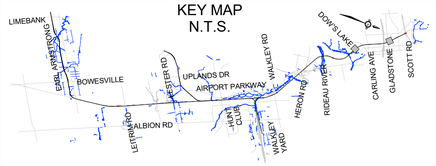
SCALE
N.T.S.

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30

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30/08/2021 13:50:00

TITLEBLOCK: 790mm x 534mm

GENERAL NOTES

1. THE DESIGN AND CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF THE 2015 NATIONAL BUILDING CODE OF CANADA, THE OBC 2012 AND THE CSA STANDARDS INDICATED THEREIN. THE LATEST REVISIONS TO ALL STANDARDS WILL GOVERN.
2. THE CONTRACTOR SHALL CHECK AND VERIFY ALL CONDITIONS AND MEASUREMENTS AT THE SITE AND REPORT ANY DISCREPANCIES OR UNSATISFACTORY CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE WORK TO THE ENGINEER AND/OR PROJECT COORDINATOR PRIOR TO PROCEEDING WITH THE WORK.
3. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS. DO NOT SCALE THESE DRAWINGS.
4. CONTRACTOR SHALL COORDINATE AND REFER TO ARCHITECTURAL, MECHANICAL & ELECTRICAL DRAWINGS FOR ALL OTHER DETAILS NECESSARY. ANY DISCREPANCIES WITH DIMENSIONS, ELEVATIONS, ANGLES & WORK POINTS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER. WHEN IN DOUBT, THE CONSTRUCTION MANAGER WILL ISSUE INSTRUCTIONS ACCORDINGLY.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS & ELEVATIONS, ON SITE AGAINST ARCHITECTURAL DRAWINGS, AND SHALL BE RESPONSIBLE FOR THESE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEWATERING REQUIRED TO UNDERTAKE THE WORK.
7. COORDINATE ALL WORK WITH THE OWNER AND USERS AT ALL TIMES. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT SAFETY IS MAINTAINED AT ALL TIMES.
8. CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL WASTE. CONTRACTOR SHALL KEEP WORK AREAS CLEAN AND WITHOUT OBSTRUCTIONS AT ALL TIMES.
9. CONTRACTOR SHALL PROVIDE SECURE WORK AND STORAGE AREAS DURING AND UNTIL WORK COMPLETION.
10. HEALTH AND SAFETY RULES FOR CONSTRUCTION SITES AND OTHER APPLICABLE LAWS SHALL BE RESPECTED AT ALL TIMES.
11. PARTICULAR ATTENTION IS TO BE TAKEN IN REGARDS TO EXISTING CONDUITS AND EQUIPMENT IN AND AROUND WORK ZONE.
12. SERVICE LIVE LOADS FOR EACH PORTION OF THE STRUCTURE ARE SHOWN. DO NOT EXCEED THESE LOADS DURING CONSTRUCTION.
13. CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY SUPPORTS REQUIRED TO COMPLETE THE WORK.
14. GENERAL CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SHORING OF NEW AND EXISTING STRUCTURES AND SOILS STABILITY (AT ALL TIMES) DURING CONSTRUCTION. DETAILS OF SHORING SHALL BE STAMPED BY A P.E.O. AND SUBMITTED FOR REVIEW. THE CONTRACTOR SHALL NOT BACKFILL THE FOUNDATION WALLS BEFORE ALL THE ELEMENTS WHICH ENSURE THEIR STABILITY ARE IN PLACE.
15. GUARDS & RAILINGS, CURTAIN WALLS AND STEEL STUDS SHALL CONFORM TO NBCC 2015 LATEST EDITION. CONTRACTOR SHALL PROVIDE ENGINEERING DRAWINGS PREPARED BY A P.E.O. .

LEGEND:

ADD'L	: ADDITIONAL	u/s	: UNDERSIDE
TYP.	: TYPICAL	T & B	: TOP AND BOTTOM
CONT.	: CONTINUOUS	2-DIR.	: TWO DIRECTIONS
EXIST.	: EXISTING	B.	: BOTTOM
SIM.	: SIMILAR	ARCH.	: ARCHITECTURE
INV.	: INVERSE	MECH.-ELEC.	: MECHANICAL-ELECTRICAL
IND.	: INDICATES		
U.N.O.	: UNLESS NOTED OTHERWISE	M.P.	: MODIFIED PROTOR
		M.C.	: MOMENT CONNECTION
E.F.	: EACH FACE	T.O.S.	: TOP OF STEEL
c/w	: COMPLETE WITH		

DESIGN NOTES & CRITERIA

REINFORCING STEEL
CONTRACTOR TO SUBMIT SHOP DRAWINGS UNDER SEAL FOR ALL REINFORCING STEEL INCLUDING PLACEMENT OF REINFORCEMENT. INDICATED ON THE SHOP DRAWINGS SHALL BE BAR BENDING DETAILS, LISTS, QUANTITIES OF REINFORCEMENT, SIZES, SPACINGS, LOCATIONS OF REINFORCEMENT SPLICES (LAP OR MECHANICAL) WITH IDENTIFYING CODE MARKS TO PERMIT CORRECT PLACEMENT OF REINFORCEMENT WITHOUT REFERENCE TO THE STRUCTURAL DRAWINGS. PREPARE SHOP DRAWINGS IN ACCORDANCE WITH REINFORCING STEEL MANUAL OF STANDARD PRACTICE.

MISCELLANEOUS METALS
MISCELLANEOUS METALS SHALL BE DESIGNED AND DETAILED BY THE MISC. METALS SUPPLIER. SHOP DRAWINGS SHALL BE SUBMITTED TO SNC LAVALIN FOR REVIEW. SHOP DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL MISC. METALS AND STEEL STAIRS SHALL BE FIELD REVIEWED BY THE DESIGN ENGINEER.

RAILINGS AND GUARDS
ALL RAILINGS AND GUARDS SHALL BE DESIGNED AND DETAILED BY THE MISC. METALS SUPPLIER IN ACCORDANCE WITH NBCC 4.1.5.14, 3.4.1.5, 3.4.6.5 & 3.4.6.6. SHOP DRAWINGS SHALL BE SUBMITTED TO SNC LAVALIN FOR REVIEW. SHOP DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL RAILINGS AND GUARDS SHALL BE FIELD REVIEWED BY THE DESIGN ENGINEER.

STRUCTURAL STEEL CONNECTIONS
STRUCTURAL STEEL CONNECTIONS SHALL BE DESIGNED AND DETAILED BY THE STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO SNC LAVALIN FOR REVIEW. SHOP DRAWINGS SHALL BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.

STEEL DECK NOTES

1. STEEL DECK SHALL CONFORM TO CSSB.101 GRADE A: SEE PLANS FOR DECK GAUGE, GALVANIZED (U/N).
2. DECK SHALL BE INSTALLED IN SECTIONS TO SPAN OVER 3 SPANS MINIMUM. IF THE CONTRACTOR DEVIATES FROM THIS, THE DECK GAUGE SHALL BE DETERMINED BY THE MANUFACTURER FOR THE LOADS AND SPAN CONDITION USED. CONFIRM WITH ENGINEER PRIOR TO DEVIATION FOR GENERAL SPECIFICATION.
STEEL DECK HAS BEEN DESIGNED FOR DIAPHRAGM ACTION TO TRANSMIT HORIZONTAL LOADS (WIND AND/OR SEISMIC) TO THE LATERAL FORCE RESISTING SYSTEMS.
3. STEEL DECK FIXATION:
- SEE ROOF DECK LAYOUT/LEGEND ON PLANS
4. DESIGN ROOF DECK FOR MIN. 1.5 KPA NET SERVICE UPLIFT DUE TO WIND EFFECTS OR AS INDICATED ON DRAWINGS.
5. WHERE APPLICABLE USE STEEL WASHERS AT WELDING POINTS WHERE NECESSARY AND/OR DIRECTED BY ENGINEER TO PREVENT BURN-THRU OF DECK.
6. SUBMIT SHOP DRAWINGS UNDER SEAL. INDICATE DECK PLAN, PROFILE, DIMENSIONS, BASE STEEL THICKNESS, METALLIC COATING DESIGNATION, CONNECTIONS TO SUPPORTS AND SPACING, PROJECTIONS, OPENINGS, REINFORCEMENT DETAILS AND ACCESSORIES. INDICATE POSITION OF TEMPORARY SHORING OF FLOOR DECK IF REQUIRED.
7. THE DECK ERECTOR SHALL CUT ALL OPENINGS IN THE METAL DECK AND SHALL SUPPLY AND INSTALL REINFORCING FOR ALL OPENINGS UP TO 12" (300mm)
8. SQUARE OR 12" (300mm) DIAMETER. OPENINGS LARGER THAN 12" (300mm) SQUARE (OR DIAMETER) SHALL BE REINFORCED PER DRAWINGS.

CONCRETE NOTES

1. CONCRETE (@ 28 DAYS):
35 MPa : 'C-1' CONCRETE : SLAB-ON-GRADE
35 MPa : 'C-1' CONCRETE : FOOTINGS (U.N.O.)
35 MPa : 'C-1' CONCRETE : PIERS (U.N.O.)
35 MPa : 'C-1' CONCRETE : CONCRETE FOUNDATION WALLS
2. ALL CONCRETE WORK SHALL CONFORM TO CAN/CSA-A23.1/A23.2 LATEST EDITION.
3. FINISH CONCRETE IN ACCORDANCE WITH CSA A23.1-14/A23.2-14. RUB EXPOSED SHARP EDGES OF CONCRETE WITH CARBORUNDUM TO PRODUCE 3 MM RADIUS EDGES UNLESS OTHERWISE INDICATED.
4. CONCRETE EXPOSED TO PUBLIC VIEW TO HAVE A SMOOTH-FORM FINISH UNLESS SPECIFIED OTHERWISE.
5. INSPECTION AND TESTING OF CONCRETE AND CONCRETE MATERIALS WILL BE CARRIED OUT BY A TESTING LABORATORY DESIGNATED BY OWNER IN ACCORDANCE WITH CSA A23.1-14/A23.2-14. COSTS OF TESTS WILL BE PAID FOR BY OWNER.
6. ENGINEER WILL TAKE ADDITIONAL TEST CYLINDERS DURING COLD WEATHER CONCRETING. CURE CYLINDERS ON JOB SITE UNDER SAME CONDITIONS AS CONCRETE WHICH THEY REPRESENT. INSPECTION OR TESTING BY CONSULTANT WILL NOT AUGMENT OR REPLACE CONTRACTOR QUALITY CONTROL NOR RELIEVE HIM OF HIS CONTRACTUAL RESPONSIBILITY.
7. SLABS-ON-GRADE SHALL HAVE A MONOLITHIC FINISH UNLESS NOTED OTHERWISE, SEE ARCH.
8. FOR PITS NOT EXCEEDING 36"x36" (900x900mm) USE 6" (150mm) WALLS AND 8" (200mm) RAFT REINFORCED WITH 10M @ 8" (200mm) o/c 2-DIRECTIONS CENTER, SEE TYPICAL DETAIL. SEE ARCH. & MECH. FOR QUANTITY AND LOCATION.
9. PROPORTION NORMAL DENSITY CONCRETE IN ACCORDANCE WITH CSA A23.1-14/A23.2-14.
10. REINFORCING STEEL:
-CAN/CSA-G30.18 LATEST EDITION Fy = 400 MPa
-WIRE MESH: CSA G30.5 LATEST EDITION
-USE CORNER BARS IN FOUNDATION WALLS
11. DETAIL BEND, SUPPORT AND PLACE REINFORCING STEEL TO CONFORM WITH R.S.I.O. MANUAL OF STANDARD PRACTICE U/N.
12. DO NOT FIELD BEND REINFORCEMENT EXCEPT WHERE INDICATED OR AUTHORIZED BY ENGINEER. WHEN FIELD BENDING IS AUTHORIZED, BEND WITHOUT HEAT, APPLYING A SLOW AND STEADY PRESSURE. REPLACE BARS WHICH DEVELOP CRACKS OR SPLITS.
13. PROVIDE 36 BAR-DIAMETER LAP SPLICES FOR ALL REINFORCING STEEL UNLESS OTHERWISE NOTED ON DRAWINGS.
14. CONCRETE COVER TO REINFORCING STEEL:

EXPOSURE TO EARTH, FILL OR WEATHER	EXPOSED	NOT EXPOSED
(a) WHEN CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH OR FILL	75mm	
(b) FOR		
(i) BEAMS, GIRDERS, COLUMNS AND PILES:		
PRINCIPAL REINFORCEMENT 35M AND SMALLER	50mm	40mm
TIES, STIRRUPS AND SPIRALS	40mm	30mm
(ii) SLABS, WALLS, JOISTS, SHELLS AND FOLDED PLATES:		
20M AND SMALLER	30mm	20mm
(c) FOR BARS WITH A DIAMETER db LARGER THAN LISTED ABOVE, THE COVER SHALL BE AT LEAST BUT NEED NOT BE MORE THAN 60mm	1.5db	1.0db
(d) THE RATIO OF THE COVER TO THE NOMINAL MAXIMUM AGGREGATE SIZE SHALL BE AT LEAST	1.5	1.0
(e) THE COVER FOR A BUNDLE OF BARS SHALL BE THE SAME AS FOR A SINGLE BAR WITH EQUIVALENT AREA		

15. ALL EXPOSED CONCRETE CORNERS SHALL HAVE A 25mm CHAMFER.
16. ALL FORMWORK SHALL CONFORM TO CAN/CSA-A23.1/A23.2 LATEST EDITION, FURTHERMORE FORMWORK USED WHERE CONCRETE FINISH IS EXPOSED SHALL BE NEW.
17. OPENING IN FOUNDATION WALLS:
USE 2-20M ALL AROUND OPENINGS AND EXTEND 600mm BEYOND OPENING + CORNER BARS, SEE TYPICAL DETAIL. SEE ARCH. AND MECH-ELEC. DRAWINGS FOR QUANTITIES AND LOCATIONS.
18. CONTROL JOINTS IN SLAB-ON-GRADE:
CONTROL JOINTS SHALL BE SAWCUT INTO PANELS WHICH DO NOT EXCEED 3.6m x 3.6m WITHIN 24 HOURS OF SLAB POUR. JOINTS SHALL BE 6mm IN WIDTH BY 25mm (MIN.) IN DEPTH c/w APPROVED JOINT FILLER. SEE SPECIFICATIONS.
19. PROVIDE A DEPRESSION IN THE CONCRETE SLAB FOR FOOT GRILLS. REFER TO ARCHITECTURAL DWGS FOR LOCATIONS WHERE REQUIRED.
20. ALL MECHANICAL PADS AND BASES SHALL BE TIED TO CONCRETE SLABS (STRUCTURAL OR ON GRADE) WITH 10M x 300mm LG. DOWELS @ 450mm o/c 2-DIRECTIONS (PROVIDE EPOXY ADHESIVE IF NON-MONOLITHIC) c/w W.W.M. 152x152-18.7/18.7 (IN SHEETS) CENTER TYP. SEE MECHANICAL FOR SIZES, LOCATIONS AND QUANTITIES.

100
50 150
PADS
SLAB

FOUNDATION & FORMWORK NOTES

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH CL. 4.1.8.16, & 2015 & OBC 2012. ALL EXCAVATION AND FOUNDATION CONSTRUCTION SHALL BE IN ACCORDANCE WITH GEOTECHNICAL REPORT 660373-1GSS-003-4GER-0001 (LATEST REVISION)
2. ALL FOUNDATIONS TO BEAR ON SOUND BEDROCK. ALLOWABLE BEARING CAPACITY USED FOR THE DESIGN OF FOOTINGS IS AS FOLLOWS: ASSUMED SLS= 4.0 MPA / ULS = 6.0 MPA. BEARING SURFACES SHALL BE REVIEWED BY GEOTECHNICAL ENGINEER BEFORE PLACING CONCRETE.
3. ROCK ANCHORS SHALL FOLLOW OPSS 942 WHICH COVERS THE REQUIREMENTS FOR THE DESIGN, INSTALLATION, AND TESTING.
4. ALL STRUCTURAL ELEMENTS, GRADE AND SUB GRADE SHALL BE PROTECTED AGAINST WATER AND FREEZING AT ALL TIMES.
5. UNDERSIDE OF HEATED EXTERIOR FOOTINGS SHALL REST AT LEAST 1500mm MIN. (U.N.O.) BELOW FINISHED EXTERIOR GRADE. UNDERSIDE OF UNHEATED EXTERIOR FOOTINGS SHALL REST AT LEAST 1800mm MIN. (U.N.O.) BELOW FINISHED EXTERIOR GRADE. CONSULT GEOTECHNICAL ENGINEER FOR INSULATION REQUIREMENTS WHERE COVER CAN NOT BE ATTAINED.
6. REFER TO GEOTECHNICAL REPORT FOR TYPE & COMPACTION OF GRANULAR SUPPORTING EXTERIOR & INTERIOR FOOTINGS & SLAB-ON-GRADE.
7. ALL MATERIAL USED FOR BACKFILL OF THE INTERIOR AND EXTERIOR FOUNDATION WALLS SHALL BE A COMPACTED GRANULAR FILL. REFER TO GEOTECHNICAL REPORT FOR COMPOSITION & COMPACTION OF GRANULAR FILL.
8. BACKFILLING TO PROCEED SIMULTANEOUSLY ON BOTH SIDES OF NEW FOUNDATION WALLS (EXCEPT WHERE TEMPORARY SUPPORT FOR THE WALL IS PROVIDED), AND COMPACTED IN LAYERS AS SPECIFIED BY GEOTECHNICAL ENGINEER.
9. CONSTRUCTION JOINTS AND CONTROL JOINTS IN WALLS SHALL BE POSITIONED AT MIDDLE ⅓rd SPAN BETWEEN TWO PIERS, UNLESS SHOWN OTHERWISE. MAXIMUM SPACING OF CONSTRUCTION JOINTS SHALL BE 20m U/N.
10. SLEEVES, PIPES, HOLES OR NOTCHES PLACED THROUGH FDN WALLS SHALL BE REINFORCED AS PER TYPICAL DETAILS. IF OPENINGS IN FDN WALLS ARE LARGER THAN SHOWN ON THE TYPICAL DETAIL, ENGINEER SHALL BE NOTIFIED.
11. NO SLEEVES, PIPES, HOLES OR NOTCHES SHALL BE PLACED THROUGH PIERS, COLUMNS OR BEAMS.
12. REFER TO ARCHITECTURAL SPECIFICATIONS FOR WATERPROOFING OF FOUNDATION WALLS.
13. IN THE PRESENCE OF PLUMBING / RAIN WATER LEADER, THE LEVEL OF THE FOOTINGS SHALL BE PLACED LOW ENOUGH SO AS NOT TO INTERFERE WITH THE PLUMBING. PROVIDE TRENCHES FOR MEC.-ELEC. SERVICES, AS REQUIRED. REFER TO MEC.-ELEC. DRAWINGS FOR LOCATIONS.
14. VERIFY LINES, LEVELS AND WALL CENTRES BEFORE PROCEEDING WITH FORMWORK AND ENSURE DIMENSIONS AGREE WITH DRAWINGS.
15. CONSTRUCT FORMS TO PRODUCE FINISHED CONCRETE CONFORMING TO SHAPE, DIMENSIONS, LOCATIONS AND LEVELS INDICATED WITHIN TOLERANCES REQUIRED BY CSA A23.1-14/A23.2-14. ALIGN FORM JOINTS AND MAKE WATERTIGHT. KEEP FORM JOINTS TO MINIMUM. LOCATE HORIZONTAL FORM JOINTS FOR EXPOSED WALLS TO APPROVAL OF ARCHITECT. CLEAN FORMWORK IN ACCORDANCE WITH CSA A23.1-14/A23.2-14, BEFORE PLACING CONCRETE.
16. FORM CHASES, SLOTS, OPENINGS, DRIPS, RECESSES EXPANSION AND CONTROL JOINTS AS INDICATED.
17. LEAVE FORMWORK IN PLACE FOR 48 HOURS MINIMUM PERIOD OF TIME AFTER PLACING CONCRETE. AFTER FORM REMOVAL COVER AND PROTECT CONCRETE FOR THE REMAINDER OF THE INITIAL CURING PERIOD. USE INSULATED TARPS FOR COLD WEATHER OPERATION.
18. OBTAIN ENGINEER'S PERMISSION BEFORE FRAMING OPENINGS NOT INDICATED IN CONCRETE SLABS, WALLS, PIERS AND FOOTINGS.
19. CONCRETE PLACED IN THE FOOTING SHALL BE ROUGHENED AT THE BOTTOM STEM TO A FULL AMPLITUDE OF ABOUT 5mm.
20. BACKFILL SHALL NOT BE PLACED AGAINST ANY CONCRETE COMPONENT UNTIL CONCRETE HAS REACHED 70% MINIMUM OF ITS DESIGN STRENGTH.
21. GLOBAL STABILITY OF RETAINING INCLUDING BUT NOT LIMITED TO, BEARING CAPACITY, SETTLEMENT AND SLOPE STABILITY SHALL BE VERIFIED BY THE GEOTECHNICAL ENGINEER.

LIVE LOADS

1. LOADING FOR CURRENT DESIGN AND FUTURE SECOND STORY EXPANSION HAS BEEN ACCOUNTED FOR IN ACCORDANCE WITH THE FOLLOWING:

LOCATION	LIVE LOAD
STATION FLOORS	4.8 kPa
PODIUM	4.8 kPa
STAIRS	4.8 kPa
PLATFORMS	7.2 kPa
MECHANICAL ROOMS	12.0 kPa

DEAD LOADS

1. DEAD LOAD = SW OF STRUCTURE PLUS THE WEIGHT OF PERMANENT FIXTURES, PARTITIONS, EQUIPMENT, PIPING, CONDUIT, ETC.
2. LOADING FOR CURRENT DESIGN AND FUTURE SECOND STORY EXPANSION HAS BEEN ACCOUNTED FOR IN ACCORDANCE WITH THE FOLLOWING:

LOCATION	DESCRIPTION	SDL ALLOWANCE
INITIAL CONSTRUCTION STATION ROOF	M&E	1.25 kPa
	CEILING	0.25 kPa
	ART	0.25 kPa
STAIR CANOPY	M&E	1.25 kPa
PODIUM DECK	M&E	1.25 kPa
	FIREPROOFING	1.0 kPa
STAIRS	PRECAST TREADS	1.2 kPa
FUTURE EXPANSION STATION FLOOR	DECK & TOPPING	4.50 kPa
	M&E	1.25 kPa
STATION ROOF	ROOF ASSEMBLY	1.25 kPa
	M&E	1.25 kPa
	CEILING	0.25 kPa
STAIR CANOPY	STAIRS & CANOPY	8.5 kPa
	M&E	1.25 kPa

3. THE ENGINEER RESPONSIBLE FOR THE STRUCTURAL DESIGN OF FUTURE EXPANSION SHALL VERIFY THE STRENGTH AND SERVICEABILITY OF THE ORIGINAL BASE STRUCTURE WITH RESPECT TO ADDITIONAL LOADS IMPOSED BY THE FUTURE EXPANSION.

STEEL NOTES

1. ALL STRUCTURAL STEEL WORK TO BE CARRIED OUT IN ACCORDANCE WITH CAN/CSA-S16 LATEST EDITION.
2. STEEL STRENGTHS SHALL BE AS FOLLOWS:
- STRUCTURAL STEEL GRADE G40.20-13/G40.21-13 350W, Fy = 345 MPa FOR W SHAPES
- STRUCTURAL STEEL GRADE G40.20-13/G40.21-13 300W, Fy = 300 MPa FOR OTHER THAN W SHAPES
- HSS GRADE G40.20-13/G40.21-13 350W, CLASS C, Fy = 350 MPa
- BOLTS A325/A325M (U/N); ANCHOR BOLTS A307/A307M (U/N)
3. ALL SHOP CONNECTIONS SHALL BE WELDED. ALL FIELD CONNECTIONS SHALL BE WELDED OR BOLTED, USING HIGH TENSILE BOLTS BEARING TYPE. CONNECTION SHALL BE C.I.S.C. DOUBLE ANGLE BEAM CONNECTIONS FOR A325 BOLTS AND E490XX FILLET WELDS. MINIMUM SIZE OF BOLTS - 3/4" (20 mm) DIA.
4. SHOP PAINT:
ONE COAT PRIMER CONFORMING TO CPMA 2-75A, GREY COLOUR. UNLESS NOTED OTHERWISE
5. USE C150x12 FRAMES + CLOSURE 'L' FOR OPENINGS, SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR QUANTITY, DIMENSIONS AND LOCATIONS (OPENINGS ARE PARTIALLY SHOWN ON STRUCTURAL DWGS).
6. THE STEEL FABRICATOR SHALL CHECK AND CONFIRM ALL DIMENSIONS AND ELEVATIONS AGAINST THE ARCHITECTURAL DRAWINGS. SUBMIT ALL DISCREPANCIES TO THE ENGINEER FOR RESOLUTION PRIOR TO FABRICATION.
7. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STEEL STRUCTURE UNTIL COMPLETE.
8. JOISTS BEING SUPPORTED ON THE SAME BEAM (FACE TO FACE), SHALL BE STAGGERED IF NECESSARY, TO PROVIDE THE MINIMAL SUPPORT LENGTH SPECIFIED BY THE JOISTS MANUFACTURER.
9. REFER TO MECHANICAL-ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR LOCATION, QUANTITY AND WEIGHT OF MECHANICAL UNITS.
10. STEEL FABRICATOR SHALL CALCULATE ALL ROOF SLOPES. CALCULATE AND PROVIDE EACH BEAM'S ELEVATION WITH SHOP DRAWINGS FOR ENGINEER'S REVIEW.
11. PROVIDE ADDITIONAL REINFORCING (AS REQUIRED) TO STEEL STRUCTURE AT ROOF ANCHORS LOCATION, REFER TO ARCHITECTURAL DRAWINGS FOR QUANTITY AND LOCATION. CONTRACTOR SHALL PROVIDE DRAWINGS UNDER SEAL.
12. ALL SHELF ANGLES AND HANGERS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH CAN/CSA-G164 LATEST EDITION.
13. WELDING
ALL WELDING WORKS SHALL BE CONFORM TO CAN/CSA-S-16 LATEST EDITION. WELDERS SHALL BE CONFORM TO CSA STANDARDS W47.1, W55.3 AND W59 LATEST EDITION. CONTRACTOR AND WELDERS SHALL BE MEMBERS OF THE CANADIAN WELDING BUREAU (C.W.B.).
14. GALVANIZATION
GALVANIZATION SHALL BE HOT DIPPED GALVANIZED, IN CONFORMITY WITH CSA-G164 STANDARD. MINIMUM WEIGHT OF COAT SHALL BE 600 g/m2 . TOUCH-UP SHALL BE EXECUTED WITH "GALVANO SPRAY" BY "METAFLUX". OR APPROVED EQUIVALENT.
15. MASONRY SUPPORT PROVIDE 50x300x50x3.2mm @400c/c VERT. ANCHOR PLATES WELDED TO COLUMNS WHERE MASONRY WALLS BUTT AGAINST THESE. PROVIDE BRACKETS FOR MASONRY WALL LATERAL SUPPORT, REFER TO TYPICAL DETAILS. PROVIDE WELDED DOWELS ON STEEL STRUCTURE FOR MASONRY WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR QUANTITY AND LOCATION.
16. THE CONTRACTOR SHALL SUBMIT FOR REVIEW SHOP DRAWINGS AND DESIGN CALCULATIONS. DRAWINGS SHALL BE STAMPED BY A ONTARIO CERTIFIED ENGINEER.
17. INSPECTION OF ALL STRUCTURAL STEEL CONNECTIONS SHALL BE PERFORMED BY A THIRD PARTY INSPECTOR DESIGNATED AND PAID BY THE OWNER. STEEL INSPECTOR SHALL BE QUALIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF CSA STANDARD W178 "QUALIFICATION CODE FOR WELDING INSPECTION ORGANIZATIONS", AND APPROVED BY THE CANADIAN WELDING BUREAU. INSPECTOR TO BE LEVEL II OR III.
18. DESIGN, DETAIL AND FABRICATE ALL CONNECTIONS IN A QUALITY CONTROLLED SHOP TO CISC HANDBOOK OF STEEL CONSTRUCTION. UNLESS OTHERWISE INDICATED ON THE DRAWINGS CONNECTIONS ARE TO BE DESIGNED FOR 50% OF THE FACTORED SHEAR CAPACITY OF THE MEMBER, WITH A MINIMUM CONNECTION OF TWO BOLTS.
19. ALL EXPOSED STEEL (AESS) IS TO BE PROTECTED FROM THE ELEMENTS. REFER TO THE ARCHITECTURAL SPECIFICATIONS
20. WEEP HOLES SHALL BE PROVIDED FOR ALL HSS COLUMNS AND BEAMS USED IN UNCONTROLLED ENVIRONMENTS.
21. TOP OF HSS COLUMNS SHALL BE COVERED BY A WELDED COVER PLATE TO PREVENT MOISTURE INSIDE COLUMNS.

WIND LOADS

P = Iw q(1:50) Ce Cp Cg

where; q 1:50 = 0.41 kPa / q 1:10 = 0.32 kPa
Iw = 1.0
Ce: (ROUGH TERRAIN) Ce=0.7 ~ 0.97
N-S Cp Cg = 1.30 (avg) / 1.95 (max)
E-W Cp Cg = 1.30 (avg) / 1.95 (max)

(N-S)		(E-W)	
Vbase	178 kN	Vbase	206 kN
Mbase	736 kNm	Mbase	1218 kNm

SNOW LOADS

PROJECT CITY
(OTTAWA, ON)

S = Is [Ss (Cb Cw Cs Ca) + Sr]

where: Ss = 2.4 kPa Sr = 0.4 kPa
Is = 1.0
Cb = 0.8, Cw = 1.0, Cs = 1.0
Ca = 1.0 (EXCEPT FOR SNOW DRIFTING - SEE PLANS)

Smax = 2.32 kPa + DRIFTING (SEE PLANS)

LATERAL EARTH PRESSURE

1. SOIL STATIC PRESSURE
$P_A = \gamma \times H \times K_o$ (H)
2. SOIL DYNAMIC P.
$\Delta P_{AE} = \gamma \times H \times \Delta K_{AE}$ (H)
3. COMPACTION
P = 12 KPa (12 KPa, H' = 2m)
γ = 22 kN/m³
K_h = 0.5 PGA = 0.108
Kv = 0.0 PGA = 0.0
ΔK_{AE} = 3/4 Kn = 0.081
Ko = 0.41
Kp = 3.85
Ø = 36°
u = 0.50

SEISMIC LOADS

SEISMIC FORCE RESISTING SYSTEM (SFRS)

SFRS: SYSTEM & CONNECTIONS: (2012 OBC CLAUSE 4.1.8.9/4.1.8.10)
LATERAL LOAD RESISTING SYSTEM:
CONVENTIONAL CONSTRUCTION (MOMENT RESISTING FRAMES & BRACED FRAMES)
Rd = 1.5
Ro = 1.3
CSA STANDARD: CAN/CSA-S16-14 & A23.3-14
APPLICABLE CLAUSE(S): 26.1 & 27.11

SFRS: DIAPHRAGMS & CONNECTIONS: (2012 OBC CLAUSE 4.1.8.15)
CSA STANDARD: CAN/CSA-S16-14

SFRS: SYSTEM FOUNDATIONS: (2012 OBC CLAUSE 4.1.8.16)
CSA STANDARD: CAN/CSA A23.3-04
APPLICABLE CLAUSE(S): 15.2 TO 15.12

☒ FOR ANCHORED FOOTINGS
☒ FOR UNANCHORED FOOTINGS

CONFIRMATION:
FOUNDATIONS HAVE BEEN DESIGNED TO RESIST THE LATERAL LOAD CAPACITY OF SFRS, INCLUDING ALL APPLICABLE AMPLIFICATION FACTORS.

IMPORTANCE FACTOR
(2012 OBC CLAUSE 4.1.8.5)
I_E = 1.0

PROJECT CITY
OTTAWA

SITE CLASS
THE NOTED SITE CLASSIFICATION FOR SEISMIC SITE RESPONSE AND SHEAR WAVE VELOCITY PARAMETERS INDICATED ARE AS REPORTED IN THE GEOTECHNICAL REPORT

☐ A ☒ B ☐ C ☐ D ☐ E ☐ F (SITE SPECIFIC SPECTRUM:)

HORIZONTAL SHEAR WAVE VELOCITY: N/A

PGA	PGV
0.141	0.074

RESPONSE SPECTRUM DATA
☐ PERFORMED
☒ NOT PERFORMED

5% DAMPED SPECTRAL RESPONSE ACCELERATION VALUES

Sa(0.2)	= 0.196
Sa(0.5)	= 0.090
Sa(1.0)	= 0.043
Sa(2.0)	= 0.021
Sa(5.0)	= 0.005
Sa(10.0)	= 0.002

DESIGN SPECTRAL RESPONSE ACCELERATION VALUES (DSRAV)

F(0.2)	= 0.77	Sa(0.2)	= 0.15
F(0.5)	= 0.65	Sa(0.5)	= 0.06
F(1.0)	= 0.63	Sa(1.0)	= 0.03
F(2.0)	= 0.63	Sa(2.0)	= 0.01
F(5.0)	= 0.64	Sa(4.0)	= 0.01
F(10.0)	= 0.69	Sa(5.0)	= 0.00
		Sa(10.0)	= 0.00

STRUCTURAL SEPARATION
☐ THE NEW & EXISTING STRUCTURAL HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14 (1) OF THE 2012 OBC.
☒ N/A

SYSTEM RESTRICTION VALUE
IoFaSa(0.2)=0.728 ≥ 0.35 ☒ YES ☐ NO

STATIC PERIOD DATA
(2012 OBC CLAUSE 4.1.8.11(3))

☐ STEEL MOMENT FRAME: $T_{(a)STATIC}$ = 0.085 (hn) ¾ = 0.00 sec; $T_{(a)MAX}$ = 1.5 $T_{(a)STATIC}$ = 0.00 sec
☐ CONCRETE MOMENT FRAME: $T_{(a)STATIC}$ = 0.075 (hn) ¾ = 0.00 sec; $T_{(a)MAX}$ = 1.5 $T_{(a)STATIC}$ = 0.00 sec
☐ OTHER MOMENT FRAMES: $T_{(a)STATIC}$ = 0.1N = 0.00 sec; $T_{(a)MAX}$ = 1.5 $T_{(a)STATIC}$ = 0.00 sec
☒ BRACED FRAMES: $T_{(a)STATIC}$ = 0.025hn = 0.28 sec; $T_{(a)MAX}$ = 2.0 $T_{(a)STATIC}$ = 0.58 sec
☐ SHEAR WALL AND OTHER STRUCTURES: $T_{(a)STATIC}$ = 0.05(hn) ¾ = 0.00 sec; $T_{(a)MAX}$ = 2.0 $T_{(a)STATIC}$ = 0.00 sec

HIGHER MODE FACTOR
(2012 OBC CLAUSE 4.1.8.11(5))
Mv =1.0 J = 1.0

FUNDAMENTAL PERIOD BASED DSRAV:
STATIC: $S(Ta)_{NS}$ = 0.28
$S(Ta)_{EW}$ = 0.28

STRUCTURAL CONFIGURATION
(2012 OBC CLAUSE 4.1.8.11(9))
TORSIONAL SENSITIVITY: Bmax = 1.16 < 1.7

IRREGULARITY REVIEW
(2012 OBC CLAUSE 4.1.8.6)

1. VERTICAL STIFFNESS:	☐ YES	NO ☒
2. WEIGHT:	☐ YES	NO ☒
3. VERTICAL GEOMETRIC:	☐ YES	NO ☒
4. IN PLANE DISCONTINUITY:	☐ YES	NO ☒
5. OUT OF PLANE:	☐ YES	NO ☒
6. WEAK STOREY:	☐ YES	NO ☒
7. TORSIONAL:	☐ YES	NO ☒
8. NON-ORTHOGONAL:	☐ YES	NO ☒

CONCLUSION: BUILDING IS ☒ REGULAR ☐ IRREGULAR
DYNAMIC ANALYSIS: ☐ REQUIRED ☒ NOT REQUIRED
DYNAMIC PROCEDURE: METHOD: ☐ MODAL RESPONSE SPECTRUM ☐ NUMERICAL INTEGRATION TIME HISTORY ☒ N/A

ANALYSIS METHOD
☒ EQUIV. STATIC
☐ DYNAMIC

TORSIONAL ECCENTRICITY
☒ ± 0.10 Dnx (4.1.8.11(10a), ≤ B 1.7 EQUIV. STATIC FORCE PROCEDURE
☐ ± 0.10 Dnx (4.1.8.12(4a), ≥ B 1.7 (DYNAMIC ANALYSIS)
☐ ± 0.05 Dnx (4.1.8.12(4b), < B 1.7 (DYNAMIC ANALYSIS)

STATIC BASE SHEARS/MOMENTS
(2012 OBC CLAUSE 4.1.8.11)
W = 3948 kN (IN EACH DIRECTION) 03
$V_{MIN} = S(2.0)M_V I_E W/(R_d R_o)$ = 27 kN
$V = S(T_a)M_V I_E W/(R_d R_o)$ = 567 kN
$V_{MAX} = \frac{2}{3} S(0.2) I_E W/(R_d R_o)$ = 202 kN
Vdesign = 202 kN
Mbase = 1544 kN-m

O-Train STAGE ETAPE 2 | Ottawa

STRUCTURAL
CORSO ITALIA STATION

GENERAL NOTES

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-0003

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

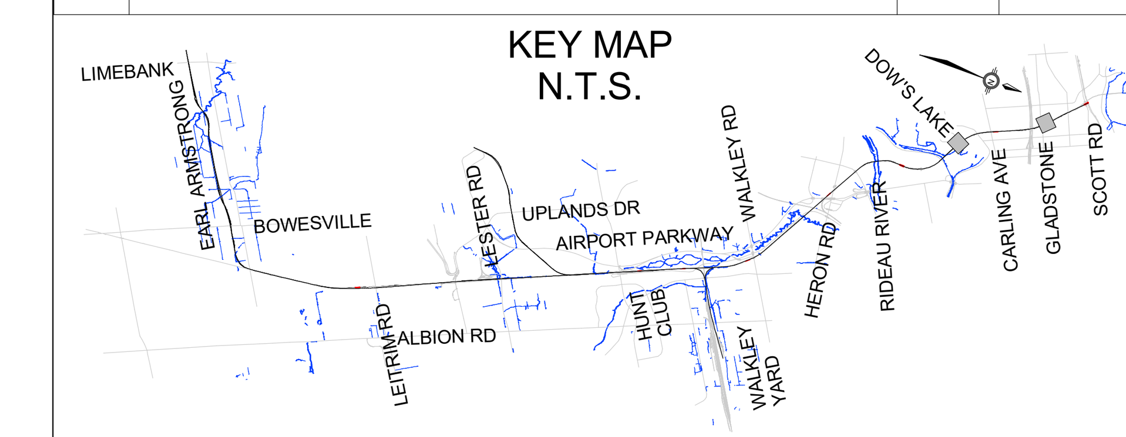
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

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TITLEBLOCK: 790mm x 534mm

GENERAL

STEEL : Fy = 400 MPa

BAR	TENSION	COMPRESSION
10M	450mm	300mm
15M	700mm	450mm
20M	1000mm	600mm
25M	1500mm	750mm
30M	1800mm	900mm
35M	2100mm	1050mm

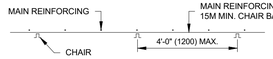
MINIMUM REINFORCEMENT SPLICE

OPENING	BRICK ANGLE SIZE
UP TO 1200mm	L90x90x6
1201-1500mm	L90x90x8
1501-2100mm	L100x90x8
2101-2400mm	L125x90x8
2401-2700mm	L125x90x10
2701-3610mm	L150x100x10

LOOSE LINTEL SCHEDULE FOR BRICK

BAR LENGTH	NO. OF CHAIRS
8'-0" (2400) OR LESS	3
8'-0" (2400) TO 12'-0" (3600)	4
12'-0" (3600) TO 16'-0" (4800)	5
CHAIRS AT 4'-0" (1200) o/c. MAX.	

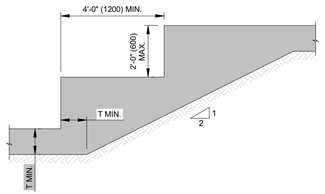
TOP STEEL ; GALVANIZED OR PLASTIC COVERED CHAIRS



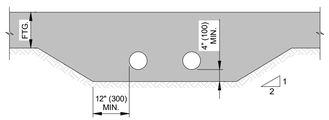
B: BOTTOM STEEL : PLASTIC BOLSTERS SLABS
BOLSTERS @ 48" (1200) c/c MAX. 2-DIR.
BEAMS : BOLSTERS @ 36" (900) c/c MAX.

TYP. REINFORCING CHAIR SCHEDULE

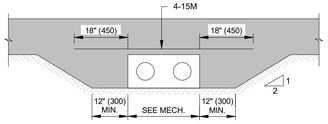
FOOTINGS



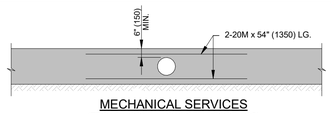
STEP FOOTINGS



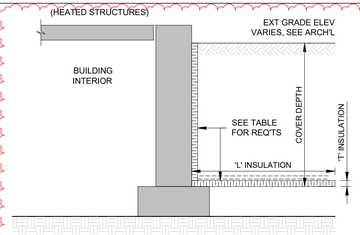
MECHANICAL SERVICES
(UNDER FOOTINGS)



MECHANICAL SERVICES TRENCH
(UNDER FOOTINGS)



MECHANICAL SERVICES
(TROUGH CONTINUOUS STRIP FOOTINGS)



TYPICAL EXTERIOR FOOTING INSULATION DETAIL

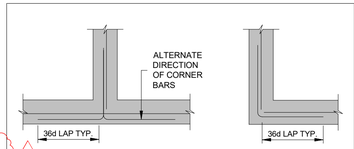
CONFIRM WITH GEOTECHNICAL ENGINEER

COVER DEPTH (mm)	INSULATION DIMENSIONS	
	L insulation (mm)	T insulation (mm)
LESS THAN 24" (600)	NOT RECOMMENDED	
24" (600) TO 30" (750)	72" (1800)	2" (50)
30" (750) TO 36" (900)	48" (1200)	2" (50)
36" (900) TO 48" (1200)	48" (1200)	1 1/2" (38)
48" (1200) TO 60" (1500)	36" (900)	1" (25)
GREATER THAN 60" (1500)	NOT REQUIRED	

NOTES:

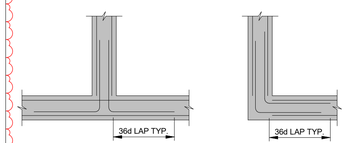
1. CONSULT GEOTECHNICAL ENGINEER FOR THERMAL RESISTANCE VALUES OF ACCEPTABLE INSULATION TYPES.
2. INSULATION REQUIRED DOWN OUTSIDE FACE OF FOUNDATION WALL AND OUTWARD FROM WALL AS SHOWN.
3. ALL EXTERIOR FOOTINGS ARE TO FOLLOW THESE REQUIREMENTS UNLESS DIRECTED OTHERWISE BY GEOTECHNICAL ENGINEER.
4. FOR UNHEATED STRUCTURES, WHERE 1.8M DEEP SOIL COVER CAN NOT BE ENSURED, INSULATION TO BE PROVIDED CONSIDERING 25mm OF INSULATION IS EQUIVALENT TO 300mm OF SOIL.

WALLS



02

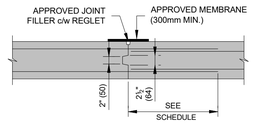
TYPICAL SINGLE LAYER REINFORCED WALL



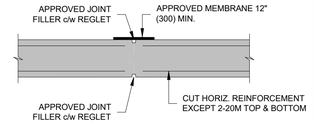
TYPICAL DOUBLE LAYER REINFORCED WALL

SEE PLANS AND SECTIONS FOR SIZE & REINF OF WALLS

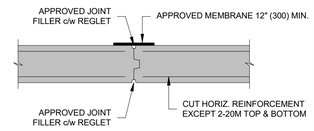
TYP FDN WALL INTERSECTION REINF'G



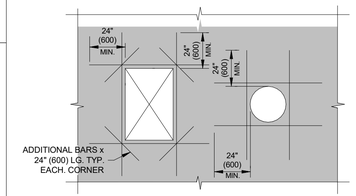
CONSTRUCTION JOINTS
(STANDARD WALLS)



CONTROL JOINTS
(STANDARD WALLS)



EXPANSION JOINTS
(STANDARD WALLS)

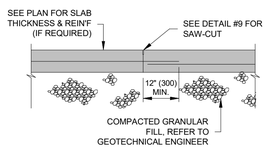


REINFORCING

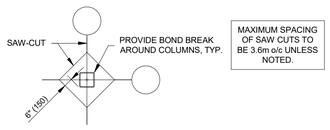
6"-8" (150-200) WALLS : 1-20M ON ONE FACE ALL AROUND OPENING U.N.O.
10" (250) & + WALLS : 1-20M EACH FACE ALL AROUND OPENING U.N.O.

HOLES IN FOUNDATION WALLS

SLAB-ON-GRADE

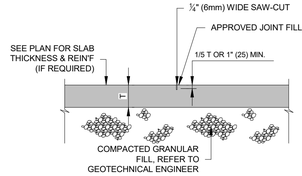


SLAB-ON-GRADE JOINT
(SLAB-ON-GRADE)



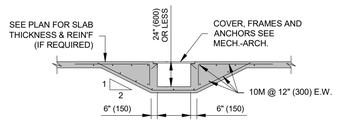
MAXIMUM SPACING OF SAW CUTS TO BE 3.6m o/c UNLESS NOTED.

SAW-CUT AT COLUMNS

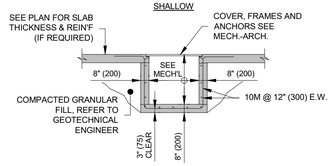


SAW-CUT DETAIL

TRENCHES / PITS

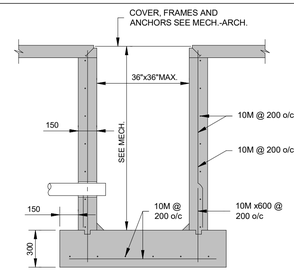


SHALLOW



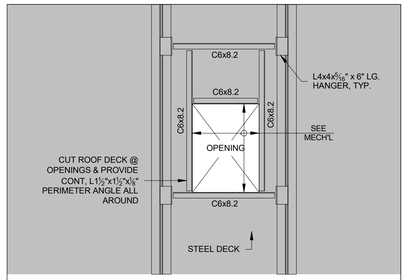
DEEP

TRENCHES

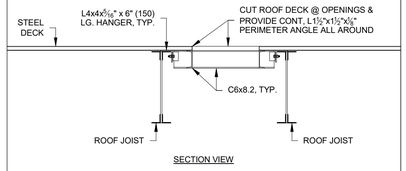


CATCH BASIN, SUMP PIT & OIL INTERCEPTOR

STEEL

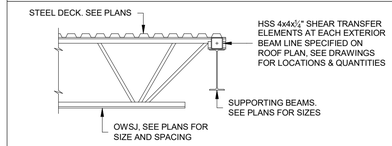


PLAN VIEW



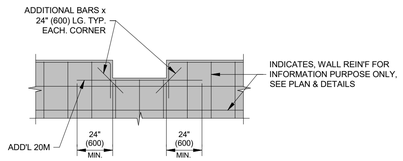
SECTION VIEW

TYP. FRAMING DETAIL - ROOF DECK OPENING



TYPICAL SHEAR TRANSFER ELEMENT DETAIL FOR STEEL DECK

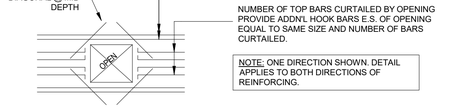
FOUNDATION WALL POCKETS



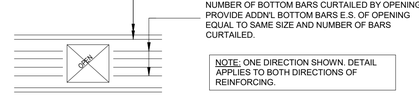
REINFORCING

6"-8" (150-200) WALLS : 1-20M ON ONE FACE ALL AROUND OPENING U.N.O.
10" (250) & + WALLS : 1-20M EACH FACE ALL AROUND OPENING U.N.O.

ADD'L WALL REINFORCING @ DOOR CHECK DOWN AND PIER POCKETS



TYPICAL TOP REINFORCING DETAIL FOR SLAB OPENINGS



TYPICAL BOTTOM REINFORCING DETAIL FOR SLAB OPENINGS

OTrain STAGE 2 ETAPE

Ottawa

STRUCTURAL
CORSO ITALIA STATION

TYPICAL DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-0004

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-03-29
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

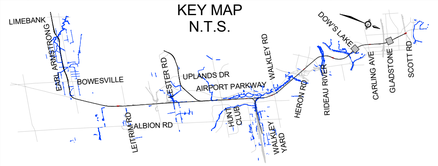
SCALE
N.T.S.

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

30/08/2021 13:50:05

MASONRY NOTES

1. ALL MASONRY WORK SHALL CONFORM TO LATEST EDITION OF THE O.B.C. AND S304, A370 & A371 LATEST EDITION.
2. BLOCK STRENGTH:
   USE H/15/A/M UNITS CONFORMING TO CSA A165.1 LATEST EDITION AS SPECIFIED IN CSA A179.
3. GROUT:
   USE 15 MPa MIX TO GROUT IN REINFORCED BLOCK CORES. USE 10mm Ø AGGREGATE AND A SLUMP OF 10" (250mm)
4. MORTAR:
   USE TYPE 'S' MORTAR AS SPECIFIED IN CSA A179.
5. HORIZONTAL REINFORCEMENT:
   USE HOT DIP GALVANIZED TRUSS TYPE REINFORCING, LAP 14" (350mm). REFER TO MASONRY WALL REINFORCING SCHEDULE & DETAILS ON DRAWING S2
6. ADD HORIZONTAL BOND BEAM AT EACH FLOOR AND ROOF LEVEL. REINFORCED WITH 1-15M CONT.
7. VERTICAL REINFORCEMENT:
   SEE SCHEDULE. USE 36 REBAR DIAMETER SPLICE LENGTH. PLACE ADDITIONAL 2-20M VERTICAL BARS AT ALL ENDS, CORNERS AND ON EACH SIDE OF ALL OPENINGS.
8. PROVIDE DOWELS FROM FOUNDATION WALL, SLAB THICKENING OR WELDED ON SUPPORTING STEEL STRUCTURE INTO MASONRY WALLS ABOVE. DOWELS TO MATCH MASONRY WALL REINF IN SIZE & SPACING. SEE ARCHITECTURE FOR QUANTITY AND LOCATIONS OF MASONRY WALLS.
9. ALL REINFORCED CORES SHALL BE COMPLETELY FILLED WITH GROUT (SEE NOTE 3).
10. GROUT THE CORES OF ALL BLOCKS LOCATED BELOW BEARING PLATES FOR TWO BLOCKS HIGH AND ONE BLOCK WIDER THAN BEARING PLATE ON E.S. EXCEPT WHERE THERE IS A CONTINUOUS LINTEL.
11. COORDINATE REINFORCING STEEL IN BLOCK WALLS WITH MECHANICAL AND ELECTRICAL CONDUITS/SERVICES. CONDUITS/SERVICES SHALL NOT BE LOCATED WITHIN REINFORCED CORES.
12. ALL MASONRY WORK SHALL BE LATERALLY SUPPORTED AND TIED TO THE STRUCTURE ABOVE, SEE TYPICAL DETAILS.
13. REFER TO STEEL STRUCTURE DRAWINGS & PILASTER SCHEDULE FOR BEAM BEARING PLATE LOCATIONS.
14. CONTRACTOR SHALL COORDINATE AND REFER TO ARCHITECTURAL AND MECHANICAL-ELECTRICAL DRAWINGS FOR ALL OTHER DETAILS NECESSARY.
15. PRIOR TO CONSTRUCTION, PREPARE AND SUBMIT SHOP DRAWINGS FOR REINFORCEMENT IN MASONRY WALLS & LINTELS. INDICATE ALL BAR DIAMETERS, LENGTH, LOCATIONS, DOWELS, CORNER DETAILS, ANCHOR PLATES, ETC. .
16. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL OPENINGS IN MASONRY WALLS.

MASONRY WALL REINFORCING SCHEDULE FOR SITES WITH SEISMIC HAZARD INDEX

0.35 < Ie x Fa x Sa (0.20) < 0.75

UNLESS NOTED OTHERWISE ON PLAN, ALL MASONRY WALLS SHALL BE REINFORCED AS FOLLOWS:

MASONRY WALL REINFORCING SCHEDULE
NON-LOAD BEARING WALLS: (INCLUDES INFILL WALLS)

WALL SIZE	HORIZONTAL REINF.	VERTICAL REINF.
4" (90mm)	N/A	N/A
6" (140mm)	STANDARD BLOCK-TRUSS (9GA.) @ 16" (400) o/c	1-15M @ 48" o/c + DWLS, SEE NOTES
8" (190mm)	STANDARD BLOCK-TRUSS (9GA.) @ 16" (400) o/c	1-20M @ 48" o/c + DWLS, SEE NOTES
10" (240mm)	HEAVY DUTY BLOCK-TRUSS (6GA.) @ 16" (400) o/c	1-20M @ 48" o/c + DWLS, SEE NOTES
12" (290mm)	HEAVY DUTY BLOCK-TRUSS (6GA.) @ 16" (400) o/c	2-15M @ 48" o/c + DWLS, SEE NOTES

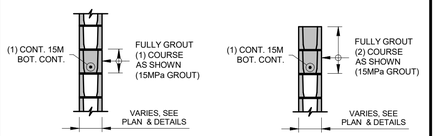
MASONRY WALL REINFORCING SCHEDULE
LOAD BEARING WALLS: (INCLUDES ELEVATOR SHAFTS & STAIRCASES)

WALL SIZE	HORIZONTAL REINF.	VERTICAL REINF.
4" (90mm)	N/A	N/A
6" (140mm)	HEAVY DUTY BLOCK-TRUSS (6GA.) @ 16" (400) o/c	1-15M @ 32" o/c + DWLS, SEE NOTES
8" (190mm)	HEAVY DUTY BLOCK-TRUSS (6GA.) @ 16" (400) o/c	1-20M @ 32" o/c + DWLS, SEE NOTES
10" (240mm)	HEAVY DUTY BLOCK-TRUSS (6GA.) @ 16" (400) o/c	2-15M @ 32" o/c + DWLS, SEE NOTES
12" (290mm)	HEAVY DUTY BLOCK-TRUSS (6GA.) @ 16" (400) o/c	2-15M @ 32" o/c + DWLS, SEE NOTES

MASONRY PILASTER SCHEDULE
(EACH SIDE ALL OPENINGS, END OF ALL WALLS & @ ALL CORNERS, U.N.O. ON PLANS)

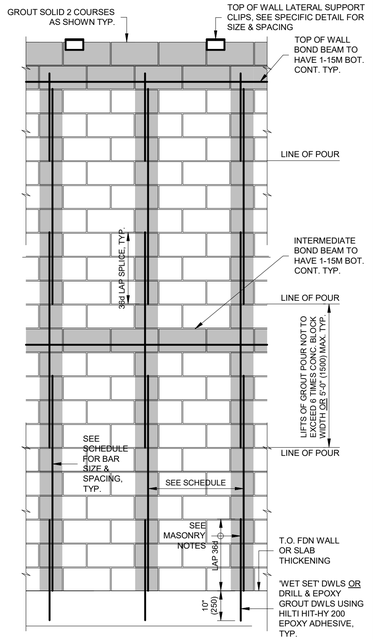
WALL SIZE	PILASTER	DETAIL
ALL WALLS	2 CELLS c/w 1-20M IN EACH CELL, FULLY GROUTED	SEE DETAILS ABOVE

MASONRY WALL REINFORCING SCHEDULES

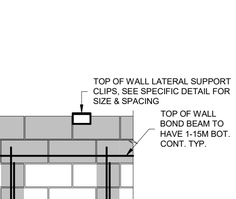


TYPICAL INTERMEDIATE BOND BEAM — TYPICAL BOND BEAM @ TOP OF WALL

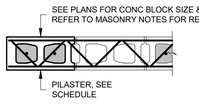
TYPICAL BOND BEAM DETAILS



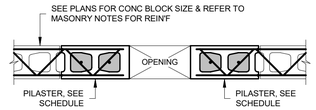
TYP. GROUT LIFT & BAR SPLICE DETAIL



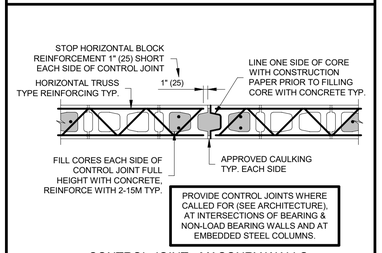
TYP. CORNER - MASONRY WALLS



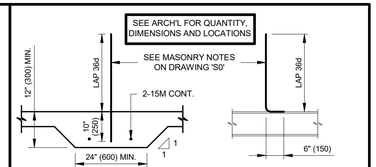
TYP. END - MASONRY WALLS



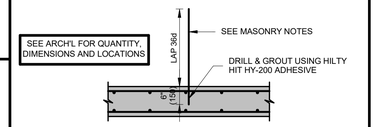
TYP. OPENING - MASONRY WALLS



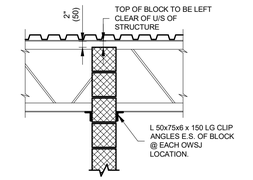
CONTROL JOINT - MASONRY WALLS



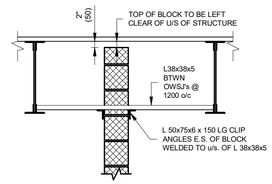
@ SLAB THICKENING (NON-LOAD BEARING MASONRY WALLS) — @ STEEL BEAM (NON-LOAD BEARING MASONRY WALLS)



@ SLAB SUSPENDED SLABS (NON-LOAD BEARING MASONRY WALLS)



WALL PERPENDICULAR TO OWSJ'S



WALL PARALLEL TO OWSJ'S

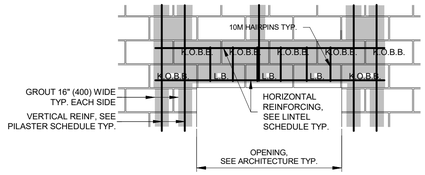
LATERAL SUPPORT FOR NON-LOAD BEARING PARTITIONS @ OWSJ'S

MASONRY LINTEL SCHEDULE

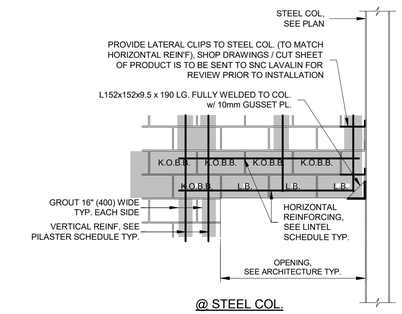
MARK	SIZE	REINFORCING DETAIL
SEE ARCH'L DRAWINGS FOR LOCATION OF OPENING	190/240 x 190 DP OPENINGS UP TO 1500mm	190 — 15 MPa CONCRETE; 1-15M BOTTOM CONTINUOUS
SEE ARCH'L DRAWINGS FOR LOCATION OF OPENING	190/240 x 390 DP OPENINGS 1501mm TO 2400mm	390 — 15 MPa CONCRETE; 1-15M BOTTOM CONTINUOUS
SEE ARCH'L DRAWINGS FOR LOCATION OF OPENING	190/240 x 390 DP OPENINGS 2401mm TO 3000mm	390 — 2-15M TOP CONTINUOUS; 15 MPa CONCRETE; 10M HAIR PINS @ 150mm o/c.; 2-15M BOTTOM CONTINUOUS

NOTES:
1. GROUT ALL LINTELS SOLID FOR DEPTH INDICATED, USE MIN. 15 MPa CONCRETE.
2. AT EACH END OF LINTEL (BEARING AREA) REINFORCE CORE AND GROUT SOLID. USE TYP. VERTICAL MASONRY REINFORCING FOR WALL THICKNESS.
3. ALL LINTELS TO HAVE MIN. 8" (200) BEARING AT EACH END.
4. ALL VERTICAL MASONRY REINFORCING TO PASS THRU ALL LINTELS U/N.

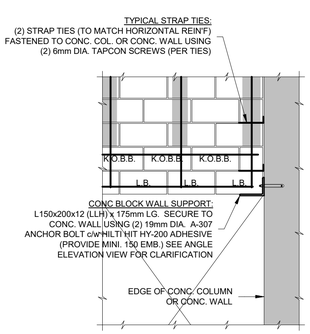
L.B. : LINTEL BLOCK
K.O.B.B. : KNOCK-OUT BOND BEAM



TYP.

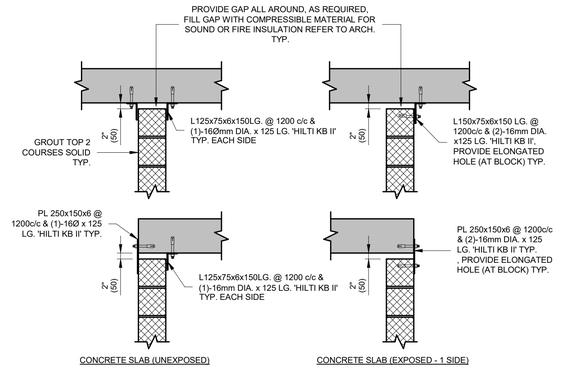


@ STEEL COL.



@ CONC WALL / CONC. COL.

MASONRY LINTEL SCHEDULES / DETAILS



CONCRETE SLAB (UNEXPOSED) — CONCRETE SLAB (EXPOSED - 1 SIDE)

SEE GENERAL NOTES FOR MASONRY REINFORCING

LATERAL SUPPORT FOR NON-LOAD BEARING PARTITIONS @ CONCRETE SLABS

OTrain STAGE 2 ETAPE 2 — Ottawa

STRUCTURAL
CORSO ITALIA STATION

MASONRY NOTES & DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER 660373-1GSS-003-43DD-0005

MODEL NUMBER 660373-1GSS-003-43DM-1000

DESIGN/BUILDER: SNC·LAVALIN TransitNEXT

DESIGN FIRM: SNC·LAVALIN

PRIMARY SEAL: LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-03-29 PROVINCE OF ONTARIO

SECONDARY SEAL (IF REQUIRED)

SCALE: N.T.S.

ASSET No.

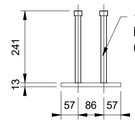
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29

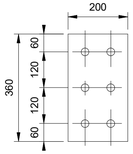
KEY MAP N.T.S.

ISSUED FOR CONSTRUCTION
2021-03-29

02
THE NEW REVISION NUMBER IS TO ACCOMMODATE THE IFC STAMP

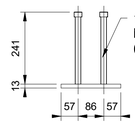


PLAN



ELEVATION

WMPL1
200x360x13mm THK.
w/ (6) 19mm DIA.
NELSON STUD



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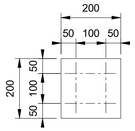
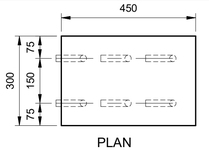


ELEVATION

WMPL2
200x200x13mm THK.
w/ (4) 19mm DIA.
NELSON STUD

TYPICAL BEAM MOUNT PLATE DETAILS



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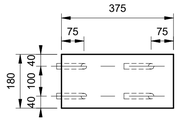

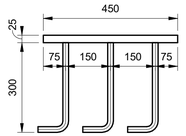

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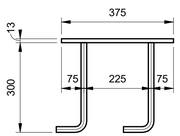
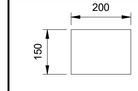
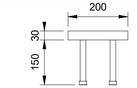
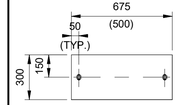
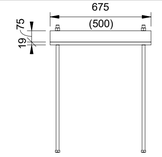
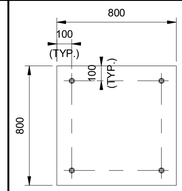
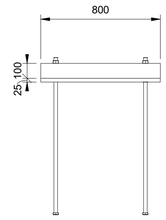


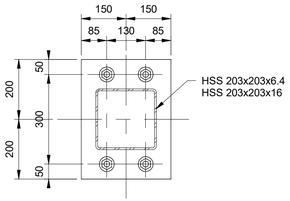
CP-1
300x450x25mm THK.
w/ (6) 22mm DIA.
WELDED J BOLTS

CP-2
180x375x13mm THK.
w/ (4) 19mm DIA.
WELDED J BOLTS

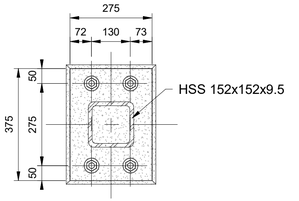
TYPICAL CAST-IN PLATE DETAILS

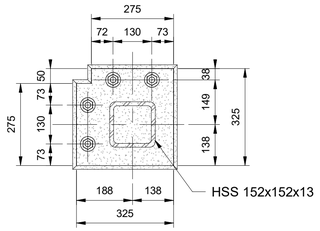
BEAM BEARING PLATE SCHEDULE

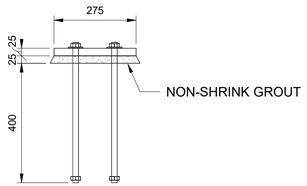
MARK	DESCRIPTION	PLAN	ELEVATION
BBPL1	GALV. PL. 30x150x200 w/ (2) 19mM DIA. GALV. NESON STUD		
BBPL2 BBPL4	GALV. STEEL PL. 75x300x675 (BBPL2) 75X300X500 (BBPL4), ELASTOMERIC BEARING PAD 19x300x675 UNDER, w/ (2) 38x22 SLOT HOLE. (2) 20M GALV. ROD, THREADED AT BOTH ENDS, 800mm LONG.		
BBPL3	GALV. STEEL PL. 100x800x800 w/ (4) 27mm DIA. HOLES, ELASTOMERIC BEARING PAD 25x800x800 UNDER w/ (4) 38x27 SLOT HOLES. (4) 25M GALV. ROD THREADED AT BOTH ENDS, 1000mm LONG.		



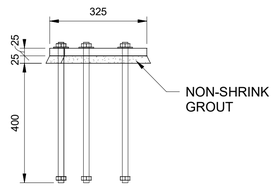
CBP-1
300x400x25mm THK.
w/ (4) 20mm DIA. BOLT c/w
NUT & WASHER







CBP-2
25mm THK. STEEL PLATE
w/ (4) 20mm DIA. BOLT c/w
NUTS & WASHER



CBP-3
25mm THK. STEEL PLATE
w/ (4) 20mm DIA. BOLT c/w
NUTS & WASHER

COLUMN BASE PLATE DETAIL

CONCRETE FLOOR SCHEDULE

MARK	THICKNESS	DESCRIPTION
FL-1	250	250 CONC. STRUCTURAL SLAB w/ 15M @ 300 o/c. T&B E.W.
FL-2	150	150 CONC. S.O.G. w/ 15M @ 300 o/c. E.W. MID DEPTH OVER COMPACTED GRANULAR BASE (REFER TO GEOTECHNICAL REPORT)
FL-4	550	2800x550 THK CONC. SLAB 25M@ 200 o/c TOP & BOT. E.W. c/w STD. HOOKS INTO WALL TO MATCH SLAB REINFORCING

FOUNDATION WALL SCHEDULE

MARK	WIDTH	REINFORCING
FDN-1	300	15M @ 250 o/c. E.F. E.W. TRANSV. BARS OUTER
FDN-2	300	25M @ 200 o/c E.F. E.W. VERT BARS OUTER
FDN-3	300	15M @ 300 o/c E.F. E.W. VERT BARS OUTER
FDN-4	500	25M @ 200 o/c E.F. E.W. VERT BARS OUTER
FDN-5	900	25M @ 200 E.F. E.W.
FDN-6	300	15M @ 200 o/c VERT BARS OUTER
FDN-7	350	15M @ 300 o/c E.F. E.W. VERT BARS OUTER
FDN-8	200	25M @ 200 o/c E.F. E.W. VERT BARS OUTER

WALL FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCING
WF-1	1000	350	4-15M TLL & BUL. CONT. LONGITUDINAL 15M TUL & BLL TRANSV. @ 300 o/c.
WF-2	900	300	6-15M BUL. CONT. LONGITUDINAL 15M BLL TRANSV. @ 300 o/c.
WF-3	1500	500	6-15M TLL & BUL CONT. LONGITUDINAL 15M TUL @ 200 o/c TRANSV. 20M BLL @ 200 o/c TRANSV.
WF-4	1700	500	6-15M TLL & BUL CONT. LONGITUDINAL 15M TUL @ 200 o/c TRANSV. 20M BLL @ 200 o/c TRANSV.
WF-5	1350	350	4-15M TLL & BUL. CONT. LONGIYUDINAL 15M TUL & BLL TRANSV. @ 300 o/c.

STEEL COLUMN SCHEDULE

MARK	DESCRIPTION
C1	HS203x203x6.4
C2	HS152x152x9.5
C3	HS203X203X13
C4	HSS254X254X15.9
C5	HSS152X152X13
C6	HSS203x102x8

03

PAD FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICKNESS	REINFORCING
PF-1	(AS SHOWN IN PLAN)		300	6-15M BOT. E.W.
PF-2	2500	2500	300	15M @ 200 o/c BOT. E.W.
PF-3	4050	5840	892	20M @ 300 o/c TOP & BOT . E.W.
PF-4	4050	5805	900	20M @ 300 o/c TOP & BOT. E.W.
PF-5	10544	17638	500	6-15M TLL & BUL CONT. LONGITUDINAL 20M TUL @ 200 o/c TRANSV. 20M BLL @ 200 o/c TRANSV.

CONCRETE COLUMN SCHEDULE

MARK	SIZE	VERT. REIN'F	TIES
CC-1	1000 x 1000	24-25M VERT. DOWEL EVERY SECOND VERT. MIN. 1200mm INTO SOUND BEDROCK AT COLUMN BASE	15M TIES @ 400 O.C.

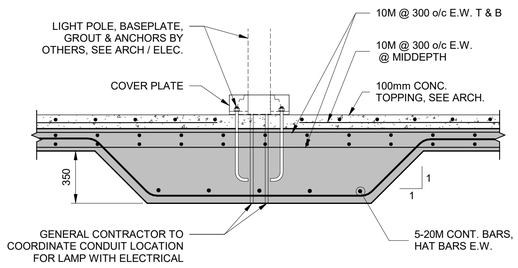
CONCRETE BEAM SCHEDULE

MARK	SIZE	REINFORCING
CB-1	300 x 900	3-35M TOP&BOT. CONT. 15M TIES @75 o/c. 5-15M FACE BARS EACH SIDE
CB-2	300 x 850	3-30M TOP & BOT. CONT. 15M TIES @ 75 o/c 2-15MFACE BARS EACH SIDE
CB-3	300 x1302	3-30M TOP&BOT CONT. 15M TIES @75 o/c. 6-15M FACE BARS EACH SIDE

03

CONCRETE PIER SCHEDULE

MARK	SIZE	VERT. REINF	TIES
P1	600 DIA.	8-25M VERT. FULL LENGTH	15M TIES @ 200 o/c. & 3 ADD'L TIES @ 75mm O/C TOP



TYPICAL LIGHT POLE BASE DETAIL

1 : 20

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SCHEDULES AND DETAILS

CONTRACT No. LRT19-1025

DESIGNED M. IRISH | CHECKED S. IBRAHIM

DRAWN J. PIDLAOAN | SEALED R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-0006

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

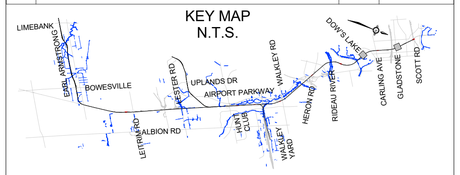
SCALE
N.T.S.

ASSET No.

ASSET GROUP

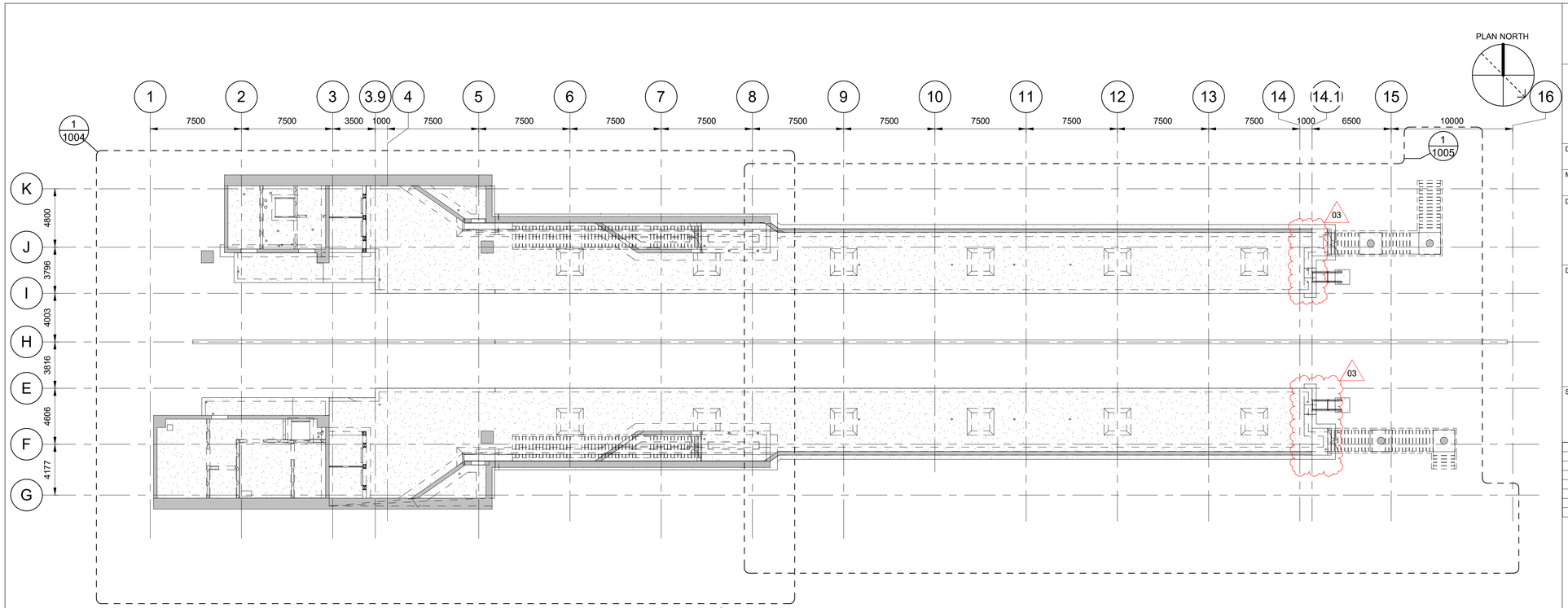
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



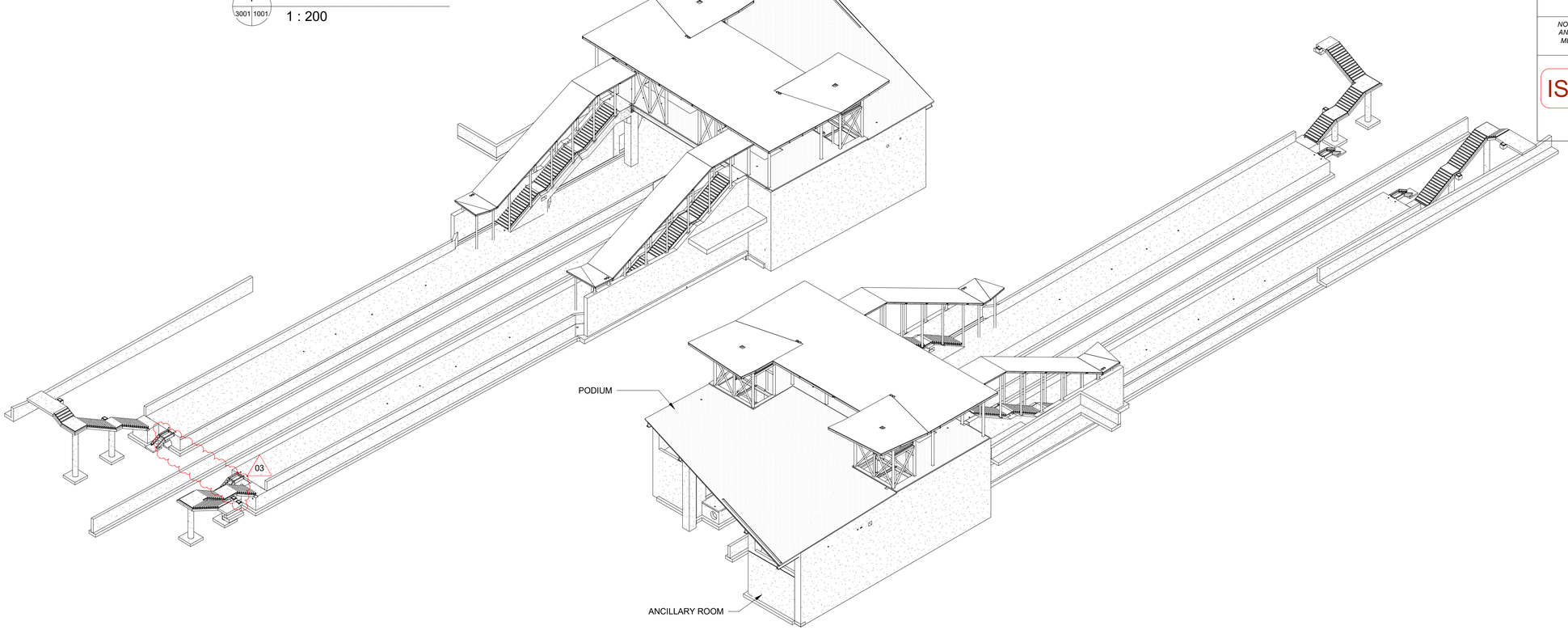
ISSUED FOR CONSTRUCTION

2021-07-30



1 3001 1001 OVERALL PLAN

1 : 200



OTrain STAGE 2 ETAPE

Ottawa

STRUCTURAL
CORSO ITALIA STATION

OVERALL PLAN

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1001

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
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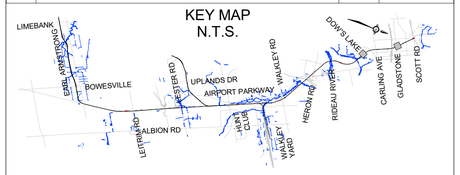
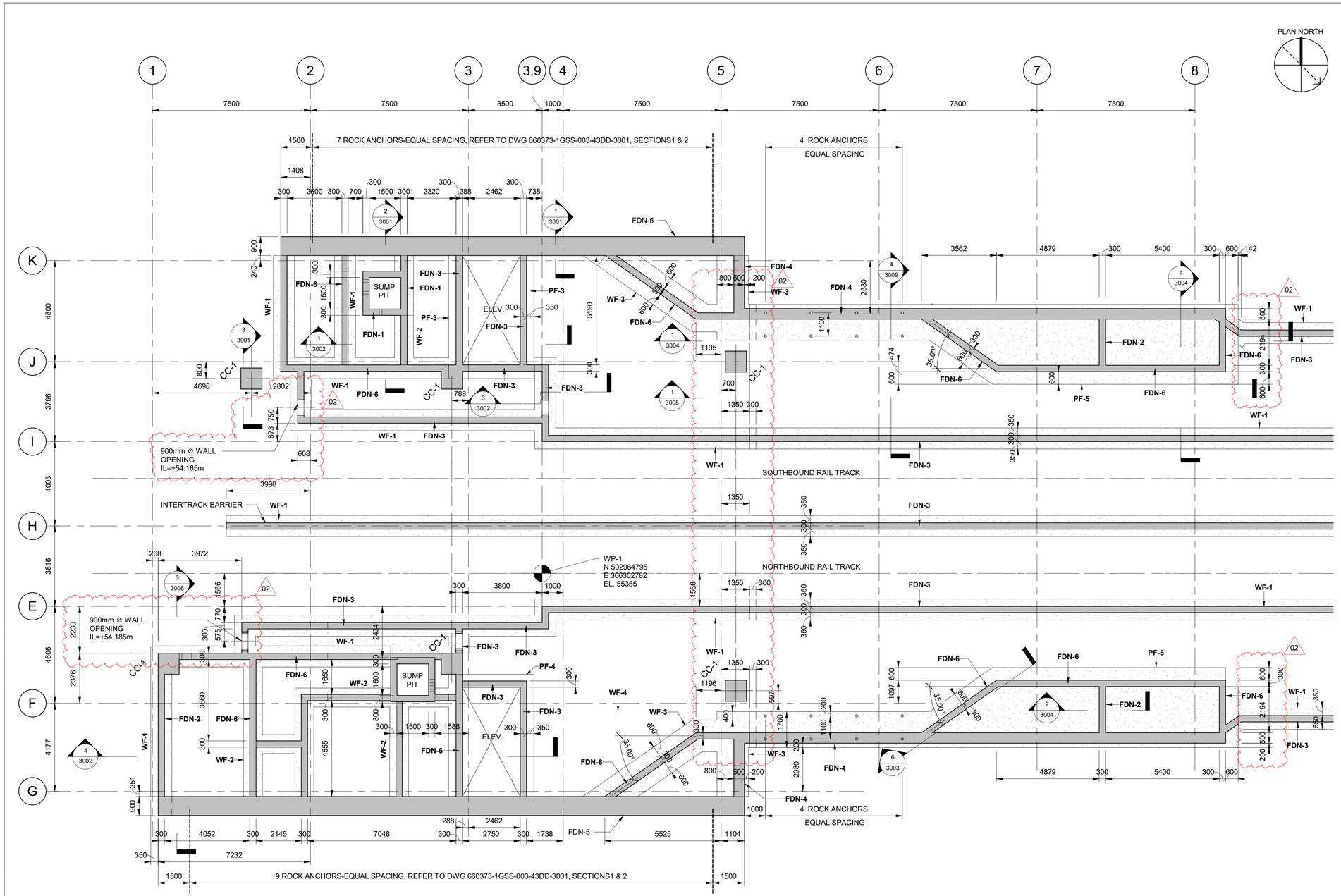
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30



1 SK-2 1002

FOUNDATION PLAN - SECTOR 1

1 : 100

REFER TO DRAWING 0006 FOR FOUNDATION WALL, WALL FOOTING AND PAD FOOTING SCHEDULES

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

FOUNDATION PLAN - SECTOR 1

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1002

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 10129504 2021-03-29 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

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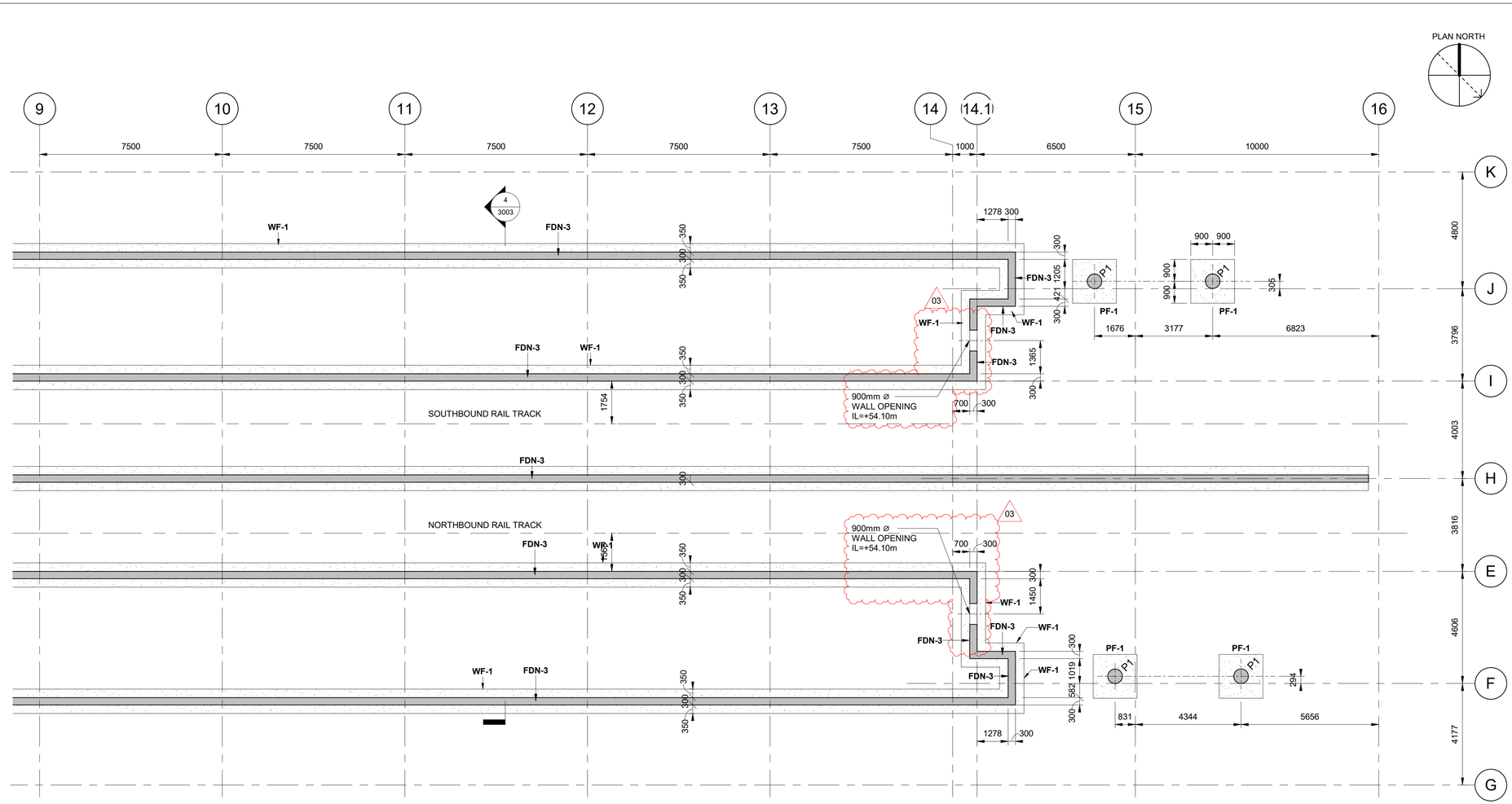
KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION

2021-03-29



FOUNDATION PLAN - SECTOR 2

1 : 100

REFER TO DRAWING 0006 FOR FOUNDATION WALL, WALL FOOTING AND PAD AND FOOTING SCHEDULES

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

FOUNDATION PLAN - SECTOR 2

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1003

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
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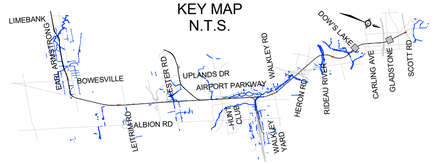
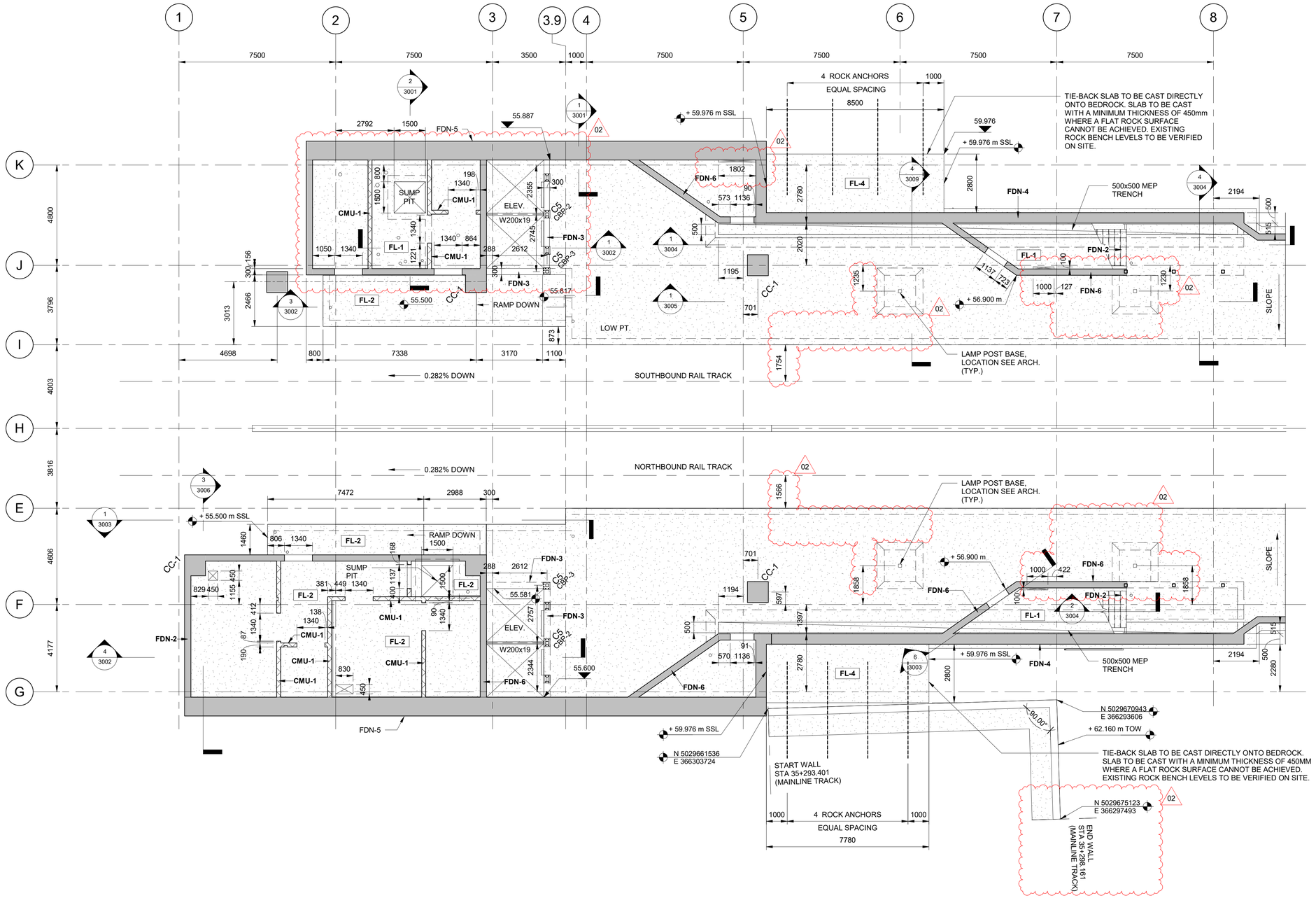
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30



PLATFORM PLAN - SECTION 1

1 / 1001 1004

1 : 100

REFER TO DRAWING 0006 FOR CONCRETE FLOOR SCHEDULE

STAGE 2 ETAPE 2

STRUCTURAL
CORSO ITALIA STATION

PLATFORM PLAN - SECTOR 1

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1004

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-03-29 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

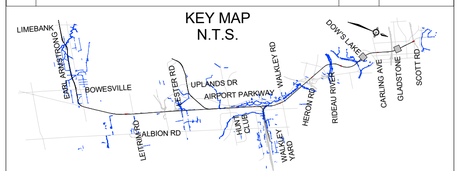
SCALE
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

TITLEBLOCK: 790mm x 534mm

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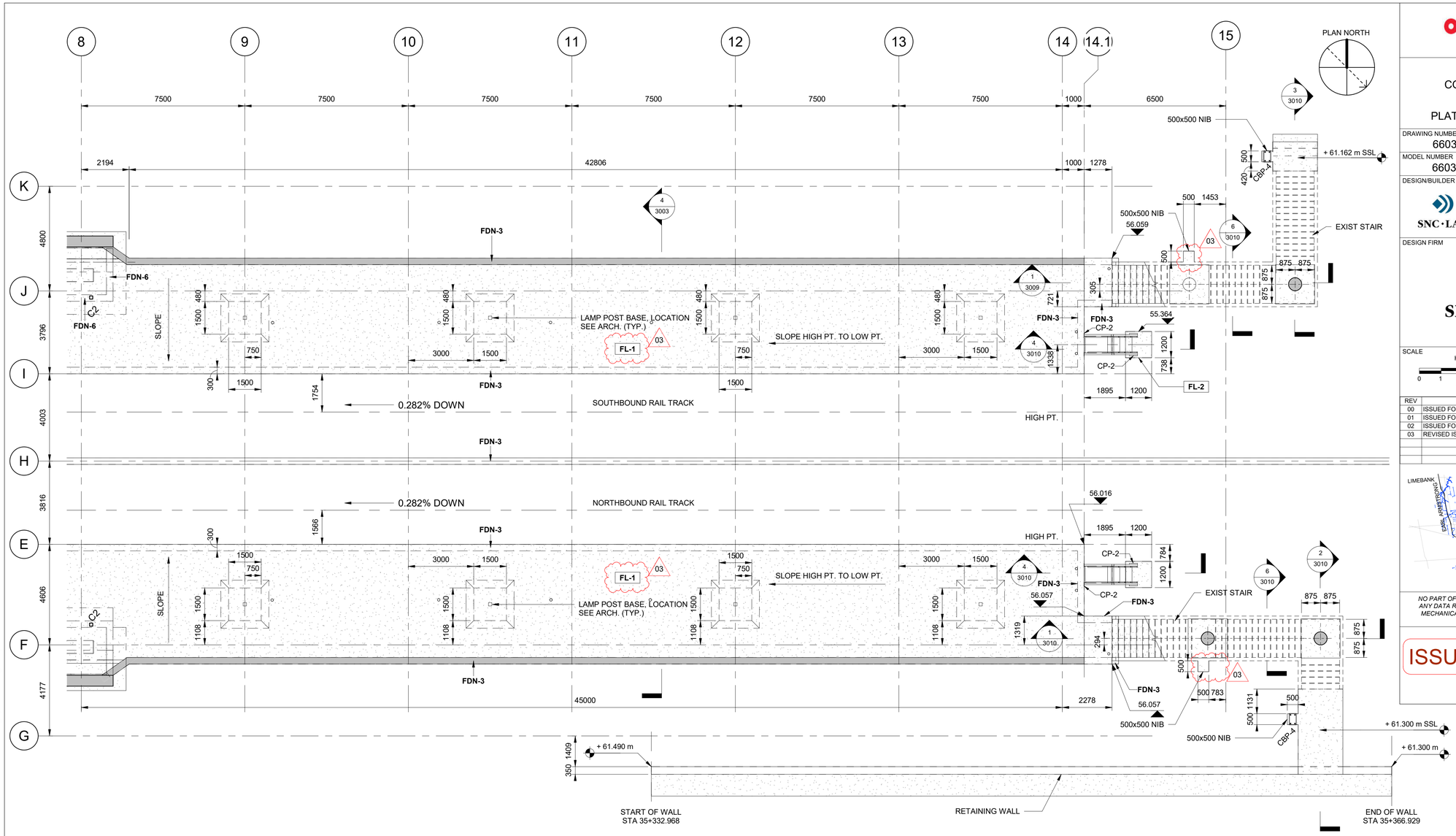


PLATFORM PLAN - SECTOR 2

1 : 100

REFER TO DRAWING 0006 FOR FOUNDATION WALL, WALL FOOTING AND PAD FOOTING SCHEDULES

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

PLATFORM PLAN - SECTOR 2

CONTRACT No.	LRT19-1025
DESIGNED	M. IRISH
CHECKED	S. IBRAHIM
DRAWN	J. PIDLAOAN
SEALED	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1005

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM

SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE

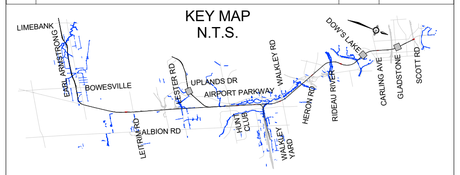
HORIZONTAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE / 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

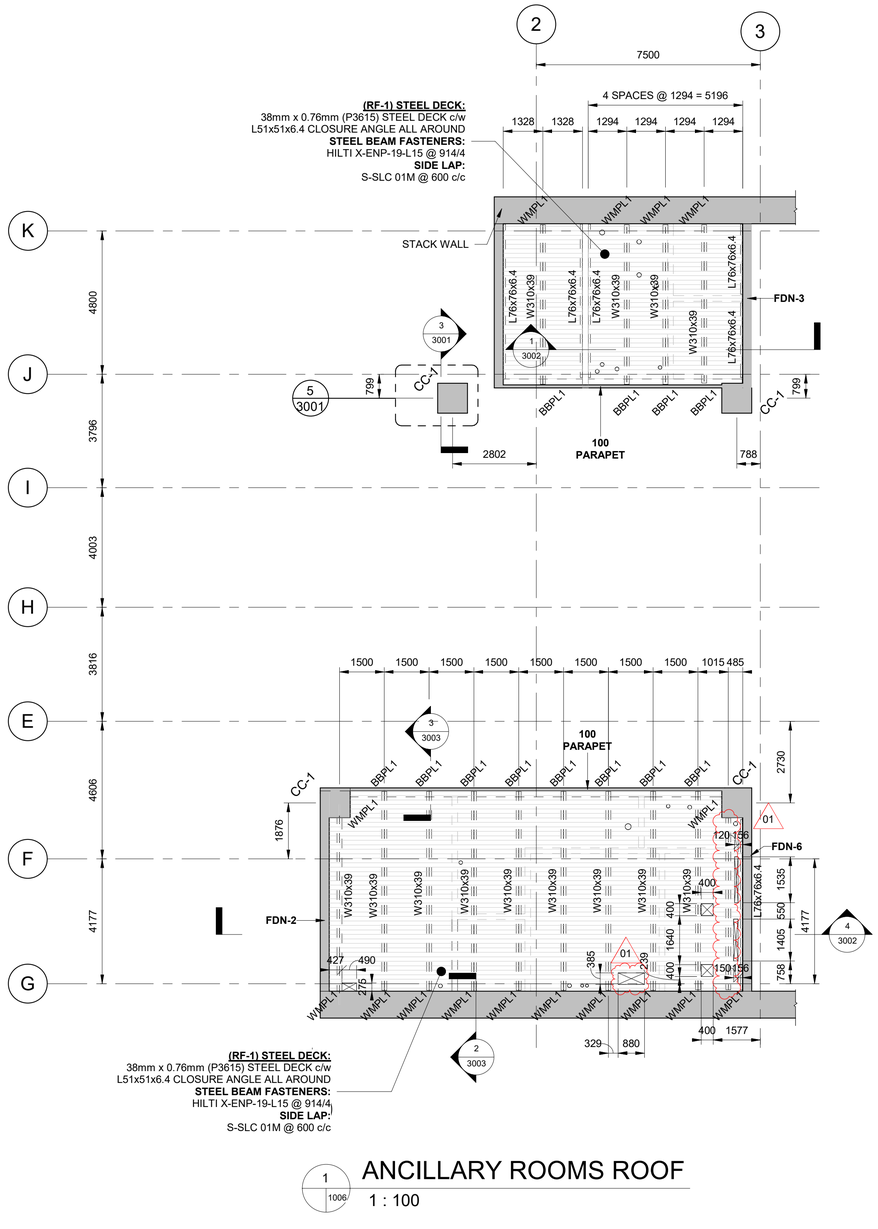
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30



1 / 1006 ANCILLARY ROOMS ROOF

1 : 100

PLAN NORTH

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

ANCILLARY ROOMS ROOF PLAN

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1006

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

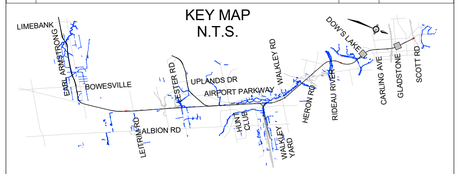
SCALE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CLIENT REVIEW-CD SUBMISSION	SI	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30

TITLEBLOCK: 790mm x 534mm

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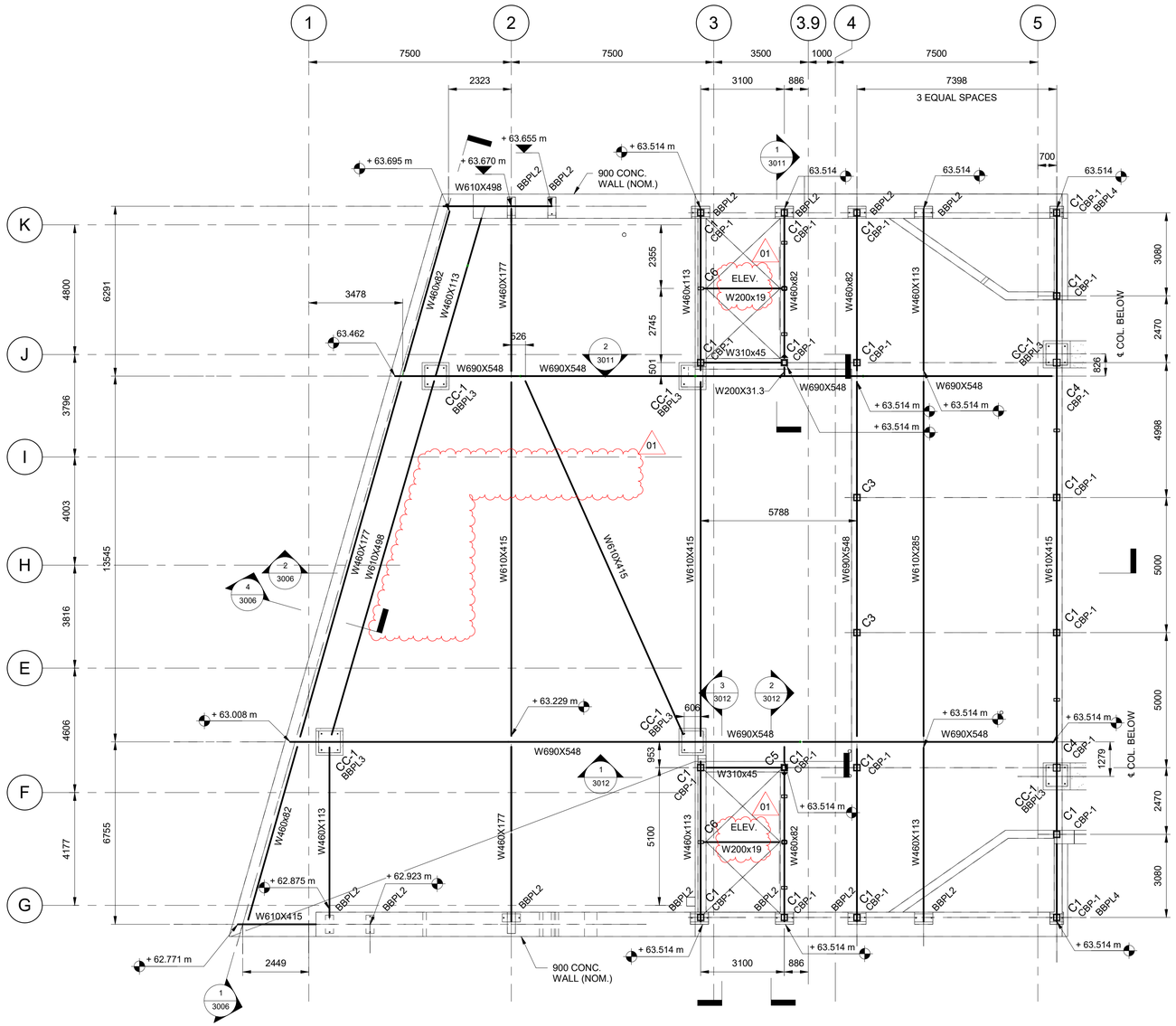
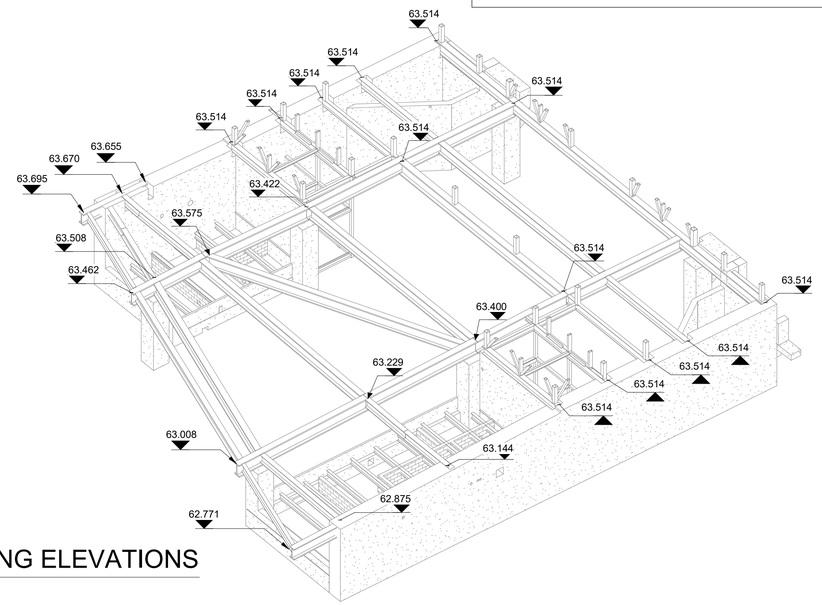


1 3001 1007 CONCOURSE FRAMING PLAN

1 : 100

REFER TO DRAWING 0006 FOR STEEL COLUMN SCHEDULE AND BASE PLATE DETAILS



2 1007 CONCOURSE FRAMING ELEVATIONS

PLAN NORTH

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

CONCOURSE FRAMING PLAN

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1007

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

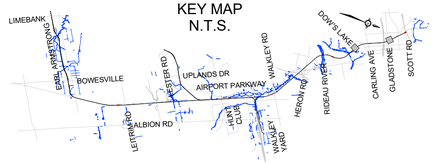
SCALE
HORIZONTAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CLIENT REVIEW-CD SUBMISSION	SI	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30

TITLEBLOCK: 790mm x 534mm

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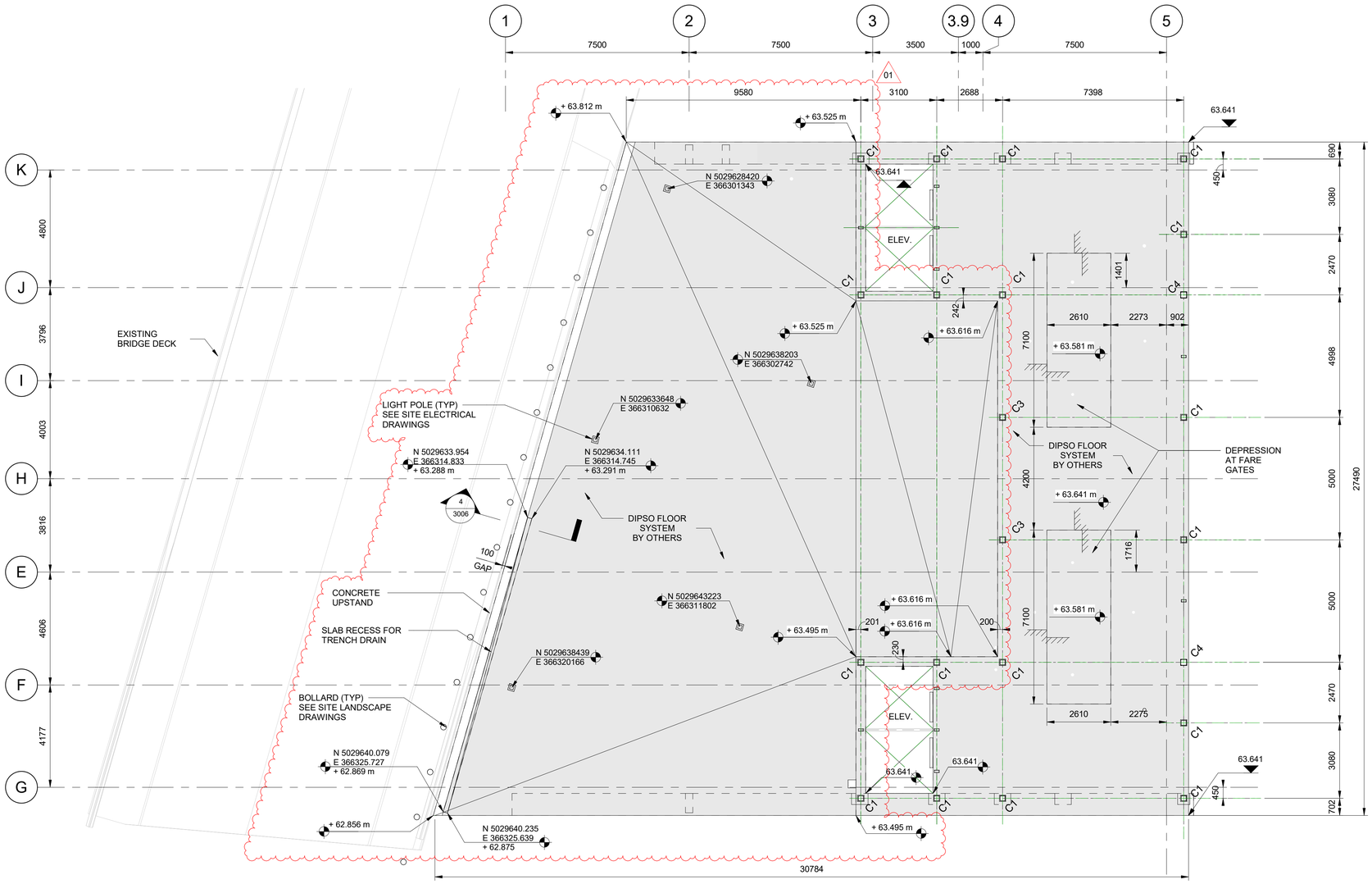


2 / 3001 1008

CONCOURSE PLAN

1 : 100

REFER TO DRAWING 0006 FOR STEEL COLUMN SCHEDULE AND BASE PLATE DETAILS

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

CONCOURSE PLAN

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1008

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

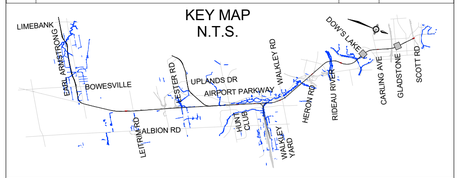
SCALE
HORIZONTAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE
0 1 2 4 8 m
VERTICAL 1 : 100 FULLSIZE; 1 : 200 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CLIENT REVIEW-CD SUBMISSION	SI	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

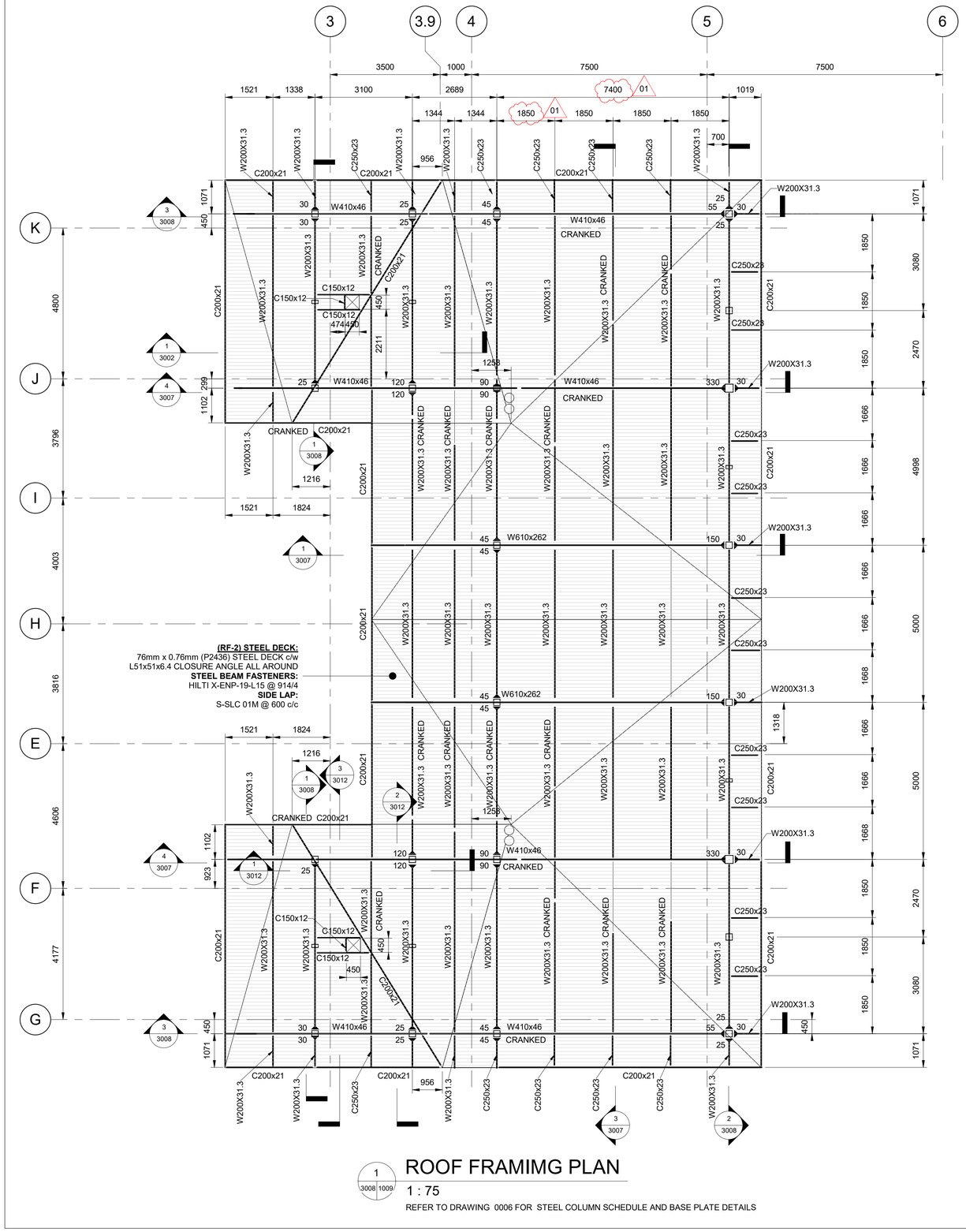
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30

TITLEBLOCK: 790mm x 534mm



(RF-2) STEEL DECK:
76mm x 0.76mm (P2436) STEEL DECK c/w
L51x51x6.4 CLOSURE ANGLE ALL AROUND
STEEL BEAM FASTENERS:
HILTI X-ENP-19-L15 @ 914/4
SIDE LAP:
S-SLC 01M @ 600 c/c

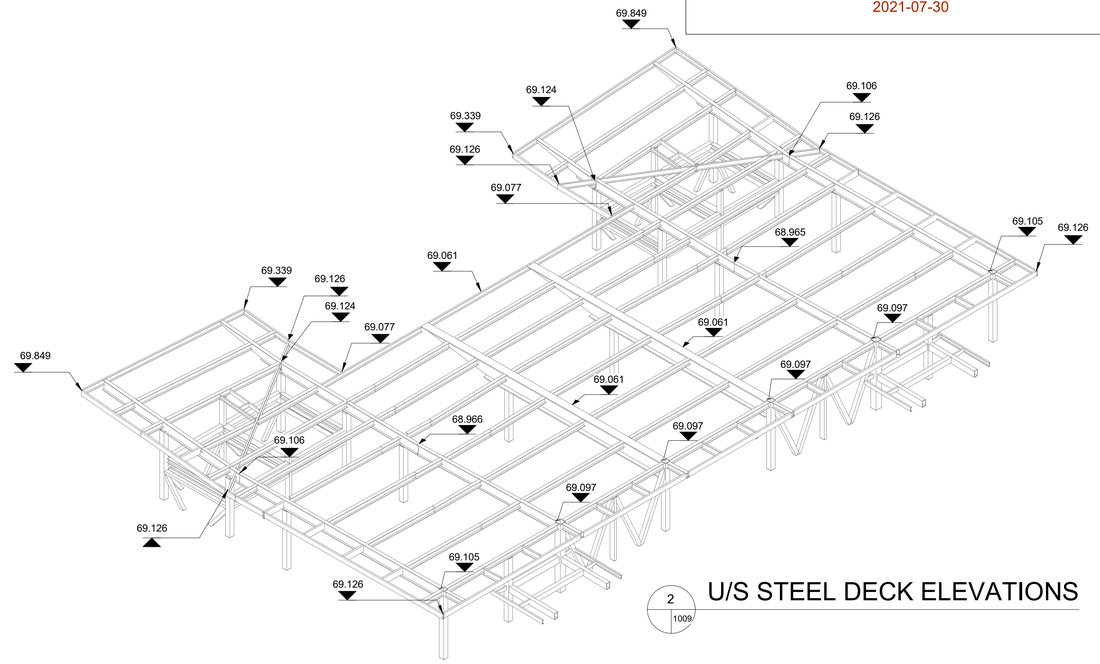
1 ROOF FRAMIMG PLAN

3008 1009

1 : 75

REFER TO DRAWING 0006 FOR STEEL COLUMN SCHEDULE AND BASE PLATE DETAILS

PLAN NORTH



2 U/S STEEL DECK ELEVATIONS

1009

OTrain STAGE 2 ETAPE

Ottawa

STRUCTURAL
CORSO ITALIA STATION

ROOF FRAMING PLAN

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1009

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE
AS SHOWN

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CLIENT REVIEW-CD SUBMISSION	SI	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.

ISSUED FOR CONSTRUCTION
2021-07-30

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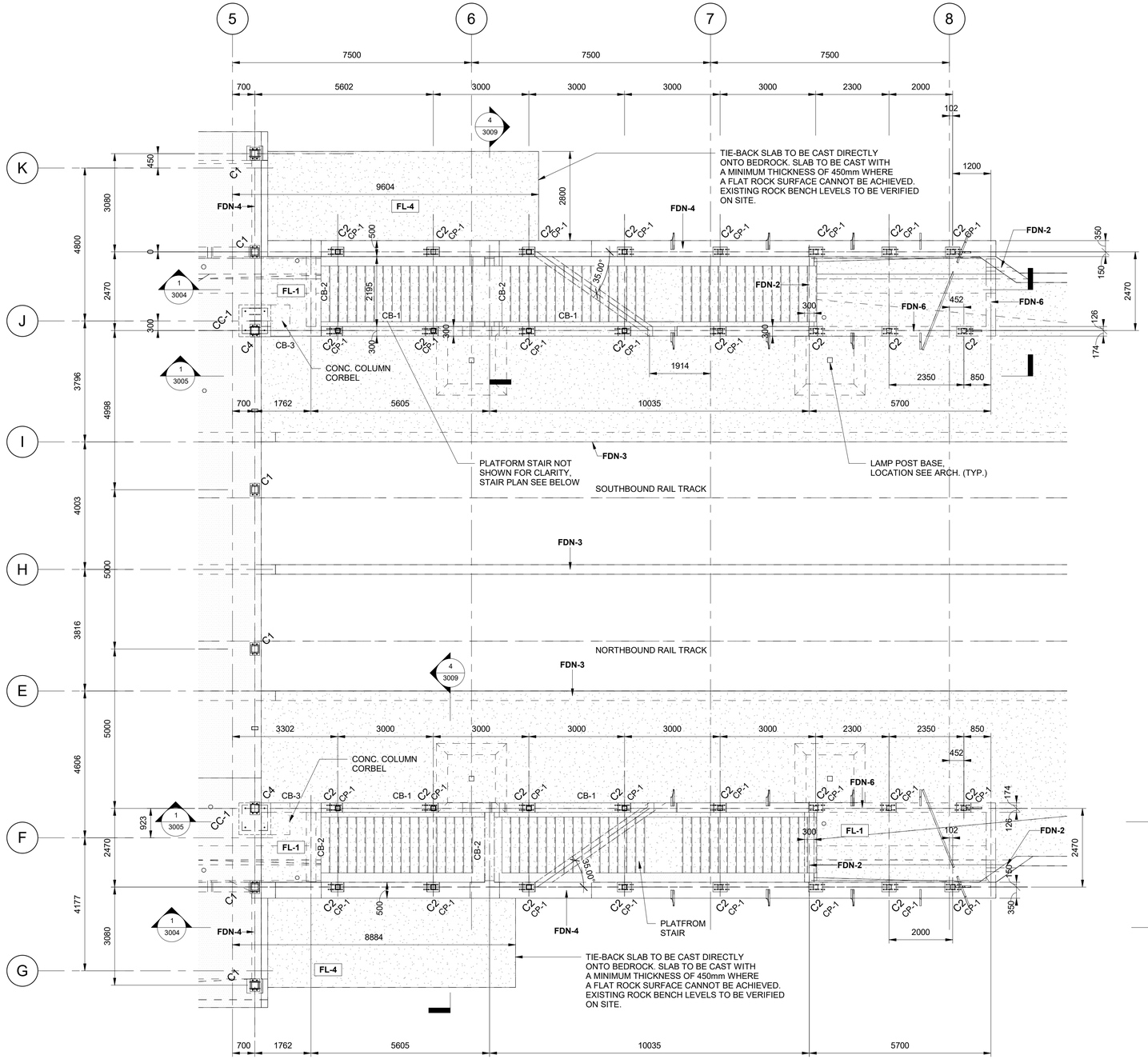


PLATFORM STAIR PLAN

1 : 75

REFER TO DRAWING 0006 FOR STEEL COLUMN SCHEDULE AND BASE PLATE DETAILS

PLAN NORTH

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

PLATFORM STAIR PLAN

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1010

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-03-29 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

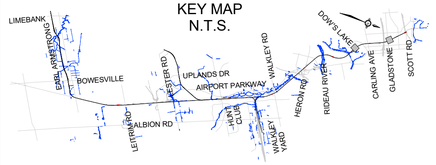
SCALE
AS SHOWN

ASSET No.

ASSET GROUP

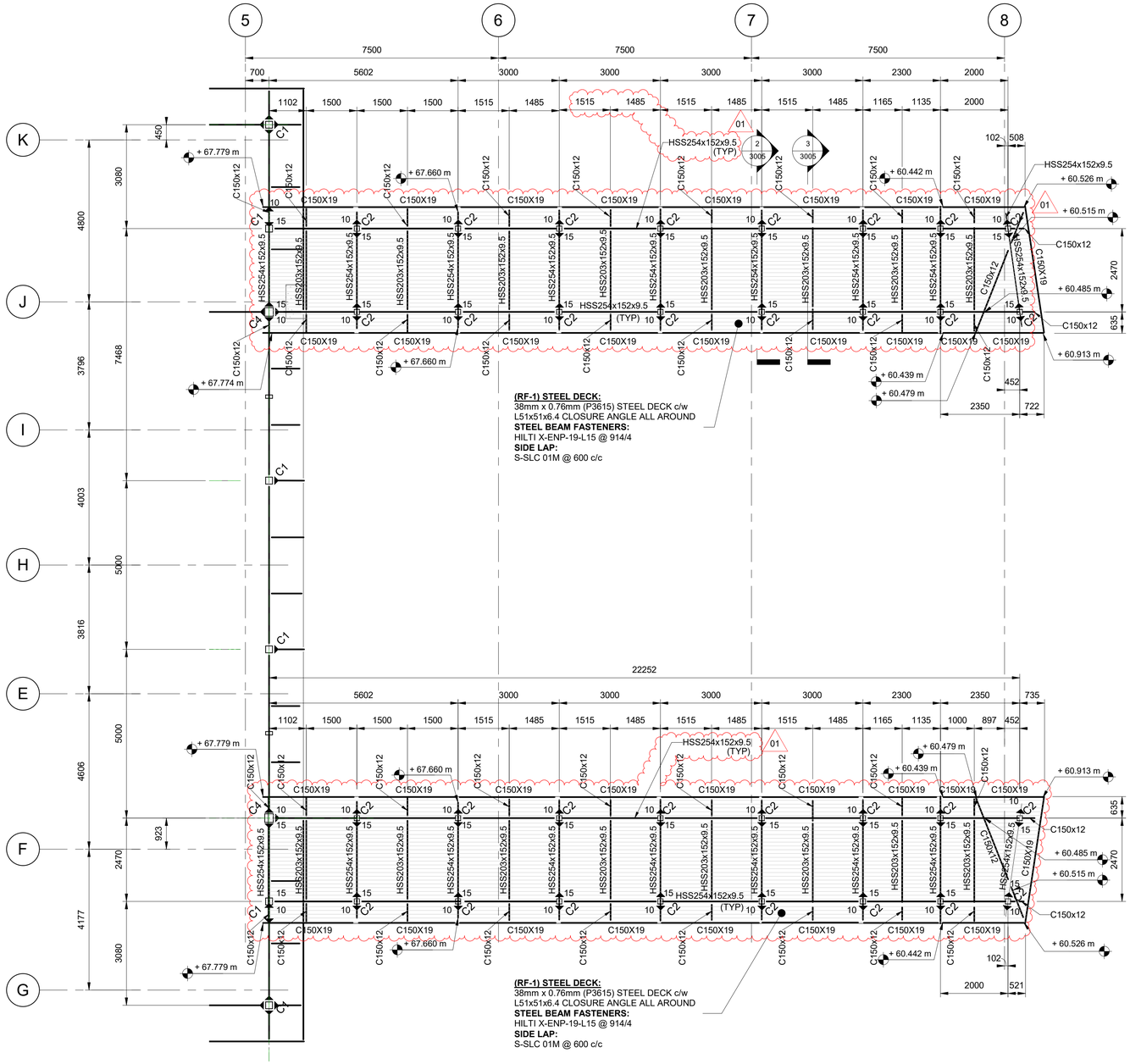
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CLIENT REVIEW-CD SUBMISSION	SI	2021-03-29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

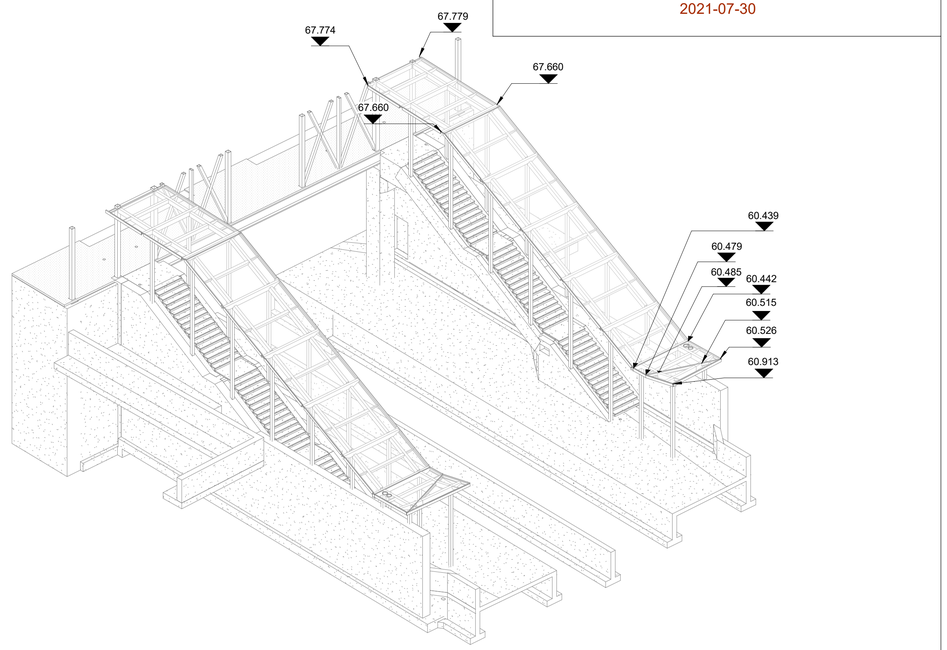


T/O ROOF PLATFORM STAIR

1 : 75

HS254 = HS254x152x9.5

REFER TO DRAWING 0006 FOR STEEL COLUMN SCHEDULE AND BASE PLATE DETAILS



PLAN NORTH

OTrain STAGE 2 ETAPE

Ottawa

STRUCTURAL
CORSO ITALIA STATION

PLATFORM STAIR ROOF FRAMING PLAN

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-1011

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

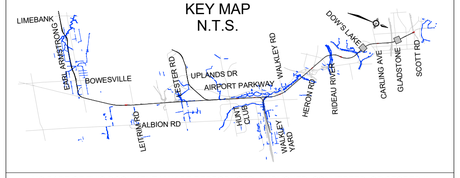
SCALE
AS SHOWN

ASSET No.

ASSET GROUP

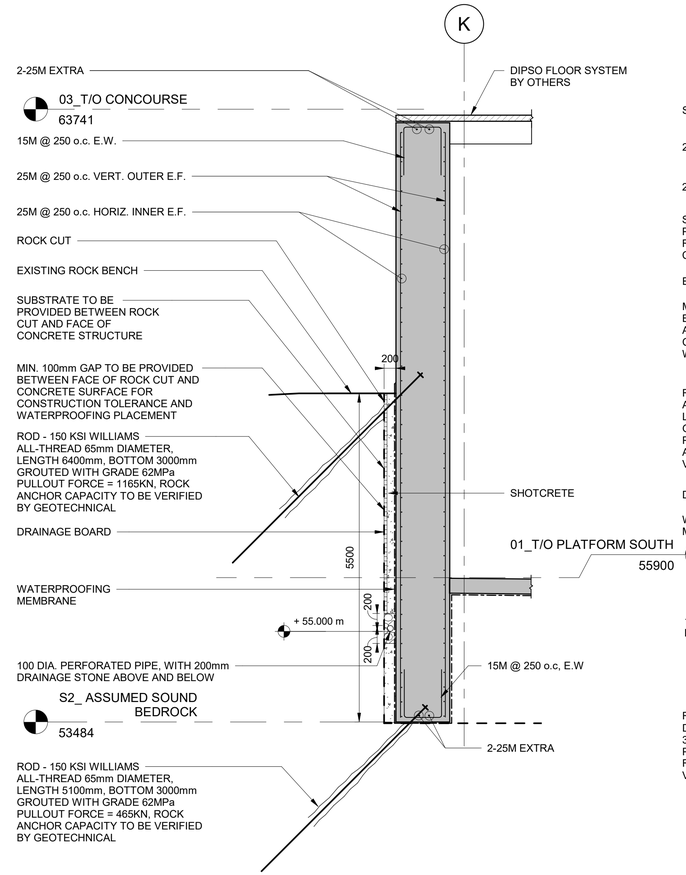
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CLIENT REVIEW-CD SUBMISSION	SI	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

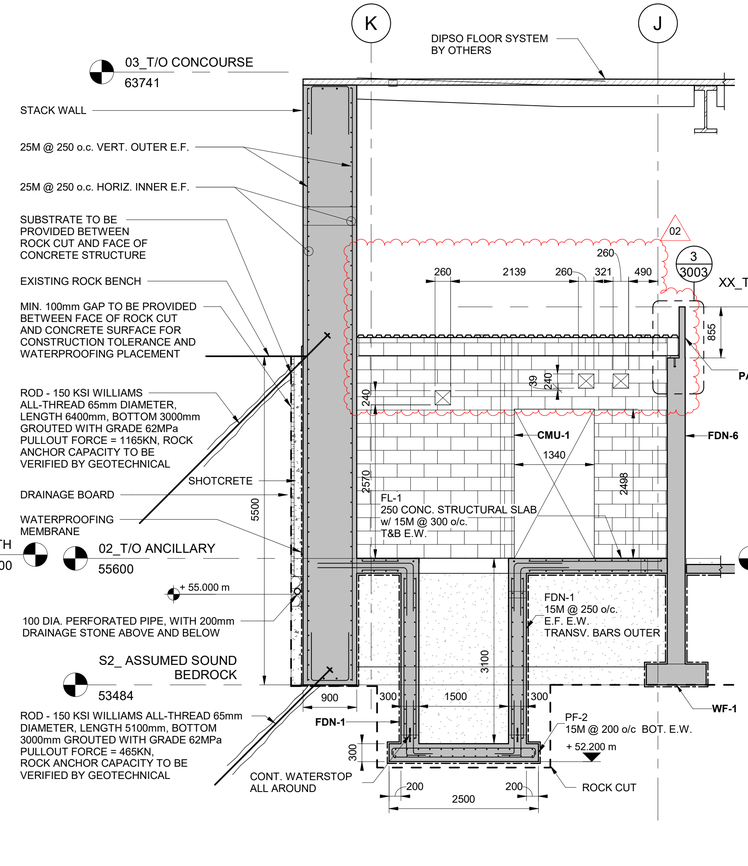
KEY MAP
N.T.S.

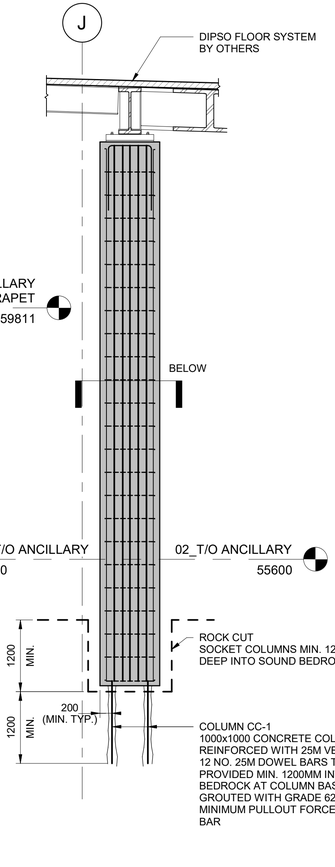


ISSUED FOR CONSTRUCTION

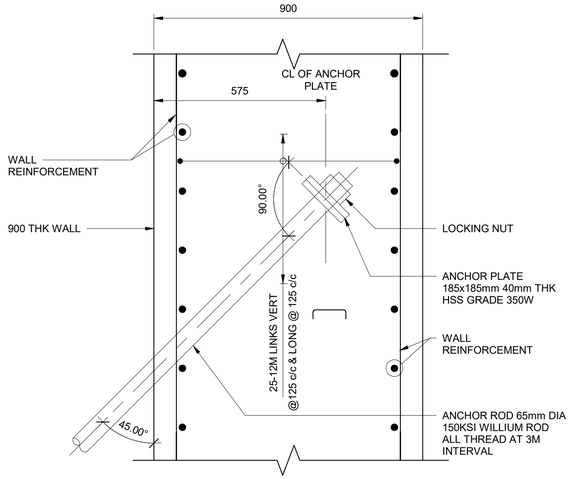
2021-07-30





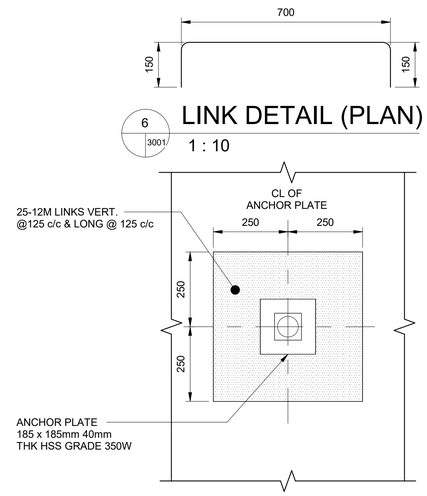


1 TYPICAL ABUTMENT WALL
1002 3001
1 : 50

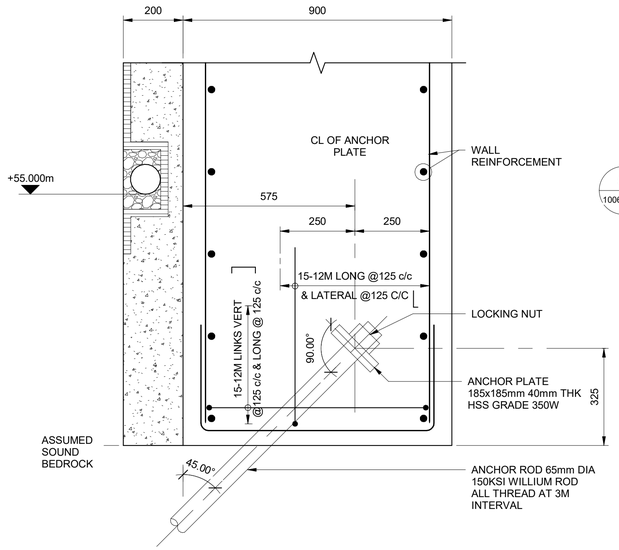


2 SECTION / DETAIL
1002 3001
1 : 50

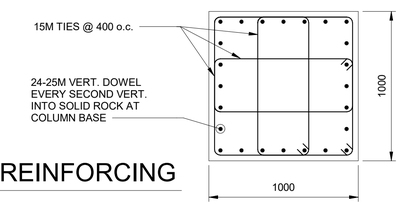
3 SECTION / DETAIL
1002 3001
1 : 50



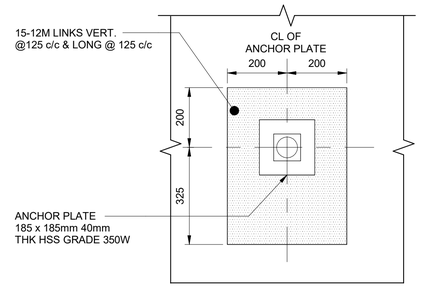
6 LINK DETAIL (PLAN)
3001
1 : 10



8 BOTTOM ANCHOR DETAIL (SECTION)
3001
1 : 10



5 COLUMN REINFORCING
1006 3001
1 : 20



9 BOTTOM ANCHOR DETAIL (ELEVATION)
3001
1 : 10

4 TOP ANCHOR DETAIL (SECTION)
3001
1 : 10

7 TOP ANCHOR DETAIL (ELEVATION)
3001
1 : 10

OTrain STAGE 2 ETAPE 2 — Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3001

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-03-29 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

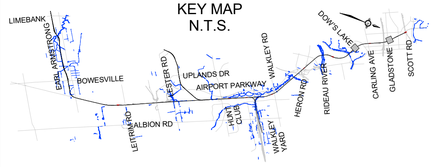
SCALE
AS SHOWN

ASSET No.

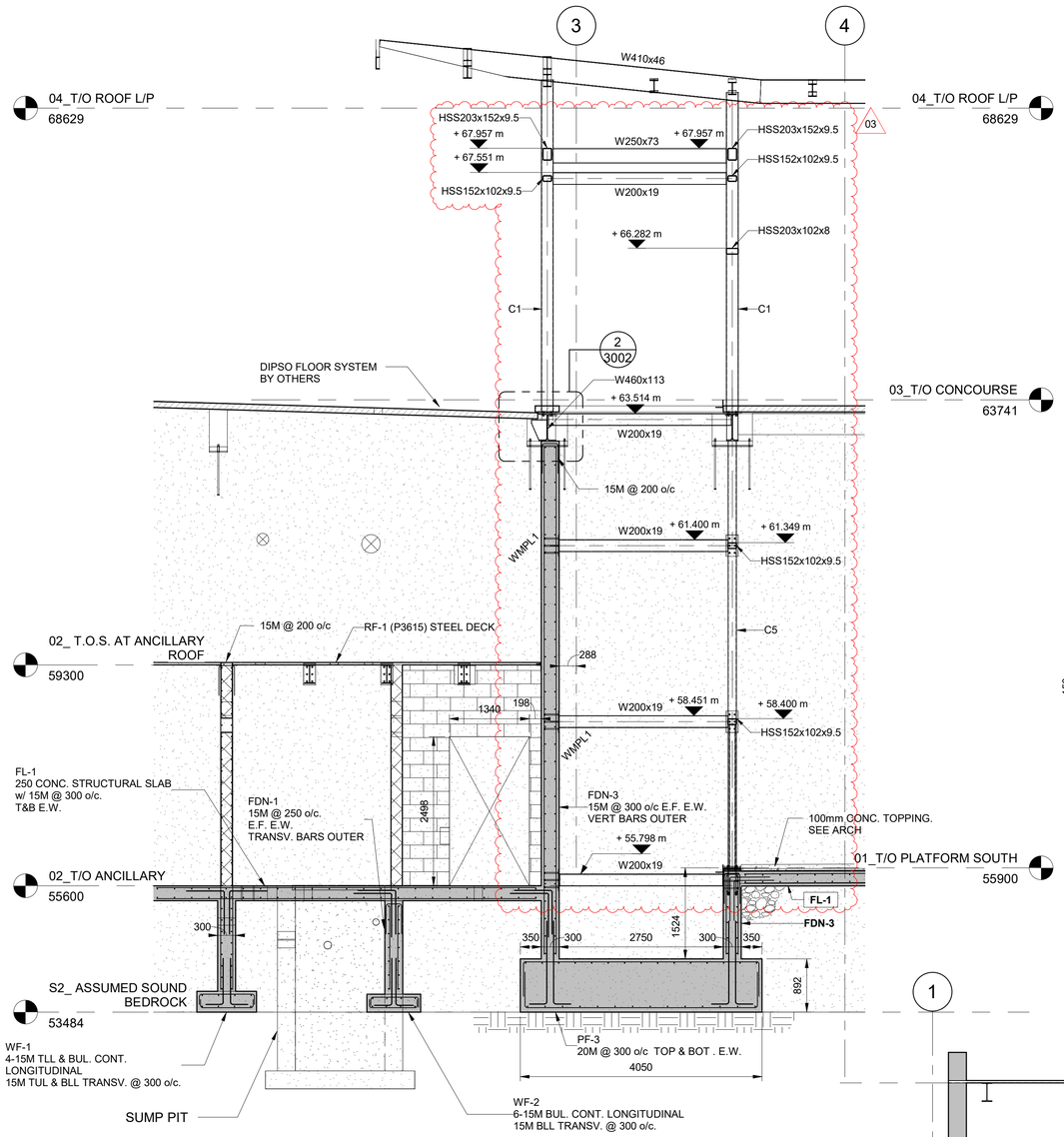
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29

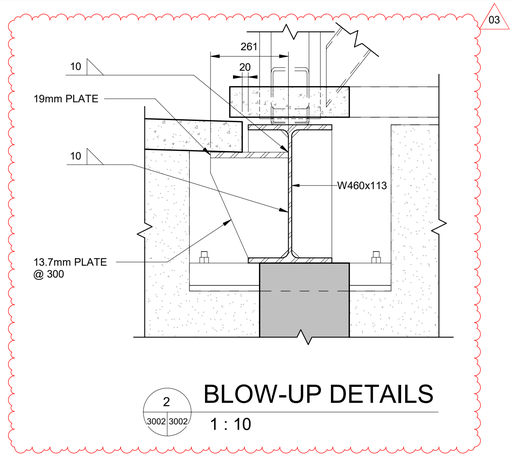
KEY MAP
N.T.S.



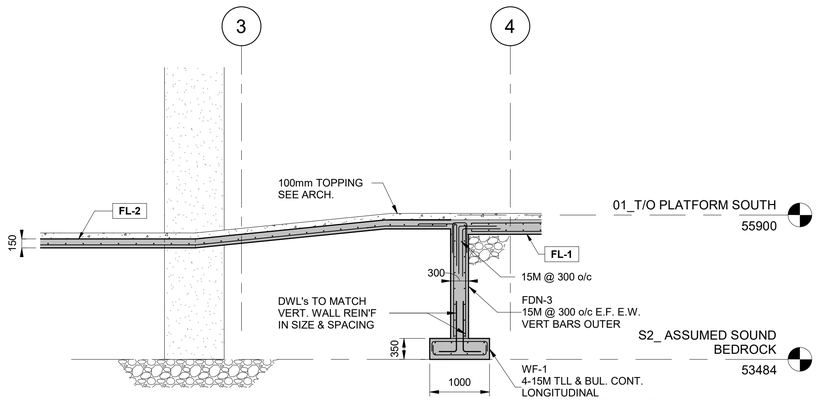
ISSUED FOR CONSTRUCTION
2021-03-29



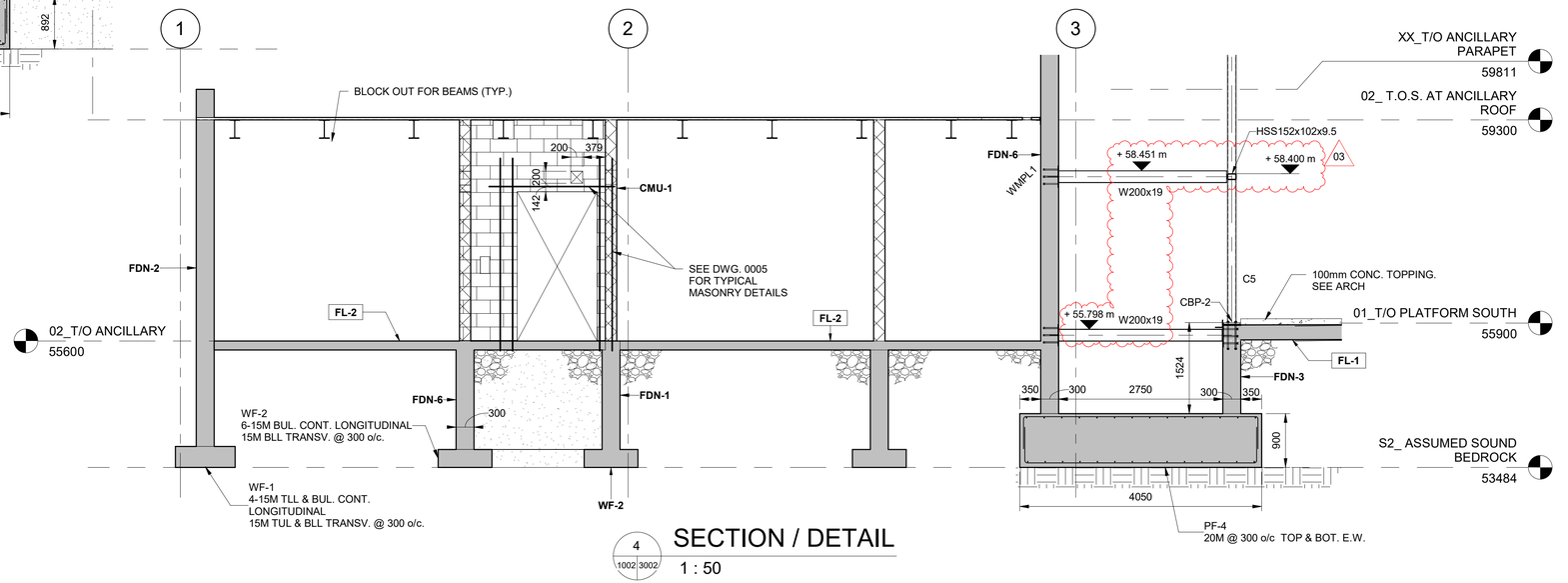
1 / 1002 3002 SECTION / DETAIL
1 : 50



2 / 3002 3002 BLOW-UP DETAILS
1 : 10



3 / 1002 3002 SECTION / DETAIL
1 : 50



4 / 1002 3002 SECTION / DETAIL
1 : 50

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3002

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
15129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
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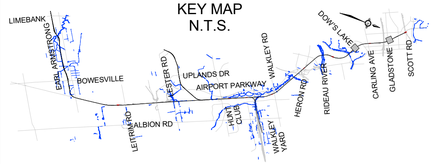
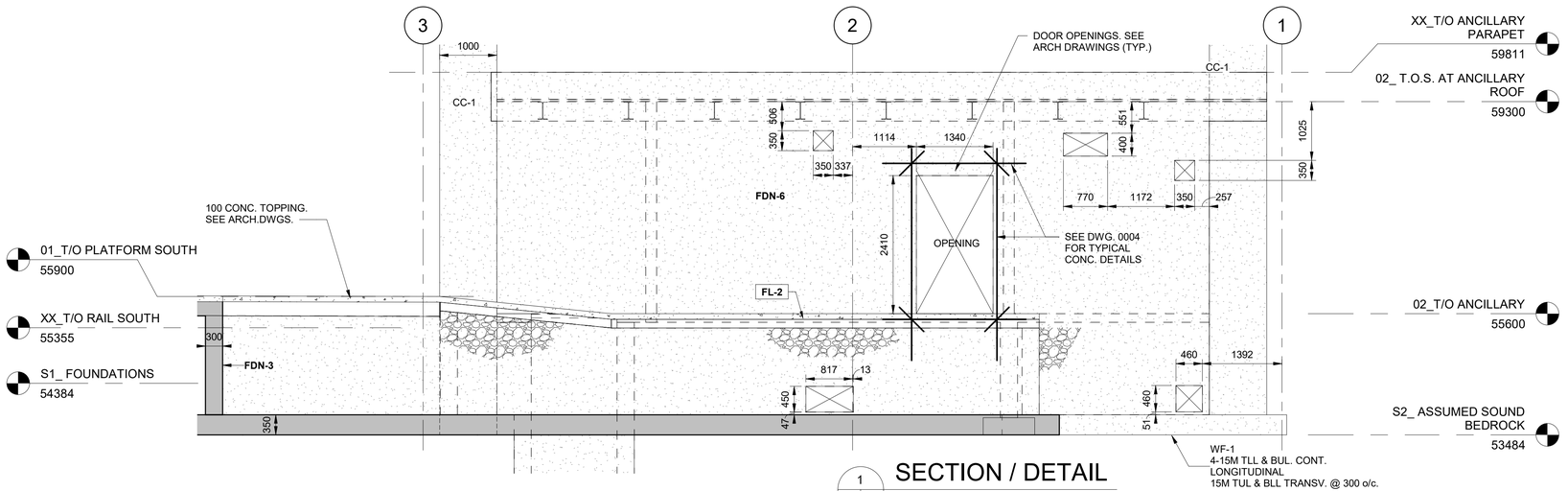
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.

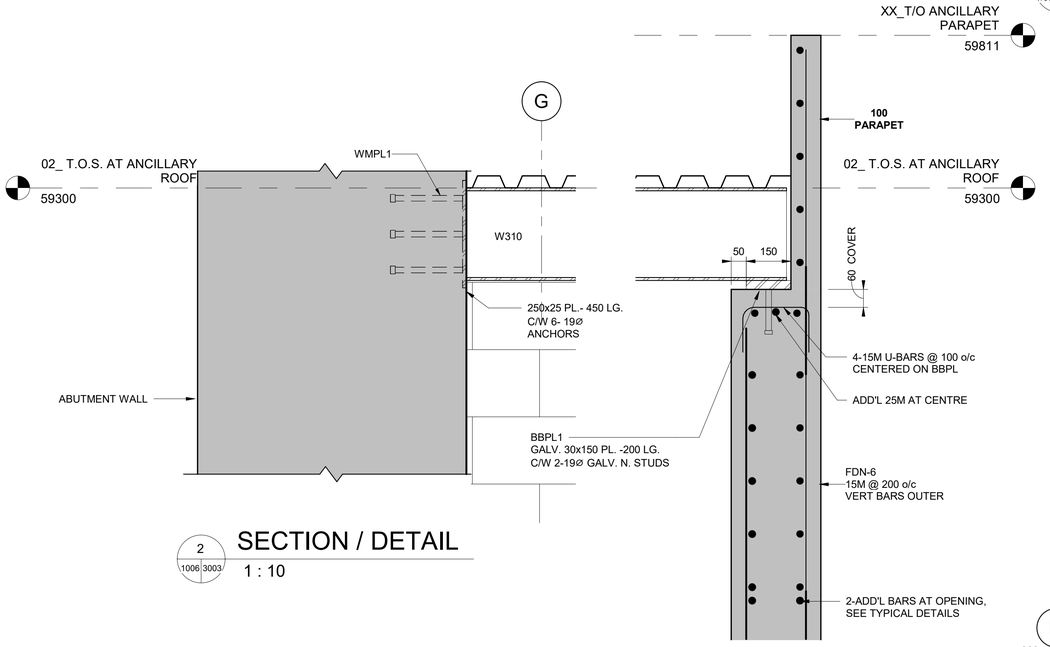


ISSUED FOR CONSTRUCTION
2021-07-30



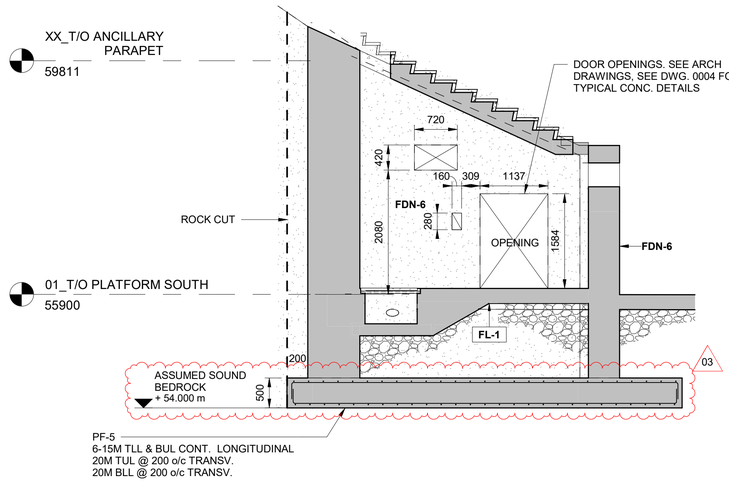
1 1004 3003 SECTION / DETAIL

1 : 50



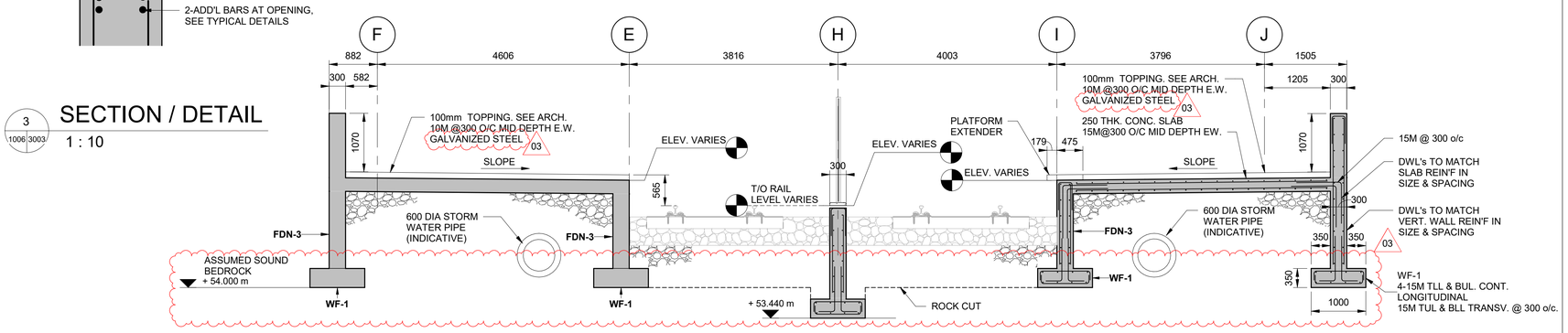
2 1006 3003 SECTION / DETAIL

1 : 10



6 1002 3003 SECTION / DETAIL

1 : 50



4 1003 3003 SECTION / DETAIL

1 : 50

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3003

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER

SNC·LAVALIN TransitNEXT

PRIMARY SEAL

LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM

SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE

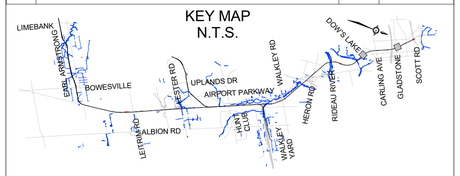
AS SHOWN

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30

TITLEBLOCK: 790mm x 534mm

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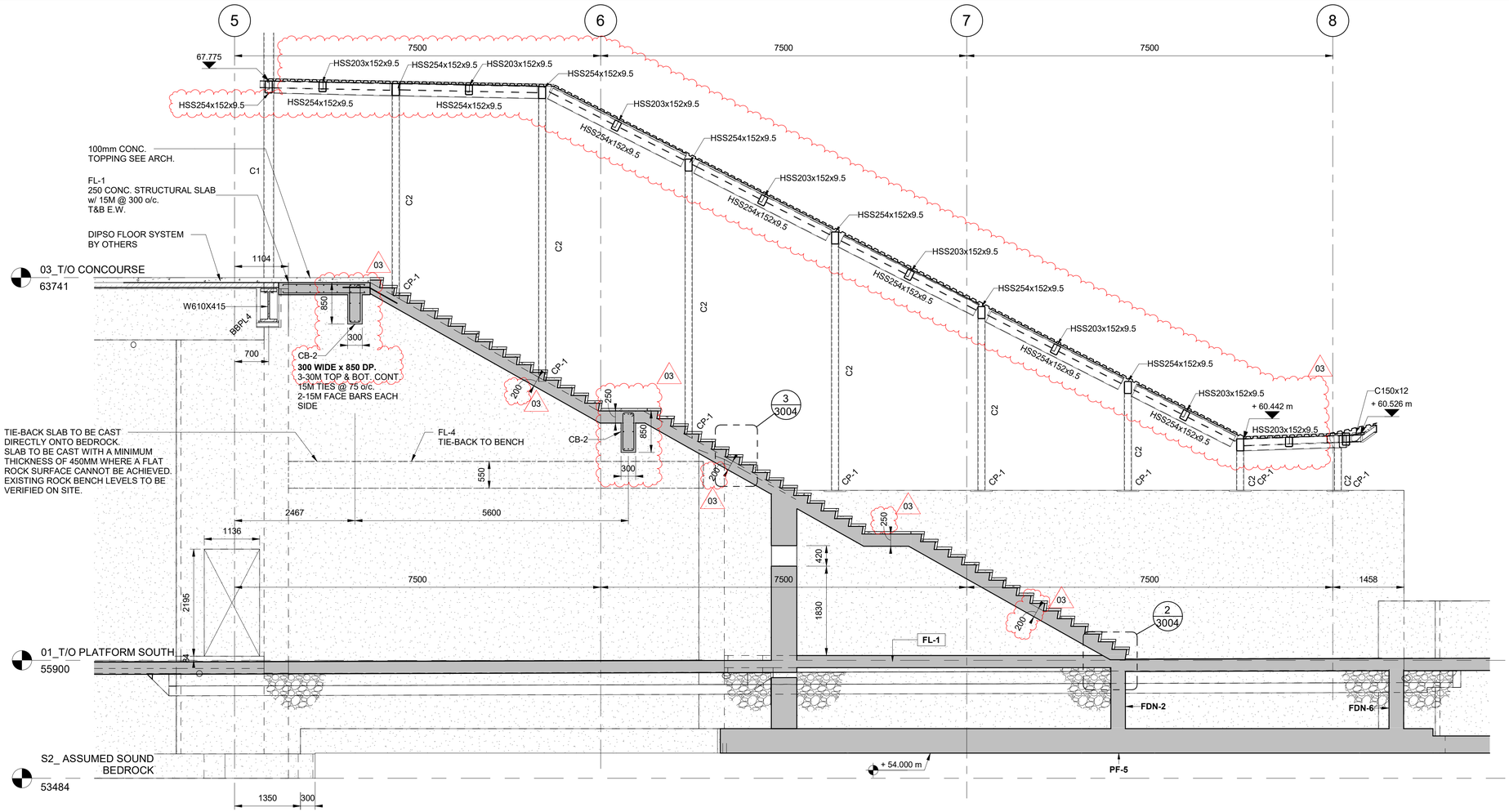

1 1002 3004 SECTION / DETAIL
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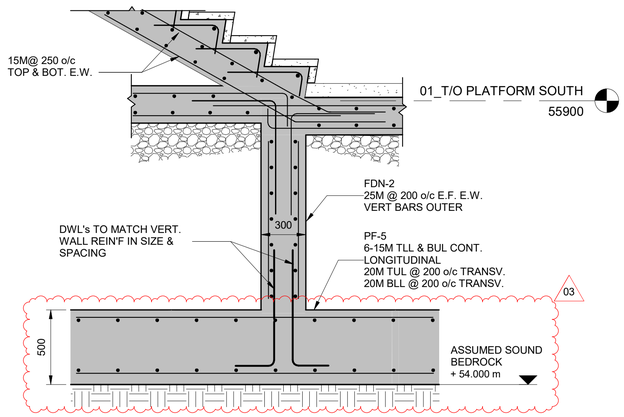

2 1002 3004 SECTION / DETAIL
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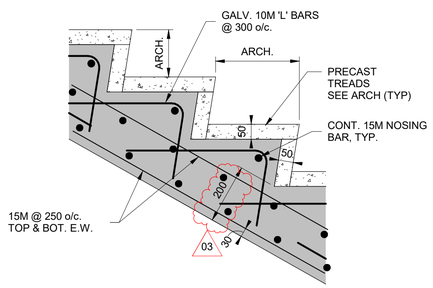
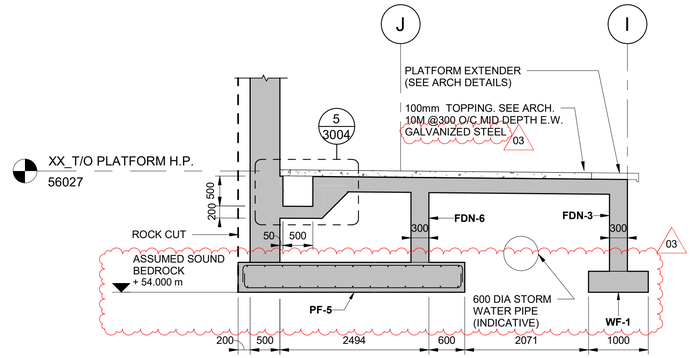


3 3004 3004 3004-PLATFORM STAIR DETAIL
1 : 10



4 1002 3004 SECTION / DETAIL
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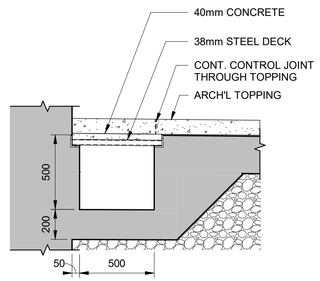

5 3004 3004 SECTION / DETAIL
1 : 20

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3004

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE
AS SHOWN

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
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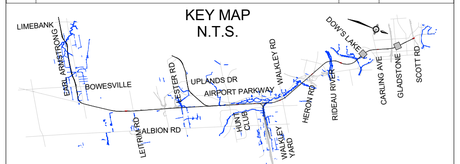
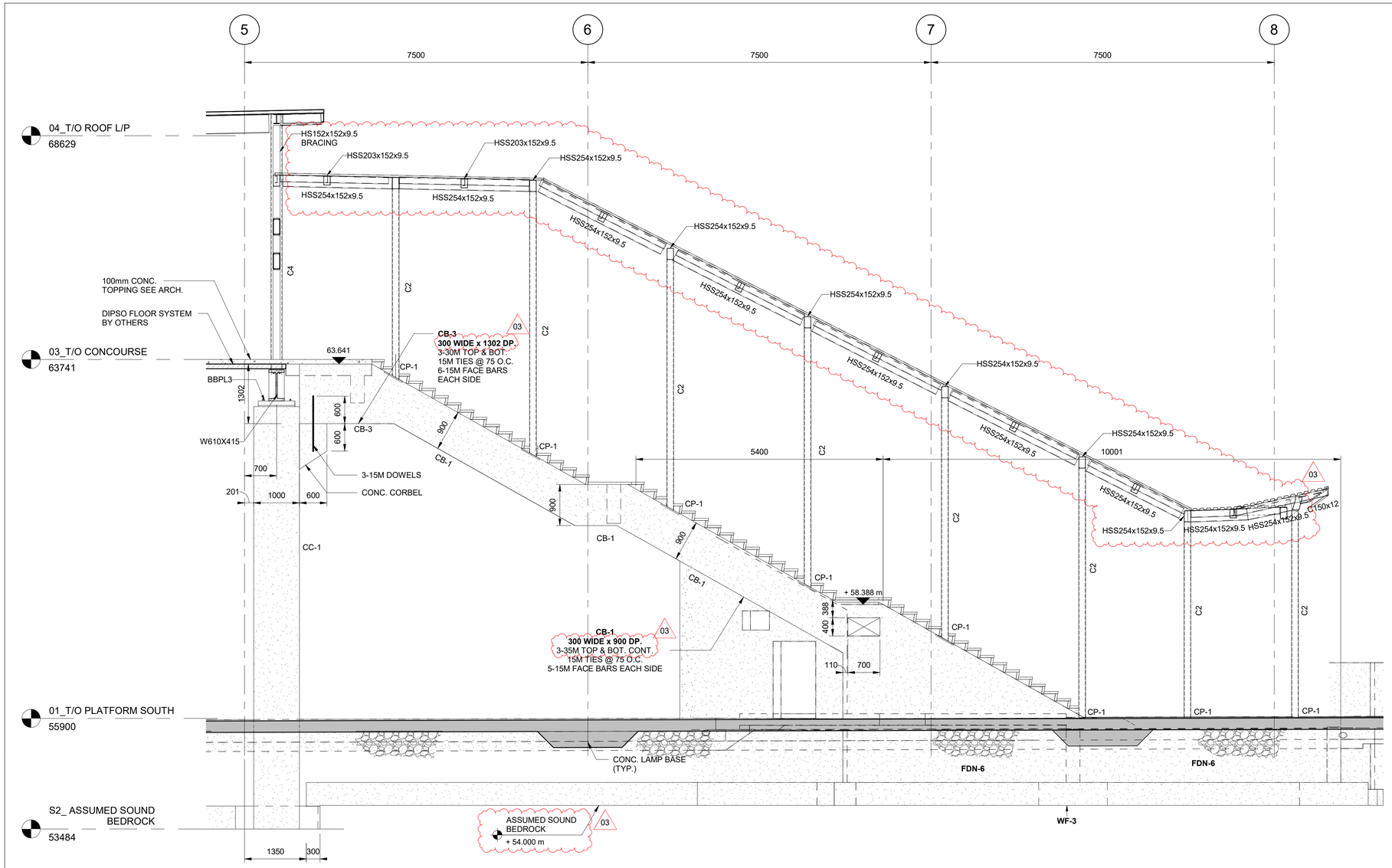
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.

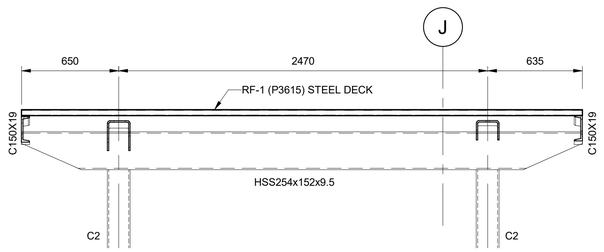


ISSUED FOR CONSTRUCTION
2021-07-30



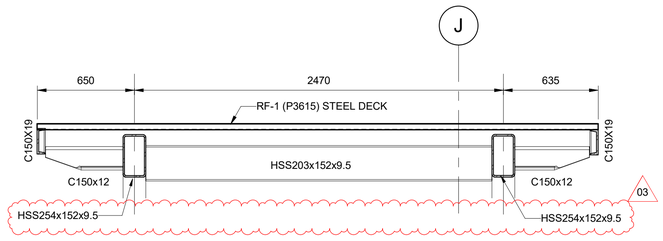
1 SECTION / DETAIL
1002 3005

1 : 50



2 SECTION / DETAIL
1011 3005

1 : 20



3 SECTION / DETAIL
1011 3005

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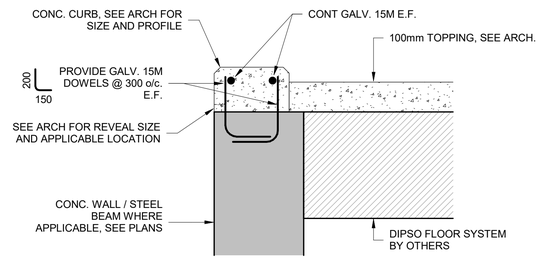

4 3005-TYPICAL CONC. CURB DETAIL
3005

1 : 10

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3005

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
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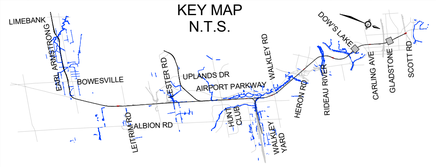
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-07-30

TITLEBLOCK: 790mm x 534mm

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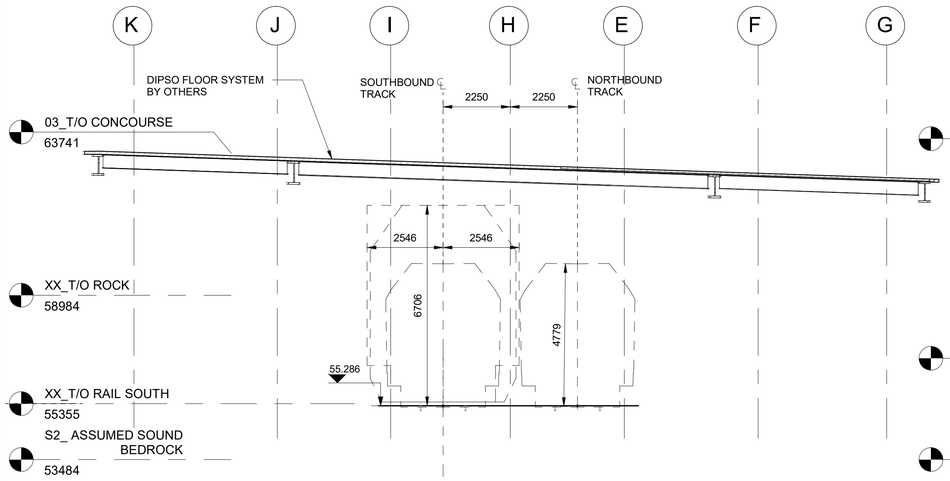

1 1007 3006 SECTION / DETAIL
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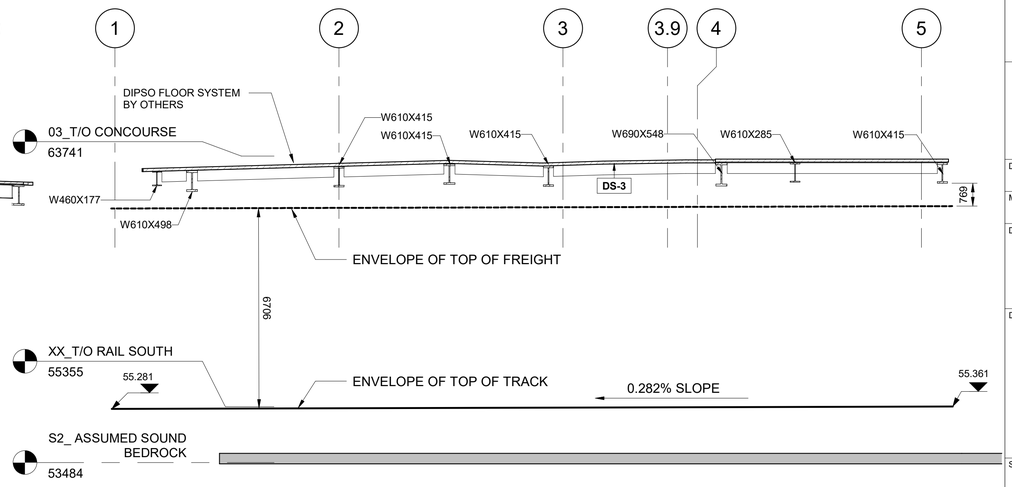
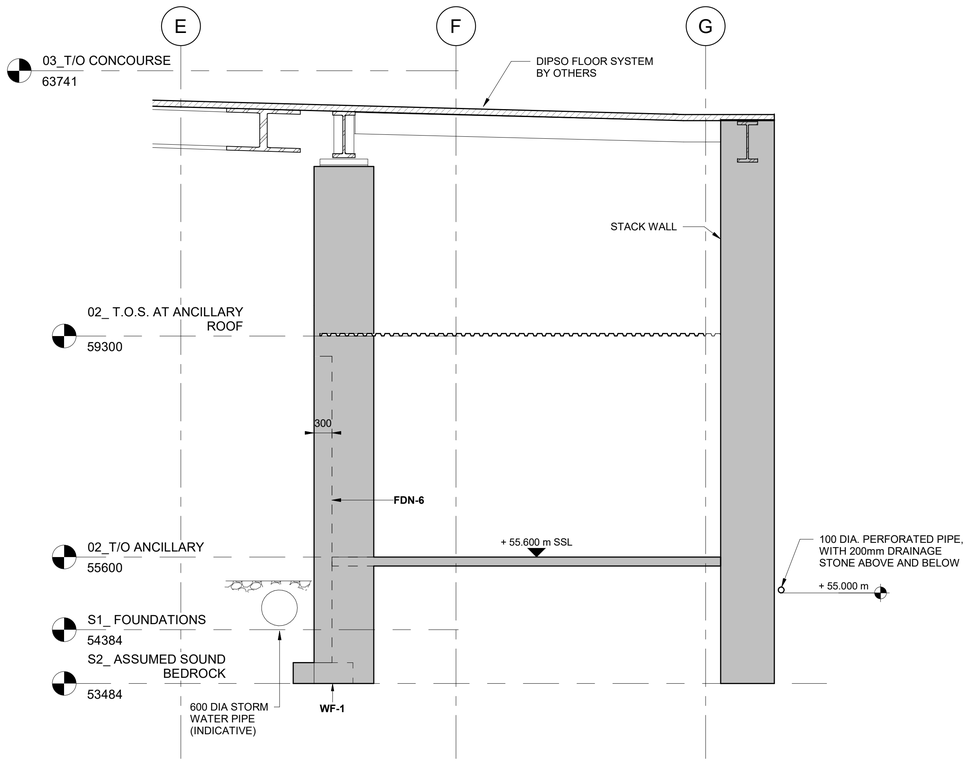


2 1007 3006 SECTION / DETAIL
1 : 100



3 1002 3006 SECTION / DETAIL
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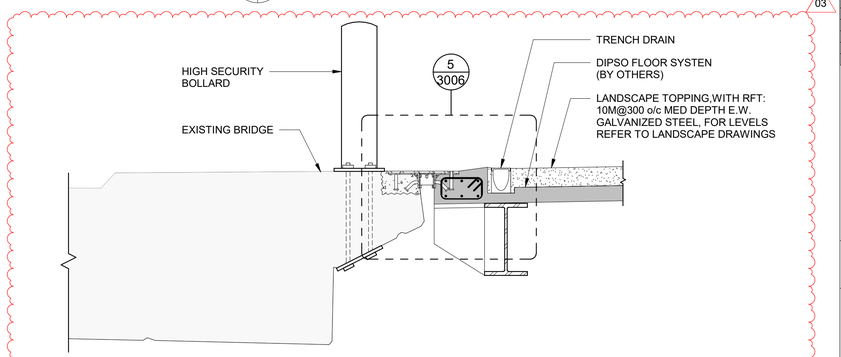
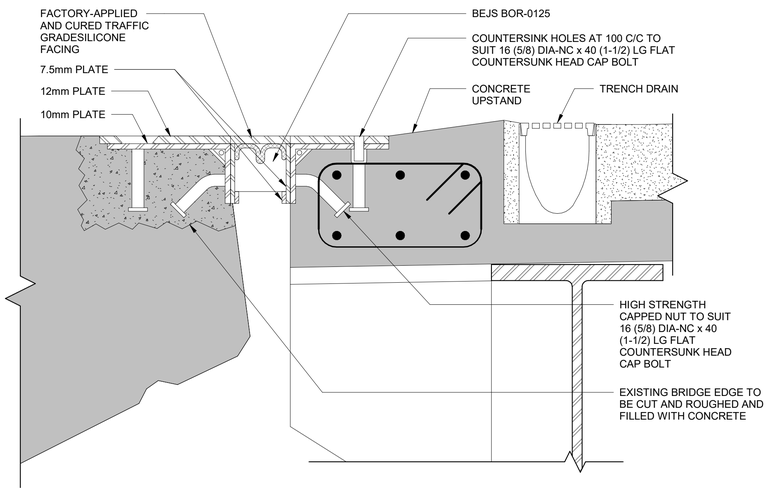


4 1007 3006 TYPICAL BRIDGE INTERFACE DETAILS
1 : 20



5 3006 3006 BLOW-UP DETAILS
1 : 5

TITLEBLOCK: 790mm x 534mm

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OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3006

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

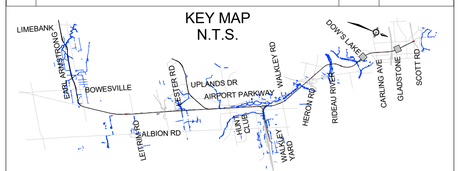
SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

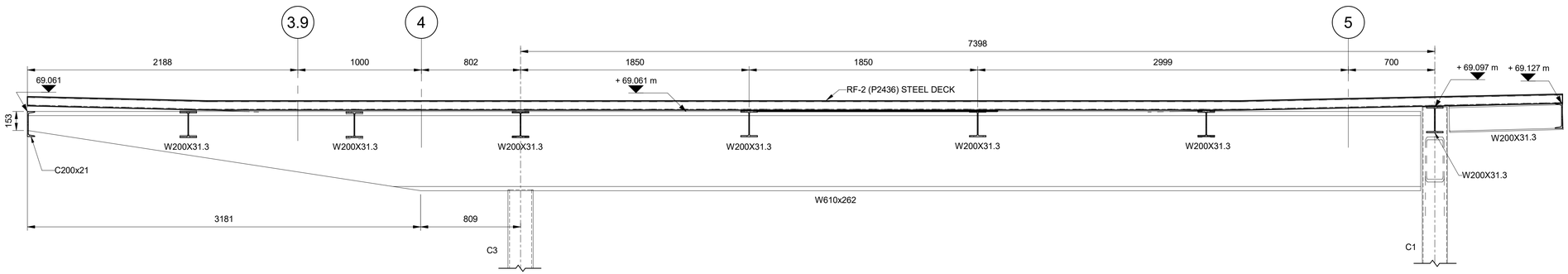
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



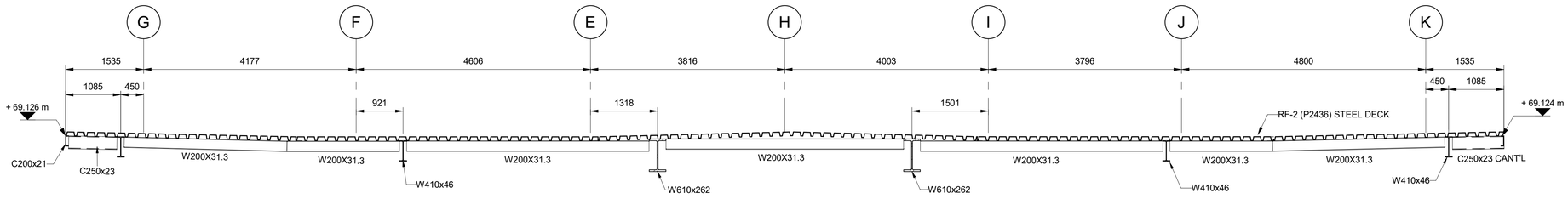
ISSUED FOR CONSTRUCTION

2021-07-30



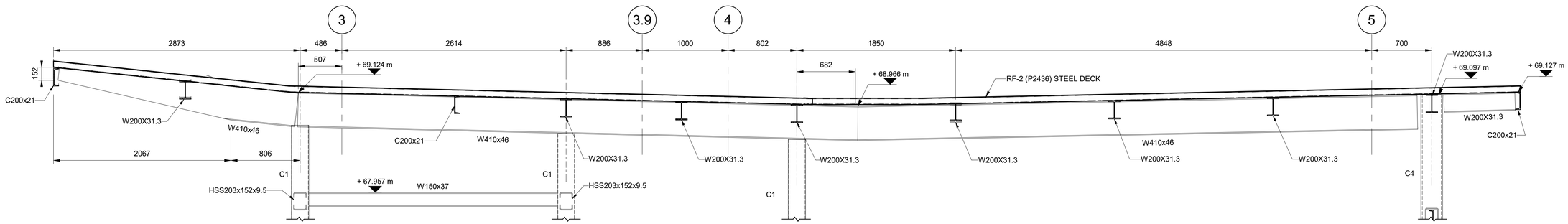
1 / 1009 / 3007 SECTION / DETAIL

1 : 20



3 / 1009 / 3007 SECTION / DETAIL

1 : 50



4 / 1009 / 3007 SECTION / DETAIL

1 : 25

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3007

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-03-29
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

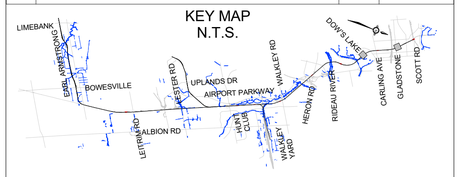
SCALE
AS SHOWN

ASSET No.

ASSET GROUP

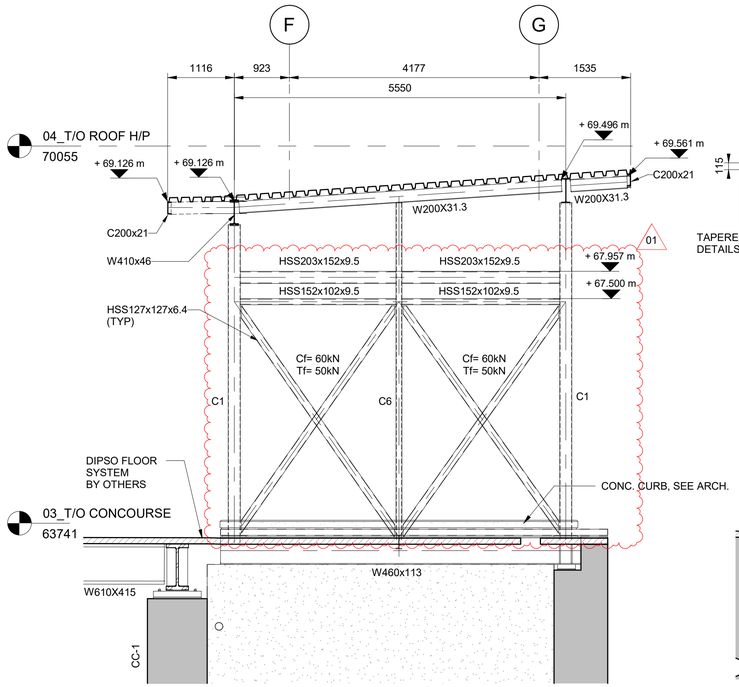
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CLIENT REVIEW-CD SUBMISSION	SI	2021-03-29

KEY MAP
N.T.S.

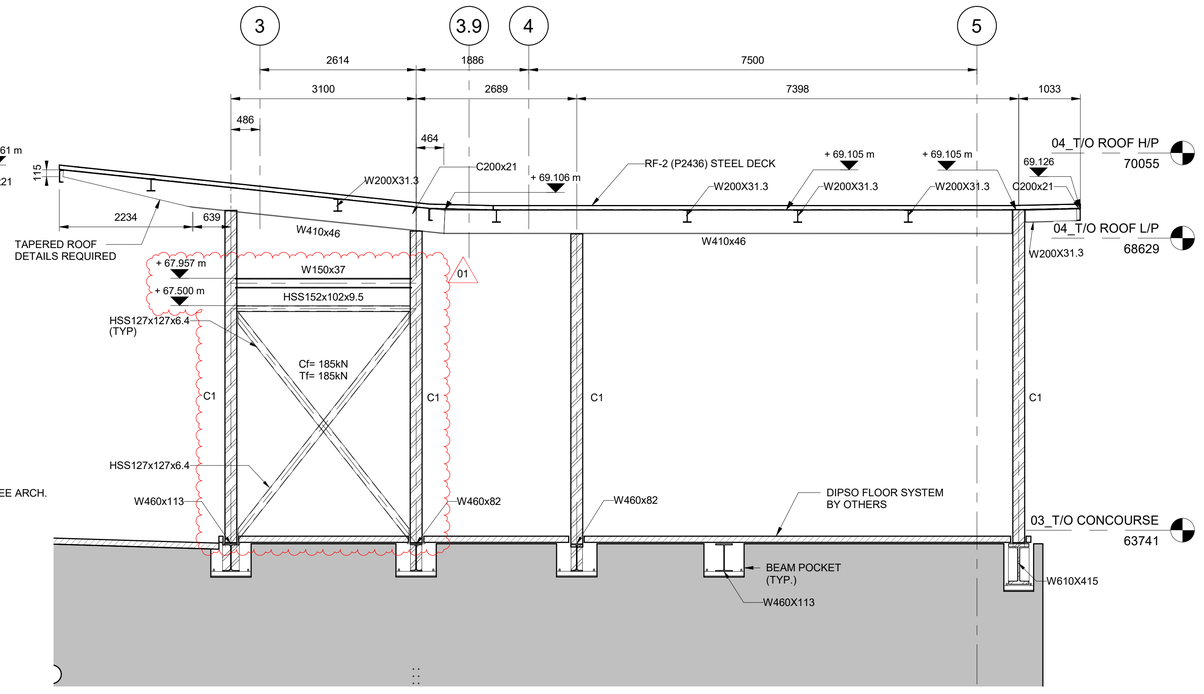


ISSUED FOR CONSTRUCTION

2021-03-29



1 / 1009 3008 SECTION / DETAIL
1 : 50



3 / 1009 3008 SECTION / DETAIL
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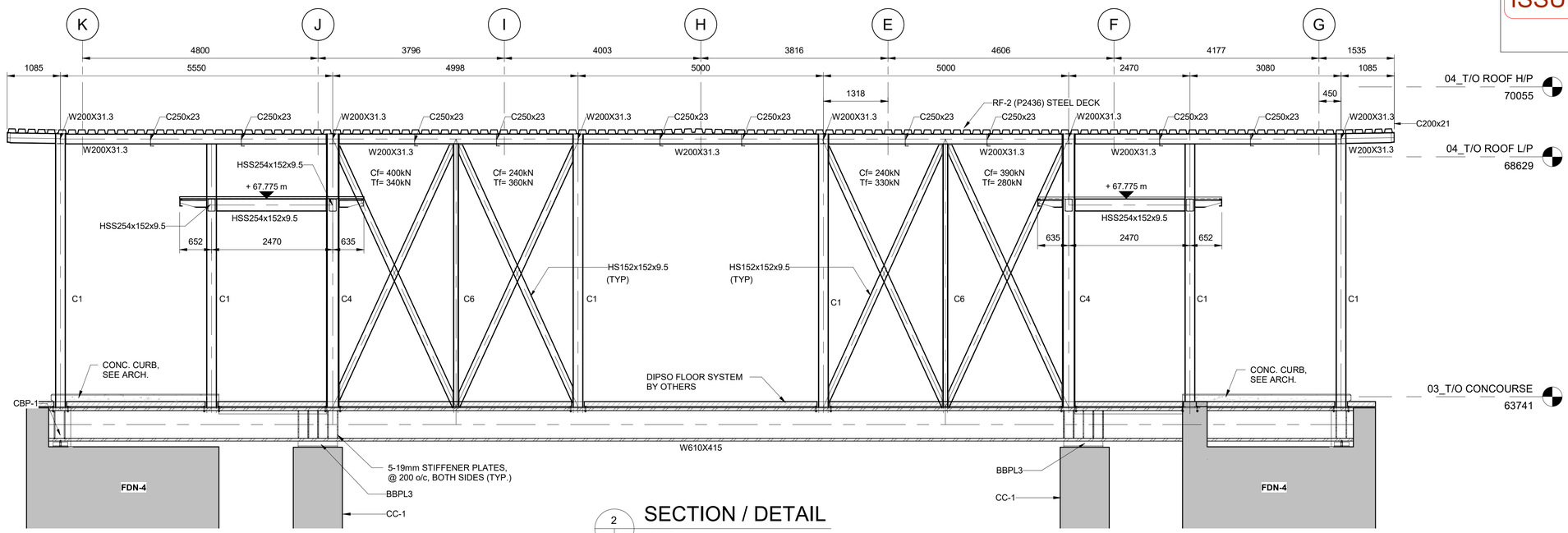


2 / 1009 3008 SECTION / DETAIL
1 : 50

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3008

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

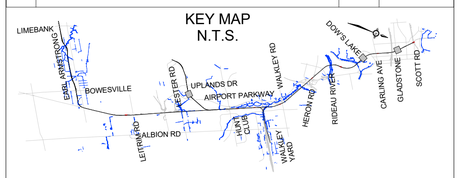
SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

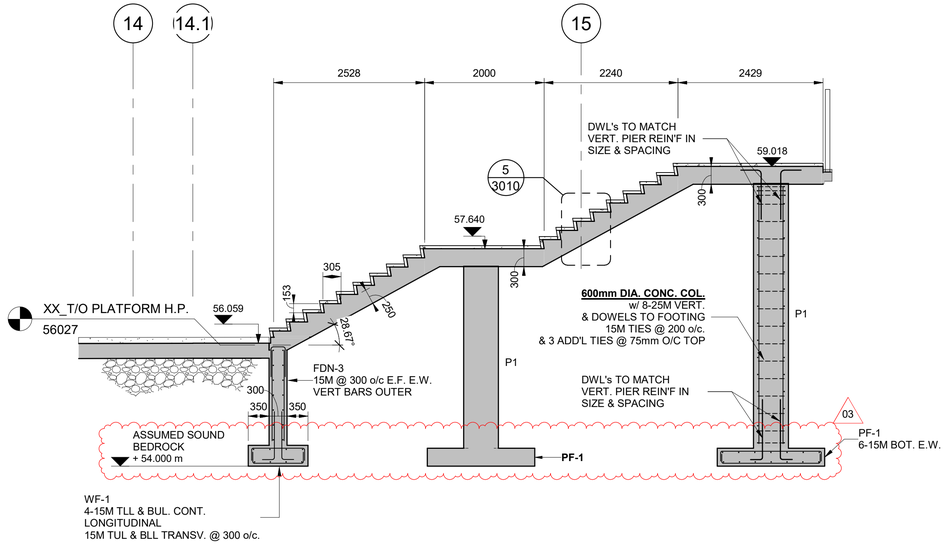
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CLIENT REVIEW-CD SUBMISSION	SI	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30



1 / 1005 3009 SECTION / DETAIL
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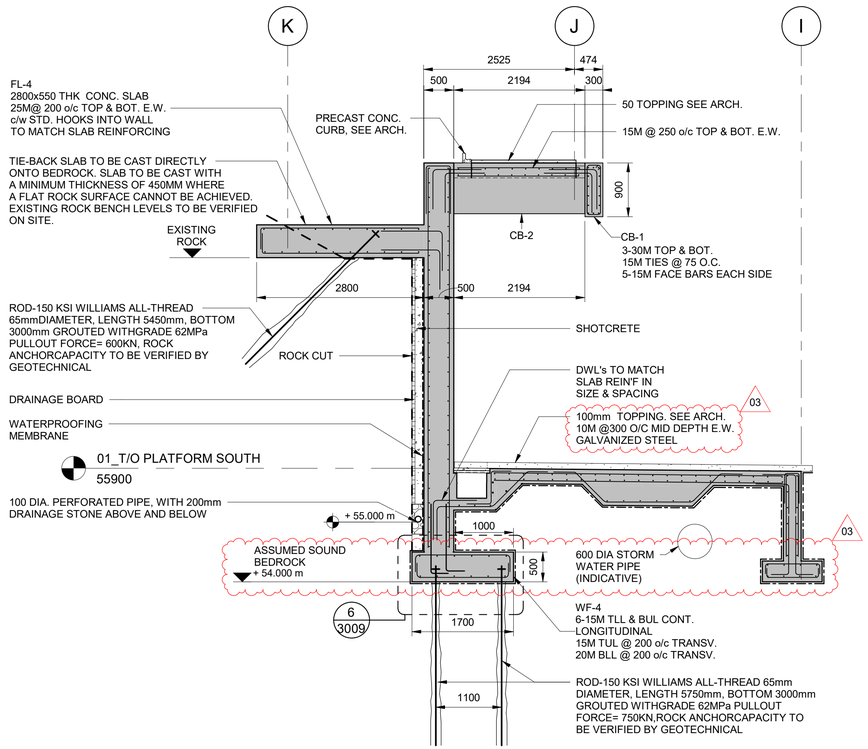
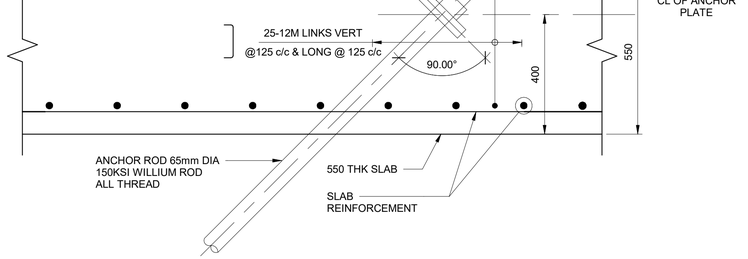
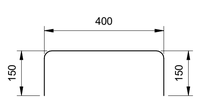


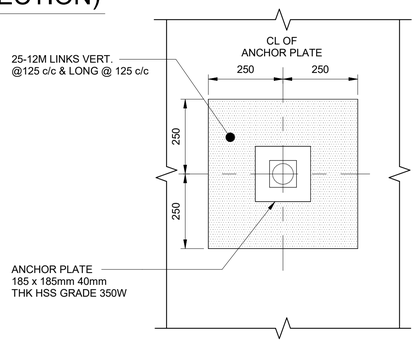
4 / 1002 3009 SECTION / DETAIL
1 : 50



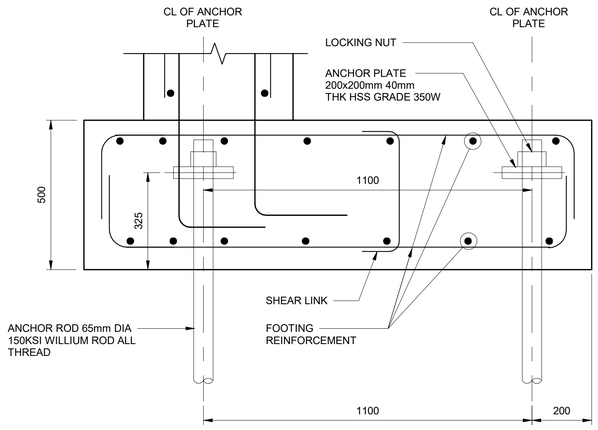
2 / 3009 SLAB ANCHOR DETAIL (SECTION)
1 : 10



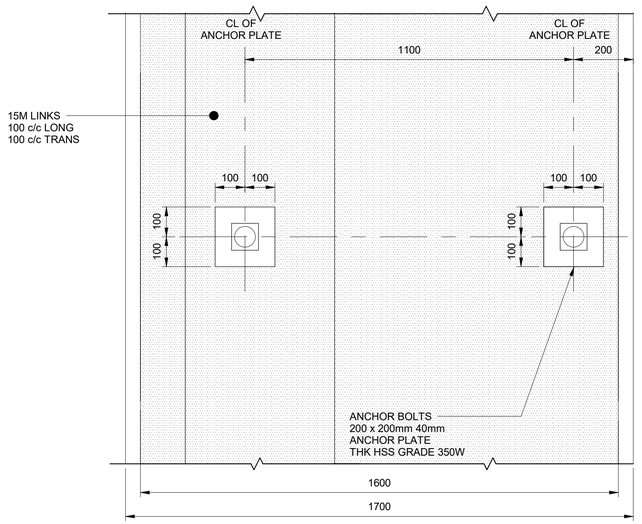
3 / 3009 LINK DETAIL
1 : 10



5 / 3009 SLAB ANCHOR DETAIL (PLAN)
1 : 10



6 / 3009 3009 SECTION / DETAIL
1 : 10



7 / 3009 FOOTING SHEAR LINK DETAIL (PLAN)
1 : 10

OTrain STAGE 2 ETAPE

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3009

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

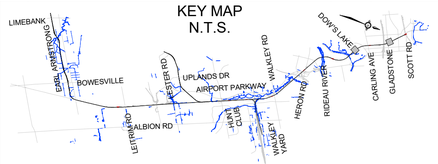
SCALE
AS SHOWN

ASSET No.

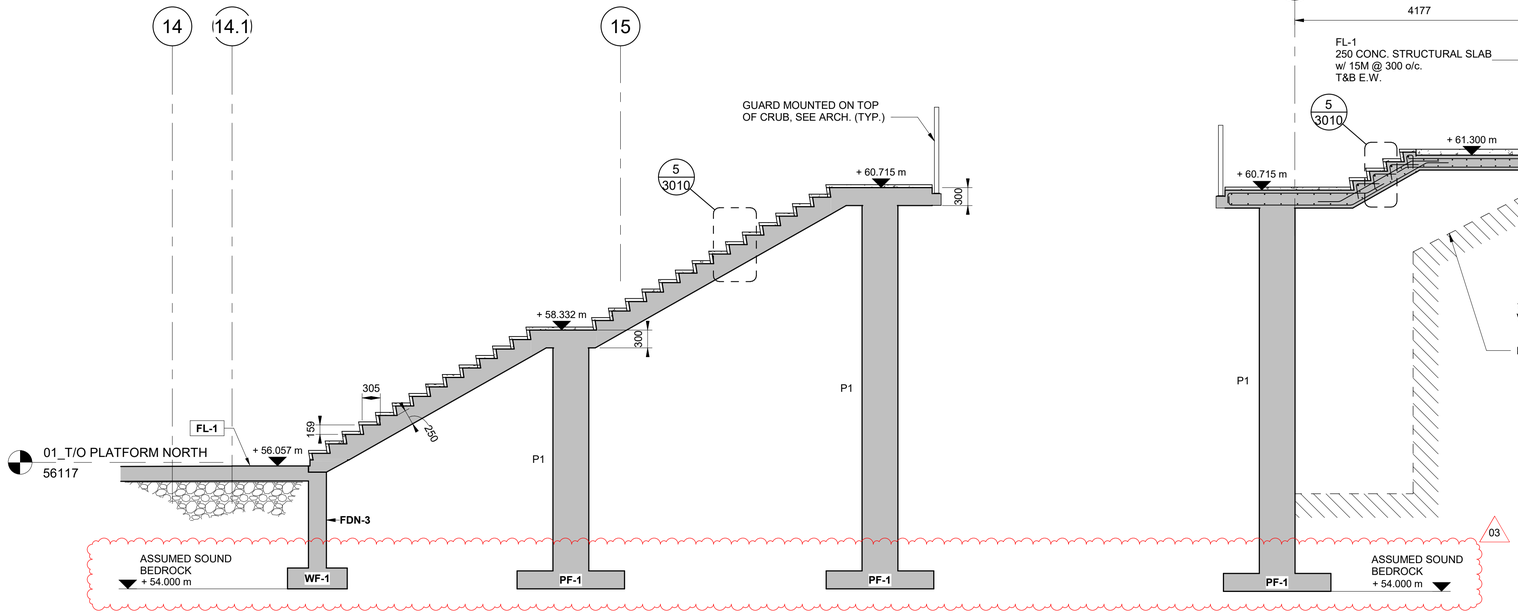
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
01	ISSUED FOR BUILDING PERMIT	SI	2020-11-27
02	ISSUED FOR FCR No. 660373-1GSS-003-40EI-0003	SI	2021-03-29
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.

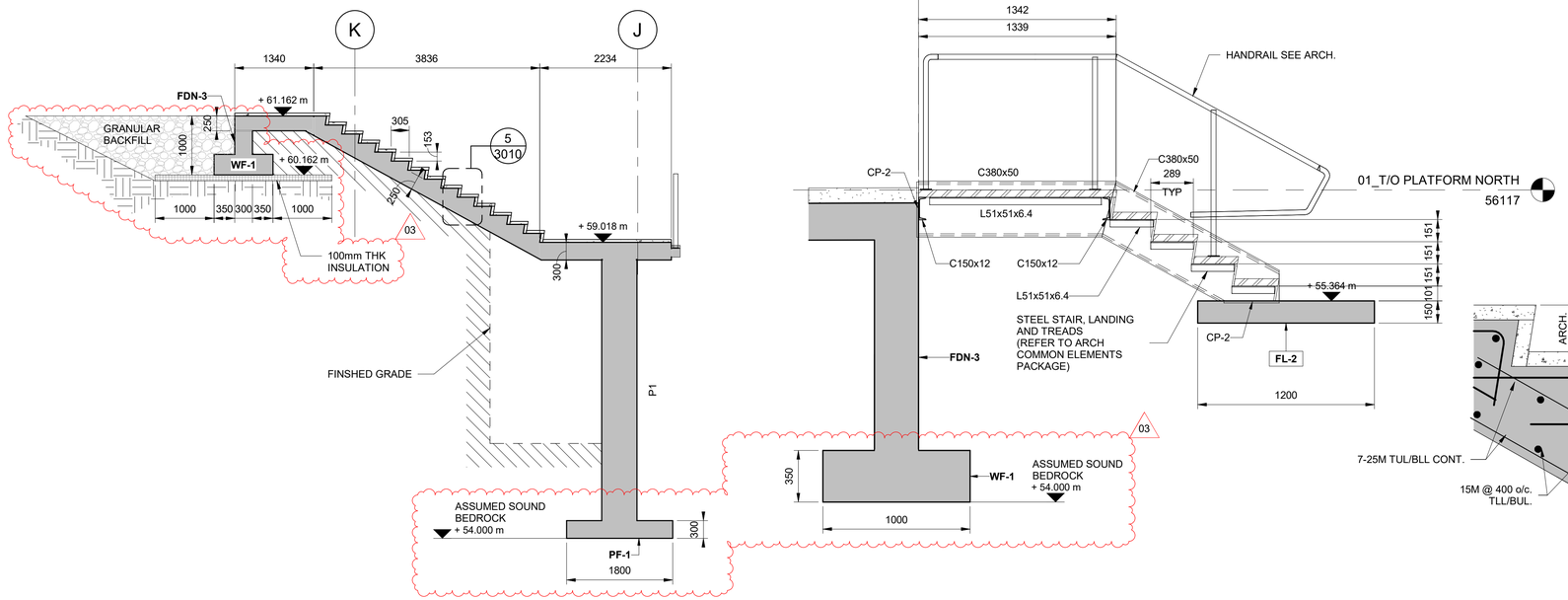


ISSUED FOR CONSTRUCTION
2021-07-30



1 1005 3010 SECTION / DETAIL
1 : 50

2 1005 3010 SECTION / DETAIL
1 : 50



3 1005 3010 SECTION / DETAIL
1 : 50

4 1005 3010 SECTION / DETAIL
1 : 20

5 3009 3010 STAIR DETAIL
1 : 10

6 1005 3010 SECTION / DETAIL
1 : 20

OTrain STAGE 2 ETAPE

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3010

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION - EARLY WORKS	SI	2020-09-24
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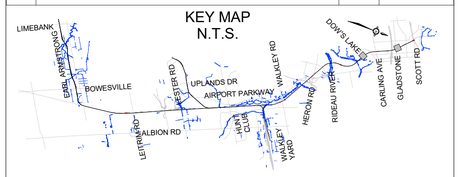
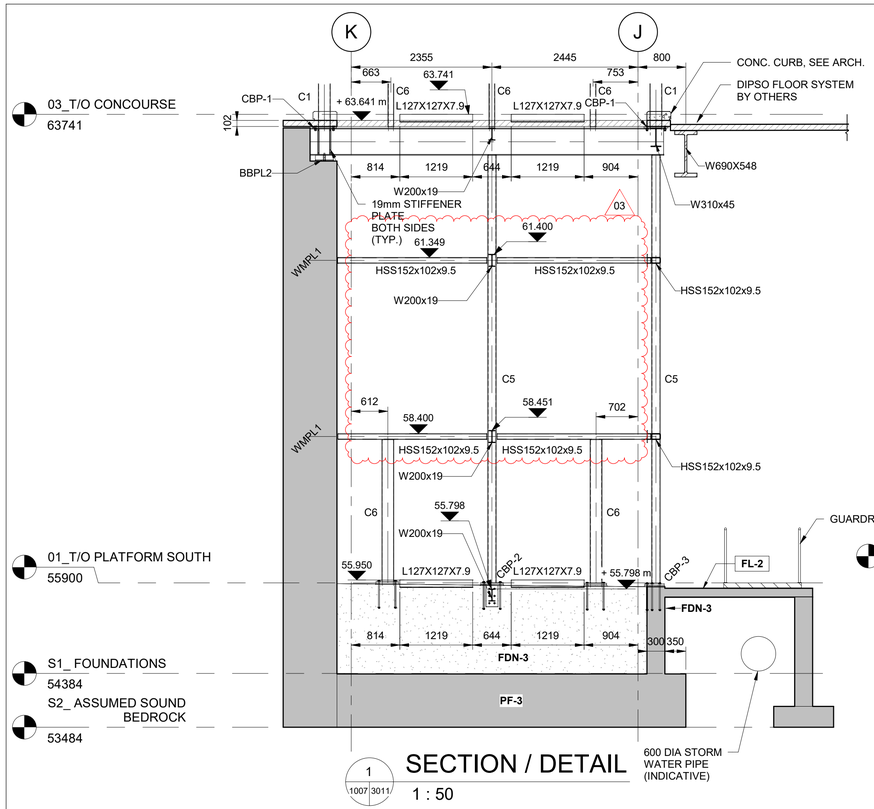
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

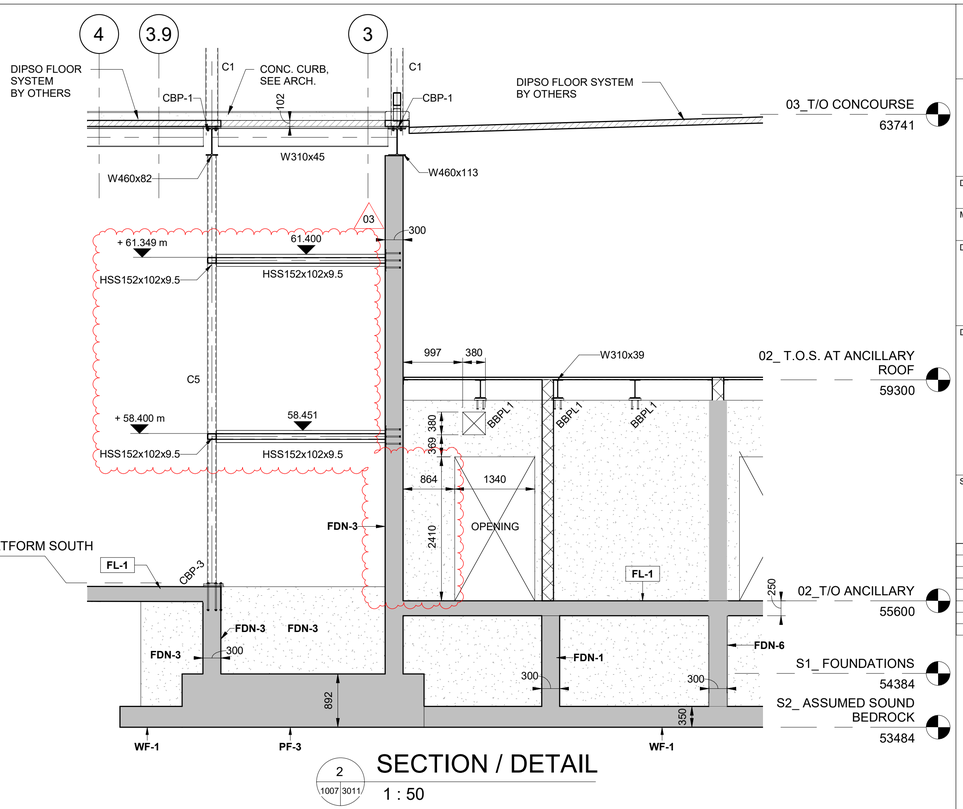
KEY MAP
N.T.S.



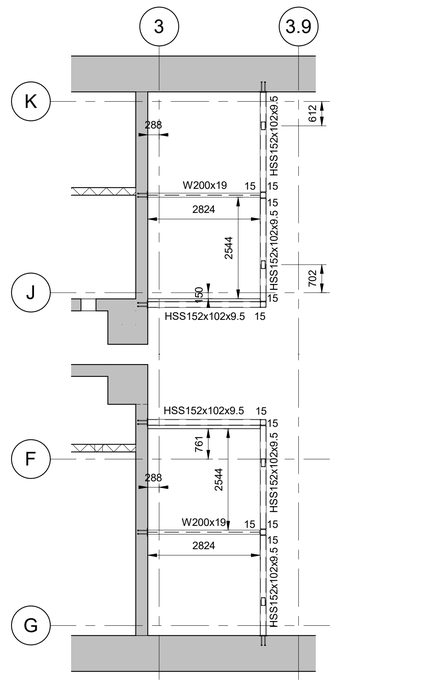
ISSUED FOR CONSTRUCTION
2021-07-30



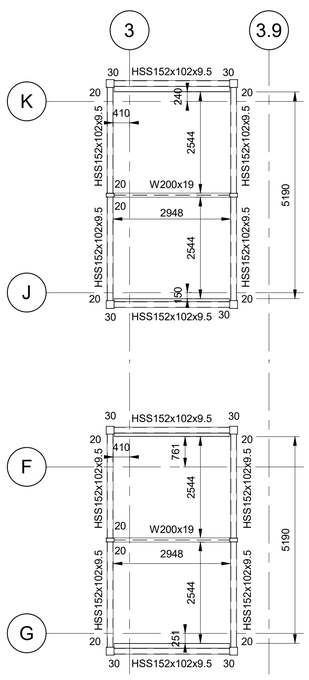
1 / 1007 3011 SECTION / DETAIL
1 : 50



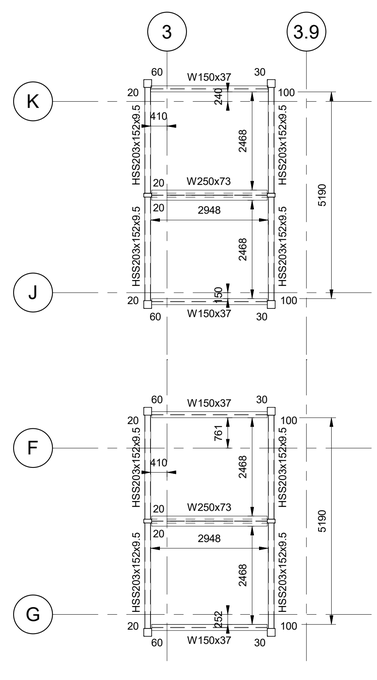
2 / 1007 3011 SECTION / DETAIL
1 : 50



3 / 3001 3011 ELEVATOR PLAN @ T.O.S.
EL= +58.451m & +61.400m
03
1 : 75



4 / 3001 3011 ELEVATOR PLAN @ T.O.S.
EL= +67.551m
1 : 75



5 / 3002 3011 ELEVATOR PLAN @ T.O.S.
EL= +67.957m
1 : 75

OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3011

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER R. G. GILLARD 16129504 2021-07-30 PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

SCALE
HORIZONTAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE
0 0.5 1 2 4 m
VERTICAL 1 : 50 FULLSIZE / 1 : 100 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
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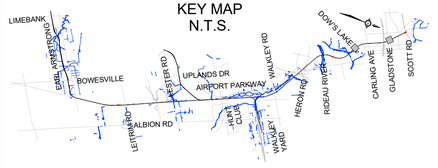
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

TITLEBLOCK: 790mm x 534mm

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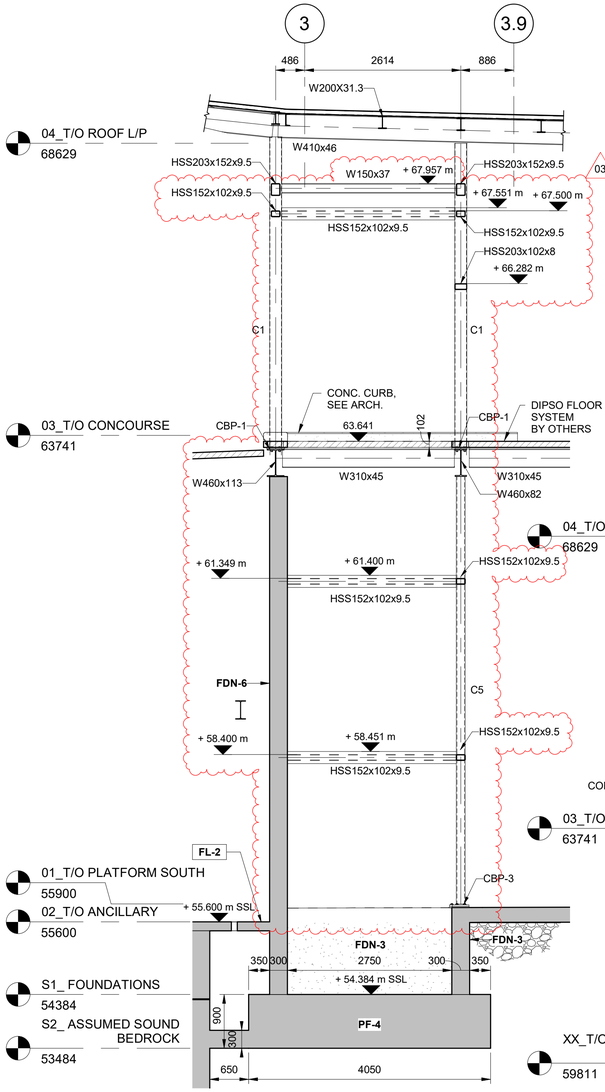
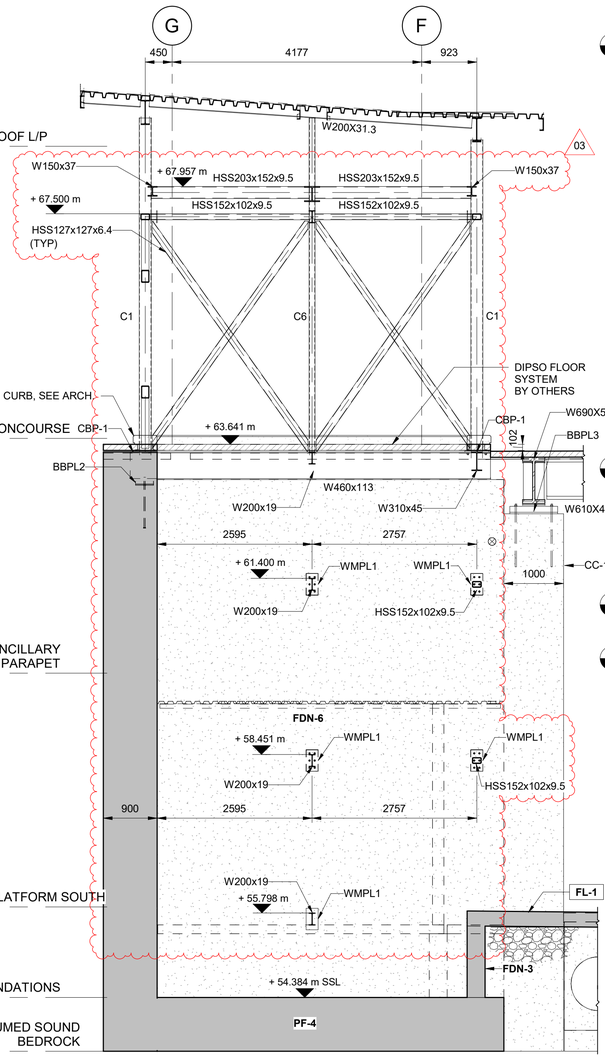
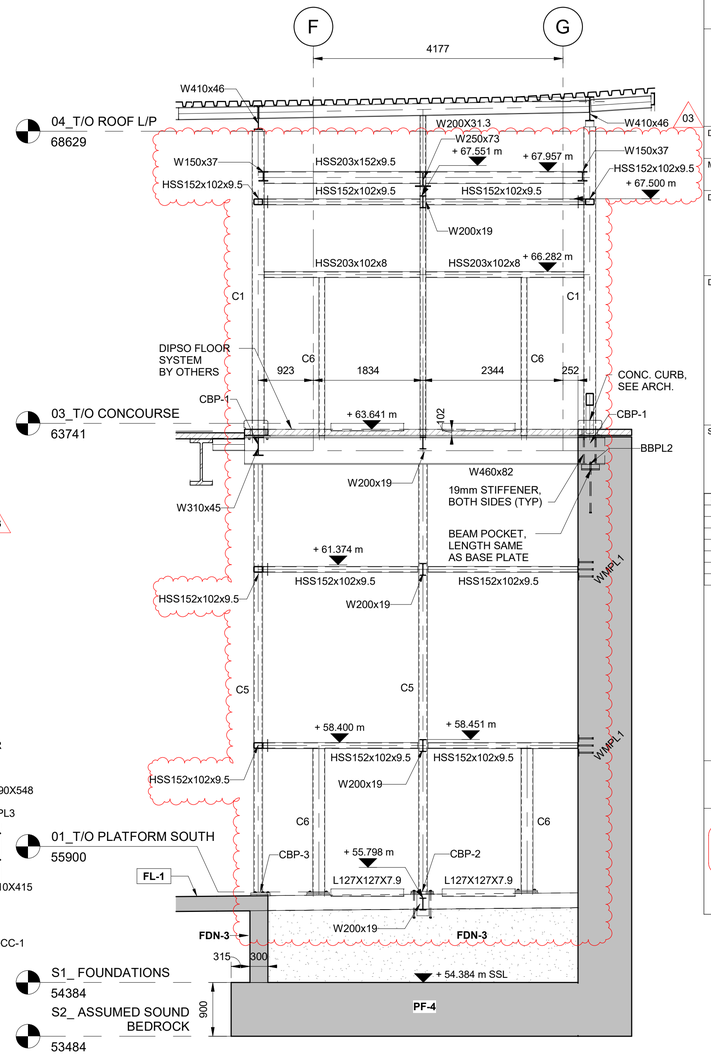


1 SECTION / DETAIL
1007 3012
1 : 50



3 SECTION / DETAIL
1007 3012
1 : 50



2 SECTION / DETAIL
1007 3012
1 : 50

TITLEBLOCK: 790mm x 534mm

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OTrain STAGE 2 ETAPE 2

Ottawa

STRUCTURAL
CORSO ITALIA STATION

SECTIONS/DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
M. IRISH	S. IBRAHIM
DRAWN	SEALED
J. PIDLAOAN	R. GILLARD

DRAWING NUMBER
660373-1GSS-003-43DD-3012

MODEL NUMBER
660373-1GSS-003-43DM-1000

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
R. G. GILLARD
16129504
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

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ASSET No.

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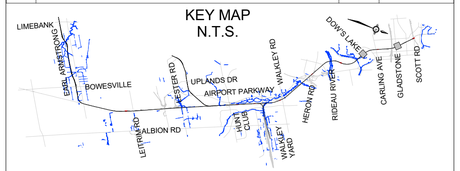
03	REVISED ISSUED FOR CONSTRUCTION	SI	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

TRILLIUM LINE EXTENSION PROJECT

CIVIL
CORSO ITALIA STATION

SEGMENT 2

ISSUED FOR CONSTRUCTION

JULY 30, 2021

CONTRACT NO. - LRT19-1025

DRAWING No. 660373-1GSC-003-41DD-0001 | 01

SUPERCEDES PRINTS OF THIS NUMBER WITH LETTERS PREVIOUS TO

DRAWING INDEX
SEGMENT 2 - CORSO ITALIA STATION

DRAWING No.	DESCRIPTION	REV.	
660373-1GSC-003-41DD-0001	COVER SHEET	01	01
660373-1GSC-003-41DD-0002	DRAWING INDEX	01	
660373-1GSC-003-41DD-0003	KEY PLAN	00	
660373-1GSC-003-41DD-0004	LEGEND AND SYMBOLS	00	
660373-1GSC-003-41DD-0005	GENERAL NOTES	00	
660373-1GSC-003-41DD-0006	STANDARD SPECIFICATIONS	00	
660373-1GSC-003-41DD-0007	STANDARD DRAWINGS	00	
660373-1GSC-003-41DD-0901	TOPOGRAPHY SURVEY PLAN	00	
660373-1GSC-003-41DD-1101	REMOVALS PLAN	01	01
660373-1GSC-003-41DD-4501	GEOMETRY PLAN	01	
660373-1GSC-003-41DD-7501	GRADING AND DRAINAGE PLAN	01	
660373-1GSC-003-41DD-7505	CULVERT PROFILES	00	
660373-1GSC-003-41DD-3101	CULVERT CONNECTION DETAILS	00	
660373-1GSC-003-41DD-3001	TYPICAL SECTIONS	01	01
660373-1GSC-003-41DD-3002	TYPICAL SECTIONS	01	
660373-1GSC-003-41DD-7503	MUP PLAN AND PROFILES	01	
660373-1GSC-003-41DD-7504	EGRESS PATH PLAN AND PROFILES	01	
660373-1GSC-003-41DD-6001	PAVEMENT MARKINGS PLAN	01	

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
DRAWING INDEX

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
A. IYER	I. ROMANSKYY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-0002

MODEL NUMBER

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

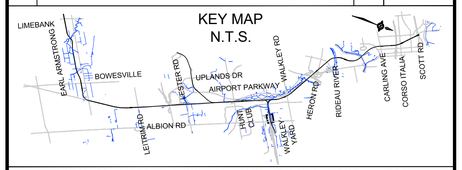
SCALE
N.T.S.

ASSET No.
-

ASSET GROUP
-

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	DS	2021-07-30

KEY MAP
N.T.S.

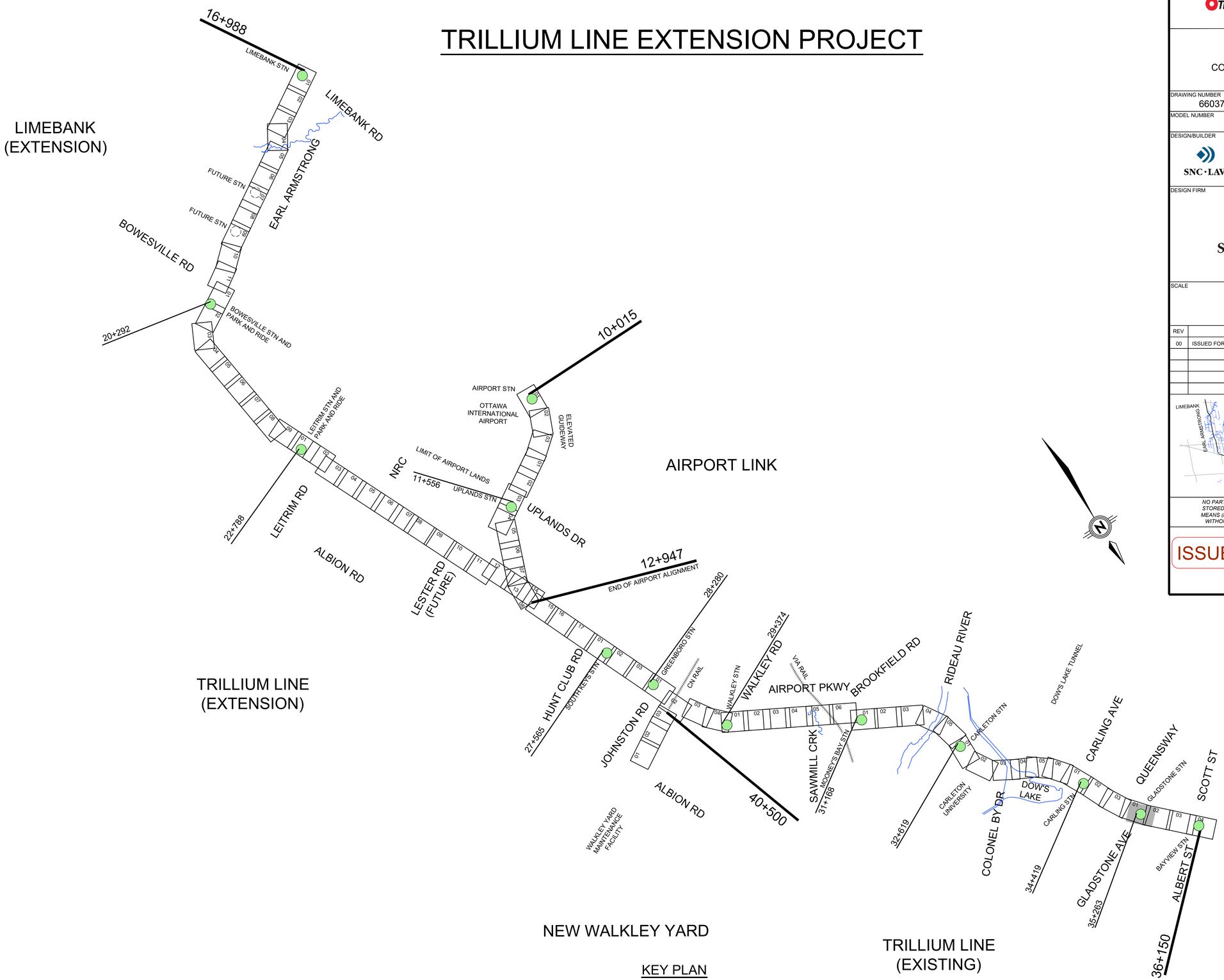


ISSUED FOR CONSTRUCTION

2021-07-30

01

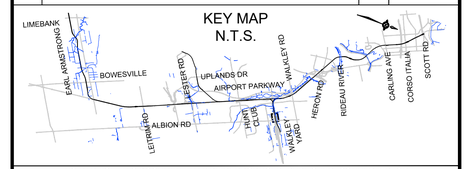
TRILLIUM LINE EXTENSION PROJECT



OTrain STAGE 2 ETAPE 2	Ottawa
CIVIL SEGMENT 2 CORSO ITALIA STATION KEY PLAN	CONTRACT No. LRT19-1025
	DESIGNED A. IYER / CHECKED I. ROMANSKYY
	DRAWN A. IYER / SEALED D. SUDANI
DRAWING NUMBER 660373-1GSC-003-41DD-0003	PRIMARY SEAL
MODEL NUMBER	LICENSED PROFESSIONAL ENGINEER D. N. SUDANI 100114754 2021-03-29 PROVINCE OF ONTARIO
DESIGN/BUILDER SNC·LAVALIN TransitNEXT	
DESIGN FIRM SNC·LAVALIN	SECONDARY SEAL (IF REQUIRED)
SCALE N.T.S.	ASSET No. -
	ASSET GROUP -

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

LEGEND AND SYMBOLS

UTILITIES

		EXISTING	PROPOSED
WATER -	WATERMAIN	200mm WATERMAIN	200mm WM
	PROFILE WATERMAIN		200mm WM (IN PROFILE)
	VALVE BOX		
	VALVE CHAMBER		
	STAND PIPE		
	WATERMAIN LEADS		
	REDUCER		
	HYDRANT		
BELL -	UNDERGOUND BELL CABLE OR DUCT	100mm U/G BELL DUCT	100mm U/G BELL DUCT
	OVERHEAD BELL LINE	O/H BELL	O/H BELL
	BELL POLE	B	B
	BELL MANHOLE	B	B
	BELL POLE WITH GUY WIRE	B	B
	TELEPHONE BOOTH	T	T
	BELL PEDESTAL	B	B
HYDRO -	UNDERGROUND HYDRO CABLE / DUCT	U/G HYDRO DUCT	U/G HYDRO CABLE
	OVERHEAD HYDRO	O/ H HYDRO	O/H HYDRO
	HYDRO POLE	H	H
	HYDRO POLE WITH GUY WIRE	H	H
	HYDRO TOWER		
	HYDRO MANHOLE	H	H
	HYDRO PEDESTAL	H	H
GAS -	GAS MAIN	100mm GAS	100mm GAS
	GAS VALVE		
	GAS METER		
CABLE -	UNDERGOUND TV CABLE (ROGERS)	CATV (ROGERS)	CATV (ROGERS)
	UNDERGOUND TELECOMMUNICATIONS	CATL (TELUS)	CATL (TELUS)

SEWERS

	EXISTING	PROPOSED
SEWER PIPE - COMBINED SEWER	450mm COMBINED SEWER	450mm COMBINED SEWER
STORM SEWER LESS THAN 450mm	350mm STORM SEWER	350mm STORM SEWER
STORM SEWER GREATER THAN 450mm	600mm STORM SEWER	600mm STORM SEWER
SUBDRAIN		
SANITARY SEWER LESS THAN 450mm	350mm SANITARY SEWER	350mm SANITARY SEWER
SANITARY SEWER GREATER THAN 450mm	500mm SANITARY SEWER	500mm SANITARY SEWER
ABANDONED STORM SEWER	ABANDONED 300mm STORM	
ABANDONED SANITARY SEWER	ABANDONED 300mm SANITARY	

SEWERS

	EXISTING	PROPOSED
MANHOLES - STORM MANHOLE		ST
SANITARY MANHOLE		SAN
CATCH BASIN MANHOLE		CBMH
DITCH INLET MANHOLE		DIMH
CATCH BASIN / DOUBLE CATCH BASIN	/	CBI / CB
DITCH INLET		DI
CLEAN OUT		CO
CULVERT		
CULVERT WITH HEAD WALLS		
CONCRETE CURB		ROAD OR PARKING SIDE
SWALES/BIO-SWALES		
DITCH		
EDGE OF LAKE OR RIVER		
TREES		

MISCELLANEOUS

	EXISTING	PROPOSED
TOES		
FENCE		
HANDRAIL		
FENCE GATE		
ROW		PROP. ROW
TEMPORARY ROW		PROP. TEMP. ROW
PROPERTY		
RETAINING WALL		
RAIL TRACKS		
CONCRETE BARRIER		
STEEL BEAM GUIDE RAIL		
STRUCTURE NUMBER	SN000000	SN000000
STRUCTURAL DECK		
SAWCUT		
ROCK CUT LINE		

REFERENCE POINTS

BOREHOLE LOCATION	
CONCRETE MONUMENT	CM
IRON TUBE OR PIPE	IP
IRON BAR	IB
WOOD STAKE	WS
2ND ORDER INTEGRATED SURVEY CONTROL MONUMENT	ISCM 2-
3RD ORDER INTEGRATED SURVEY CONTROL MONUMENT	ISCM 3-
CUT CROSS	
CUT VEE	V
ROUND IRON BAR	RIB
REINFORCING BAR	
STANDARD IRON BAR	SIB
SHORT STANDARD IRON BAR	SSIB
WORK POINT	

PAVEMENT CONSTRUCTION (PROPOSED)

- MUP / SERVICE ROADS (PAVED)
- MUP (STONE DUST)
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- GRAVEL

REMOVALS AND ADJUSTMENTS

- REMOVAL OF ASPHALT PAVEMENT
- REMOVAL OF SIDEWALK / CONCRETE PAVEMENT
- REMOVALS OF GRAVEL ROAD
- MILL AND OVERLAY
- CLEARING AND GRUBBING
- PLUG
- REMOVAL OF UTILITY
- REMOVAL OF CURB
- REMOVAL OF RETAINING WALL
- REMOVAL OF FENCE
- ADJUST EXISTING SINGLE CATCH BASIN (CB)
- ADJUST EXISTING DOUBLE CATCH BASIN (DCB)
- ADJUST EXISTING MANHOLE (MH)
- REMOVAL OF SINGLE CATCH BASIN (CB)
- REMOVAL OF DOUBLE CATCH BASIN (DCB)
- REMOVAL OF MANHOLE (MH)
- REMOVAL OF VALVE CHAMBER (VC)

OTrain STAGE 2 ETAPE 2 — Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
LEGEND AND SYMBOLS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
A. IYER	I. ROMANSKYY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER 660373-1GSC-003-41DD-0004

MODEL NUMBER

DESIGN/BUILDER: SNC·LAVALIN TransitNEXT

PRIMARY SEAL: LICENSED PROFESSIONAL ENGINEER — D. N. SUDANI — 100114754 — 2021-03-29 — PROVINCE OF ONTARIO

DESIGN FIRM: SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

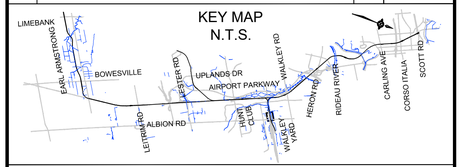
SCALE: N.T.S.

ASSET No. -

ASSET GROUP -

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29

KEY MAP N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

GENERAL NOTES

GENERAL NOTES:

1. THIS PACKAGE TO BE READ IN CONJUNCTION WITH TRACK, LANDSCAPE, UTILITY, ARCHITECTURE, ELECTRICAL DRAWINGS.
2. REFER TO TRACK ALIGNMENT PACKAGE FOR TRACK DETAILS.
3. REFER TO LANDSCAPE PACKAGE FOR LANDSCAPE DESIGN INCLUDING STREET FURNITURE, FENCE AND GATE DETAILS.
4. REFER TO ARCHITECTURE PACKAGE FOR STATION DESIGN.
5. REFER TO ELECTRICAL PACKAGE FOR ELECTRICAL ITEMS INSTALLATION, INCLUDING RELOCATION AND REMOVALS.
6. REFER TO UTILITY PACKAGE FOR DETAILS OF NEW AND EXISTING UTILITIES.
7. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND APPROVALS FOR THE PROPOSED WORK PRIOR TO COMMENCEMENT OF CONSTRUCTION.
8. THE CONTRACTOR SHALL USE DUE CARE WHEN WORKING NEAR EXISTING SERVICES. NOTIFY THE UTILITY OWNER PRIOR TO WORK. ANY SERVICES DISTURBED ARE TO BE REPLACED TO THE SATISFACTION OF THE CITIES OR OTHER APPROVING AGENCIES.
9. THE CONTRACTOR SHALL KEEP PROPER AS-BUILT INFORMATION DURING CONSTRUCTION AND SHALL SUBMIT RED-LINE DRAWINGS AND SUPPORTING AS-BUILT INFORMATION TO THE ENGINEER AS CONSTRUCTION PROGRESSES AND WHEN CONSTRUCTION IS COMPLETED.
10. ROW BASED ON PROPERTY REQUEST PLANS (PRP) PROVIDED BY THE CITY.
11. WORK SHALL CONFORM TO THE LATEST CITY OF OTTAWA STANDARD DRAWINGS AND SPECIFICATIONS AS WELL AS THE LATEST ADOPTED ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS.
12. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE CURRENT "OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS." THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONSTRUCTOR AS DEFINED IN THE ACT.
13. TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT ONTARIO TRAFFIC MANUAL BOOK 7: TEMPORARY CONDITIONS FIELD EDITION.
14. TRENCHES WITHIN EXISTING RIGHT-OF-WAYS SHALL BE BACKFILLED WITH UNSHRINKABLE FILL. TEMPORARY REPAIRS TO UTILITY CUTS SHALL BE IN ACCORDANCE WITH MUNICIPAL CONSENT REQUIREMENTS: APPENDIX D, TEMPORARY REPAIRS TO UTILITY CUTS.
15. THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE EXECUTIVE DIRECTOR TECHNICAL SERVICES.
16. PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL RIGHT-OF-WAY, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY ROAD OCCUPANCY PERMITS FROM THE CITY'S RIGHT OF WAY MANAGEMENT UNIT
17. FENCE LAYOUT REFLECTED INCORPORATES EXISTING LOCATIONS WHERE FEASIBLE, IS LOCATED WITHIN THE R.O.W. LIMITS AND ACCOMODATES THE PROPOSED GUIDEWAY DESIGN. WHERE EXISTING FENCING IS TO REMAIN, THE CONDITION OF THE FENCE WILL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND MAINTAINED IF DEEMED TO BE GOOD CONDITION OR WILL BE REPLACED WITH NEW, AS REQUIRED. MIN. 0.6m BUFFER SHALL BE PROVIDED BETWEEN EDGE OF TRILLIUM PAHTWAY, MUP AND PROPOSED FENCE.
18. ROW BASED ON PROPERTY PLANS (PP) PROVIDED BY THE CITY.
19. DESIGN IS BASED ON DETAILED SURVEY PROVIDED BY SNC SURVEYORS ON APRIL 2019.

ROADWORKS:

1. CONTRACTOR SHALL CONFORM TO ALL CITY OF OTTAWA STANDARDS AND SPECIFICATIONS AS REQUIRED.
2. CONTRACTOR SHALL COORDINATE ABANDONMENT/REMOVAL OF EXISTING UTILITIES, AND ALL PUMPING REQUIREMENTS.
3. UTILITY OWNERS AND/OR OPERATORS TO CONFIRM EXISTING UTILITIES DURING REVIEW PROCESS.
4. THE LOCATION OF EXISTING UTILITIES ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION FROM DAMAGE.
5. CONNECTION POINTS TO EXISTING UTILITIES TO BE VERIFIED BY VISUAL EXPOSURE AND SURVEY AS REQUIRED.
6. ALL CONCRETE AND ASPHALT REMOVALS SHALL BE SAWCUT WHERE THEY MATCH EXISTING TO ENSURE A SMOOTH CLEAN JOINT FOR CONSTRUCTION.
7. CONCRETE OUTLETS FOR CONCRETE CURB AND GUTTER TO BE 90° AS PER OPSD 604.010.

GRADE CONSTRUCTION:

1. ALL ORGANIC MATERIAL SHALL BE REMOVED AS REQUIRED IN THE GEOTECHNICAL REPORT AND REPLACED WITH SUITABLE MATERIAL AND COMPACTED, SUPPLY AND COMPACTION SHALL FOLLOW THE STANDARD SPECIFICATIONS.
2. SUBGRADE AND GRANULAR MATERIAL SHALL BE SUPPLIED, PLACED AND COMPACTED AS PER THE STANDARD SPECIFICATIONS.

STORM DRAINAGE:

1. PVC PIPE SHALL BE IN ACCORDANCE WITH DR 35 CSA B182.2-06 CERTIFIED ASTM D3034-04A, F679-03. SERVICE CONNECTION PVC PIPE SHALL BE IN ACCORDANCE WITH DR 28 CSA B182.2-06 CERTIFIED ASTM D3034-04A.
2. BEDDING FOR FLEXIBLE PIPE SHALL BE IN ACCORDANCE WITH OPSD 802.010, 802.013 OR 802.014
3. REINFORCED CONCRETE PIPE SHALL BE IN ACCORDANCE WITH CSA A257.2-03. CLASS AS SHOWN ON CONTRACT DRAWINGS.
4. NON-REINFORCED CONCRETE PIPE 150 mm TO 250 mm SHALL BE IN ACCORDANCE WITH CSA A257.1-03 CLASS 3. CLASS AS SHOWN ON CONTRACT DRAWINGS.
5. BEDDING FOR RIGID PIPE SHALL BE CLASS B IN ACCORDANCE WITH OPSD 802.030, 802.031, 802.032, OR 802.033, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
6. SUBDRAIN SHALL BE PVC PIPE ACCORDING TO OPSS 1841, OR PE PIPE ACCORDING TO OPSS 1840.
7. MAINTENANCE HOLES SHALL BE IN ACCORDANCE WITH OPSD 701.010 (1200 mm). FRAME AND COVER SHALL BE IN ACCORDANCE WITH OPSD 401.010 TYPE A CLOSE (STORM).
8. BENCHING SHALL BE IN ACCORDANCE WITH OPSD 701.021.
9. DITCH INLET MAINTENANCE HOLES SHALL BE IN ACCORDANCE WITH OPSD 702.040 AND 050.
10. DROP STRUCTURES SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA S12 OR OPSD 1003.031 (INTERNAL).
11. CATCH BASINS SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA S1 OR OPSD 705.010, 020 AND 030. FRAME AND COVER IN ACCORDANCE WITH CITY OF OTTAWA STANDARD DETAILS.
12. CONCRETE DITCH INLET SHALL BE IN ACCORDANCE WITH OPSD 705.030.
13. STORM SEWER SHALL BE INSTALLED WITH 2.0 m MINIMUM COVER ON ROAD, AND 1.2 m MINIMUM COVER AT PARKS.
14. RIP-RAP END TREATMENTS AT SEWER AND CULVERTS OUTLETS TO BE 810.010 TYPE B OR AS SHOWN ON CONTRACT DRAWINGS.
15. RIP-RAP END TREATMENT AT DITCH INLET TO BE OPSD 810.020 OR AS SHOWN ON CONTRACT DRAWINGS.
16. CONCRETE ENDWALL TO BE AS PER OPSD 804.030 AND 040.

UTILITY TREATMENT NOTES:

1. ALL UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND DERIVED FROM MUNICIPAL AND ENGINEERING PLANS. THE CONTRACTOR SHALL OBTAIN AND KEEP LOCATES CURRENT AT ALL TIMES PRIOR TO ANY CONSTRUCTION WORK. ACTUAL SITE CONDITIONS MAY VARY.
2. EXISTING UTILITIES SHOWN ON THE DRAWINGS BASED ON INFORMATION SUPPLIED BY THE SPONSORS, UTILITY OWNERS AND CITY OF OTTAWA. THE LOCATION OF EXISTING UTILITIES ARE APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONDUCT LOCATES AND CONFIRM ALL UTILITY LOCATIONS BEFORE COMMENCING ANY CONSTRUCTION WORK AND RESPONSIBLE FROM ADEQUATE PROTECTION FROM DAMAGE.
3. SEE TRAFFIC MANAGEMENT PLANS FOR SUGGESTED CONSTRUCTION STAGING. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC MANAGEMENT PLANS TO COMPLETE WORKS THAT ARE OUTSIDE THE LIMITS OF THE TRAFFIC MANAGEMENT PLANS PROVIDED.
4. CONTRACTOR SHALL TEST PIT UTILITIES IN FIELD PRIOR TO CONSTRUCTION TO VERIFY LOCATION AND DEPTH.
5. CONTRACTOR SHALL CONFIRM UTILITIES NOTED AS ABANDONED WITH OWNER PRIOR TO CONSTRUCTION / REMOVAL, ALL ABANDONED UTILITIES TO BE GROUTED & CAPPED.
6. INVERT & GRATE ELEVATIONS FOR NEW MAINTENANCE HOLES ARE APPROXIMATE, ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR ON SITE PRIOR TO EXCAVATION & INSTALLATION.
7. RELOCATION OF PRIVATE UTILITIES SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS OF EACH INDIVIDUAL UTILITY OWNER. CONTACT UTILITY OWNER TO COORDINATE WORK.
8. CONTRACTOR TO MAINTAIN STORM DRAINAGE AT ALL TIMES.
   - CONTRACTOR TO PERFORM DETAILED SURVEY FROM 50 m UPSTREAM TO 50 m DOWNSTREAM PRIOR TO CONSTRUCTION TO CAPTURE ROAD GRADES, HIGH POINTS AND LOW POINTS TO DETERMINE EXISTING OVERLAND FLOW CAPACITY OF THE ROAD BEING DISTURBED BY EXCAVATION AND TO DETERMINE UPSTREAM AND DOWNSTREAM LIMITS OF TEMPORARY SURFACE FLOW BYPASS WORKS. THE CAPACITY SHALL BE BASED ON NET SURFACE AREA BELOW THE RESPECTIVE PROPERTY LINE ELEVATIONS.
   - THE CONTRACTOR SHALL PROVIDE A WORKPLAN AND STAMPED DESIGN DRAWINGS FOR OVERLAND FLOW ACCOMMODATION TO CITY OF OTTAWA FOR REVIEW.
   - LOCALIZED ROAD RE-GRADING MAY BE REQUIRED.
   - CONTRACTOR SHALL ENSURE THAT THERE WILL BE NO POOLING UPSTREAM AS RESULT OF THE CONTRACTOR'S WORK.
   - THIS WORK SHALL BE IN ADDITION TO THE MAINTENANCE OF REGULAR STORM DRAINAGE.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT "OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS".
10. A CCTV INSPECTION SHALL BE PERFORMED PRIOR TO THE START OF ANY CONSTRUCTION WORK FOR ALL EXISTING SEWERS THAT ARE WITHIN THE UTILITY RELOCATION ZONES OF THIS PROJECT, INCLUDING SECTIONS UPSTREAM / DOWNSTREAM TO THE NEXT MAINTENANCE HOLE. THE CCTV SHALL ESTABLISH THE CONDITION OF THE EXISTING SYSTEMS AND TO ENSURE THAT THEY WILL NOT BE NEGATIVELY IMPACTED BY CONSTRUCTION. THE CCTV SHALL ALSO DETERMINE ALL EXISTING LATERAL CONNECTIONS WHICH WILL REQUIRE SUPPORT AND REPLACEMENT DURING AND AFTER THE CONSTRUCTION ON THE INFRASTRUCTURE.
   - CCTV REPORTS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER AND SUBMITTED TO THE CITY OF OTTAWA FOR REVIEW.
   - FOLLOWING CONNECTION OF ANY NEW PERMANENT SEWER SECTION, A CCTV INSPECTION SHALL BE PREFORMED FOR THE SEWER, INCLUDING SECTIONS UPSTREAM / DOWNSTREAM TO THE NEXT MAINTENANCE HOLE TO ENSURE THAT THE EXISTING SEWERS HAVE NOT BEEN NEGATIVELY IMPACTED AND THAT THE NEW SEWERS HAVE BEEN PROPERLY CONSTRUCTED.
   - A CCTV INSPECTION SHALL BE PERFORMED FOLLOWING THE WARRANTY PERIOD FOR ALL SEWERS AS DESCRIBED ABOVE TO ENSURE THAT THE SEWERS ARE FUNCTIONING TO THE SATISFACTION OF THE CITY OF OTTAWA.
11. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION AND/OR SUPPORT OF ANY AND ALL SERVICES TO ANY AND ALL AFFECTED PROPERTIES, UNLESS SHOWN ON DETAILED DRAWINGS THAT THIS IS NOT REQUIRED. THE CONTRACTOR SHALL ASSUME A FULL COMPLEMENT OF SERVICES.
12. FOR STREET LIGHTING AND TRAFFIC LIGHT STAGING, SEE STREET LIGHTING DETAILED DRAWINGS AND CITY OF OTTAWA TRAFFIC STANDARD DETAILED DRAWINGS.
13. ADDITIONAL EXCAVATION AND BREAK-OUT OF PROTECTIVE COVERING IN ADDITION TO EXTENT SHOWN MAY BE REQUIRED TO FACILITATE THE SUPPORT OF PRIVATE UTILITIES AS PRESCRIBED
14. CONTRACTORS SHALL NOTE THAT THERE IS SPECIAL PROVISION TO OPSS 1010 IN REGARD THE USAGE OF GRANULAR B MATERIAL INDICATED IN THE BELOW TABLE FOR "MSE WITHIN THE REINFORCED ZONE". THIS SPECIAL PROVISION RESTRICTS THE PERCENTAGE OF FINE CONTENTS AND DEGREE OF COMPACTION. CONTRACTOR SHALL REFER TO DOCUMENT 660373-0000-003-4GEN-0006: MEMORANDUM - GRANULAR B TYPE II PERMEABILITY TEST.

GEOTECHNICAL REPORTS:

CONSTRUCTION TO BE IN ACCORDANCE WITH THE FOLLOWING GEOTECHNICAL REPORTS FOR EMBANKMENT CONSTRUCTION, PROOF ROLLING, SUBGRADE PREPARATION, FILL MATERIALS, COMPACTION REQUIREMENTS, SLOPES, MSE WALL FOUNDATIONS AND ALL OTHER RELATED GEOTECHNICAL RECOMMENDATIONS:

REPORT SUBJECT	DOCUMENT NUMBER	REV	DOCUMENT TITLE
CONSTRUCTION IMPACT ASSESSMENT REPORT	660373-0000-003-4GER-1002	00	CONSTRUCTION IMPACT ASSESSMENT REPORT - SEGMENT 2
GIMP REPORT	660373-0000-003-4GER-2002	00	GEOTECHNICAL INSTRUMENTATION AND MONITORING PLAN (GIMP) - SEGMENT 2
STATION REPORTS			
BAYVIEW STATION	660373-1BVS-003-4GER-0001	00	GEOTECHNICAL DESIGN REPORT FOR BAYVIEW STATION
GLADSTONE STATION	660373-1GSS-003-4GER-0001	01	GEOTECHNICAL DESIGN REPORT FOR GLADSTONE STATION
CARLING STATION	660373-1CLS-003-4GER-0001	02	GEOTECHNICAL DESIGN REPORT FOR CARLING STATION
CARLETON STATION	660373-3MCU-003-4GER-0001	04	DETAILED GEOTECHNICAL DESIGN REPORT - MUP PEDESTRIAN UNDERPASS AT CARLETON STATION
MOONEY'S BAY STATION	660373-1MBS-003-4GER-0001	01	GEOTECHNICAL DESIGN REPORT FOR STATION PLATFORM AT MOONEY'S BAY STATION
WALKLEY STATION	660373-1WKS-003-4GER-0001	00	PRELIMINARY GEOTECHNICAL DESIGN REPORT - STATION PLATFORMS AT WALKLEY STATION
GREENBORO STATION	660373-1GBS-003-4GER-0001	01	GEOTECHNICAL DESIGN REPORT FOR STATION PLATFORMS AT GREENBORO STATION
STRUCTURE REPORTS	660373-3BEW-003-4GER-0001	02	GEOTECHNICAL DESIGN REPORT - VIA RAIL GRADE SEPARATION BRIDGE AT ELLWOOD DIAMOND REPORT
	660373-3BEW-003-4GER-0002	03	GEOTECHNICAL DESIGN REPORT - EMBANKMENT AT VIA RAIL GRADE SEPARATION AT ELLWOOD DIAMOND
	660373-3BUR-003-4GER-0001	02	GEOTECHNICAL DESIGN REPORT - MULTI-USE PEDESTRIAN BRIDGE OVER RIDEAU RIVER NEAR UNIVERSITY ROAD
	660373-3MCN-003-4GER-0001	03	DETAILED GEOTECHNICAL DESIGN REPORT - NORTH RAIL BRIDGE OVER MULTI-USE PEDESTRIAN BRIDGE AT CARLETON UNIVERSITY
	660373-3MCS-003-4GER-0001	02	DETAILED GEOTECHNICAL DESIGN REPORT - SOUTH MULTI-USE PEDESTRIAN UNDERPASS AT CARLETON UNIVERSITY
TRACK REPORT	660373-4TAA-003-4GER-0002	02	TRILLIUM PHASE 2 PROJECT – TRACKBED DESIGN REPORT – SEGMENT 2: BAYVIEW STATION TO GREENBORO STATION
ROCK CUT MEMO	660373-4CGC-003-4GER-0002	00	ROCK CUT ASSESSMENT - CARLING AND GLADSTONE STATIONS
CAMPUS AVENUE STABILITY STUDY	660373-4CGC-003-4GEN-0001	00	TECHNICAL MEMO - CAMPUS AVENUE STABILITY STUDY
STRESS ANALYSIS FOR STORM PIPES MEMO	660373-0000-003-4GEN-0013	00	TECHNICAL MEMO - STRESS ANALYSIS UNDER E80 FREIGHT TRAIN LOADS FOR STORM PIPES AT STA. 30+544, 31+156, AND 34+410 WITHIN SEGMENT 2

MATERIALS SPECIFICATIONS FOR SEGMENTS 1 AND 2:

USAGE	LOCATION OF BACKFILL	MATERIAL	COMPACTION, LIFT THICKNESS AND (MAX. SIZE OF PARTICULES)	QUALITY CONTROL	
				MATERIAL	COMPACTION
SLOPED EMBANKMENT WITH TYPICAL 2H:1V SLOPE	WITHIN THE EMBANKMENT	COMPACTIBLE EARTH OR GRANULAR	98 % SPMDD, 300 MM*, (300 MM)	AS PER OPSS 212, TABLE 1, FOR ALL TYPE OF MATERIAL	"AS PER OPSS 501, METHODS A OR B. FREQUENCY: TABLE 1, PART I"
	LAST 1.5 M OF FILL UNDER SUB-BASE LEVEL	COMPACTIBLE EARTH OR SELECTED SUBGRADE MATERIAL	100% SPMDD, 300 MM*, (200 MM)	AS PER OPSS 212, TABLE 1, FOR ALL EMBANKMENT USE	AS PER OPSS 501, METHODS A OR B. FREQUENCY: TABLE 1, PART I
	LAST 0.3 M OF FILL UNDER SUB-BASE LEVEL	SELECTED SUBGRADE MATERIAL OR GRANULAR	100% SPMDD, 300 MM*, (200 MM)	AS PER OPSS 212, TABLE 1, FOR ALL EMBANKMENT USE	AS PER OPSS 501, METHODS A OR B. FREQUENCY: TABLE 1, PART I
WITHIN STRUCTURE LIMIT (BRIDGE ABUTMENT, BOX CULVERT OR STATION)	INCLUDING A DISTANCE FROM THE STRUCTURE LIMITS ABUTMENT: 10 M STATION: 10 M BOX CULVERT: 5 M OR EQUIVALENT MAX HEIGHT OF BOX CULVERT WHICHEVER IS HIGHER	GRANULAR B TYPE II	FOR EMBANKMENT AND WALL BACKFILL**: • GENERAL: 98 % SPMDD, 300 MM* • 1.5 M BELOW THE TRACK SUB-BALLAST BASE LEVEL: 100% SPMDD, 300 MM*	AS PER OPSS 212, TABLE 1, FOR ALL EMBANKMENT USE	AS PER OPSS 501, METHODS A OR B. FREQUENCY: TABLE 1, PART II
			• FOR BOX CULVERT AND WITHIN THE STATION LIMITS: 100% OF ITS SPMDD, 300 MM*	AS PER OPSS 1010, TABLES B-1 AND B-2 (UNDER STATION LIMITS)	AS PER OPSS 501, FREQUENCY: TABLE 1, PART V
CSP AND SMALL CULVERT BELOW GRADE	WITHIN THE EXCAVATION, CONSIDERING PROPER TAPERS FROM CROSS-SECTION	GRANULAR B TYPE II	98 % SPMDD, 300 MM*	AS PER OPSS 212, TABLE 1	AS PER OPSS 501, FREQUENCY: TABLE 1, PART IV
MSE WITHIN THE REINFORCED ZONE	RETAINING WALLS	GRANULAR B TYPE II**	• GENERAL: 98 % SPMDD, 300 MM* • 1.5 M BELOW THE TRACK SUB-BALLAST BASE LEVEL: 100% SPMDD, 300 MM*	AS PER OPSS 1010 TABLES B-1 AND B-2	AS PER OPSS 501, FREQUENCY: TABLE 1, PART V
TRACK BED	BALLAST	AREMA NO. 4A	NO SPECIFIC COMPACTION IS REQUIRED (PACKED BY A BALLAST TAMPER)	AS PER OPSS 1010 TABLES B-1 AND B-2	---
	SUB-BALLAST	GRANULAR 'A' WITH LESS THAN 5% OF FINES (<75 MM) OR GRANULAR O	100 % SPMDD, 300 MM*	AS PER OPSS 1010 TABLES B-1 AND B-2	AS PER OPSS 501, FREQUENCY: TABLE 1, PART V
	SUB-BASE	GRANULAR B TYPE II	100 % SPMDD, 300 MM*	AS PER OPSS 1010 TABLES B-1 AND B-2"	AS PER OPSS 501, FREQUENCY: TABLE 1, PART V
SLOPED EMBANKMENT WITH TYPICAL 1.75H:1V	WITHIN THE EMBANKMENT	GRANULAR B TYPE II OR BETTER. MINIMUM PHI + 41 DEGREES	100 % SPMDD, 300 MM*	AS PER OPSS212, TABLE1, FOR SELECT EMBANKMENT USE	AS PER OPSS 501 METHODS A OR B. FREQUENCY : TABLE1, PART1

NOTES: * FILL LIFT BEFORE COMPACTION
** GRANULAR B TYPE II, CONTAINING <7.5% FINES
SOURCE : 20200331_660373_0000-003-4GEN-0003_02_GEOTECHNICAL_MATERIAL_SPECIFICATIONS.PDF

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
GENERAL NOTES

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
A. IYER	I. ROMANSKYY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER 660373-1GSC-003-41DD-0005

MODEL NUMBER

DESIGN/BUILDER SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-03-29
PROVINCE OF ONTARIO

DESIGN FIRM SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

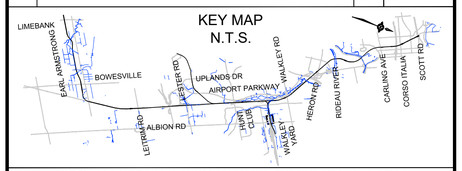
SCALE N.T.S.

ASSET No. -

ASSET GROUP -

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

STANDARD SPECIFICATIONS

ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS)

NO.	TITLE
MUNI 180	MANAGEMENT OF EXCESS MATERIALS
MUNI 182	ENVIRONMENTAL PROTECTION FOR CONSTRUCTION IN AND AROUND WATERBODIES AND ON WATERBODY BANKS
201	CLEARING, CLOSE CUT CLEARING, GRUBBING, AND REMOVAL OF SURFACE AND PILED BOULDERS
MUNI 206	GRADING
MUNI 209	EMBANKMENTS OVER SWAMPS AND COMPRESSIBLE SOILS
MUNI 212	EARTH BORROW
MUNI 305	GRANULAR SEALING
MUNI 310	HOT MIX ASPHALT
311	ASPHALT SIDEWALK AND SIDEWALK RESURFACING ASPHALT SIDEWALK, DRIVEWAY, BOULEVARD AND SIDEWALK RESURFACING
MUNI 312	ASPHALT CURB AND GUTTER SYSTEMS AND ASPHALT SURFACING OF GUTTERS
MUNI 314	UNTREATED SUBBASE, BASE, SURFACE, SHOULDER, SELECTED SUBGRADE, AND STOCKPILING
MUNI 316	EXTRUDED EXPANDED POLYSTYRENE FROST HEAVE TREATMENT
MUNI 330	IN-PLACE FULL DEPTH RECLAMATION OF BITUMINOUS PAVEMENT AND UNDERLYING GRANULAR
350	CONCRETE PAVEMENT AND CONCRETE BASE
351	CONCRETE SIDEWALK
353	CONCRETE CURB AND GUTTER SYSTEMS
MUNI 355	INSTALLATION OF INTERLOCKING CONCRETE PAVERS
MUNI 401	TRENCHING, BACKFILLING, AND COMPACTING
MUNI 402	EXCAVATING, BACKFILLING, AND COMPACTING FOR MAINTENANCE HOLES, CATCH BASINS, DITCH INLETS, AND VALVE CHAMBERS
MUNI 403	ROCK EXCAVATION FOR PIPELINES, UTILITIES, AND ASSOCIATED STRUCTURES IN OPEN CUT
MUNI 404	SUPPORT SYSTEMS
MUNI 405	PIPE SUBDRAINS
407	MANHOLES, CATCH BASINS AND DITCH INLETS (MTC)
408	ADJUSTING OR REBUILDING MAINTENANCE HOLES, CATCH BASINS, DITCH INLETS, AND VALVE CHAMBERS
MUNI 409	CLOSED-CIRCUIT TELEVISION (CCTV) INSPECTION OF PIPELINES
MUNI 410	PIPE SEWER INSTALLATION IN OPEN CUT
MUNI 421	PIPE CULVERT INSTALLATION IN OPEN CUT
422	PRECAST REINFORCED CONCRETE BOX CULVERTS AND BOX SEWERS IN OPEN CUT (REISSUED NOVEMBER 2010)
MUNI 490	SITE PREPARATION FOR PIPELINES, UTILITIES, AND ASSOCIATED STRUCTURES
MUNI 491	PRESERVATION, PROTECTION, AND RECONSTRUCTION OF EXISTING FACILITIES
MUNI 492	SITE RESTORATIONFOLLOWING INSTALLATION OF PIPELINES, UTILITIES, AND ASSOCIATED STRUCTURES
MUNI 501	COMPACTING
MUNI 506	DUST SUPPRESANTS
MUNI 510	REMOVAL
MUNI 511	RIP-RAP, ROCK PROTECTION, AND GRANULAR SHEETING
MUNI 512	INSTALLATION OF GABIONS
MUNI 517	DEWATERING FOR EXCAVATIONS
MUNI 518	CONTROL OF WATERING FROM DEWATERING OPERATIONS
MUNI 539	TEMPORARY PROTECTION SYSTEMS
703	PERMANENT SMALL SIGNS AND SUPPORT SYSTEMS
704	POST MOUNTED DELINEATORS
705	FLEXIBLE DELINEATORS
MUNI 706	TRAFFIC CONTROL DEVICES
710	PAVEMENT MARKING (FORMERLY OPSS 532)
MUNI 721	STEEL BEAM GUIDE RAIL AND CABLE GUIDE RAIL
MUNI 723	ENERGY ATTENUATORS
MUNI 732	GUIDE RAIL END TREATMENT - STEEL BEAM ENERGY ATTENUATING TERMINAL SYSTEMS
MUNI 733	STEEL BEAM TERMINAL SYSTEM
740	CONCRETE BARRIERS (FORMERLY OPSS 553)
741	TEMPORARY CONCRETE BARRIERS
MUNI 771	STANDARD HIGHWAY FENCE
MUNI 772	CHAIN-LINK FENCE
801	PROTECTION OF TREES (FORMERLY OPSS 565)
802	TOPSOIL (FORMERLY OPSS 570)

NO.	TITLE
MUNI 803	SODDING
MUNI 804	SEED AND COVER
MUNI 805	TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES
902	EXCAVATING AND BACKFILLING - STRUCTURES
MUNII 1001	AGRREGATES - GENERAL
MUNII 1002	AGRREGATES - CONCRETE
MUNII 1003	AGRREGATES - HOT MIX ASPHALT
MUNI 1004	AGGREGATES - MISCELLANEOUS
MUNII 1005	AGGREGATES - STREAMBED MATERIAL
MUNII 1006	AGGREGATES - SURFACE TREATMENT
MUNI 1010	AGGREGATES - BASE, SUBBASE, SELECT SUBGRADE, AND BACKFILL MATERIAL
MUNI 1101	PERFORMANCE GRADED ASPHALT CEMENT
MUNI 1102	LIQUID ASPHALT USED IN SPRAYING, SEALING, AND PRIMING APPLICATIONS
MUNI 1103	EMULSIFIED ASPHALT
MUNI 1150	HOT MIX ASPHALT
MUNI 1151	SUPERPAVE AND STONE MASTIC ASPHALT MIXTURES
1301	CEMENTING MATERIALS
1302	WATER
MUNI 1303	ADMIXTURES FOR CONCRETE
1305	MOISTURE VAPOUR BARRIERS
1306	BURLAP
1308	JOINT FILLER IN CONCRETE
1315	WHITE PIGMENTED CURING COMPOUND FOR CONCRETE
MUNI 1350	CONCRETE - MATERIALS AND PRODUCTION
1351	PRECAST REINFORCED CONCRETE COMPONENTS FOR MAINTENANCE HOLES, CATCH BASINS, DITCH INLETS AND VALVE CHAMBERS
1352	PRECAST CONCRETE BARRIERS
MUNI 1430	GABION BASKETS AND MATS
MUNI 1504	STEEL BEAM GUIDE RAIL
MUNI 1505	CHANNEL COMPONENTS FOR STEEL BEAM GUIDE RAIL
MUNI 1540	STANDARD HIGHWAY FENCE COMPONENTS
MUNI 1541	CHAIN-LINK FENCE COMPONENTS
1712	ORGANIC SOLVENT BASED TRAFFIC PAINT
1713	THERMOPLASTIC PAVEMENT MARKING MATERIALS
1714	FIELD REACTED POLIMERIC PAVEMENT MARKING MATERIALS
1715	PERFORMED PLASTIC PAVEMENT MARKING TAPE
1716	WATER-BORNE TRAFFIC PAINT
1750	TRAFFIC PAINT REFLECTORIZING GLASS BEADS
MUNI 1801	CORRUGATED STEEL PIPE (CSP) PRODUCTS
MUNI 1820	CIRCULAR AND ELLIPTICAL CONCRETE PIPE
MUNI 1841	NON-PRESSURE POLYVINYL CHLORIDE PIPE PRODUCTS
MUNI 1850	FRAMES, GRATES, COVERS, AND GRATINGS
MUNI 1860	GEOTEXTILES

CITY OF OTTAWA SPECIAL PROVISIONS

NO.	TITLE
F-1007	SEWER FLOW MANAGEMENT PLANS
F-1201	USE OF EXPLOSIVE
F-2060	EARTH EXCAVATION, GRADING (INCLUDING REMOVALS)
F-2065	EARTH DITCH CLEANOUT, ROCK DITCH CLEANOUT
F-2120	SELECT SUBGRADE MATERIAL FOR TRENCH BACKFILL
F-3051	GRANULAR SEALING
F-3101	PRICE ADJUSTMENT FOR PERFORMANCE GRADED ASPHALT CEMENT
F-3104	PERFORMANCE GRADED HOT MIX ASPHALT - MARSHALL DESIGN METHOD
F-3106	MATERIAL SPECIFICATION FOR SUPERPAVE HOT MIX ASPHALT MIXES

NO.	TITLE
F-3110	ASPHALT SIDEWALK, MEDIANS, BOULEVARDS, ISLANDS, PRIVATE WALKS AND DRIVEWAY
F-3130	CONSTRUCTION SPECIFICATION FOR HOT MIX ASPHALTEND RESULT
F-3145	CLEAR STONE
F-3147	GRANULAR MATERIAL
F-3500	ULTRA THIN WHITE TOPPING (UTW)
F-3510	CONCRETE SIDEWALK, MEDIANS, BOULEVARDS AND ISLANDS
F-3511	CONCRETE SIDEWALK "ALL INCLUSIVE"
F-3512	TACTILE WALKING SURFACE INDICATORS
F-3513	SLAB JACKING OF CONCRETE SIDEWALKS AND SLABS
F-3515	CONCRETE DRIVEWAYS
F-3531	CONCRETE CURB AND GUTTER
F-3532	PRECAST CONCRETE CURB
F-3550	INTERLOCKING CONCRETE PAVERS
F-4031	ROCK EXCAVATION FOR SEWERS AND WATERMAINS
F-4050	PIPE SUBDRAIN
F-4070	MAINTENANCE HOLES, CATCH BASINS, DITCH INLETS AND CHAMBERS
F-4080	ADJUSTING OR REBUILDING MAINTENANCE HOLES, CATCH BASINS, DITCH INLETS AND VALVE CHAMBERS
F-4090	CLEANING AND TELEVISING OF SEWERS
F-4100	PIPE SEWERS
F-4101	CONNECTING TO EXISTING MAINTENANCE HOLES, CATCH BASINS, DITCH INLETS CULVERTS AND SEWERS
F-4102	EXPANDED POLYSTYRENE INSULATION FOR SEWERS
F-4103	WEEPING TILE REROUTE WITH BACKWATER VALVE
F-4104	ABANDONMENT OF SEWER INFRASTRUCTURE
F-4210	PIPE CULVERTS, CONCRETE HEADWALLS AND CONCRETE APPURTANCES
F-4221	SUBSTITUTION OF PRECAST CONCRETE FOR CAST-IN-PLACE CONCRETE BOX CULVERTS
F-4411	WATERMAIN CONSTRUCTION BY OPEN CUT
F-4412	WATERMAIN PIPE
F-4413	VALVES, VALVES BOXES, VALVE CHAMBERS
F-4415	INSULATION FOR WATERMAINS
F-4491	COMMISSIONING OF WATERMAIN
F-4492	THRUST RESTRAINT OF WATERMAINS AND FITTINGS
F-4493	TRACING WIRE FOR WATERMAINS AND NON-METALLIC FORCEMAINS
F-4494	CATHODIC PROTECTION OF NEW WATERMAINS AND FITTINGS
F-5103	REMOVAL OF ASPHALT PAVEMENT, PARTIAL DEPTH
F-6011	STREETLIGHTING
F-6101	REMOVAL OF ELECTRICAL EQUIPMENT
F-6151	POLE ERECTION
F-6171	ROADWAY LUMINAIRES
F-7211	STEEL BEAM GUIDE RAIL, CABLE GUIDE RAIL, AND DELINEATOR POSTS
F-7216	REMOVAL AND SALVAGE OF GUIDERAIL
F-7217	SAFETY ITEMS CERTIFICATION
F-7301	ECCENTRIC LOADER
F-7302	SUPPLY AND INSTALL ECCENTRIC LOADER INCLUDING WIDENINGS
F-7401	CONCRETE BARRIER AND TALL WALL BARRIER
F-7721	WOOD FENCE
F-7722	CHAIN LINK FENCE COATING SYSTEM
F-8011	TREE PROTECTION
F-8021	TOPSOIL, IMPORTED
F-8031	SODDING, STAKED AND UNSTAKED
F-8041	SEEDING AND MULCHING
F-8045	MISCELLANEOUS REINSTATEMENT OF ADJACENT PROPERTIES
F-9040	CONCRETE STRUCTURES
F-9045	CONCRETE - MATERIALS AND PRODUCTION
F-9049	FLAGSTONE SLOPE PAVING

REPORTS

NO.	TITLE
	ENVIRONMENTAL MANAGEMENT PLAN (EMP)
	TRAFFIC MANAGEMENT PLAN (TMP)

CONTRACT DESIGN ESTIMATION AND DOCUMENTATION (CDED)

NO.	TITLE
SSP S99S22	RETAINED SOIL SYSTEM WALL/SLOPE LOW SYSTEM

NOTES:

1. ORDER OF PRECEDENCE IS CITY OF OTTAWA (COO) SPECIFICATIONS AND DRAWINGS HIGHER THAN OPSS AND OPSDS UNLESS, OTHERWISE AS NOTED IN GEOTECHNICAL REPORTS OR DRAWINGS.

OTrain STAGE 2 ETAPE 2 — Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
STANDARD SPECIFICATIONS

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
A. IYER	I. ROMANSKYY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER: 660373-1GSC-003-41DD-0006

MODEL NUMBER:

DESIGN/BUILDER: SNC·LAVALIN TransitNEXT

PRIMARY SEAL: LICENSED PROFESSIONAL ENGINEER — D. N. SUDANI — 100114754 — 2021-03-29 — PROVINCE OF ONTARIO

DESIGN FIRM: SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

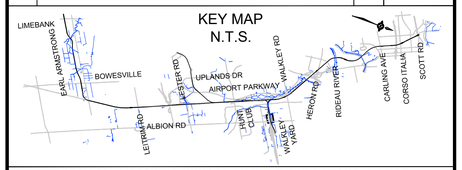
SCALE: N.T.S.

ASSET No.: -

ASSET GROUP: -

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

STANDARD DRAWINGS

NO.	TITLE
	ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD)
219.100	LIGHT-DUTY STRAW BALE BARRIER
219.110	LIGHT-DUTY SILT FENCE BARRIER
219.130	HEAVY-DUTY SILT FENCE BARRIER
400.001	HOISTING HOOK RIB FOR CAST IRON FRAMES FOR CATCH BASINS, MAINTENANCE HOLES, AND VALVE CHAMBERS
401.010	CAST IRON, SQUARE FRAME WITH CIRCULAR CLOSED OR OPEN COVER FOR MAINTENANCE HOLES
403.010	GALVANIZED STEEL, HONEY COMB GRATING FOR DITCH INLET
404.020	ALUMINUM SAFETY PLATFORM FOR CIRCULAR MAINTENANCE HOLES
405.010	MAINTENANCE HOLE STEPS, HOLLOW
604.010	90° CONCRETE OUTLET FOR CONCRETE CURB WITH GUTTER
701.010	PRECAST CONCRETE MAINTENANCE HOLE, 1200MM DIAMETER
701.011	PRECAST CONCRETE MAINTENANCE HOLE, 1500MM DIAMETER
701.021	MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES
701.030	PRECAST CONCRETE MAINTENANCE HOLE COMPONEN TS, 1200MM DIAMETER, TAPERED TOP AND FLAT CAP
701.031	PRECAST CONCRETE MAINTENANCE HOLE COMPONENTS, 1200MM DIAMETER, RISER AND MONOLITHIC BASE
701.032	PRECAST CONCRETE MAINTENANCE HOLE COMPONEN TS, 1200MM DIAMETER, BASE SLAB
701.040	PRECAST CONCRETE MAINTENANCE HOLE COMPONENTS, 1500MM DIAMETER, TRANSITION CONE AND SLABS
701.041	PRECAST CONCRETE MAINTENANCE HOLE COMPONENTS, 1500MM DIAMETER, RISER AND BASES
702.040	PRECAST CONCRETE DITCH INLET MAINTENANCE HOLE-TYPE A-1200MM X 1200MM
703.011	PRECAST CONCRETE SINGLE INLET FLAT CAP, 1500MM DIAMETER
704.010	MAINTENANCE HOLE AND CATCH BASIN, PRECAST CONCRETE ADJUSTMENT UNITS
705.010	PRECAST CONCRETE CATCH BASIN
705.020	PRECAST CONCRETE TWIN INLET CATCH BASIN
705.030	PRECAST CONCRETE DITCH INLET, 600MM X 600MM
707.010	PRECAST CONCRETE MAINTENANCE HOLE MANUFACTURED TEE
708.010	CATCH BASIN CONNECTION FOR RIGID MAIN PIPE SEWER
708.020	SUPPORT FOR PIPE AT CATCH BASIN OR MAINTENANCE HOLE
708.030	CATCH BASIN CONNECTION FOR FLEXIBLE MAIN PIPE SEWER
710.010	CAPPING EXISTING STRUCTURES - MAXIMUM 4.0M COVER
802.010	FLEXIBLE PIPE EMBEDMENT AND BACKFILL - EARTH EXCAVATION
802.013	FLEXIBLE PIPE EMBEDMENT AND BACKFILL - ROCK EXCAVATION
803.030	FROST TREATMENT - PIPE CULVERTS - FROST PENETRATION LINE BELOW BEDDING GRADE
803.031	FROST TREATMENT - PIPE CULVERTS - FROST PENETRATION LINE BETWEEN TOP OF PIPE AND BEDDING GRADE
810.010	GENERAL RIP-RAP LAYOUT FOR SEWER AND CULVERT OUTLETS
810.020	GENERAL RIP-RAP LAYOUT FOR DITCH INLETS
972.102	FENCE, CHAIN-LINK COMPONENT - GATE
972.130	FENCE, CHAIN-LINK INSTALLATION- ROADWAY
972.131	FENCE, CHAIN-LINK, INSTALLATION - CONCRETE BARRIER
972.132	FENCE, CHAIN-LINK DETAILS AND TABLE
984.101	POST, DELINEATOR, INSTALLATION
3120.100	WALLS, RETAINING, CONCRETE TOE WALL

NO.	TITLE
	CITY OF OTTAWA DRAWINGS
LID001A	DUCT INSTALLATION
LID004A	CONCRETE CONDUIT HANDHOLE (STANDARD)
LID004B	CONDUIT HANDHOLE FRAME
LID004C	CONDUIT HANDHOLE COVER
F7	TREE PRESERVATION PROTECTION FENCE
R1	SUBDRAIN INSTALLATION DETAIL
SC1.1	CONCRETE BARRIER CURB FOR GRANULAR BASE PAVEMENT
SC2	MONOLITHIC CONCRETE CURB AND SIDEWALK
SC4	TYPICAL CONCRETE SIDEWALK IN BOULEVARD
SC5	SIDEWALK CONSTRUCTION JOINTS
SC14	SIDEWALK JOINTS
SC22	LIGHT DUTY WALKWAY CONCRETE PAVING
SC10.1	CURB AND CAP MEDIAN
SC21	ASPHALT WALKWAY I SERVICE ACCESS HEAVY DUTY
SC30	WALKWAY CULVERT PLAN AND SECTION
S5	STANDARD TRENCH TERMINOLOGY
S6	SINGLE TRENCH (SEWER & SEWER SERVICES)
SB	CLAY SEAL FOR PIPE TRENCHES
S4.1	VORTEX ICD INSTALLATION
S10	SUPPORT DETAIL FOR EXISTING UTILITY CROSSING SEWER OR WATERMAIN TRENCH
S11.4	SEWER SERVICE ABANDONMENT BENEATH PAVEMENT
S24.1	STANDARD CIRCULAR STORM MAINTENANCE HOLE COVER
S25	STANDARD CIRCULAR FRAME FOR MAINTENANCE HOLES (MODIFIED OPSD - 401.020)

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
STANDARD DRAWINGS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
A. IYER	I. ROMANSKYY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-0007

MODEL NUMBER

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-03-29
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

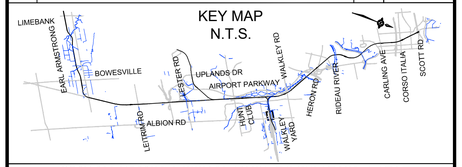
SCALE
N.T.S.

ASSET No.
-

ASSET GROUP
-

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29

TITLEBLOCK: 790mm x 534mm

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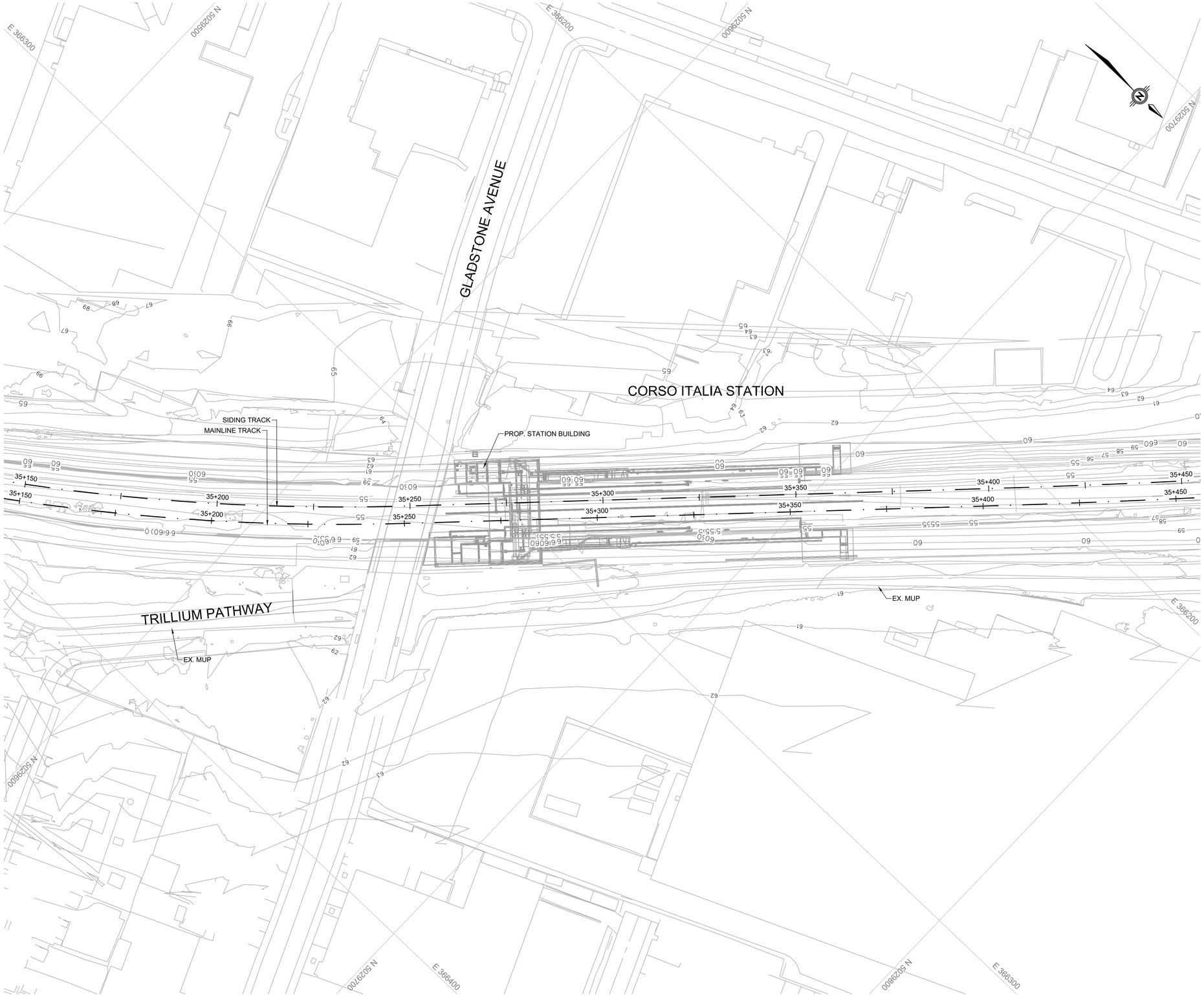


OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
TOPOGRAPHY SURVEY PLAN

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
V. KORDOWSKA	I. ROMANSKYY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-0901

MODEL NUMBER
-

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-03-29
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

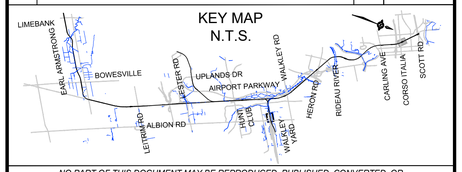
SCALE
HORIZONTAL 1:500 FULL SIZE
1:1000 HALF SIZE
0m 5 10 20 40

ASSET No.
-

ASSET GROUP
-

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION

2021-03-29

TITLEBLOCK: 790mm x 534mm

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OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
REMOVALS PLAN

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
A. IYER	I. ROMANSKYY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER
330373-1GSC-003-41DD-1101

MODEL NUMBER
C3D-PR-SLV-41-S200-COR-Guideway

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

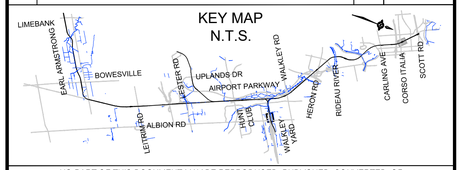
SCALE
HORIZONTAL 1:500 FULL SIZE
1:1000 HALF SIZE
0m 5 10 20 40

ASSET No.
-

ASSET GROUP
-

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29
01	REVIESED ISSUED FOR CONSTRUCTION	DS	2021-07-30

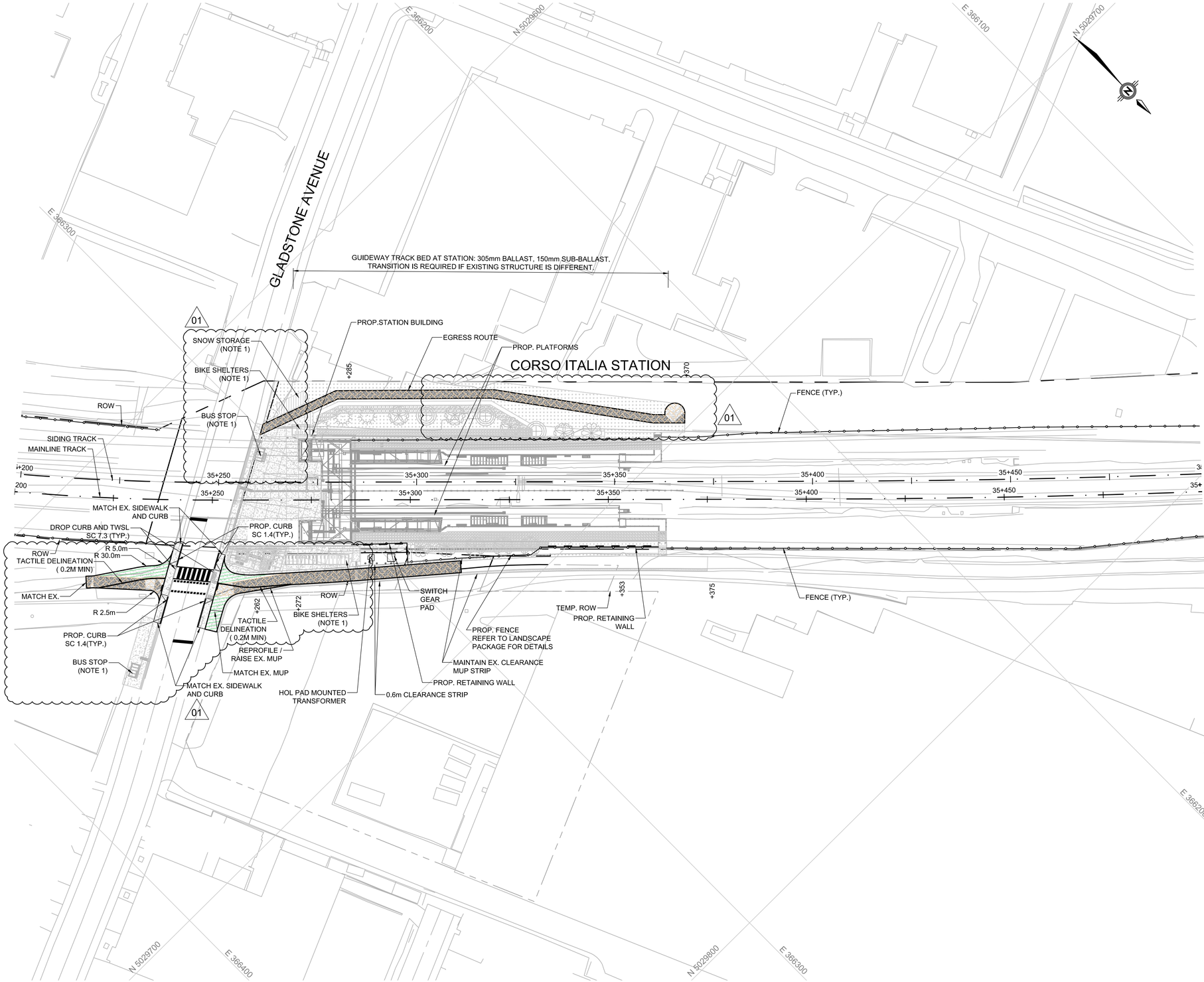
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

LEGEND:

- REMOVAL OF ASPHALT PAVEMENT
- CLEARING AND GRUBBING
- MILL AND OVERLAY
- REMOVAL OF SIDEWALK / CONCRETE PAVEMENT
- REMOVAL OF RETAINING WALL
- REMOVAL OF FENCE



LEGEND:

- ASPHALT PAVEMENT
- CONCRETE PAVEMENT

NOTE:
1. REFER TO DRAWING 660373-1GSC-005-4UDD-1002 FOR LANDSCAPE DETAILS.

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
GEOMETRY - PLAN

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
V. KORDOWSKA	I. ROMANSKYY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-4501

MODEL NUMBER
C3D-PR-SLV-41-S200-COR-Guideway

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

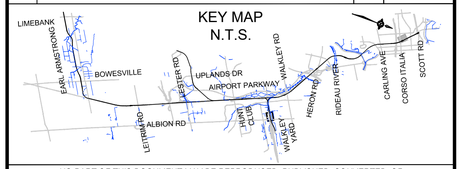
SCALE
HORIZONTAL 1:500 FULL SIZE
1:1000 HALF SIZE
0m 5 10 20 40

ASSET No.
-

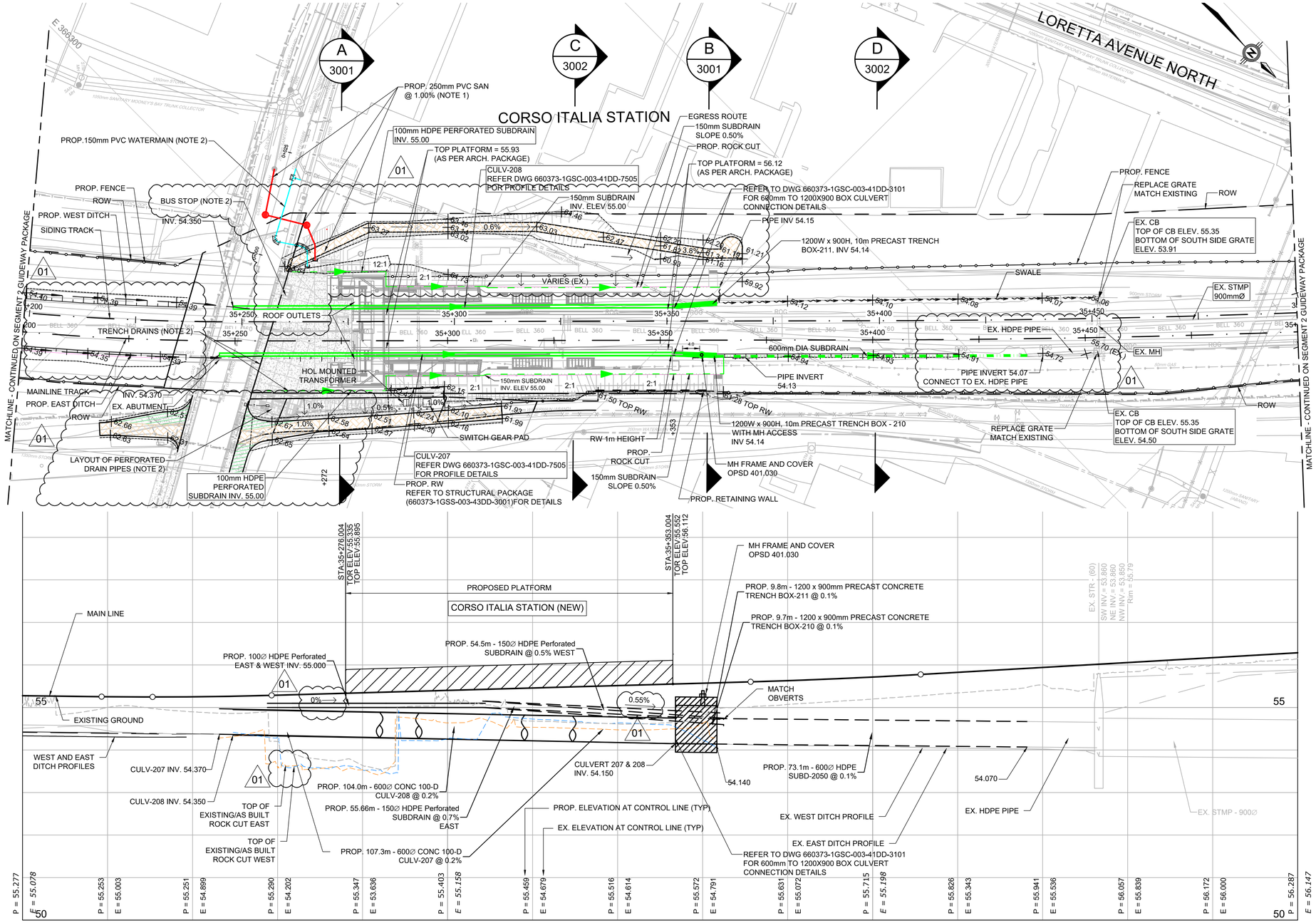
ASSET GROUP
-

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	DS	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30



PROPOSED STM PIPES

PIPE START STRUCTURE	PIPE END STRUCTURE	PIPE NO.	INVERT START ELEVATION (M)	INVERT END ELEVATION (M)	PIPE MATERIAL	SIZE (MM)	BEDDING CLASS TYPE	PIPE LENGTH (M)	SLOPE	STA. START	STA. END
		CULV-207	54.370	54.150	CONC 100-D	600 mm Concrete Pipe	OPSD 802.033, CLASS B	107.3	0.2%	35+246.3	35+353.6
		CULV-208	54.350	54.150	CONC 100-D	600 mm Concrete Pipe	OPSD 802.033, CLASS B	104.0	0.2%	35+249.5	35+353.6
		TRENCH BOX-211	54.150	54.140	Reinforced Concrete	1,200 x 900 mm Concrete Box Culvert	PRECAST CONCRETE	9.8	0.1%	35+353.6	35+363.4
		TRENCH BOX-210	54.150	54.140	Reinforced Concrete	1,200 x 900 mm Concrete Box Culvert	PRECAST CONCRETE	9.7	0.1%	35+353.6	35+363.3
	CO-20438	SUBD-2050	54.140	54.070	HDPE	600 mm SUBDRAIN	OPSD 802.010	73.1	0.1%	35+363.3	35+436.4

LEGEND:

- MH 222 — MANHOLE NUMBER
- STMP 232 — STORM PIPE NUMBER
- CB 234 — CATCH BASIN NUMBER
- ex. 75.21 × — CONTROLLED SURVEY
- 80.000 — LIDAR SURVEY

NOTE:

1. REFER DRAWING 660373-1GSC-005-41UDD-2002 FOR SITE SERVICING DETAILS
2. REFER TO DRAWING 660373-1GSC-005-4UDD-1004 FOR PROPOSED LANDSCAPE PLAZA GRADING LAYOUT.

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
GRADING AND DRAINAGE PLAN

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
V. MYKYTYAK	A. LUE
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER 660373-1GSC-003-41DD-7501

MODEL NUMBER C3D-PR-SLV-41-USM-S2

DESIGN/BUILDER: SNC·LAVALIN TransitNEXT

PRIMARY SEAL: LICENSED PROFESSIONAL ENGINEER — D. N. SUDANI — 100114754 — 2021-07-30 — PROVINCE OF ONTARIO

DESIGN FIRM: SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

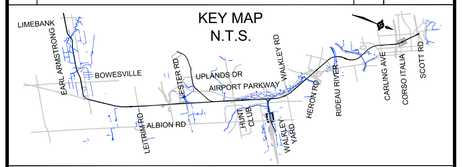
SCALE HORIZONTAL 1:500 1:1000 FULL SIZE HALF SIZE — 0m 5 10 20 40

ASSET No. -

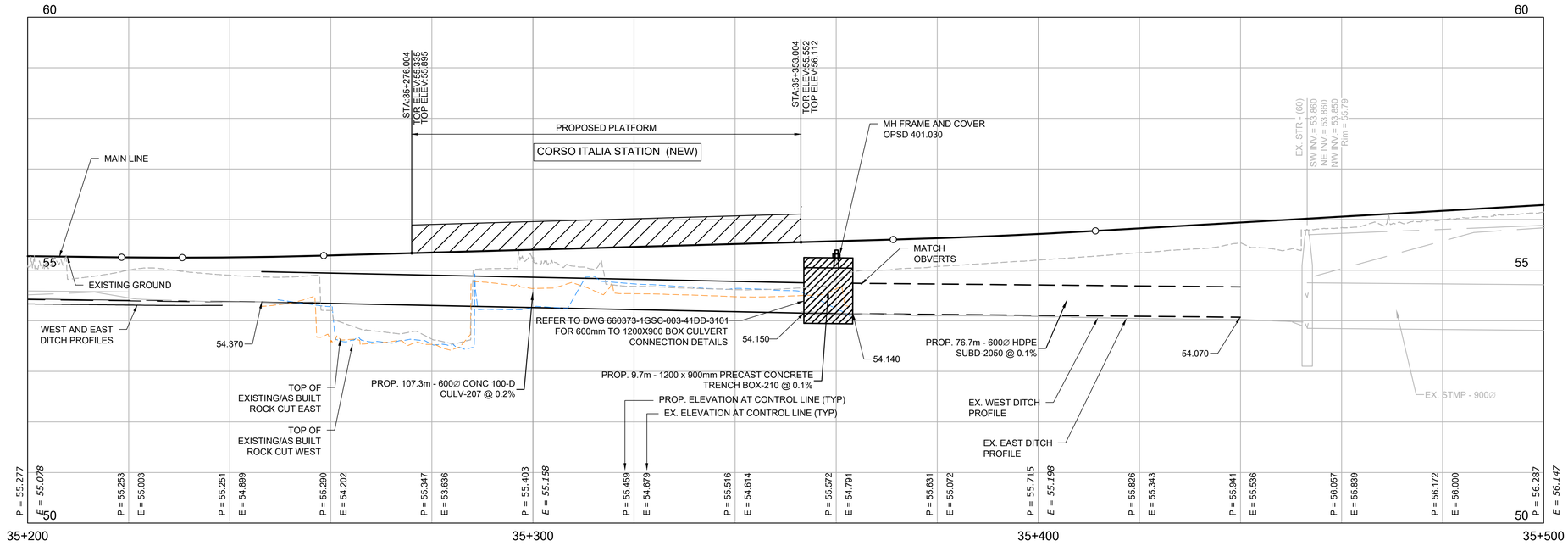
ASSET GROUP -

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	DS	2021-07-30

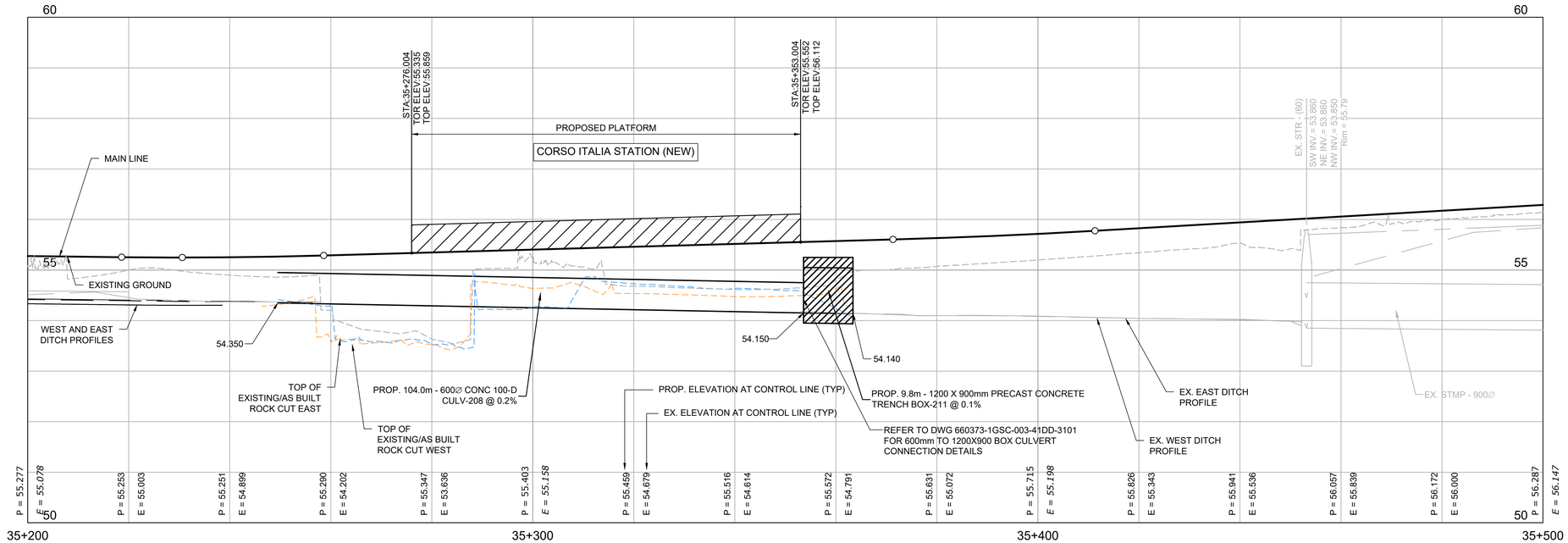
KEY MAP N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30



DRAINAGE PROFILE - CULVERT 207



DRAINAGE PROFILE - CULVERT 208

TITLEBLOCK: 790mm x 534mm

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OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
CULVERT PROFILES

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
V.MYKYTYAK	A. LUE
DRAWN	SEALED
V.MYKYTYAK	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-7505

MODEL NUMBER
C3D-PR-SLV-41-USM-S2

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-03-29
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

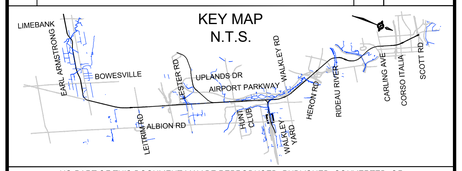
SCALE
HORIZONTAL 1:500 FULL SIZE / 1:1000 HALF SIZE
0m 5 10 20 40
0m 0.5 1 2 4
VERTICAL 1:50 FULL SIZE / 1:100 HALF SIZE

ASSET No.
-

ASSET GROUP
-

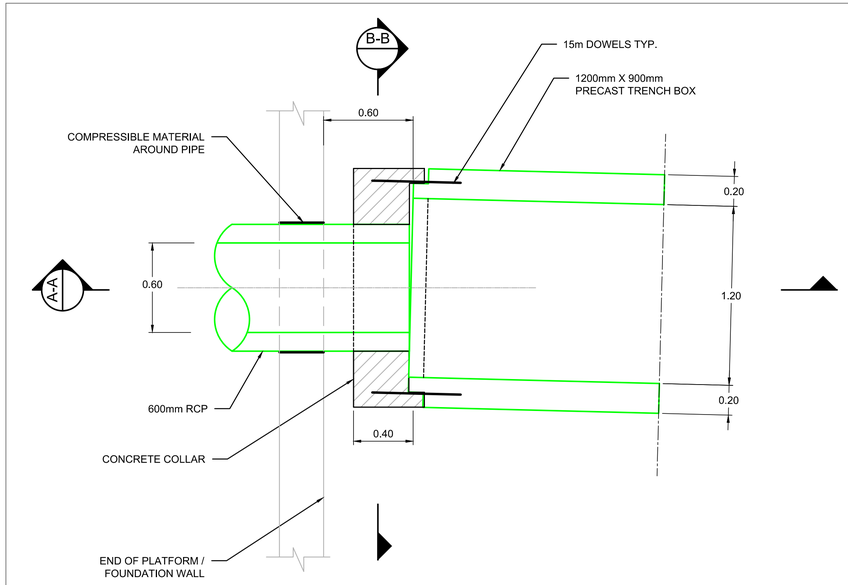
REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29

KEY MAP
N.T.S.

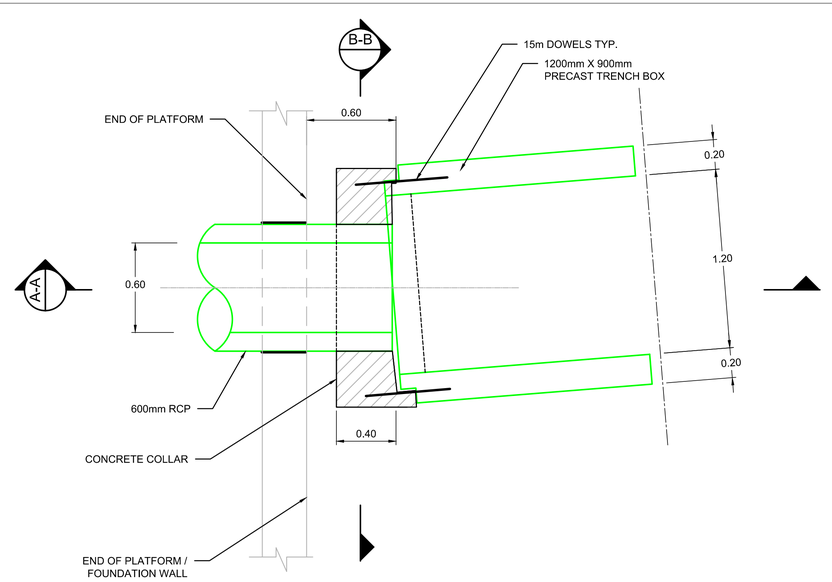


ISSUED FOR CONSTRUCTION

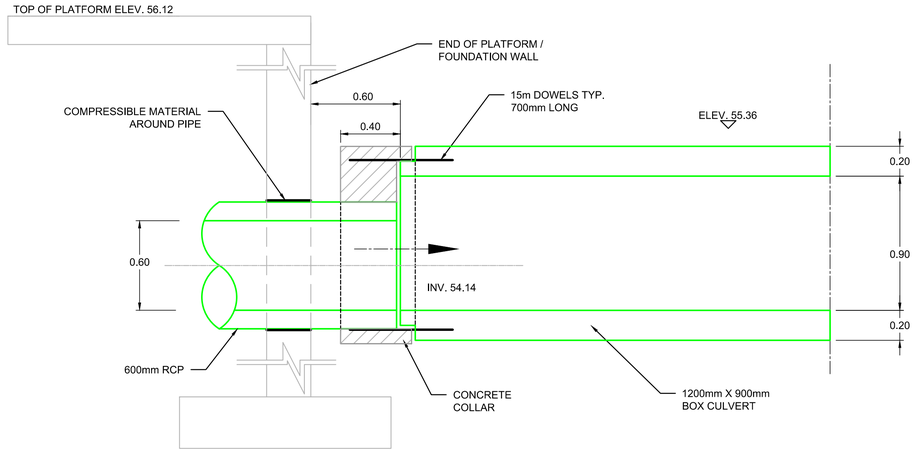
2021-03-29



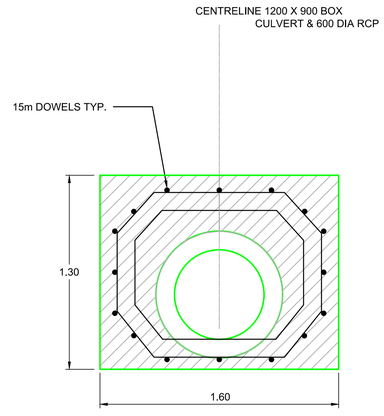
PLAN - PRECAST TRENCH BOX -210



PLAN - PRECAST TRENCH BOX -211



A-A SECTION
SCALE 1:20



B-B SECTION
SCALE 1:20

1 DETAILS - 600mm TO 1200X900 BOX CULVERT CONNECTION
7501,7505
SCALE 1:20

NOTE:

1. REFER TO DRAWING 660373-1GBC-003-41DD-0005 FOR GENERAL NOTES.

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
CULVERT CONNECTION DETAILS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
V. MYKYTYAK	I. ROMANSKYY
DRAWN	SEALED
V. MYKYTYAK	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-3101

MODEL NUMBER
C3D-PR-SLV-41-S200-COR-Guideway

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-03-29
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

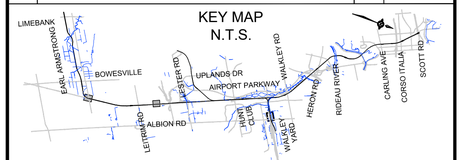
SCALE
AS SHOWN

ASSET No.
-

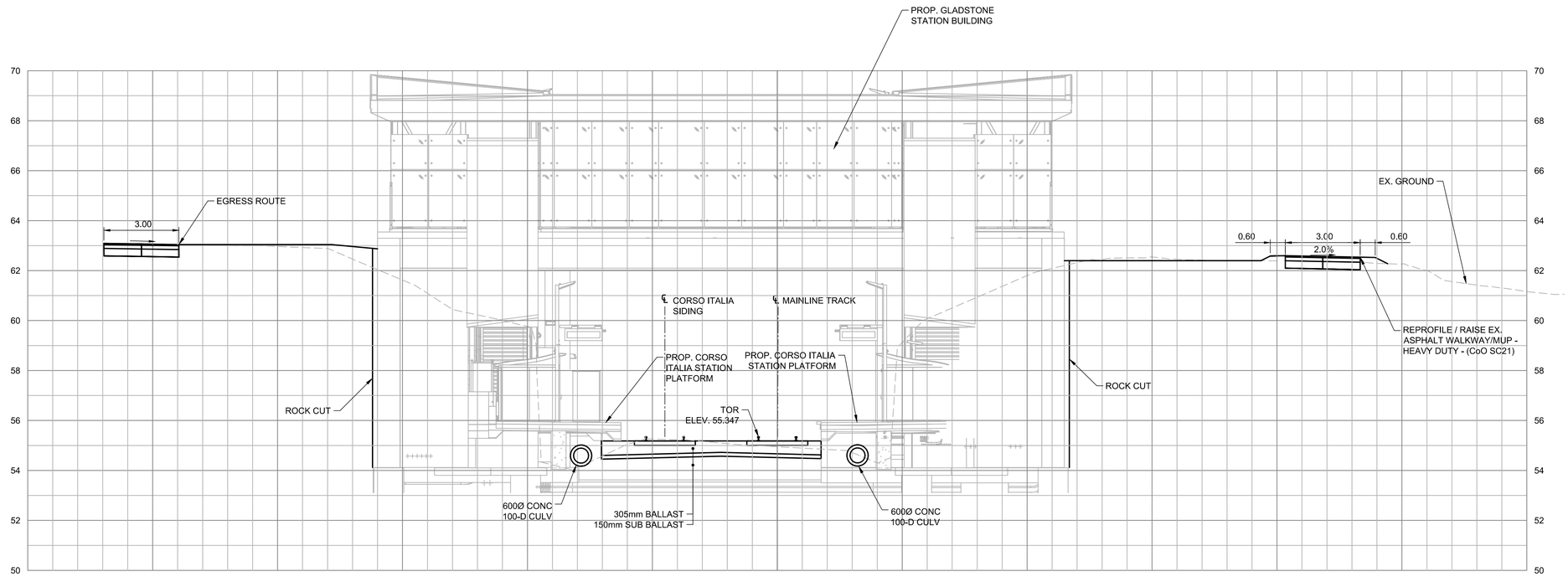
ASSET GROUP
-

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29

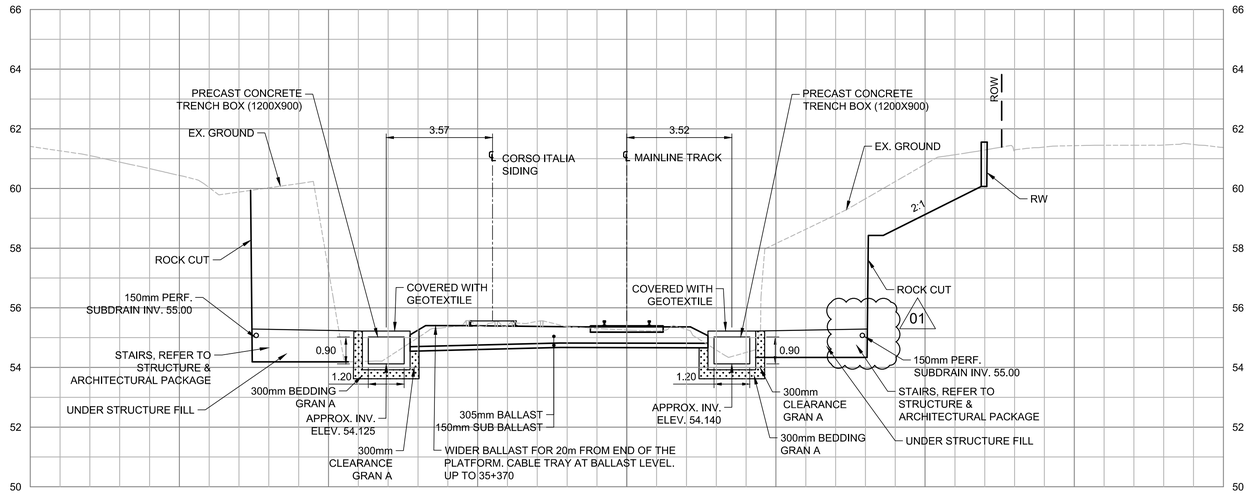
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-03-29



A 7501 SECTION
SCALE 1:100



B 7501 SECTION
SCALE 1:100

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
TYPICAL SECTIONS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
V. MYKYTYAK	I. ROMANSKYY
DRAWN	SEALED
V. MYKYTYAK	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-3001

MODEL NUMBER
C3D-PR-SLV-41-S200-COR-Guideway

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

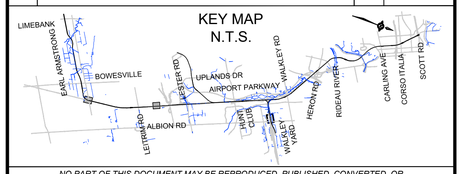
SCALE
AS SHOWN

ASSET No.
-

ASSET GROUP
-

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	DS	2021-07-30

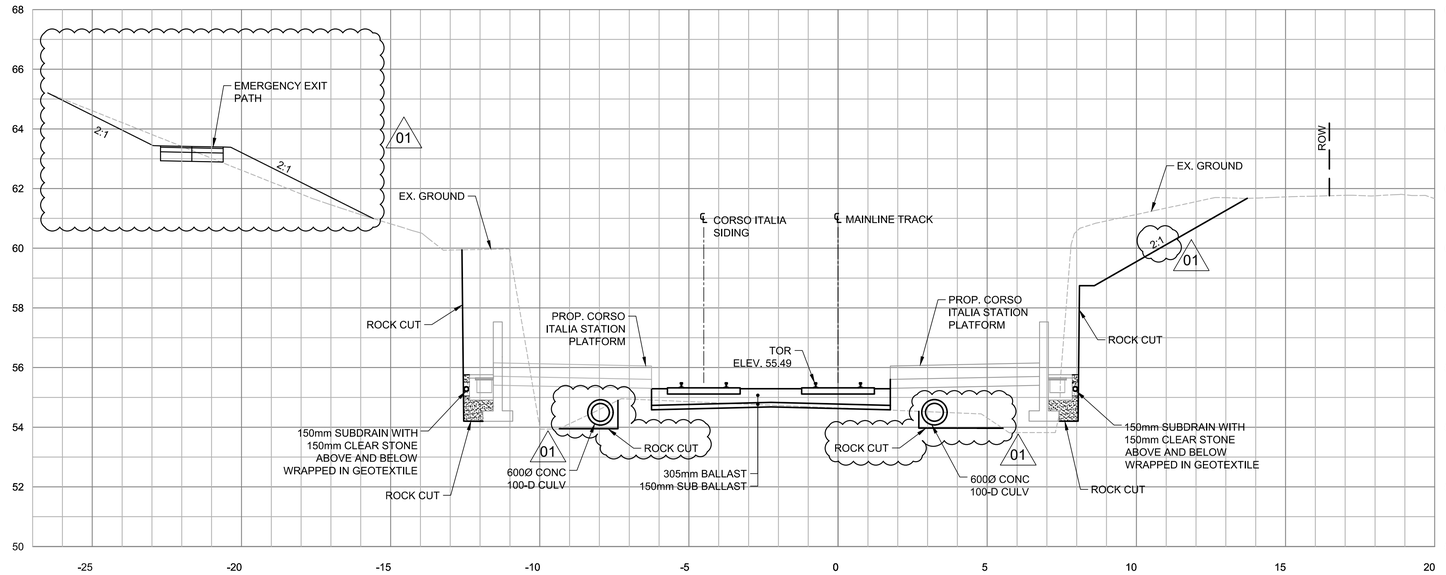
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

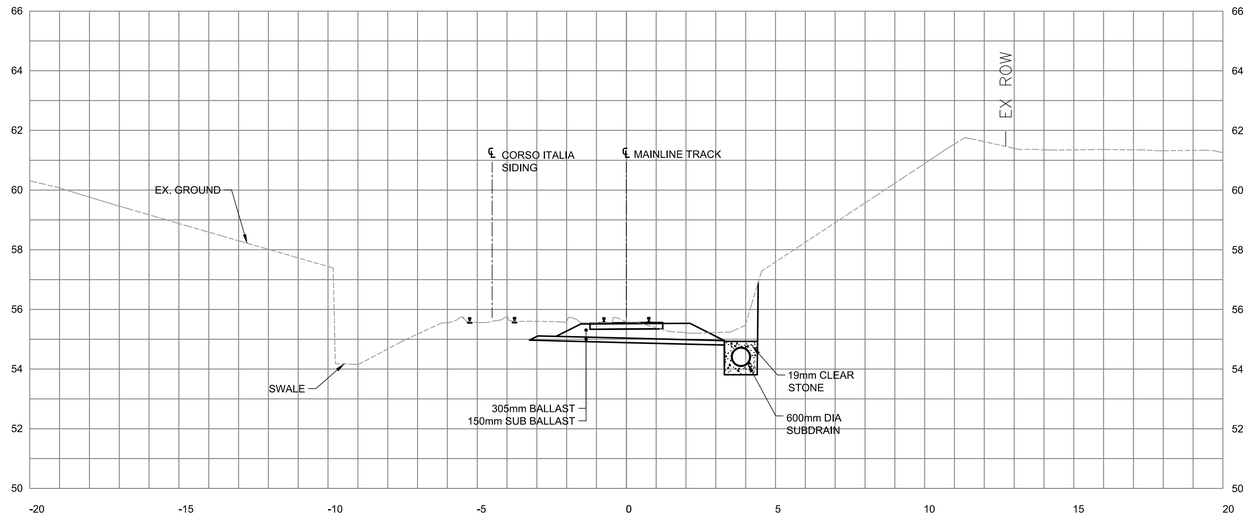
01

35+330



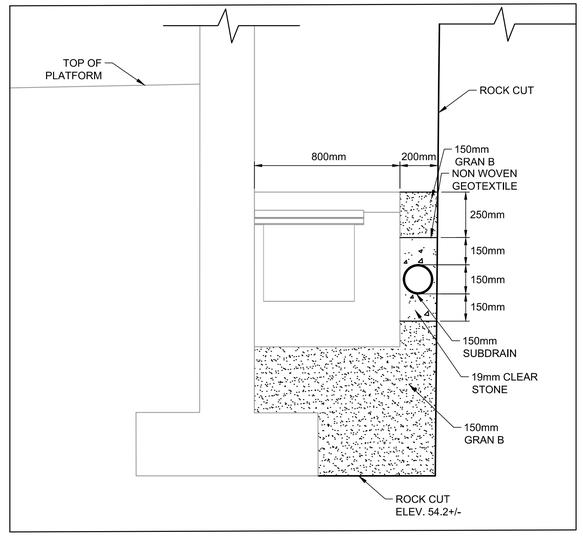
C 7501 SECTION
SCALE 1:100

35+400



D 7501 SECTION
SCALE 1:100

SUBDRAIN DETAIL



SCALE N.T.S.

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
TYPICAL SECTIONS

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
V. MYKYTYAK	I. ROMANSKYY
DRAWN	SEALED
V. MYKYTYAK	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-3002

MODEL NUMBER
C3D-PR-SLV-41-S200-COR-Guideway

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

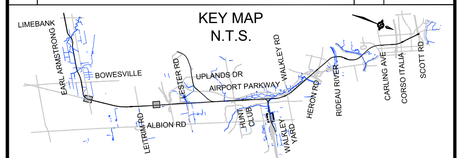
SCALE
AS SHOWN

ASSET No.
-

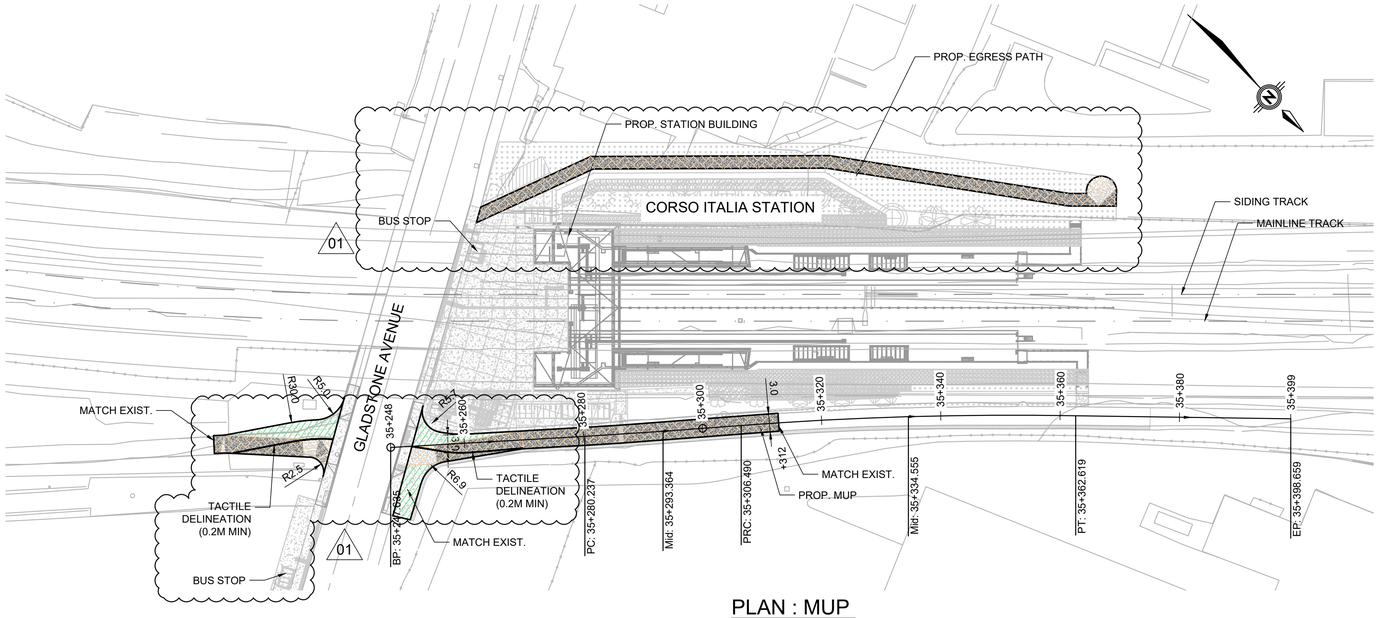
ASSET GROUP
-

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29
01	REVISED ISSUED FOR COSTRUCTION	DS	2021-07-30

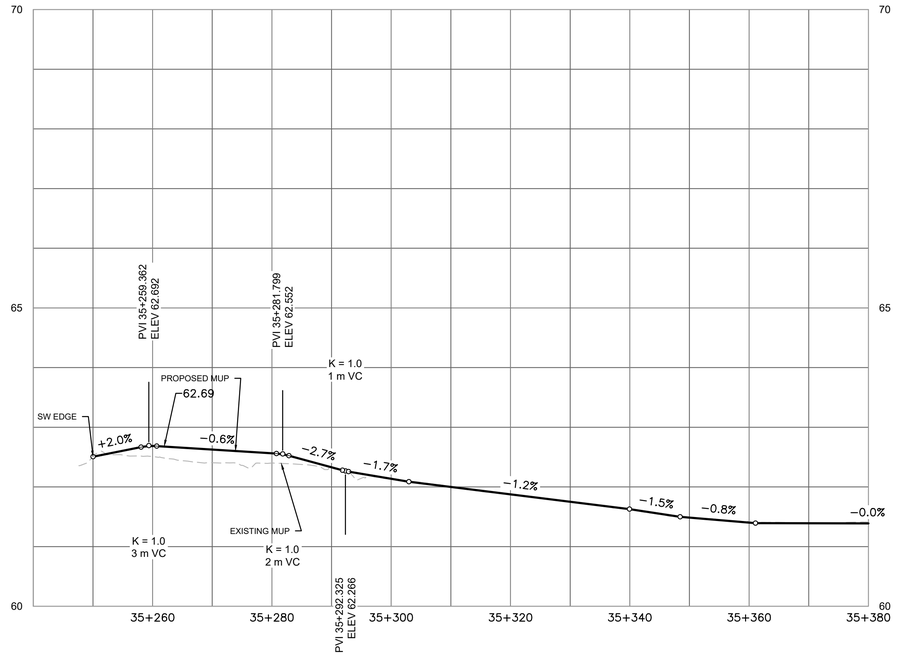
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30



PLAN : MUP



PROFILE : MUP

```
**********
ALIGNMENT NAME: S230-CORSO ITALIA STATION MUP EAST
STATION RANGE: START:  35+247.63, END: 35+376.21
**********

BEGIN S230-CORSO ITALIA STATION MUP EAST
N 5,029,642.0944  E 366,337.6283          35+247.63

LINE (1)
N48° 36' 32.34"W   32.602M
N 5,029,663.6509  E 366,313.1695          35+280.24
LINE (1)

CURVE (2)
BC  N 5,029,663.6509  E 366,313.1695       35+280.24
CTR  N 5,028,456.7952  E 365,258.3183
PI  N 5,029,672.2895  E 366,303.2861

DIRECTION BACK  N48° 50' 41.81"W
RADIUS   1,602.876M
DELTA   0°56'18"(LT)
LENGTH   26.253M
TANGENT   13.127M
CHORD DIRECTION   N49° 18' 50.95"W
DISTANCE  26.252M
DIRECTION AHEAD N49° 47' 00.10"W

EC  N 5,029,680.7651  E 366,293.2625       35+306.49
CURVE (2)

REVERSING CURVE

**NON-TANGENT** RADIAL BEARING S40° 17' 56.79"W
CURVE (3)
BC  N 5,029,680.7651  E 366,293.2625       35+306.49
CTR  N 5,030,138.0994  E 366,681.0980
PI  N 5,029,698.9300  E 366,271.8425

DIRECTION BACK  N49° 42' 03.21"W
RADIUS   599.642M
DELTA   5°21'47"(RT)
LENGTH   56.130M
TANGENT   28.085M
CHORD DIRECTION   N47° 01' 09.49"W
DISTANCE  56.109M
DIRECTION AHEAD N44° 20' 15.78"W

EC  N 5,029,719.0175  E 366,252.2140       35+362.62
CURVE (3)

LINE (4)
**NON-TANGENT** RADIAL BEARING S45° 39' 44.22"W
N44° 35' 41.59"W   13.590M
N 5,029,728.6947  E 366,242.6728          35+376.21
LINE (4)

N 5,029,728.6947  E 366,242.6728          35+376.21
END S230-CORSO ITALIA STATION MUP EAST

**********
ALIGNMENT LENGTH: 128.574M
**********
```

LEGEND:

- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 01

OTrain STAGE 2 ETAPE 2 — Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
MUP PLAN & PROFILE

CONTRACT No. LRT19-1025

DESIGNED	CHECKED
V. MYKYTYAK	I. ROMANSKY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER: 660373-1CRC-003-41DD-7503

MODEL NUMBER: C3D-PR-SLV-41-S200-COR-MUP-GS

DESIGN/BUILDER: SNC·LAVALIN TransitNEXT

PRIMARY SEAL: LICENSED PROFESSIONAL ENGINEER — D. N. SUDANI — 100114754 — 2021-07-30 — PROVINCE OF ONTARIO

DESIGN FIRM: SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

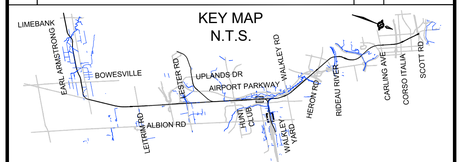
SCALE
HORIZONTAL 1:500 FULL SIZE / 1:1000 HALF SIZE
0m 5 10 20 40
0m 0.5 1 2 4
VERTICAL 1:5 FULL SIZE / 1:10 HALF SIZE

ASSET No.

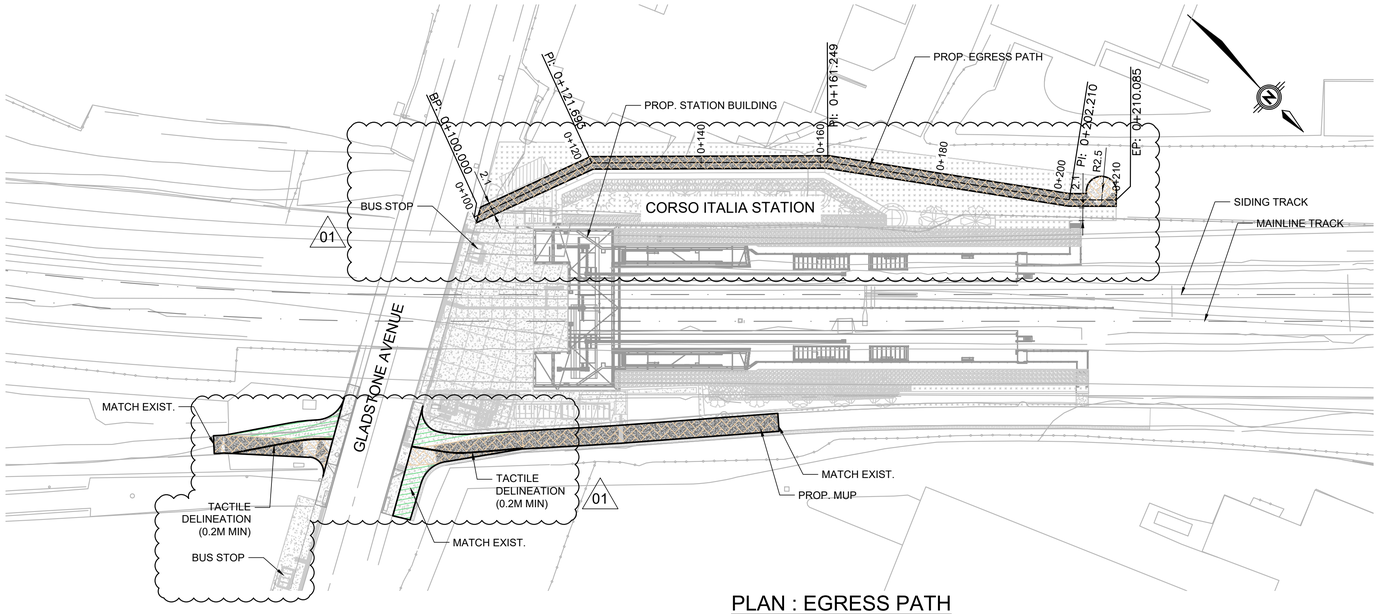
ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	DS	2021-07-30

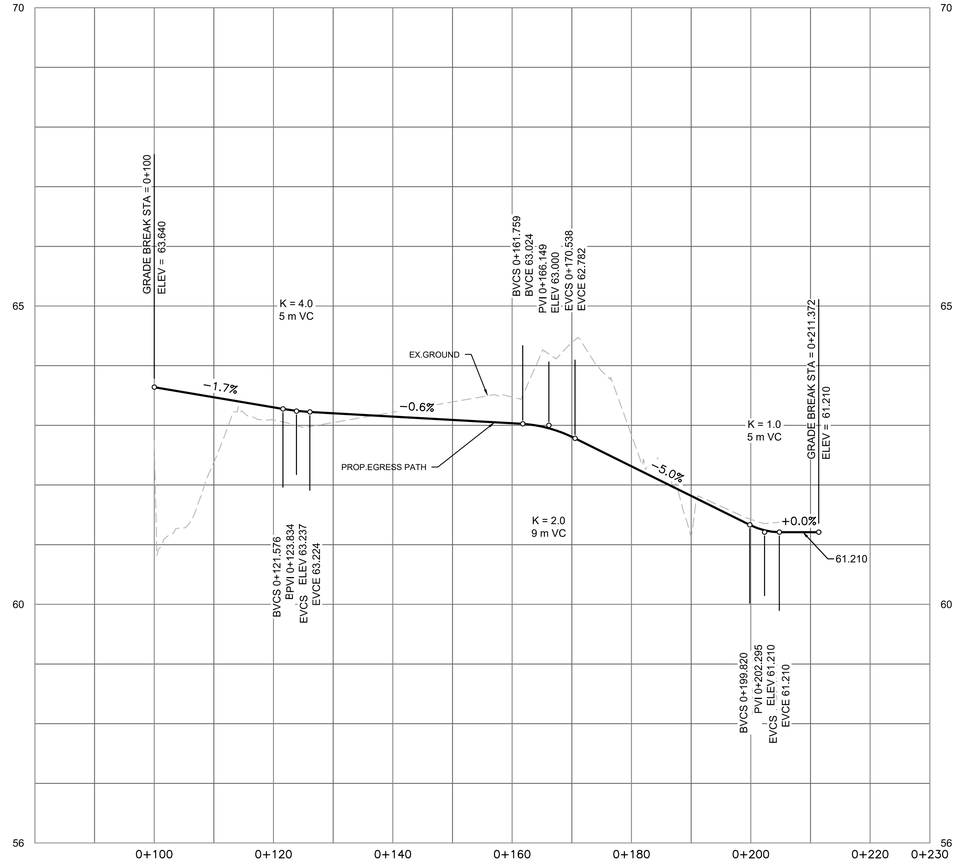
KEY MAP N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30



PLAN : EGRESS PATH



PROFILE : EGRESS PATH

ALIGNMENT NAME: S230-GLADSTONE STATION PATHWAY WEST
STATION RANGE: START: 0+100.000, END: 0+210.085

BEGIN S230-GLADSTONE STATION PATHWAY WEST
N 5,029,624.458 E 366,300.501 0+100.000

LINE (1)
N70° 01' 36.56"W 21.693M
N 5,029,631.868 E 366,280.112 0+121.693
LINE (1)

LINE (2)
N45° 33' 39.37"W 39.556M
N 5,029,659.563 E 366,251.869 0+161.249
LINE (2)

LINE (3)
N36° 26' 30.42"W 40.961M
N 5,029,692.514 E 366,227.538 0+202.210
LINE (3)

LINE (4)
N45° 09' 43.72"W 7.875M
N 5,029,698.067 E 366,221.954 0+210.085
LINE (4)

N 5,029,698.067 E 366,221.954 0+210.085
END S230-GLADSTONE STATION PATHWAY WEST

ALIGNMENT LENGTH: 110.085M

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
EGRESS PATH PLAN & PROFILE

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
V. MYKYTYAK	I. ROMANSKY
DRAWN	SEALED
A. IYER	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-7504

MODEL NUMBER
C3D-PR-SLV-41-S200-COR-MUP-GS

PRIMARY SEAL

LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-07-30
PROVINCE OF ONTARIO

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

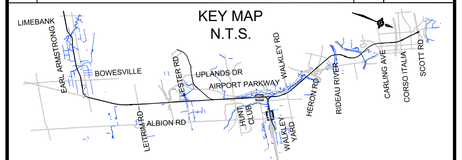
SCALE
HORIZONTAL 1:500 FULL SIZE / 1:1000 HALF SIZE
0m 5 10 20 40
0m 0.5 1 2 4
VERTICAL 1:5 FULL SIZE / 1:10 HALF SIZE

ASSET No.

ASSET GROUP

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	DS	2021-07-30

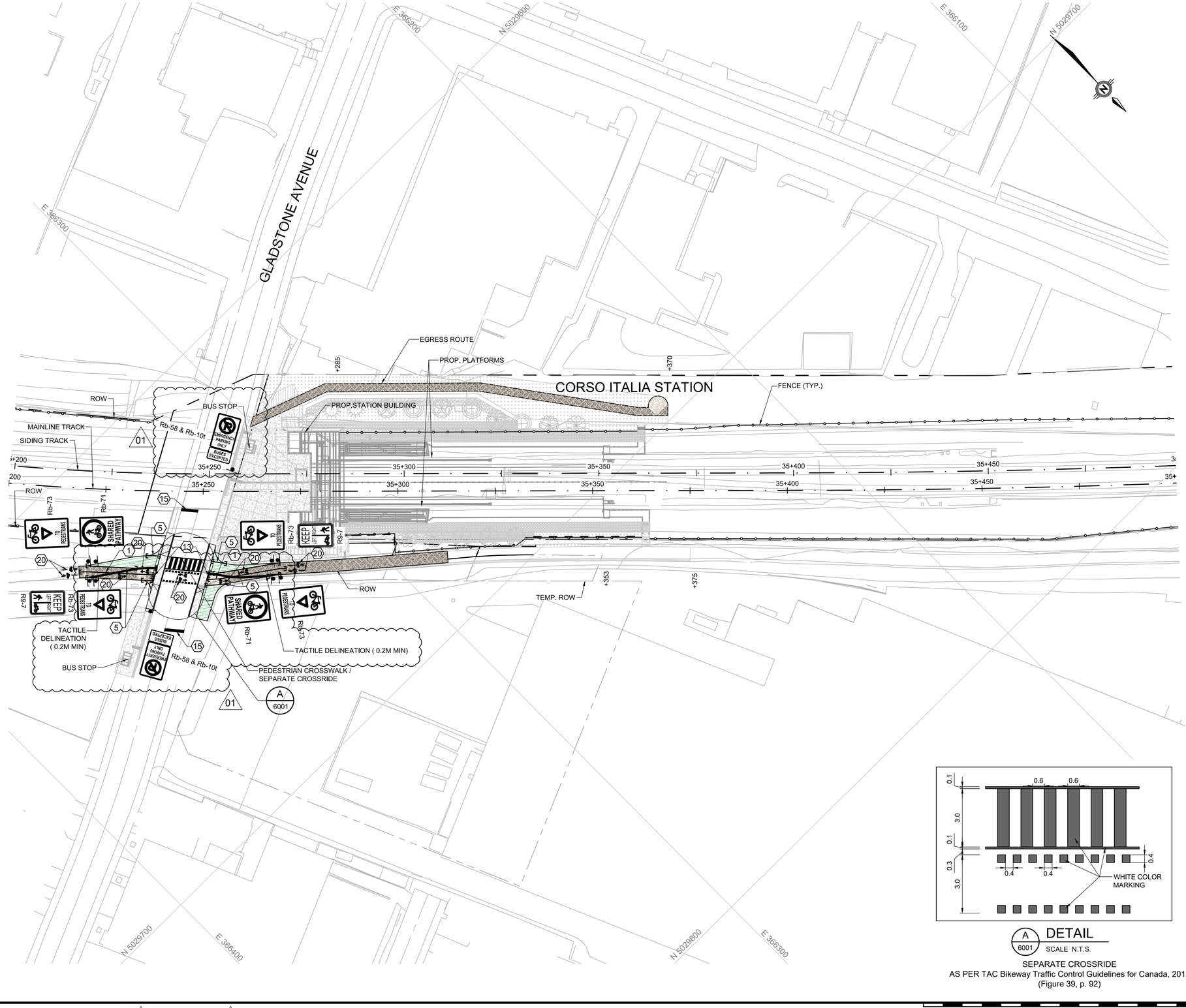
KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

LEGEND:
ASPHALT PAVEMENT
01 CONCRETE PAVEMENT

TITLEBLOCK: 790mm x 534mm



A/6001 DETAIL
SCALE N.T.S.

SEPARATE CROSSRIDE
AS PER TAC Bikeway Traffic Control Guidelines for Canada, 2012
(Figure 39, p. 92)

LEGEND

1	SOLID YELLOW, 10cm
2	SOLID DOUBLE YELLOW, 10cm
3	3-6-3 BROKEN YELLOW, 10cm
4	SOLID YELLOW, 20cm
5	SOLID WHITE, 10cm
6	3-3 3 BROKEN WHITE, 10cm
7	3-6-3 BROKEN WHITE, 10cm
8	3-9-3 BROKEN WHITE, 10cm
9	SOLID WHITE, 20cm
10	1-1-1 BROKEN WHITE, 20cm
11	3-3-3 BROKEN WHITE, 20cm
12	3-3-3 BROKEN WHITE, 30cm
13	SOLID WHITE, 30cm
14	SOLID WHITE, 45cm
15	SOLID WHITE, 60cm
20	SYMBOLS

1. 3-3-3, 3-6-3, 3-9-3 DENOTE PAVEMENT MARKING SPACING (e.g., 3m LINE, 6m GAP, 3m LINE).
2. USE (1) TO DENOTE PAVEMENT MARKING.

NOTE:

1. REFER TO DRAWING 660373-1GSC-003-41DD-0005 FOR GENERAL NOTES.

OTrain STAGE 2 ETAPE 2

Ottawa

CIVIL
SEGMENT 2
CORSO ITALIA STATION
PAVEMENT MARKING PLAN

CONTRACT No.
LRT19-1025

DESIGNED	CHECKED
V. MYKYTYAK	I. ROMANSKYY
DRAWN	SEALED
V. MYKYTYAK	D. SUDANI

DRAWING NUMBER
660373-1GSC-003-41DD-6001

MODEL NUMBER
C3D-PR-SLV-41-S200-COR-Guideway

DESIGN/BUILDER
SNC·LAVALIN TransitNEXT

PRIMARY SEAL
LICENSED PROFESSIONAL ENGINEER
D. N. SUDANI
100114754
2021-07-30
PROVINCE OF ONTARIO

DESIGN FIRM
SNC·LAVALIN

SECONDARY SEAL (IF REQUIRED)

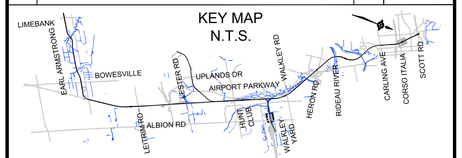
SCALE
HORIZONTAL 1:500 FULL SIZE
1:1000 HALF SIZE
0m 5 10 20 40

ASSET No.
-

ASSET GROUP
-

REV	DESCRIPTION	BY	DATE
00	ISSUED FOR CONSTRUCTION	DS	2021-03-29
01	REVISED ISSUED FOR CONSTRUCTION	DS	2021-07-30

KEY MAP
N.T.S.



ISSUED FOR CONSTRUCTION
2021-07-30

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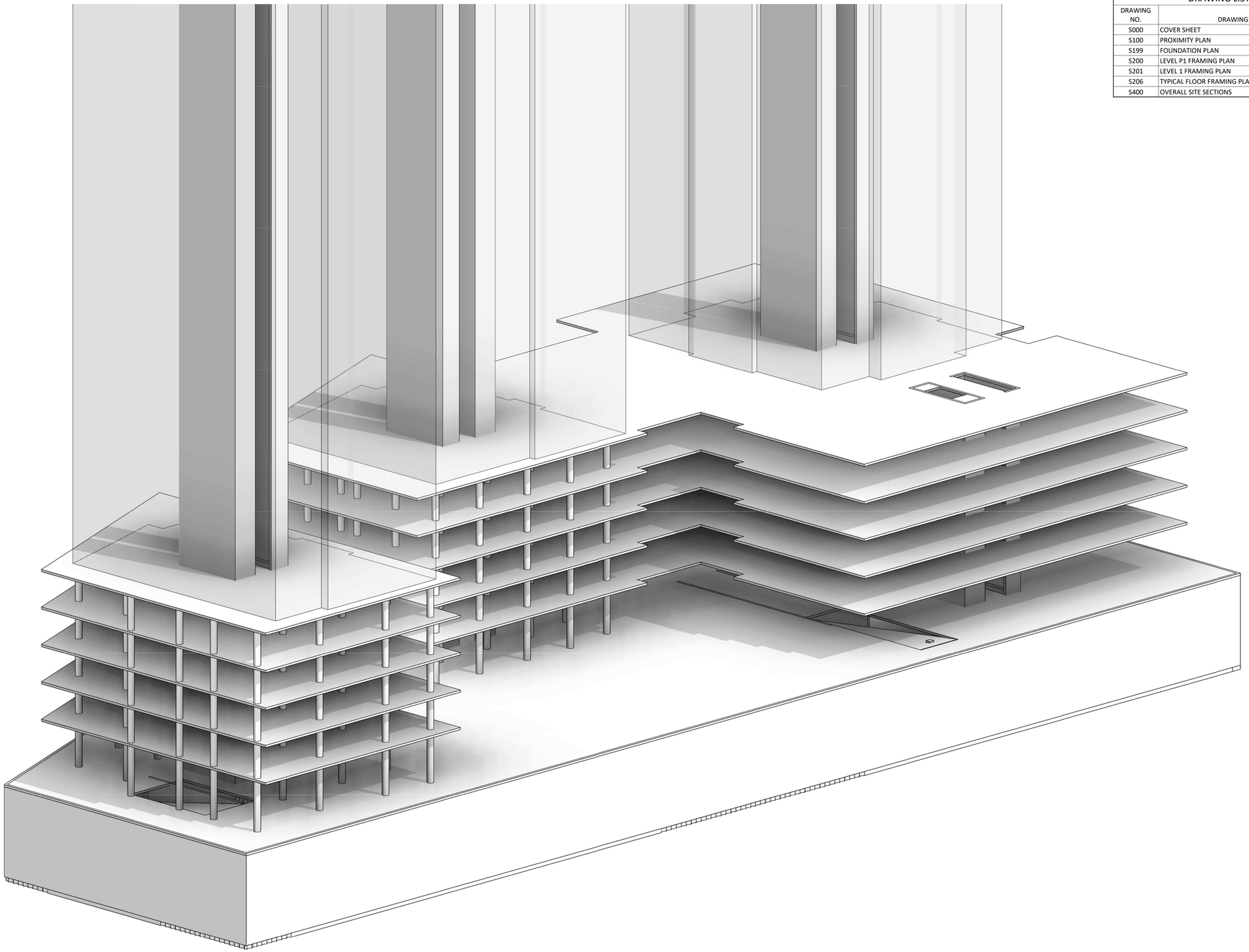
APPENDIX B4

STRUCTURAL DRAWINGS



DRAWING LIST	
DRAWING NO.	DRAWING TITLE
S000	COVER SHEET
S100	PROXIMITY PLAN
S199	FOUNDATION PLAN
S200	LEVEL P1 FRAMING PLAN
S201	LEVEL 1 FRAMING PLAN
S206	TYPICAL FLOOR FRAMING PLAN
S400	OVERALL SITE SECTIONS

NO	DATE	REVISIONS
2	09/04/21	ISSUED FOR PROXIMITY REPORT
1	10/02/19	ISSUED FOR PROXIMITY REPORT

PBCGROUP

CLV GROUP

ENTUITIVE

200 University Avenue, 7th Floor
Toronto, ON M5H 3C6 Canada
+1 416 477 5832

PROJECT/LOCATION:
951 GLADSTONE AVE.
& 145 LORETTA AVE. NORTH

DRAWING TITLE:
COVER SHEET

DRAWN BY:	DATE:	SCALE:
FP	10/02/19	

PROJECT:
C019-1960

DRAWING NO:
S000

ENTUITIVE

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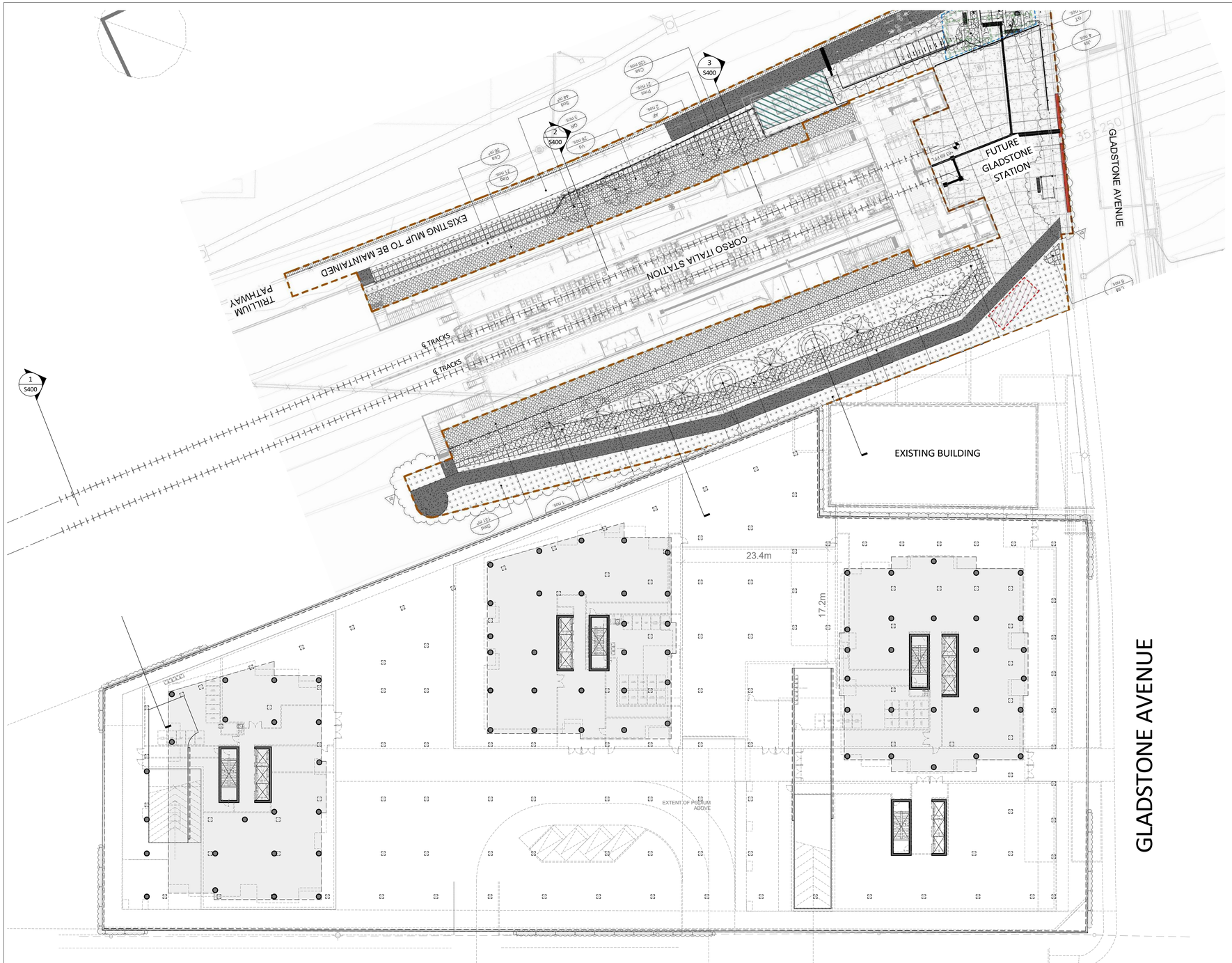
10/2/2019 10:03:34 AM



1 S1 SITE PLAN
1 :300

PROXIMITY PLAN
1 : 300

NO	DATE	REVISIONS
3	07/03/22	ISSUED FOR PROXIMITY REPORT
2	09/04/21	ISSUED FOR PROXIMITY REPORT
1	10/02/19	ISSUED FOR PROXIMITY REPORT

PBCGROUP

CLV GROUP

ENTUITIVE
200 University Avenue, 7th Floor
Toronto, ON M5H 3C6 Canada
+1 416 477 5832

PROJECT/LOCATION:
951 GLADSTONE AVE.
& 145 LORETTA AVE. NORTH

DRAWING TITLE:
PROXIMITY PLAN

DRAWN BY:	DATE:	SCALE:
FP	10/02/19	1 : 300

PROJECT: C019-1960

DRAWING NO: S100

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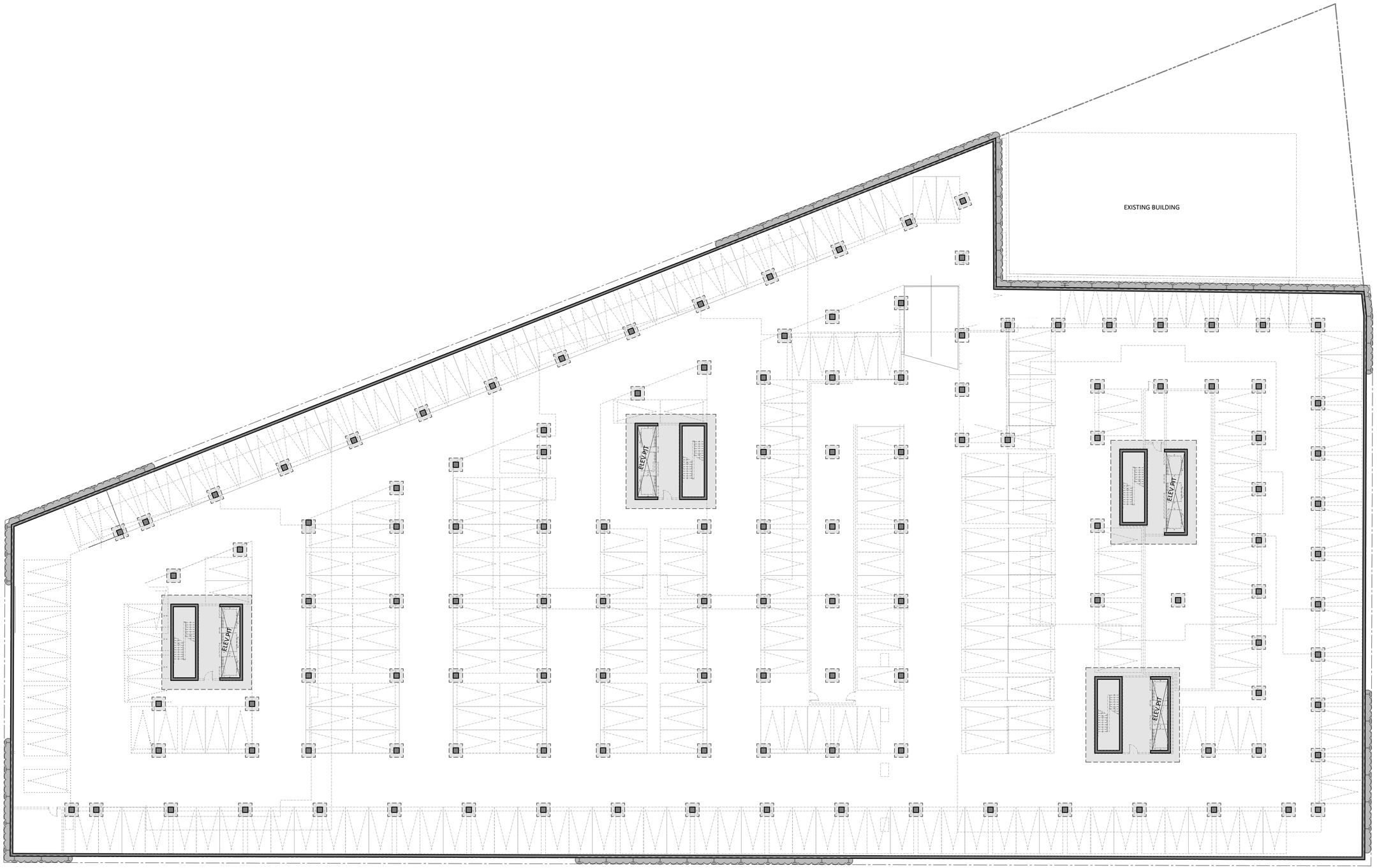


FOUNDATION PLAN
1 : 200

NO	DATE	REVISIONS
2	09/04/21	ISSUED FOR PROXIMITY REPORT
1	10/02/19	ISSUED FOR PROXIMITY REPORT

PBCGROUP

CLV GROUP

ENTUITIVE
200 University Avenue, 7th Floor
Toronto, ON M5H 3C6 Canada
+1 416 477 5832

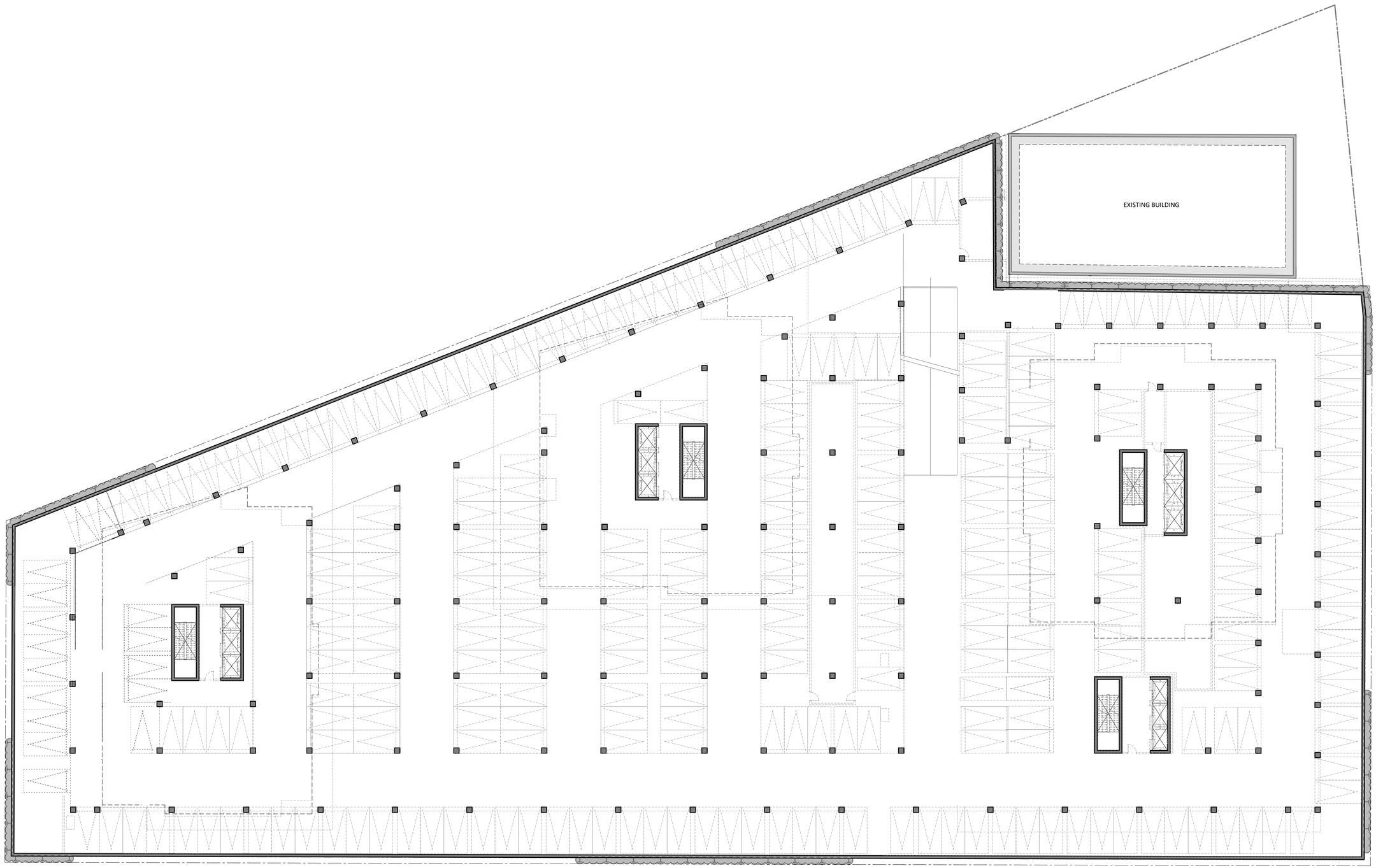
PROJECT/LOCATION:
951 GLADSTONE AVE.
& 145 LORETTA AVE. NORTH

DRAWING TITLE:
FOUNDATION PLAN

DRAWN BY:	DATE:	SCALE:
FP	10/02/19	1 : 200

PROJECT: C019-1960

DRAWING NO: S199



LEVEL P1 FRAMING PLAN
1 : 200

NO	DATE	REVISIONS
3	07/03/22	ISSUED FOR PROXIMITY REPORT
2	09/04/21	ISSUED FOR PROXIMITY REPORT
1	10/02/19	ISSUED FOR PROXIMITY REPORT

PBCGROUP

CLV GROUP

ENTUITIVE
200 University Avenue, 7th Floor
Toronto, ON M5H 3C6 Canada
+1 416 477 5832

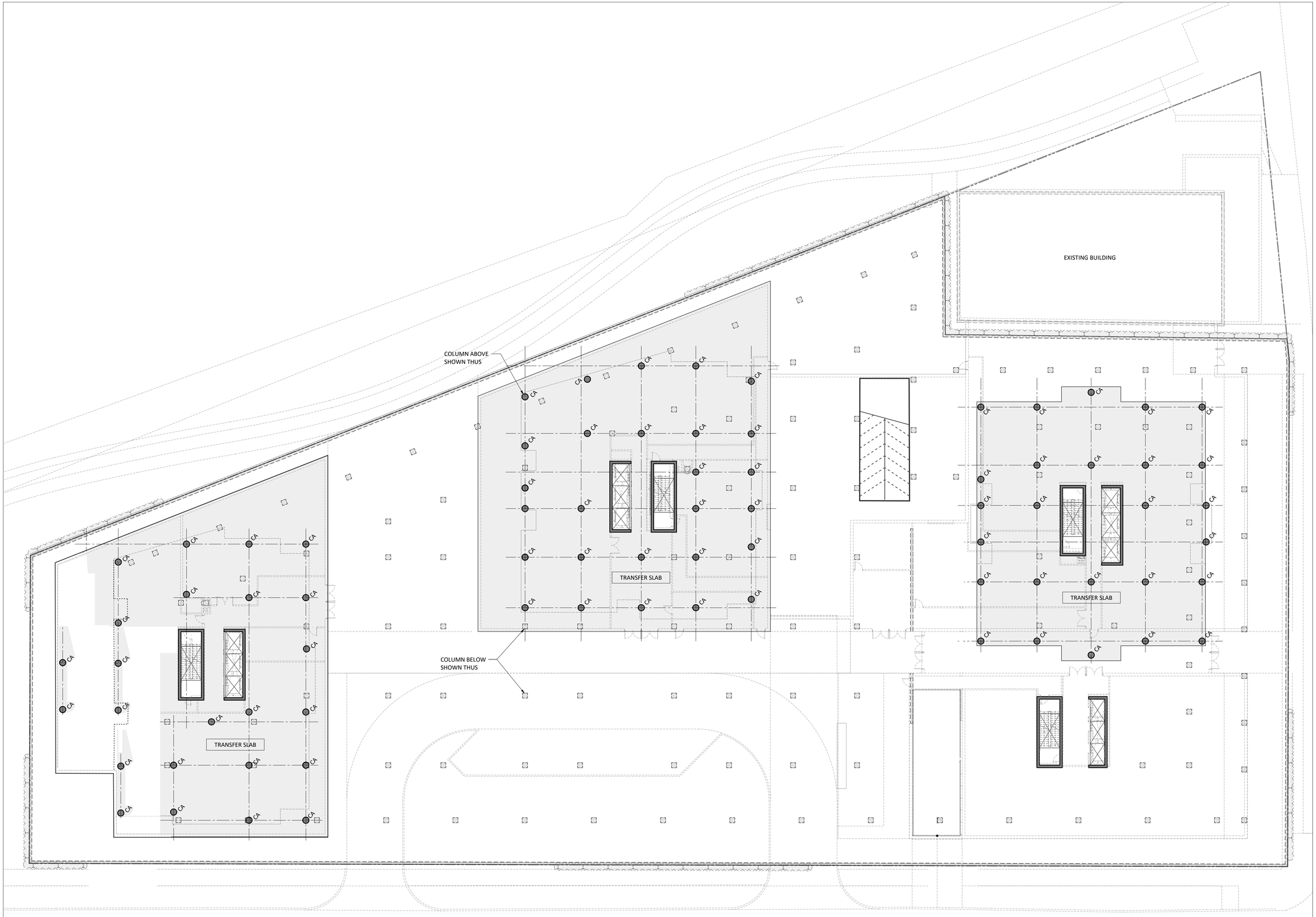
PROJECT/LOCATION:
951 GLADSTONE AVE.
& 145 LORETTA AVE. NORTH

DRAWING TITLE:
LEVEL P1 FRAMING PLAN

DRAWN BY:	DATE:	SCALE:
FP	10/02/19	1 : 200

PROJECT:
C019-1960

DRAWING NO:
S200



LEVEL 1 FRAMING PLAN
1 : 200

NO	DATE	REVISIONS
2	09/04/21	ISSUED FOR PROXIMITY REPORT
1	10/02/19	ISSUED FOR PROXIMITY REPORT

PBCGROUP

CLV GROUP

ENTUITIVE
200 University Avenue, 7th Floor
Toronto, ON M5H 3C6 Canada
+1 416 477 5832

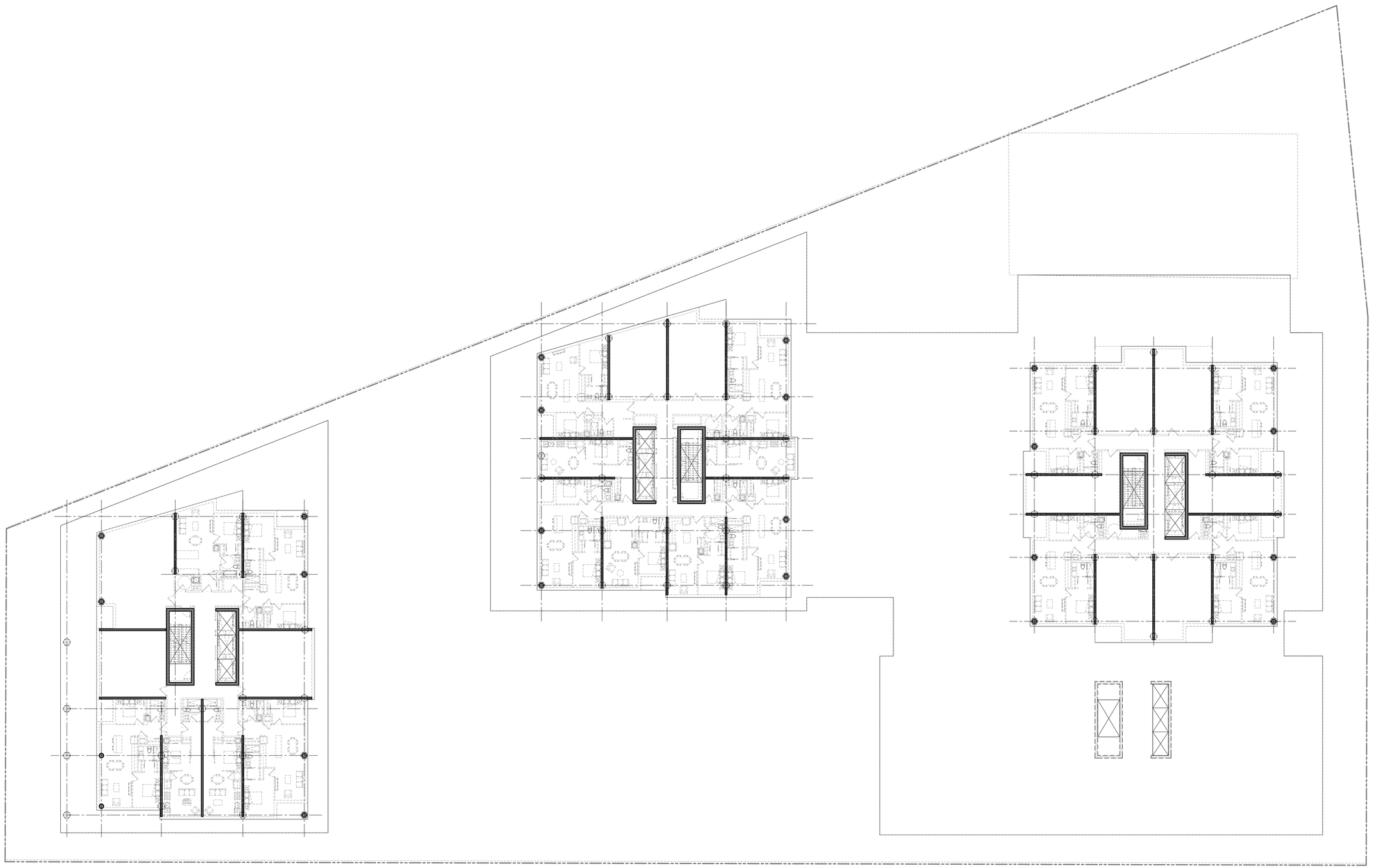
PROJECT/LOCATION:
951 GLADSTONE AVE.
& 145 LORETTA AVE. NORTH

DRAWING TITLE:
LEVEL 1 FRAMING PLAN

DRAWN BY:	DATE:	SCALE:
FP	10/02/19	1 : 200

PROJECT: C019-1960

DRAWING NO: S201



TYPICAL FLOOR FRAMING PLAN
1 : 200

NO	DATE	REVISIONS
2	09/04/21	ISSUED FOR PROXIMITY REPORT
1	10/02/19	ISSUED FOR PROXIMITY REPORT

PBCGROUP

CLV GROUP

ENTUITIVE
200 University Avenue, 7th Floor
Toronto, ON M5H 3C6 Canada
+1 416 477 5832

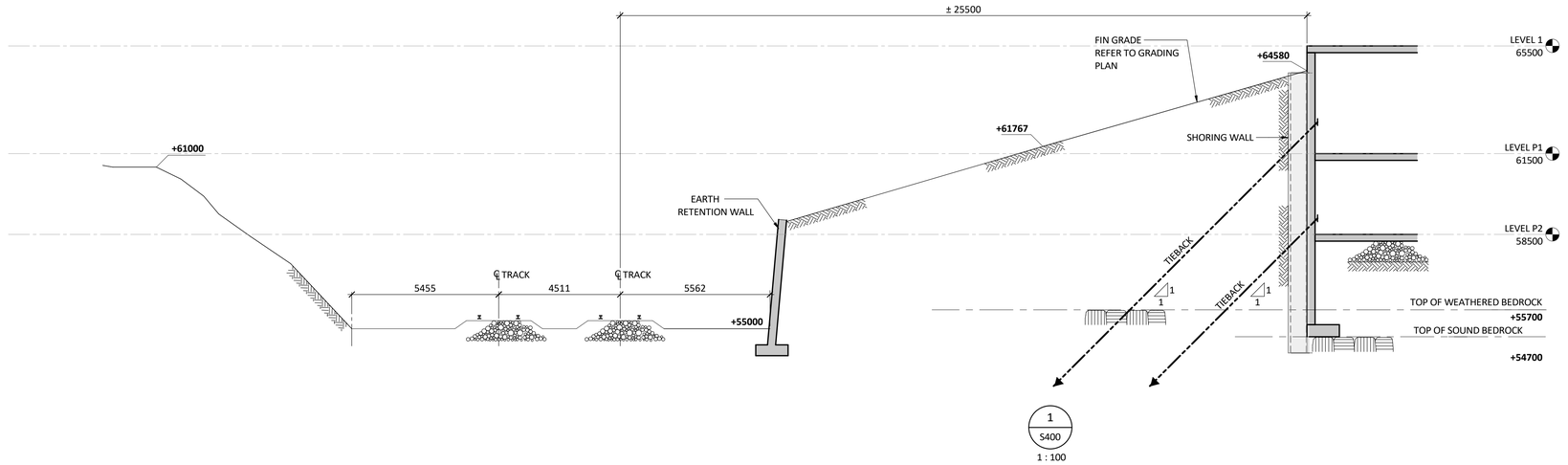
PROJECT/LOCATION:
951 GLADSTONE AVE.
& 145 LORETTA AVE. NORTH

DRAWING TITLE:
TYPICAL FLOOR FRAMING PLAN

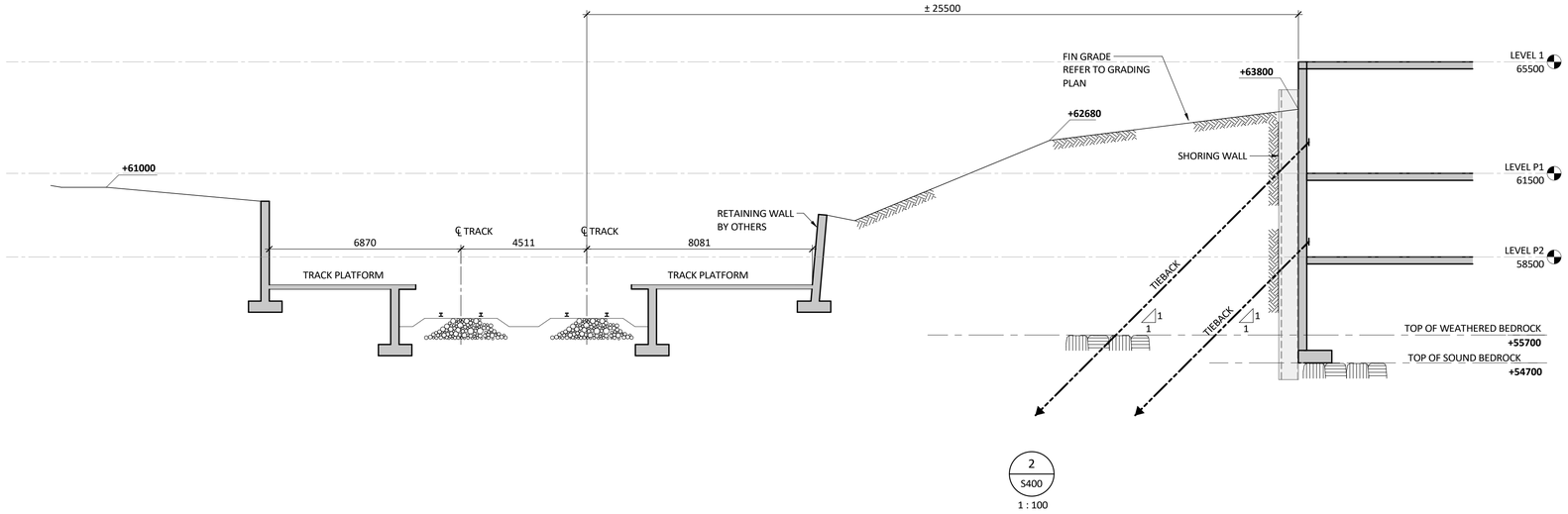
DRAWN BY:	DATE:	SCALE:
FP	10/02/19	1 : 200

PROJECT: C019-1960

DRAWING NO: S206



1
S400
1 : 100



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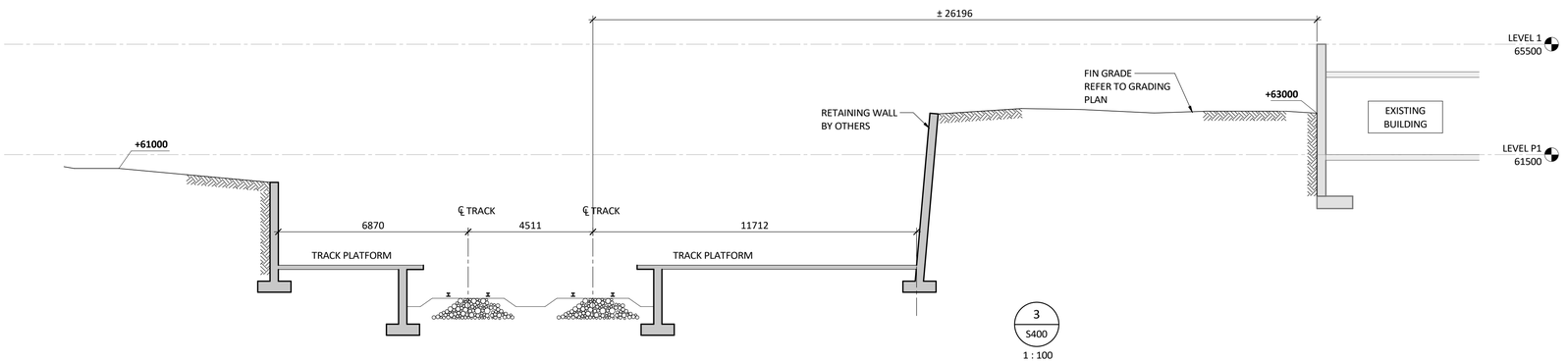

3
S400
1 : 100

NO	DATE	REVISIONS
3	07/03/22	ISSUED FOR PROXIMITY REPORT
2	09/04/21	ISSUED FOR PROXIMITY REPORT
1	10/02/19	ISSUED FOR PROXIMITY REPORT

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PROJECT/LOCATION:
951 GLADSTONE AVE.
& 145 LORETTA AVE. NORTH

DRAWING TITLE:
OVERALL SITE SECTIONS

DRAWN BY:	DATE:	SCALE:
FP	10/02/19	1 : 100

PROJECT:
C019-1960

DRAWING NO:
S400

APPENDIX C

GEOTECHNICAL REPORT

DUE DILIGENCE GEOTECHNICAL INVESTIGATION REPORT

FOR THE PROPOSED RESIDENTIAL AND COMMERCIAL DEVELOPMENT AT

971 GLADSTONE AVENUE AND 145 LORETTA AVENUE

OTTAWA, ONTARIO

Prepared for:

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16 August 2017

DST File No.: TS-SO-029563

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1. INTRODUCTION

DST Consulting Engineers Inc. (DST) was retained by Trinity Development Group Inc. (TDG) to conduct a geotechnical investigation and provide general foundation and earthworks design recommendations for the potential acquisition and construction of the proposed residential and commercial development with two or four levels of underground parking at the north-east corner of Gladstone Avenue and Loretta Avenue North, Ottawa, Ontario.

A limited preliminary geotechnical investigation was completed by DST in 2009 consisting of three (3) boreholes drilled at the west and the south sides of the 955 and 953 Gladstone Avenue building. That preliminary investigation did not cover the entire area of the proposed development. Therefore, additional geotechnical investigation was required to characterize the subsurface conditions across the site.

The primary objectives of this investigation and report are to obtain the necessary subsurface information and provide the general recommendations for conceptual design of the proposed development and to assist Trinity Development Group Inc. (TDG), in due diligence prior to the property acquisition. The investigation focused on the important issues from both geotechnical and environmental standpoints which could lead to potential cost premiums for the proposed multi-storey development.

The current geotechnical investigation was completed in general accordance with the work plan described in DST's proposal dated May 17, 2017. Written authorization to proceed with the investigation was provided by Mr. Ryan Moore, senior development manager of TDG in an email dated May 29, 2017.

This report is prepared for the sole use of TDG. The use of the report, or any reliance on it by any third party, is the responsibility of such third party. This preliminary geotechnical engineering report is also subject to the limitations shown in Appendix A and is not intended for detailed design purposes. It should be noted that the details of proposed development such as proposed grades, vertical extent of the proposed underground parking structure and anticipated loading information have not been specified by TDG and/or made available to DST at this stage.

2. PROJECT DESCRIPTION

The proposed project for the site is a multi-storey residential and commercial development, including mid and high rise residential buildings, commercial/retail spaces, ground surface parking lots, two to

four levels of below ground parking, sewers and water pipes installation. The proposed new buildings include one 18-storey tower, one 20-storey tower, one building with 20-story at one side and 5-story at another side, and one 5-storey residential building. The proposed buildings are as follows;

1) Building 1, for residential and retail, approximately 160,000 square feet (SF) and 1,900 SF, respectively.
2) Building 2, for residential and retail, approximately 177,000 SF and 4,300 SF, respectively.
3) Building 3, for residential and retail, approximately 216,500 SF and 12,340 SF, respectively.
4) Building 4, for residential and retail, approximately 33,660 SF and 3,600 SF, respectively.

The actual number of underground parking levels and proposed elevations of the underground parking structure had not been provided to DST at this stage. However, the proposed tentative development plan, provided by the client, includes construction of two levels of underground parking and deep excavation to approximately 7 to 8 m below existing grades for the two levels of underground parking option over the entire development site. Another option provided by the client includes four levels of underground parking to approximately 14 m below grade. . The proposed towers and mid-rise residential buildings will be built over the underground parking structure.

This geotechnical investigation is intended to confirm the subsurface conditions in general across the site and to provide preliminary foundation and geotechnical recommendations for the proposed development.

A site plan with the borehole locations are shown in Figure 1, Appendix B.

3. SITE DESCRIPTION

The project site is surrounded by Gladstone Avenue at the south, Loretta Avenue at the west, a small commercial property at the north and rail track at the east and north-east. The site is relatively flat and sloping ground to the rail track at the east and north-east boundary of the property. The project site is approximately 100 m wide at Gladstone Avenue, approximately 30 m wide at the north side, and approximately 150 m long at Loretta Avenue. The site is occupied with Gladstone center buildings and surface parking lots presently.

4. REGIONAL GEOLOGY

Based on the Ontario Geological Survey Open File Report 5770, and the surficial geological map of Ottawa, this general area is predominantly underlain by fine grained deposits of silt and clay. Based on the geological survey report, fine-grained soils are deposited in the potentially marine environment, named by geologists as Champlain Sea deposits.

Bedrock geology in the area is predominantly underlain by limestone, dolostone, shale, arkose, sandstone of Ottawa Group, Simcoe Group, and Shadow Lake Formation, respectively.

5. FIELD INVESTIGATION AND LABORATORY TESTING

5.1 Field Investigation

The geotechnical field investigation was conducted between June 27 and July 10, 2017 and consisted of thirteen (13) boreholes drilling, depths between 1.8 m and 13.5 m. The boreholes were distributed across the site, as shown in the borehole location plan, Figure 1, Appendix B.

Before the drilling work, underground and above ground utility services were located by CCC drilling to make sure the drilling locations are clear of the underground services. Boreholes were drilled using a specialize drilling contractor, CCC Drilling Inc. A truck mounted drill rig was used for the drilling work. Standard Penetration Test (SPT) was carried out at 0.75 m interval up to auger refusal depth. The SPT sampler was advanced by dropping a 63.5 kg hammer (auto trip) for approximately 760 mm height, in accordance with the Standard Penetration Test (SPT) method (ASTM D1586). The results of these penetration tests are reported as SPT ‘N’ values on the borehole logs at the corresponding depths.

Disturbed soil samples were collected from the SPT samplers. All the collected soil samples were inspected upon retrieval and classified the soil types, colour and kept in the airtight plastic bags, labelled the sample identifications and sent back to the DST laboratory using cooler boxes. After arrival of the samples at the laboratory, soil samples were examined by a geotechnical engineer and assigned the appropriate laboratory tests.

Boreholes locations were surveyed using GPS readings and borehole elevations were surveyed using a survey bench mark located at mid of north east of the property (near BH2017-09) marked by Benchmarks (PK nail and S.I.B.), as shown on the borehole location plan on Drawing 1 in Appendix B. Groundwater monitoring wells were installed at eleven (11) drilled boreholes.

All boreholes were backfilled with bentonite pellets to the near ground surface and capped with auger cuttings at the near ground surface. The borehole locations are shown on the borehole location plan on Figure 1 in Appendix B. Summary of borehole coordinates are presented in Table 5.1 below.

Table 5-1: Summary of Boreholes Coordinates and Termination Depths

Borehole/Well ID	Ground Surface Elevation (m)	Location (UTM Zone 18T)		Borehole Termination Depth, m
		Nothing, m	Easting, m	
BH2017-01	104.9	5028029	443991.0	7.6
BH2017-02	104.2	5028045	444017.3	6.5
BH2017-03	103.4	5028054	444056.8	13.5
BH2017-04	100.7	5028076	444057.7	4.6
BH2017-05A	102.7	5028096	444019.2	1.8
BH2017-05	102.7	5028096	444017.3	13.5
BH2017-06	104.3	5028066	443975.0	7.8
BH2017-07	102.4	5028127	443952.3	8.0
BH2017-08	103.9	5028091	443979.6	13.6
BH2017-09	99.6	5028115	444005.2	4.5
BH2017-10	102.3	5028139	443965.7	16.6
BH2017-11	102.1	5028155	443947.7	8.4
BH2017-12	102.1	5028159	443963.2	8.5
BH2017-13	102.2	5028143	443977.7	1.8

5.2 Laboratory Testing Program

The laboratory geotechnical tests were completed for confirmation of soil classification. Chemical analysis were carried out for evaluation of corrossivity of subsoil. The laboratory geotechnical testing program consisted of determination of moisture content (for all recovered soil samples), particle size

analysis, and Atterberg limit test. Compressive strength of rock cores were tested on selected rock core samples.

A total of four (4) particle size analyses, and five (5) Atterberg limit tests were completed. One (1) soil sample was analysed for corrosion package consisting of measurement of chlorides, sulphides, sulphate, conductivity, pH, resistivity of soil, and oxidation-reduction potential to assess the potential for subsoil corrossivity. The results of the moisture content determination and grain size analysis are shown on the borehole logs. The moisture contents and grain size analysis results are shown on the borehole logs in Appendix C and the laboratory test results shown in Appendix D.

6. DESCRIPTION OF SUBSURFACE CONDITIONS

Based on the subsurface conditions encountered in the boreholes, the generalized subsoil profile consists of fill underlain by clay deposit and limestone bedrock. A sand and gravel, and sandy clay layer were also encountered in some boreholes between clay and bedrock, as shown in the borehole logs and summarized in Table 6-1 below.

Table 6-1: Summary of Stratigraphy at Exploratory Boreholes

Borehole ID	Fill (m)	Depth of Clay Layer (m)	Sand and Gravel/Probable Till (m)	Bedrock/Auger Refusal (EOB) (m)
BH2017-01	0 – 2.3	2.3 – 7.3	7.3 – 7.6	Auger Refusal
BH2017-02	0 – 2.1	2.1 – 6.5	-	Auger Refusal
BH2017-03	0 – 2.4	2.4 – 6.4	-	6.4 – 13.5
BH2017-04	0 – 1.8	1.8 – 4.6	-	Auger Refusal
BH2017-05	0 – 3.1	3.1 – 6.9	-	6.9 – 13.5
BH2017-06	0 – 1.4	1.4 – 7.8	-	Auger Refusal
BH2017-07	0 – 4.3	4.3 – 7.3	7.3 – 8.0	Auger Refusal
BH2017-08	0 - 2.5	2.5 – 7.0	-	7.0 – 13.6
BH2017-09	0 – 0.7	0.7 – 4.5	-	Auger Refusal
BH2017-10	0 – 4.3	4.3 – 8.3	8.3 – 9.0	9.0 -16.6
BH2017-11	0 – 3.4	3.4 – 7.3	7.3 – 8.4	Auger Refusal
BH2017-12	0 – 3.0	3.0 – 7.9	7.9 – 8.5	Auger Refusal
BH2017-13	0 – 1.4	1.4 – 1.8 (EOB)	-	Auger Refusal

EOB = Termination Depth/End of Borehole

The details of the subsurface conditions encountered in the boreholes can be reviewed in the borehole logs shown in Appendix C. The soil type was classified in accordance with Unified Soil Classification System and as per Section 3 of 2006 Canadian Foundation Engineering Manual, Fourth Edition (CFEM), entitled identification and classification of soil and rock.

6.1 Fill

A fill layer was encountered in all boreholes. The fill depths were found between 1.4 m and 4.3 m. Fill material generally consisted of sand and gravel, gravelly sand, and sand and clay. A clay fill layer was also encountered in the BH2017-10 at about 3 m depth. Standard penetration test (SPT) N

values varied widely across the site ranging between 1 and over 100 indicating very loose to very dense conditions. The moisture contents of the fill ranged between 1 and 30%. The results of Particle size analyses are summarized in Table 6.2.

Table 6-2: Summary of Particle Size Analysis Result

Sample ID	Sample Depth (m)	Gravel, %	Sand, %	Silt/Clay, %
BH2017-5/SS-4	1.7 – 2.1	52	37	11
BH2017-9/SS-2	0.4 – 1.1	5	42	53
BH2017-10/SS-4	1.7 – 2.1	32	59	9
BH2017-11/SS6	3.0 – 3.6	7	60	43

6.2 Clay

Clay was encountered in all boreholes except Borehole BH2017-5A, where the borehole was terminated in fill at 0.7 m depth. Clay soil layer was encountered at depths between 1.4 and 8.3 m depths. Detailed clay soil depths are shown in Table 6.1.

Standard penetration test (SPT) N values tested in the clay layer ranged between 5 and 30 indicating soft to very stiff in consistency. A few SPT results in the clay layers were below 5 blows, and the result indicating very soft. A few SPT tests at near the bedrock surface are resulted over 100 blows, it could be due to the SPT sampler reached to the bedrock surface during the test. Field vane test results varied from 19 kPa to over 200 kPa. The moisture contents of the clay ranged between 5 and 50 %. The clay soil layer becomes sandy at deeper depth. Atterberg Limit test results are shown in Table 6.3.

Table 6-3: Summary of Atterberg Limit Test Results

Sample ID	Sample Depth (m)	Plastic Limit, %	Liquid Limit, %	Plasticity Index, PI
BH2017-2, SS4	1.7 – 2.1	48	24	24
BH2017-3, SS7	3.6 – 4.1	38	19	19
BH2017-3, SS10	5.4 – 5.9	33	15	18
BH2017-6, SS-8	4.1 – 4.6	15	12	3
BH2017-8, SS7	3.6 – 4.1	47	24	23

6.3 Sand and Gravel

A sand and gravel layer was encountered between clay and bedrock in Boreholes BH2017-1 at between 7.3 m to 7.6 m depth, BH2017-7 at between 7.3 m and 8.0 m depth, BH2017-10 at between 8.3 m and 9.0 m depth, and BH2017-11 at between 7.3 m and 8.4 m depth. Standard penetration test (SPT) N values tested in the sand and gravel layers ranged between 17 and 100+ indicating compact to very dense in compactness. The moisture content of the sand and gravel ranged between 6 and 11 %.

6.4 Sandy Clay Till

Sandy clay till was encountered in BH2017-12 at between 7.9 m and 8.5 m depth, below the clay soil layer. Standard penetration test (SPT) N value tested in the sandy clay layer was 100+. However, SPT test is partially on the bedrock, therefore, SPT blow count number is not representative to soil compactness condition. The sandy clay is evaluated as firm in consistency. The moisture content of the sandy clay was 15 %.

6.5 Bedrock

Bedrock coring was completed in Boreholes BH2017-3 (7.0 m to 13.5 m depth), BH2017-5 (6.9 m to 7.4 m depth), BH2017-8 (6.9 m to 13.6 m depth) and BH2017-10 (9.0 m to 16.6 m depth). All the recovered cores are classified as grey limestone. Total core recovery, solid core recovery and rock quality designation of the rock cores were evaluated and reported in the rock core photos (Appendix E) and shown in Table 6.4. Unconfined compressive strength (UCS) of the rock test was carried out on the selected rock core samples. Summary of UCS test results is shown in Table 6.5. The UCS test results are provided in Appendix D.

Table 6-4: Summary of Rock Cores Logging

BH No.	Core Run No.	Depth (m)	TCR (%)	SCR (%)	RQD (%)
BH2017-03	1	6.4 – 7.5	100	79	58
BH2017-03	2	7.5 – 9.0	100	92	90
BH2017-03	3	9.0 – 10.4	93	93	92
BH2017-03	4	10.4 – 11.9	100	100	92

BH2017-03	5	11.9 – 13.5	100	100	95
BH2017-05	1	6.9 – 7.4	100	100	100
BH2017-05	2	7.4 – 8.8	100	98	95
BH2017-05	3	8.8 – 10.3	100	100	100
BH2017-05	4	10.3 – 11.8	100	100	96
BH2017-05	5	11.8 – 13.5	100	100	100
BH2017-08	1	7.0 – 7.6	100	96	93
BH2017-08	2	7.6 – 9.1	85	78	75
BH2017-08	3	9.1 – 10.6	100	100	98
BH2017-08	4	10.6 – 12.1	98	98	90
BH2017-08	5	12.1 – 13.6	100	100	100
BH2017-10	1	9.0 – 10.5	98	92	85
BH2017-10	2	10.5 – 12.1	100	100	100
BH2017-10	3	12.1 – 13.6	98	98	98
BH2017-10	4	13.6 – 15.1	100	100	100
Bh2017-10	5	15.1 – 16.6	100	100	100

Table 6-5: Summary of Limestone Bedrock Field and Laboratory Test Results

BH No.	Core Run No.	Depth, (m)	Unconfined Compressive Strength, (MPa)
BH2017-3	1	96.1 – 95.9	127.6
BH2017-3	5	90.1 – 89.8	125.7
BH2017-5	2	94.5 – 94.1	121.5
BH2017-8	3	93.5 – 93.3	113.1
BH2017-10	1	93.2 – 92.9	97.2
BH2017-10	4	88.1 – 87.8	129.6

6.6 Groundwater

The groundwater depths were measured in the installed monitoring wells. The measured groundwater depths are summarized in Table 6.6. The groundwater elevations varied with location and over time between 1.7 m and 4.4 m below grade (Elevations 101.0 m and 97.9 m).

Table 6-6: Summary of Groundwater Measurement in the Installed Monitoring Wells

Borehole/Well ID	Ground Surface Elevation (m)	Measured Date	Groundwater Depth (m)	Groundwater Elevation (m)
BH2017-02	104.2	July 17, 2017	4.4	99.8
BH2017-03	103.4	July 20, 2017	5.0	98.4
BH2017-04	100.7	July 17, 2017	2.2	98.5
BH2017-05	102.7	July 20, 2017	3.3	99.4
BH2017-06	104.3	July 17, 2017	3.3	101.0
BH2017-07	102.4	July 17, 2017	4.1	98.3
BH2017-08	103.9	July 20, 2017	5.6	98.3
BH2017-09	99.6	July 17, 2017	1.7	97.9
BH2017-10	102.3	July 20, 2017	4.1	98.2
BH2017-11	102.1	July 17, 2017	3.9	98.2

It shall be noted that the groundwater levels measured at the time of geotechnical field investigation may not be representative of the stabilized groundwater conditions at the site during the construction period. It should be noted that the groundwater levels are transient and tend to fluctuate with the seasons and periods of precipitation potentially up to 1 or 2 m compared to the recorded short-term measurements.

7. PRELIMINARY GEOTECHNICAL DESIGN RECOMMENDATIONS

The geotechnical recommendations presented herein are intended for conceptual design of the proposed development and for the sole use of the designers/planners of the project and are also subject to the limitations in Appendix A. All recommendations presented in this report are based on the assumptions that preliminary foundation design will be reviewed by DST during subsequent detailed design stage and an adequate level of construction monitoring of excavations and installations will be provided at the time of construction.

An adequate level of construction monitoring is expected to include periodic to full time monitoring of excavations and shoring installations, footing base evaluations, inspection and testing by a professional engineer specialized in geotechnical engineering.

7.1 Geotechnical Design parameters

The general site stratigraphy found in the boreholes consists of fill underlain by native clay deposit and some till/sand and gravel and limestone bedrock, as summarized in Table 6.1. A layer of sand & gravel (0.3 to 0.7 m thick) was encountered between clay and bedrock formation. The clay layer was found sandy at the deeper depth. The detailed subsurface conditions can be seen in the borehole logs, which are provided in Appendix C.

The stratigraphy and engineering parameters recommendations are provided for Tables 7.1. The internal friction angles of granular materials were estimated from standard penetration tests (SPTs) applying Wolff (1989) which provides an empirical correlation between SPT and internal friction angle. Internal friction angles of normally consolidated clay were estimated from the Plasticity Index of the sample. Undrained shear strengths of the cohesive soils were estimated based on the in-situ vane shear test results as well as from the SPT test results.

Table 7-1: Geotechnical Soil Design Parameters

Soil Type	Depths, m	Elevation, m	Unit weight, γ (kN/m³)	c, kPa	ϕ	K_0	K_a	K_p
Fill	0 – 4.3	104.8 – 98.0	18	-	(30) 28 - 42	0.50	0.33	3.00
Clay	1.4 – 8.3	102.9 – 94.0	17	-	(26)* 26 - 30	0.56	0.39	2.56
Sand & Gravel	7.3 – 9.0	94.8 – 93.3	20	-	(32)* 32 - 33	0.47	0.30	3.25
Sandy Clay Till	7.9 – 8.5	94.2 – 93.6	19	-	30	0.50	0.33	3.00

*value in ( ) are recommended value

7.2 Bedrock Profile and Bedrock Quality

7.2.1 Bedrock Profile

The bedrock depths were estimated from the rock core data and the depth of auger refusal encountered in the boreholes. The bedrock could be encountered at depths between 4.5 m and 9.0 m (Elevations 97.7 m and 93.3 m). The depths and elevations of the bedrock are tabulated and shown in the Table 7.2.

Bedrock excavation quantities for foundation preparation were estimated and provided in the Table 7.3. Used total area of the bedrock excavation for the volume calculation is 10,030 m². Bedrock excavation quantity will vary with the elevation of the bedrock excavation. Based on the boreholes data, bedrock surface was found to be sloping to the northeast side. It should be noted that actual bedrock depths may vary between the boreholes, and therefore the estimated volume may vary from the actual excavation volume.

Table 7-2: Inferred and Confirmed Bedrock Depths and Elevations

Borehole/Well ID	Ground Surface Elevation (m)	Inferred Bedrock Depth, (m)	Inferred Bedrock Elevation (m)	Remark
BH2017-01	104.9	7.6	97.3*	Possible bedrock/Auger Refusal
BH2017-02	104.2	6.5	97.7*	Possible bedrock/Auger Refusal
BH2017-03	103.4	6.4	97.0	Confirmed Top of Bedrock
BH2017-04	100.7	4.6	96.1*	Possible bedrock/Auger Refusal
BH2017-05	102.7	6.9	95.8	Confirmed Top of Bedrock
BH2017-06	104.3	7.8	96.5*	Possible bedrock/Auger Refusal
BH2017-07	102.4	8.0	94.4*	Possible bedrock/Auger Refusal
BH2017-08	103.9	7.0	96.9	Confirmed Top of Bedrock
BH2017-09	99.6	4.5	95.1*	Possible bedrock/Auger Refusal
BH2017-10	102.3	9.0	93.3	Confirmed Top of Bedrock
BH2017-11	102.1	8.4	93.7*	Possible bedrock/Auger Refusal
BH2017-12	102.1	8.5	93.6*	Possible bedrock/Auger Refusal

*No bedrock coring was carried out – Top of bedrock elevation to be confirmed during detailed stage and/or construction.

Table 7-3: Possible Bedrock Excavation Volumes

Assumed Excavation to Elevation (m)	Cumulative Rock Excavation Volume (m^3)	-15% estimate (m^3)	+ 15% estimate (m^3)	Remark
104.9	-	-	-	The highest ground surface elevation at BH2017-01 location
101.0	-	-	-	-
99.0	-	-	-	-
97.4	165	143	190	-
96.4	2,670	2,322	3,071	-
95.4	8,545	7,430	9,827	-
94.4	16,100	14,000	18,515	-
93.4	25,205	21,917	28,986	-
92.4	35,230	30,634	40,514	-
91.4	45,260	39,356	52,049	-
90.4	55,290	48,078	63,584	-
89.4	65,320	56,800	75,118	-

7.2.2 Bedrock Quality

Type of the bedrock are predominantly grey limestone bedrock. The rock core samples collected were logged for Total Core Recovery (TCR), Solid Core Recovery (SCR) and Rock Quality Designation (RQD) and provided in Table 6.4 and the rock core photos, provided in the Appendix E. The TCR of rock cores were between 85% and 100 %, SCR of rock cores were between 78 % and 100 %, RQD of rock cores were between 58 % and 100 % and indicating fair to good quality. The unconfined compressive strengths of the tested samples were between 97.2 MPa and 129.6 MPa, indicating strong to very strong rocks and can be classified as Grade R4, accordance with ISRM (1981) classification, (Ref.: Table 3.5 of CFEM 2006 document).

The Rock mass qualities of recovered rock core samples were generally evaluated as fair (near top) to good rock below. It is recommended that further detailed evaluation bedrock quality should be carried out once the elevation of the bottom of excavation for underground parking structure is known and can be rated using Rock Mass Rating (RMR) System (After Bieniawski, 1989). The RMR rating will include the compressive strength of rock core, RQD, the bedrock fracture spacing, fracture condition, groundwater conditions at all cored locations across the site.

If the extent of bedrock excavation is deemed to be limited to the top bedrock, the upper bedrock could potentially be ripped with heavy duty rock rippers, due of the weaker and fractured rock at the top layer of limestone bedrock. It is recommended that the rippability of top of the bedrock (whether fractured rocks up to excavation depth) should be further evaluated when the bedrock exact depth is confirmed.

7.2.3 Bedrock Excavation by Blasting

The limestone bedrock mass below overburden and at depth is found to be generally strong to very strong and the fracture frequency generally drops with depth. Rock mass quality of rock cores could be rated as Class I to III. Rock mass quality Classes I to III required rock blasting, to loosen or fracture the bedrock for the excavation. Where relatively sound bedrock is encountered, blasting is generally required for fragmentation of very strong bedrock, as per OPSS 120 (governing the procedure for blasting).

A pre-construction survey of all buildings and facilities located within 50 meters of the excavation site shall be carried out by the firm specializing in pre-construction surveys and is independent of the contractor (similar to pre-blast survey as described in OPSS 120). Vibration monitoring will be required for the blasting work. Acceptable vibration levels induced by the excavation operations shall be determined following a risk assessment carried out by the independent vibration specialist.

7.3 Foundation Recommendations

Based on the information provided by the client, excavation for the entire site area for about 8 m depth (Elevation 96.7 m) is anticipated for the construction of two-levels underground parking. Therefore, the subsurface condition below the foundation for the proposed building could be on the bedrock and partially on the soil (e.g. 3 m of clay soil between foundation and bedrock at BH2017-10, if foundation is at Election 96.7 m).

It shall be noted that the clay soil is not recommended for the foundation bearing soil since it has low bearing resistance as well as it may cause excessive settlement for the proposed development. Clay soil shall be removed up to the bedrock surface depth. Foundation could be founded directly on the bedrock surface.

7.3.1 Spread Footings and Mat Foundation on Bedrock

Based on the borehole log, the type of bedrock encountered at the foundation depth is limestone. Limestone has fair to good RQD in first core run of BH2017-03, BH2017-10 and second core run of BH2017-08. Other core runs were excellent RQD condition (RQD 90 – 100).

The compressive strengths of tested sound rock core samples were 97 MPa to 129 MPa. Where spread footings/mat foundations are considered to support commercial building, due to the fair rock mass quality at the upper rock cores, an allowable design bearing pressure of 1,000 kPa is recommended for the foundation on the upper limestone bedrock formation. At this preliminary design stage, a modulus of deformation of 20 GPa can be used for the rock formation.

If more than 1,000 kPa design bearing capacity of the foundation is required, the mat foundations or cast-in-place concrete caissons, founded on competent bedrock could be considered. Competent bedrock has excellent rock mass quality and provide higher bearing capacity for the foundation. It is recommended that the potential for the presence of fractured/rubble zones should be checked for the entire footprint of the proposed tower. Further foundation consultations will be required for the detailed foundation design.

Limestone bedrock is susceptible to chemical erosion and may develop underground cavity. However, no significant open fractures or cavity was encountered in the four (4) boreholes cored up to 6.5 to 7.6 m below top of the bedrock (for). Therefore, relatively intact bedrock is expected underneath the proposed two levels of underground parking structure and the building foundation. A geophysical method such as ground-penetrating-radar (GPR), electromagnetic conductivity measurement (EM), could be used for detecting the cavities at a deeper depth.

Prepared bearing surface for the foundation should be free of disturbed soil, and free of unsuitable materials such as organic material, loose materials. All the disturbed soil during excavation should be removed for off side removal. A minimum 300 mm thick Granular A material, compacted to 100%

standard proctor maximum dry density, shall be prepared on top of the prepared foundation bedrock surface. The mat/raft foundation could be founded on the prepared 300 mm thick Granular “A” layer.

Considering the reported high ground water table, waterproofing layer is required below the floor slab and around the basement wall. The waterproofing design for the basement wall is required to protect from the water and moisture intrusion into the basement. Waterproofing design and specifications should be incorporated in the basement floor and walls construction design drawings.

Preparation and construction of mat/raft foundation requires shoring system and dewatering work for the anticipated deep excavations. Foundation shoring system should be designed to provide the sufficient support for the lateral earth pressure. Significant dewatering work is expected and further discussed in Section 7.6.2.

7.4 Slab-on-Grade

Should the basement foundation be on the bedrock, slab-on-grade construction will not be required for the basement floor construction. However, if foundation is planned on the overburden soil, the slab-on-grade for the foundation could be required.

Clay soil layer encountered in the boreholes at before the bedrock surface is not suitable for the foundation. Therefore, this unsuitable soil shall be removed up to bedrock surface and backfilled with engineered fills. Once the exposed excavated bedrock surface has been inspected and approved, the site grades within the floor slab area could be raised by the placement of engineered fill to the underside of the granular base of the slab. The engineered fill should consist of Ontario Provincial Standard Specification (OPSS) Granular “A”, placed in 300 mm maximum loose lift thicknesses, with each lift compacted to 100% standard Proctor maximum dry density (SPMDD). The slab subgrade could be constructed on a 300 mm thick bed of OPSS Granular material. The subgrade beneath the slab-on-grade should be protected at all times from rain, snow, freezing temperatures, excessive drying, and the ingress of water. This applies during and after the construction period. The prepared subgrade should be inspected by a geotechnical engineer prior to the placement of the engineered fill.

If the ground is disturbed, the disturbed soil should be removed and replaced with Granular “A” and compacted to 100 % maximum standard Proctor dry density.

The finished exterior grade at the ground surface of the surrounding building, should be sloped away from the building to prevent ponding of surface water close to the exterior walls of the building.

7.5 Lateral Earth Pressure

Shoring for excavation support and foundation walls require design with resistance to the lateral earth pressures and groundwater pressures. The lateral earth pressure for the static condition, could be estimated using the following equation:

$$P = K_O \gamma h + K_O (\gamma - \gamma_w)(H-h) + \gamma_w (H - h) + K_O q$$

Where:

P	=	Total static lateral earth pressure in kPa;
K_o	=	coefficient of earth pressure for at rest condition
γ	=	estimated bulk unit weight of soil
γ_w	=	unit weight of water = 9.81 kN/m^3
H	=	height of wall (m)
h	=	depth of groundwater table below ground surface (m)
q	=	any surcharge pressure at ground level (kPa)

The thrust against the foundation wall during a seismic event may be estimated from the following equation (Wood, 1973):

$$P = \gamma H^2 (ah/g)$$

Where:

P = dynamic thrust component (kN/m)
γ = unit weight
H = height of wall (m)
(ah/g) = dimensionless horizontal pseudostatic coefficient

Active and passive earth pressures coefficients for the various soil types encountered at the site are provided in the Table 7.1.

7.6 Excavation and Dewatering

7.6.1 Excavations and Shoring System

Excavation must be undertaken in accordance with the Occupational Health and Safety Act (OHSA). The soil between ground surface and up to 8 m depth could be considered as Types 2 to 4 soils for excavation work as per Occupational Health and Safety Act and Regulation for Construction Projects. The excavation in overburden may be carried out with a cut slope of 2H:1V or using a suitable shoring system designed by a professional engineer.

Deep excavations of 8 - 9 m deep for the 2-levels basement parking construction and up to 14 m for 4-level parking option will require a specially designed shoring system. The potential shoring systems are tangent pile wall and secant pile wall. Given the reported bedrock elevations, it will be difficult to drive sufficient embedment pile lengths to anchor soldier piles into the bedrock. However, boring into the upper fractured bedrock may be considered given the reported bedrock qualities. Bracing, raking, anchoring should be considered for the excavation support of tangent and secant pile shoring systems. Shoring system should be considered for the needs for groundwater control (cut off wall) and the needs for the temporary and permanent retaining for the basement parking structure. The base heave during excavation with shoring is not expected for bedrock formation at the base of the excavation.

Instrumentation and monitoring during excavation will be required to monitor the performance of the shoring system as well as monitoring ground movement. The instrumentation and monitoring plan should be prepared for the shoring excavation.

7.6.2 Dewatering

Based on the groundwater levels encountered during the geotechnical investigations and subsequent groundwater monitoring results, perched groundwater could be encountered at shallow depth between 1.7 m and 5.6 m (Elevations 101.0 m and 97.9 m) above clay deposit, as well as below the clay deposit in the fractured limestone bedrock. Therefore, potentially significant groundwater control work will be required during construction and potentially afterwards. Evaluation of the hydraulic properties of the bedrock and overburden soil formations will be required for the dewatering analysis. Hydrogeological investigation is recommended for the detailed dewatering analysis and groundwater control work.

It shall be noted that the groundwater elevations vary with location, precipitation and seasons. Groundwater elevations at the site varied from elevation 101 m at west of the property to elevation 97.9 m at northeast of the property.

Based on present information, the potential dewatering/groundwater control systems are cut-off walls with collection pond and sump pump system or cut-off wall with wells points system. It should be noted that dewatering effort will depend on a number of factors, including excavation depth, season and weather conditions and the length of time the excavation is left open. The suitable dewatering system should be selected based on the size, depth, and required volume of groundwater removal during the excavation work. It is recommended that the dewatering work be designed and inspected by an experienced hydrogeologist/qualified professional engineer for the dewatering work. Ground settlement analysis and impact assessment due to dewatering shall also be analysed and evaluated during detailed design stage.

Note that dewatering volumes in excess of 50,000 L/day will require a Permit to Take Water (PTTW) or Environmental Activity Sector Registry (EASR), depending on the total dewatering volumes. PTTW application require supporting document of a hydrogeological assessment report as well as impact assessment by dewatering work carried out by a qualified person.

7.7 Pipe Installations

Installation of utilities services including pipes will be in overburden soils. Based on the depth of the pipe installation, dewatering requirements should be evaluated for the installation of the utilities. If installation trench is in the clay soil, it may be possible to use sump pumping techniques for dewatering, since clay has low permeability and less water to handle. It should be determined by the contractor on the methods of dewatering necessary to meet the project requirements and align with their construction methodology and schedule.

It should be noted that soft clay soil was encountered in the boreholes. Therefore, the pipe, which is installed in the clay formation, may encounter ground settlement and pipes shall be designed to resist and allow the large ground settlement.

7.7.1 Pipe Bedding

Pipe bedding should be in accordance with the following Ontario Provincial Standard Drawings (OPSD) design standards for the class and size of pipe being used as well as manufactures recommendations. The applicable standards for the pipe bedding are:

- OPSD 0802.010 Flexible Pipe Embedment and Backfill – Earth Excavation
- OPSD 0802.013 Flexible Pipe Embedment and Backfill – Rock Excavation
- OPSD 0802.030 Rigid Pipe Bedding, Cover and Backfill – Type 1 and 2 Soil - Earth Excavation
- OPSD 0802.031 Rigid Pipe Bedding, Cover and Backfill – Type 3 Soil - Earth Excavation
- OPSD 0802.033 Rigid Pipe Bedding, Cover and Backfill – Rock Excavation

Other OPSD Standards or manufacturer requirements may apply to the construction of the buried services and the designer should consult these as appropriate for the materials being employed.

It is recommended that a minimum 0.3 m of compacted bedding below the pipe shall be included in the bedding design.

Clear stone could be used for bedding and backfilling; if bedding is placed below groundwater.

7.7.2 Trench Backfill and Compaction Standard

Compaction of the trench backfill will be necessary in some cases for the following reasons:

- To control settlement of the trench fill;
- To provide lateral support to the trench sidewall; and
- To minimize soil loads on the pipe.

A Granular “B” Type I material could be used for the backfill above the pipe. Trench backfill should be compacted to 95% of standard Proctor maximum dry density. Heavy compaction equipment should not be used until at least 1 m of compacted backfill exists above the pipe. During backfilling, care should be taken to ensure the backfill proceeds in equal stages simultaneously on both sides of the pipe. If organic soils are encountered at the pipe bedding surface, this organic soil should be removed. No frozen material should be used as backfill; neither should the trench base be allowed

to freeze. The quality and workmanship in the construction is as important as the compaction standards themselves. It is imperative that the guidelines for the compaction be followed for the full depth of the trench to achieve satisfactory performance.

7.8 Corrosiveness of Soil

A selected soil sample at potential foundation depth was submitted to Maxxam Analytics, for chemical analyses to assess the potential sulphate attack on buried concrete and ductile iron structures (Soluble Chloride - Cl, Conductivity, Available pH, Resistivity, Soluble Sulphate – SO4). The Laboratory Certificate of analysis from Maxxam is provided in Appendix G. A summary of the results is provided in Table 7.4. The analytical results of the soil samples were compared with applicable Canadian Standards Association (CSA) standards and are given in Table 7.5.

Table 7-4: Summary of Corrosivity Analytical Test Results

Sample ID	pH	Soluble Sulphate (%)	Resistivity, ohm-cm	Soluble Chloride (20:1) (ug/g)	Conductivity (mS/cm)
BH2017-10, SS10	7.83	0.038	690	700	1.5

Table 7.5 Sulphate Content and Exposure Class

Class of Exposer	Degree of Exposure	Water soluble Sulphate in soil sample (%)	Cementing Material to be used
S-1	Very Severe	> 2.0	HS or HSb
S-2	Severe	0.20 – 2.0	HS or HSb
S-3	Moderate	0.10 – 0.20	MS, MSb, LH, HS, or HSb

*Information from Table 3 of CSA Standards A23.1-04

The sulphate content for the selected soil sample resulted a concentration of 0.038 %. The result was compared with Canadian Standards Association (CSA) Standards A23.1 for sulphate attack potential on concrete structures and possess a “negligible” risk for sulphate attack on concrete material. Accordingly, conventional GU or MS Portland cement may be used in the construction of the proposed concrete elements. pH result was 7.8 and it indicates it is not a corrosive environment for ductile iron pipes.

Soluble chloride content result was 700 ug/g and considered as negligible harmful environment for concrete or steel reinforcement. The resistivity of clay soil was 700 ohm-cm, which indicate poor drainage soil condition and could be considered as corrosive environment.

7.9 Seismic Site Classification

Based on the soil profile above the bedrock formation, it could be concluded that seismic site class for the overburden clay soil formation is classified as Site Class E. However, if the foundation is to be founded on the bedrock, seismic site class for the bedrock could be classified as Site Class “B”.

The site coefficients Fa and Fv could be assumed based on Table 6.1B and Table 6.1C of the Canadian Foundation Engineering Manual (CFEM, 4th edition, 2006) as well as NBCC 2005 Table 4.1.8.4.B and Table 4.1.8.4.C.

The seismic hazard from 2015 National Building Code Seismic Hazard Calculation for the site is provided in Appendix F.

7.10 Liquefaction Potential of Soils

The soil formation at the site is soft to hard clay soils. Majority of tested clay samples resulted plasticity index of 19 to 24 and therefore clay soil is considered non-liquefiable soil.

Two tests results of soil samples from sandy clay layer, resulted plasticity index 3 and non-plastic clay. The sandy clay soil, could be considered as liquefiable soil, therefore, DST recommend not to use as foundation bearing formation on sandy clay soil. It shall be further tested for the liquification potential and seismic loading capacities.

If the proposed development will use the bedrock formation as the foundation bearing, further analyses for liquefaction potential of the sandy clay soil may not be required.

7.11 Frost Protection and Foundation Insulation Requirements

Based on the Ministry of Environment published data, which is based on an 85% probability, the design freezing index for Ottawa area has been estimated to be 1,050 degrees-days Celsius (1,922

degree-days Fahrenheit). The estimated frost penetration depth for an engineered fill is approximately 1.8 m. The soil at the site is silt/clay in nature and highly frost susceptible soil.

All footings subject to frost action should be provided with the minimum 1.8 m of soil cover. If required soil cover over foundation footing is not feasible, foundation insulation can be used. Insulation detail design shall be prepared with the insulation product manufacture's design guidelines.

Present proposed development with foundation at below 10 m depth, will not require insulation for the foundation since the foundation will be beyond the potential frost penetration depth. However, the project requires shallow foundations, DST can review the foundation and provide design recommendation for frost protection.

7.12 Pavement

DST provided pavement structure recommendations for parking lot and drive way for light and heavy vehicle and provided in Table 7.6 and Table 7.7.

Table 7.6 Pavement Structure Recommendation for Parking Lot and Drive Way (car only)

Pavement Layer	Compaction Requirement	Recommended Minimum Thickness (mm)
Surface Course, Asphaltic Concrete	As per OPSS 310	40
Binder Course, Asphaltic Concrete	As per OPSS 310	60
Granular 'A', Base Course (OPSS 1010)	100 % SPMDD	150
Granular 'B', Type II, Subbase (OPSS 1010)	100 % SPMDD	300

Table 7.7 Pavement Structure Recommendation for Truck and Heavy Vehicle

Pavement Layer	Compaction Requirement	Recommended Minimum Thickness (mm)
Surface Course, Asphaltic Concrete	As per OPSS 310	40
Upper Binder Course, Asphaltic Concrete	As per OPSS 310	50
Lower Binder Course, Asphaltic Concrete	As per OPSS 310	50
Granular 'A', Base Course (OPSS 1010)	100 % SPMDD	150
Granular 'B', Type II, Subbase (OPSS 1010)	100 % SPMDD	450

Note:

1) OPSS – Ontario Provincial Standard Specifications
2) All pavement layer materials should meet OPSS requirements and/or municipality standards.
3) Granular materials should be compacted to 100% standard Proctor maximum dry density (SPMDD) and placed in lifts not exceeding 150 mm thick.
4) SPMDD – Standard Proctor Maximum Dry Density (ASTM-D698)
5) All granular and asphalt construction methods are to meet local standards (City of Ottawa OPSS).

8. MONITORING DURING CONSTRUCTION

All foundation and earth works recommendations presented in this report are based on the assumptions that an adequate level of construction monitoring by qualified geotechnical personnel during construction will be provided. An adequate level of construction monitoring is considered to be:

a) Foundations: full-time monitoring and design review during construction.
b) Earthworks: full-time quality control and compaction testing.

An important purpose of providing an adequate level of monitoring is to check that recommendations, based on data obtained at discrete borehole locations, are relevant to other areas of the Site. To provide an adequate level of construction monitoring, qualified geotechnical personnel should manage and supervise the following tasks during construction:

Foundations:

- Confirm that materials and methods meet specifications.
- Inspect foundation subgrades.
- Inspect excavation.
- Inspect shoring structures.
- Review shallow foundation installation/testing methods.
- Review compaction testing records.
- Provide review comments, including any discrepancies found with respect to specifications as well as this report, and the need for any modifications to the design or methods.

Earthworks:

- Confirm that materials and methods meet specifications.
- Inspect subgrade prior to fill placement.
- Quality control of fill material.
- Review compaction testing records.

DST can review the final design and layout of structures and foundation elements for the proposed development. DST can be contacted to offer additional recommendations.

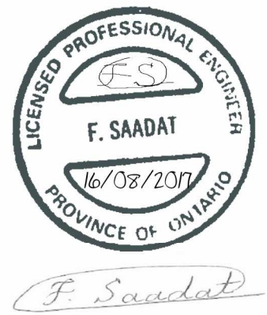
9. CLOSURE

We trust this report meets your present requirements. Should you have any questions, please do not hesitate to contact our office. A description of limitations which are inherent in carrying out site investigation studies is given in Appendix A and forms an integral part of this report.

Sincerely,

For DST CONSULTING ENGINEERS INC.

Tun Lwin, P.Eng., P.Geo, M.Eng., M.Sc.
Senior Geotechnical Engineer



Farbod Saadat, Ph.D., P.Eng.
Chief Geotechnical Engineer

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APPENDIX A

LIMITATIONS OF REPORT

LIMITATIONS OF REPORT

GEOTECHNICAL STUDIES

The data, conclusions and recommendations which are presented in this report, and the quality thereof, are based on a scope of work authorized by the Client. Note that no scope of work, no matter how exhaustive, can identify all conditions below ground. Subsurface and groundwater conditions between and beyond the boreholes may differ from those encountered at the specific locations tested, and conditions may become apparent during construction which were not detected and could not be anticipated at the time of the site investigation. Conditions can also change with time. It is recommended practice that DST Consulting Engineers Inc. be retained during construction to confirm that the subsurface conditions throughout the site do not deviate materially from those encountered in the boreholes.

The design recommendations given in this report are applicable only to the project described in the text and then only if constructed substantially in accordance with details stated in this report. Since all details of the design may not be known, we recommend that we be retained during the final stage to verify that the design is consistent with our recommendations, and that assumptions made in our analysis are valid. Unless otherwise noted, the information contained herein in no way reflects on environmental aspects of either the site or the subsurface conditions.

The comments given in this report on potential construction problems and possible methods are intended only for the guidance of the designer. The number of boreholes may not be sufficient to determine all the factors that may affect construction methods and costs, e.g. the thickness of surficial topsoil or fill layers may vary markedly and unpredictably. The contractors bidding on this project or undertaking the construction should, therefore, make their own interpretation of the factual information presented and draw their own conclusion as to how the subsurface conditions may affect their work.

Any results from an analytical laboratory or other subcontractor reported herein have been carried out by others, and DST Consulting Engineers Inc. cannot warranty their accuracy. Similarly, DST cannot warranty the accuracy of information supplied by the Client.

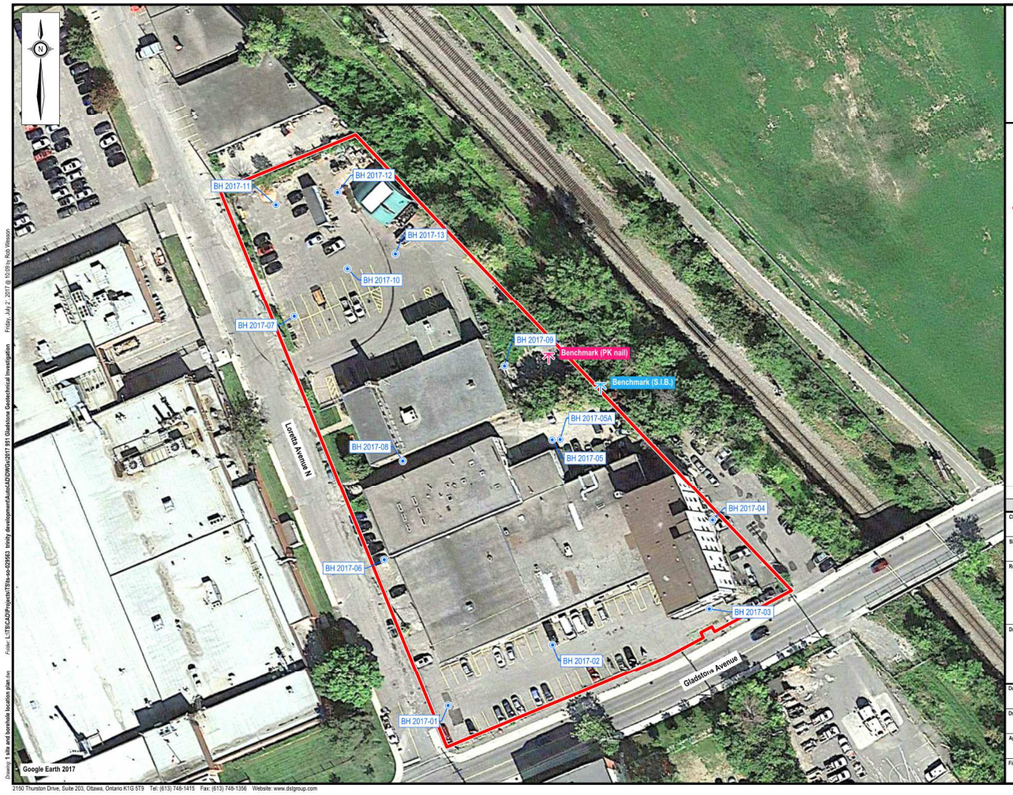
Geotechnical Investigation Report
Gladstone Avenue and Loretta Avenue North, Ottawa, Ontario
DST Reference No. TS-SO-029563

APPENDIX B

SITE AND BOREHOLES

LOCATION PLAN

DST CONSULTING ENGINEERS INC.



DST consulting engineers

Notes

1. This drawing shall be read in conjunction with the associated technical report.
2. Do not scale drawing.

Legend

- Property boundary
- Borehole location
- Benchmark

0 5 10 20 30 m

Scale 1:750

Revision	Date	Issue	Approval
A	17.07.17	Preliminary	S.V.

Client: Trinity

Site: 951 Gladstone Avenue, Ottawa, Ontario

Report Title: Geotechnical Investigation
Gladstone Avenue and Loretta Avenue North, Ottawa

Drawing Title: Site and Borehole Location Plan

Designed By: S.V.	Scale: As shown
Drawn By: R.W.	Date: July 2017
Approved By: S.V.	Project No.: TS-SO-029563

Figure No. 1

DRAFT

Dwang: 1 site and borehole locations plan.dwg Plotted: Friday, July 7, 2017 @ 10:09 by Rob Wesson

2150 Thurston Drive, Suite 203, Ottawa, Ontario K1G 5T9 Tel: (613) 749-1415 Fax: (613) 749-1356 Website: www.dstgroup.com

APPENDIX C
BOREHOLE LOGS &
CROSS SECTION

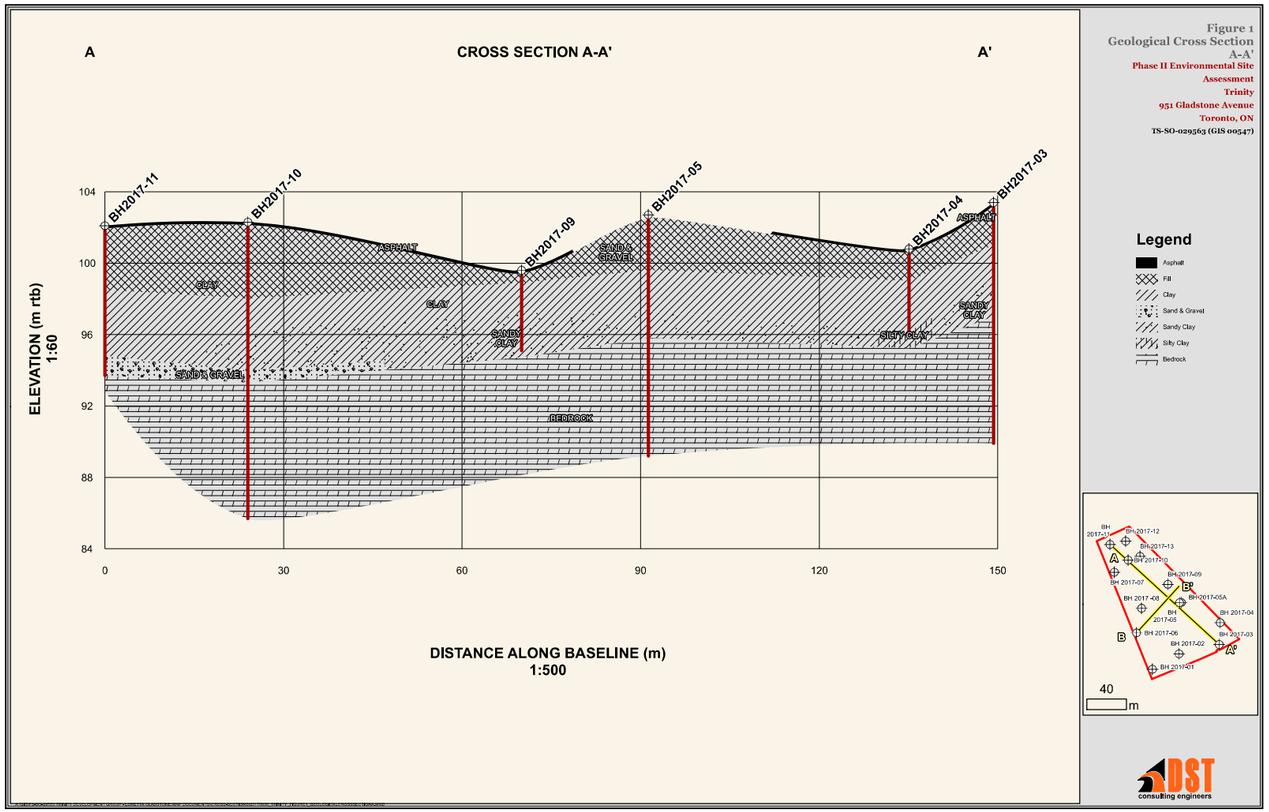


Figure 1
Geological Cross Section
A-A'
Phase II Environmental Site
Assessment
Trinity
951 Gladstone Avenue
Toronto, ON
TS-SO-029563 (GIS 00547)

DST consulting engineers

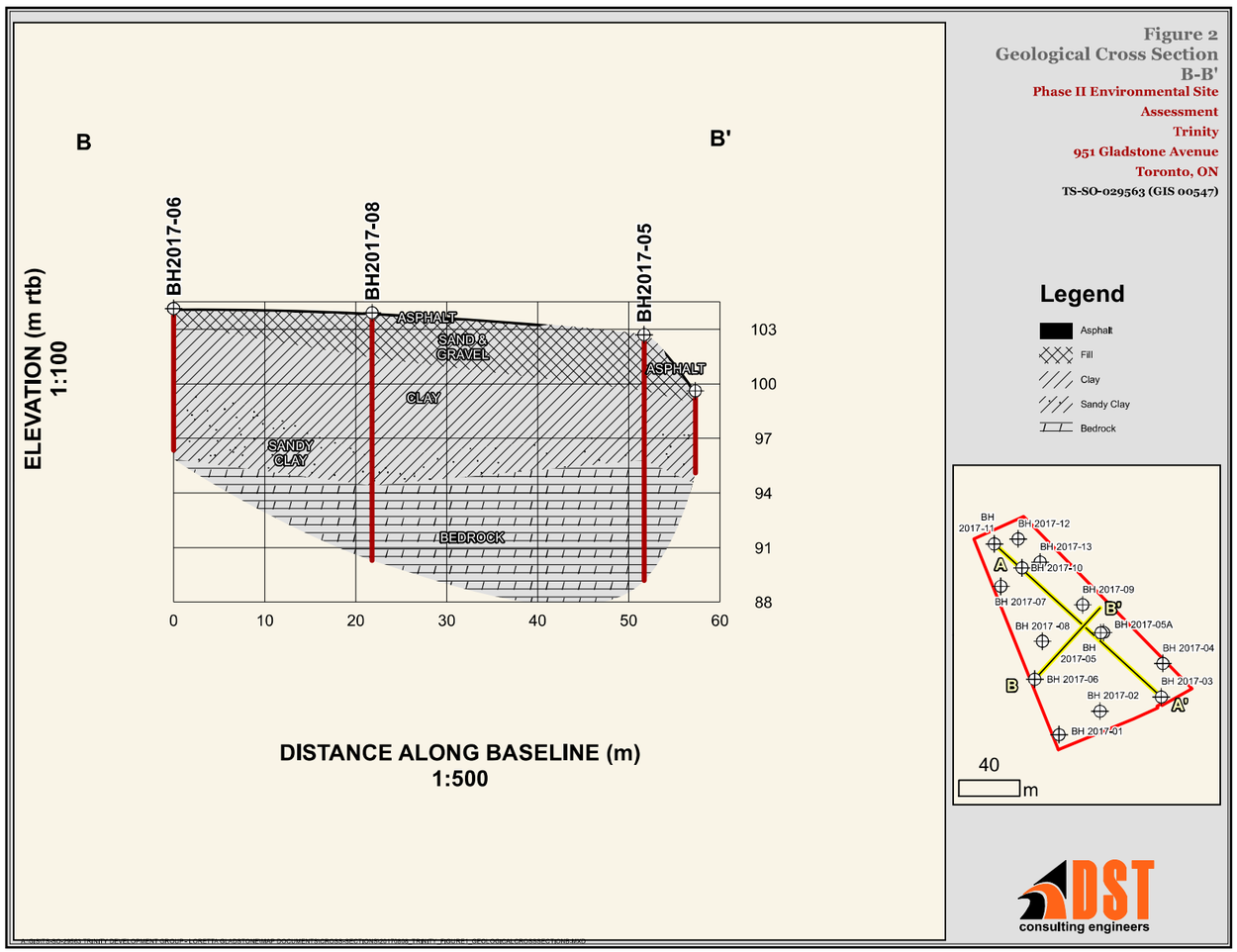


Figure 2
Geological Cross Section
B-B'
Phase II Environmental Site
Assessment
Trinity
951 Gladstone Avenue
Toronto, ON
TS-SO-029563 (GIS 00547)

DST consulting engineers

LOG OF BOREHOLE BH2017-01

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **104.9 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/5/2017**
COMPLETION DATE: **7/5/2017**
COORDINATES: **5028029** m N, **443991** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	104.9				ASPHALT (75 mm)					
					FILL - SAND and GRAVEL to trace Gravel, Brown, Loose to Compact	SS1		17		
1.0	104					SS2		5		
						SS3		16		
2.0	103					SS4		14		
					CLAY, Brown to Grey, Firm to Very Stiff	SS5		9		
3.0	102					SS6		6		Odour in samples from 3.7 m to 7.6 m
						SS7		23		
4.0	101				SANDY, trace Gravel	SS8		3		
						SS9		6		
5.0	100					SS10		6		
						SS11		7		
6.0	99					SS12		5		
						SS13		100+		
7.0	98				SAND and GRAVEL, Grey, Very Dense					
					End of Borehole at 7.6 m due to Auger Refusal.					
8.0	97									
	96									

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Web: www.dstgroup.com

SAMPLE TYPE LEGEND

Auger Sample; Split Spoon Sample; Bulk Sample; Rock Core; Hiller Peat Sampler; Shelby Tube; Bentonite; Sand; x^3 Numbers refers to Sensitivity

ENCLOSURE 1

BOREHOLE (OTTAWA) TS-SO-29563.GPJ DATA TEMPLATE.GDT 28/7/17

LOG OF BOREHOLE BH2017-02

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **104.2 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/6/2017**
COMPLETION DATE: **7/6/2017**
COORDINATES: **5028045** m N, **444017** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	104				ASPHALT (75 mm)					
					FILL - SAND and GRAVEL, Brown, Compact to Dense	SS1		19		
1.0	103					SS2		29		
						SS3		30		
2.0	102				CLAY, Brown to Grey, Firm to Very Stiff	SS4		25		
						SS5		12		
3.0	101					SS6		10		
						SS7		14		
4.0	100	▼			SANDY, some Rock Fragment	SS8		2	>>x^3	> 200 kPa
						SS9		8		
5.0	99					SS10		10		Odour in sample # SS10
						SS11		100+		
6.0	98				Rock Fragment					
					End of Borehole at 6.5 m due to Auger Refusal.					
7.0	97									
8.0	96									

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FX: 1-613-748-1356
Email: ottawa@dstgroup.com
Web: www.dstgroup.com

SAMPLE TYPE LEGEND

Auger Sample; Split Spoon Sample; Bulk Sample; Rock Core; Hiller Peat Sampler; Shelby Tube; Bentonite; Sand; x^3 Numbers refers to Sensitivity

ENCLOSURE 2

BOREHOLE (OTTAWA) TS-SO-29563.GPJ DATA TEMPLATE.GDT 28/7/17

LOG OF BOREHOLE BH2017-03

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **103.4 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/5/2017**
COMPLETION DATE: **7/5/2017**
COORDINATES: **5028054** m N, **444057** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	103				ASPHALT (85 mm)					
					FILL - SAND and GRAVEL, Brown, Very Loose to Compact	SS1		1		
1.0	102					SS2		4		
						SS3		21		
2.0	101					SS4		28		
					CLAY, trace Sand, trace Gravel, Brown to Grey, Firm to Very Stiff	SS5		14		
3.0	100					SS6		13		
						SS7		18		
4.0	99				SANDY, trace Rock Fragment	SS8		5	>>×5	> 200 kPa
5.0	98	▼				SS9		13		
						SS10		4		
6.0	97					SS11		100+		Odour in sample # SS11
					BEDROCK Limestone, Grey	RC1				TCR = 100% SCR = 79% RQD = 58%
7.0	96									
8.0	95					RC2				TCR = 100% SCR = 92% RQD = 90%

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SAMPLE TYPE LEGEND

Auger Sample · Rock Core · Bentonite
Split Spoon Sample · Hiller Peat Sampler · Sand
Bulk Sample · Shelby Tube · ×3 Numbers refers to Sensitivity

ENCLOSURE 3

LOG OF BOREHOLE BH2017-03

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **103.4 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/5/2017**
COMPLETION DATE: **7/5/2017**
COORDINATES: **5028054** m N, **444057** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
10.0	94					RC3				TCR = 93% SCR = 93% RQD = 92%
	93									
11.0	92					RC4				TCR = 100% SCR = 100% RQD = 92%
12.0	91									
						RC5				TCR = 100% SCR = 100% RQD = 95%
13.0	90				End of Borehole at 13.5 m					
14.0	89									
15.0	88									
16.0	87									
17.0	86									

TS-SO-29563.GPJ DATA TEMPLATE.GDT 28/7/17
BOREHOLE (OTTAWA)

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SAMPLE TYPE LEGEND

Auger Sample · Rock Core · Bentonite
Split Spoon Sample · Hiller Peat Sampler · Sand
Bulk Sample · Shelby Tube · ×3 Numbers refers to Sensitivity

ENCLOSURE 4

LOG OF BOREHOLE BH2017-04

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **100.8 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/6/2017**
COMPLETION DATE: **7/6/2017**
COORDINATES: **5028076** m N, **444058** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_P W W_I)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	100				ASPHALT (25 mm)					
					FILL - SAND and GRAVEL, Brown, Compact to Loose	SS1		12		
1.0						SS2		100+		
	99					SS3		5		
2.0					CLAY, some Sand, some Gravel, Brown to Grey, Firm to Very Stiff	SS4		4		
	98				Rock Fragment	SS5		6		
3.0						SS6		4		
	97				SILTY, with Sand and Gravel	SS7		16		
4.0						SS8		100+		
	96				End of Borehole at 4.6 m due to Auger Refusal.					
5.0										
	95									
6.0										
	94									
7.0										
	93									
8.0										
	92									

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SAMPLE TYPE LEGEND

Auger Sample; Split Spoon Sample; Bulk Sample; Rock Core; Hiller Peat Sampler; Shelby Tube; Bentonite; Sand; ×3 Numbers refers to Sensitivity

ENCLOSURE 5

LOG OF BOREHOLE BH2017-05

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **102.7 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/7/2017**
COMPLETION DATE: **7/7/2017**
COORDINATES: **5028096** m N, **444017** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_P W W_I)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	102				FILL - SAND and GRAVEL, Brown, Loose to Compact	SS1		24		
1.0						SS2		11		
	101					SS3		9		
2.0						SS4		15		52 37 (11)
	100					SS5		27		
3.0		▼			CLAY, trace Sand, trace Gravel, Brown to Grey, Firm to Very Stiff	SS6		12		
	99					SS7		19		
4.0						SS8		4	>>×3	> 200 kPa
	98					SS9		7	>>×	> 200 kPa
5.0										
	97				SANDY	SS10		1		
6.0						SS11		7		
	96					SS12		100+		
7.0					BEDROCK Limestone, Grey	RC1				TCR = 100% SCR = 100% RQD = 100%
	95									
8.0						RC2				TCR = 100% SCR = 98% RQD = 96%
	94									

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SAMPLE TYPE LEGEND

Auger Sample; Split Spoon Sample; Bulk Sample; Rock Core; Hiller Peat Sampler; Shelby Tube; Bentonite; Sand; ×3 Numbers refers to Sensitivity

ENCLOSURE 6

LOG OF BOREHOLE BH2017-05

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **102.7 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/7/2017**
COMPLETION DATE: **7/7/2017**
COORDINATES: **5028096** m N, **444017** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
10.0	93					RC3				TCR = 100% SCR = 100% RQD = 100%
11.0	92					RC4				TCR = 100% SCR = 100% RQD = 96%
12.0	91									
13.0	90					RC5				TCR = 100% SCR = 100% RQD = 100%
14.0	89				End of Borehole at 13.5 m					
15.0	88									
16.0	87									
17.0	86									
	85									

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SAMPLE TYPE LEGEND

Auger Sample · Split Spoon Sample · Bulk Sample · Rock Core · Hiller Peat Sampler · Shelby Tube · Bentonite · Sand · ×3 Numbers refers to Sensitivity

ENCLOSURE 7

LOG OF BOREHOLE BH2017-05A

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **102.7 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/7/2017**
COMPLETION DATE: **7/7/2017**
COORDINATES: **5028096** m N, **444019** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
1.0	102				FILL - SAND and GRAVEL, Brown, Loose to Compact	SS1		11		
2.0	101					SS2		12		
3.0	100				End of Borehole at 1.8 m due to Auger Refusal.	SS3		4		Hit possibly old engine tank; smells like engine oil
4.0	99									
5.0	98									
6.0	97									
7.0	96									
8.0	95									
	94									

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SAMPLE TYPE LEGEND

Auger Sample · Split Spoon Sample · Bulk Sample · Rock Core · Hiller Peat Sampler · Shelby Tube · Bentonite · Sand · ×3 Numbers refers to Sensitivity

ENCLOSURE 8

LOG OF BOREHOLE BH2017-06

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **104.3 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/7/2017**
COMPLETION DATE: **7/7/2017**
COORDINATES: **5028066** m N, **443975** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_P W W_I)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	104				FILL - SAND and GRAVEL, Brown, Compact	SS1		14		
1.0	103					SS2		11		
					CLAY, trace Sand, trace Gravel, Brown to Grey, Firm to Very Stiff	SS3		9		
2.0	102					SS4		15		
3.0	101					SS5		10		
						SS6		9	>>×	> 200 kPa
4.0	100				SANDY	SS7		12	>>×3	> 200 kPa
5.0	99					SS8		15	>>×	> 200 kPa
						SS9		9		
6.0	98					SS10		4		
7.0	97					SS11		4		
						SS12		7		
8.0	96				End of Borehole at 7.8 m due to Auger Refusal.	SS13		100+		

% MOISTURE: 20 40 60 80 — VANE (kPa) ×: 40 80 120 160 — SPT (N) □ Blows/0.3m / DCPT ◆: 20 40 60 80

BOREHOLE (OTTAWA) TS-SO-29563.GPJ DATA TEMPLATE.GDT 28/7/17

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SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- Shelby Tube
- Bentonite
- Sand
- ×3 Numbers refers to Sensitivity

ENCLOSURE 9

LOG OF BOREHOLE BH2017-07

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **102.4 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **6/27/2017**
COMPLETION DATE: **6/27/2017**
COORDINATES: **5028127** m N, **443952** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_P W W_I)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	102				ASPHALT (75 mm)					
					FILL - SAND and GRAVEL, trace Silt, Brown, Compact to Very Dense	SS1		11		
1.0	101					SS2		13		
						SS3		35		
2.0	100					SS4		11		
3.0	99					SS5		53		
						SS6		32		
4.0	98				SILTY CLAY, Brown to Grey, Soft to Very Stiff	SS7		13		
						SS8		5		
5.0	97					SS9		6	×	
6.0	96				SANDY, trace Gravel	SS10		2	×3	
						SS11		12		
7.0	95					SS12		18		
					SAND and GRAVEL, Dark Grey, Compact	SS13		24		
8.0	94				End of Borehole at 8.0 m due to Auger Refusal.	SS14		100+		

% MOISTURE: 20 40 60 80 — VANE (kPa) ×: 40 80 120 160 — SPT (N) □ Blows/0.3m / DCPT ◆: 20 40 60 80

BOREHOLE (OTTAWA) TS-SO-29563.GPJ DATA TEMPLATE.GDT 28/7/17

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SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- Shelby Tube
- Bentonite
- Sand
- ×3 Numbers refers to Sensitivity

ENCLOSURE 10

LOG OF BOREHOLE BH2017-08

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **103.9 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/10/2017**
COMPLETION DATE: **7/10/2017**
COORDINATES: **5028091** m N, **443980** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (Wp + W + Wl)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	103				ASPHALT (25 mm)					
					FILL - SAND and GRAVEL, Brown, Loose to Compact	SS1		20		
1.0	102					SS2		8		
2.0						SS3		8		
						SS4		11		
3.0	101				CLAY, some Sand, some Gravel, Brown to Grey, Soft to Very Stiff	SS5		8		
						SS6		10		
4.0	100					SS7		9	>>	> 200 kPa
						SS8		6	>>3	> 200 kPa
5.0	99					SS9		13	>>	> 200 kPa
					SANDY, trace Rock Fragment	SS10		3		
6.0	98					SS11		10		
						SS12		100+		
7.0	97				BEDROCK Limestone, Grey	RC1				TCR = 100% SCR = 96% RQD = 93%
8.0	96					RC2				TCR = 85% SCR = 78% RQD = 75%
	95									

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SAMPLE TYPE LEGEND

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ENCLOSURE 11

LOG OF BOREHOLE BH2017-08

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **103.9 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/10/2017**
COMPLETION DATE: **7/10/2017**
COORDINATES: **5028091** m N, **443980** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (Wp + W + Wl)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
10.0	94					RC3				TCR = 100% SCR = 100% RQD = 98%
11.0	93									
						RC4				TCR = 98% SCR = 98% RQD = 90%
12.0	92									
13.0	91					RC5				TCR = 100% SCR = 100% RQD = 100%
					End of Borehole at 13.6 m.					
14.0	90									
15.0	89									
16.0	88									
17.0	87									
	86									

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SAMPLE TYPE LEGEND

Auger Sample · Split Spoon Sample · Bulk Sample · Rock Core · Hiller Peat Sampler · Shelby Tube · Bentonite · Sand · ×3 Numbers refers to Sensitivity

ENCLOSURE 12

BOREHOLE (OTTAWA) TS-SO-29563.GPJ DATA TEMPLATE.GDT 28/7/17

LOG OF BOREHOLE BH2017-09

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **99.6 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/6/2017**
COMPLETION DATE: **7/6/2017**
COORDINATES: **5028115** m N, **444005** m E

DEPTH (m) | ELEV. (m) | Water Data | % MOISTURE (W_p, W, W_l; 20 40 60 80) | Symbol | MATERIAL DESCRIPTION | SAMPLE # | SAMPLE TYPE | 'N' VALUE | VANE (kPa) × 40 80 120 160; SPT (N) □ DCPT ◆ Blows/0.3m 20 40 60 80 | REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL

MATERIAL DESCRIPTION:

- ASPHALT (125 mm)
- FILL - SAND and GRAVEL, Brown, Compact
- CLAY, trace Sand, trace Gravel, Brown to Grey, Soft to Very Stiff
- SANDY, some Gravel
- some Gravel
- End of Borehole at 4.5 m due to Auger Refusal.

SAMPLE #	'N' VALUE	VANE	REMARKS
SS1	17		
SS2	11		5 42 (53)
SS3	7		
SS4	17	>>×2	> 200 kPa
SS5	4	>>×	> 200 kPa
SS6	26		
SS7	11		
SS8	100+		

Depth (m): 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0
Elev. (m): 99, 98, 97, 96, 95, 94, 93, 92, 91

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SAMPLE TYPE LEGEND
Auger Sample; Split Spoon Sample; Bulk Sample; Rock Core; Hiller Peat Sampler; Shelby Tube; Bentonite; Sand; ×3 Numbers refers to Sensitivity

ENCLOSURE 13

LOG OF BOREHOLE BH2017-10

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **102.3 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **6/27/2017**
COMPLETION DATE: **6/27/2017**
COORDINATES: **5028139** m N, **443966** m E

MATERIAL DESCRIPTION:

- ASPHALT (75 mm)
- FILL - SAND and GRAVEL, Brown, Very Loose to Dense
- FILL - CLAY
- CLAY, Brown to Grey, Soft to Stiff
- SANDY, trace Gravel
- Rock Fragment
- SAND and GRAVEL, Grey

SAMPLE #	'N' VALUE	REMARKS
SS1	36	
SS2	35	
SS3	17	
SS4	13	32 59 (9)
SS5	3	
SS6	5	
SS7	11	
SS8	8	
SS9	7	
SS10	3	
SS11	1	
SS12	9	
SS13	8	
SS14	29	
SS15	100+	

Depth (m): 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0
Elev. (m): 102, 101, 100, 99, 98, 97, 96, 95, 94

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SAMPLE TYPE LEGEND
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ENCLOSURE 14

LOG OF BOREHOLE BH2017-10

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **102.3 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **6/27/2017**
COMPLETION DATE: **6/27/2017**
COORDINATES: **5028139** m N, **443966** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
	93				BEDROCK Limestone, Grey					
10.0	92					RC1				TCR = 98% SCR = 92% RQD = 85%
11.0	91					RC2				TCR = 100% SCR = 100% RQD = 100%
12.0	90									
13.0	89					RC3				TCR = 98% SCR = 98% RQD = 98%
14.0	88					RC4				TCR = 100% SCR = 100% RQD = 100%
15.0	87									
16.0	86					RC5				TCR = 100% SCR = 100% RQD = 100%
17.0	85				End of Borehole at 16.6 m.					

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SAMPLE TYPE LEGEND
Auger Sample; Split Spoon Sample; Bulk Sample; Rock Core; Hiller Peat Sampler; Shelby Tube; Bentonite; Sand; ×3 Numbers refers to Sensitivity

ENCLOSURE 15

LOG OF BOREHOLE BH2017-11

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **102.1 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/4/2017**
COMPLETION DATE: **7/4/2017**
COORDINATES: **5028155** m N, **443948** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
	102				ASPHALT					
					FILL - SAND and GRAVEL, Brown, Loose to Compact	SS1		10		
1.0	101					SS2		8		
						SS3		11		
2.0	100					SS4		16		
						SS5		14		
3.0	99				CLAYEY	SS6		9		7 50 (43)
					CLAY, Brown to Grey, Soft to Very Stiff	SS7		19		
4.0	98					SS8		8		
5.0	97					SS9		9		
						SS10		3	×3	
6.0	96					SS11		2		
						SS12		13		
7.0	95					SS13		17		
8.0	94				SAND and GRAVEL, Grey, Compact to Very Dense	SS14		100+		
					End of Borehole at 8.4 m due to Auger Refusal.					

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SAMPLE TYPE LEGEND
Auger Sample; Split Spoon Sample; Bulk Sample; Rock Core; Hiller Peat Sampler; Shelby Tube; Bentonite; Sand; ×3 Numbers refers to Sensitivity

ENCLOSURE 16

LOG OF BOREHOLE BH2017-12

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **102.1 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **7/4/2017**
COMPLETION DATE: **7/4/2017**
COORDINATES: **5028159** m N, **443963** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	102				ASPHALT (75 mm)					
					FILL - SAND and GRAVEL, Black, Loose to Dense	SS1		11		
1.0	101					SS2		6		
						SS3		45		
2.0	100					SS4		11		
						SS5		4		
3.0	99				CLAY, Brown to Grey, Soft to Very Stiff	SS6		9		
						SS7		22		
4.0	98					SS8		6		
5.0	97					SS9		5	×	
						SS10		1	×	
6.0	96					SS11		2	×2	
						SS12		3		
7.0	95					SS13		5	×2	
8.0	94				SANDY CLAY, some Gravel, Grey, Loose	SS14		100+		
					End of Borehole at 8.5 m due to Auger Refusal.					

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SAMPLE TYPE LEGEND

Auger Sample · Rock Core · Bentonite
Split Spoon Sample · Hiller Peat Sampler · Sand
Bulk Sample · Shelby Tube · ×3 Numbers refers to Sensitivity

ENCLOSURE 17

BOREHOLE (OTTAWA) TS-SO-29563.GPJ DATA TEMPLATE.GDT 28/7/17

LOG OF BOREHOLE BH2017-13

DST REF. No.: **TS-SO-29563**
CLIENT: **Trinity Development Group Inc.**
PROJECT: **Geotechnical Drilling for the Proposed Development**
LOCATION: **951 Gladstone Avenue, Ottawa, ON**
SURFACE ELEV.: **102.2 metres**

Drilling Data
METHOD: **Hollow Stem Auger**
START DATE: **6/28/2017**
COMPLETION DATE: **6/28/2017**
COORDINATES: **5028143** m N, **443978** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) × / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	102				ASPHALT (75 mm)					
					FILL - SAND and GRAVEL, Brown	SS1		15		
1.0	101					SS2		14		
					CLAY, trace Gravel, Brown, Stiff	SS3		9		
2.0	100				End of Borehole at 1.8 m due to Auger Refusal.					
3.0	99									
4.0	98									
5.0	97									
6.0	96									
7.0	95									
8.0	94									

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SAMPLE TYPE LEGEND

Auger Sample · Rock Core · Bentonite
Split Spoon Sample · Hiller Peat Sampler · Sand
Bulk Sample · Shelby Tube · ×3 Numbers refers to Sensitivity

ENCLOSURE 18

BOREHOLE (OTTAWA) TS-SO-29563.GPJ DATA TEMPLATE.GDT 28/7/17

APPENDIX D

GEOTECHNICAL LABORATORY TEST RESULTS

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MOISTURE CONTENT DATA SHEET

PROJECT NO.: TS-SO-29563 **PROJECT:** Trinity Development Group Geotech Investigation

TEST DATE: 2017-07-18 **TECH :** E.RP.

SAMPLE #	DEPTH (m)	DATE SAMPLED (mm/dd/yy)	WET WT. + TARE	DRY WT. + TARE	TARE	PAN #	% MOISTURE	DESCRIPTION
BH2017-1 SS-1	Refer to borehole logs	2017-07-05	282.7	273.2	70		4.7	Refer to borehole logs
BH2017-1 SS-2	Refer to borehole logs	2017-07-05	262.8	252.8	109.8		7.0	Refer to borehole logs
BH2017-1 SS-3	Refer to borehole logs	2017-07-05	298.6	289.9	109.1		4.8	Refer to borehole logs
BH2017-1 SS-4	Refer to borehole logs	2017-07-05	262.8	230.3	110.4		27.1	Refer to borehole logs
BH2017-1 SS-5	Refer to borehole logs	2017-07-05	257.2	218	110.3		36.4	Refer to borehole logs
BH2017-1 SS-6	Refer to borehole logs	2017-07-05	277.6	239.9	123.5		32.4	Refer to borehole logs
BH2017-1 SS-7	Refer to borehole logs	2017-07-05	308.7	288.7	98.6		10.5	Refer to borehole logs
BH2017-1 SS-8	Refer to borehole logs	2017-07-05	323	306.6	115.6		8.6	Refer to borehole logs
BH2017-1 SS-9	Refer to borehole logs	2017-07-05	353	331.8	93.3		8.9	Refer to borehole logs
BH2017-1 SS-10	Refer to borehole logs	2017-07-05	288.7	273.3	120.9		10.1	Refer to borehole logs
BH2017-1 SS-11	Refer to borehole logs	2017-07-05	283.5	276.8	126.7		4.5	Refer to borehole logs
BH2017-1 SS-12	Refer to borehole logs	2017-07-05	628.5	609.8	403.5		9.1	Refer to borehole logs
BH2017-1 SS-13	Refer to borehole logs	2017-07-05	511.3	505.2	402.2		5.9	Refer to borehole logs

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MOISTURE CONTENT DATA SHEET

PROJECT NO.: TS-SO-29563 **PROJECT:** Trinity Development Group Geotech Investigation

TEST DATE: 2017-07-18 **TECH :** E.RP.

SAMPLE #	DEPTH (m)	DATE SAMPLED (mm/dd/yy)	WET WT. + TARE	DRY WT. + TARE	TARE	PAN #	% MOISTURE	DESCRIPTION
BH2017-2 SS-1	Refer to borehole logs	2017-07-06	140.71	136.56	4.25	M36	3.1	Refer to borehole logs
BH2017-2 SS-2	Refer to borehole logs	2017-07-06	148.14	141.84	4.28	M33	4.6	Refer to borehole logs
BH2017-2 SS-3	Refer to borehole logs	2017-07-06	108.73	105.31	4.24	M6	3.4	Refer to borehole logs
BH2017-2 SS-4	Refer to borehole logs	2017-07-06	137.25	128.28	4.25	M21	7.2	Refer to borehole logs
BH2017-2 SS-5	Refer to borehole logs	2017-07-06	31.53	24.01	4.39	M29	38.3	Refer to borehole logs
BH2017-2 SS-6	Refer to borehole logs	2017-07-06	1046.67	761.27	85.33	A4	42.2	Refer to borehole logs
BH2017-2 SS-7	Refer to borehole logs	2017-07-06	110.82	81.77	4.24	M4	37.5	Refer to borehole logs
BH2017-2 SS-8	Refer to borehole logs	2017-07-06	200.08	174.2	4.3	M3	15.2	Refer to borehole logs
BH2017-2 SS-9	Refer to borehole logs	2017-07-06	145.22	127.76	4.28	M7	14.1	Refer to borehole logs
BH2017-2 SS-10	Refer to borehole logs	2017-07-06	124.22	111.48	4.28	M38	11.9	Refer to borehole logs
BH2017-2 SS-11	Refer to borehole logs	2017-07-06	131.44	124.52	4.32	M15	5.8	Refer to borehole logs
BH2017-3 SS-1	Refer to borehole logs	2017-07-05	93.06	90.89	4.33	M5	2.5	Refer to borehole logs
BH2017-3 SS-2	Refer to borehole logs	2017-07-05	108.97	101.84	4.56	M11	7.3	Refer to borehole logs
BH2017-3 SS-3	Refer to borehole logs	2017-07-05	86.48	78.79	4.18	M23	10.3	Refer to borehole logs
BH2017-3 SS-4	Refer to borehole logs	2017-07-05	177.3	169.06	4.86	M2	5.0	Refer to borehole logs
BH2017-3 SS-5	Refer to borehole logs	2017-07-05	149	110.31	4.49	M35	36.6	Refer to borehole logs
BH2017-3 SS-6	Refer to borehole logs	2017-07-05	176.7	133.26	4.37	M32	33.7	Refer to borehole logs
BH2017-3 SS-7	Refer to borehole logs	2017-07-05	862.93	686.16	167.33	B16	34.1	Refer to borehole logs
BH2017-3 SS-8	Refer to borehole logs	2017-07-05	184.43	161.38	4.18	M18	14.7	Refer to borehole logs
BH2017-3 SS-9	Refer to borehole logs	2017-07-05	210.03	178.23	4.2	M22	18.3	Refer to borehole logs
BH2017-3 SS-10	Refer to borehole logs	2017-07-05	228.03	209.48	4.25	M25	9.0	Refer to borehole logs
BH2017-3 SS-11	Refer to borehole logs	2017-07-05	113.53	104.98	4.39	M12	8.5	Refer to borehole logs
BH2017-4 SS-1	Refer to borehole logs	2017-07-06	89.35	86.89	4.38	M31	3.0	Refer to borehole logs
BH2017-4 SS-2	Refer to borehole logs	2017-07-06	107.97	103.06	4.67	M39	5.0	Refer to borehole logs
BH2017-4 SS-3	Refer to borehole logs	2017-07-06	107.66	103.38	4.46	M40	4.3	Refer to borehole logs
BH2017-4 SS-4	Refer to borehole logs	2017-07-06	146.85	113.02	4.56	M26	31.2	Refer to borehole logs
BH2017-4 SS-5	Refer to borehole logs	2017-07-06	92.78	82.83	4.29	M17	12.7	Refer to borehole logs

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MOISTURE CONTENT DATA SHEET

PROJECT NO.: TS-SO-29563 **PROJECT:** Trinity Development Group Geotech Investigation

TEST DATE: 7/18/2017 & 7/24/17 **TECH :** E.RP. / M.C.

SAMPLE #	DEPTH (m)	DATE SAMPLED (mm/dd/yy)	WET WT. + TARE	DRY WT. + TARE	TARE	PAN #	% MOISTURE	DESCRIPTION
BH2017-4 SS-6	Refer to borehole logs	2017-07-06	167.91	143.81	4.33	M37	17.3	Refer to borehole logs
BH2017-4 SS-7	Refer to borehole logs	2017-07-06	173.17	153.86	4.37	M14	12.9	Refer to borehole logs
BH2017-4 SS-8	Refer to borehole logs	2017-07-06	92.91	84.41	4.32	M27	10.6	Refer to borehole logs
BH2017-5 SS-1	Refer to borehole logs	2017-07-07	139.51	136.67	4.34	M30	2.1	Refer to borehole logs
BH2017-5 SS-2	Refer to borehole logs	2017-07-07	144.94	138.12	4.29	M9	5.1	Refer to borehole logs
BH2017-5 SS-3	Refer to borehole logs	2017-07-07	120.79	112.97	4.3	M10	7.2	Refer to borehole logs
BH2017-5 SS-4	Refer to borehole logs	2017-07-07	546.28	517.73	179.86	B11	8.4	Refer to borehole logs
BH2017-5 SS-5	Refer to borehole logs	2017-07-07	109.67	107.51	4.27	M8	2.1	Refer to borehole logs
BH2017-5 SS-6	Refer to borehole logs	2017-07-07	95.07	72.85	4.38	M16	32.5	Refer to borehole logs
BH2017-5 SS-7	Refer to borehole logs	2017-07-07	103.67	78.08	4.24	M34	34.7	Refer to borehole logs
BH2017-5 SS-8	Refer to borehole logs	2017-07-07	83.21	63.42	4.28	M24	33.5	Refer to borehole logs
BH2017-5 SS-9	Refer to borehole logs	2017-07-07	201.28	164.95	4.37	M41	22.6	Refer to borehole logs
BH2017-5 SS-10	Refer to borehole logs	2017-07-07	206.99	184.28	4.36	M13	12.6	Refer to borehole logs
BH2017-5 SS-11	Refer to borehole logs	2017-07-07	172.3	150.2	4.4	M11	15.2	Refer to borehole logs
BH2017-5 SS-12	Refer to borehole logs	2017-07-07	159.5	141.6	4.1	M23	13.0	Refer to borehole logs
BH2017-6 SS-1	Refer to borehole logs	2017-07-07	124.4	117	4.2	M36	6.6	Refer to borehole logs
BH2017-6 SS-2	Refer to borehole logs	2017-07-07	111.5	110.2	4.1	M33	1.2	Refer to borehole logs
BH2017-6 SS-3	Refer to borehole logs	2017-07-07	155.7	117	4	M6	34.2	Refer to borehole logs
BH2017-6 SS-4	Refer to borehole logs	2017-07-07	158.7	114.3	4.2	M21	40.3	Refer to borehole logs
BH2017-6 SS-5	Refer to borehole logs	2017-07-07	159.9	117.3	4.3	M29	37.7	Refer to borehole logs
BH2017-6 SS-6	Refer to borehole logs	2017-07-07	157.8	112.4	4.3	M41	42.0	Refer to borehole logs
BH2017-6 SS-7	Refer to borehole logs	2017-07-07	161.9	114.5	4.2	M3	43.0	Refer to borehole logs
BH2017-6 SS-8	Refer to borehole logs	2017-07-07	801.1	747.48	177.02	B7	9.4	Refer to borehole logs
BH2017-6 SS-9	Refer to borehole logs	2017-07-07	160	145	4.3	M15	10.7	Refer to borehole logs
BH2017-6 SS-10	Refer to borehole logs	2017-07-07	159.6	146.4	4.3	M5	9.3	Refer to borehole logs
BH2017-6 SS-11	Refer to borehole logs	2017-07-07	161.8	148	4.1	M38	9.6	Refer to borehole logs
BH2017-6 SS-12	Refer to borehole logs	2017-07-07	158.9	146.6	4.4	M35	8.6	Refer to borehole logs

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MOISTURE CONTENT DATA SHEET

PROJECT NO.: TS-SO-29563 **PROJECT:** Trinity Development Group Geotech Investigation

TEST DATE: 2017-07-24 **TECH :** M.C.

SAMPLE #	DEPTH (m)	DATE SAMPLED (mm/dd/yy)	WET WT. + TARE	DRY WT. + TARE	TARE	PAN #	% MOISTURE	DESCRIPTION
BH2017-6 SS-13	Refer to borehole logs	2017-07-07	158.1	144.7	4.1	M32	9.5	Refer to borehole logs
BH2017-7 SS-1	Refer to borehole logs	2017-06-27	99.1	96.3	4.1	M11	3.0	Refer to borehole logs
BH2017-7 SS-2	Refer to borehole logs	2017-06-27	154	136.5	4.4	M23	13.2	Refer to borehole logs
BH2017-7 SS-3	Refer to borehole logs	2017-06-27	107.1	101.4	4.1	M18	5.9	Refer to borehole logs
BH2017-7 SS-4	Refer to borehole logs	2017-06-27	107.8	105.6	4.3	M23	2.2	Refer to borehole logs
BH2017-7 SS-5	Refer to borehole logs	2017-06-27	156.8	145.3	4.3	M22	8.2	Refer to borehole logs
BH2017-7 SS-6	Refer to borehole logs	2017-06-27	161.9	153.8	4.2	M25	5.4	Refer to borehole logs
BH2017-7 SS-7	Refer to borehole logs	2017-06-27	158	140.5	4.3	M12	12.8	Refer to borehole logs
BH2017-7 SS-8	Refer to borehole logs	2017-06-27	158	114.7	4.3	M31	39.2	Refer to borehole logs
BH2017-7 SS-9	Refer to borehole logs	2017-06-27	159.3	115.5	4.4	M39	39.4	Refer to borehole logs
BH2017-7 SS-10	Refer to borehole logs	2017-06-27	128.8	114.3	4.2	M40	13.2	Refer to borehole logs
BH2017-7 SS-11	Refer to borehole logs	2017-06-27	159.4	144.2	4.4	M26	10.9	Refer to borehole logs
BH2017-7 SS-12	Refer to borehole logs	2017-06-27	164	148.3	4.5	M17	10.9	Refer to borehole logs
BH2017-7 SS-13	Refer to borehole logs	2017-06-27	158	145.8	4.2	M37	8.6	Refer to borehole logs
BH2017-7 SS-14	Refer to borehole logs	2017-06-27	162.8	150.7	4.2	M14	8.3	Refer to borehole logs
BH2017-8 SS-1	Refer to borehole logs	2017-07-10	154.9	150.8	4.2	M10	2.8	Refer to borehole logs
BH2017-8 SS-2	Refer to borehole logs	2017-07-10	160.7	151.4	4.2	M9	6.3	Refer to borehole logs
BH2017-8 SS-3	Refer to borehole logs	2017-07-10	151.6	143.3	4.1	M8	6.0	Refer to borehole logs
BH2017-8 SS-4	Refer to borehole logs	2017-07-10	170	161.7	4.2	M34	5.3	Refer to borehole logs
BH2017-8 SS-5	Refer to borehole logs	2017-07-10	154.1	113.2	4.1	M24	37.5	Refer to borehole logs
BH2017-8 SS-6	Refer to borehole logs	2017-07-10	157	109.9	4.2	M41	44.6	Refer to borehole logs
BH2017-8 SS-7	Refer to borehole logs	2017-07-10	1323.85	973.91	169.39	B5	43.5	Refer to borehole logs
BH2017-8 SS-8	Refer to borehole logs	2017-07-10	157.2	115.8	4.2	M16	37.1	Refer to borehole logs
BH2017-8 SS-9	Refer to borehole logs	2017-07-10	160.8	121.4	4.3	M13	33.6	Refer to borehole logs
BH2017-8 SS-10	Refer to borehole logs	2017-07-10	168.1	144.3	4.2	M28	17.0	Refer to borehole logs
BH2017-8 SS-11	Refer to borehole logs	2017-07-10	158	141.3	4.3	M1	12.2	Refer to borehole logs
BH2017-8 SS-12	Refer to borehole logs	2017-07-10	253.8	235.7	89.6	A3	12.4	Refer to borehole logs

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MOISTURE CONTENT DATA SHEET

PROJECT NO.: TS-SO-29563 **PROJECT:** Trinity Development Group Geotech Investigation

TEST DATE: 7/24/2017 & 7/25/17 **TECH :** M.C.

SAMPLE #	DEPTH (m)	DATE SAMPLED (mm/dd/yy)	WET WT. + TARE	DRY WT. + TARE	TARE	PAN #	% MOISTURE	DESCRIPTION
BH2017-9 SS-1	Refer to borehole logs	2017-07-10	253.5	251.1	94.8	A8	1.5	Refer to borehole logs
BH2017-9 SS-2	Refer to borehole logs	2017-07-10	394.4	347.53	168.98	B2	26.3	Refer to borehole logs
BH2017-9 SS-3	Refer to borehole logs	2017-07-10	257.7	213.8	94	A1	36.6	Refer to borehole logs
BH2017-9 SS-4	Refer to borehole logs	2017-07-10	240.6	208.6	84.5	A6	25.8	Refer to borehole logs
BH2017-9 SS-5	Refer to borehole logs	2017-07-10	53	49.1	14.2	A6	11.2	Refer to borehole logs
BH2017-9 SS-6	Refer to borehole logs	2017-07-10	320.4	306.5	169.5	B5	10.1	Refer to borehole logs
BH2017-9 SS-7	Refer to borehole logs	2017-07-10	321.1	306.2	164	B17	10.5	Refer to borehole logs
BH2017-9 SS-8	Refer to borehole logs	2017-07-10	No Recovery					Refer to borehole logs
BH2017-10 SS-1	Refer to borehole logs	2017-06-27	324.9	319.9	164.6	B8	3.2	Refer to borehole logs
BH2017-10 SS-2	Refer to borehole logs	2017-06-27	253.1	247	166.6	B10	7.6	Refer to borehole logs
BH2017-10 SS-3	Refer to borehole logs	2017-06-27	320.4	303.9	173.5	B6	12.7	Refer to borehole logs
BH2017-10 SS-4	Refer to borehole logs	2017-06-27	586.57	518.01	171.22	B3	19.8	Refer to borehole logs
BH2017-10 SS-5	Refer to borehole logs	2017-06-27	88.1	80.05	4.2	M15	10.6	Refer to borehole logs
BH2017-10 SS-6	Refer to borehole logs	2017-06-27	155.6	124.88	4.2	M3	25.5	Refer to borehole logs
BH2017-10 SS-7	Refer to borehole logs	2017-06-27	111	98.62	4.2	M32	13.1	Refer to borehole logs
BH2017-10 SS-8	Refer to borehole logs	2017-06-27	163	124.71	4.2	M6	31.8	Refer to borehole logs
BH2017-10 SS-9	Refer to borehole logs	2017-06-27	166.8	114.07	4.3	M35	48.0	Refer to borehole logs
BH2017-10 SS-10	Refer to borehole logs	2017-06-27	158.6	119.58	4.2	M38	33.8	Refer to borehole logs
BH2017-10 SS-11	Refer to borehole logs	2017-06-27	160	137.92	4	M18	16.5	Refer to borehole logs
BH2017-10 SS-12	Refer to borehole logs	2017-06-27	168.6	153.26	4.1	M23	10.3	Refer to borehole logs
BH2017-10 SS-13	Refer to borehole logs	2017-06-27	163	151.16	4.3	M11	8.1	Refer to borehole logs
BH2017-10 SS-14	Refer to borehole logs	2017-06-27	165.4	152.01	4.2	M22	9.1	Refer to borehole logs
BH2017-10 SS-15	Refer to borehole logs	2017-06-27	380.66	367.03	164.82	B8	6.7	Refer to borehole logs
BH2017-11 SS-1	Refer to borehole logs	2017-07-04	166.5	149.23	4.3	M25	11.9	Refer to borehole logs
BH2017-11 SS-2	Refer to borehole logs	2017-07-04	70.1	64.64	4.4	M2	9.1	Refer to borehole logs
BH2017-11 SS-3	Refer to borehole logs	2017-07-04	114.1	98.12	4.2	M39	17.0	Refer to borehole logs
BH2017-11 SS-4	Refer to borehole logs	2017-07-04	146	142.18	4.2	M31	2.8	Refer to borehole logs

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MOISTURE CONTENT DATA SHEET

PROJECT NO.: TS-SO-29563 **PROJECT:** Trinity Development Group Geotech Investigation

TEST DATE: 2017-07-25 **TECH :** M.C.

SAMPLE #	DEPTH (m)	DATE SAMPLED (mm/dd/yy)	WET WT. + TARE	DRY WT. + TARE	TARE	PAN #	% MOISTURE	DESCRIPTION
BH2017-11 SS-5	Refer to borehole logs	2017-07-04	169.5	136.17	4.3	M12	25.3	Refer to borehole logs
BH2017-11 SS-6	Refer to borehole logs	2017-07-04	914.4	726.02	173.88	B20	34.1	Refer to borehole logs
BH2017-11 SS-7	Refer to borehole logs	2017-07-04	157.4	113.4	4.2	M33	40.3	Refer to borehole logs
BH2017-11 SS-8	Refer to borehole logs	2017-07-04	161.8	118.26	4.3	M36	38.2	Refer to borehole logs
BH2017-11 SS-9	Refer to borehole logs	2017-07-04	161.8	101.76	4.1	M4	61.5	Refer to borehole logs
BH2017-11 SS-10	Refer to borehole logs	2017-07-04	166.3	121.91	4.4	M29	37.8	Refer to borehole logs
BH2017-11 SS-11	Refer to borehole logs	2017-07-04	165.2	139.5	4.3	M21	19.0	Refer to borehole logs
BH2017-11 SS-12	Refer to borehole logs	2017-07-04	186.2	159.56	4.2	M5	17.1	Refer to borehole logs
BH2017-11 SS-13	Refer to borehole logs	2017-07-04	200.5	180.66	4.3	M14	11.2	Refer to borehole logs
BH2017-11 SS-14	Refer to borehole logs	2017-07-04	172.4	163.2	4.2	M17	5.8	Refer to borehole logs
BH2017-12 SS-1	Refer to borehole logs	2017-07-04	156.4	152.52	4.3	M37	2.6	Refer to borehole logs
BH2017-12 SS-2	Refer to borehole logs	2017-07-04	178.1	146.42	4.5	M40	22.3	Refer to borehole logs
BH2017-12 SS-3	Refer to borehole logs	2017-07-04	156.7	125.59	4.3	M26	25.6	Refer to borehole logs
BH2017-12 SS-4	Refer to borehole logs	2017-07-04	161.8	124.92	4.3	M30	30.6	Refer to borehole logs
BH2017-12 SS-5	Refer to borehole logs	2017-07-04	167.3	136.59	4.3	M27	23.2	Refer to borehole logs
BH2017-12 SS-6	Refer to borehole logs	2017-07-04	165.3	122.82	4.2	M10	35.8	Refer to borehole logs
BH2017-12 SS-7	Refer to borehole logs	2017-07-04	161.9	117.66	4.1	M9	39.0	Refer to borehole logs
BH2017-12 SS-8	Refer to borehole logs	2017-07-04	163.3	115.72	4	M8	42.6	Refer to borehole logs
BH2017-12 SS-9	Refer to borehole logs	2017-07-04	160.6	102.62	4.2	M34	58.9	Refer to borehole logs
BH2017-12 SS-10	Refer to borehole logs	2017-07-04	1523.12	1105.73	163.96	B17	44.3	Refer to borehole logs
BH2017-12 SS-11	Refer to borehole logs	2017-07-04	168.4	113.66	4.2	M24	50.0	Refer to borehole logs
BH2017-12 SS-12	Refer to borehole logs	2017-07-04	155	125.1	4.1	M41	24.7	Refer to borehole logs
BH2017-12 SS-13	Refer to borehole logs	2017-07-04	164.1	145.58	4.4	M16	13.1	Refer to borehole logs
BH2017-12 SS-14	Refer to borehole logs	2017-07-04	164.2	144.01	4.3	M13	14.5	Refer to borehole logs

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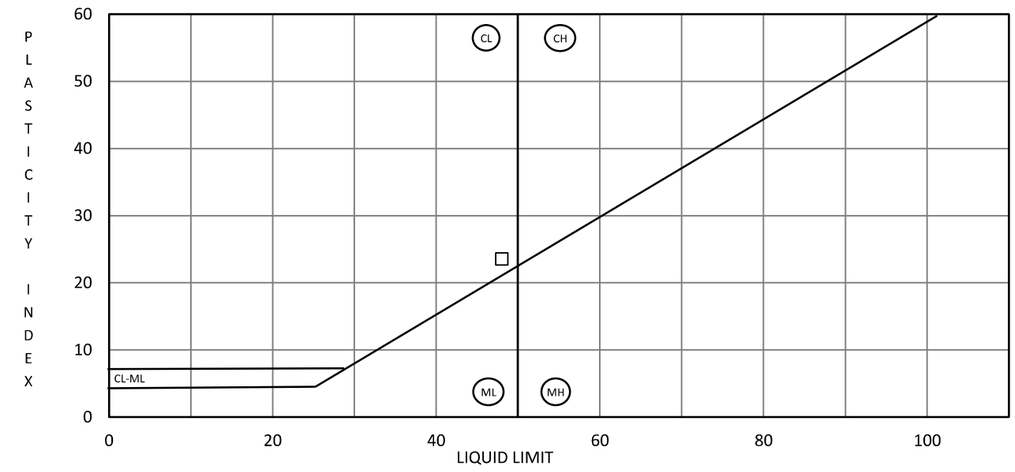
DST Ref. No.:	TS-SO-29563	**Date Sampled:**	
Project:	Trinity Development Group Geotech Investiga	**Sampled By:**	
Client:	Trinity Development Group	**Source:**	BH2017-2, SS-4
Project Location:		**Location:**	
Sample #:	**KWG-016-4**		
Description:			



ATTERBERG LIMIT AND MOISTURE RESULTS:

SUMMARY OF ATTERBERG AND MOISTURE CONTENT:	
Liquid Limit, LL	48
Plastic Limit, PL	24
Plasticity Index, PI	24
In Place Moisture Content (ASTM D2216) %	0.0

TESTING EQUIPMENT USED		
Plastic Limit	Hand Rolled	X
	Mechanical Rolling Device	
Liquid Limit Apparatus	Manual	X
	Mechanical	
Casagrande ASTM Tool	Metal	X
	Plastic	

SPECIMEN PREPARATION			
Wet		Washed on #40 Sieve	
Dry (Air)		Dry Sieved on #40 Sieve	X
Dry (Oven)	X		

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Hugh Arthur - Laboratory Supervisor

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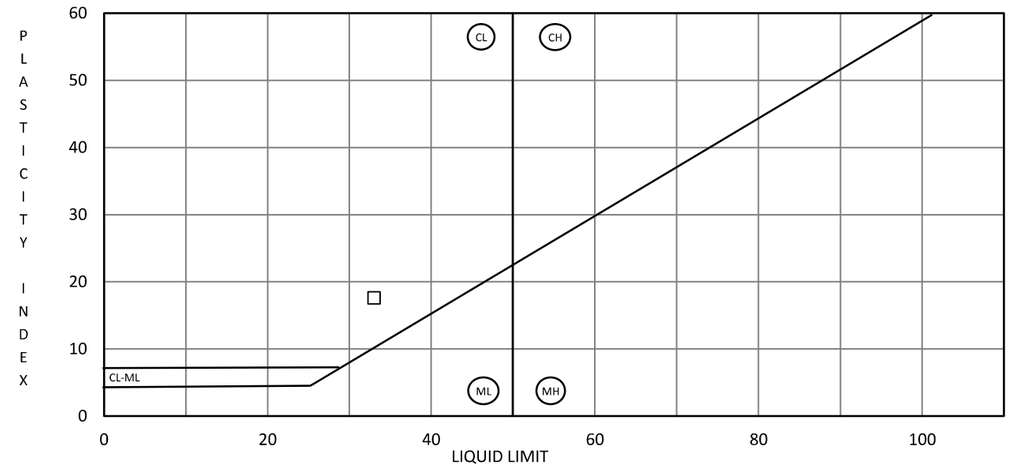
DST Ref. No.:	TS-SO-29563	**Date Sampled:**	
Project:	Trinity Development Group Geotech Investiga	**Sampled By:**	
Client:	Trinity Development Group	**Source:**	BH2017-3, SS-10
Project Location:		**Location:**	
Sample #:	**KWG-016-13**		
Description:			



ATTERBERG LIMIT AND MOISTURE RESULTS:

SUMMARY OF ATTERBERG AND MOISTURE CONTENT:	
Liquid Limit, LL	33
Plastic Limit, PL	15
Plasticity Index, PI	18
In Place Moisture Content (ASTM D2216) %	0.0

TESTING EQUIPMENT USED		
Plastic Limit	Hand Rolled	X
	Mechanical Rolling Device	
Liquid Limit Apparatus	Manual	X
	Mechanical	
Casagrande ASTM Tool	Metal	X
	Plastic	

SPECIMEN PREPARATION			
Wet		Washed on #40 Sieve	
Dry (Air)		Dry Sieved on #40 Sieve	X
Dry (Oven)	X		

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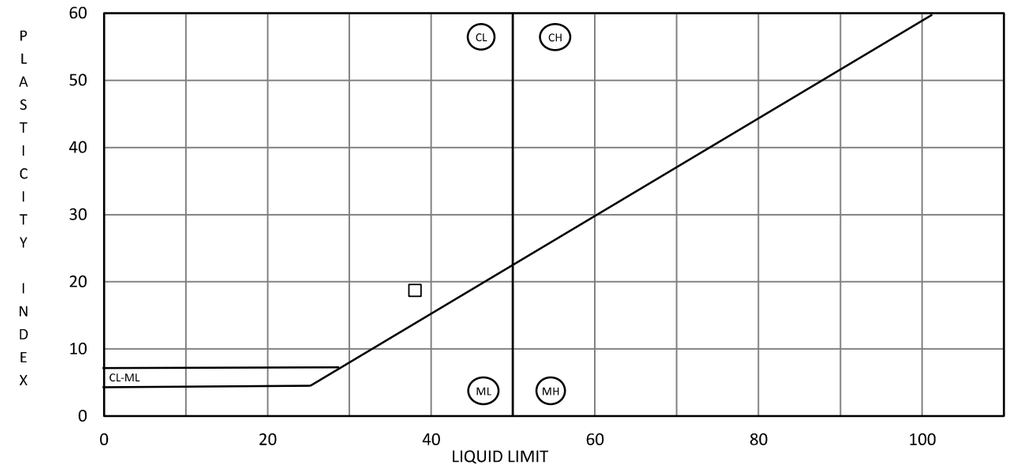
DST Ref. No.:	TS-SO-29563	**Date Sampled:**	
Project:	Trinity Development Group Geotech Investiga	**Sampled By:**	
Client:	Trinity Development Group	**Source:**	BH2017-3, SS-7
Project Location:		**Location:**	
Sample #:	**KWG-016-5**		
Description:			



ATTERBERG LIMIT AND MOISTURE RESULTS:

SUMMARY OF ATTERBERG AND MOISTURE CONTENT:	
Liquid Limit, LL	38
Plastic Limit, PL	19
Plasticity Index, PI	19
In Place Moisture Content (ASTM D2216) %	0.0

TESTING EQUIPMENT USED		
Plastic Limit	Hand Rolled	X
	Mechanical Rolling Device	
Liquid Limit Apparatus	Manual	X
	Mechanical	
Casagrande ASTM Tool	Metal	X
	Plastic	

SPECIMEN PREPARATION			
Wet		Washed on #40 Sieve	
Dry (Air)		Dry Sieved on #40 Sieve	X
Dry (Oven)	X		

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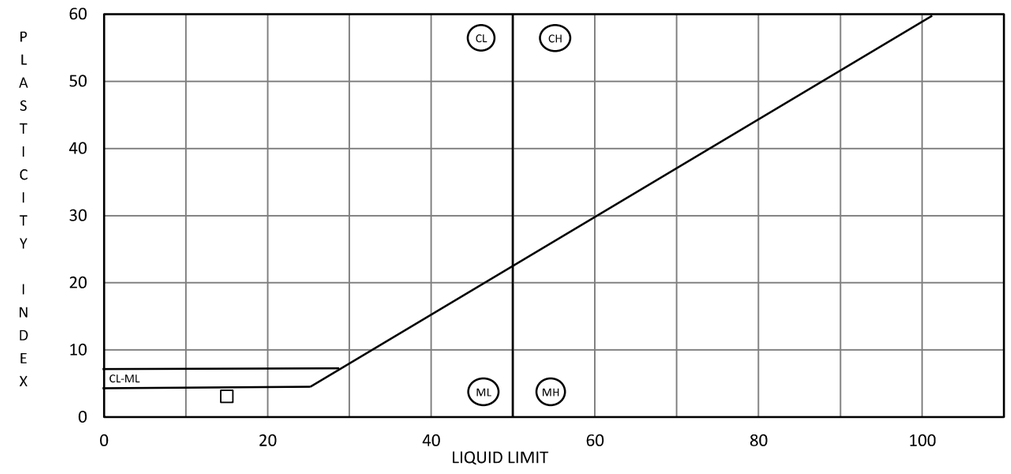
DST Ref. No.:	TS-SO-29563	**Date Sampled:**	
Project:	Trinity Development Group Geotech Investiga	**Sampled By:**	
Client:	Trinity Development Group	**Source:**	BH2017-6, SS-8
Project Location:		**Location:**	
Sample #:	**KWG-016-7**		
Description:			



ATTERBERG LIMIT AND MOISTURE RESULTS:

SUMMARY OF ATTERBERG AND MOISTURE CONTENT:	
Liquid Limit, LL	15
Plastic Limit, PL	12
Plasticity Index, PI	3
In Place Moisture Content (ASTM D2216) %	0.0

TESTING EQUIPMENT USED		
Plastic Limit	Hand Rolled	X
	Mechanical Rolling Device	
Liquid Limit Apparatus	Manual	X
	Mechanical	
Casagrande ASTM Tool	Metal	X
	Plastic	

SPECIMEN PREPARATION			
Wet		Washed on #40 Sieve	
Dry (Air)		Dry Sieved on #40 Sieve	X
Dry (Oven)	X		

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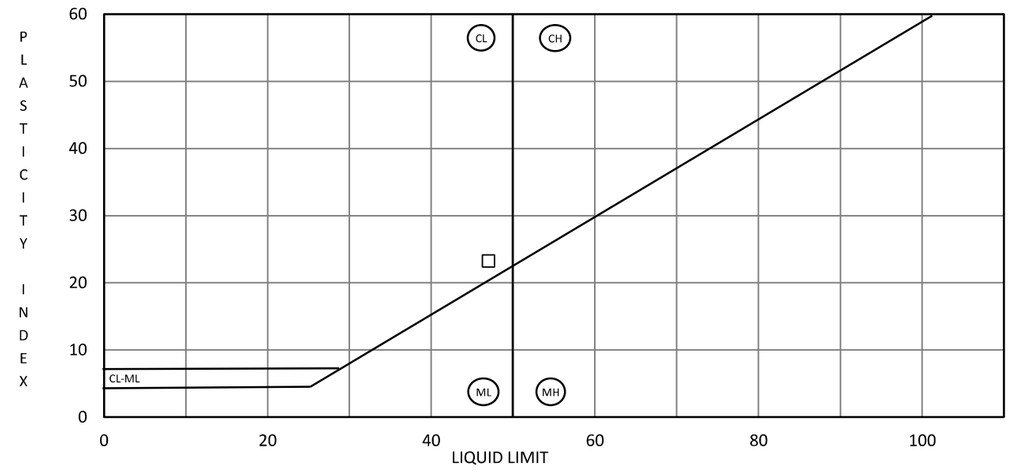
DST Ref. No.:	TS-SO-29563	**Date Sampled:**	
Project:	Trinity Development Group Geotech Investiga	**Sampled By:**	
Client:	Trinity Development Group	**Source:**	BH2017-8, SS-7
Project Location:		**Location:**	
Sample #:	**KWG-016-8**		
Description:			



ATTERBERG LIMIT AND MOISTURE RESULTS:

SUMMARY OF ATTERBERG AND MOISTURE CONTENT:	
Liquid Limit, LL	47
Plastic Limit, PL	24
Plasticity Index, PI	23
In Place Moisture Content (ASTM D2216) %	0.0

TESTING EQUIPMENT USED		
Plastic Limit	Hand Rolled	X
	Mechanical Rolling Device	
Liquid Limit Apparatus	Manual	X
	Mechanical	
Casagrande ASTM Tool	Metal	X
	Plastic	

SPECIMEN PREPARATION			
Wet		Washed on #40 Sieve	
Dry (Air)		Dry Sieved on #40 Sieve	X
Dry (Oven)	X		

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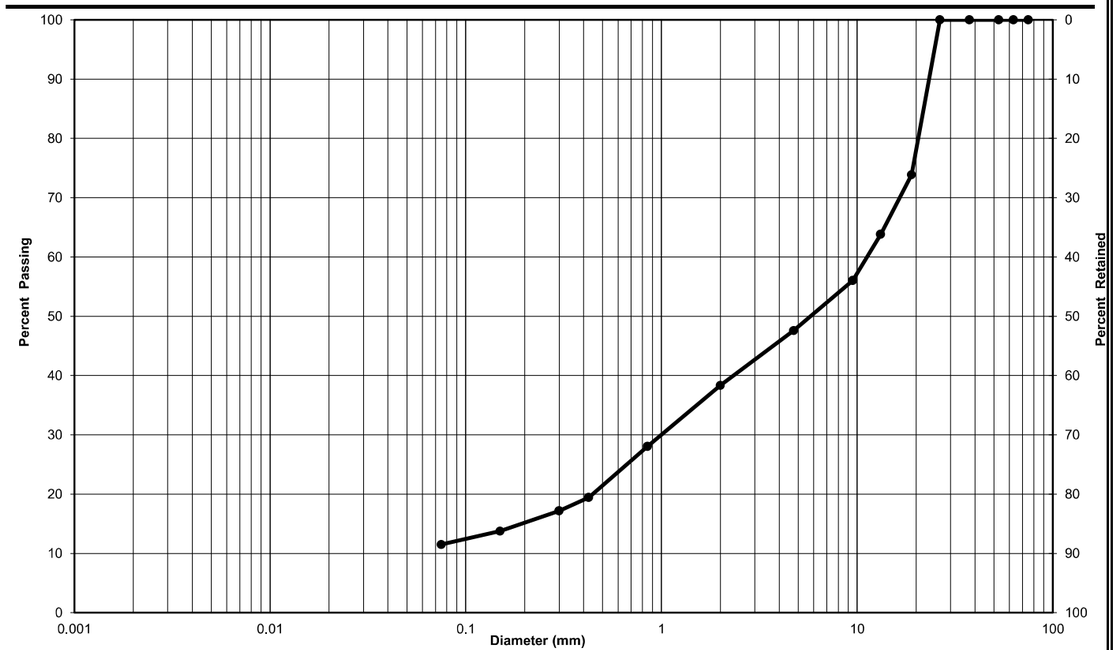
PARTICLE SIZE ANALYSIS OF SOILS

DST Ref. No.:	TS-SO-29563	**Date Sampled:**	January 0, 1900
Project:	Trinity Development Group Geotech Investig	**Sampled By:**	1900-01-00
Client:	Trinity Development Group	**Source:**	BH2017-5, SS-4
Project Location:	Ottawa, ON	**Location:**	0
Sample #:	KWG-016-6	**Description:**	Gravel and Sand, trace Clay/Silt



Clay & Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse
Particle-Size Limits as per USCS (ASTM D-2487)					

Soil Description	Gravel (%)	Sand (%)	Clay & Silt (%)
Gravel and Sand, trace Clay/Silt	52	37	11

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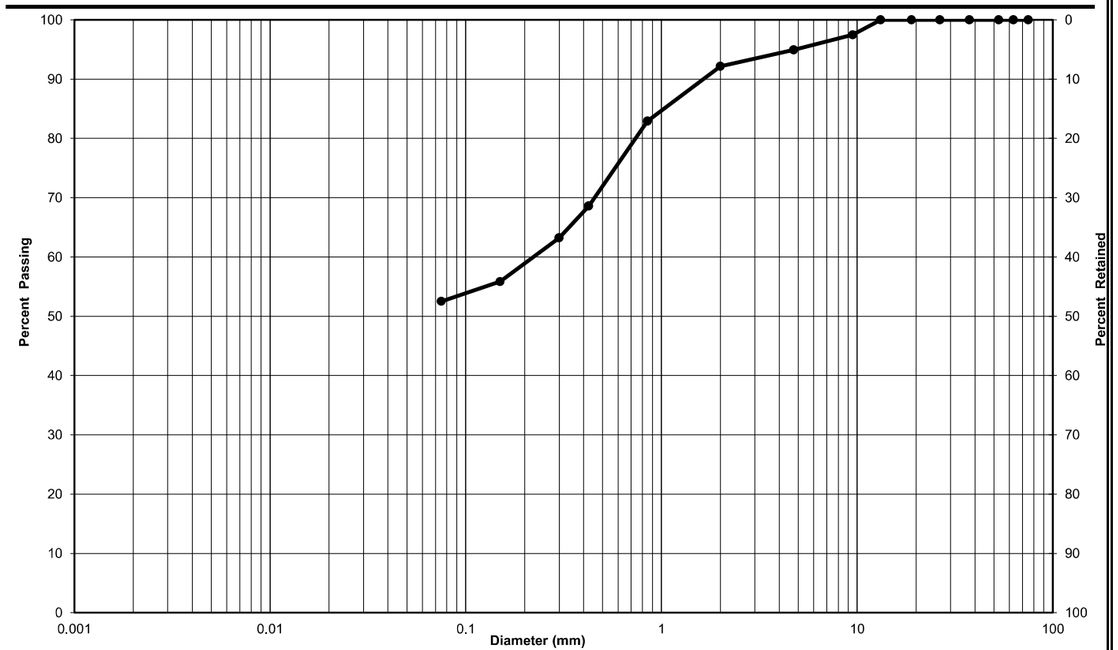
PARTICLE SIZE ANALYSIS OF SOILS

DST Ref. No.:	TS-SO-29563	**Date Sampled:**	January 0, 1900
Project:	Trinity Development Group Geotech Investig	**Sampled By:**	1900-01-00
Client:	Trinity Development Group	**Source:**	BH2017-9, SS-2
Project Location:	Ottawa, ON	**Location:**	0
Sample #:	KWG-016-9	**Description:**	Sand and Clay/Silt, trace Gravel



Clay & Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse
Particle-Size Limits as per USCS (ASTM D-2487)					

Soil Description	Gravel (%)	Sand (%)	Clay & Silt (%)
Sand and Clay/Silt, trace Gravel	5	42	53

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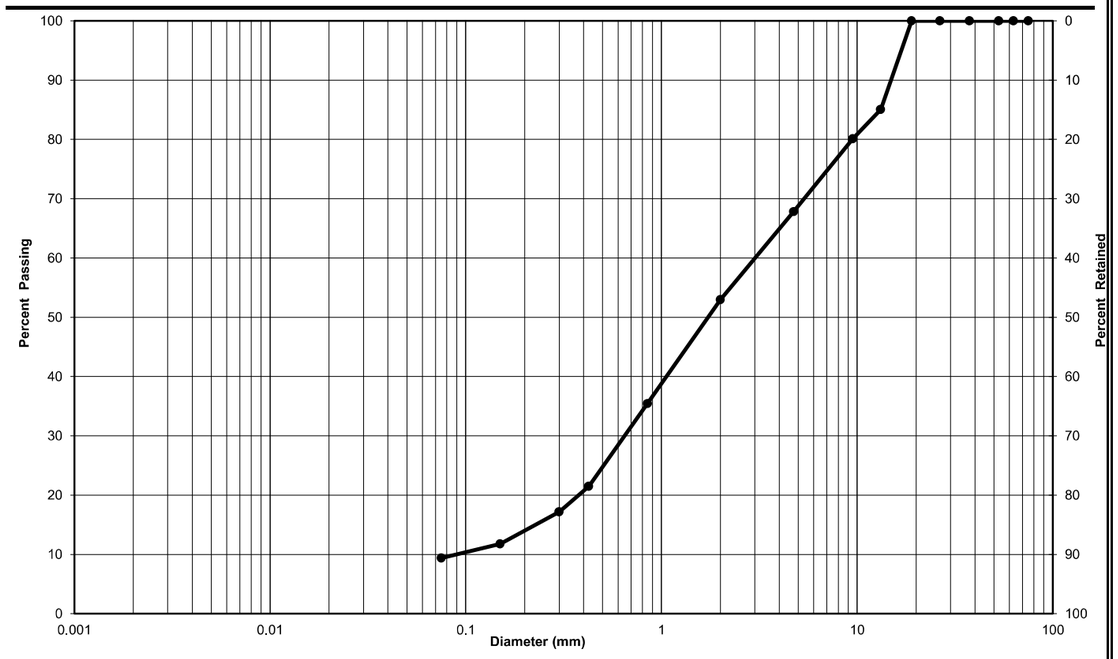
PARTICLE SIZE ANALYSIS OF SOILS

DST Ref. No.:	TS-SO-29563	**Date Sampled:**	January 0, 1900
Project:	Trinity Development Group Geotech Investig	**Sampled By:**	1900-01-00
Client:	Trinity Development Group	**Source:**	BH2017-10, SS-4
Project Location:	Ottawa, ON	**Location:**	0
Sample #:	KWG-016-10	**Description:**	Gravelley Sand, trace Clay & Silt



Clay & Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse
Particle-Size Limits as per USCS (ASTM D-2487)					

Soil Description	Gravel (%)	Sand (%)	Clay & Silt (%)
Gravelley Sand, trace Clay & Silt	32	59	9

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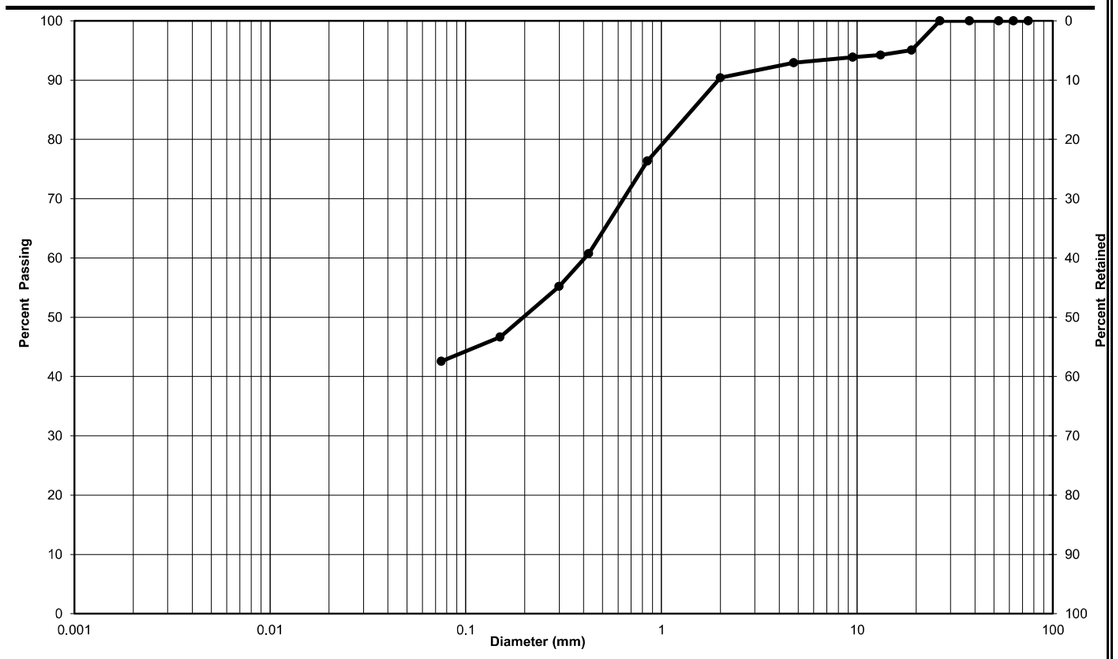
PARTICLE SIZE ANALYSIS OF SOILS

DST Ref. No.:	TS-SO-29563	**Date Sampled:**	January 0, 1900
Project:	Trinity Development Group Geotech Investig	**Sampled By:**	1900-01-00
Client:	Trinity Development Group	**Source:**	BH2017-11, SS-6
Project Location:	Ottawa, ON	**Location:**	0
Sample #:	KWG-016-12	**Description:**	Clay/Silt and Sand, trace Gravel



Clay & Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse
Particle-Size Limits as per USCS (ASTM D-2487)					

Soil Description	Gravel (%)	Sand (%)	Clay & Silt (%)
Clay/Silt and Sand, trace Gravel	7	50	43

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CONSULTING ENGINEERS •
Materials Testing and Inspection

File: L17-0460RC

July 19, 2017

DST Consulting Engineers Inc.
2150 Thurston Drive, Suite 203
Ottawa, Ontario
K1G 5T9

Attn: Mr. Amer Mohammad
amohammad@dstgroup.com

Dear Sir;

Unconfined Compressive Strength Testing
Rock Core Sample
Trinity Development – Geotechnical Investigation
DST Project No.: TS-SO-29563

Further to receipt of six (6) 60.5 to 63.5 mm diameter size rock core samples in our laboratory on July 18, 2017, Davroc Testing Laboratories Inc. is pleased to report the results of our tests.

As instructed, the core sample ends were ground, and the prepared core samples were tested for compressive strength in accordance with ASTM D 7012 Standard Test Method for "Compressive Strength and Elastic Moduli of Intact Rock Core Specimens under Varying States of Stress and Temperatures".

Test Results

The results of our tests are summarized on the following Table No. 1, and detailed test data are shown on the attached Rock Core Test Certificates.

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Brampton, Ontario
Canada, L6S 5T4
Tel: (905) 792-7792
Fax: (905) 792-7829
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Table No. 1
Trinity Development – Geotechnical Investigation
DST Project No.: TS-SO-29563
Rock Core Unconfined Compressive Strength Test Result Summary

Davroc Sample No.	Borehole/Core No.	Depth	Unconfined Compressive Strength (MPa)
C974-1	BH2017-3/CR1	96.081 – 95.916	*127.6
C974-2	BH2017-3/CR5	90.124 – 89.845	125.7
C974-3	BH2017-5/CR2	94.468 – 94.138	121.5
C974-4	BH2017-8/CR3	93.526 – 93.348	*113.1
C974-5	BH2017-10/CR1	93.198 - 92.919	97.2
C974-6	BH2017-10/CR4	88.117 – 87.787	129.6

*- L/D ratio for these samples were <2.0.

We trust the above is satisfactory. Should you require any further information, please do not hesitate to contact the undersigned.

Yours very truly,
Davroc Testing Laboratories Inc.

Kateryna Fiyalko, C.E.T.
Concrete Laboratory Supervisor

Sal Fasullo, C.E.T.
Vice President

SF/kf
17-0460-1RC

ROCK CORE TEST REPORT

File No.: L17-0460RC
Davroc Sample No.: C974
DST Project No.: TS-SO-29563
Project Name: Trinity Development – Geological Investigation

Core No.	1	2	3
Borehole/Core No.	BH2017-3/CR1	BH2017-3/CR5	BH2017-5/CR2
Depth	96.081 – 95.916	90.124 – 89.845	94.468 – 94.138
Date Cored	N/R	N/R	N/R
Date Tested	July 19, 2017	July 19, 2017	July 19, 2017
Height (mm)	95.4	151.0	151.0
Average Diameter (mm)	62.5	60.5	60.5
L/D Ratio	1.53	2.50	2.50
Density (kg/m^3)	-	-	-
Compressive Strength (MPa)	127.6	125.7	121.5
Mode of Failure	*	*	*
Direction of Loading	Not Known	Not Known	Not Known
Moisture Condition at Time of Test	As Received	As Received	As Received

Remarks: * - See attached photographs.

Date: July 19, 2017 **Signed:** _____
Sal Fasullo, C.E.T.

ROCK CORE TEST REPORT

File No.: L17-0460RC
Davroc Sample No.: C974
DST Project No.: TS-SO-29563
Project Name: Trinity Development – Geological Investigation

Core No.	4	5	6
Borehole/Core No.	BH2017-8/CR3	BH2017-10/CR1	BH2017-10/CR4
Depth	93.526 – 93.348	93.198 – 92.919	88.117 – 87.787
Date Cored	N/R	N/R	N/R
Date Tested	July 19, 2017	July 19, 2017	July 19, 2017
Height (mm)	115.0	152.5	152.5
Average Diameter (mm)	62.5	63.5	63.5
L/D Ratio	1.84	2.40	2.40
Density (kg/m^3)	-	-	-
Compressive Strength (MPa)	113.1	97.2	129.6
Mode of Failure	*	*	*
Direction of Loading	Not Known	Not Known	Not Known
Moisture Condition at Time of Test	As Received	As Received	As Received

Remarks: * - See attached photographs.

Date: July 19, 2017 **Signed:** _____
Sal Fasullo, C.E.T.

Photograph No. 1, Davroc Sample C974 -1 to 6 before testing.

Photograph No. 1, Davroc Sample C974 -1 to 6, break failure after testing.

APPENDIX E
CORE PHOTOS

Project: Geotechnical Investigation – Gladstone and Loretta Avenue, Ottawa

Client: Trinity Development Group Inc.

BH2017-03

Core Run	Depth, m	Description	TCR	SCR	RQD
CR1	6.4 – 7.5	Limestone, grey	100%	79%	58%
CR2	7.5 – 9.0	Limestone, grey	100%	92%	90%
CR3	9.0 – 10.4	Limestone, grey	93%	93%	92%
CR4	10.4 – 11.9	Limestone, grey	100%	100%	92%
CR5	11.9 – 13.5	Limestone, grey	100%	100%	95%

BH2017-05

Core Run	Depth, m	Description	TCR	SCR	RQD
CR1	6.9 – 7.4	Limestone, grey	100%	100%	100%
CR2	7.4 – 8.8	Limestone, grey	100%	98%	96%
CR3	8.8 – 10.3	Limestone, trace calcite, grey	100%	100%	100%
CR4	10.3 – 11.8	Limestone, trace calcite, grey	100%	100%	96%
CR5	11.8 – 13.5	Limestone, trace calcite, grey	100%	100%	100%

BH2017-08

Core Run	Depth, m	Description	TCR	SCR	RQD
CR1	7.0 – 7.6	Limestone, grey	100%	96%	93%
CR2	7.6 – 9.1	Limestone, grey	85%	78%	75%
CR3	9.1 – 10.6	Limestone, grey	100%	100%	98%
CR4	10.6 – 12.1	Limestone, grey	98%	98%	90%
CR5	12.1 – 13.6	Limestone, grey	100%	100%	100%

BH2017-10

Core Run	Depth, m	Description	TCR	SCR	RQD
CR1	9.0 – 10.5	Limestone, grey	98%	92%	85%
CR2	10.5 – 12.1	Limestone, grey	100%	100%	100%
CR3	12.1 – 13.6	Limestone, grey	98%	98%	98%
CR4	13.6 – 15.1	Limestone, grey	100%	100%	100%
CR5	15.1 – 16.6	Limestone, grey	100%	100%	100%

APPENDIX F

2015 NATIONAL BUILDING CODE SEISMIC HAZARD CALCULATION

2015 National Building Code Seismic Hazard Calculation

INFORMATION: Eastern Canada English (613) 995-5548 français (613) 995-0600 Facsimile (613) 992-8836
Western Canada English (250) 363-6500 Facsimile (250) 363-6565

July 17, 2017

Site: 45.4039 N, 75.7154 W User File Reference: Gladstone

Requested by: , DST Consulting Engineers Inc.

National Building Code ground motions: 2% probability of exceedance in 50 years (0.000404 per annum)

Sa(0.05)	Sa(0.1)	**Sa(0.2)**	Sa(0.3)	**Sa(0.5)**	**Sa(1.0)**	**Sa(2.0)**	**Sa(5.0)**	**Sa(10.0)**	**PGA (g)**	**PGV (m/s)**
0.445	0.521	**0.437**	0.332	**0.236**	**0.117**	**0.056**	**0.015**	**0.0054**	**0.279**	**0.196**

Notes. Spectral (Sa(T), where T is the period in seconds) and peak ground acceleration (PGA) values are given in units of g (9.81 m/s^2). Peak ground velocity is given in m/s. Values are for "firm ground" (NBCC 2015 Site Class C, average shear wave velocity 450 m/s). NBCC2015 and CSAS6-14 values are specified in **bold** font. Three additional periods are provided - their use is discussed in the NBCC2015 Commentary. Only 2 significant figures are to be used. ***These values have been interpolated from a 10-km-spaced grid of points. Depending on the gradient of the nearby points, values at this location calculated directly from the hazard program may vary. More than 95 percent of interpolated values are within 2 percent of the directly calculated values.***

Ground motions for other probabilities:

Probability of exceedance per annum	0.010	0.0021	0.001
Probability of exceedance in 50 years	40%	10%	5%
Sa(0.05)	0.044	0.147	0.245
Sa(0.1)	0.060	0.185	0.298
Sa(0.2)	0.055	0.160	0.253
Sa(0.3)	0.043	0.123	0.194
Sa(0.5)	0.031	0.088	0.138
Sa(1.0)	0.015	0.044	0.069
Sa(2.0)	0.0061	0.020	0.032
Sa(5.0)	0.0012	0.0047	0.0081
Sa(10.0)	0.0006	0.0019	0.0032
PGA	0.032	0.101	0.162
PGV	0.021	0.067	0.110

References

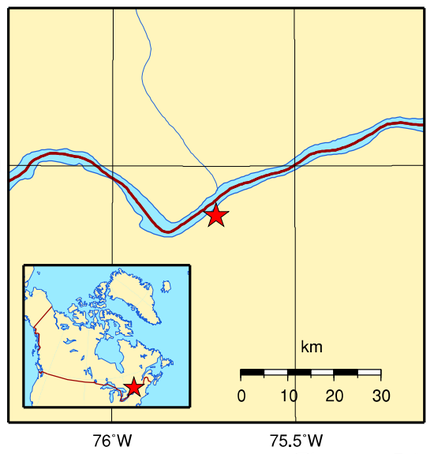
National Building Code of Canada 2015 NRCC no. 56190;
Appendix C: Table C-3, Seismic Design Data for Selected Locations in Canada

User's Guide - NBC 2015, Structural Commentaries NRCC no. xxxxxx (in preparation)
Commentary J: Design for Seismic Effects

Geological Survey of Canada Open File 7893 Fifth Generation Seismic Hazard Model for Canada: Grid values of mean hazard to be used with the 2015 National Building Code of Canada

See the websites *www.EarthquakesCanada.ca* and *www.nationalcodes.ca* for more information

Aussi disponible en français



Natural Resources Canada Ressources naturelles Canada

Canada

APPENDIX G

CORROSION ANALYSES (SOIL) TEST RESULTS

Your Project #: TS-SO-29563
Your C.O.C. #: 100264

Attention:Tun Lwin

DST Consulting Engineers Inc
Waterloo - Standing Offer
550 Parkside Drve
Unit C10
Waterloo, ON
CANADA N2L 5V4

Report Date: 2017/07/28
Report #: R4618965
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7F4617
Received: 2017/07/20, 15:09

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Chloride (20:1 extract)	1	N/A	2017/07/26	CAM SOP-00463	EPA 325.2 m
Conductivity	1	2017/07/25	2017/07/25	CAM SOP-00414	OMOE E3530 v1 m
pH CaCl2 EXTRACT	1	2017/07/25	2017/07/25	CAM SOP-00413	EPA 9045 D m
Resistivity of Soil	1	2017/07/20	2017/07/25	CAM SOP-00414	SM 22 2510 m
Sulphate (20:1 Extract)	1	N/A	2017/07/26	CAM SOP-00464	EPA 375.4 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: TS-SO-29563
Your C.O.C. #: 100264

Attention:Tun Lwin

DST Consulting Engineers Inc
Waterloo - Standing Offer
550 Parkside Drve
Unit C10
Waterloo, ON
CANADA N2L 5V4

Report Date: 2017/07/28
Report #: R4618965
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B7F4617
Received: 2017/07/20, 15:09

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Augustyna Dobosz, Project Manager
Email: ADobosz@maxxam.ca
Phone# (905)817-5700 Ext:5798
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B7F4617
Report Date: 2017/07/28

DST Consulting Engineers Inc
Client Project #: TS-SO-29563

RESULTS OF ANALYSES OF SOIL

Maxxam ID		EUC556	EUC556		
Sampling Date		2017/06/27	2017/06/27		
COC Number		100264	100264		
	UNITS	BH2017-10, SS-10	BH2017-10, SS-10 Lab-Dup	RDL	QC Batch
Calculated Parameters					
Resistivity	ohm-cm	690			5085001
Inorganics					
Soluble (20:1) Chloride (Cl)	ug/g	700	690	20	5090772
Conductivity	mS/cm	1.5		0.002	5089376
Available (CaCl2) pH	pH	7.83			5088780
Soluble (20:1) Sulphate (SO4)	%	0.038	0.039	0.002	5090773

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: B7F4617
Report Date: 2017/07/28

DST Consulting Engineers Inc
Client Project #: TS-SO-29563

TEST SUMMARY

Maxxam ID: EUC556
Sample ID: BH2017-10, SS-10
Matrix: Soil

Collected: 2017/06/27
Shipped:
Received: 2017/07/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride (20:1 extract)	KONE/EC	5090772	N/A	2017/07/26	Alina Dobreanu
Conductivity	AT	5089376	2017/07/25	2017/07/25	Xuanhong Qiu
pH CaCl2 EXTRACT	AT	5088780	2017/07/25	2017/07/25	Tahir Anwar
Resistivity of Soil		5085001	2017/07/25	2017/07/25	Automated Statchk
Sulphate (20:1 Extract)	KONE/EC	5090773	N/A	2017/07/26	Alina Dobreanu

Maxxam ID: EUC556 Dup
Sample ID: BH2017-10, SS-10
Matrix: Soil

Collected: 2017/06/27
Shipped:
Received: 2017/07/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride (20:1 extract)	KONE/EC	5090772	N/A	2017/07/26	Alina Dobreanu
Sulphate (20:1 Extract)	KONE/EC	5090773	N/A	2017/07/26	Alina Dobreanu

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.0°C

Results relate only to the items tested.

Maxxam Job #: B7F4617
Report Date: 2017/07/28

DST Consulting Engineers Inc
Client Project #: TS-SO-29563

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
5088780	TA1	Spiked Blank	Available (CaCl2) pH	2017/07/25		99	%	97 - 103
5088780	TA1	RPD	Available (CaCl2) pH	2017/07/25	0.083		%	N/A
5089376	XQI	Spiked Blank	Conductivity	2017/07/25		101	%	90 - 110
5089376	XQI	Method Blank	Conductivity	2017/07/25	<0.002		mS/cm	
5089376	XQI	RPD	Conductivity	2017/07/25	6.5		%	10
5090772	ADB	Matrix Spike [EUC556-01]	Soluble (20:1) Chloride (Cl)	2017/07/26		NC	%	70 - 130
5090772	ADB	Spiked Blank	Soluble (20:1) Chloride (Cl)	2017/07/26		103	%	70 - 130
5090772	ADB	Method Blank	Soluble (20:1) Chloride (Cl)	2017/07/26	<20		ug/g	
5090772	ADB	RPD [EUC556-01]	Soluble (20:1) Chloride (Cl)	2017/07/26	0.74		%	35
5090773	ADB	Matrix Spike [EUC556-01]	Soluble (20:1) Sulphate (SO4)	2017/07/26		NC	%	70 - 130
5090773	ADB	Spiked Blank	Soluble (20:1) Sulphate (SO4)	2017/07/26		104	%	70 - 130
5090773	ADB	Method Blank	Soluble (20:1) Sulphate (SO4)	2017/07/26	<0.002		%	
5090773	ADB	RPD [EUC556-01]	Soluble (20:1) Sulphate (SO4)	2017/07/26	1.6		%	35

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B7F4617
Report Date: 2017/07/28

DST Consulting Engineers Inc
Client Project #: TS-SO-29563

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Cristina Carriere

Cristina Carriere, Scientific Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
CAM FCD-01191/3

CHAIN OF CUSTODY RECORD 100264 Page 1 of 1

Invoice Information
Company Name: PST Consulting Engineers
Contact Name: Tun ~~Dan~~ Lwin
Address: 550 Parkside Dr, unit C1-B Waterloo ON, N2L 5V4
Phone: (519) 772-4521 Fax: (519) 725-3789
Email: Hlwin@dstgroup.com

Report Information (if differs from invoice)
Company Name:
Contact Name:
Address:
Phone: Fax:
Email:

Project Information (where applicable)
Quotation #:
P.O. #/ AFE#:
Project #: TS-SO-29563
Site Location:
Site #:
Sampled By:

Turnaround Time (TAT) Required
[X] Regular TAT (5-7 days) Most analyses
PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Rush TAT (Surcharges will be applied)
[ ] 1 Day [ ] 2 Days [ ] 3-4 Days
Date Required:
Rush Confirmation #:

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153
[ ] Table 1 [ ] Res/Park [ ] Med/ Fine
[ ] Table 2 [ ] Ind/Comm [ ] Coarse
[ ] Table 3 [ ] Agri/ Other
[ ] Table ____
FOR RSC (PLEASE CIRCLE) Y / N

Other Regulations
[ ] CCME [ ] Sanitary Sewer Bylaw
[ ] MISA [ ] Storm Sewer Bylaw
[ ] PWQO Region
[ ] Other (Specify)
[ ] REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: Y / N

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

LABORATORY USE ONLY
CUSTODY SEAL Y / (N) — Present: N, Intact: N
COOLER TEMPERATURES: 6/6/6; 23/23/23 NOTE; # 401207
COOLING MEDIA PRESENT: Y / (N) NO ICE

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHC F1	PHCs F2 - F4	VOCs	REG 153 METALS & INORGANICS	REG 153 ICPMS METALS	REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	pH	Chloride Content	Sulphate Content	Water Soluble Sulphates	Conductivity	Resistivity			HOLD- DO NOT ANALYZE	COMMENTS
1	BH207-10, SS-10	2017/06/27		Soil									X	X	X	X	X	X				Please test against these standards:
2																						pH - MOEE E3137A
3																						Chlorides - EPA 300.0
4																						Sulphates - EPA 300.0
5																						Soluble Sulphates - CSA A23.2-3B (concrete)
6																						Conductivity - MOEE E3138
7																						Resistivity - APHA 2510B
8																						
9																						
10																						

20-Jul-17 15:09
Augustyna Dobosz
B7F4617
SSR ENV-883

REC'D IN WATERL

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Hugh Arthur	2017/07/20	15:06	Waverly Kozak Waverly Kozak	2017/07/20	15:09	

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COC-1004 (03/17) White: Maxxam - Yellow: Client

APPENDIX D

PROXIMITY STUDY CHECKLIST

Proximity Study Checklist

Legend

1.# Level 1 Project Requirements as listed in Confederation Line Proximity Guidelines dated October 23, 2013
2.# Level 2 Project Requirements as listed in Confederation Line Proximity Guidelines dated October 23, 2013
3.# Level 3 Project Requirements as listed in Confederation Line Proximity Guidelines dated October 23, 2013
4.# Conditions of Approval Requirements as listed in Confederation Line Proximity Guidelines dated October 23, 2013
Item that is, in our professional opinion, not applicable or will not be required to be submitted for the development
Item received and incorporated into Proximity Report/Drawings
Item requires information/input from the City before it can be provided by the responsible party.
Item outstanding but requires further development of the design before it can be provided by the responsible party.
Item outstanding.

Item	Description	Comments	Report Location/Status
1.1	**Site plan** with the centerline or reference line of the Trillium Line structure and/or right-of-way located and the relevant distances between the Trillium Line and developer's structure shown clearly		**Section 2.1 & Appendix A1**
1.2	**Plan and cross-sections of the development** locating the Trillium Line structure/right-of-way and founding elevations relative to the development, including any underground storage tanks and associated piping		**Section 2.2 & Appendix B4**
1.3	**Geotechnical investigation report** showing up-to-date geotechnical conditions at the site of the development. The geotechnical investigation shall be prepared in accordance with the Geotechnical Investigation and Reporting Guidelines for Development Applications in the City		**Section 3 & Appendix C**
1.4a	**Structural/foundation drawings**		**Appendix B4**
1.4b	**Excavation and shoring drawings**	Indicative information shown on structural foundation drawings	**Appendix B4**
1.6a	Acknowledgement that the potential for **electro-magnetic interference and stray current** from Trillium Line operations have been considered in the design of the project, and appropriate mitigation measures applied	Details and quantum of the electro-magnetic interference at the property line and what mitigation measures have been included in the design of the Trillium Line and O-Train system are required.	
1.6b	Acknowledgement that the potential for **noise and vibration** from Trillium Line operations have been considered in the design of the project, and appropriate mitigation measures applied		
1.7a	**Architectural drawings**		**Appendix A1**
1.7b	**Mechanical drawings**		**N/A**
1.7c	**Electrical drawings**		**N/A**
1.7d	**Utility drawings**		**Appendix B2**
1.8	**National Fire Prevention Association (NFPA) 130 Standard review** to ensure design requirements in relation to Confederation Line infrastructure are met		**N/A**
1.9	**Crane locations, loadings**	To be provided prior to construction.	**Section 9**
1.10a	**Property survey** of existing and proposed property lines prepared to Strata Reference Plan Standards	Hard copies together with CAD files.	**Section 2.1 & Appendix A2**
1.10b	**Topographic survey** of existing surface items, such as buildings, contours, roads, tracks	Hard copies together with CAD files.	**Section 2.1 &**

			Appendix A2
1.10c	**Utility survey** of existing building gridlines, including those of Trillium Line structures	Hard copies together with CAD files	
1.10d	**Preliminary gridline layout survey** of proposed building gridlines on architectural and structural drawings		**Appendix A1 & B4**
1.11	**Staging of operations**	To be provided prior to construction.	**Section 7**
1.12	**Traffic management plan**, which shall include site access provisions during and after construction (ultimate), lane closures and staging of traffic management plan	To be provided prior to construction.	**Section 7**
1.13	**As-designed or as-built horizontal and vertical alignment data for the Trillium Line structures**.	City to provide information	**Section 8**
2.1	**Structural analysis or calculations** of the effects of loadings, including construction loading, on the Confederation Line structure, and demonstrating that the Confederation Line structure will not be adversely affected by the development, including solutions to mitigate any impact on the Confederation Line structure. The documentation must include identification of the "affected" Confederation Line structural units		**N/A**
2.2a	**Documentation showing that the excavation support system adjacent to the Trillium Line property is designed for at-rest earth pressures.**	At-rest pressures will be determined using a pressure coefficient of 0.5 (Ko = 0.5).	**Section 4**
2.2b	**Documentation showing that the permanent structure adjacent to the Trillium Line property is designed for at-rest earth pressures.**	At-rest pressures will be determined using a pressure coefficient of 0.5 (Ko = 0.5).	**Section 2.2**
2.3	**Structural drawings**, including caisson/foundation plans, sections and details, floor plans, column and wall schedules and loads on foundation for the development.	Relationship of the development to the Trillium Line structure is depicted in both plan and section	**Appendix B4**
2.4	**Shoring design criteria and description of excavation and shoring method**		**Section 4 & Appendix B4**
2.5	**Ground water control plan**, including the determination of the short-term (during construction) and long-term effects of dewatering on the Trillium Line structure, and provision of assurances that the influences of dewatering will have no impact on the Trillium Line structure		**Section 6**
2.6	**Proposal to replace/repair waterproofing system** of the affected Trillium Line structure, including the Trillium Line expansion joint		**N/A**
2.7	**Identification of utility installations** proposed through or adjacent to Trillium Line property.	See composite utility plan	**Appendix B2**
2.8	**Identification of the exhaust air quality and relationship of air in-take/discharge** to the Trillium Line at-grade vent shaft openings and station entrance openings.	Air intakes, exhausts, entrances or other similar features within the development are not located within 12 metres of the Confederation Line's ventilation structures.	**N/A**
2.9	**Pre-construction condition survey proposal** for the Trillium Line structure, including a survey to confirm locations of existing walls and foundations		**Section 8**
2.10	**Monitoring Plan** for movement of the shoring and Trillium Line structure prior to and during construction of the development, including an Action Protocol.		**Section 4**
3.1	**Ontario Building Code (OBC) compliance review**, specifically including Section 3.13 Rapid Transit Stations, and including a plan depicting egress routes from the station.		**N/A**
3.2	**Wind and snow load analyses**		**N/A**
3.3	**Drawings/documentation of construction method, hoarding, construction access, and haul routes**	To be provided prior to construction.	**N/A**
3.4	**Details of remedial work to municipal structures** to support roof at wall openings, including structural loads, and calculations		**N/A**

3.5a	**Details of stairs and doors for the development connection**		**N/A**
3.5b	**Details of sprinklers and ventilation for the development connection**		**N/A**
3.6	**Architectural finish material selection, including samples**		**N/A**
3.7	**Wayfinding and signage plans**		**N/A**
3.8	**Landscape plans**		**N/A**
3.9a	**Drawings of collector booth and easier access elevator** all designated in conformance with the relevant OC Transpo Design Guidelines, including accessibility requirements		**N/A**
3.9b	**Drawings of CCTV, intercom, and fire alarm** all designated in conformance with the relevant OC Transpo Design Guidelines, including accessibility requirements		**N/A**
3.10	**Construction record (as-built) drawings** and electronic files for municipal documentation records.	To be provided post-construction in Microstation (.dgn) format.	**N/A**
4.1	**Pre and post-construction surveys of Trillium Line infrastructure and assets**	To be provided prior to construction.	**N/A**
4.2	**Crane swing diagram**	To be provided prior to construction.	**N/A**
4.3	**Insurance requirements for large developments over Trillium Line infrastructure and assets**	No construction proposed over the Trillium Line	**N/A**

ENTUITIVE

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