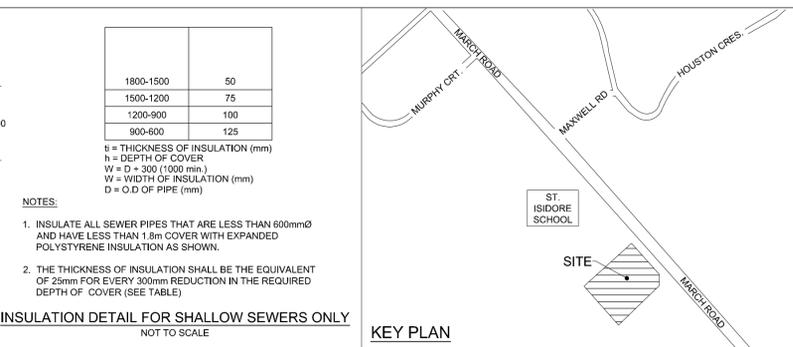
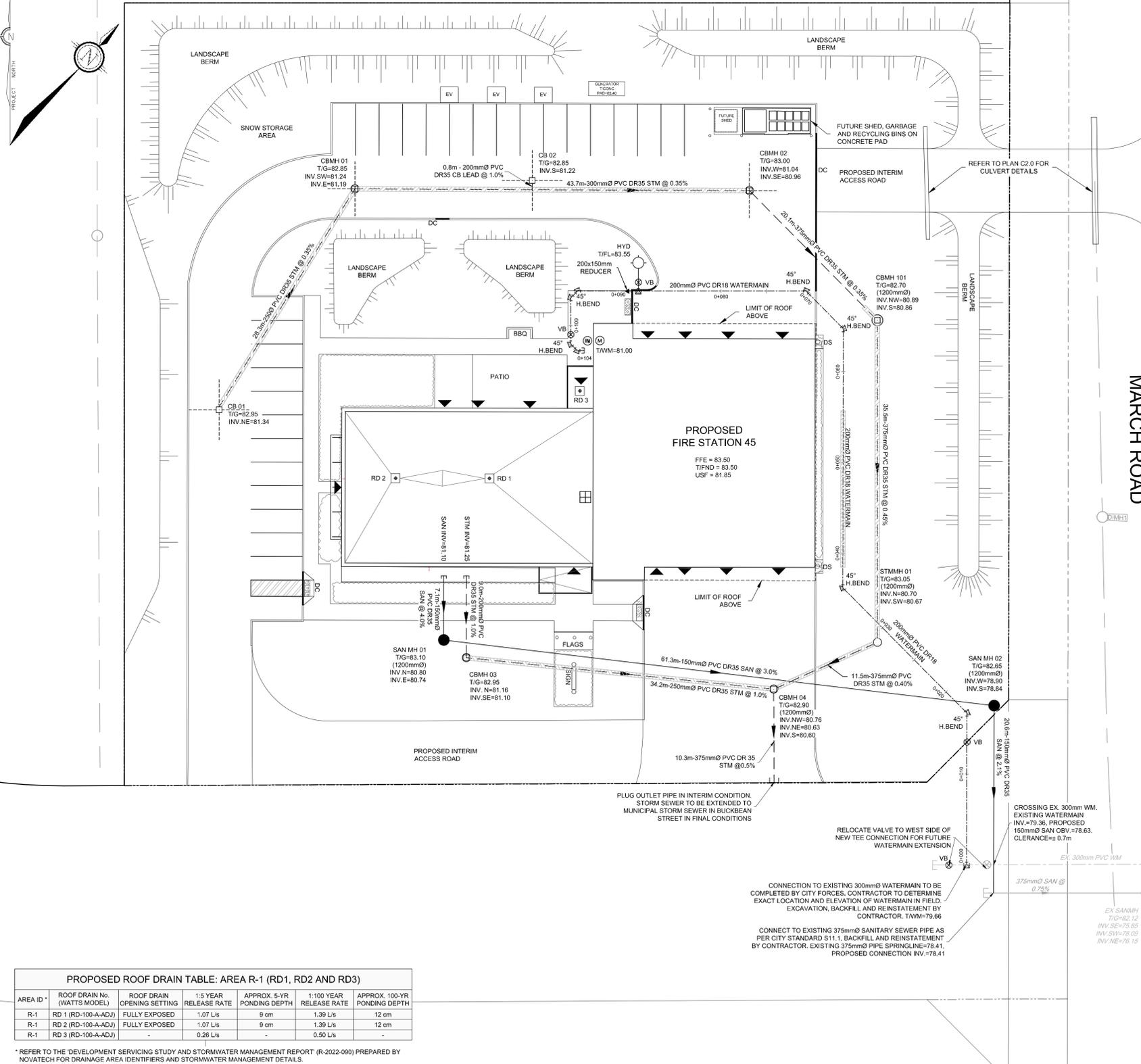
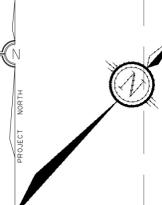
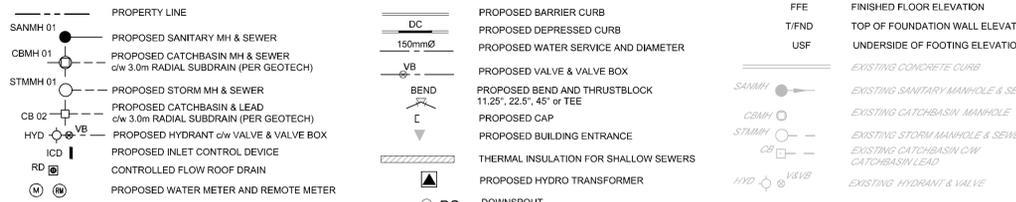


**LEGEND**



- GENERAL NOTES:**
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
  - DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
  - OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
  - BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
  - COMPLETE ALL WORKS IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS USING THE CURRENT GUIDELINES, BYLAWS AND STANDARDS INCLUDING MATERIALS OF CONSTRUCTION, DISINFECTION AND ALL RELEVANT REFERENCES TO OPS, OPSD & AWWA GUIDELINES - ALL CURRENT VERSIONS AND AS AMENDED.
  - RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF MUNICIPAL AUTHORITIES.
  - REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
  - ALL ELEVATIONS ARE GEODETIC.
  - REFER TO GEOTECHNICAL INVESTIGATION REPORT (Ref No.: PG5321-1, DATED JAN 20, 2021) PREPARED BY PATERSON GROUP INC. FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
  - REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
  - REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2022-090) PREPARED BY NOVATECH.
  - SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
- SEWER NOTES:**
- SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND AS AMENDED.
  - SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
STORM/SANITARY MANHOLE (12000)	701.010	OPSD
STORM/CATCHBASIN MANHOLE (15000)	701.011	OPSD
STORM/CBMH FRAME AND COVER	401.010 - TYPE 'B'	OPSD
SANITARY MANHOLE FRAME AND COVER	401.010 - TYPE 'A'	OPSD
WATERTIGHT MANHOLE FRAME AND COVER	401.030	OPSD
CATCHBASIN MH FRAME & COVER	401.010 Type 'B'	OPSD
CATCHBASIN (600/600)	705.010	OPSD
CATCHBASIN FRAME & COVER	S19	CITY OF OTTAWA
SEWER TRENCH	S6	CITY OF OTTAWA
STORM SEWER	PVC DR 35 (450mmØ PIPE AND SMALLER)	CITY OF OTTAWA
SANITARY SEWER	HOPE BOSS 2000 (600mmØ PIPE AND LARGER)	CITY OF OTTAWA
PVC DR 35	PVC DR 35	CITY OF OTTAWA

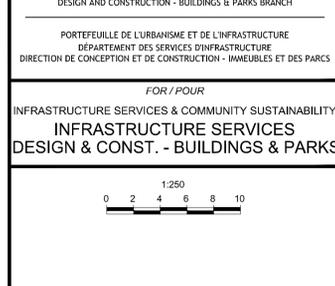
- THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH BACKFLOW PREVENTERS WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14.1 OR S14.2. REFER TO MECHANICAL PLANS FOR DETAILS.
- THE STORM SERVICE LATERAL SHALL BE EQUIPPED WITH A BACKFLOW PREVENTER WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14. REFER TO MECHANICAL PLANS FOR DETAILS.
- SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
- PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
- INSULATE ALL PIPES (SAN / STM) THAT HAVE LESS THAN 1.5m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
- CONCRETE MANHOLES ARE TO BE 1200mmØ STRUCTURES UNLESS OTHERWISE NOTED ON THE DRAWING. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX, POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
- TYPICAL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SUMP UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR IS TO TELEVIEW (CCTV) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES. PROVIDE A COPY OF ALL CCTV INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL APPLICABLE SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TIG ELEVATIONS, STRUCTURE LOCATIONS AND ANY ALIGNMENT CHANGES, ETC.
- THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSD 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.
- ALL STRUCTURES WITHIN GRASSED AREAS TO BE FLUSH WITH GRADE.

- WATERMAIN NOTES:**
- SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND AS AMENDED.
  - SPECIFICATIONS:
- | ITEM                                   | SPEC. No.                    | REFERENCE      |
|----------------------------------------|------------------------------|----------------|
| WATERMAIN TRENCHING                    | W17                          | CITY OF OTTAWA |
| HYDRANT INSTALLATION                   | W19                          | CITY OF OTTAWA |
| THERMAL INSULATION IN SHALLOW TRENCHES | W22                          | CITY OF OTTAWA |
| THERMAL INSULATION BY OPEN STRUCTURES  | W23                          | CITY OF OTTAWA |
| VALVE BOX ASSEMBLY                     | W24                          | CITY OF OTTAWA |
| WATERMAIN CROSSING BELOW SEWERS        | W25                          | CITY OF OTTAWA |
| CATHODIC PROTECTION FOR PVC WATERMAINS | W40                          | CITY OF OTTAWA |
| WATERMAIN MATERIAL                     | PVC DR 18 (100mm AND LARGER) | CITY OF OTTAWA |
- EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
  - WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
  - PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS, UNLESS OTHERWISE INDICATED.
  - WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

**PROPOSED 200mmØ / 150mmØ WATER SERVICE TABLE**

STATION	SURFACE ELEVATION	TMM ELEVATION	COMMENTS
0+000.0	82.924	79.664 *	200mmØ WM CONNECTION TO EX. 300mmØ PVC WM
0+013.5	82.50	80.10	VALVE AND VALVE BOX AT PROPERTY LINE
0+016.7	82.62	80.22	45° HORIZONTAL BEND
0+018.6	82.65	80.25	CROSSING PROPOSED 150mmØ SAN. CLEARANCE=0.87m
0+028.4	83.08	80.28	22.5° VERTICAL BEND
0+029.8	83.08	80.17	22.5° VERTICAL BEND
0+030.8	83.10	80.17	CROSSING PROPOSED 375mmØ STM. CLEARANCE=0.50m
0+031.8	83.10	80.17	22.5° VERTICAL BEND
0+033.3	83.10	80.70	22.5° VERTICAL BEND
0+036.2	83.25	80.85 **	45° HORIZONTAL BEND
0+046.7	83.29	80.89 **	45° HORIZONTAL BEND
0+070.6	83.32	80.92	45° HORIZONTAL BEND
0+089.2	83.40	81.00	HYDRANT LEAD (200x150x200 TEE)
0+090.7	83.40	81.00	200x150mm REDUCER
0+095.9	83.35	80.95	45° HORIZONTAL BEND
0+096.9	83.35	80.95	45° HORIZONTAL BEND
0+101.0	83.40	81.00	VALVE AND VALVE BOX
0+102.0	83.40	81.00	45° HORIZONTAL BEND
0+103.1	83.42	81.02	45° HORIZONTAL BEND
0+103.8	83.42	81.00	CAP 1.0m FROM FOUNDATION WALL

\* CONNECTION TO EXISTING 300mmØ PVC WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED.  
\*\* THERMAL INSULATION TO BE PROVIDED DUE TO SHALLOW COVER DEPTH DURING THE INTERIM CONDITIONS.



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**NOVATECH**  
 Engineers, Planners & Landscape Architects

NO.	REVISION	DATE	BY	INITIALS
3	REVISED PER CITY AND MVCA COMMENTS	23/01/20	FST	
2	ISSUED FOR TENDER	22/12/09	FST	
1	ISSUED FOR SITE PLAN APPROVAL	22/12/09	FST	

DESIGNED BY: CON/PAK  
 CHECKED BY: VEI/PAK

**FST/DM**  
 DRAWING / DOSSIER N°:  
 DMM

SCALE / ÉCHELLE:  
 1:250

**DRAWING TITLE**  
 1.1 FIRE STATION 45  
 SCALE:  
 SHEET NUMBER

THIS DRAWING IS THE PROPERTY OF THE CITY OF OTTAWA AND ALL DIMENSIONS ON DRAWING ARE FOR ESTIMATING PURPOSES ONLY. IT IS THE RESPONSIBILITY OF EACH CONTRACTOR AND SUB-CONTRACTOR OR CONSULTANT TO CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON-SITE, NOTIFY OWNER OF ANY ERRORS OR OMISSIONS PRIOR TO COMMENCING THE WORK. DO NOT SCALE THE DRAWINGS.

CE DESSIN CONSTITUE LA PROPRIÉTÉ DE LA VILLE D'OTTAWA ET TOUT DROIT D'AUTEUR EST RÉSERVÉ. LES DIMENSIONS UTILISÉES LE SONT À DES FINS D'ESTIMATION SEULEMENT. IL INCOMBE À CHAQUE ENTREPRENEUR, SOUS-CONTRACTANT OU CONSULTANT DE VÉRIFIER TOUTES LES DIMENSIONS ET LES CONDITIONS SUR LE CHANTIER. VEUILLEZ INFORMER LE PROPRIÉTAIRE DE TOUTE ERREUR OU OMISSION AVANT D'ENTAMER LES TRAVAUX. NE DRESSÉZ PAS LES PLANS À L'ÉCHELLE.

ARCHITECT / ARCHITECTE  
 CONSULTANT / EXPERT-CONSEIL

**Licensed Professional Engineer**  
 F.S. THAUETTE  
 100041299  
 JAN 30, 2023  
 PROVINCE OF ONTARIO

CONSULTANT / EXPERT-CONSEIL  
 CONSULTANT / EXPERT-CONSEIL

PROJECT / LOCATION / PROJET / ENDROIT  
**FIRE STATION 45**  
 1075-A MARCH ROAD  
 OTTAWA, ONTARIO

DRAWING / DESSIN  
**GENERAL PLAN OF SERVICES INTERIM CONDITIONS**

BUSINESS ENTITY / NUMÉRO DE L'ENTITÉ  
 BUILDING NUMBER / NUMÉRO DU BÂTIMENT

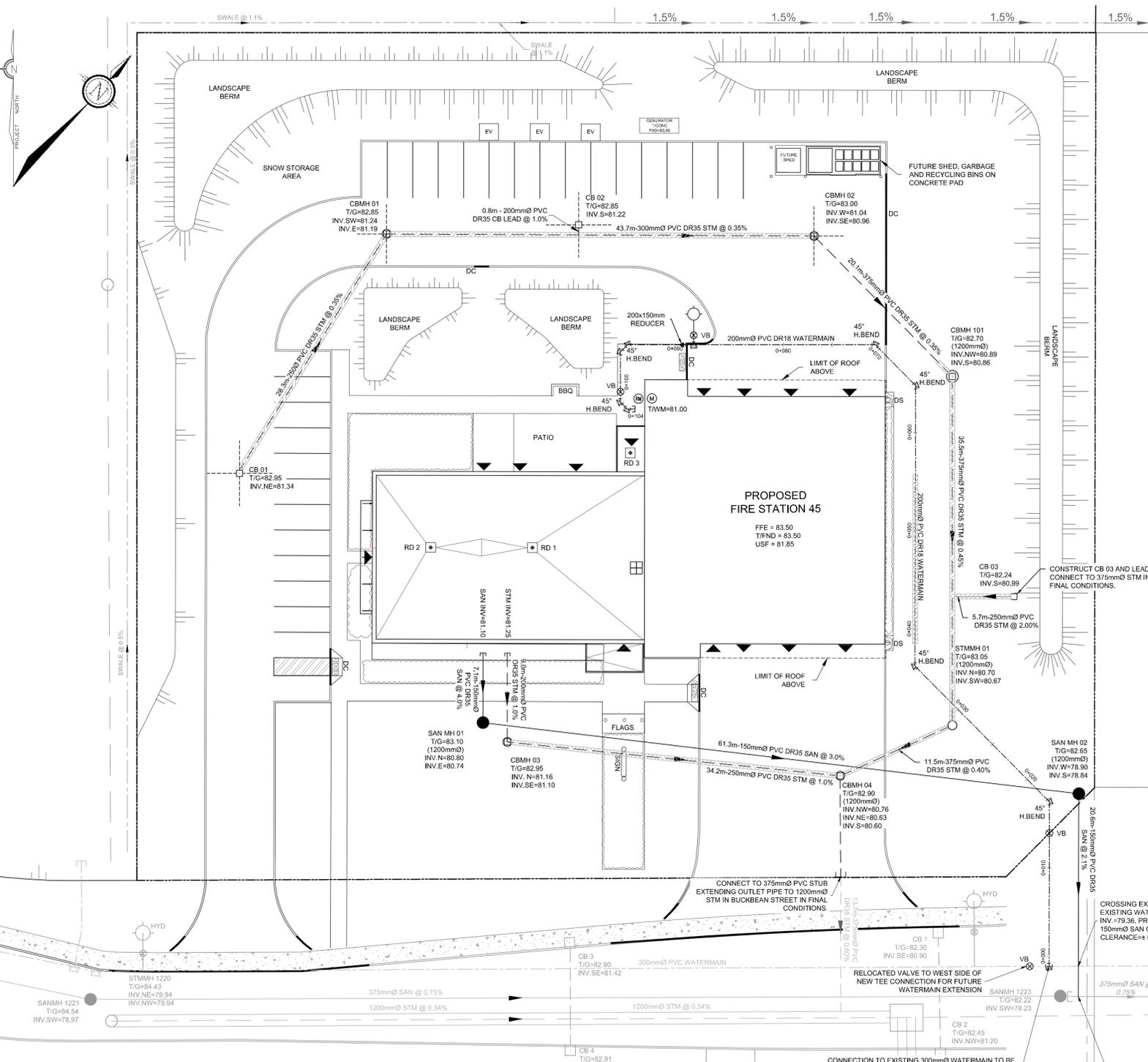
SHEET NO. / FEUILLE NO.  
**C1.0**

CITY PROJECT NO. / NO. DE PROJET  
 CONS. PROJECT NO. / NO. DE PROJET  
 122089

D07-12-22-0090

**LEGEND**

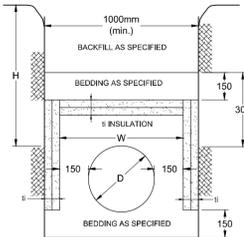
- PROPERTY LINE
- SANMH 01 PROPOSED SANITARY MH & SEWER
- CBMH 01 PROPOSED CATCH-BASIN MH & SEWER c/w 3.0m RADIAL SUBDRAIN (PER GEOTECH)
- STMMH 01 PROPOSED STORM MH & SEWER
- CB 02 PROPOSED CATCH-BASIN & LEAD c/w 3.0m RADIAL SUBDRAIN (PER GEOTECH)
- HYD ○ VB PROPOSED HYDRANT c/w VALVE & VALVE BOX
- RD ○ CD PROPOSED INLET CONTROL DEVICE
- PROPOSED CONTROLLED FLOW ROOF DRAIN
- PROPOSED WATER METER AND REMOTE METER
- DC PROPOSED BARRIER CURB
- 150mmØ PROPOSED DEPRESSED CURB
- VB PROPOSED VALVE & VALVE BOX
- BEND PROPOSED BEND AND THRUSTBLOCK 11.25°, 22.5°, 45° TEE
- PROPOSED CAP
- PROPOSED BUILDING ENTRANCE
- THERMAL INSULATION FOR SHALLOW SEWERS
- DS PROPOSED HYDRO TRANSFORMER
- DS DOWNSPOUT
- FFE FINISHED FLOOR ELEVATION
- T/FND TOP OF FOUNDATION WALL ELEVATION
- USF UNDERSIDE OF FOOTING ELEVATION
- EXISTING CONCRETE CURB
- SANMH ○ EXISTING SANITARY MANHOLE & SEWER
- CBMH ○ EXISTING CATCH-BASIN MANHOLE
- STMMH ○ EXISTING STORM MANHOLE & SEWER
- CB ○ EXISTING CATCH-BASIN c/w CATCH-BASIN LEAD
- HYD ○ VB EXISTING HYDRANT & VALVE
- EXISTING WATERMAIN
- EXISTING HYDRANT c/w VALVE & LEAD
- EXISTING TREES / VEGETATION
- EXISTING UTILITY POLE



**PROPOSED ROOF DRAIN TABLE: AREA R-1 (RD1, RD2 AND RD3)**

AREA ID	ROOF DRAIN No. (WATTS MODEL)	ROOF DRAIN OPENING SETTING	1.5 YEAR RELEASE RATE	APPROX. 5-YR PONDING DEPTH	1-100 YEAR RELEASE RATE	APPROX. 100-YR PONDING DEPTH
R-1	RD 1 (RD-100-A-ADJ)	FULLY EXPOSED	1.07 L/s	9 cm	1.39 L/s	12 cm
R-1	RD 2 (RD-100-A-ADJ)	FULLY EXPOSED	1.07 L/s	9 cm	1.39 L/s	12 cm
R-1	RD 3 (RD-100-A-ADJ)	-	0.26 L/s	-	0.50 L/s	-

\* REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2022-090) PREPARED BY NOVATECH FOR DRAINAGE AREA IDENTIFIERS AND STORMWATER MANAGEMENT DETAILS.



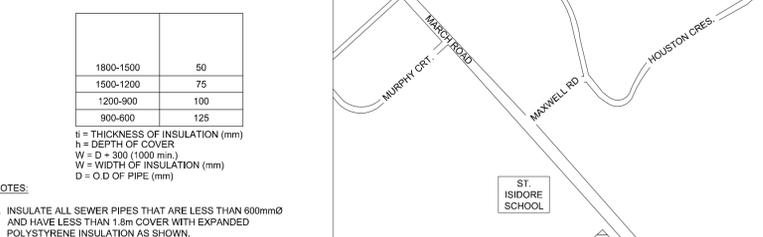
THICKNESS OF INSULATION (mm)	DEPTH OF COVER (mm)
1800-1500	50
1500-1200	75
1200-900	100
900-600	125

h = THICKNESS OF INSULATION (mm)  
 h = DEPTH OF COVER  
 W = D = 300 (1000 min.)  
 W = WIDTH OF INSULATION (mm)  
 D = O D OF PIPE (mm)

**NOTES:**

- INSULATE ALL SEWER PIPES THAT ARE LESS THAN 600mmØ AND HAVE LESS THAN 1.8m COVER WITH EXPANDED POLYSTYRENE INSULATION AS SHOWN.
- THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER (SEE TABLE)

**INSULATION DETAIL FOR SHALLOW SEWERS ONLY**  
NOT TO SCALE



**GENERAL NOTES:**

- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
- OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
- BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
- COMPLETE ALL WORKS IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS USING THE CURRENT GUIDELINES, BYLAWS AND STANDARDS INCLUDING MATERIALS OF CONSTRUCTION, DISINFECTION AND ALL RELEVANT REFERENCES TO OPS, OPSD & ANWA GUIDELINES - ALL CURRENT VERSIONS AND AS AMENDED.
- RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF MUNICIPAL AUTHORITIES.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
- ALL ELEVATIONS ARE GEODETIC.
- REFER TO GEOTECHNICAL INVESTIGATION REPORT (Ref No.: PG521-1, DATED JAN 20, 2021) PREPARED BY PATERSON GROUP INC., FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
- REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
- REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2022-090) PREPARED BY NOVATECH.
- SAW CUT AND REINFORCE ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

**SEWER NOTES:**

- SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND 'AS AMENDED'.
- SPECIFICATIONS:
 

ITEM	SPEC. No.	REFERENCE
STORM/SANITARY MANHOLE (1200Ø)	701.010	OPSD
STORM/CATCHBASIN MANHOLE (1500Ø)	701.011	OPSD
STORM/CB/MH FRAME AND COVER	401.010 - TYPE 'B'	OPSD
SANITARY MANHOLE FRAME AND COVER	401.010 - TYPE 'A'	OPSD
WATERTIGHT MANHOLE FRAME AND COVER	401.030	OPSD
CATCHBASIN MH FRAME & COVER	401.010 Type 'B'	CITY OF OTTAWA
CATCHBASIN (600/600)	705.010	OPSD
CATCHBASIN FRAME & COVER	S19	CITY OF OTTAWA
SEWER TRENCH	S6	CITY OF OTTAWA
STORM SEWER	PVC DR 35 (450mmØ PIPE AND SMALLER)	CITY OF OTTAWA
SANITARY SEWER	HOPE BOSS 2000 (600mmØ PIPE AND LARGER)	CITY OF OTTAWA
	PVC DR 35	
- THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH BACKFLOW PREVENTERS WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14.1 OR S14.2. REFER TO MECHANICAL PLANS FOR DETAILS.
- THE STORM SERVICE LATERAL SHALL BE EQUIPPED WITH A BACKFLOW PREVENTER WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14. REFER TO MECHANICAL PLANS FOR DETAILS.
- SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
- PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
- INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
- CONCRETE MANHOLES ARE TO BE 1200mmØ STRUCTURES UNLESS OTHERWISE NOTED ON THE DRAWING. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-SAN, PSX; POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
- TYPICAL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR IS TO TELEPHONE (CITY) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES. PROVIDE A COPY OF ALL CCTV INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL APPLICABLE SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TIG ELEVATIONS, STRUCTURE LOCATIONS AND ANY ALIGNMENT CHANGES, ETC.
- THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPS 410.07, 18, 410.07, 16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.
- ALL STRUCTURES WITHIN GRASSED AREAS TO BE FLUSH WITH GRADE.

**WATERMAIN NOTES:**

- SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND 'AS AMENDED'.
- SPECIFICATIONS:
 

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
HYDRANT INSTALLATION	W19	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWERS	W25	CITY OF OTTAWA
CATHODIC PROTECTION FOR PVC WATERMANS	W40	CITY OF OTTAWA
WATERMAIN MATERIAL	PVC DR 18 (100mm AND LARGER)	
- EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
- WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
- PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS, UNLESS OTHERWISE INDICATED.
- WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

**PROPOSED 200mmØ / 150mmØ WATER SERVICE TABLE**

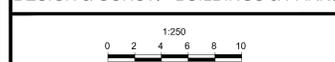
STATION	SURFACE ELEVATION	TWM ELEVATION	COMMENTS
0+000.0	82.92	79.66	200mmØ WM CONNECTION TO EX. 300mmØ PVC WM
0+013.5	82.50	80.10	VALVE AND VALVE BOX AT PROPERTY LINE
0+016.7	82.62	80.22	45° HORIZONTAL BEND
0+019.8	82.65	80.25	CROSSING PROPOSED 150mmØ SAN. CLEARANCE=0.87m
0+028.4	83.08	80.68	22.5° VERTICAL BEND
0+029.8	83.08	80.17	22.5° VERTICAL BEND
0+030.8	83.10	80.17	CROSSING PROPOSED 375mmØ STM. CLEARANCE=0.50m
0+031.8	83.10	80.17	22.5° VERTICAL BEND
0+033.3	83.10	80.70	22.5° VERTICAL BEND
0+036.2	83.25	80.85	45° HORIZONTAL BEND
0+064.7	83.29	80.89	45° HORIZONTAL BEND
0+076.6	83.32	80.92	45° HORIZONTAL BEND
0+089.2	83.40	81.00	HYDRANT LEAD (200x150x200 TEE)
0+090.7	83.40	81.00	200x150mm REDUCER
0+095.9	83.35	80.95	45° HORIZONTAL BEND
0+096.9	83.35	80.95	45° HORIZONTAL BEND
0+101.0	83.40	81.00	VALVE AND VALVE BOX
0+102.0	83.40	81.00	45° HORIZONTAL BEND
0+103.1	83.42	81.02	45° HORIZONTAL BEND
0+103.8	83.42	81.00	CAP 1.0m FROM FOUNDATION WALL

\*\* CONNECTION TO EXISTING 300mmØ PVC WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED.  
 \*\* THERMAL INSULATION TO BE PROVIDED DUE TO SHALLOW COVER DEPTH DURING THE INTERIM CONDITIONS.



PORTFOLIO DE L'URBANISME ET DE L'INFRASTRUCTURE  
 DÉPARTEMENT DES SERVICES D'INFRASTRUCTURE  
 DIRECTION DE CONCEPTION ET DE CONSTRUCTION - IMMEUBLES ET DES PARCS

FOR / POUR  
**INFRASTRUCTURE SERVICES & COMMUNITY SUSTAINABILITY**  
**INFRASTRUCTURE SERVICES**  
**DESIGN & CONST. - BUILDINGS & PARKS**



122089

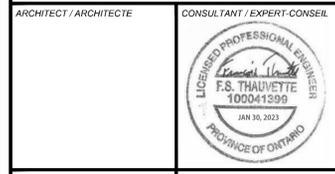
NOVATECH  
 Engineers, Planners & Landscape Architects

NO.	REVISION	DATE	BY
10	REVISED PER CITY AND MVCA COMMENTS	23/01/20	FST
9	ISSUED FOR TENDER	22/12/09	FST
8	ISSUED FOR REVISED SITE PLAN CONTROL	22/12/09	FST
7	ISSUED FOR REVISED SITE PLAN CONTROL	22/10/05	FST
6	ISSUED FOR 90% REVIEW	22/08/29	FST
5	REVISED PER CITY COMMENTS	22/08/03	FST
4	ISSUED FOR 60% REVIEW	22/07/27	FST
3	ISSUED FOR BUILDING PERMIT	22/07/19	FST
2	ISSUED FOR 30% REVIEW	22/06/20	FST
1	ISSUED FOR SPC APPROVAL	22/05/20	FST

NUMBER	MILESTONE / FAT SAILANT	DATE	BY (M/S)	INITIALS
1	ISSUED FOR SPC APPROVAL	22/05/20	FST	

DETAIL NUMBER	SCALE
1	1:250

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ARCHITECT / ARCHITECTE  
 CONSULTANT / EXPERT-CONSEIL

PROJECT / LOCATION / PROJET / ENDROIT  
**FIRE STATION 45**  
 1075-A MARCH ROAD  
 OTTAWA, ONTARIO

DRAWING / DESSIN  
**GENERAL PLAN OF SERVICES**  
**FINAL CONDITIONS**

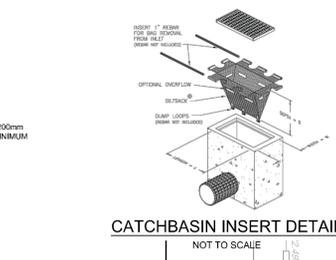
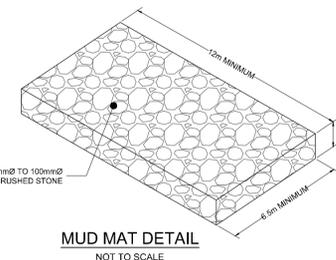
CITY PROJECT NO. / NUMÉRO DE PROJET  
 CONS. PROJECT NO. / NUMÉRO DE PROJET  
**C1.1**

D07-12-22-0090

**LEGEND**

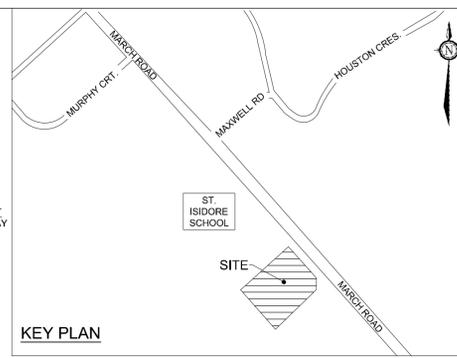
	PROPOSED ELEVATION		PROPOSED SANITARY MANHOLE
	PROPOSED TOP OF CURB ELEVATION		PROPOSED STORM MANHOLE
	PROPOSED SWALE ELEVATION		PROPOSED HYDRANT AND VALVE
	EXISTING STREET 1 GRADES		PROPOSED CATCHBASIN MANHOLE
	EXISTING ELEVATION		PROPOSED CATCHBASIN
	GRADE AND DIRECTION		PROPOSED CATCHBASIN INSERT
	MAXIMUM 3:1 SIDESLOPE		EMERGENCY OVERLAND FLOW ROUTE
	PROPOSED TERRACE ELEVATION		BUILDING ENTRANCE / EXIT
	PROPOSED SILT FENCING (OPSD 219.110)		TRANSFORMER
	PROPERTY LINE		DOWNSPOUT
	FFE FINISHED FLOOR ELEVATION		EXISTING SERVICE POST
	T/FND TOP OF FOUNDATION WALL ELEVATION		EXISTING HYDRANT
	USF UNDERSIDE OF FOOTING ELEVATION		

	EXISTING CONCRETE CURB		EXISTING CATCHBASIN
	EXISTING CATCHBASIN MH		EXISTING UTILITY POLE
	EXISTING GUY WIRES		EXISTING OVERHEAD WIRES
	EXISTING VALVE & VALVE BOX		



**PAVEMENT STRUCTURE:**

- NEW LIGHT DUTY PAVEMENT
  - 50mm SUPERPAVE 12.5
  - 150mm GRANULAR "A"
  - 300mm GRANULAR "B" TYPE II
  - ASPHALT GRADE PG 58-34
- NEW HEAVY DUTY PAVEMENT
  - 40mm SUPERPAVE 12.5
  - 50mm SUPERPAVE 10.0
  - 150mm GRANULAR "A"
  - 450mm GRANULAR "B" TYPE II
  - ASPHALT GRADE PG 58-34
- HEAVY DUTY PAVEMENT - ROADWAY RE-INSTATEMENT
  - MATCH EXISTING GRANULAR STRUCTURE OF ROADWAY
  - MATCH EXISTING ASPHALT THICKNESSES
  - NEW ASPHALT GRADE: PG 58-34
- HEAVY DUTY PAVEMENT - TEMPORARY ACCESS ROAD
  - 50mm SUPERPAVE 15.0
  - 150mm GRANULAR "A"
  - 450mm GRANULAR "B" TYPE II
  - ASPHALT GRADE PG 58-34



**GENERAL NOTES:**

- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- DETERMINE THE EXACT LOCATION, SIZE, MATERIAL, AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
- OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
- BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
- COMPLETE ALL WORKS IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS USING THE CURRENT GUIDELINES, BYLAWS AND STANDARDS INCLUDING MATERIALS OF CONSTRUCTION, DISINFECTION AND ALL RELEVANT REFERENCES TO OPS, OPSD & AWWA GUIDELINES - ALL CURRENT VERSIONS AND AS AMENDED.
- RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY A LICENSED EXCAVATOR AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
- ALL ELEVATIONS ARE GEODETIC.
- REFER TO GEOTECHNICAL INVESTIGATION REPORT (Ref No.: PG5321-1, DATED JAN 20, 2021), PREPARED BY PATERSON GROUP INC., FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
- REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
- REFER TO THE DEVELOPER'S SERVICING STUDY AND STORMWATER MANAGEMENT REPORT (R-2022-090) PREPARED BY NOVATECH.
- SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

**GRADING NOTES:**

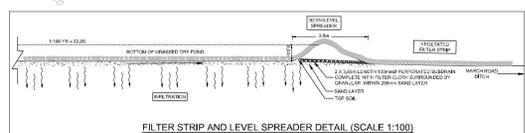
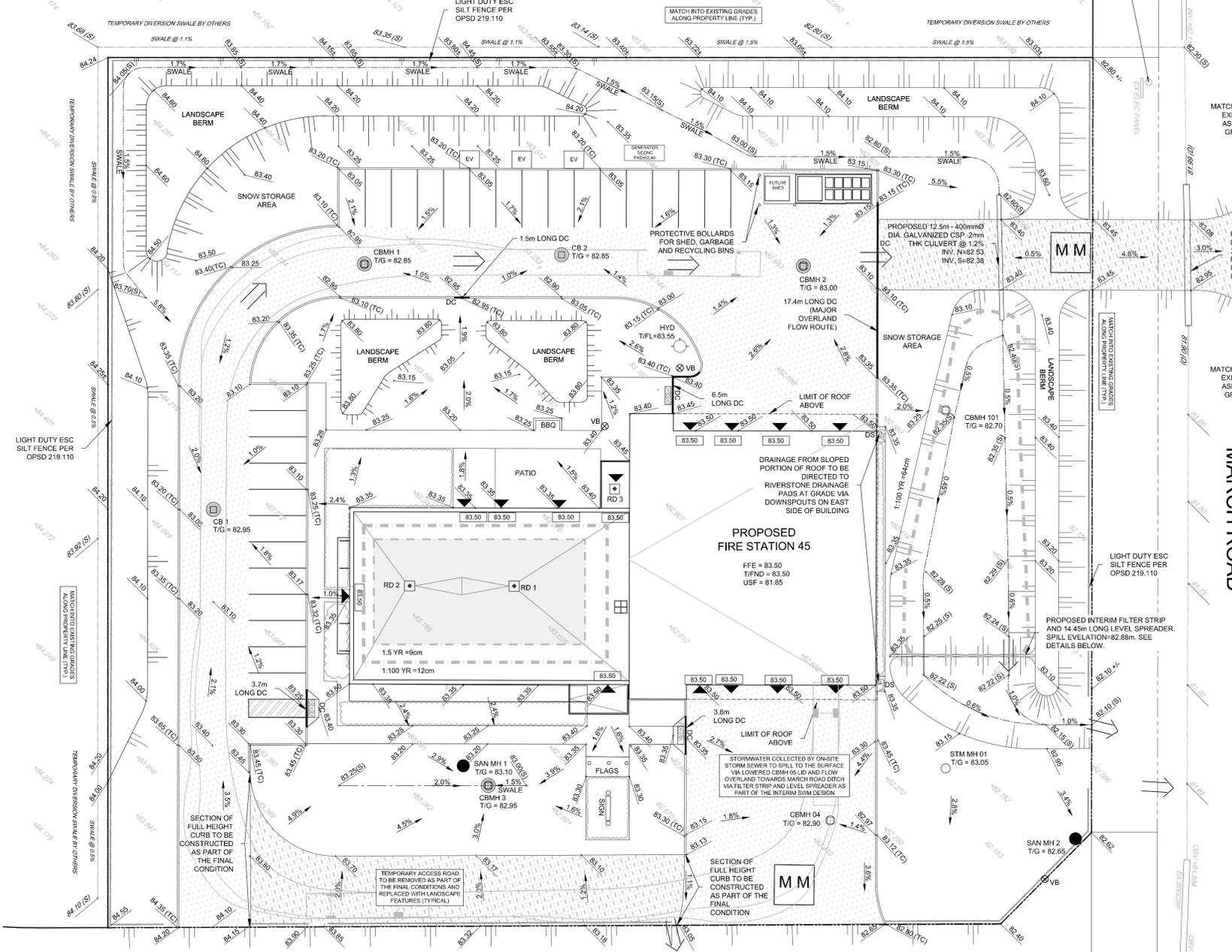
- ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED PAVED AREAS AS DIRECTED BY THE SITE ENGINEER OR GEOTECHNICAL ENGINEER.
- EXPOSED SUBGRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF GRANULARS.
- ANY SOFT AREAS EVIDENT FROM THE PROOF ROLLING SHOULD BE SUB-EXCAVATED AND REPLACED WITH SUITABLE MATERIAL THAT IS FROST COMPATIBLE WITH THE EXISTING SOILS AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- THE GRANULAR BASE SHOULD BE COMPACTED TO AT LEAST 99% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE. ANY ADDITIONAL GRANULAR FILL USED BELOW THE PROPOSED PAVEMENT SHOULD BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE.
- MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
- MAXIMUM TERRACING GRADE TO BE 3:1 UNLESS OTHERWISE NOTED.
- ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
- ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
- REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING THE AS-BUILT ELEVATIONS OF ALL DESIGN GRADES SHOWN ON THIS PLAN.

**EROSION AND SEDIMENT CONTROL NOTES :**

- ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF OTTAWA. THEY ARE TO BE APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION. THESE PRACTICES ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL AND SHOULD INCLUDE AS A MINIMUM THOSE MEASURES INDICATED ON THE PLAN.
- A LIGHT DUTY SILT FENCE BARRIER WILL ALSO BE INSTALLED AROUND THE CONSTRUCTION AREA (WHERE APPLICABLE). THESE CONTROL MEASURES WILL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
- TO PREVENT SURFACE EROSION FROM ENTERING ANY STORM SEWER SYSTEM DURING CONSTRUCTION, CATCHBASIN INSERTS WILL BE PLACED WITH SURFACE CATCHBASIN AND MANHOLE STRUCTURES. A LIGHT DUTY SILT FENCE BARRIER WILL ALSO BE INSTALLED (PER OPSD 219.110) AROUND THE CONSTRUCTION AREA (WHERE APPLICABLE). IN AREAS WHERE SILT FENCING CANNOT BE INSTALLED PER OPSD 219.110 (i.e. HARD SURFACES), A FILTER SOCK SHALL BE SUBSTITUTED. THESE CONTROL MEASURES WILL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
- THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE ENGINEER, THE MEASURES ARE NO LONGER REQUIRED. NO CONTROL MEASURES MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
- THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO ANY STORM SEWER SYSTEM. APPROPRIATE RESPONSE MEASURES, INCLUDING ANY REPAIRS TO EXISTING CONTROL MEASURES OR THE IMPLEMENTATION OF ADDITIONAL CONTROL MEASURES, SHALL BE CARRIED OUT BY THE CONTRACTOR WITHOUT DELAY.
- THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- ROADWAYS ARE TO BE SWEEP AS REQUIRED OR AS DIRECTED BY THE ENGINEER AND/OR MUNICIPALITY.
- THE CONTRACTOR SHALL ENSURE PROPER DUST CONTROL IS PROVIDED WITH THE APPLICATION OF WATER (AND IF REQUIRED, CALCIUM CHLORIDE) DURING DRY PERIODS.

**Erosion and Sediment Control Responsibilities:**

ESC Measure	Symbol	Specification	Installation Responsibility	Inspection/Maintenance Responsibility	After Construction Prior to Final Acceptance		After Final Acceptance	
					Approval to Remove	Removal Responsibility	Inspection/Maintenance Responsibility	
Silt Fence		OPSD 219.110	Developer's Contractor	Developer's Contractor	Consultant	Developer's Contractor	N/A	
Filter Bags/Socks		Location as indicated in ESC Note #3	Developer's Contractor	Developer's Contractor	Consultant	Developer's Contractor	N/A	
Mud Mat		Drawing Details	Developer's Contractor	Developer's Contractor	Developer's Contractor	Developer's Contractor	N/A	
Dust Control		Location as Required Around Site	Developer's Contractor	Developer's Contractor	Consultant	Developer's Contractor	N/A	
Stabilized Material Stockpiling		Location as Required by Contractor	Developer's Contractor	Developer's Contractor	Developer's Contractor	Developer's Contractor	N/A	
Sediment Basin (or flow being purged out of excavations)		Location as Required by Contractor	Developer's Contractor	Developer's Contractor	After Every Rainstorm	Developer's Contractor	N/A	



**Ottawa**  
 PLANNING AND INFRASTRUCTURE PORTFOLIO  
 INFRASTRUCTURE SERVICES DEPARTMENT  
 DESIGN AND CONSTRUCTION - BUILDINGS & PARKS BRANCH

PORTFOLIO DE L'URBANISME ET DE L'INFRASTRUCTURE  
 DÉPARTEMENT DES SERVICES D'INFRASTRUCTURE  
 DIRECTION DE CONCEPTION ET DE CONSTRUCTION - IMMOBILIERS ET DES PARCS

FOR / POUR  
 INFRASTRUCTURE SERVICES & COMMUNITY SUSTAINABILITY  
 INFRASTRUCTURE SERVICES  
 DESIGN & CONST. - BUILDINGS & PARKS

**NOVATECH**  
 Engineers, Planners & Landscape Architects

3	REVISED PER CITY AND MVCA COMMENTS	23/01/20	FST
2	ISSUED FOR TENDER	22/12/20	FST
1	ISSUED FOR SITE PLAN APPROVAL	22/12/20	FST

NUMBER	MILESTONE / FAT SAILANT	DATE (Y/M/D)	INITIALS
1	ISSUED FOR SITE PLAN APPROVAL	22/12/20	FST
2	ISSUED FOR TENDER	23/01/20	FST
3	REVISED PER CITY AND MVCA COMMENTS	23/01/20	FST

**DRAWING TITLE**  
 1:1 SCALE  
 SHEET NUMBER

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ARCHITECT / ARCHITECTE  
 CONSULTANT / EXPERT-CONSEIL  
 LICENSED PROFESSIONAL ENGINEER  
 F.S. THAUETTE  
 100041399  
 JAN 30, 2023  
 PROVINCE OF ONTARIO

PROJECT / LOCATION / PROJET / ENDROIT  
**FIRE STATION 45**  
 1075-A MARCH ROAD  
 OTTAWA, ONTARIO

DRAWING / DESSIN  
**GRADING AND EROSION  
 SEDIMENT CONTROL PLAN  
 INTERIM CONDITIONS**

BUSINESS ENTITY / NUMERO DE L'ENTITE  
 BUILDING NUMBER / NUMERO DU BATIMENT  
 CITY PROJECT NO. / NO. DE PROJET  
 CONS. PROJECT NO. / NO. DE PROJET  
**C2.0**  
 122089

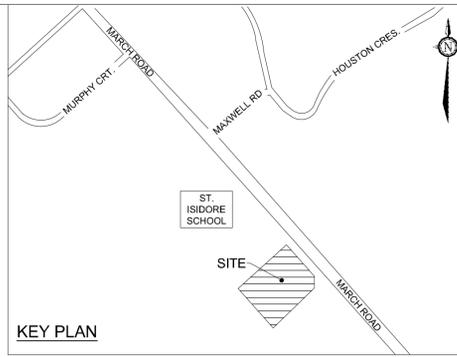
D07-12-22-0090

**LEGEND**

- PROPOSED ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED SWALE ELEVATION
- EXISTING STREET / GRADES
- EXISTING ELEVATION
- GRADE AND DIRECTION
- MAXIMUM 3:1 SIDESLOPE
- PROPOSED TERRACE ELEVATION
- PROPOSED SILT FENCING (OPSD 219.110)
- PROPERTY LINE
- FFE FINISHED FLOOR ELEVATION
- T/FND TOP OF FOUNDATION WALL ELEVATION
- USF UNDERSIDE OF FOOTING ELEVATION
- SAN MH 01
- STM MH 03
- HYD
- CBMH 01
- CB 02
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED HYDRANT AND VALVE
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED CATCHBASIN INSERT
- EMERGENCY OVERLAND FLOW ROUTE
- BUILDING ENTRANCE / EXIT
- TRANSFORMER
- DS DOWNSPOUT
- SP EXISTING SERVICE POST
- HYD EXISTING HYDRANT
- EXISTING CONCRETE CURB
- EXISTING CATCHBASIN
- EXISTING CATCHBASIN MH
- EXISTING UTILITY POLE
- EXISTING FENCE
- EXISTING OVERHEAD WIRES
- EXISTING VALVE & VALVE BOY
- 1.5 YR
- 1:100 YR
- APPROXIMATE PONDING LIMITS
- MUD MAT DETAIL
- NOT TO SCALE
- CATCHBASIN INSERT DETAIL
- NOT TO SCALE

**PAVEMENT STRUCTURE:**

- NEW LIGHT DUTY PAVEMENT
  - 50mm SUPERPAVE 12.5
  - 150mm GRANULAR "A"
  - 300mm GRANULAR "B" TYPE II
  - ASPHALT GRADE PG 58-34
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  - 40mm SUPERPAVE 12.5
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- HEAVY DUTY PAVEMENT - ROADWAY RE-INSTATEMENT
  - MATCH EXISTING GRANULAR STRUCTURE OF ROADWAY
  - MATCH EXISTING ASPHALT THICKNESSES
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**GRADING NOTES:**

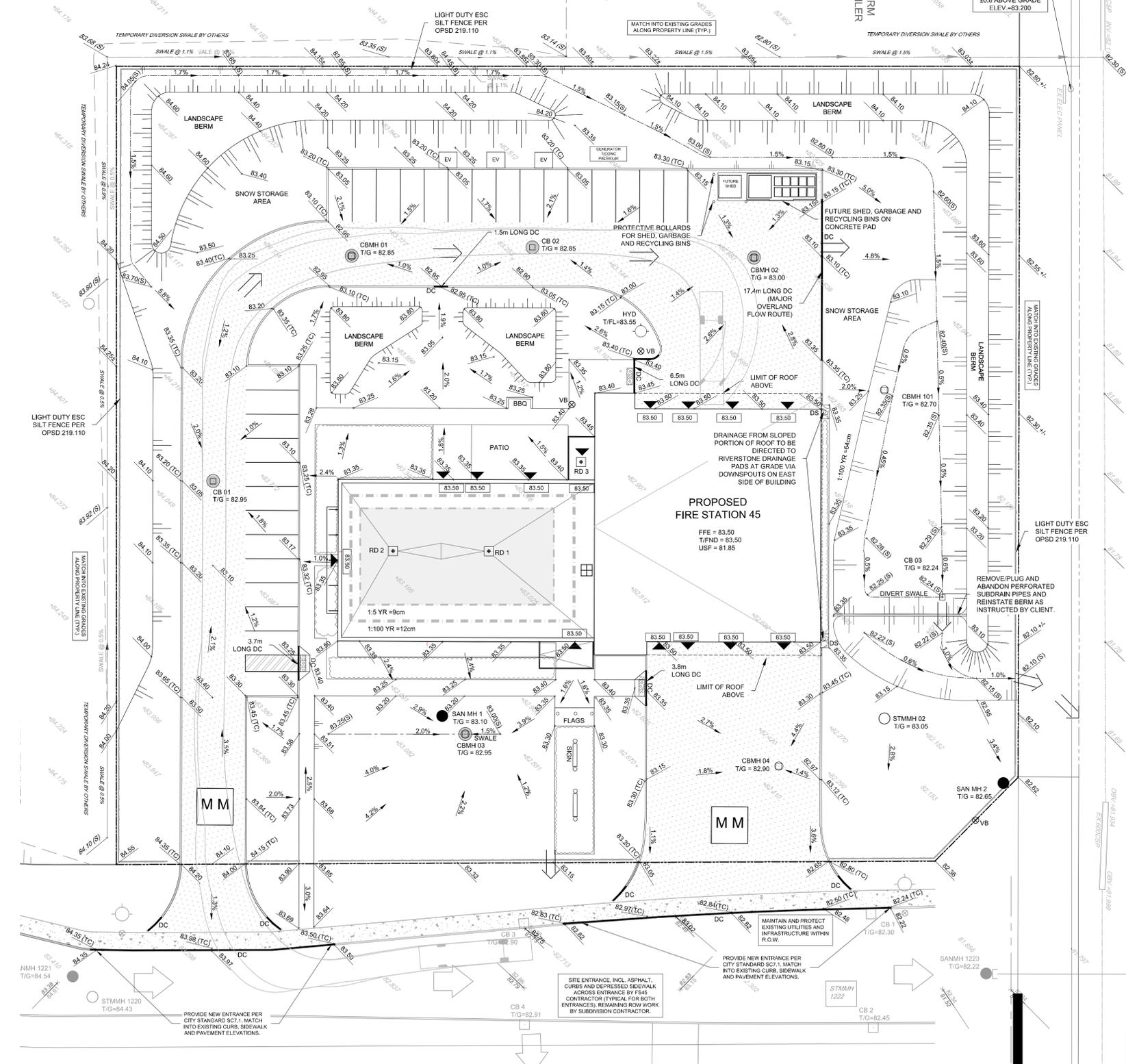
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- TO PREVENT SURFACE EROSION FROM ENTERING ANY STORM SEWER SYSTEM DURING CONSTRUCTION, CATCHBASIN INSERTS WILL BE PLACED WITHIN SURFACE CATCHBASINS AND MANHOLE STRUCTURES. A LIGHT DUTY SILT FENCE BARRIER WILL ALSO BE INSTALLED (PER OPSD 219.110) AROUND THE CONSTRUCTION AREA (WHERE APPLICABLE). IN AREAS WHERE SILT FENCING CANNOT BE INSTALLED PER OPSD 219.110 (i.e. HARD SURFACES), A FILTER SOCK SHALL BE SUBSTITUTED. THESE CONTROL MEASURES WILL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
- THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE ENGINEER, THE MEASURES ARE NO LONGER REQUIRED. NO CONTROL MEASURES MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
- THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO ANY STORM SEWER SYSTEM. APPROPRIATE RESPONSE MEASURES, INCLUDING ANY REPAIRS TO EXISTING CONTROL MEASURES OR THE IMPLEMENTATION OF ADDITIONAL CONTROL MEASURES, SHALL BE CARRIED OUT BY THE CONTRACTOR WITHOUT DELAY.
- THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- ROADWAYS ARE TO BE SWEEP AS REQUIRED OR AS DIRECTED BY THE ENGINEER AND/OR MUNICIPALITY.
- THE CONTRACTOR SHALL ENSURE PROPER DUST CONTROL IS PROVIDED WITH THE APPLICATION OF WATER (AND IF REQUIRED, CALCIUM CHLORIDE) DURING DRY PERIODS.

**Erosion and Sediment Control Responsibilities:**

ESC Measure	Symbol	Specification	Installation Responsibility	Inspection/Maintenance Responsibility	Inspection Frequency	Approval to Remove	Removal Responsibility	After Final Acceptance Inspection/Maintenance Responsibility
Silt Fence		OPSD 219.110	Developer's Contractor	Developer's Contractor	Weekly	Consultant	Developer's Contractor	N/A
Filter Bags/Socks		Location as Indicated in ESC Note #3	Developer's Contractor	Developer's Contractor	Weekly (as a minimum)	Consultant	Developer's Contractor	N/A
Mud Mat		Drawing Details	Developer's Contractor	Developer's Contractor	Weekly (as a minimum)	Developer's Contractor	Developer's Contractor	N/A
Dust Control		Location as Required Around Site	Developer's Contractor	Developer's Contractor	Weekly (as a minimum)	Consultant	Developer's Contractor	N/A
Stabilized Material Stockpiling		Location as Required by Contractor	Developer's Contractor	Developer's Contractor	Weekly (as a minimum)	Developer's Contractor	Developer's Contractor	N/A
Sediment Basin (for flows being pumped out of excavations)		Location as Required by Contractor	Developer's Contractor	Developer's Contractor	After Every Rainstorm	Developer's Contractor	Developer's Contractor	N/A



MARCH ROAD

PLANNING AND INFRASTRUCTURE PORTFOLIO  
INFRASTRUCTURE SERVICES DEPARTMENT  
DESIGN AND CONSTRUCTION - BUILDINGS & PARKS BRANCH

PORTFOLIO DE L'URBANISME ET DE L'INFRASTRUCTURE  
DÉPARTEMENT DES SERVICES D'INFRASTRUCTURE  
DIRECTION DE CONCEPTION ET DE CONSTRUCTION - IMMEUBLES ET DES PARCS

FOR / POUR  
INFRASTRUCTURE SERVICES & COMMUNITY SUSTAINABILITY  
INFRASTRUCTURE SERVICES  
DESIGN & CONST. - BUILDINGS & PARKS

1:250  
0 2 4 6 8 10

**NOVATECH**  
Engineers, Planners & Landscape Architects

10 REVISED PER CITY AND MVCA COMMENTS 2301150 FST  
9 ISSUED FOR TENDER 2212150 FST  
8 ISSUED FOR REVISED SITE PLAN CONTROL 2212150 FST  
7 ISSUED FOR REVISED SITE PLAN CONTROL 2210150 FST  
6 ISSUED FOR 90% REVIEW 2209200 FST  
5 REVISED PER CITY COMMENTS 2208010 FST  
4 ISSUED FOR 80% REVIEW 2207210 FST  
3 ISSUED FOR BUILDING PERMIT 2207115 FST  
2 ISSUED FOR 30% REVIEW 2206020 FST  
1 ISSUED FOR SPC APPROVAL 2205220 FST

DESIGNED BY: CON/PAW CHECKED BY: VER/EPK  
FST/DMM FST  
DRAWN BY: DES/PAW SCALE: 1:250  
DMM

**DRAWING TITLE**  
1: A1.1  
SCALE: 1:250  
SHEET NUMBER

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ARCHITECT / ARCHITECTE CONSULTANT / EXPERT-CONSEIL  
CONSULTANT / EXPERT-CONSEIL CONSULTANT / EXPERT-CONSEIL

PROJECT / LOCATION / PROJET / ENDROIT  
**FIRE STATION 45**  
1075-A MARCH ROAD  
OTTAWA, ONTARIO

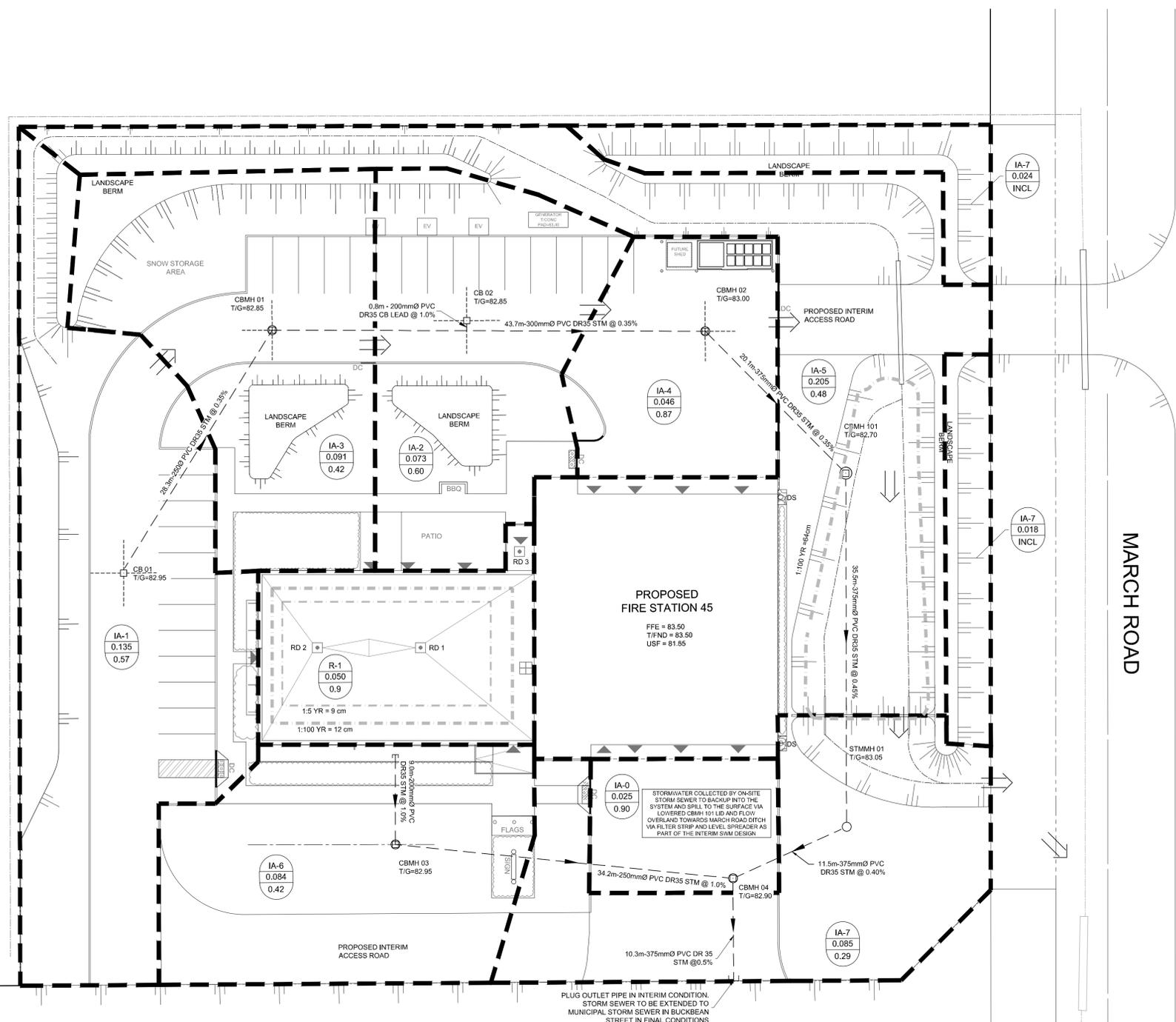
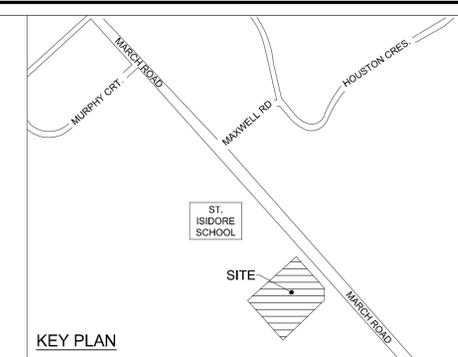
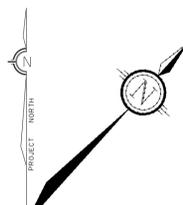
DRAWING / DESSIN  
**GRADING AND EROSION  
SEDIMENT CONTROL PLAN  
FINAL CONDITIONS**

BUSINESS ENTITY / NUMÉRO DE L'ENTITÉ SHEET NO. / FEUILLE NO.  
BUILDING NUMBER / NUMÉRO DU BÂTIMENT  
CITY PROJECT NO. / NUMÉRO DE PROJET CONS\_PROJECT NO. / NUMÉRO DE PROJET  
122089 **C2.1**

D07-12-22-0090

**LEGEND**

	PROPOSED BARRIER CURB		PROPOSED SANITARY MANHOLE		TOP OF FOUNDATION WALL ELEVATION		EXISTING CATCHBASIN
	PROPOSED DEPRESSED CURB		PROPOSED STORM MANHOLE		UNDERSIDE OF FOOTING ELEVATION		EXISTING CATCHBASIN MH
	DRAINAGE AREA LIMITS		PROPOSED HYDRANT AND VALVE		BUILDING ENTRANCE / EXIT		EXISTING UTILITY POLE
	POST-DEVELOPMENT AREA ID		PROPOSED CATCHBASIN MANHOLE		EXISTING CONCRETE CURB		C/W GUY WIRES
	POST-DEVELOPMENT DRAINAGE AREA (ha)		PROPOSED CATCHBASIN		EXISTING VALVE & VALVE BOX		APPROXIMATE PONDING LIMITS
	1.5 YEAR WEIGHTED RUNOFF COEFFICIENT		EMERGENCY OVERLAND FLOW ROUTE		EXISTING SERVICE POST		
	MAXIMUM 3:1 SIDESLOPE		PROPOSED HYDRO TRANSFORMER		EXISTING HYDRANT		
	PROPOSED TERRACE ELEVATION		FINISHED FLOOR ELEVATION				



**GENERAL NOTES:**

- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
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- COMPLETE ALL WORKS IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS USING THE CURRENT GUIDELINES, BYLAWS AND STANDARDS INCLUDING MATERIALS OF CONSTRUCTION, DISINFECTION AND ALL RELEVANT REFERENCES TO OPSS, OPSP & AWWA GUIDELINES - ALL CURRENT VERSIONS AND 'AS AMENDED.
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- ALL ELEVATIONS ARE GEODETIC.
- REFER TO GEOTECHNICAL INVESTIGATION REPORT (Ref.No.: PG5321-1, DATED JAN 20, 2021), PREPARED BY PATERSON GROUP INC., FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
- REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
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- SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

DESIGN EVENT	PRE-DEVELOPMENT CONDITIONS	POST-DEVELOPMENT CONDITIONS - INTERIM CONDITIONS				
	ALLOWABLE RELEASE RATE (L/s)	IA-0 TO IA-6 (INCL. FLOW FROM AREA R-1) CONTROLLED FLOW (L/s) *	IA-7 DIRECT RUNOFF (L/s)	TOTAL FLOW (L/s)	TOTAL REQUIRED STORAGE (m <sup>3</sup> )	REDUCTION IN FLOW (L/s or %)
1:2 YR	35.7	22.4	7.9	30.3	48.2	5.4 or 15%
1:5 YR	48.5	25.5	10.8	36.3	71.2	12.2 or 25%
1:100 YR	103.9	34.5	21.9	56.4	165.6	47.5 or 46%

\* IN THE INTERIM CONDITIONS, CONTROLLED BUILDING ROOF FLOWS WILL BE SUBSEQUENTLY CONTROLLED BY THE PERFORMED PIPES LOCATED BELOW THE LEVEL SPREADER AS FLOWS WILL BE DIRECTED TO THE SURFACE VIA CBMH 101.

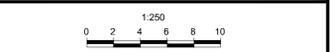
AREA ID *	ROOF DRAIN No. (WATTS MODEL)	ROOF DRAIN OPENING SETTING	1:5 YEAR RELEASE RATE	APPROX. 5-YR PONDING DEPTH	1:100 YEAR RELEASE RATE	APPROX. 100-YR PONDING DEPTH
R-1	RD 1 (RD-100-A-ADJ)	FULLY EXPOSED	1.07 L/s	9 cm	1.39 L/s	12 cm
R-1	RD 2 (RD-100-A-ADJ)	FULLY EXPOSED	1.07 L/s	9 cm	1.39 L/s	12 cm
R-1	RD 3 (RD-100-A-ADJ)	-	0.26 L/s	-	0.50 L/s	-

\* REFER TO THE DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT (R-2022-090) PREPARED BY NOVATECH FOR DRAINAGE AREA IDENTIFIERS AND STORMWATER MANAGEMENT DETAILS.



PORTFOLIO DE L'URBANISME ET DE L'INFRASTRUCTURE  
DÉPARTEMENT DES SERVICES D'INFRASTRUCTURE  
DIRECTION DE CONCEPTION ET DE CONSTRUCTION - IMMEUBLES ET DES PARCS

FOR / POUR  
INFRASTRUCTURE SERVICES & COMMUNITY SUSTAINABILITY  
INFRASTRUCTURE SERVICES  
DESIGN & CONST. - BUILDINGS & PARKS



NUMBER	REVISION / MILESTONE / FAT SALLANT	DATE	BY (NAME)	INITIALS
3	REVISED PER CITY AND MVCA COMMENTS	23/1/20	FST	
2	ISSUED FOR TENDER	22/1/20	FST	
1	ISSUED FOR SITE PLAN APPROVAL	22/1/20	FST	

DESIGNED BY / CONCEVU PAR	CHECKED BY / VÉRIFIÉ PAR
FST/DMM	FST
DRAWN BY / DÉSSINÉ PAR	SCALE / ÉCHELLE
DMM	1:250

**DRAWING TITLE**  
SCALE: 1:250  
SHEET NUMBER

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ARCHITECT / ARCHITECTE  
CONSULTANT / EXPERT-CONSEIL  
F.S. THAUVETTE  
100041399  
JAN 30, 2023  
PROVINCE OF ONTARIO

PROJECT / LOCATION / PROJET / ENDROIT  
**FIRE STATION 45**  
1075-A MARCH ROAD  
OTTAWA, ONTARIO

DRAWING / DESSIN  
**STORMWATER MANAGEMENT PLAN INTERIM CONDITIONS**

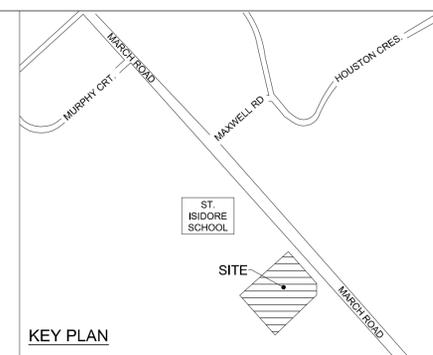
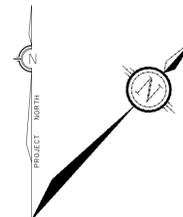
BUSINESS ENTITY / NUMÉRO DE L'ENTITÉ / BÂTIMENT / NUMÉRO DU BÂTIMENT  
CITY PROJECT NO. / NUMÉRO DE PROJET  
CONS. PROJECT NO. / NUMÉRO DE PROJET  
122089

SHEET NO. / FEUILLE NO.  
**C3.0**

D07-12-22-0090

**LEGEND**

	PROPOSED BARRIER CURB		PROPOSED SANITARY MANHOLE		TOP OF FOUNDATION WALL ELEVATION		EXISTING CATCHBASIN
	PROPOSED DEPRESSED CURB		PROPOSED STORM MANHOLE		UNDERSIDE OF FOOTING ELEVATION		EXISTING CATCHBASIN MH
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	POST-DEVELOPMENT AREA ID		PROPOSED CATCHBASIN MANHOLE		EXISTING CONCRETE CURB		APPROXIMATE PONDING LIMITS
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PORTFOLIO DE L'URBANISME ET DE L'INFRASTRUCTURE  
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DIRECTION DE CONCEPTION ET DE CONSTRUCTION - IMMEUBLES ET DES PARCS

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INFRASTRUCTURE SERVICES  
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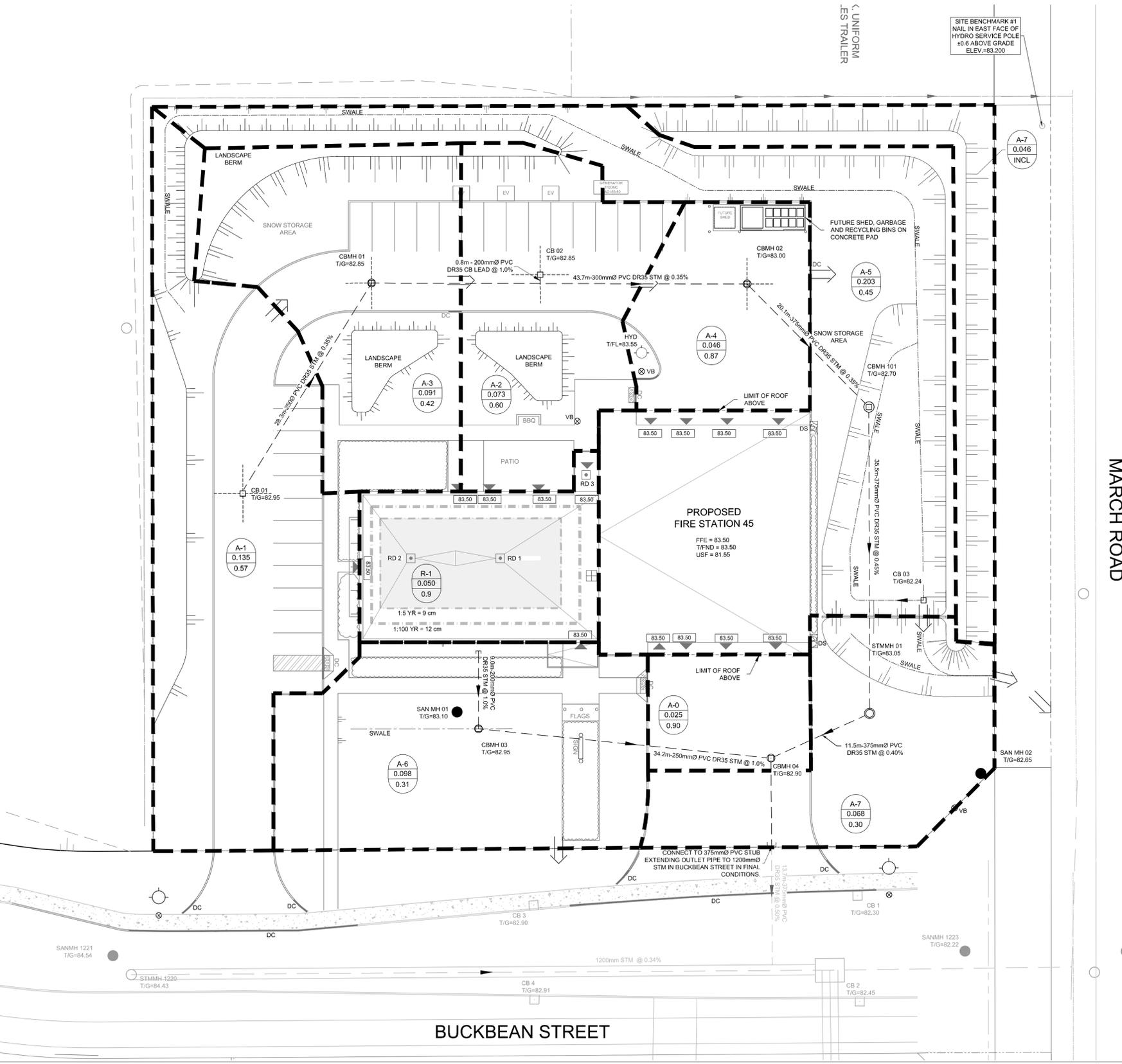
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DESIGN EVENT	PRE-DEVELOPMENT CONDITIONS	POST-DEVELOPMENT CONDITIONS				
	ALLOWABLE RELEASE RATE (L/s)	A-0 TO A-6 UNCONTROLLED FLOW (L/s)	A-7 DIRECT RUNOFF (L/s)	R-1 CONTROLLED FLOW (L/s)	TOTAL FLOW (L/s)	REDUCTION IN FLOW (L/s or %)
1.5 YR	221.9	99.7	10.2	2.4	112.3	109.6 or 49%
1:100 YR		195.2	20.7	3.3	219.2	2.8 or 1.2%

AREA ID	ROOF DRAIN No. (WATTS MODEL)	ROOF DRAIN OPENING SETTING	1.5 YEAR RELEASE RATE	APPROX. 5-YR PONDING DEPTH	1:100 YEAR RELEASE RATE	APPROX. 100-YR PONDING DEPTH
R-1	RD 1 (RD-100-A-ADJ)	FULLY EXPOSED	1.07 L/s	9 cm	1.39 L/s	12 cm
R-1	RD 2 (RD-100-A-ADJ)	FULLY EXPOSED	1.07 L/s	9 cm	1.39 L/s	12 cm
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MARCH ROAD

NUMBER	REVISION / MILESTONE / FAT / SAILANT	DATE	BY (MNO)	INITIALS
7	REVISED PER CITY AND MVCA COMMENTS	23/01/20	FST	
6	ISSUED FOR TENDER	22/12/09	FST	
5	ISSUED FOR SITE PLAN APPROVAL	22/12/09	FST	
4	ISSUED FOR 99% REVIEW	22/08/09	FST	
3	REVISED PER CITY COMMENTS	22/08/03	FST	
2	ISSUED FOR 30% REVIEW	22/06/00	FST	
1	ISSUED FOR SPC APPROVAL	22/05/00	FST	

DESIGNED BY / CONCEIVED	FST
DRAWN BY / DASSIEN PAX	SCALE / ÉCHELLE
DMM	1:250

DETAIL NUMBER: 1  
DRAWING TITLE: A1.1  
SCALE: 1:250  
SHEET NUMBER

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ARCHITECT / ARCHITECTE: [Signature]

CONSULTANT / EXPERT-CONSEIL: F.S. THAUVETTE  
LICENSED PROFESSIONAL ENGINEER  
100041399  
JAN 30, 2023  
PROVINCE OF ONTARIO

CONSULTANT / EXPERT-CONSEIL: [Signature]

CONSULTANT / EXPERT-CONSEIL: [Signature]

PROJECT / LOCATION / PROJET / ENDROIT: FIRE STATION 45  
1075-A MARCH ROAD  
OTTAWA, ONTARIO

DRAWING / DESSIN: STORMWATER MANAGEMENT PLAN FINAL CONDITIONS

BUSINESS ENTITY / NUMERO DE L'ENTITE: 122089

SHEET NO. / FEUILLE NO.: C3.1

D07-12-22-0090