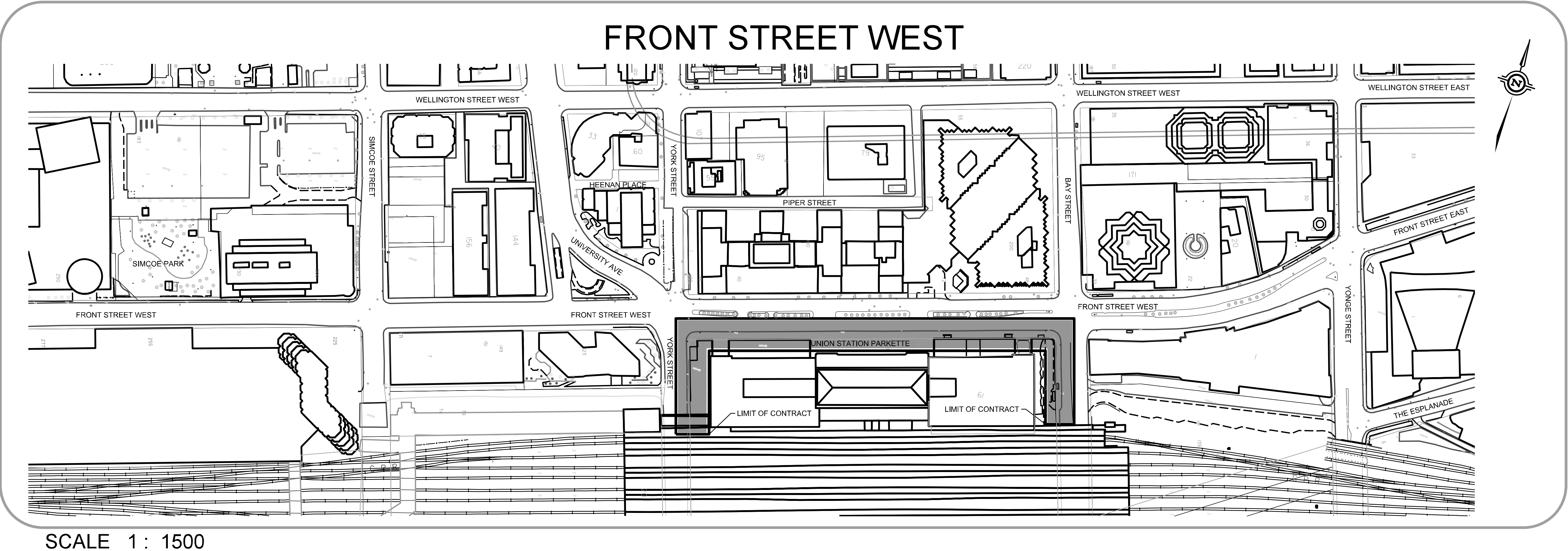




Toronto

Engineering & Construction Services



HOSTILE VEHICLE MITIGATION FOR UNION STATION

FRONT STREET WEST (FROM YORK STREET TO BAY STREET)

CONTRACT No. 6054585

MICHAEL D'ANDREA, P. ENG. - CHIEF ENGINEER AND EXECUTIVE DIRECTOR,
ENGINEERING & CONSTRUCTION SERVICES

LIST OF DRAWINGS

UHVM-C2023-01	GENERAL NOTES	NOTE
UHVM-C2023-02	TOPOGRAPHIC SURVEY	PLAN
UHVM-C2023-03	TOPOGRAPHIC SURVEY	PLAN
UHVM-C2023-04	COMPOSITE UTILITY PLAN	PLAN
UHVM-C2023-05	COMPOSITE UTILITY PLAN	PLAN
UHVM-C2023-06	EXISTING CONDITIONS AND REMOVALS	PLAN
UHVM-C2023-07	EXISTING CONDITIONS AND REMOVALS	PLAN
UHVM-C2023-08	SITE GRADING AND RESTORATION PLAN	PLAN
UHVM-C2023-09	SITE GRADING AND RESTORATION PLAN	PLAN
UHVM-C2023-10	STRUCTURE CONFLICTS OVERLAY	PLAN AND SECTION
UHVM-C2023-11	TYPICAL SECTIONS (SHEET 1 OF 2)	SECTION
UHVM-C2023-12	TYPICAL SECTIONS (SHEET 2 OF 2)	SECTION

ISSUED FOR TENDER

DATE: NOVEMBER, 2023
DRAWING NUMBER: UHVM-C2023-00
REVISED: MONTH, YEAR

GENERAL NOTES

- UNLESS INDICATED OTHERWISE, ALL WORKS WITHIN THE CITY RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF TORONTO DESIGN STANDARDS AND SPECIFICATIONS, ONTARIO PROVINCIAL STANDARDS.
 2. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE CURRENT "OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS."
 3. PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL RIGHT-OF-WAY, THE CONTRACTOR WILL OBTAIN ALL NECESSARY ROAD PERMITS FROM THE CITY'S TRANSIT INFRASTRUCTURE PROJECTS SECTION OF TRANSPORTATION SERVICES.
 4. PREPARE AND SUBMIT THE DESIGN AND CONSTRUCTION DRAWINGS OF THE PROJECT LIMITS TO THE SERVICE / UTILITY COMPANIES (TORONTO HYDRO, ENBRIDGE GAS, TELUS, ROGERS, ETC...) FOR MARK UP OF THEIR EXISTING / PROPOSED PLANT AND SIGN-OFF DOCUMENTS.
 5. PRIOR TO ANY EXCAVATION, ALL UTILITY OWNERS MUST BE CONTACTED TO OBTAIN SANCTIONED LOCATES, AS STIPULATED BY THE OCCUPATIONAL HEALTH AND SAFETY ACT.
 6. CONTRACTOR SHALL CONTACT ENBRIDGE GAS AND OTHER UTILITY COMPANIES TO ADVISE WELL IN ADVANCE OF THEIR REQUIREMENT ON SITE WHERE THE EXCAVATION TAKE PLACE IN THE VICINITY OF ANY UTILITIES DURING CONSTRUCTION PERIOD.
 7. CONTRACTOR TO EXERCISE EXTREME CAUTION WHILE EXCAVATING AND BACKFILLING IN THE VICINITY OF THE UNDERGROUND UTILITIES, WHICH ARE NOT TO BE DISTURBED AND HAND DIGGING MAY BE REQUIRED.
 8. CONTRACTOR IS RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UNDERGROUND AND OVERHEAD UTILITIES AND STRUCTURES PRIOR TO AND DURING CONSTRUCTION IN THE AREA OF HIS WORK, WHETHER SHOWN ON THE PLANS OR NOT.
 9. COORDINATED ACCESS SHALL BE PROVIDED TO ALL SERVICE / UTILITY COMPANIES MAINTENANCE VEHICLES DURING CONSTRUCTION OPERATIONS AS DEFINED IN THE CONSTRUCTION MANAGEMENT PLAN.
 10. INFORMATION REGARDING ANY EXISTING SERVICES AND UTILITIES SHOWN ON THIS SET OF PLANS IS FURNISHED AS THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL INTERPRET THIS INFORMATION AS HE SEES FIT.
 11. SUPPORTING OF EXISTING UTILITIES AND SERVICES SHALL BE IN ACCORDANCE WITH CITY OF TORONTO STD. T-1007.01 SERIES AND/OR PROVIDE THE DESIGN OF THE UTILITY SUPPORT SYSTEM (IF APPLICABLE), THE CONTRACTOR IS RESPONSIBLE TO SUBMIT ALL SHOP DRAWINGS FOR REVIEW AND APPROVAL.
 12. CONTRACTOR SHALL COORDINATE WITH SERVICE / UTILITY COMPANIES THAT ARE IMPACTED BY THE CONTRACTOR'S OPERATIONS. TO SUPPORT THIS EFFORT, THE CONTRACTOR SHALL PROVIDE ROUTINE AND ACCURATE SCHEDULE UPDATES, PROVIDE NOTIFICATION OF DELAYS, AND PROVIDE DOCUMENTATION OF THE STEPS TAKEN TO RESOLVE ANY CONFLICTS FOR THE TEMPORARY AND/OR PERMANENT RELOCATIONS OF THE IMPACTED SERVICES / UTILITIES.
 13. ALL 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.
 14. WHERE THE STABILITY, SAFETY OR FUNCTION OF THE EXISTING ROADWAY OR UNDERGROUND FACILITIES MAY BE IMPAIRED DUE TO THE CONTRACTOR'S METHOD OF OPERATIONS, THE CONTRACTOR SHALL PROVIDE SUCH PROTECTION AS MAY BE REQUIRED INCLUDING SHEETING, SHORING AND DRIVING OF PILES WHERE NECESSARY, TO PREVENT DAMAGE TO SUCH WORKS OR PROPOSED WORKS. CONSTRUCTION FOR SHORING, BRACING, AND PROTECTION SCHEMES SHALL CONFORM TO THE SPECIFICATIONS OPSS.MUNI 404, OPSS.MUNI 539, OPSD. 802.010, AND OPSD. 802.030.
 15. CONTRACTOR MUST FOLLOW THE FOLLOWING MOST UP-TO-DATE PROCEDURES, REQUIREMENTS AND GUIDELINES:
 - I). THIRD PARTY REQUIREMENTS IN THE VICINITY OF NATURAL GAS FACILITIES.
 - II). CSA Z247 GUIDELINE FOR EXCAVATION IN THE VICINITY OF UTILITY LINES.
 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO PRIVATE PROPERTY, CITY EXISTING ASSETS AND THIRD PARTY FACILITIES AS A RESULT OF THE CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH CONTRACT DOCUMENTS.
 17. ALL DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS AS DEFINED BY CONTRACT PLANS WILL BE RESTORED TO ORIGINAL CONDITION OR AS REPRESENTED IN THE CONTRACT PLANS.
 18. SERVICE CONNECTIONS AND UTILITY CUTS SHALL BE BACKFILL WITH UNSHRINKABLE FILL.
 19. TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT ONTARIO TRAFFIC MANUAL BOOK 7: TEMPORARY CONDITIONS.
 20. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE AND MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE CITY OF TORONTO'S REQUIREMENTS.
 21. IF REQUIRED, DEWATERING SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH ONTARIO WATER TAKING REGULATION (O.REG. 387/04). IF REQUIRED, PERMIT TO TAKE WATER (PTTW) SHALL BE OBTAINED BY THE CONTRACTOR FROM MINISTRY OF THE ENVIRONMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN 'PERMIT TO DISCHARGE TO THE CITY STORM OR SANITARY SEWER' DIRECTLY FROM TORONTO WATER. THE CONTRACTOR IS NOT PERMITTED UNDER THE CITY'S SEWERS BY-LAW TO DISCHARGE WATER TO THE CITY'S SEWERS WITHOUT A PERMIT ISSUED BY THE CITY OF TORONTO.
 22. NO PROJECT RELATED CONSTRUCTION ACTIVITIES ON PRIVATE PROPERTY ARE TO BE UNDERTAKEN UNTIL AN AGREEMENT HAS BEEN ESTABLISHED WITH THE PROPERTY OWNER.
 23. WHERE NEW ASPHALT MATCHES EXISTING ASPHALT, MILL EXISTING ASPHALT TO A MINIMUM OF 600mm WIDE AND 40mm DEEP FOR KEYING.
 24. THE CONCRETE CURB AND CONCRETE CURB AND GUTTER, CONCRETE SIDEWALK (IF APPLICABLE), AND ALL RESTORATION OF ROADWAYS TO THE SITE SHALL BE CONSTRUCTED AND CARRIED OUT IN ACCORDANCE WITH ALL APPLICABLE AND CURRENT CITY OF TORONTO STANDARDS.
 25. THE CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING DEBRIS ON THE CONSTRUCTION SITE AND ALSO REMOVE ALL HOARDING UPON COMPLETION OF THE WORK.
 26. THE ROADWAY PAVEMENT STRUCTURE WILL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CITY OF TORONTO REQUIREMENTS.
 27. STANDARD SIDEWALK THICKNESS WITHIN THE CITY OF TORONTO RIGHT-OF-WAY SHALL BE 130mm-150mm CONCRETE AND WILL BE INCREASED TO A THICKNESS OF 180mm CONCRETE AT ALL ENTRANCES OVER 150mm GRANULAR 'A' BASE. REFER TO TORONTO STANDARD DRAWINGS T-310.010-2, T-310.010-3, T-310.010-4, AND T-310.010-10.
 28. ALL CURBS TO BE DROPPED AT ALL CROSSING WITH SIDEWALKS AS INDICATED ON THE DRAWINGS. REFER TO TORONTO STANDARD DRAWING T-310.030-7 TO T-310.030-11.
 29. LOCATION AND DETAIL OF JOINTS IN SIDEWALK, WALKWAY AND RAMP REFER TO TORONTO STANDARD DRAWING T-310.010-1 AND T-310.010-5.
 30. ALL EXISTING MAINTENANCE HOLE TOPS, VALVE CHAMBERS, CATCH BASINS, GAS VALVE, WATER VALVE ETC. TO BE ADJUSTED TO FINISHED GRADE.

CONSULTANTS

H.C.M. STATION	EASTING	NORTHING	ELEVATION						
B.M. STATION				SURVEY(Year) XXXXXX.dgn					
				DESIGN XXXXXX.dgn, XXXXXX.dgn					
				UTILITY XXXXXX.dgn					
				MAPPING XXXXXX.dgn					
				STREETLINE XXXXXX.dgn					
HORIZONTAL \ VERTICAL CONTROL MONUMENTS				DIGITAL INFORMATION	No.	DATE	REVISIONS	INITIAL	SIGNED

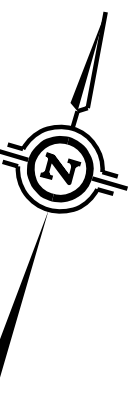
Toronto Engineering & Construction Services

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SCALE	HORIZONTAL 1:200	VERTICAL 1:XXX	DRAWING NUMBER			UHVM-C2023-01	SHEET C-01
DATE	AUGUST, 2021						

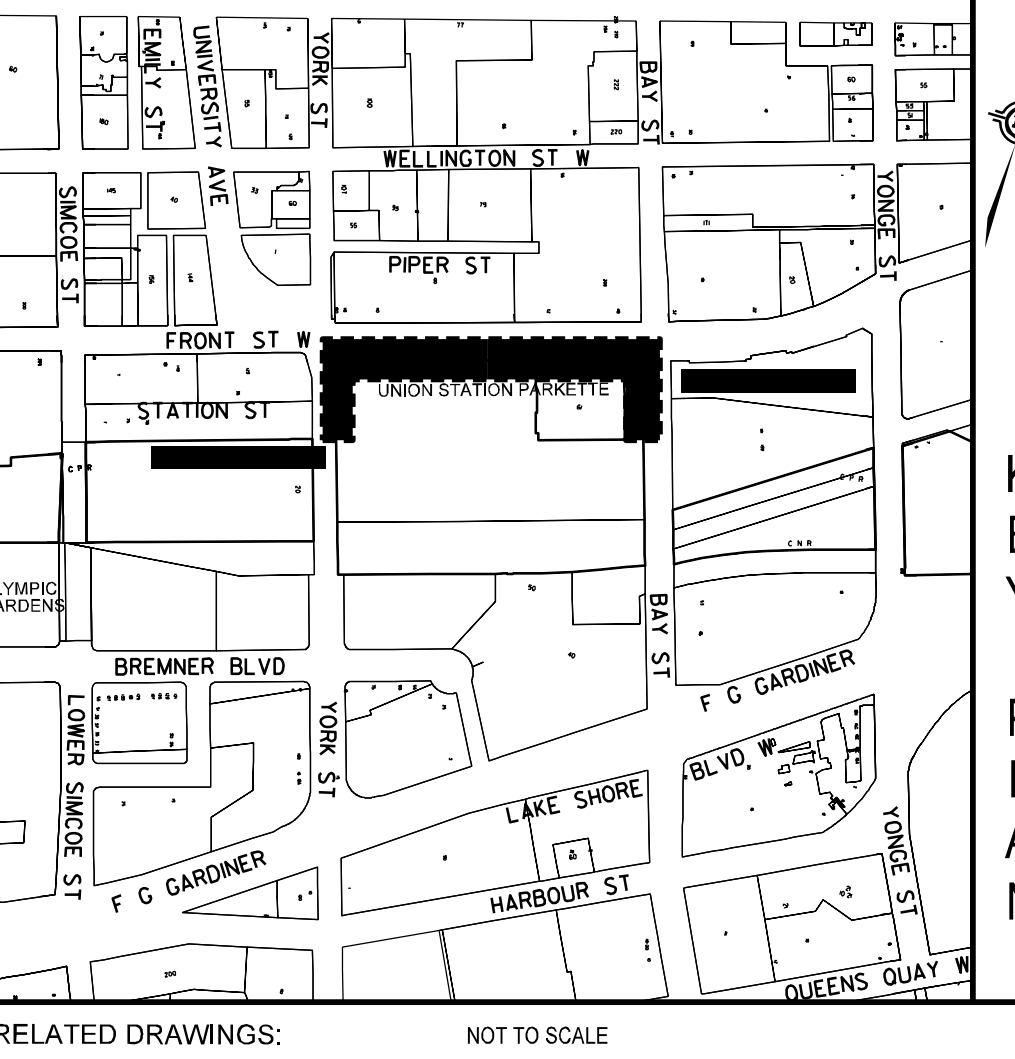
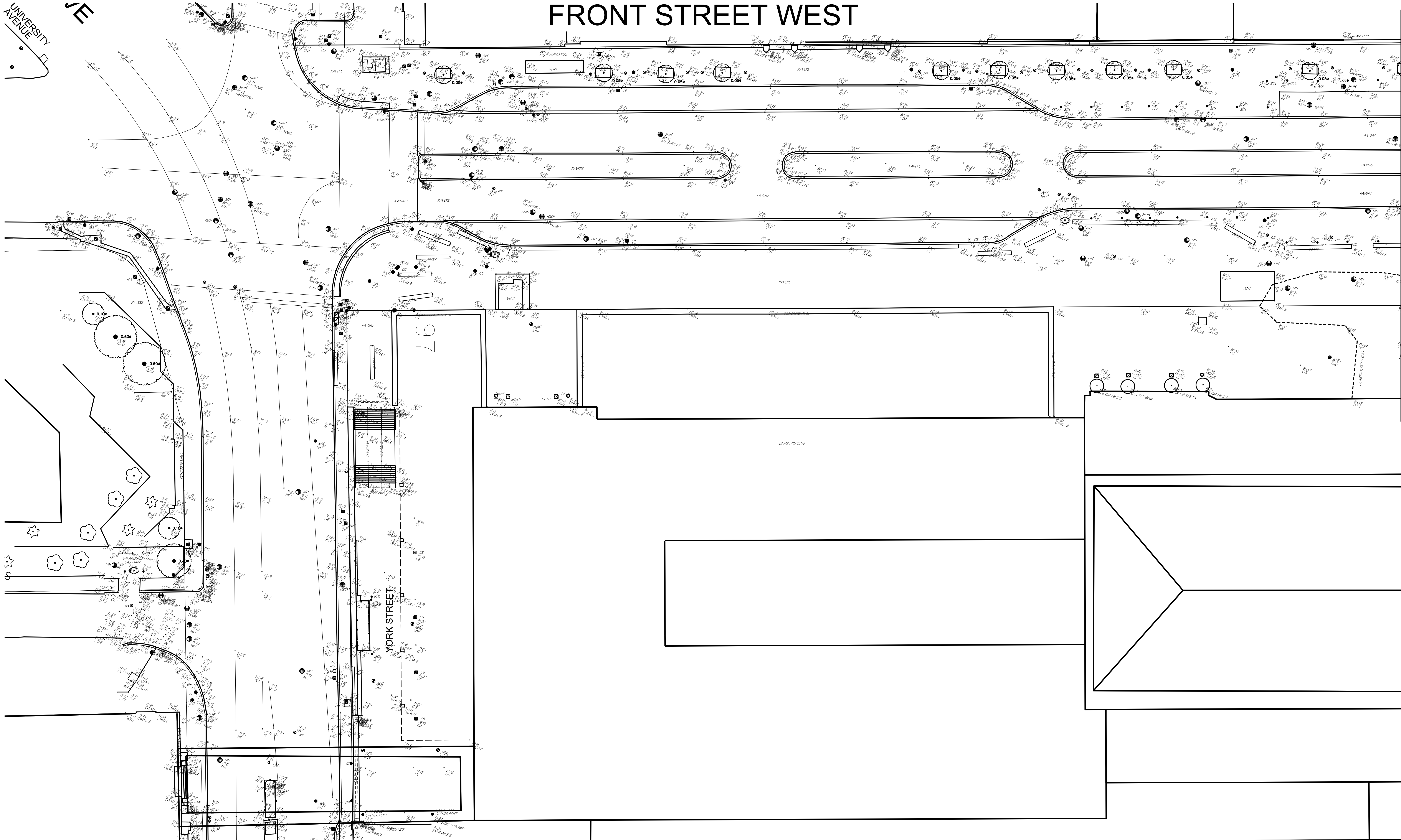
UNIVERSITY AVENUE

VE

FRONT STREET WEST



MATCHLINE SEE DRAWING 21-0000X-003



NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING 21-0000X-001.

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

KEY
21-0000X-KEY.dgn
SURVEY(2021) 21-0000X-SVY.dgn
MAPPING 21-0000X-TUP.dgn
STREETLINE 21-0000X-PSL.dgn

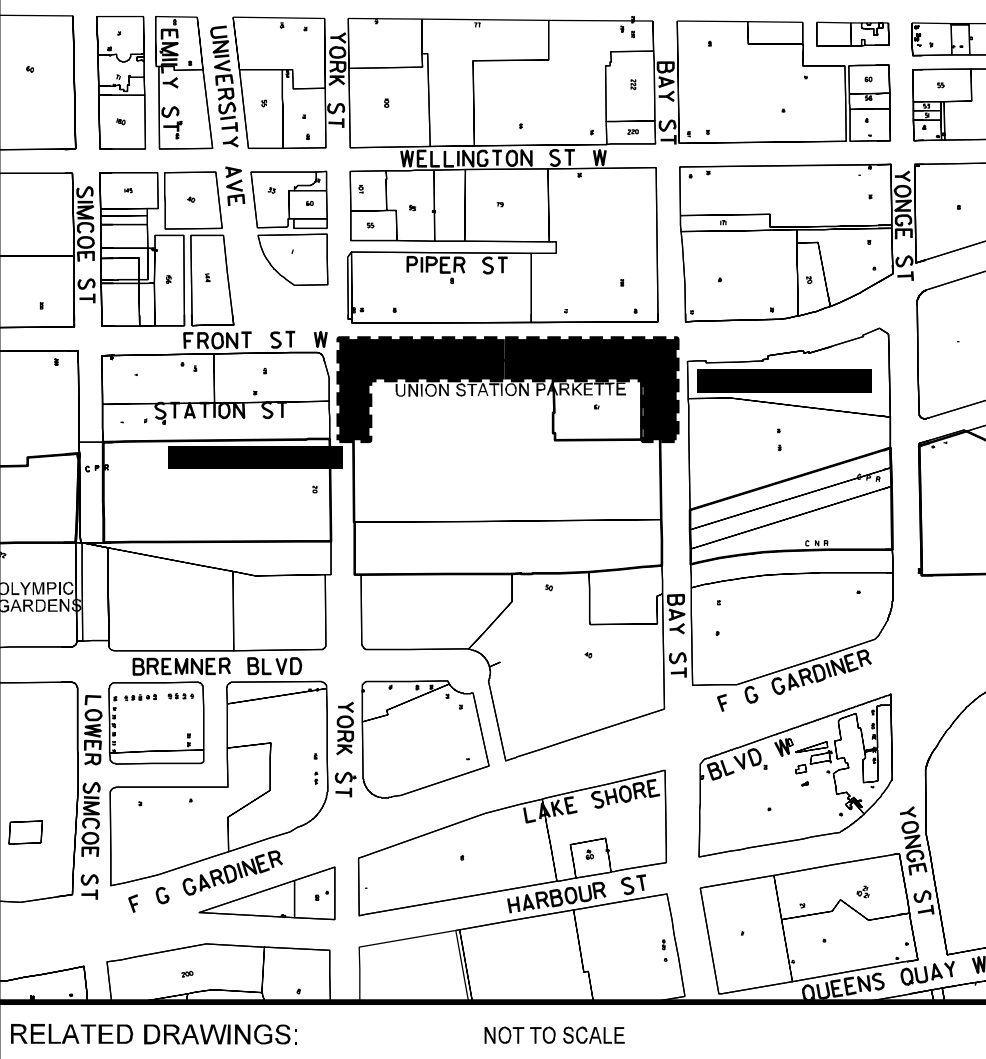
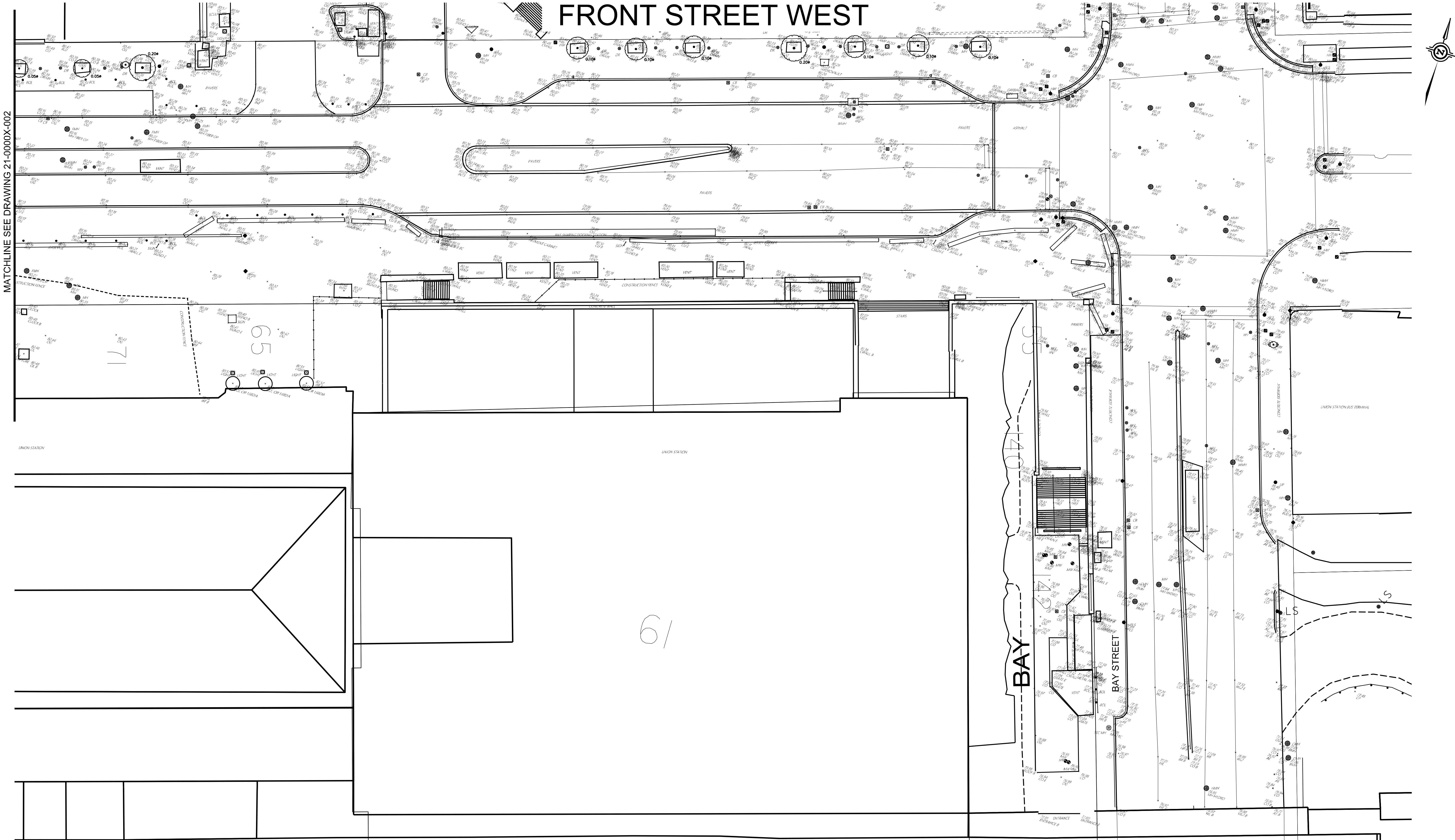
DIGITAL INFORMATION

No.	DATE	REVISIONS	INITIAL	SIGNED

Toronto Engineering & Construction Services

FRONT STREET WEST
FROM YORK STREET TO BAY STREET
HOSTILE VEHICLE MITIGATION FOR UNION STATION
TOPOGRAPHIC SURVEY (SHEET 1 OF 2)

DESIGN	PL	DRAWN	JN	CHECKED	ARC	CONTRACT No.	6054585
SCALE	HORIZONTAL 1:200			DRAWING NUMBER	UHVM-C2023-02		SHEET C-02
DATE	NOVEMBER, 2021						



NOTES:

1. FOR GENERAL NOTES REFER TO DRAWING 21-0000X-001.

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			

KEY	21-0000X-KEY.dgn
SURVEY(2021)	21-0000X-SVY.dgn
MAPPING	21-0000X-TUP.dgn
STREETLINE	21-0000X-PSL.dgn

HORIZONTAL \ VERTICAL CONTROL MONUMENTS

DIGITAL INFORMATION

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DATE

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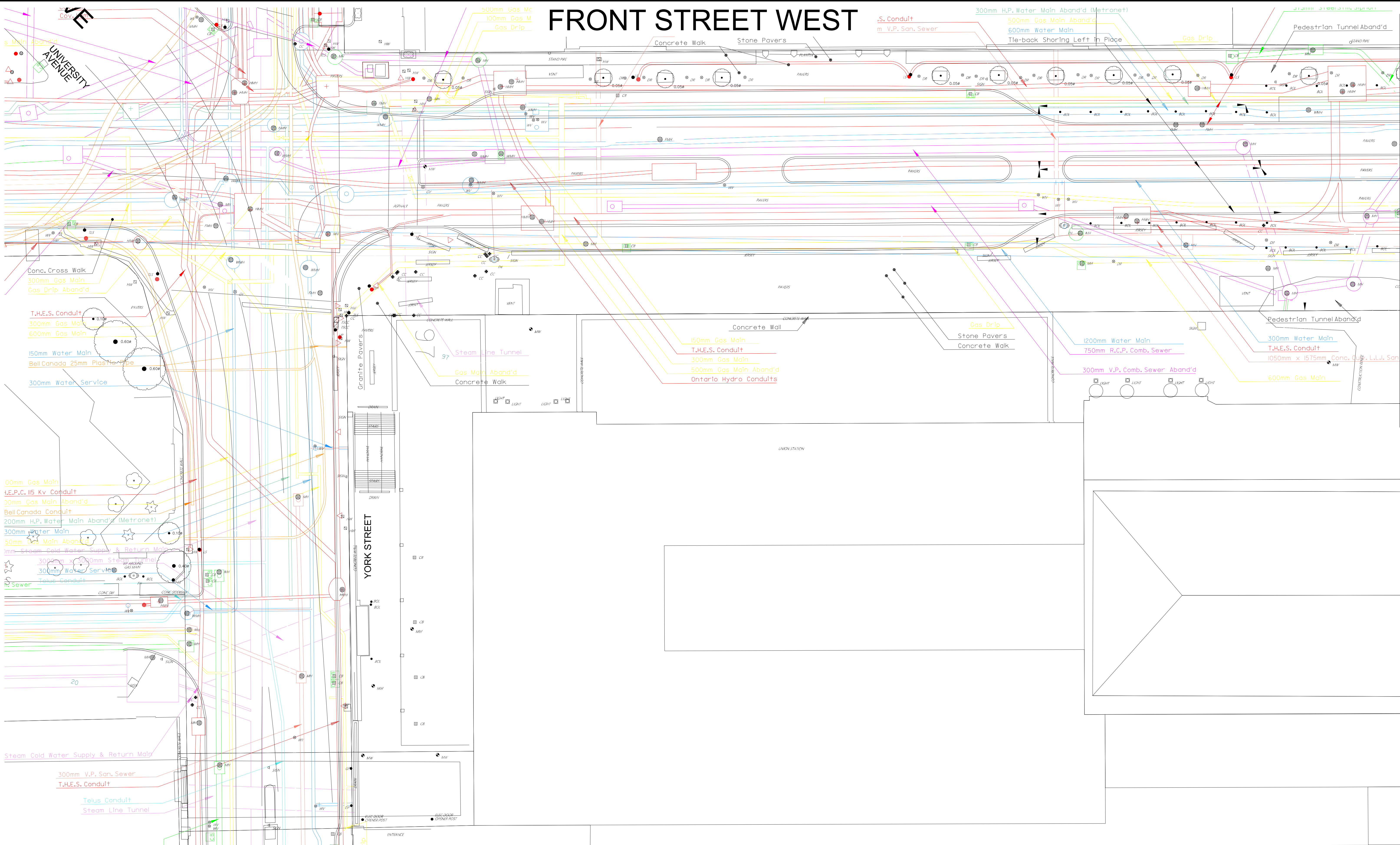
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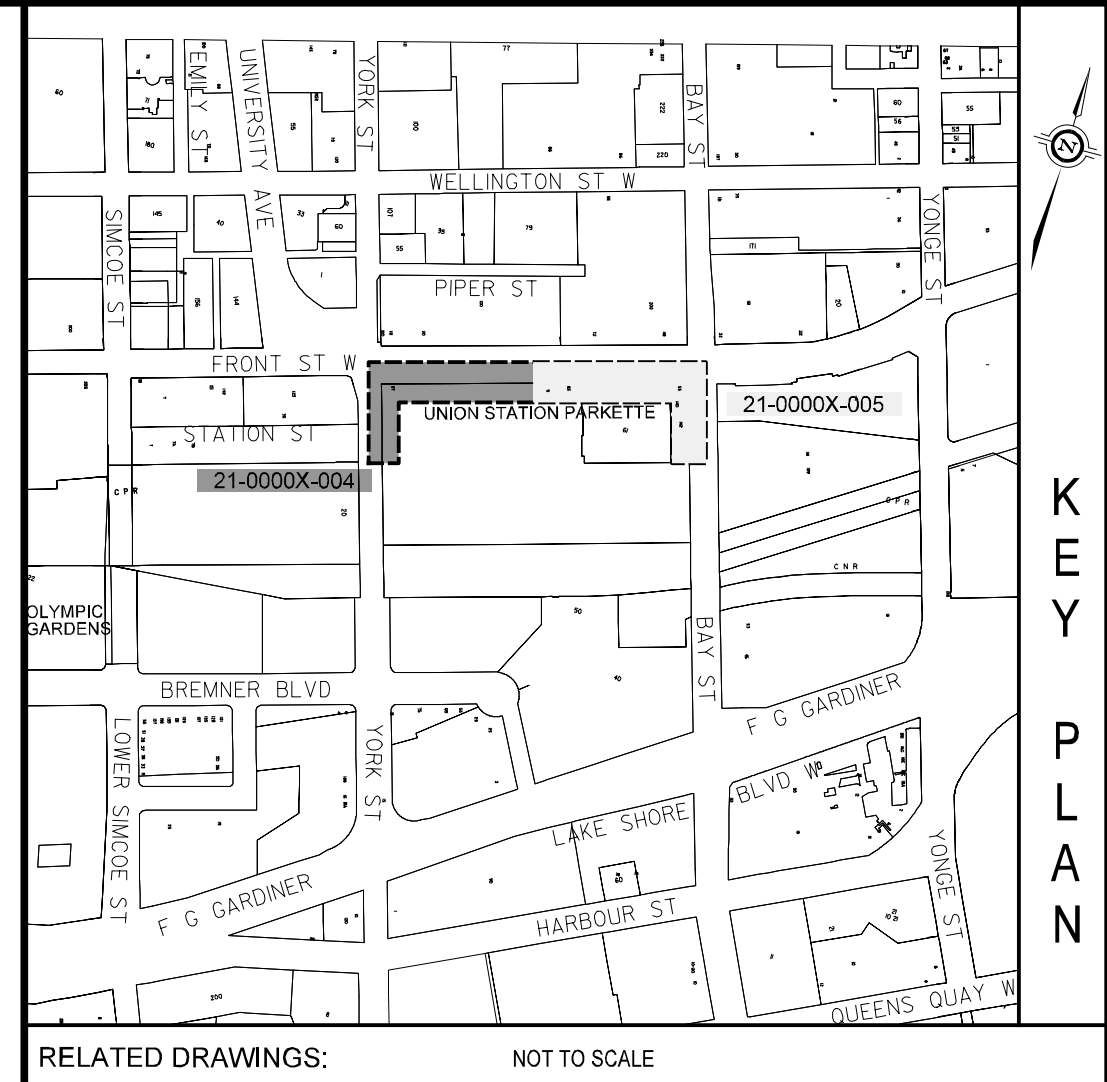
CONSULTANTS

FRONT STREET WEST
FROM YORK STREET TO BAY STREET
HOSTILE VEHICLE MITIGATION FOR UNION STATION
TOPOGRAPHIC SURVEY (SHEET 2 OF 2)

DESIGN	PL	DRAWN	JN	CHECKED	ARC	CONTRACT No.	6054585
SCALE	HORIZONTAL 1:200			DRAWING NUMBER	UHVM-C2023-03		SHEET C-03
DATE	NOVEMBER, 2021						



MATCHLINE SEE DRAWING 21-0000X-005



NOTES:
1. FOR GENERAL NOTES REFER TO DRAWING 21-0000X-001.
2. THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE INDICATIVE ONLY. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION AND DEPTH IN THE FIELD.

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

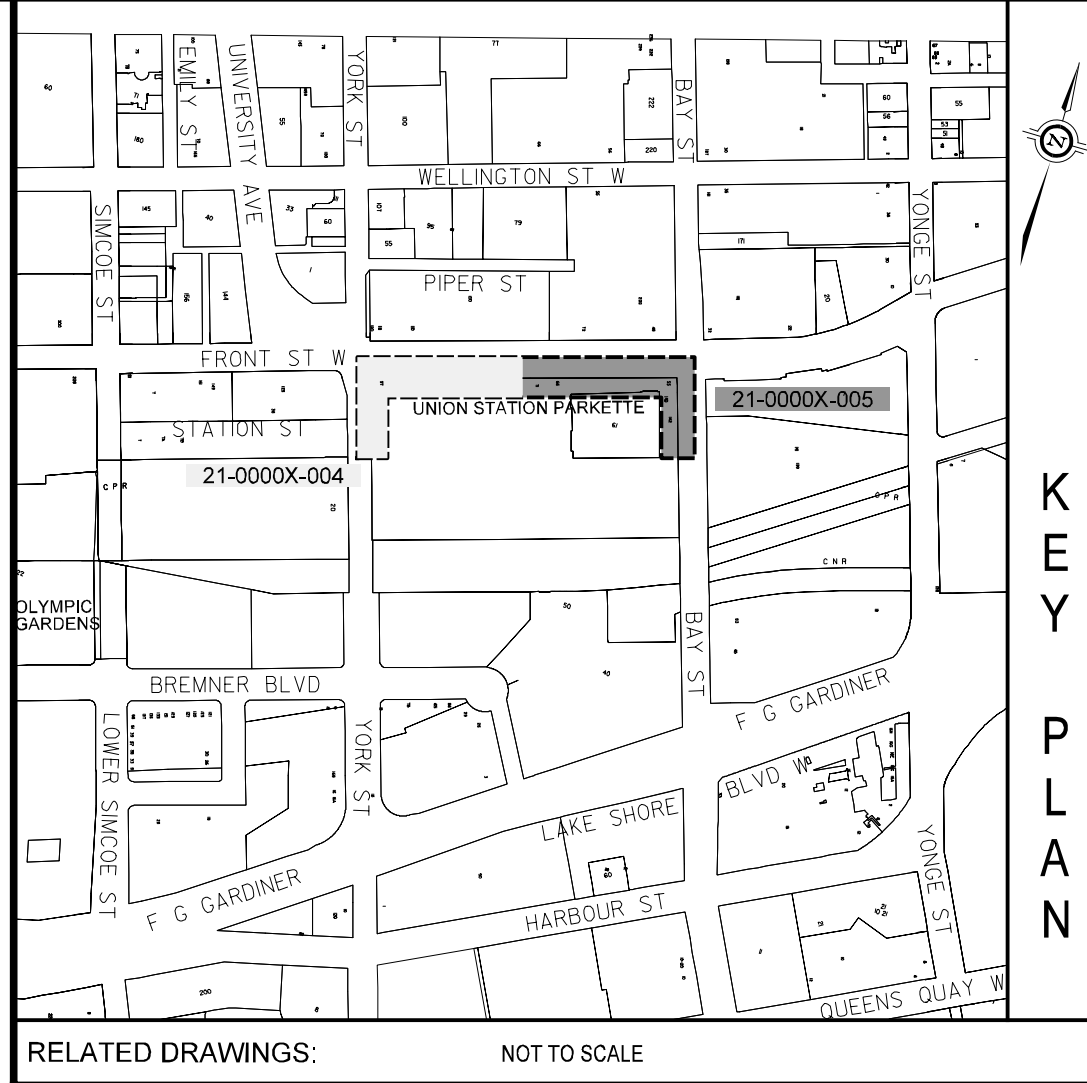
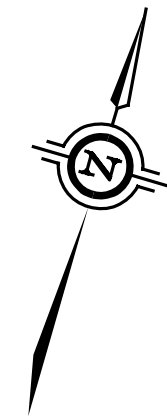
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UTILITY 21-0000X-UGS.dgn	
MAPPING 21-0000X-TUP.dgn	
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DIGITAL INFORMATION	

No.	DATE	REVISIONS	INITIAL	SIGNED

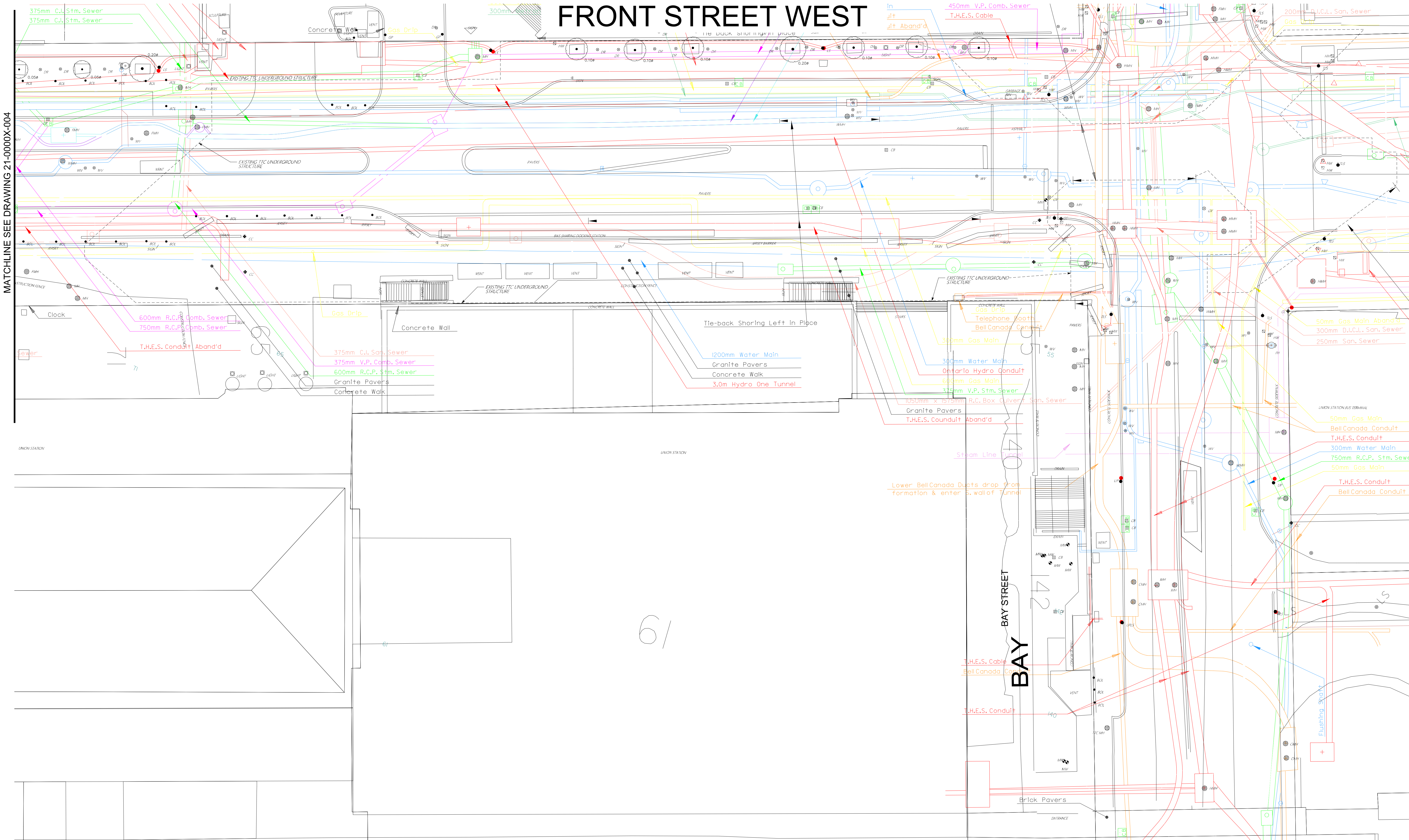
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FRONT STREET WEST					
FROM YORK STREET TO BAY STREET					
HOSTILE VEHICLE MITIGATION FOR UNION STATION					
COMPOSITE UTILITY PLAN (SHEET 1 OF 2)					
DESIGN	PL	DRAWN	JN	CHECKED	ARC
				CONTRACT No. 6054585	
SCALE	HORIZONTAL 1:200			DRAWING NUMBER	UHVM-C2023-04
DATE	AUGUST, 2021				
				SHEET	
				C-04	

FRONT STREET WEST



- NOTES:
- FOR GENERAL NOTES REFER TO DRAWING 21-0000X-001.
 - THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE INDICATIVE ONLY. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION AND DEPTH IN THE FIELD.



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H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			

SURVEY(2021) 21-0000X-SVY.dgn
UTILITY 21-0000X-UGS.dgn
MAPPING 21-0000X-TUP.dgn
STREETLINE 21-0000X-PSL.dgn

DIGITAL INFORMATION

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DATE

REVISIONS

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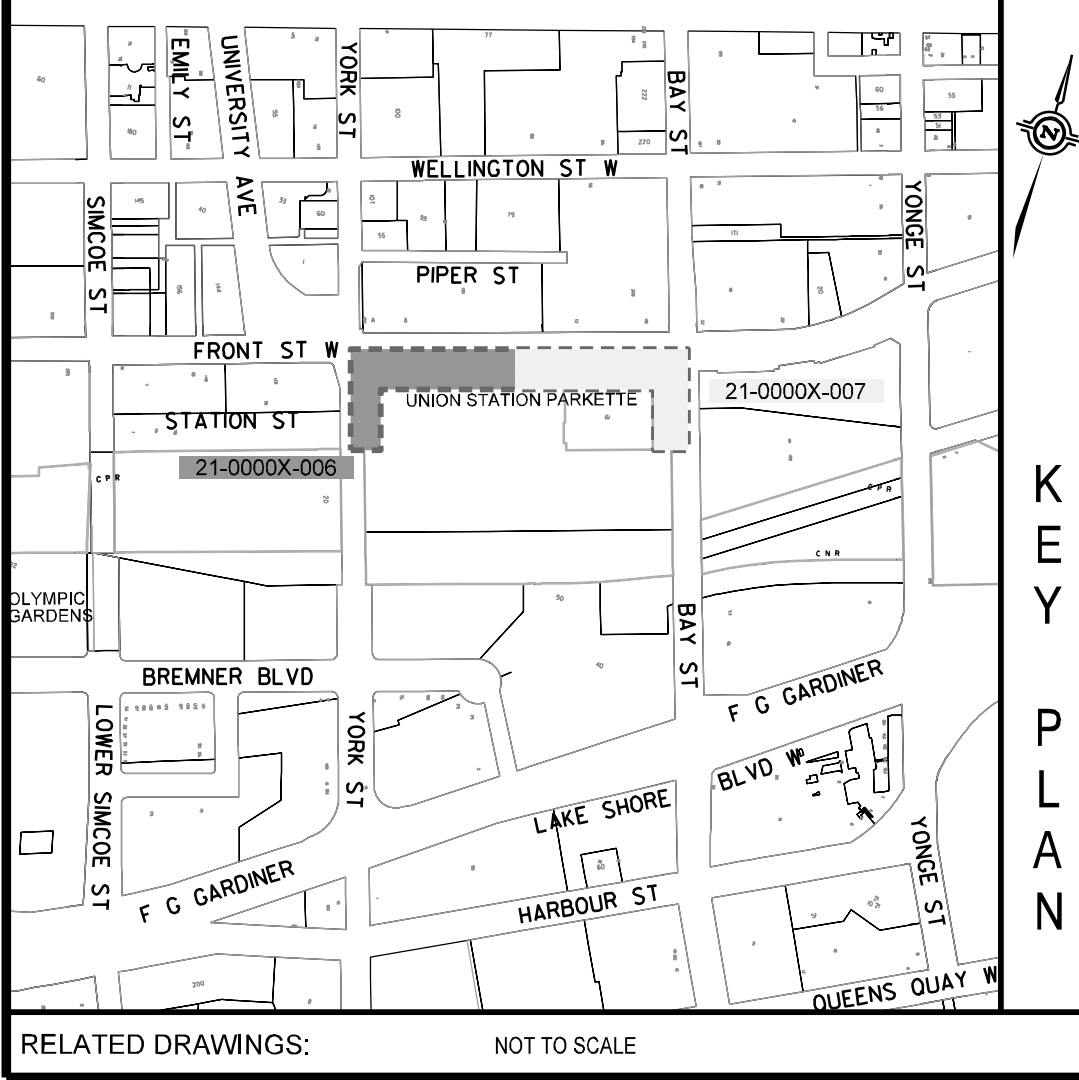
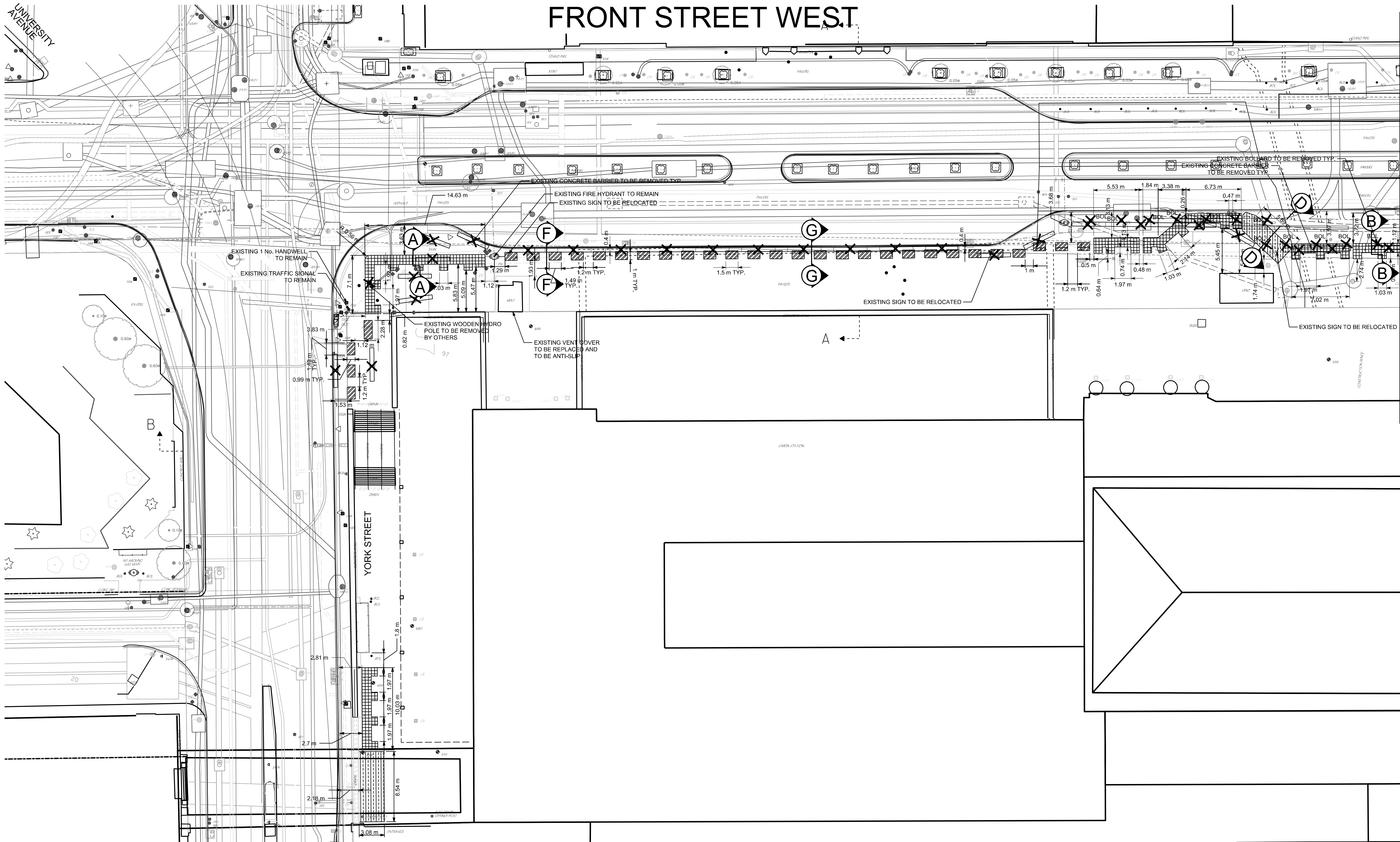
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FRONT STREET WEST
FROM YORK STREET TO BAY STREET
HOSTILE VEHICLE MITIGATION FOR UNION STATION
COMPOSITE UTILITY PLAN (SHEET 2 OF 2)

DESIGN	PL	DRAWN	JN	CHECKED	ARC	CONTRACT No.	6054585
SCALE	HORIZONTAL 1:200			DRAWING NUMBER	UHVM-C2023-05		SHEET C-05
DATE	AUGUST, 2021						



LEGEND

- REMOVE EXISTING 75-100mm GRANITE SIDEWALK PAVERS (WITH 200-300mm THICK OF BASE & SUB-BASE MATERIALS BELOW)
- REMOVE EXISTING 75mm GRANITE SIDEWALK PAVERS (WITH 330mm THICK OF BASE & SUB-BASE MATERIALS BELOW)
- REMOVE EXISTING 75-100mm GRANITE SIDEWALK PAVERS
- REMOVE AND SALVAGE EXISTING CONCRETE BARRIER
- REMOVE EXISTING STEEL BOLLARD

NOTES:

- FOR GENERAL NOTES REFER TO DRAWING 21-0000X-001.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE INDICATIVE ONLY. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION AND DEPTH IN THE FIELD.
- DURING CONSTRUCTION TRAFFIC FLOW SHALL BE MAINTAINED IN ACCORDANCE TO THE APPROVED TTMP.

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

DESIGN 21-0000X-REM.dgn
SURVEY(2021) 21-0000X-SVY.dgn
MAPPING 21-0000X-TUP.dgn
STREETLINE 21-0000X-PSL.dgn

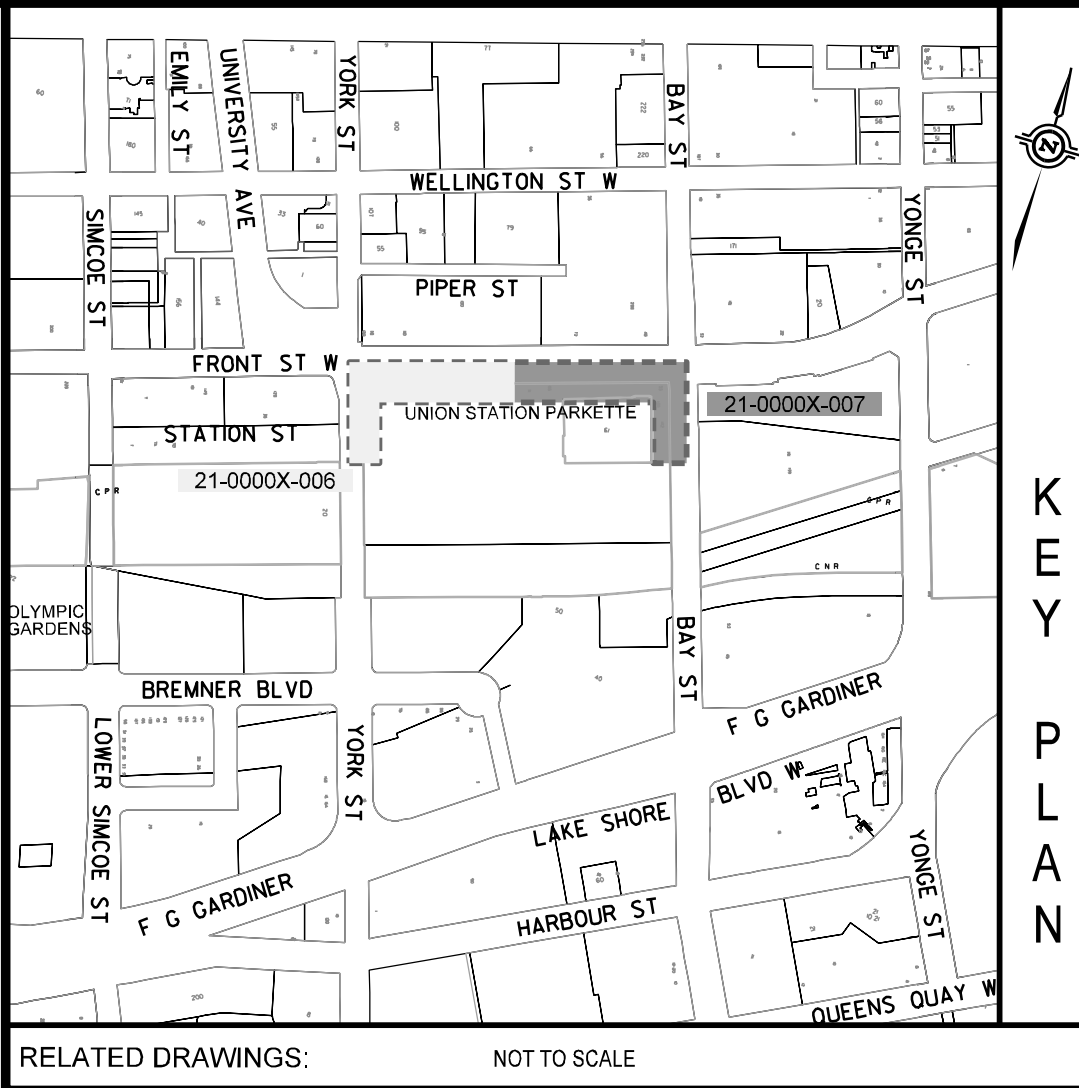
DIGITAL INFORMATION

No. DATE REVISIONS INITIAL SIGNED

Toronto Engineering & Construction Services

CONSULTANTS									
FRONT STREET WEST FROM YORK STREET TO BAY STREET HOSTILE VEHICLE MITIGATION FOR UNION STATION EXISTING CONDITIONS AND REMOVALS (SHEET 1 OF 2)									
DESIGN	PL	DRAWN	JG	CHECKED	ARC	CONTRACT No. 6054585			
SCALE	HORIZONTAL 1:200			DRAWING NUMBER		UHVM-C2023-06		SHEET C-06	
DATE	NOVEMBER, 2021								

FRONT STREET WEST



LEGEND

- REMOVE EXISTING 75-100mm THICK GRANITE SIDEWALK PAVERS
(WITH 200-330mm THICK OF BASE & SUB-BASE MATERIALS BELOW)
- REMOVE EXISTING CONCRETE SIDEWALK
(WITH 200mm THICK OF BASE & SUB-BASE MATERIALS BELOW)
- REMOVE EXISTING CONCRETE SIDEWALK
(WITH 300mm THICK OF BASE & SUB-BASE MATERIALS BELOW)
- REMOVE EXISTING 75mm GRANITE SIDEWALK PAVERS
(WITH 300mm THICK OF BASE & SUB-BASE MATERIALS BELOW)
- REMOVE EXISTING 75-100mm GRANITE SIDEWALK PAVERS
- REMOVE AND SALVAGE EXISTING CONCRETE BARRIER
- REMOVE EXISTING STEEL BOLLARD

NOTES:

1. FOR GENERAL NOTES REFER TO DRAWING 21-0000X-001.
2. THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE INDICATIVE ONLY. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION AND DEPTH IN THE FIELD.
3. DURING CONSTRUCTION TRAFFIC FLOW SHALL BE MAINTAINED IN ACCORDANCE TO THE APPROVED TTMP.

CONSULTANTS

FRONT STREET WEST
FROM YORK STREET TO BAY STREET
HOSTILE VEHICLE MITIGATION FOR UNION STATION
EXISTING CONDITIONS AND REMOVALS (SHEET 2 OF 2)

DESIGN	PL	DRAWN	JG	CHECKED	ARC	CONTRACT No.	6054585
SCALE	HORIZONTAL 1:200			DRAWING NUMBER	UHVM-C2023-07		SHEET C-07
DATE	NOVEMBER, 2021						

Toronto Engineering & Construction Services

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			

DESIGN 21-0000X-REM.dgn
SURVEY(2021) 21-0000X-SVY.dgn
MAPPING 21-0000X-TUP.dgn
STREETLINE 21-0000X-PSL.dgn

HORIZONTAL \ VERTICAL CONTROL MONUMENTS

DIGITAL INFORMATION

No.

DATE

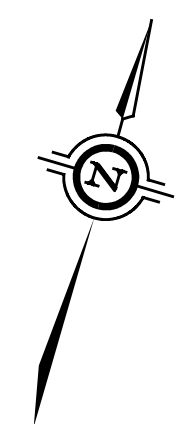
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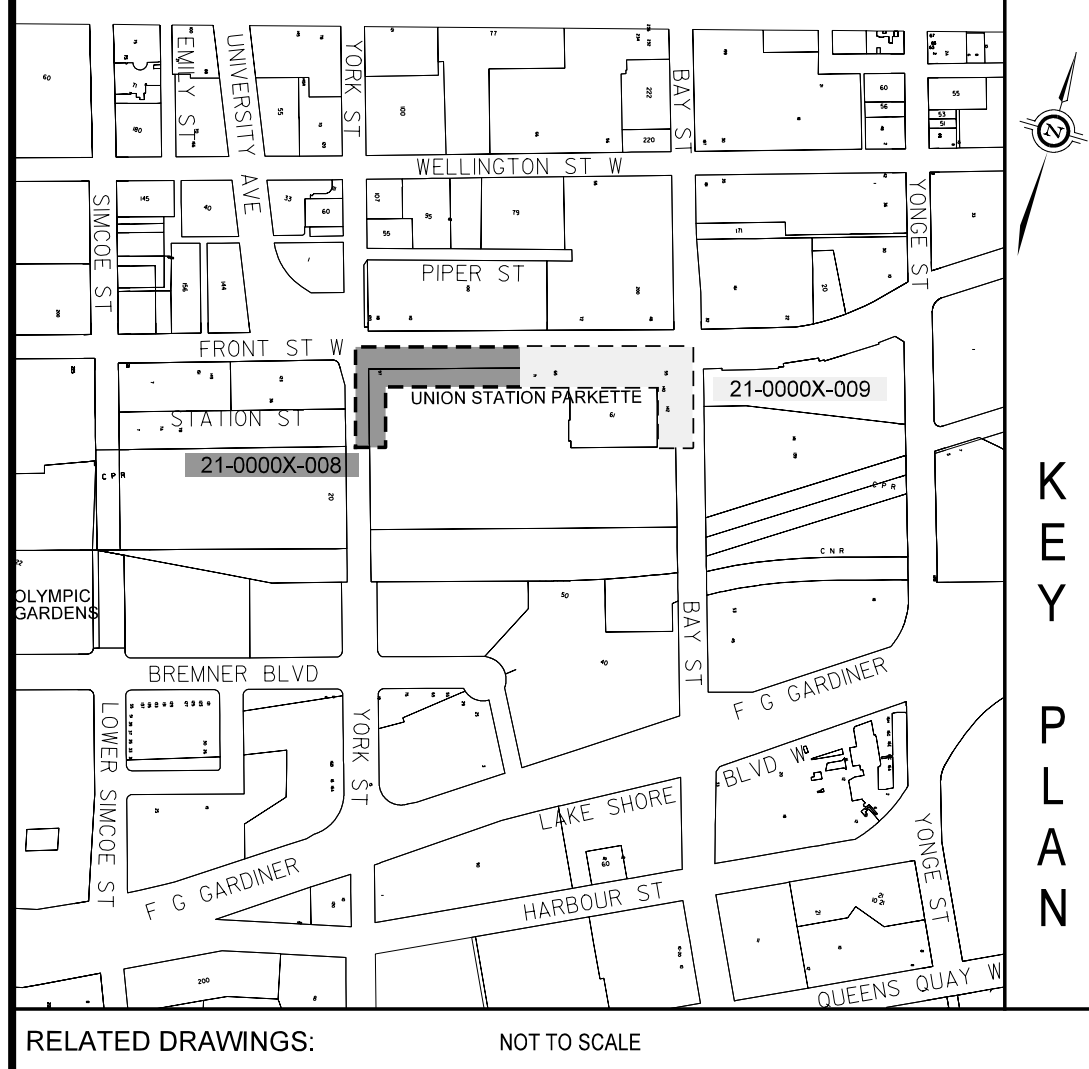
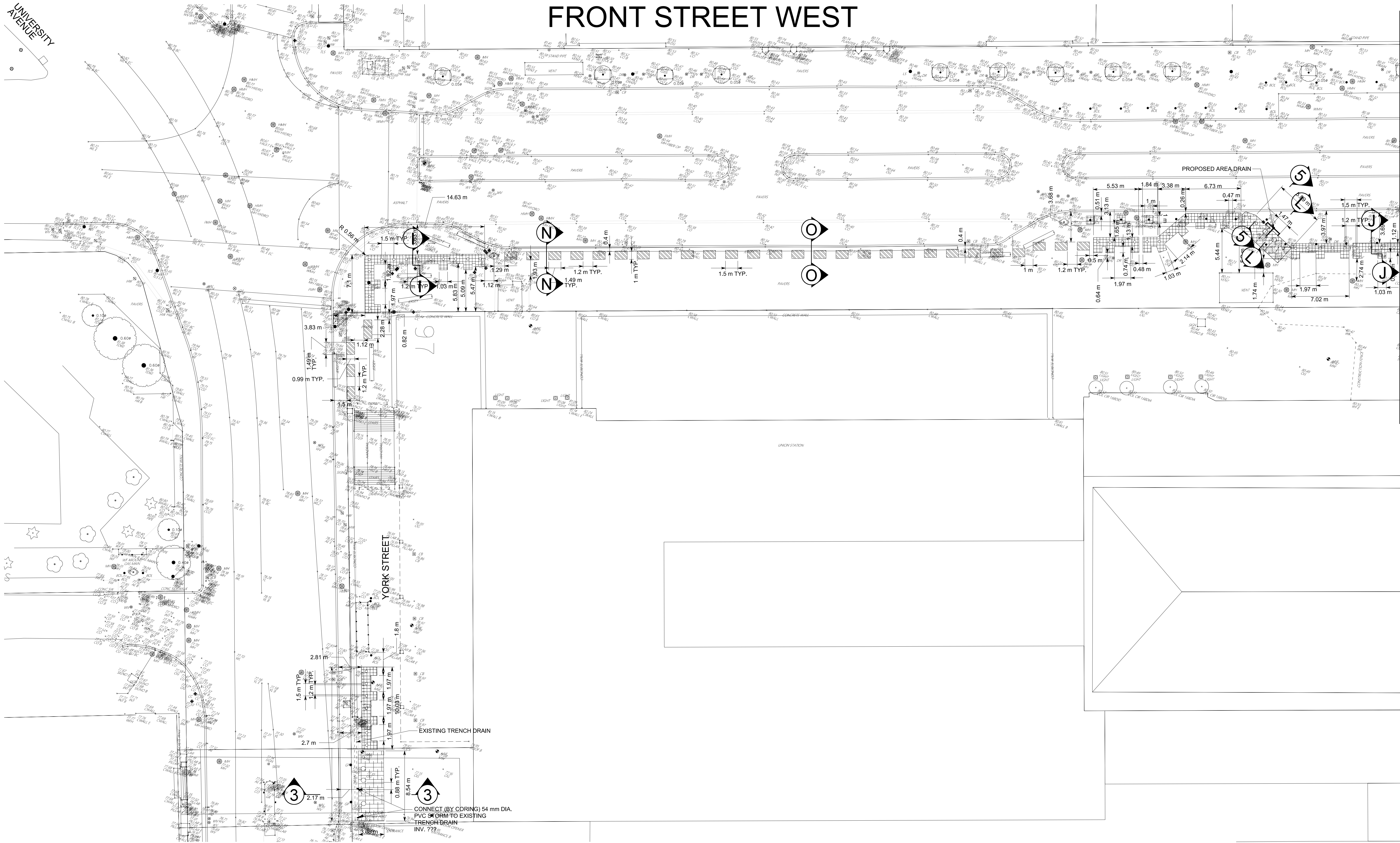
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UNIVERSITY AVENUE

FRONT STREET WEST



MATCH LINE SEE DRAWING 21-0000X-009



- LEGEND**
- REINSTATE GRANITE SIDEWALK PAVERS 75-100mm THICK (AFTER INSTALLING SHALLOW BOLLARDS)
 - REINSTATE GRANITE SIDEWALK PAVERS 75mm THICK (AFTER INSTALLING SLIDING BOLLARDS)
 - CT BLOCK BY TOWNSCAPE. DETAILS REFER TO ARCHITECTURAL DRAWINGS

- NOTES:**
- FOR GENERAL NOTES REFER TO DRAWING 21-0000X-001.
 - THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE INDICATIVE ONLY. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION AND DEPTH IN THE FIELD.
 - RECONSTRUCTION OF SIDEWALKS AND BOULEVARDS TO EXISTING SURFACE GRADE ELEVATIONS.

CONSULTANTS

Toronto Engineering & Construction Services

FRONT STREET WEST

FROM YORK STREET TO BAY STREET
HOSTILE VEHICLE MITIGATION FOR UNION STATION
SITE GRADING AND RESTORATION PLAN (SHEET 1 OF 2)

DESIGN	PL	DRAWN	JN	CHECKED	ARC	CONTRACT No. 6054585
SCALE	HORIZONTAL 1:200			DRAWING NUMBER	UHV-M-C2023-08	
DATE	NOVEMBER, 2021			SHEET	C-08	

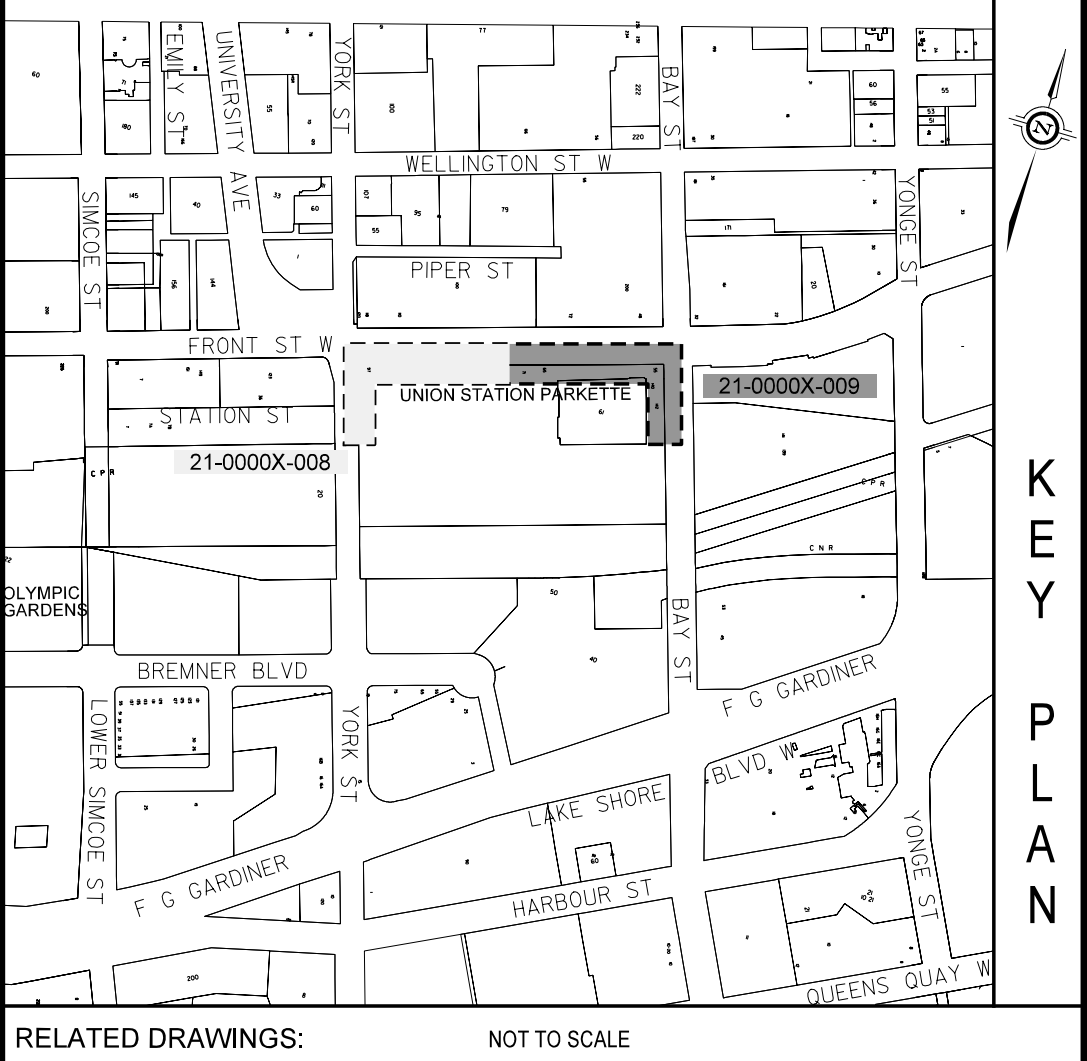
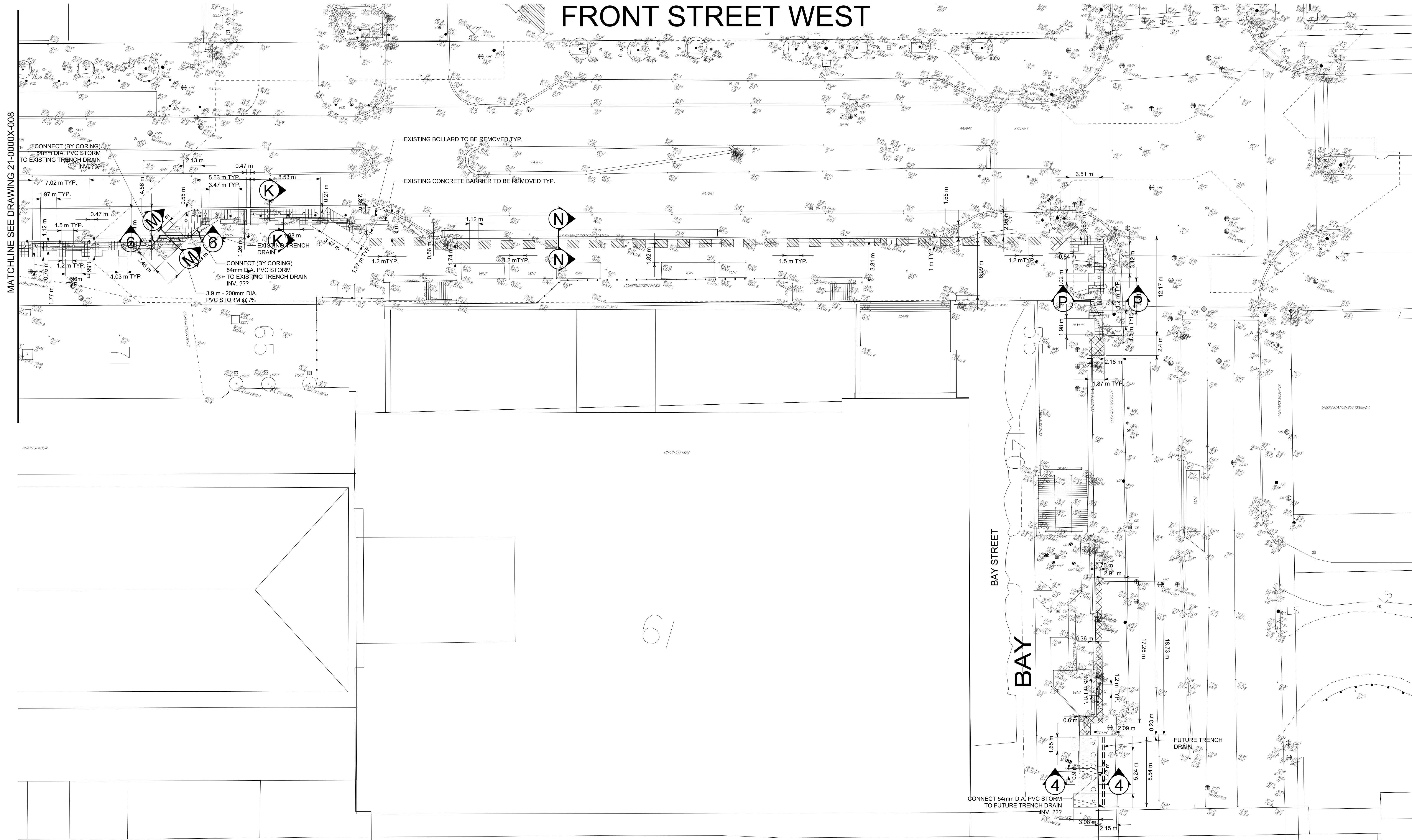
H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

DESIGN 21-0000X-ARCH.dgn
SURVEY(2021) 21-0000X-SVY.dgn
MAPPING 21-0000X-TUP.dgn
STREETLINE 21-0000X-PSL.dgn

DIGITAL INFORMATION

No. DATE REVISIONS INITIAL SIGNED

FRONT STREET WEST



- LEGEND**
- REINSTATE CONCRETE SIDEWALK 150mm DEEP (AFTER INSTALLING SHALLOW BOLLARDS)
 - REINSTATE GRANITE SIDEWALK PAVERS 75-100mm THICK (AFTER INSTALLING SHALLOW BOLLARDS)
 - REINSTATE CONCRETE SIDEWALK 180mm DEEP (AFTER INSTALLING SLIDING BOLLARDS)
 - REINSTATE GRANITE SIDEWALK PAVERS 75mm DEEP (AFTER INSTALLING SLIDING BOLLARDS)
 - CT BLOCK BY TOWNSCAPE. DETAILS REFER TO ARCHITECTURAL DRAWINGS

- NOTES:**
- FOR GENERAL NOTES REFER TO DRAWING 21-0000X-001.
 - THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE INDICATIVE ONLY. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION AND DEPTH IN THE FIELD.
 - RECONSTRUCTION OF SIDEWALKS AND BOULEVARDS TO EXISTING SURFACE GRADE ELEVATIONS.

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

DESIGN 21-0000X-ARCH.dgn
SURVEY(2021) 21-0000X-SVY.dgn
MAPPING 21-0000X-TUP.dgn
STREETLINE 21-0000X-PSL.dgn

DIGITAL INFORMATION

No. DATE

REVISIONS

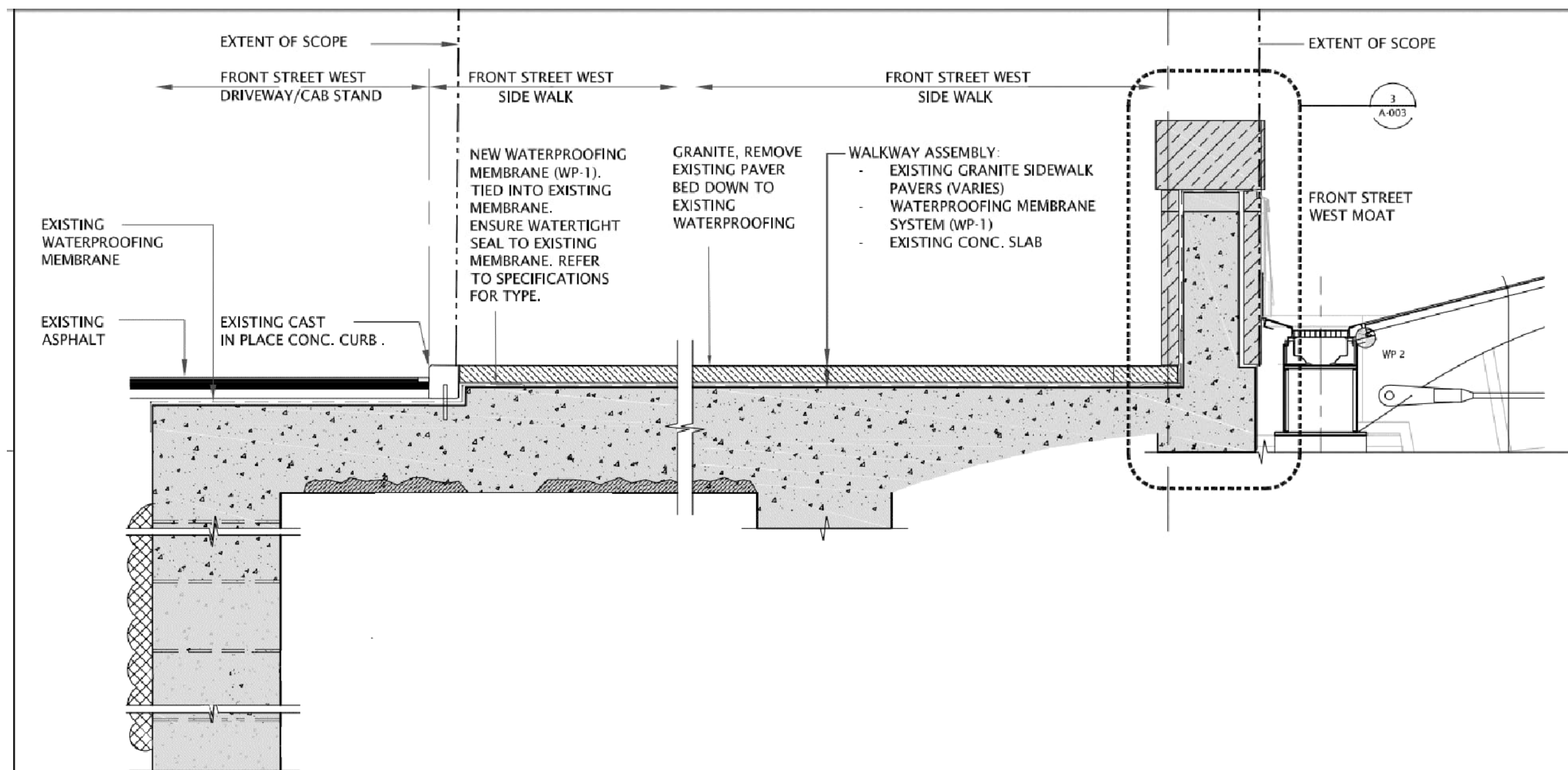
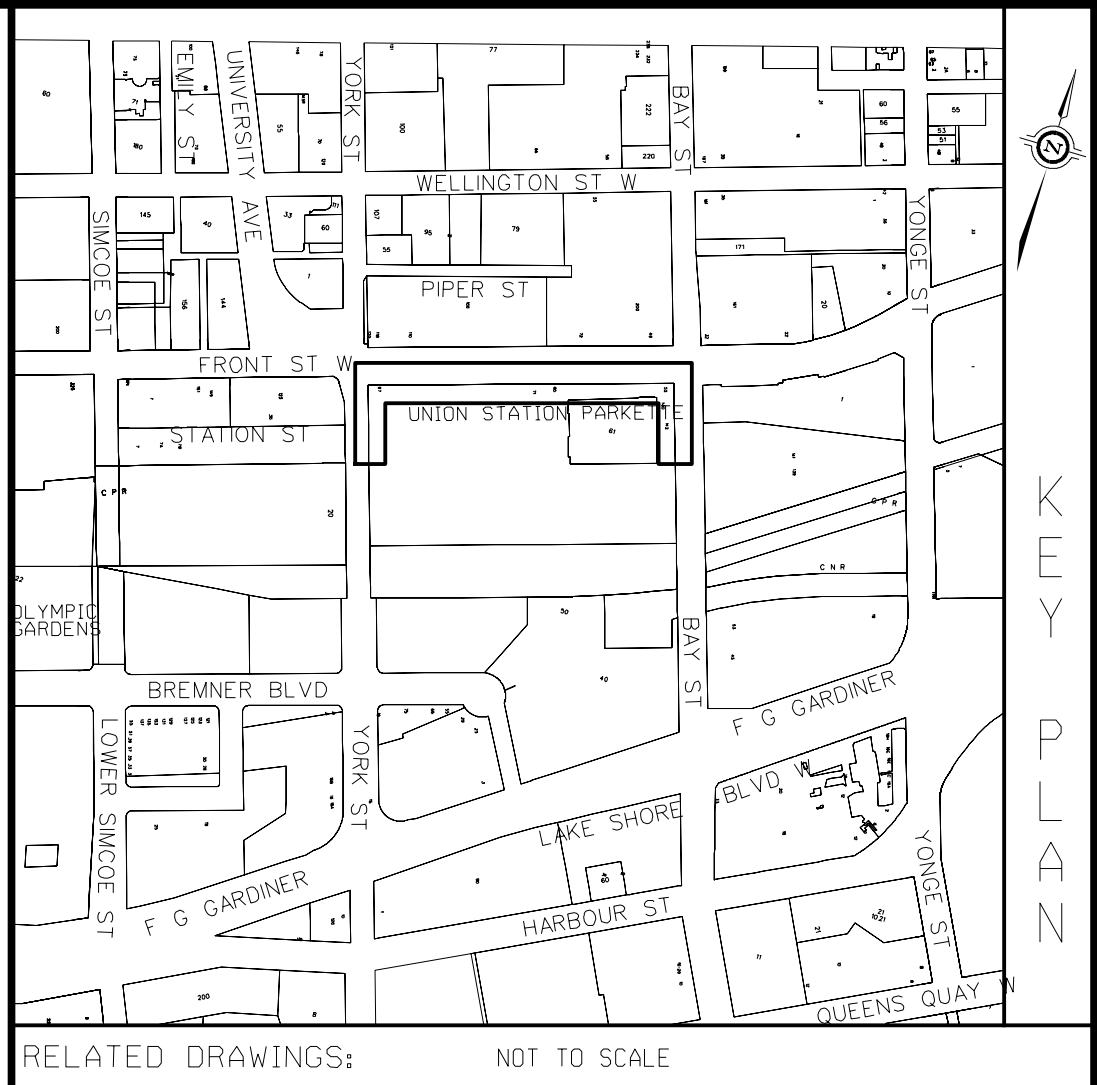
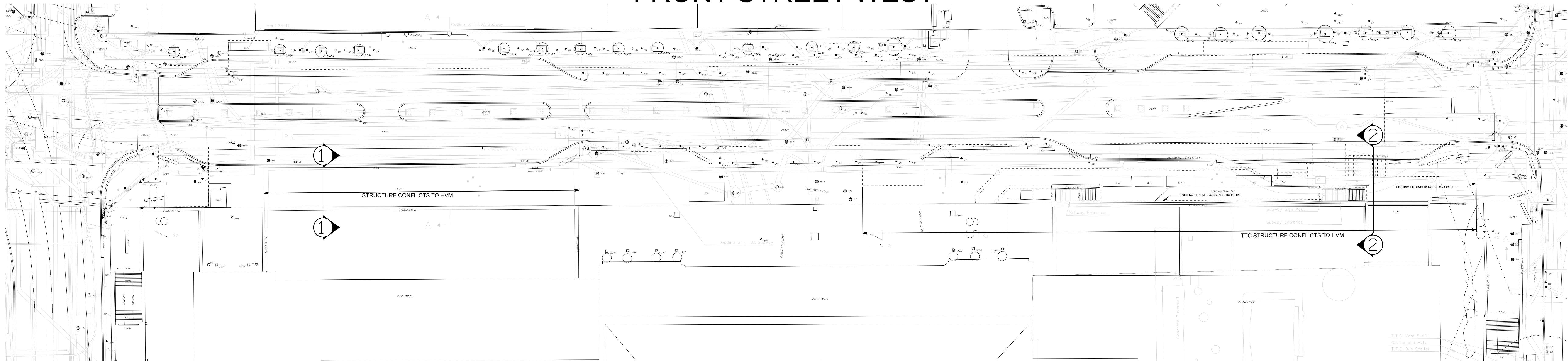
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Toronto Engineering & Construction Services

FRONT STREET WEST
FROM YORK STREET TO BAY STREET
HOSTILE VEHICLE MITIGATION FOR UNION STATION
SITE GRADING AND RESTORATION PLAN (SHEET 2 OF 2)

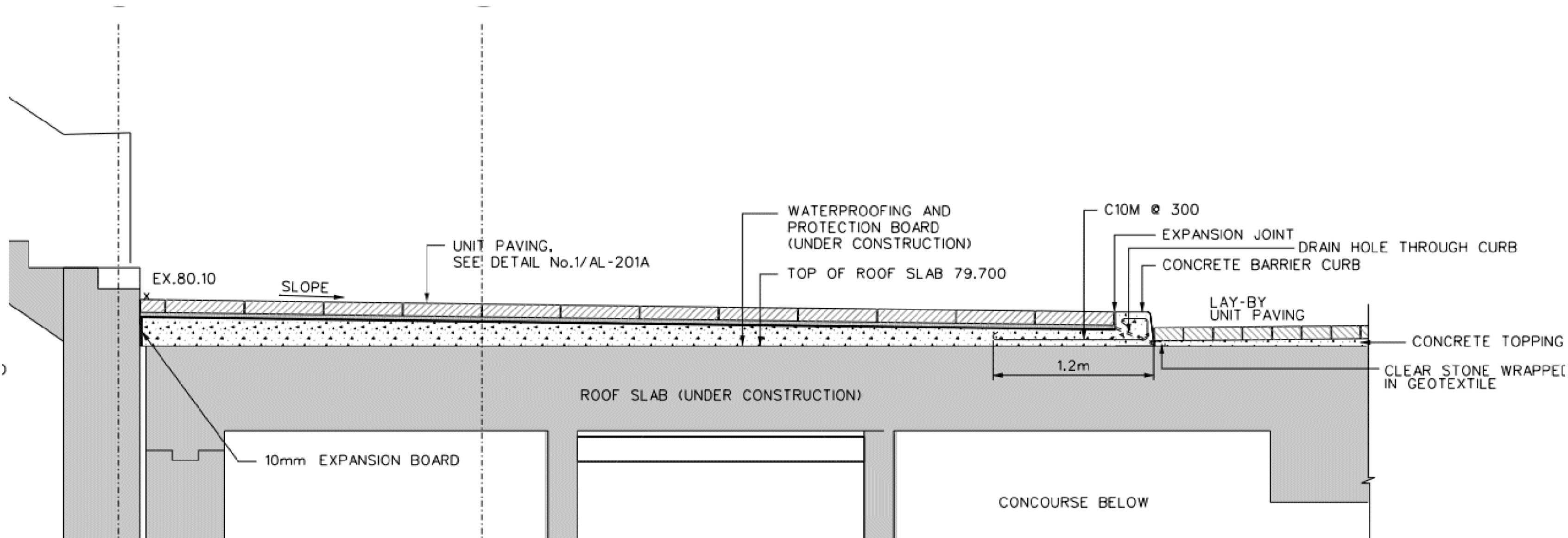
DESIGN	PL	DRAWN	JN	CHECKED	ARC	CONTRACT No. 6054585
SCALE	HORIZONTAL 1:200			DRAWING NUMBER	UHVM-C2023-09	
DATE	NOVEMBER, 2021					SHEET C-09

FRONT STREET WEST



SECTION 1-1

STRUCTURE CONFLICTS TO HVM
(SOURCE FROM CITY OF TORONTO FRONT ST. WALKWAY WATER PROOFING DRAWINGS)



SECTION 2-2

TTC STRUCTURE CONFLICTS TO HVM
(SOURCE FROM TTC AS-BUILT DRAWINGS)

- NOTES:
- FOR GENERAL NOTES REFER TO DRAWING 21-0000X-001.
 - THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE INDICATIVE ONLY. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION AND DEPTH IN THE FIELD.
 - DURING CONSTRUCTION TRAFFIC FLOW SHALL BE MAINTAINED IN ACCORDANCE TO THE APPROVED TTMP.

CONSULTANTS

Toronto Engineering & Construction Services

FRONT STREET WEST

FROM YORK STREET TO BAY STREET
HOSTILE VEHICLE MITIGATION FOR UNION STATION
STRUCTURE CONFLICTS OVERLAY

DESIGN	PL	DRAWN	JG	CHECKED	ARC	CONTRACT	Nc6054585
SCALE	HORIZONTAL 1:200			DRAWING	NUMBER		
DATE	NOVEMBER, 2021			UHV-M-C2023-10			SHEET C-10

U.G.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

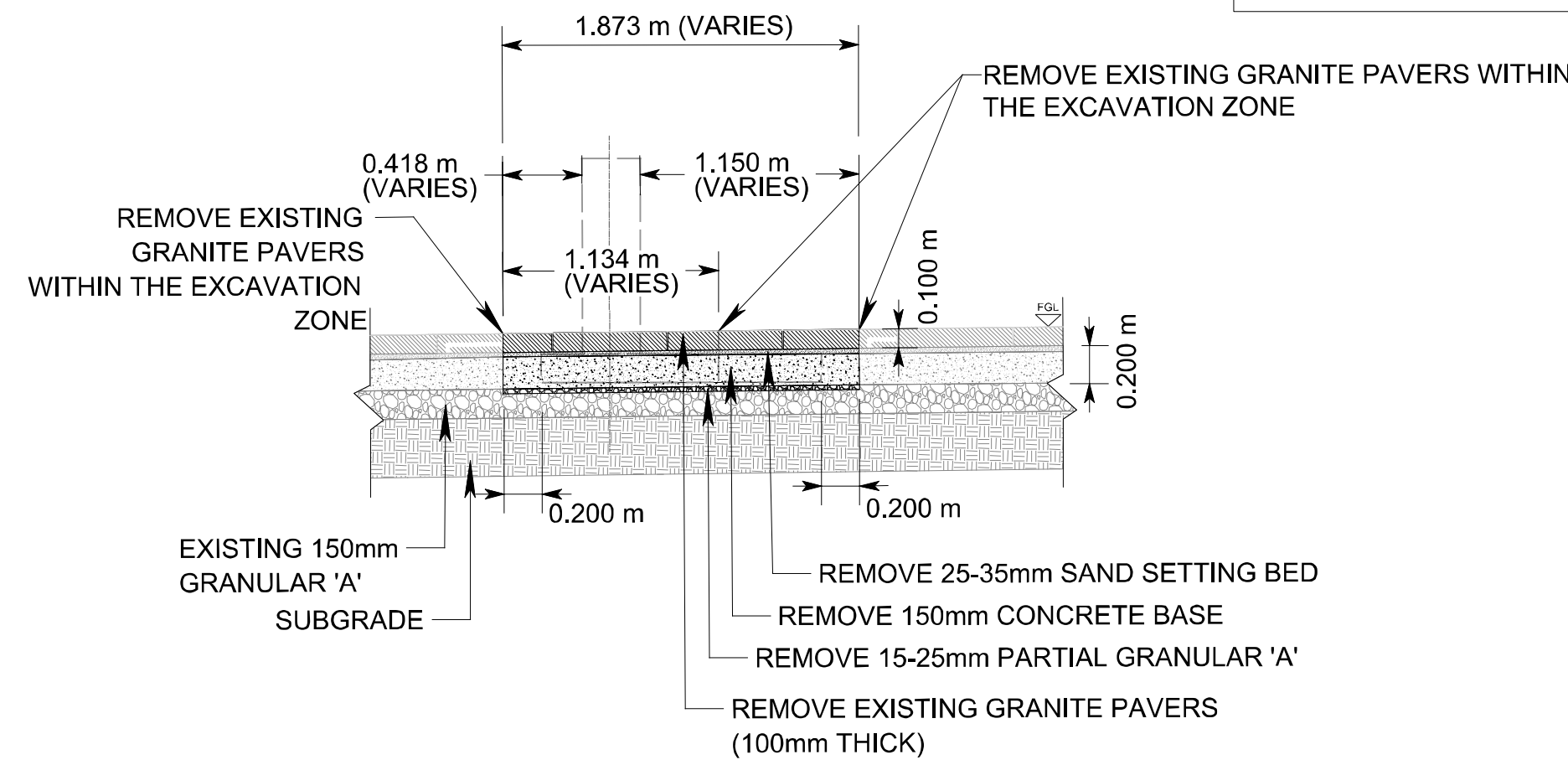
DESIGN 21-0000X-REM.dgn
SURVEY(2021) 21-0000X-SVY.dgn
MAPPING 21-0000X-TUP.dgn
STREETLINE 21-0000X-PSL.dgn

DIGITAL INFORMATION

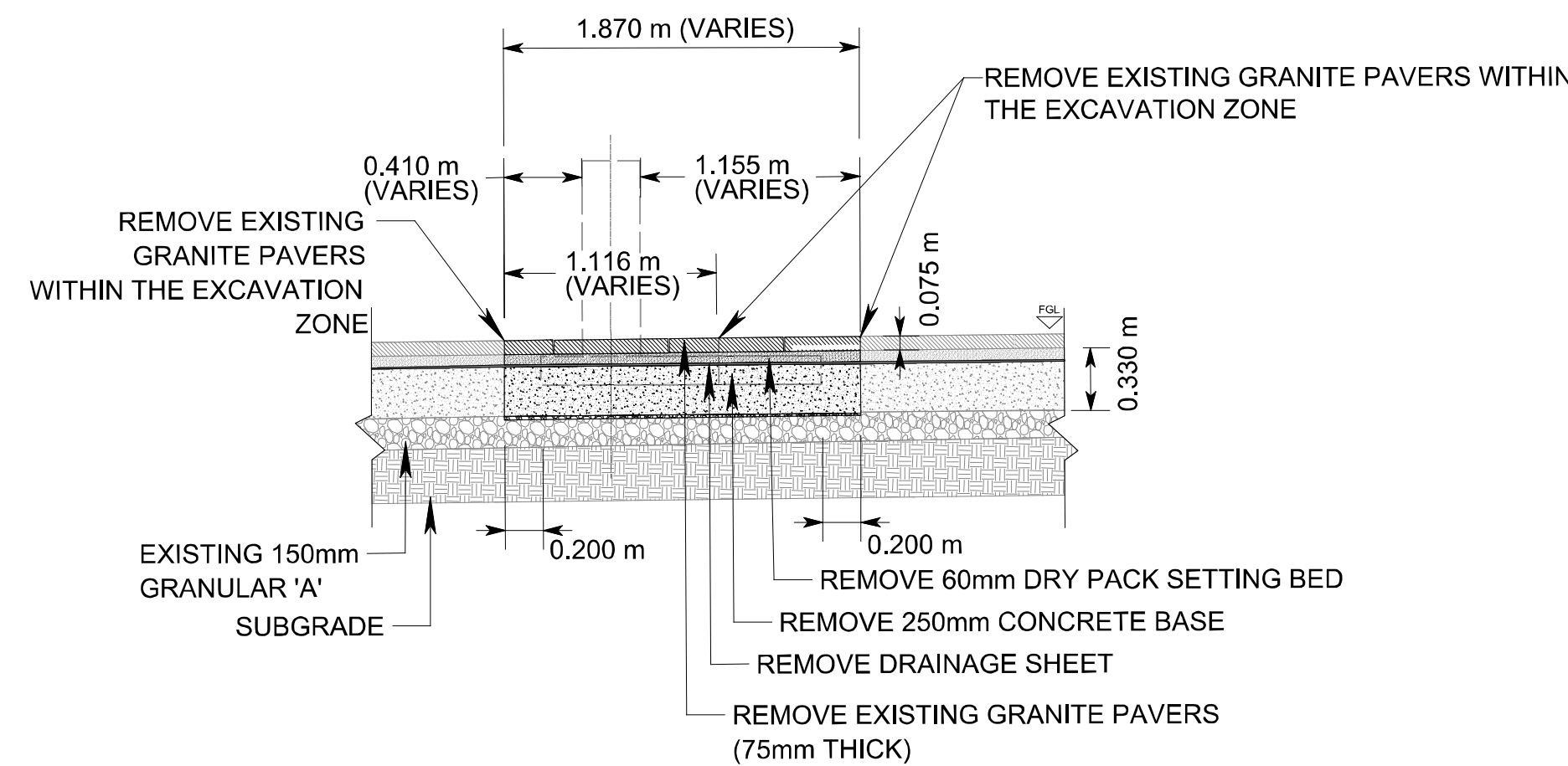
No. DATE REVISIONS INITIALS SIGNED

REMOVAL

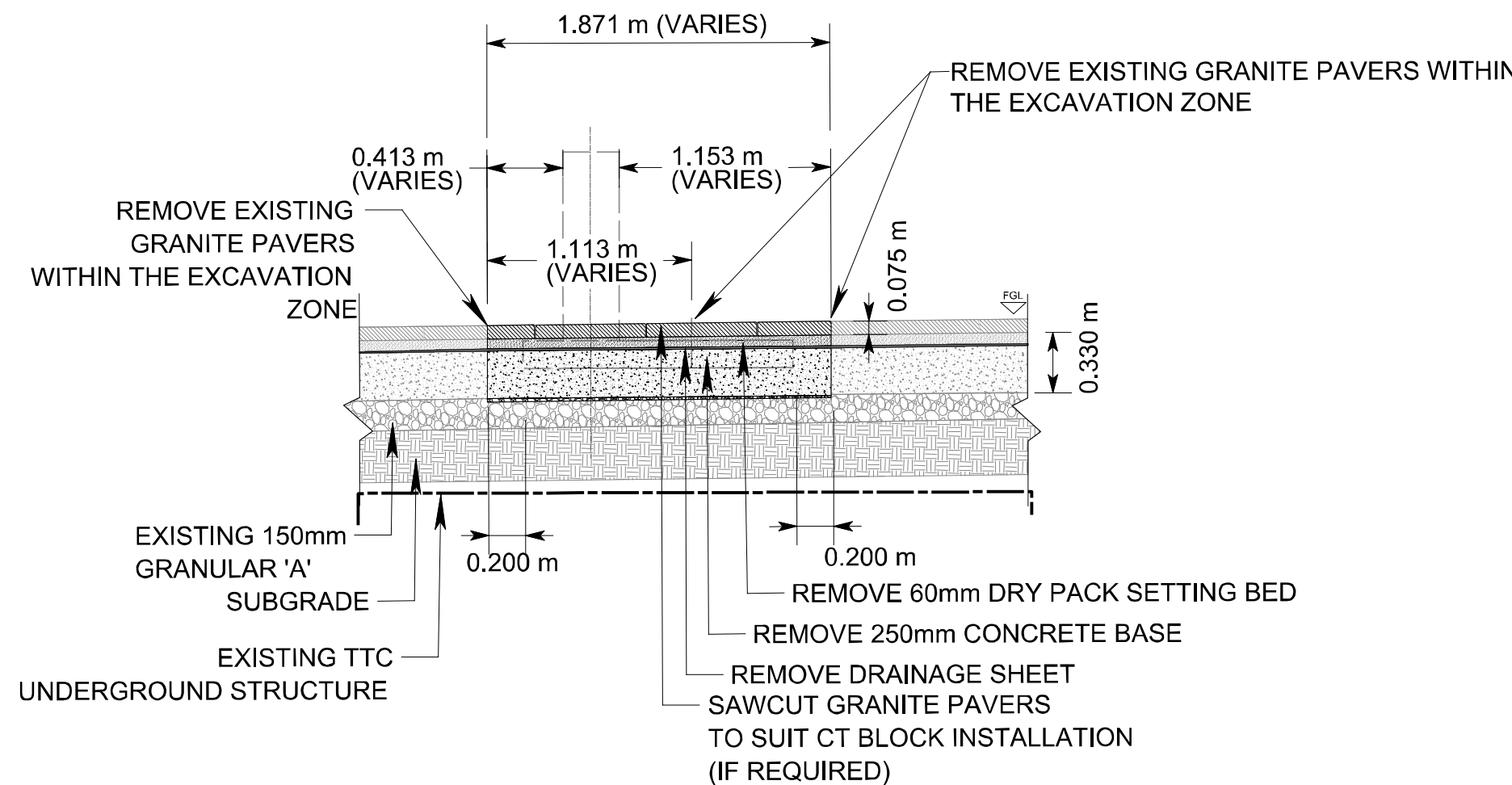
FOR DETAILS/
DIMENSIONS OF HVM
MEASURES REFER TO DJ
GOODE DRAWINGS



SECTION A-A
LOCATION OF SHALLOW BOLLARD
AT 100mm THICK GRANITE PAVERS

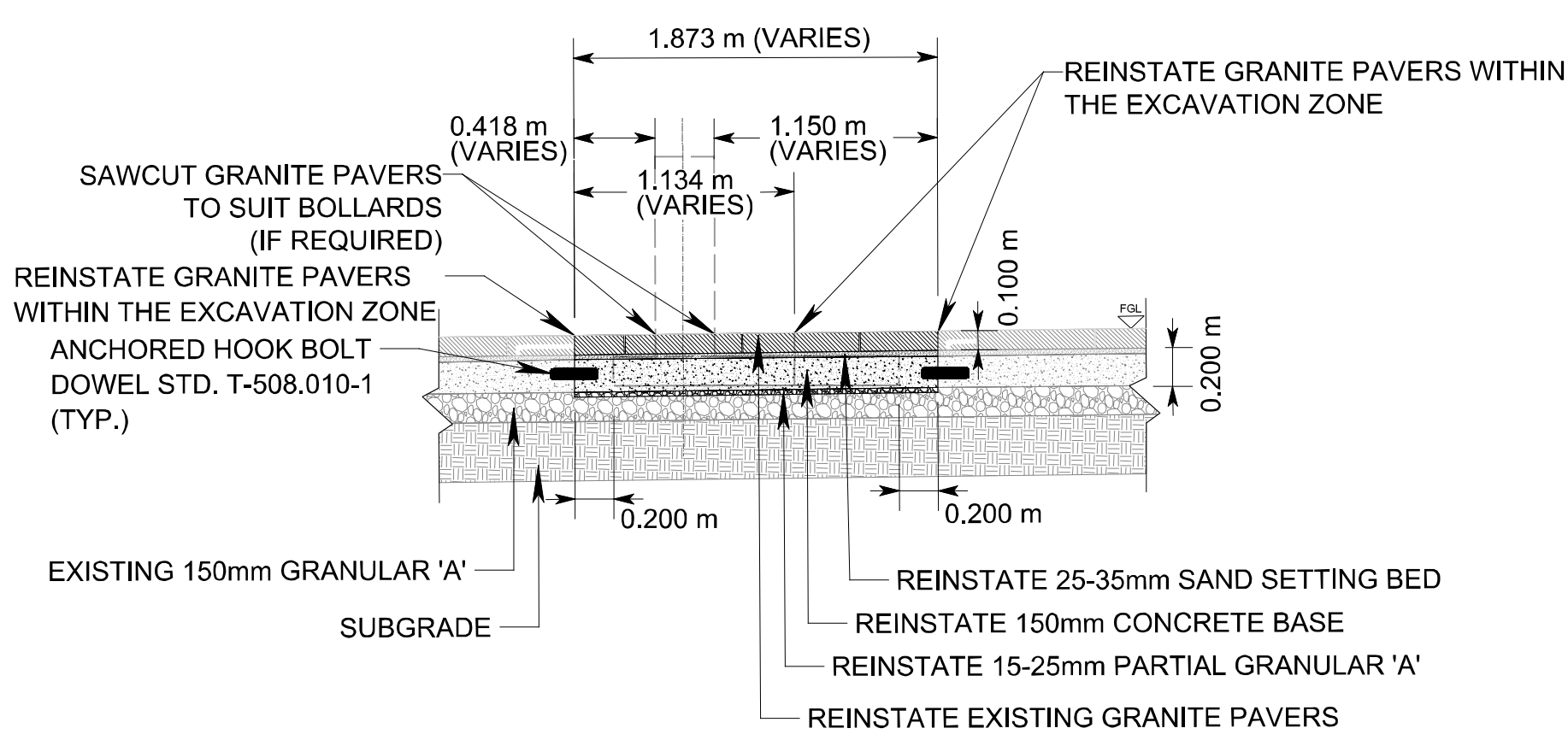


SECTION B-B
LOCATION OF SHALLOW BOLLARD
AT 75mm THICK GRANITE PAVERS

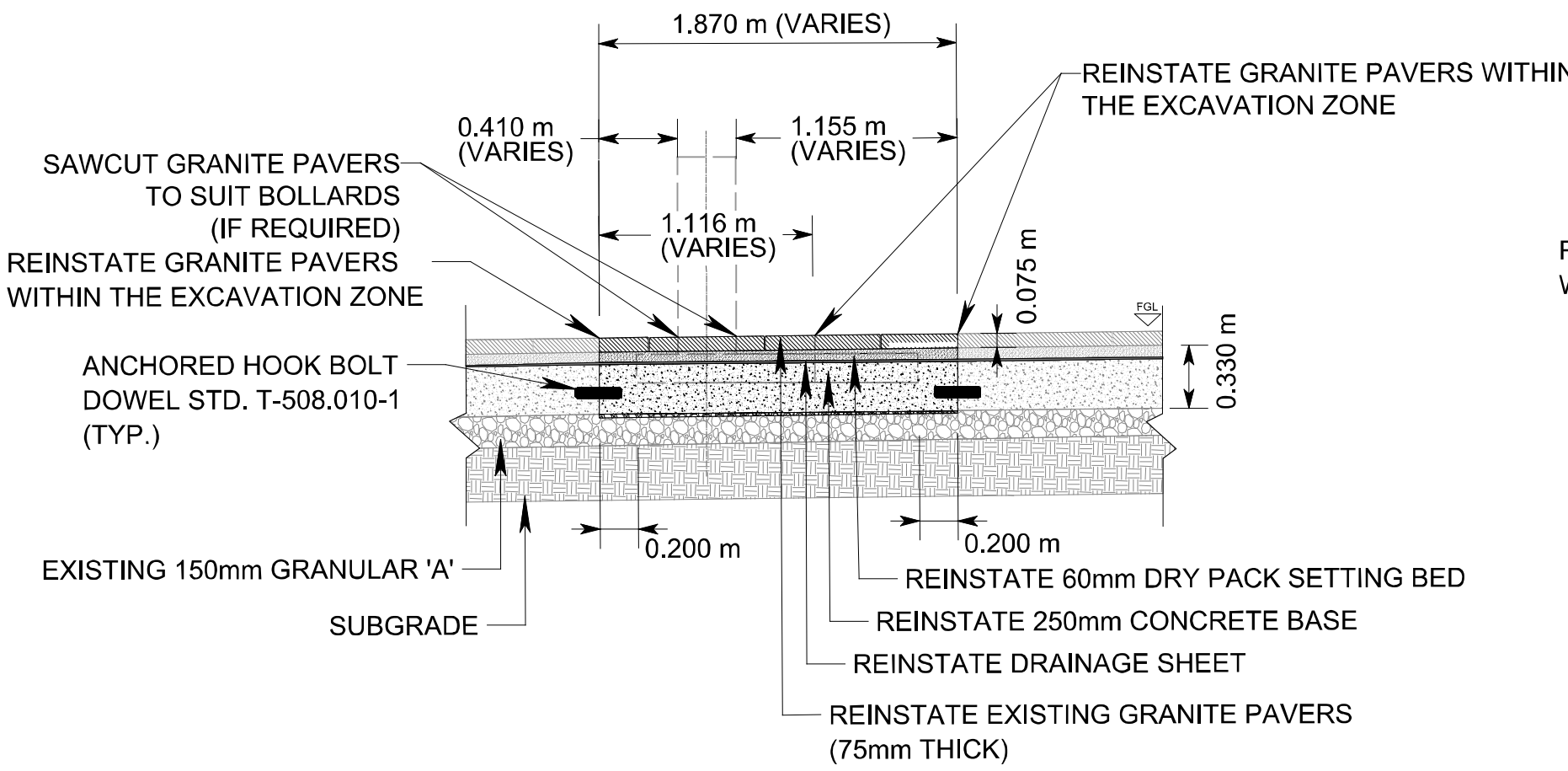


SECTION C-C
LOCATION OF SHALLOW BOLLARD
AT 75mm THICK GRANITE PAVERS

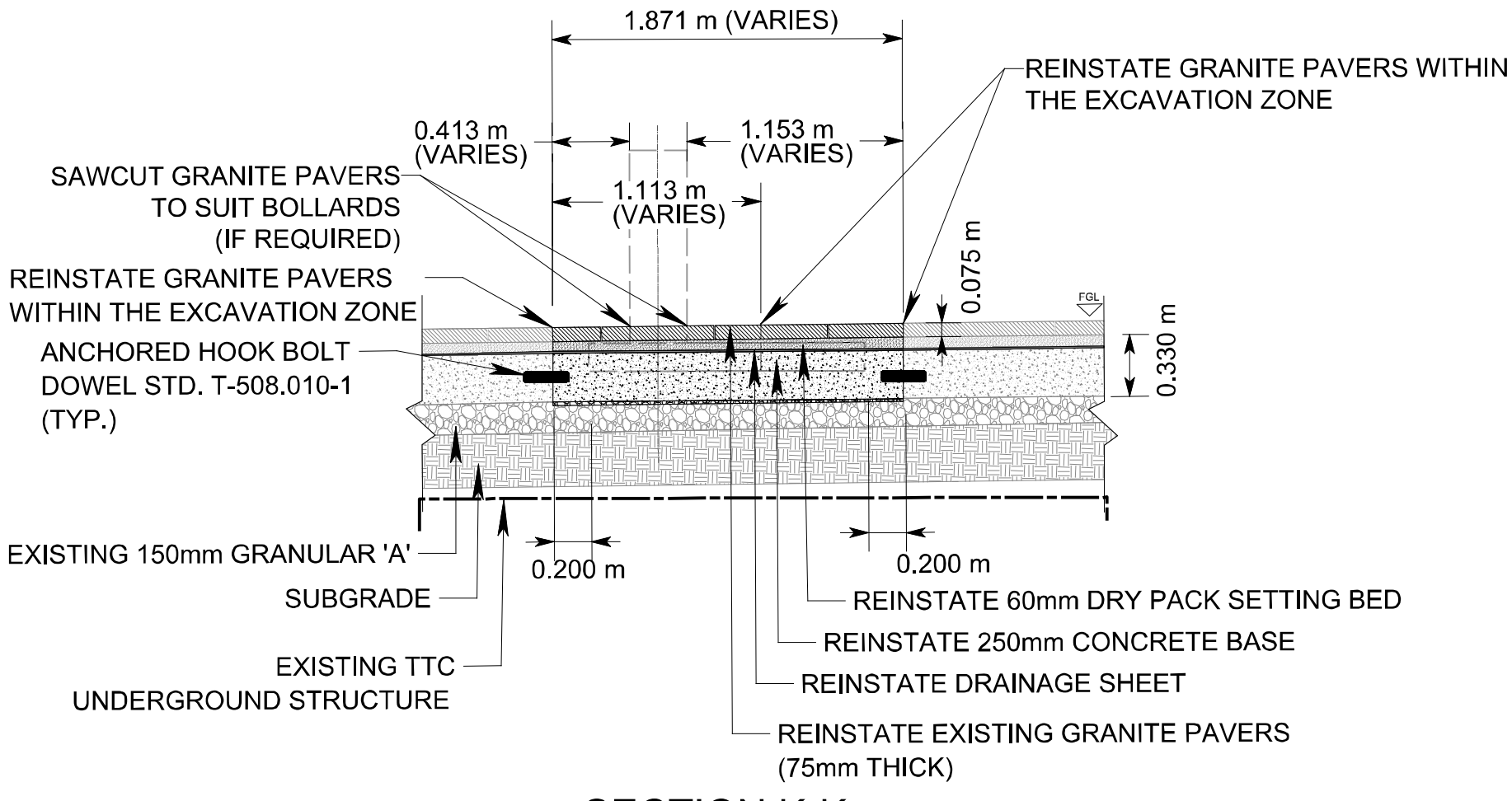
RESTORATION



SECTION I-I
LOCATION OF SHALLOW BOLLARD
AT 100mm THICK GRANITE PAVERS



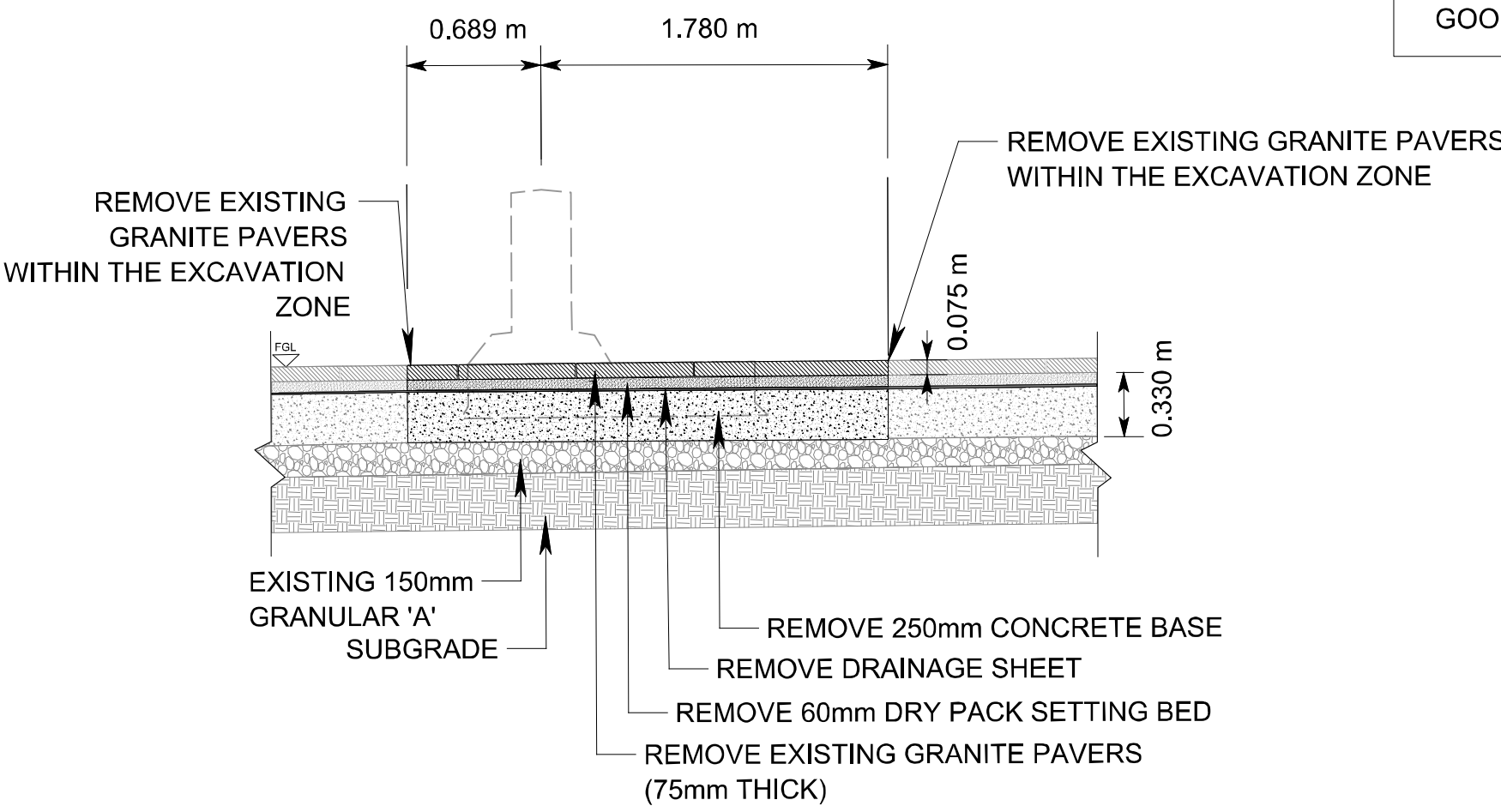
SECTION J-J
LOCATION OF SHALLOW BOLLARD
AT 75mm THICK GRANITE PAVERS



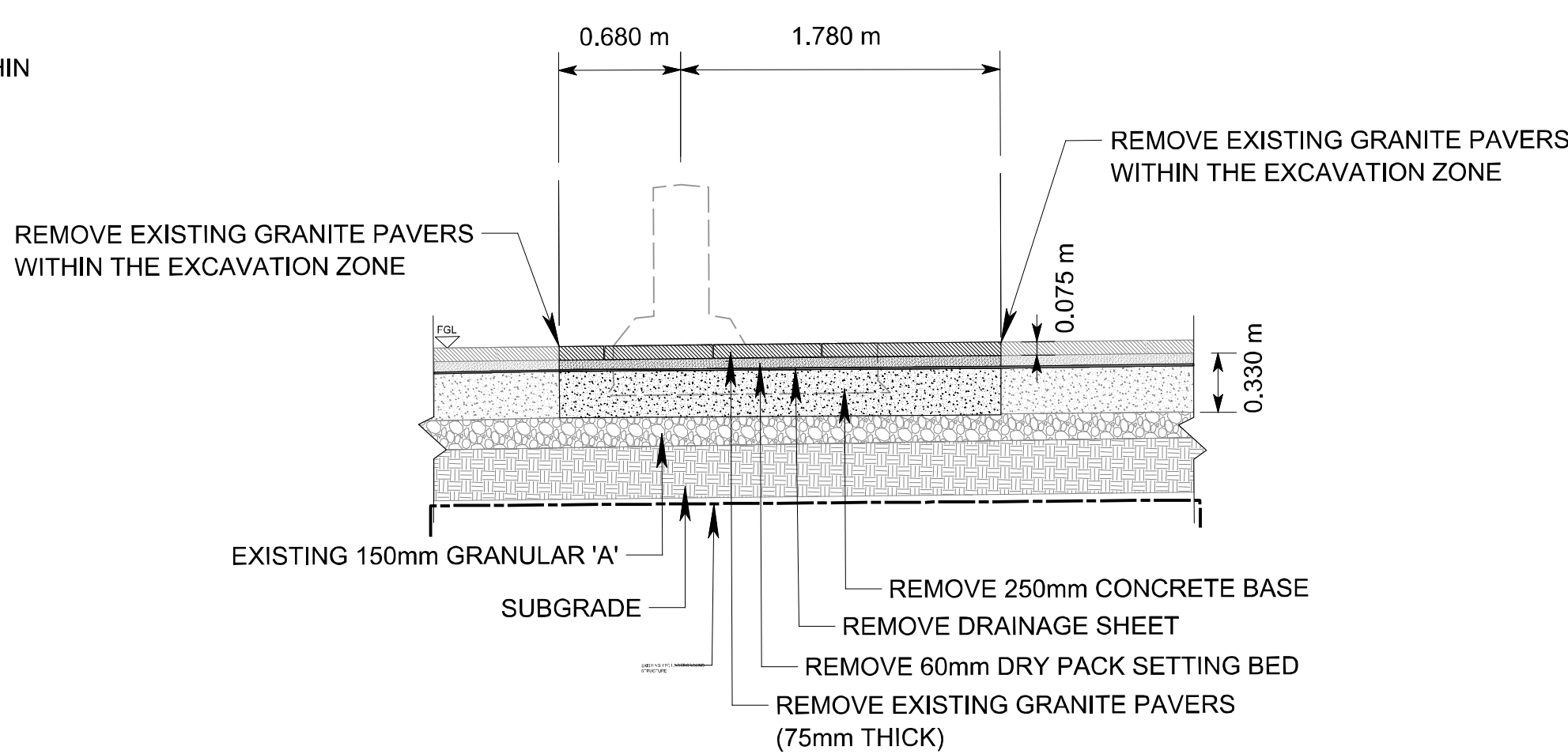
SECTION K-K
LOCATION OF SHALLOW BOLLARD
AT 75mm THICK GRANITE PAVERS

REMOVAL

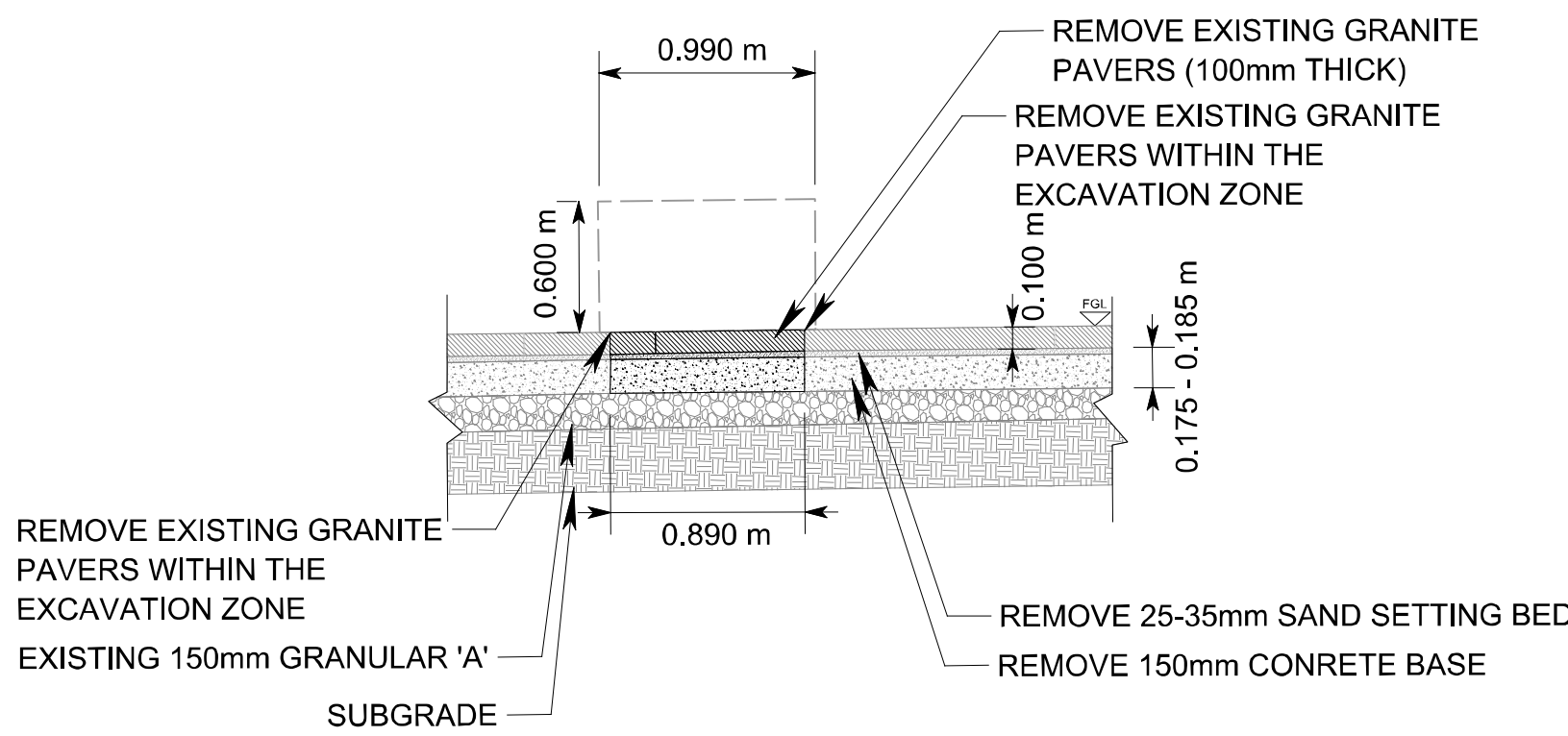
FOR DETAILS/
DIMENSIONS OF HVM
MEASURES REFER TO DJ
GOODE DRAWINGS



SECTION D-D
LOCATION OF MATADOR GATE AT
75mm THICK GRANITE PAVERS

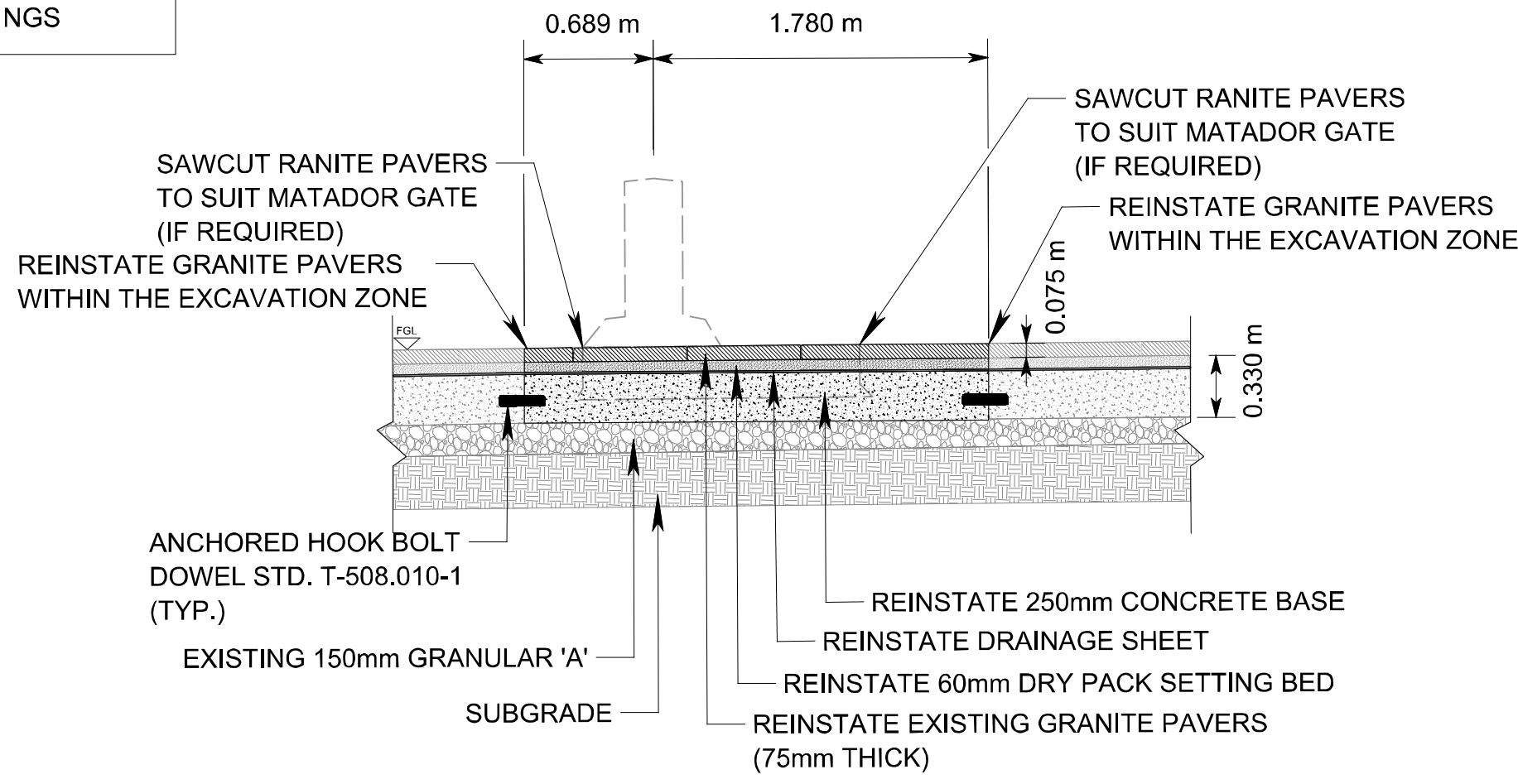


SECTION E-E
LOCATION OF MATADOR GATE AT
75mm THICK GRANITE PAVERS

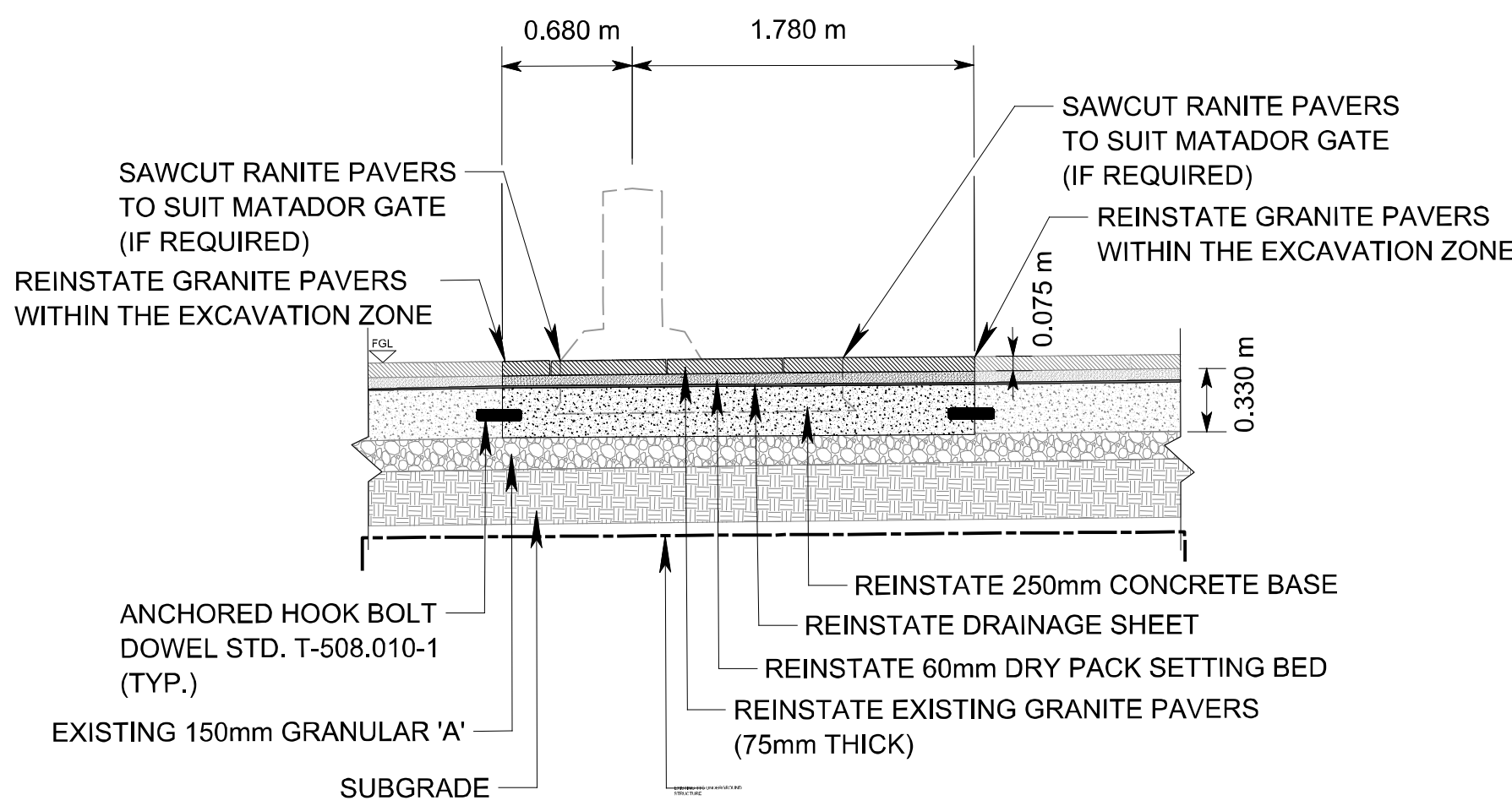


SECTION F-F
LOCATION OF TOWNSCAPE CT BLOCK
100mm THICK GRANITE PAVERS

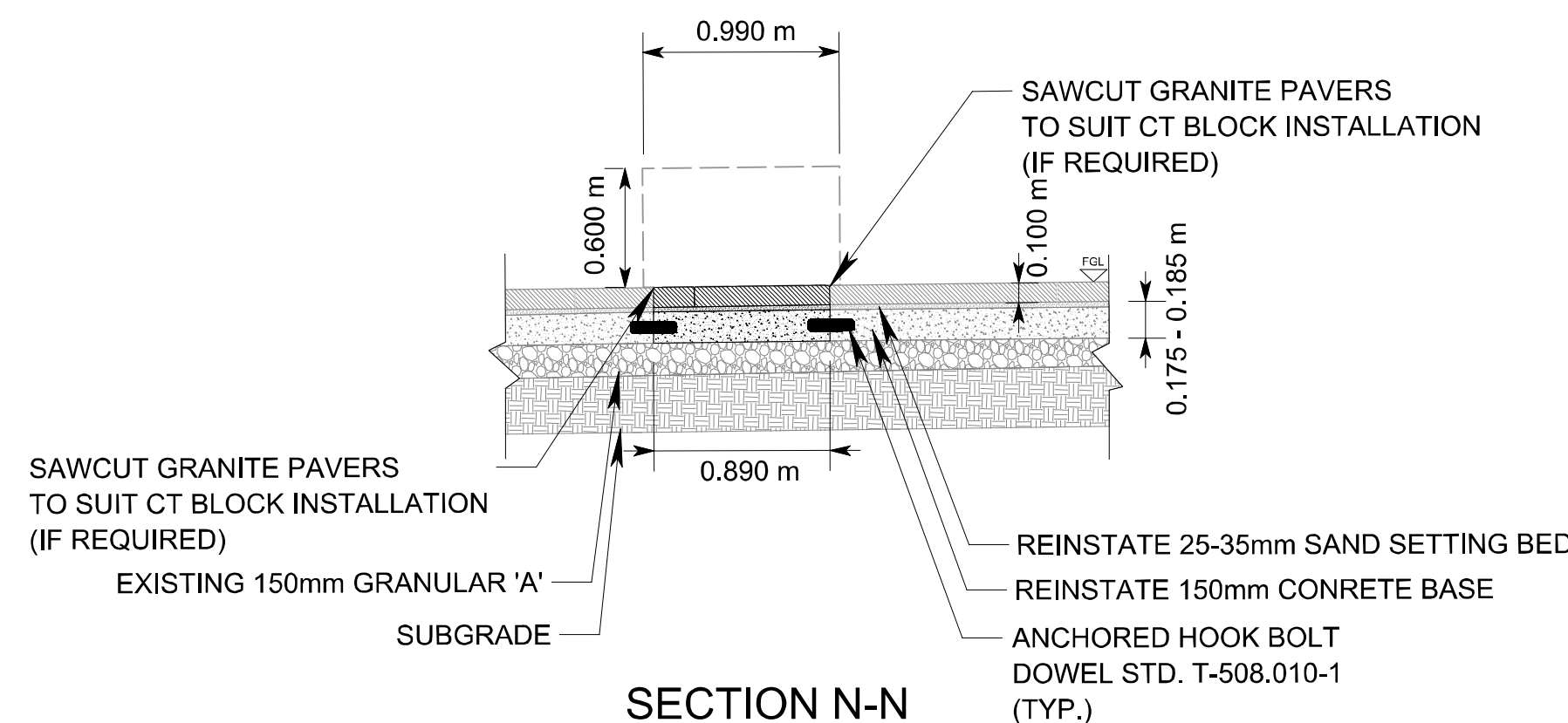
RESTORATION



SECTION L-L
LOCATION OF MATADOR GATE AT
75mm THICK GRANITE PAVERS



SECTION M-M
LOCATION OF MATADOR GATE AT
75mm THICK GRANITE PAVERS



SECTION N-N
LOCATION OF TOWNSCAPE CT BLOCK
100mm THICK GRANITE PAVERS

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

DETAILS	DIGITAL INFORMATION
21-0000X-ARCH-DET.dgn	

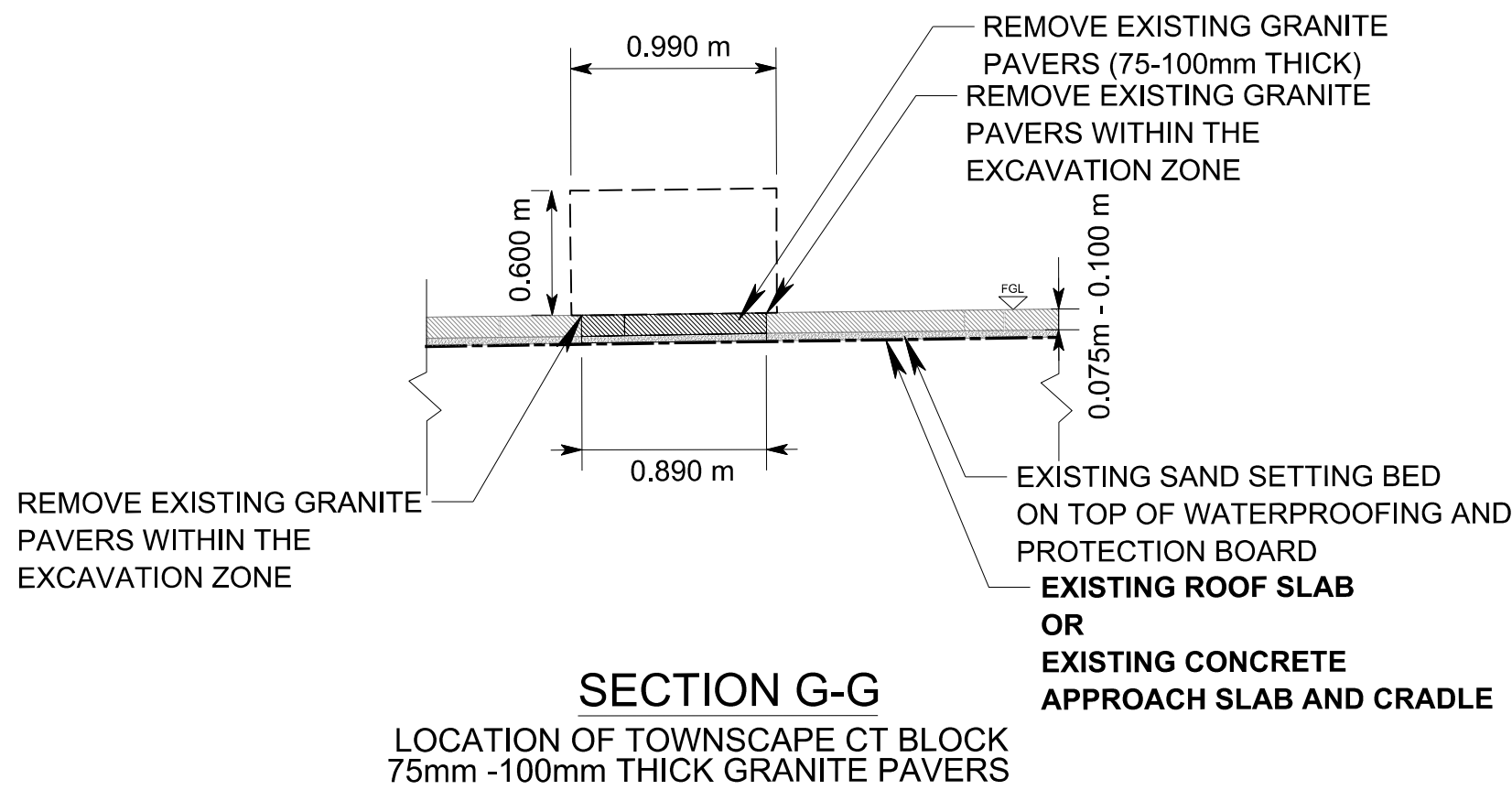
No.	DATE	REVISIONS	INITIAL	SIGNED

Toronto Engineering & Construction Services			

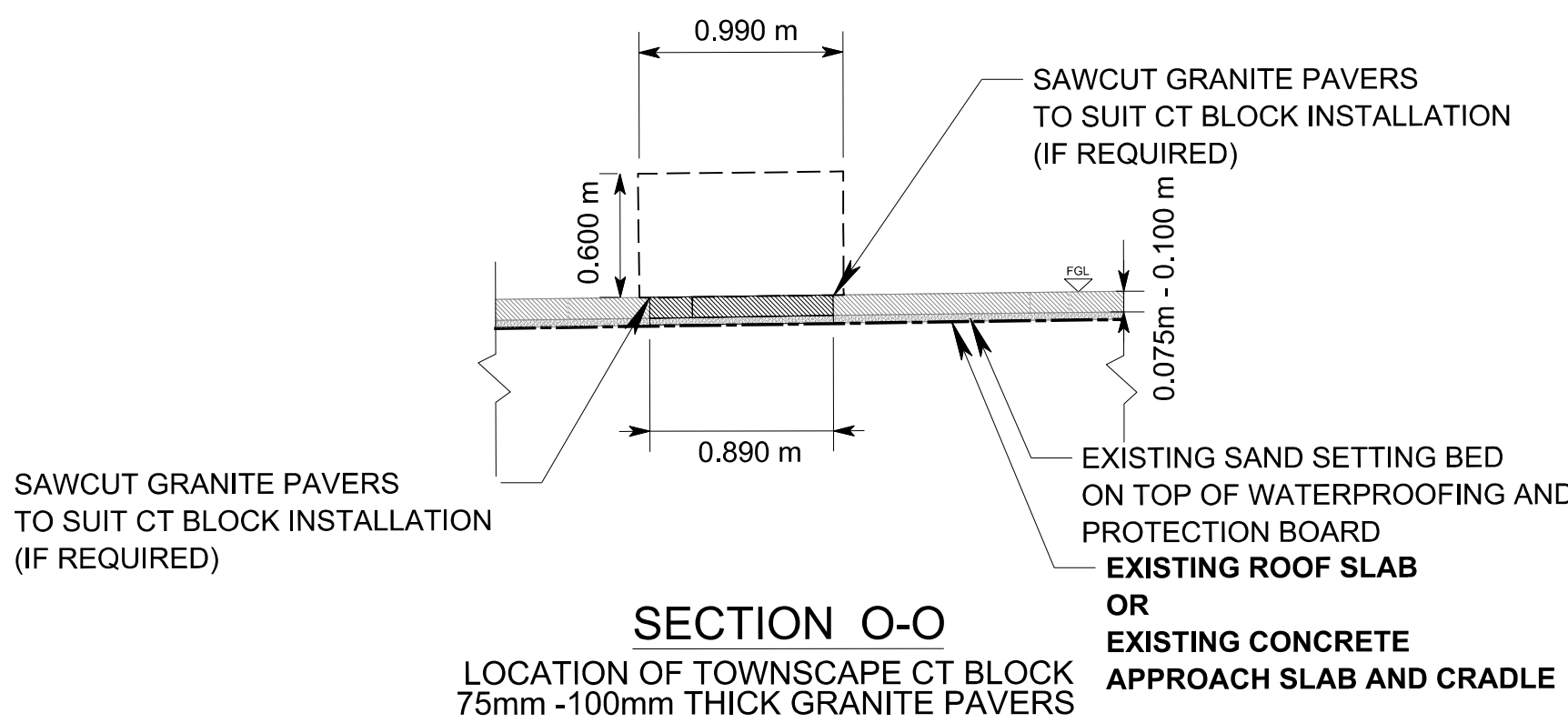
CONSULTANTS			
FRONT STREET WEST FROM YORK STREET TO BAY STREET HOSTILE VEHICLE MITIGATION FOR UNION STATION TYPICAL SECTIONS (SHEET 1 OF 2)			
DESIGN	PL	DRAWN	JG
SCALE	HORIZONTAL 1:20		
DATE	OCTOBER, 2021		
CHECKED	ARC	CONTRACT No.	6054585
DRAWING NUMBER	UHVM-C2023-11		
SHEET	C-11		

REMOVAL

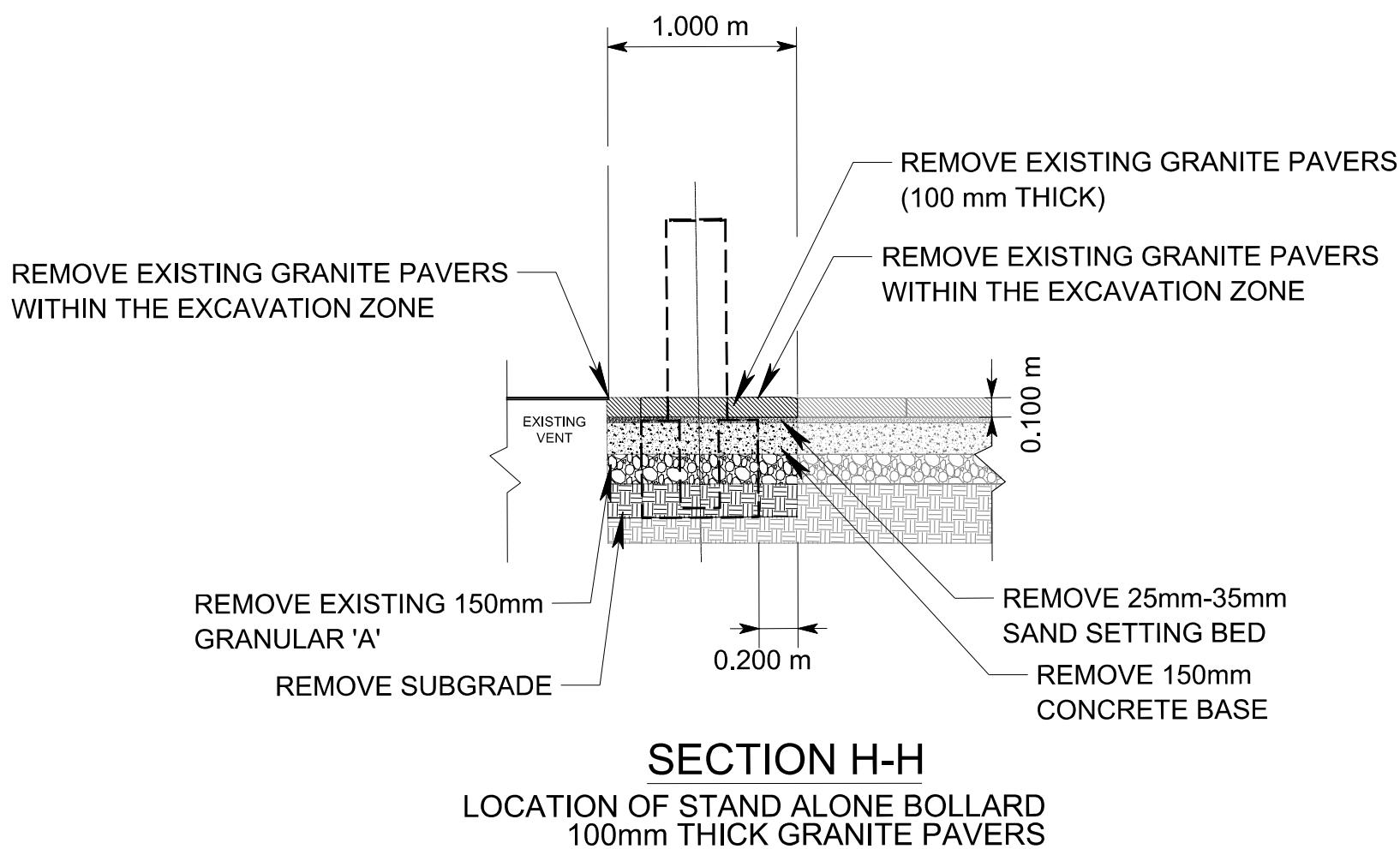
FOR DETAILS/
DIMENSIONS OF HVM
MEASURES REFER TO DJ
GOODE DRAWINGS



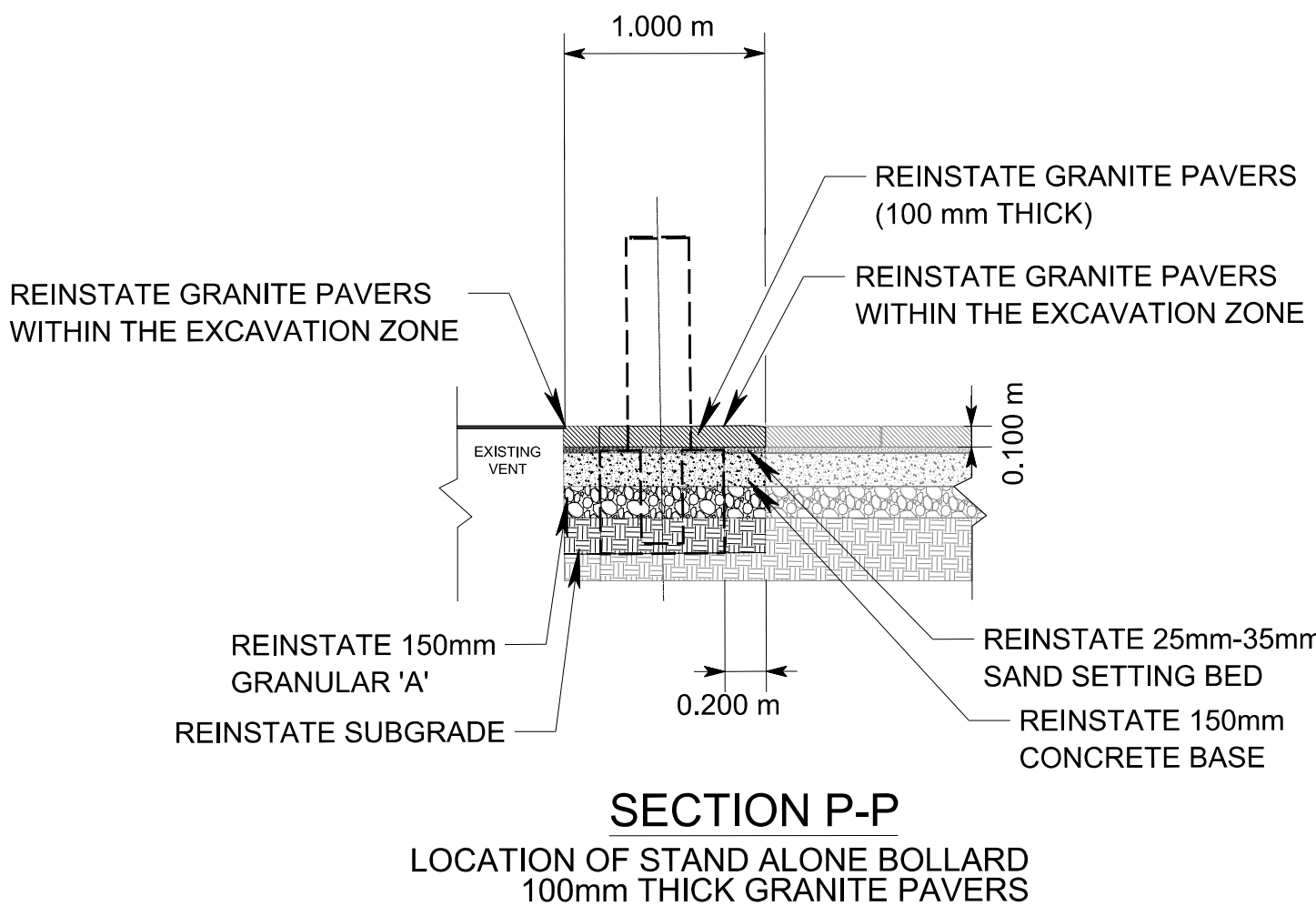
RESTORATION



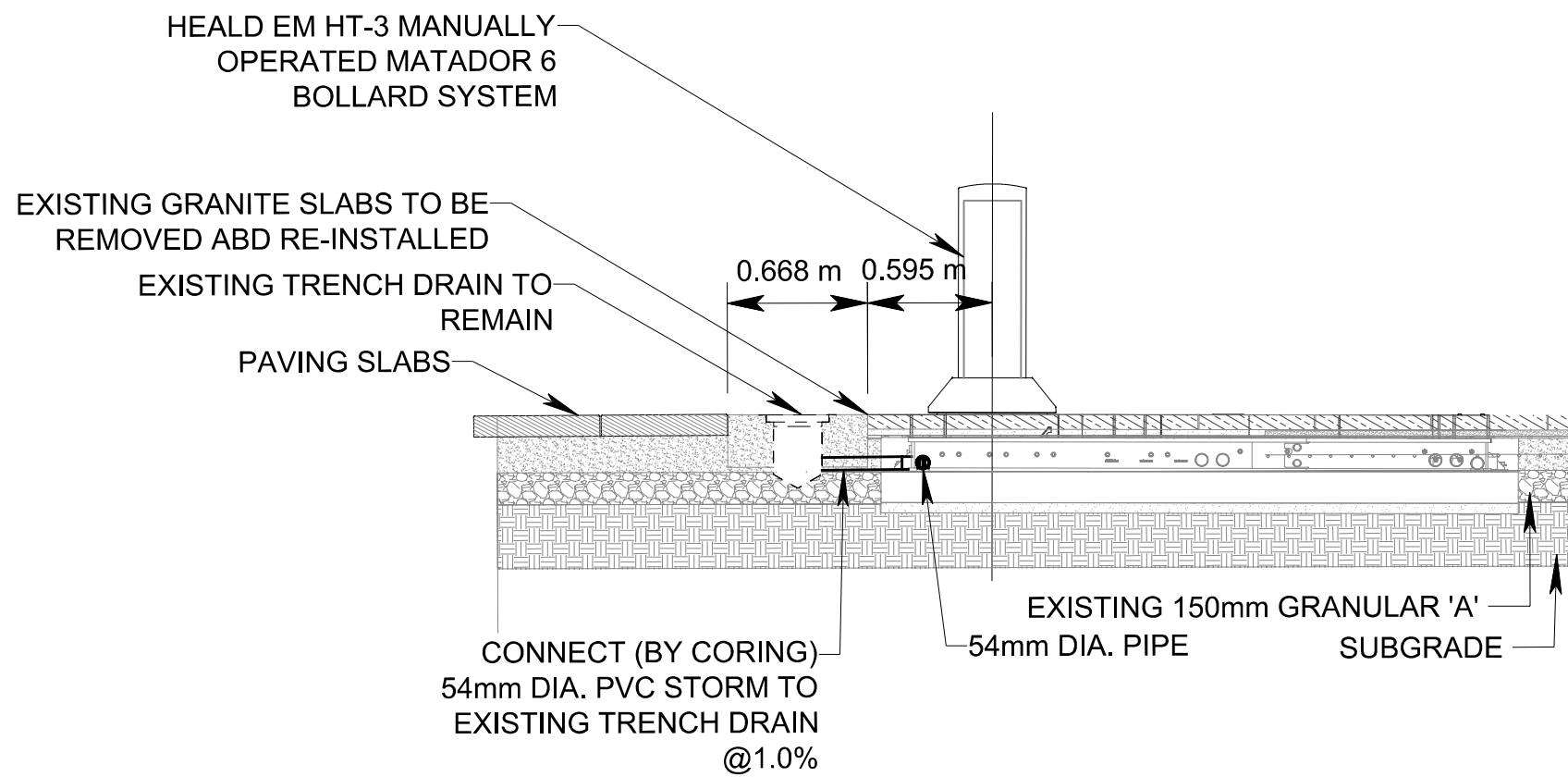
REMOVAL



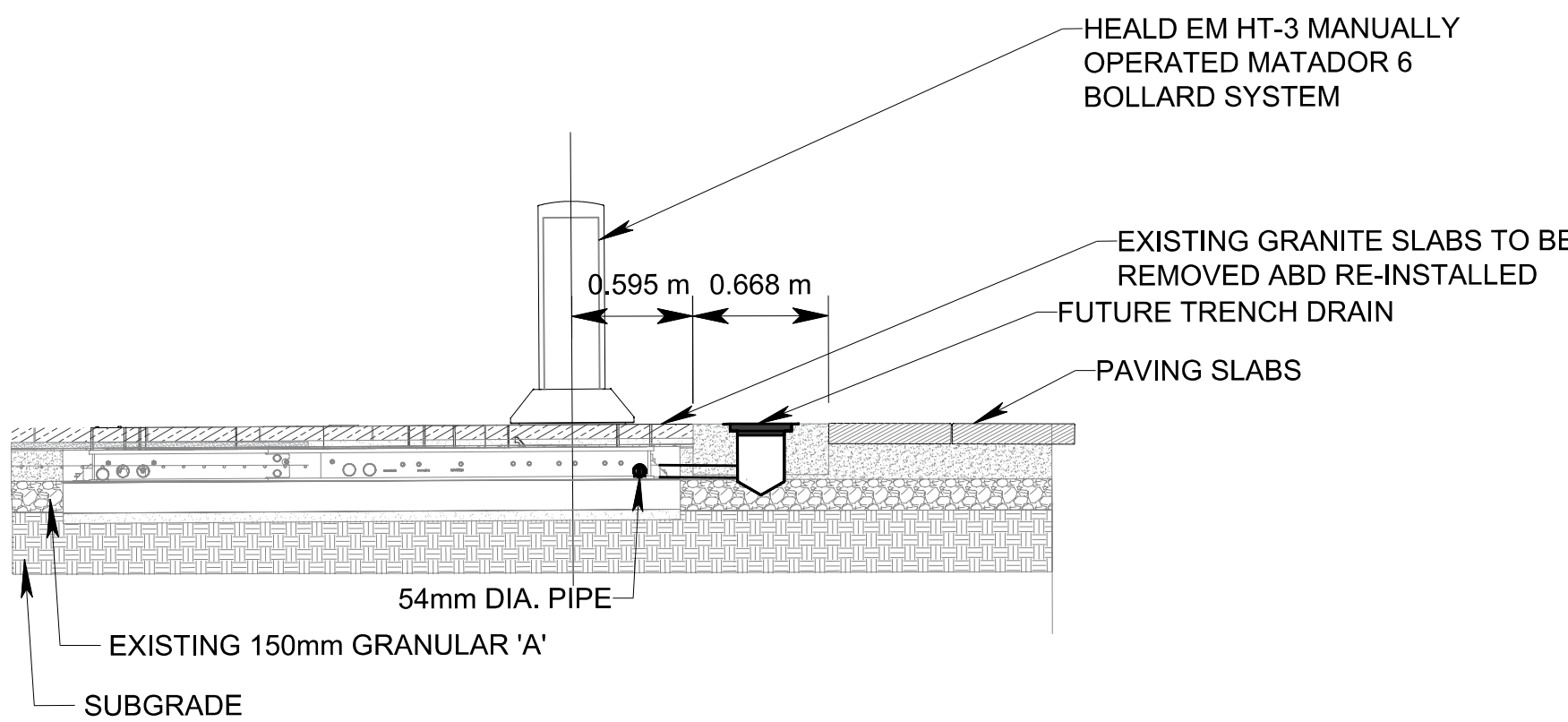
RESTORATION



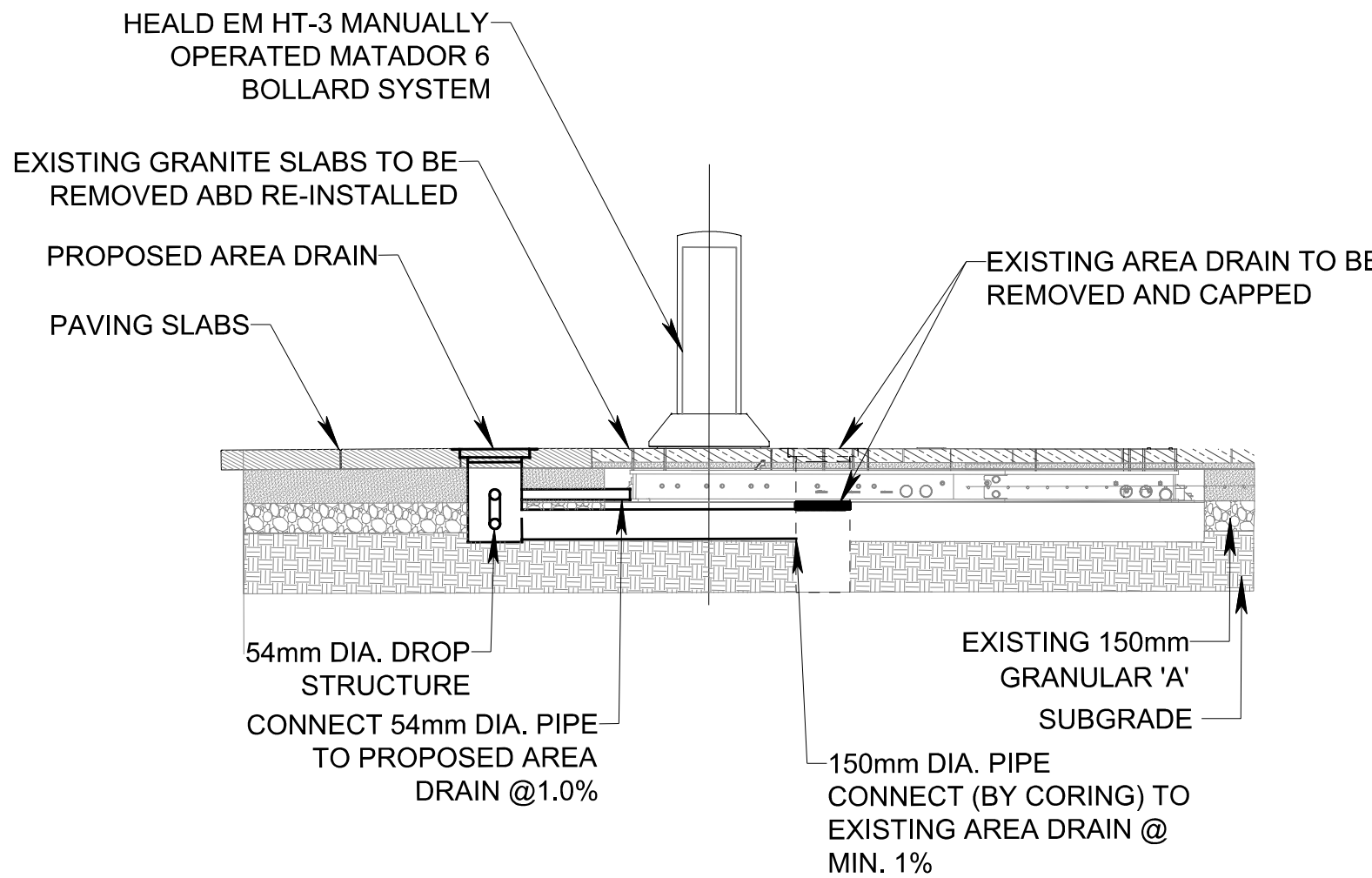
STORM DRAINAGE CONNECTION SECTIONS



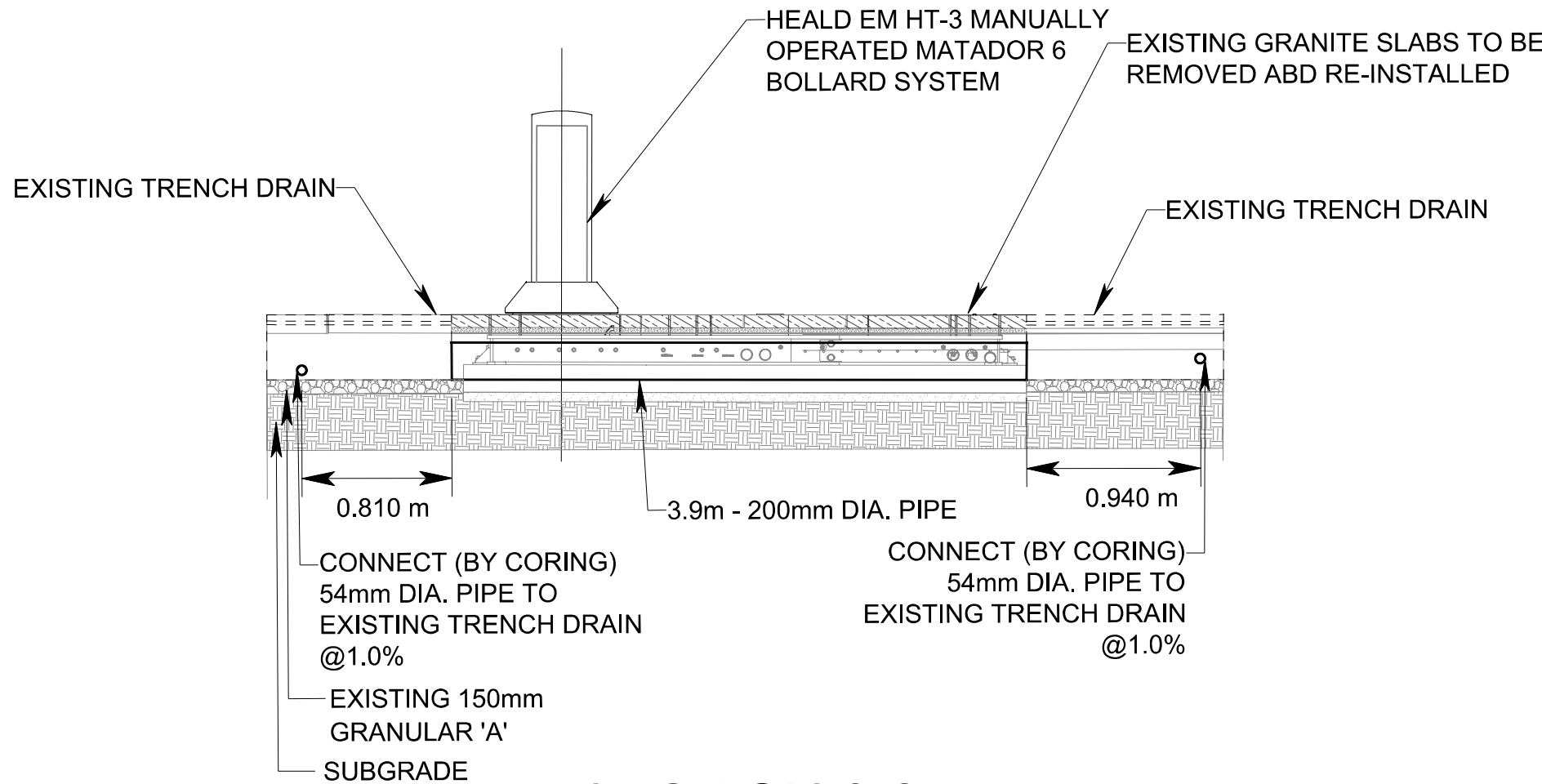
SECTION 3-3
SCALE 1:20



SECTION 4-4
SCALE 1:20



SECTION 5-5
SCALE 1:20



SECTION 6-6
SCALE 1:20

H.C.M. STATION	EASTING	NORTHING	ELEVATION
B.M. STATION			
HORIZONTAL \ VERTICAL CONTROL MONUMENTS			

DETAILS	21-0000X-ARCH-DET.dgn
DIGITAL INFORMATION	

No.	DATE	REVISIONS	INITIAL	SIGNED

Toronto Engineering & Construction Services			

<div>-----</div> <div>CONSULTANTS</div>							
<div>FRONT STREET WEST</div> <div>FROM YORK STREET TO BAY STREET</div> <div>HOSTILE VEHICLE MITIGATION FOR UNION STATION</div> <div>TYPICAL SECTIONS(SHEET 2 OF 2)</div>							
DESIGN	PL	DRAWN	JG	CHECKED	ARC	CONTRACT No. 6054585	
SCALE	HORIZONTAL 1:20			DRAWING NUMBER	UHVM-C2023-12		SHEET
DATE	OCTOBER, 2021						C-12