

GENERAL NOTES:

1.

ALL SERVICES TO BE INSTALLED AS PER CITY OF HAMILTON CONSTRUCTION AND MATERIAL SPECIFICATIONS MANUAL (LATEST EDITION) AND MINISTRY OF THE ENVIRONMENT GUIDELINES (LATEST EDITION).

2.

MINIMUM HORIZONTAL SEPARATION BETWEEN WATER SERVICES/MAINS AND SEWER DRAINS AND MUNICIPAL SEWER MAINS SHALL BE 2.5 m MEASURED FROM THE CLOSEST PIPE EDGE TO CLOSEST PIPE EDGE. VERTICAL SEPARATION WHERE WATER SERVICE/MAIN PASSES OVER A SEWER DRAIN OR MUNICIPAL SEWER MAIN MUST BE A MINIMUM OF 0.25 m UNLESS GREATER SEPARATION IS REQUIRED TO PROVIDE FOR PROPER BEDDING AND STRUCTURAL SUPPORT. WATER SERVICES/MAINS PASSING UNDER SEWER DRAINS OR MUNICIPAL SEWER MAINS MUST HAVE A SEPARATION OF 0.5 m BETWEEN THE INVERT OF THE SEWER MAIN/DRAIN AND THE CROWN OF THE WATER SERVICE/MAIN.

3.

RESTORATION OF ROAD OVER UTILITY CUTS IN HAMILTON TO BE AS PER STANDARD DRAWINGS RD-100.01 AND RD-100.02, WITH GRANULAR 'A' BEDDING.

4.

APPROVAL OF THIS DRAWING IS FOR MATERIAL ACCEPTABILITY AND COMPLIANCE WITH MUNICIPAL AND PROVINCIAL SPECIFICATIONS AND STANDARDS ONLY. APPROVAL AND INSPECTION BY THE CITY OF THE WORKS DOES NOT CERTIFY THE LINE AND GRADE OF THE WORKS AND IT IS THE OWNER'S RESPONSIBILITY TO HAVE THEIR ENGINEER CERTIFY THIS ACCORDINGLY.

SEWER SERVING

1

SANITARY AND STORM SEWERS

o

CONSTRUCTION OF SANITARY & STORM SEWERS & PRIVATE DRAINS SHALL BE IN ACCORDANCE WITH CITY STANDARDS & SPECIFICATIONS (LATEST EDITION) AND MINISTRY OF ENVIRONMENT (MOE) GUIDELINES (LATEST EDITION).

b

COVER AND BEDDING MATERIAL FOR CONCRETE PIPE SHALL BE GRANULAR 'A' MATERIAL AS PER OPSD 802.030 OR 802.033 CLASS 'B' BEDDING.

c

COVER AND BEDDING MATERIAL FOR PVC PIPE SHALL BE GRANULAR 'A' MATERIAL AS PER OPSD 802.010 OR 802.013.

d

PVC PIPE WILL REQUIRE SPECIAL CONSTRUCTION PROCEDURES AS PER CITY SPECIFICATIONS.

e

ALL SEWERS TO BE FLUSHED PRIOR TO VIDEO INSPECTION.

f

MANHOLE FRAMES AND COVERS SHALL BE AS PER OPSD 401.010 (STORM-OPEN, SANITARY-CLOSED).

g

SANITARY SEWER (200mm TO 375mm DIA) SHALL BE PVC PIPE, CSA B182.2, SDR-35.

h

STORM SEWER (300m TO 600mm DIA.) SHALL BE PVC PIPE, CSA B182.2, SDR-35.

i

STORM SEWER > 600mm DIA. SHALL BE CONCRETE PIPE, CSA A257.2 (AS SPECIFIED)

j

PVC (SANITARY AND STORM) SEWERS ARE TO BE TESTED FOR DEFLECTION (MANHOLE PASSAGE) AFTER INSTALLATION. SANITARY SEWERS SHALL ALSO BE TESTED FOR LEAKAGE (LOW AIR PRESSURE), PRIOR TO ASSUMPTION BY THE CITY, PIPE DEFLECTION TESTING SHALL BE REPEATED.

k

ALTERNATE MATERIALS MAY BE ACCEPTABLE PROVIDED APPROVAL HAS FIRST BEEN OBTAINED FROM THE CITY/ENGINEER.

2

PRIVATE DRAINS

o

'S' DENOTES SINGLE SANITARY PRIVATE DRAIN CONNECTION, 'D' DENOTES DUAL PRIVATE DRAIN CONNECTION (SANITARY & STORM).

b

TO BE LOCATED 1.5m ON RIGHT SIDE OF CENTERLINE OF LOT OR AS DETAILED AND EXTENDED 1.0m BEYOND THE STREET LINE. THE STORM SERVICE SHALL BE INSTALLED TO THE NORTH OR EAST OF THE SANITARY SERVICE.

c

PRIVATE DRAINS TO BE 150mm DIA. PVC PIPE, CSA B182.1 M-1983, SDR 26 AS PER FORM 500. STORM PIPE SHALL BE WHITE AND SANITARY SHALL BE ANY COLOUR OTHER THAN WHITE. WOOD MARKING AT END OF SANITARY PRIVATE DRAIN SHALL BE PAINTED RED.

d

COVER AND BEDDING MATERIAL FOR PRIVATE DRAINS SHALL BE GRANULAR 'A' INSTALLED AS PER OPSD 802.010 OR 802.013.

e

MINIMUM FALL FOR PRIVATE DRAINS TO BE 2.0%.

f

TOP OF SANITARY PRIVATE DRAINS AT STREET LINE TO BE 2.2m (MIN.) BELOW CENTERLINE ROAD ELEVATION AT THAT POINT OR AS DETAILED.

g

TOP OF STORM PRIVATE DRAINS AT STREET LINE TO BE 1.2m (MIN.) BELOW CENTERLINE ROAD ELEVATION AT THAT POINT OR AS DETAILED.

h

BUILDING RAINWATER LEADERS SHALL NOT BE CONNECTED TO THE STORM PRIVATE DRAIN BUT SHALL DISCHARGE ONTO THE GROUND SURFACE VIA SPLASH PADS.

i

SUMP PUMPS WITH CHECK VALVES SHALL BE INSTALLED IN EACH DWELLING TO PUMP THE BUILDING WEEPING TILES TO THE STORM PRIVATE DRAINS. THE SUMP OUTLET PIPE SHALL EXTEND A MINIMUM OF 150MM ABOVE THE PROPOSED GRADE AT THE DWELLING (BASEMENT CEILING) PRIOR TO DISCHARGING TO THE STORM PRIVATE DRAIN.

WATER SERVING

1

WATERMAINS

o

CONSTRUCTION OF WATERMAINS & PRIVATE SERVICES SHALL BE IN ACCORDANCE WITH CITY STANDARDS & SPECIFICATIONS (LATEST EDITION) AND MINISTRY OF ENVIRONMENT (MOE) GUIDELINES (LATEST EDITION).

b

TO BE INSTALLED TO A MINIMUM DEPTH OF 1.80m BELOW PROPOSED CENTERLINE ROAD GRADE ON ALL ROADS EXCEPT ON (NAME OF ROAD) WHERE THE MINIMUM DEPTH IS 1.6m.

c

PVC PIPE IN SIZES 100mm THROUGH 300mm SHALL BE CLASS 150 DR18 CONFORMING TO AWWA C900, FOR 400mm, SEE SECTION 7; SPECIAL NOTES.

d

TRACER WIRE SHALL BE INSTALLED WITH PVC PIPE IN ACCORDANCE WITH FORM 400. IT SHALL BE 12 GAUGE TW75, TWU75 OR RWX00 PIPE COATED COPPER AND SHALL BE POSITIONED ALONG THE TOP OF THE PIPE AND FASTENED AT 6 METRE INTERVALS. THE WIRE IS TO BE INSTALLED BETWEEN EACH VALVE AND/OR THE END OF THE NEW PVC WATERMAIN. JOINTS IN THE WIRE BETWEEN VALVES ARE NOT PERMITTED. AT EACH GATE VALVE A LOOP WIRE IS TO BE BROUGHT UP INSIDE THE VALVE BOX TO THE CAP. THE TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT THE SECONDARY VALVE ON ALL FIRE HYDRANTS. THE TRACER WIRE SHALL ALSO BE CONNECTED TO THE CATHODIC PROTECTION SYSTEM AS REQUIRED.

e

MOLDED PVC FITTINGS FOR PIPE SIZES 100mm TO 300mm SHALL CONFORM TO AWWA C900 AND CERTIFIED TO CSA B137.2.

f

FABRICATED FITTINGS 250mm AND 300mm SHALL BE MANUFACTURED FROM SEGMENTS OF AWWA C900, CLASS 150 (DR18) PVC PIPE, BONDED TOGETHER AND OVER-WRAPPED WITH FIBREGLASS-REINFORCED POLYESTER TO MEET THE REQUIREMENTS OF CSA B137.3.

g

WHERE METAL FITTINGS ARE TO BE USED ON PVC MAINS SUFFICIENT CATHODIC PROTECTION MUST BE PROVIDED AS PER THE FOLLOWING REQUIREMENTS:

i.

MINIMUM OF ONE 11KG ZINC ANODE SHALL BE INSTALLED FOR EVERY 1000mm OF TRACER WIRE.

ii.

ONE 11KG ZINC ANODE SHALL BE INSTALLED FOR EACH COPPER WATER SERVICE CONNECTION;

iii.

ONE 11KG ZINC ANODE SHALL BE INSTALLED ON EVERY VALVE, HYDRANT, BEND, TEE, SLEEVE, REDUCER, PLUG, CAP, JOINT RESTRAINT, COUPLING, ETC., CONNECTED TO THE PVC PIPE.

h

BEDDING AND BACKFILL AS PER WM-200.01 AND WM-200.02 GRANULAR 'A' MATERIAL FOR MAINS AND SERVICES GREATER THAN 50mm.

i

WATERMAIN DEFLECTION FOR PVC PIPE:

1.

MAXIMUM ALLOWABLE DEFLECTION OF 1.5 DEGREES PER JOINT UP TO 250mm DIAMETER (160mm PER 6.1m PIPE LENGTH) AND 1.2 DEGREES FOR 300mm DIAMETER (128mm PER 6.1m PIPE LENGTH) SHALL NOT BE EXCEEDED.

ii.

ALL JOINTS SHALL BE DEFLECTED AN EQUAL AMOUNT.

2

FLUSHING, SWABBING AND TESTING

o

ALL NEW WATERMAINS ARE TO BE SWABBED IN ACCORDANCE WITH CITY SPECIFICATIONS.

b

A REDUCED PRESSURE ZONE BACKFLOW PREVENTER (WATTS SERIES 909 OR APPROVED EQUAL) IS REQUIRED ON THE TEMPORARY SUPPLY LINES USED FOR FILLING AND FLUSHING OR SWABBING OF WATERMAINS.

c

UPON COMPLETION OF INSTALLATION, THE CONTRACTOR SHALL PERFORM A PRESSURE TEST ON THE WATERMAINS AS PER FORM 400. WATERMAIN IS TO BE TESTED PRIOR TO CONNECTION TO EXISTING WATERMAINS USING TEMPORARY CAPS OR PLUGS. PIPE CLOSURES, WHERE REQUIRED, ARE TO BE SUPPLIED BY THE CONTRACTOR. THE CONTRACTOR WILL ALSO SUPPLY AND INSTALL ALL ADAPTOR PIECES IN ORDER TO CONNECT TO EXISTING WATERMAINS.

3

WATER SERVICES

o

'W' DENOTES WATER SERVICE CONNECTION (20MM DIA. TYPE 'K' SOFT COPPER) AS PER WM-207.01 OR AS DETAILED.

b

TO BE LOCATED 1.0m ON LEFT SIDE OF CENTER LINE OF LOT OPPOSITE SANITARY PRIVATE DRAIN OR AS DETAILED, WITH CURB STOP ADJACENT TO THE STREET LINE.

c

GRANULAR BEDDING AS PER WM-200.01 AND WM-200.02 TO BE GRANULAR 'D' AS PER FORM 600.

4

VALVES & VALVE BOXES

o

ALL VALVE BOXES TO BE SET TO PROPOSED GRADES.

b

100MM TO 300mm GATE VALVE & VALVE BOXES AS PER WM-202.

5

ANCHOR BLOCKS

o

FOR 100mm TO 300mm WATERMAINS STANDARD CONCRETE ANCHOR BLOCKS AS PER WM-204.01.

b

FOR 100mm TO 300mm WATERMAINS STANDARD CONCRETE ANCHOR BLOCKS AS PER WM-204.01.

6

HYDRANTS

o

TO BE INSTALLED WITH SECONDARY VALVES AS PER WM-203.01 OR WM-203.02 AS DETAILED. THEY SHALL OPEN COUNTER-CLOCKWISE (LEFT) AND HAVE A '1' PAINTED ON THE BARREL SECTION. THE 100MM PUMPER 'STORZ' CONNECTION SHALL FACE THE ROADWAY AND BE PAINTED BLACK.

b

ALL FIRE HYDRANTS SHALL CONFORM TO THE CITY OF HAMILTON (MUNICIPALITY) FIRE DEPARTMENTS REQUIREMENTS AND SHALL BE OF SAME MANUFACTURE.

7

SPECIAL NOTES - FOR 400mm DIA. WATERMAIN

o

TO BE D.I. CLASS 52, CEMENT-JOINT WITH CEMENT-LINED FITTINGS OR CONCRETE PRESSURE PIPE AS PER AWWA C-301 OR C-303.

b

BEDDING AS PER WM-200.01 OR WM-200.02, (GRAN. 'A', FORM 600).

c

STANDARD CONCRETE ANCHOR BLOCKS AS PER WM-204.02 FOR 11¼" AND 22½" BENDS, WM-204.03 FOR 45° BENDS, WM-204.07 FOR TEES AND WM-204.09 FOR PLUGS.

d

FOR D.I. PIPE USE 400 X 150mm HYDRANT TEE AND ANCHOR BLOCK AS PER WM-204.01

e

FOR CONCRETE PRESSURE PIPE, AS HYDRANTS USE CONCENTRIC PLAIN-END BRANCH AND ANCHOR BLOCK AS PER WM-204.01.

f

WATERMAIN DEFLECTION PER PIPE LENGTH:

i

DUCTILE IRON - MAXIMUM ALLOWABLE DEFLECTION OF 2.5° SHALL NOT BE EXCEEDED (246mm PER 6.1m PIPE LENGTH)

ii

CONCRETE - MAXIMUM ALLOWABLE DEFLECTIONS OF 1.6° SHALL NOT BE EXCEEDED (170mm PER 6.1m PIPE LENGTH). ALL JOINTS SHALL BE DEFLECTED AN EQUAL AMOUNT.

g

WATERMAIN TO BE TESTED PRIOR TO CONNECTION TO EXISTING WATERMAINS USING TEMPORARY CAPS OR PLUGS. PIPE CLOSURES, WHERE REQUIRED, TO BE SUPPLIED BY CONTRACTOR. CONTRACTOR TO SUPPLY AND INSTALL ALL ADAPTOR PIECES AS REQUIRED IN ORDER TO CONNECT TO THE EXISTING WATERMAIN.

ROAD WORK

1

GENERAL

o

CONSTRUCTION OF ROADWAYS & RELATED WORKS SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS (LATEST EDITION).

b

FOLLOWING THE INSTALLATION OF SEWERS, ALL ROADWAYS SHALL BE ROUGH GRADED TO SUBGRADE FOR THE INSTALLATION OF WATERMAINS & UTILITIES.

2

PRELIMINARY ROADS

o

NO PRELIMINARY ROADS TO BE INSTALLED.

3

CATCH BASINS

o

CATCH BASIN CONNECTIONS TO BE 250mm DIA. PVC PIPE CSA B182.2, SDR-35 UNLESS OTHERWISE NOTED.

b

SINGLE/DOUBLE STREET CATCH BASINS AS PER OPSD 705.010/705.020 RESPECTIVELY WITH GOSS TRAPS AS PER SEW-304.

c

PRIVATE REAR YARD CATCH BASINS AS PER OPSD 705.010 (NO GOSS TRAPS).

4

FINAL ROADWAYS

o

CROSS-FALL TO BE 2.0%.

b

STANDARD DEEP STRENGTH PAVEMENT (40mm HM 3, 80mm HL 8 ON 150mm GRANULAR 'A' & 300mm GRANULAR 'B', TYPE II 100% CRUSHED AGGREGATE) FOR TYPICAL URBAN RESIDENTIAL STREETS.

c

FOR MAJOR COLLECTOR ROADS (NAME OF ROADS) TYPICAL PAVEMENT PROFILE SHALL BE 40mm HM 3(HD), 100mm HL 8(HS) ON 150mm GRANULAR 'A' & 300mm GRANULAR 'B', TYPE II 100% CRUSHED AGGREGATE.

d

MANHOLES AND CATCH BASINS SHALL BE INSTALLED FLUSH WITH THE BASE COURSE ASPHALT (HL 8).

e

MANHOLES TO BE ADJUSTED TO MATCH FINAL FINL OF ASPHALT.

f

FOR MANHOLE AND CATCH BASIN TOP ADJUSTMENTS, ALL PERMANENT ADJUSTMENTS ARE TO BE POURED IN PLACE.

g

FINAL ASPHALT COURSE (HM 3) SHALL BE PLACED A MIN. OF ONE YEAR AFTER THE INSTALLATION OF THE ASPHALT BINDER COURSE.

5

SIDEWALKS AND CURBS & GUTTERS

o

CONCRETE CURB AND GUTTER AS PER OPSD 600.040 - (BARRIER TYPE), MIN. 30 MPA STRENGTH. A 50mm KEY IS REQUIRED FOR ALL LOCATIONS.

b

CURB DEPRESSION AT DRIVEWAYS AS PER OPSD 600.040 AND OPSD 310-050.

c

1.5m WIDE CONCRETE SIDEWALK AS PER OPSD 310.010 (125mm THICKNESS, MIN. 30 MPA STRENGTH WITH GRANULAR 'A' BASE AS REQUIRED TO PROVIDE A LEVELING COURSE FOR THE CONCRETE. AT DRIVEWAYS, CONCRETE DEPTH TO BE MIN. 175mm.

d

WHEELCHAIR RAMPS REQUIRED AT ALL INTERSECTIONS AS PER OPSD 310.030.

e

ASPHALT RAMPING SHALL BE PLACED TO SUIT THE WHEELCHAIR RAMPS IF SURFACE COURSE ASPHALT IS NOT INSTALLED AT THE SAME TIME. THESE RAMPS ARE TO BE REMOVED JUST PRIOR TO PLACEMENT OF SURFACE COURSE ASPHALT.

2

ROAD SUBDRAINS

o

100mm FILTER WRAPPED CORRUGATED SUBDRAINS TO BE INSTALLED CONTINUOUSLY BELOW THE CURB AND GUTTER AND CONNECTED TO THE CBS.

COMPACTION REQUIREMENTS

o

ALL BEDDING AND BACKFILL MATERIAL, ROAD SUB-GRADES AND GENERALLY ALL MATERIAL USED FOR LOT GRADING AND FILL SECTIONS, ETC., SHALL BE COMPACTED TO MIN. 95% SPD (UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER). ALL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 300mm LIFTS.

b

ALL GRANULAR ROAD BASE MATERIALS SHALL BE COMPACTED TO 95% SPD.

c

FOR ALL SEWERS AND WATERMAINS IN FILL SECTIONS, THE COMPACTION SHALL BE CERTIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO LAYING OF PIPE.

SILTATION AND EROSION CONTROL:

A.

SILTATION CONTROL BARRIERS SHALL BE PLACED AS DETAILED.

B.

ALL SILTATION CONTROL MEASURES SHALL BE CLEANED AND MAINTAINED AFTER EACH RAINFALL AND ALSO WEEKLY AS DIRECTED AND TO THE SATISFACTION OF THE CITY OF TORONTO.

C.

ADDITIONAL SILT CONTROL LOCATIONS MAY BE REQUIRED AS DETERMINED BY THE CITY OF TORONTO.

D.

ALL SILT FENCING TO BE INSTALLED PRIOR TO COMMENCEMENT OF ANY AREA GRADING, EXCAVATING, OR DEMOLITION.

E.

PROTECT ALL DISTURBED AND EXPOSED AREAS AS A RESULT OF CONSTRUCTION. STORM WATER MEASURES DURING CONSTRUCTION TO BE UTILIED TO ENSURE SUITABLE DRAINAGE WHILE MINIMIZING EROSION. STOCKPILES ARE TO BE SEEDD OR COVERED WITH VEGETATIVE GROWTH FOR THE DURATION OF CONSTRUCTION.

F.

PROTECT ALL MANHOLES, AND PIPE ENDS (EXISTING AND NEW) FROM SEDIMENT INTRUSION WITH GEOTEXTILE CLOTH (TERRAFIX 270). ALL CATCHBASINS TO HAVE SILTBACK AS PER THE ATTACHED DETAILS.

G.

4. PREVENT WIND-BLOWN DUST TO THE BEST OF THE CONTRACTORS ABILITY. KEEP SOIL DAMP DURING DRY WHETHER OR BY OTHER MEANS NECESSARY TO COMPLETE THE WORK.

H.

EROSION CONTROL STRUCTURES TO BE MONITORED REGULARLY BY CONTRACTOR AND ANY DAMAGE REPAIRED IMMEDIATELY. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF ONE THIRD (1/3) THE HEIGHT OF THE SILT FENCE.

I.

ALL EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER.

J.

THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SEDIMENTS FROM THE MUNICIPAL ROADWAY AND SIDEWALKS AT THE END OF EACH WORK DAY.

K.

MUD MATS OF 50 CRUSHER RUN LIMESTONE OR 75 ASPHALT ON MINIMUM DEPTH OF CRUSHER RUN LIMESTONE. (20m LONG, 10m WIDE, 450mm DEEP) SHALL BE PROVIDED ON SITE CONSTRUCTION ENTRANCES. CONTRACTOR TO ENSURE ALL VEHICLES LEAVE THE SITE VIA THE MUD MAT AND THAT THE MAT IS MAINTAINED IN A MANNER TO MAXIMIZE ITS EFFECTIVENESS AT ALL TIMES. REFERENCE SHOULD BE DRAWN TO LOCATIONS ON DRAWING.

LOT GRADING NOTES

GENERAL GRADING NOTES:

1.

ALONG ADJOINING PROPERTIES GRADE TO MEET EXISTING OR PROPOSED ELEVATIONS WITH SODDED SLOPES (MIN. 3H TO 1V) AND/OR RETAINING WALLS AS SPECIFIED.

2.

ALL RETAINING WALLS, WALKWAYS, CURBS, ETC., SHALL BE PLACED A MIN. OF 0.45m OFF THE PROPERTY LINE. ALL WALLS 1.0m OR HIGHER SHALL BE DESIGNED BY A P.E.N.G.

3.

SHOULD A RETAINING WALL BE REQUIRED, THE TOP OF WALL ELEVATIONS SHALL BE SET 150mm ABOVE THE PROPOSED SIDE YARD SWALES.

4.

RETAINING WALLS 0.6m IN HEIGHT OR GREATER REQUIRE CONSTRUCTION OF A FENCE OR GUARD RAIL. AT THE TOP OF THE REAR OF THE WALL, GUARDS FOR RETAINING WALLS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF EXTERIOR GUARDS AS CONTAINED IN THE ONTARIO BUILDING CODE.

5.

SLOPES OF SWALES FOR BOTH "BACK TO FRONT" AND "SPLIT" DRAINAGE SHALL BE NO LESS THAN 2.0% GRADE AND NO GREATER THAN 33% GRADE (3:1 SLOPES)

6.

WHEN MATCHING TO EXISTING PROPERTIES WHERE A 2.0% GRADE CANNOT BE ACHIEVED, A 1.5% GRADE IS PERMITTED PROVIDED A 150mm SUB-DRAIN IS INSTALLED BELOW THE BOTTOM OF THE SWALE AND DRAINED TO A SUITABLE OUTLET, (WITH A MINIMUM 0.3m COVER OVER THE SUB-DRAIN), OR OTHER MITIGATION MEASURES.

7.

MINIMUM GRADE FOR A WRAP-AROUND SWALE IN THE BACKYARD SHALL BE 1.0%.

8.

UNLESS OTHERWISE NOTED, THE GRADE BETWEEN PROPOSED ELEVATIONS ON SIDE LOTS SHALL BE GRADED AS A STRAIGHT LINE.

9.

TOP OF FOUNDATION WALLS FOR BUILDINGS SHALL BE 150mm (MIN) ABOVE FINISHED GRADE.

10.

DRIVEWAY SLOPES SHALL NOT BE LESS THAN 2% AND NOT MORE THAN 7.0%. REVERSED SLOPED DRIVEWAYS IN NEW DEVELOPMENTS ARE NOT PERMITTED.

11.

GARAGE FLOOR ELEV. TO BE SET MINIMUM 0.3m HIGHER THAN BACK OF WALK, UNLESS OTHERWISE SPECIFIED.

12.

ALL FILL PLACED ON LOTS SHALL BE COMPACTED TO A MINIMUM 95% SPD (UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER). ALL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 300mm LIFTS.

13.

FOR DELINEATION OF TREE PROTECTION ZONES, BUFFERS, REMOVALS AND PROTECTION SCHEMATICS, ETC., REFER TO TREE PROTECTION PLAN.

14.

LOT GRADING FOR ALL LOTS IN THE SUBDIVISION SHALL CONFORM STRICTLY WITH THIS PLAN. ANY CHANGES, UNLESS APPROVED PRIOR TO CONSTRUCTION BY THE CITY, SHALL RESULT IN NON ACCEPTANCE OF THE SUBDIVISION BY THE CITY.

15.

IF GRADING IS REQUIRED ON LANDS ADJACENT TO THE DEVELOPMENT WHICH ARE NOT OWNED BY THE DEVELOPER, THEN THE DEVELOPER MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNER TO ALLOW THE DEVELOPER TO GRADE ON THE ADJACENT LANDS. OTHERWISE RETAINING WALLS MUST BE USED.

16.

THE WRITTEN PERMISSION REQUIRED FROM THE ADJACENT LANDOWNER SHALL BE OBTAINED PRIOR TO ENTERING THE LANDS. SHOULD PERMISSION NOT BE OBTAINED OR 8 WITHDRAWN PRIOR TO COMMENCING THE WORK, THEN THE DEVELOPER SHALL LIMIT HIS ACTIVITIES TO THE LIMITS OF THE DEVELOPMENT SITE.

17.

DRIVEWAY AND DRIVEWAY APPROACHES SHALL BE LOCATED SUCH THAT HYDRO VAULTS AND OTHER STREET FURNITURE ARE A MIN. OF 1.2m FROM THE PROJECTIONS OF THE OUTSIDE GARAGE WALLS.

BACKYARD GRADING NOTES

o.

DEFINITION: "REQUIRED BACK YARD" SHALL MEAN THE LESSER OF THE DISTANCE REGULATED BY THE ZONING BY-LAW OR 6m.

b.

THE MAXIMUM SLOPE IN THE BACK YARD ADJACENT TO THE BUILDING FOR A DISTANCE EQUAL TO THE REQUIRED BACK YARD SHALL BE 5%, EXCEPT AS SET OUT IN ITEMS BELOW.

c.

THE 5% RESTRICTION SHALL NOT APPLY TO THE SIDES OF A SWALE ALONG THE SIDES OR BACK OF THE LOT, PROVIDING THE TOTAL WIDTH OF THE SWALE SHALL NOT EXCEED ONE (1) METRE ON EACH LOT.

d.

WHERE THE 5% RESTRICTION ON THE BACKYARD GRADES RESULTS IN ELEVATION DIFFERENCES BETWEEN DIFFERENT PROPERTIES, RETAINING WALLS SHALL BE CONSTRUCTED ALONG THE SIDES AND THE BACK OF THE LOT, SLOPES WITH A MAXIMUM OF THREE HORIZONTAL TO ONE VERTICAL MAY REPLACE THE WALLS WHERE THE DIFFERENCE IN ELEVATION IS LESS THAN 0.3m.

e.

GENERALLY, SLOPES SHALL BE PLACED ON THE LOWER LOT, WHEREAS RETAINING WALLS SHALL BE PLACED ON THE HIGHER LANDS.

f.

THE 5% RESTRICTION DOES NOT PRECLUDE RETAINING WALLS IN THE REQUIRED BACKYARDS PROVIDING THE TERRACES ARE MAINTAINED TO THE 5% GRADE AS SET OUT IN ITEM B) ABOVE. THE INTENTION OF THIS PROVISION IS TO PROVIDE FOR FLEXIBILITY OF HOUSE CONSTRUCTION.

g.

THERE IS NO CONTROL ON THE STEEPNESS OF THE SLOPES IN SIDE YARDS, FRONT YARDS AND BACK YARDS, OUTSIDE THE AREA DEFINED IN A) ABOVE, PROVIDING THE SLOPES ARE STABLE FOR THE SOILS OF THE AREA (MINIMUM 3H:1V).

ROOFWATER LEADERS

ALL ROOFWATER LEADERS SHALL DISCHARGE ONTO SPLASH PADS AND THEN TO GRASSED OR LANDSCAPED AREAS A MIN. OF 0.6m FROM THE BUILDING FACE

SUMP PUMPS

SUMP PUMPS WITH CHECK VALVES ARE TO BE INSTALLED IN EACH DWELLING TO PUMP THE WEEPING TILES TO THE STORM PRIVATE DRAIN. THE SUMP OUTLET SHALL EXTEND A MINIMUM OF 150mm ABOVE THE PROPOSED GRADE AT THE DWELLING (BASEMENT CEILING) PRIOR TO DISCHARGING TO THE STORM PRIVATE DRAIN

SITE GRADING

1.

NATIVE BACKFILL MATERIAL SHALL BE COMPACTED TO 98% STANDARD PROCTOR DENSITY. GRANULAR BACKFILL MATERIAL SHALL BE PLACED IN LAYERS 150mm IN DEPTH AND COMPACTED TO 98% STANDARD PROCTOR DENSITY.

2.

REFER TO SITE PLAN FOR LAYOUT DIMENSIONS AND DETAILS.

3.

PAVEMENT SHALL BE:

PAVEMENT COMPONENT	THICKNESS (mm)
ASPHALT SURFACING - SUPERPAVE 9.5	40mm
ASPHALT SURFACING - SUPERPAVE 9.5	40mm
GRANULAR "A" BASE	150mm

4.

SUBMIT ASPHALT MIX DESIGN AND TRIAL MIX TEST RESULTS TO CONSULTANT FOR APPROVAL.

5.

PROOF ROLLING OF SUBGRADE SHALL BE INSPECTED BY THE GEOTECHNICAL CONSULTANT.

6.

PLACE GRANULAR BASE TO COMPACTED THICKNESS AS INDICATED. DO NOT PLACE FROZEN MATERIAL.

7.

ASPHALT MATERIALS SHALL BE ROLLED AND COMPACTED TO A MINIMUM OF 97% MRD.

8.

PROOF ROLLING OF ASPHALT SHALL BE INSPECTED BY THE GEOTECHNICAL CONSULTANT.

9.

NO PAVING WILL BE ALLOWED DURING RAIN OR WET SUBGRADE AFTER RAIN.

REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF MANTECON PARTNERS AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION

4	ISSUED FOR TENDER	2025/02/25
3	ISSUED FOR TENDER REVIEW	2025/02/21
2	ISSUED FOR COSTING	2024/02/08
1	ISSUED FOR PERMIT	2024/01/31
Rev.#	Description	Date

Consultants

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Seals

Project Address

HIGH PARK NATURE AND VISITOR'S CENTER

Drawing Name:
GENERAL NOTES

Project Number: 22-142

Drawing Scale: 1:200

Date: 2024-02-08

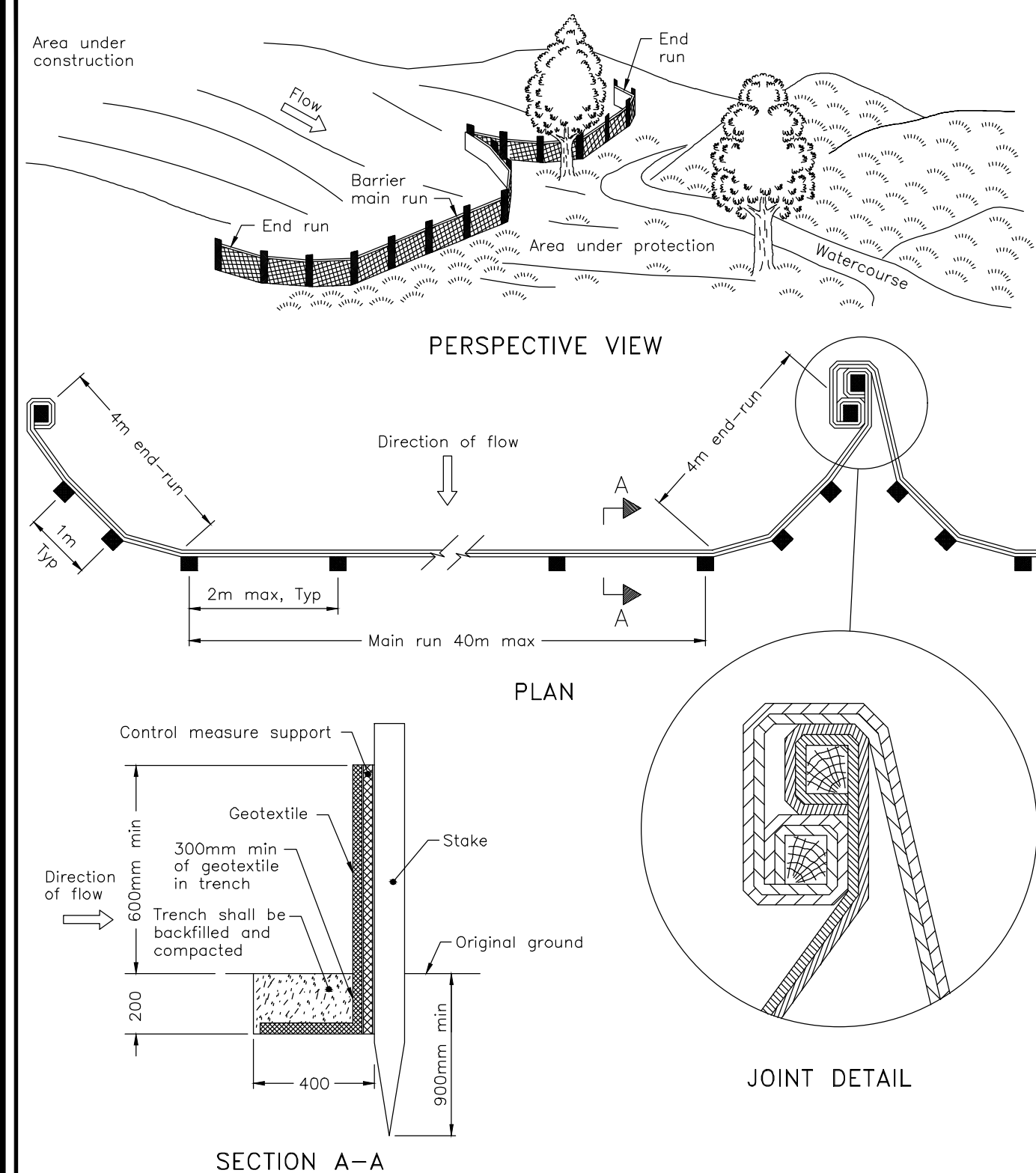
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Drawn By: T.I.

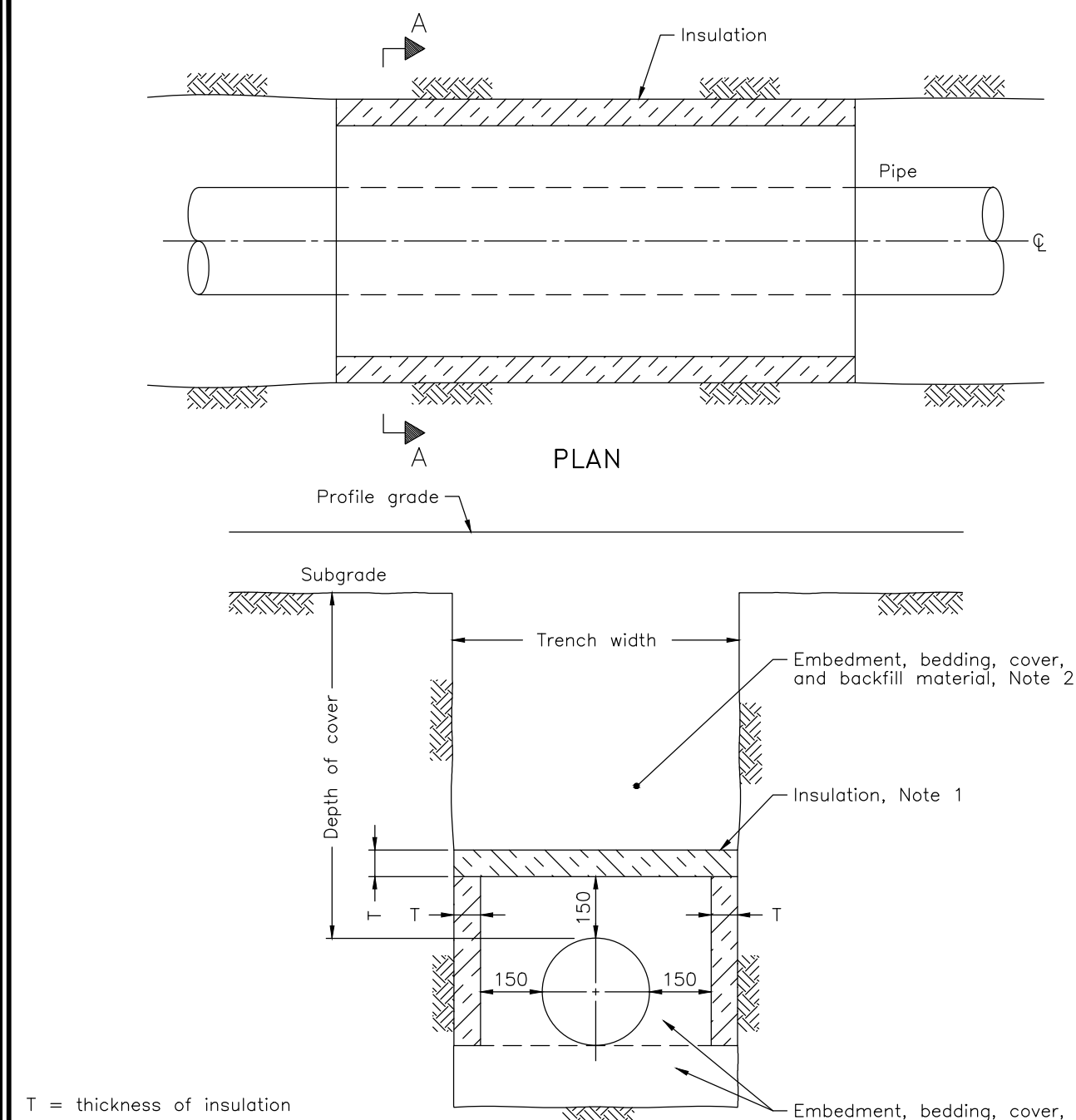
Reviewed By: C.B.

Drawing No.:

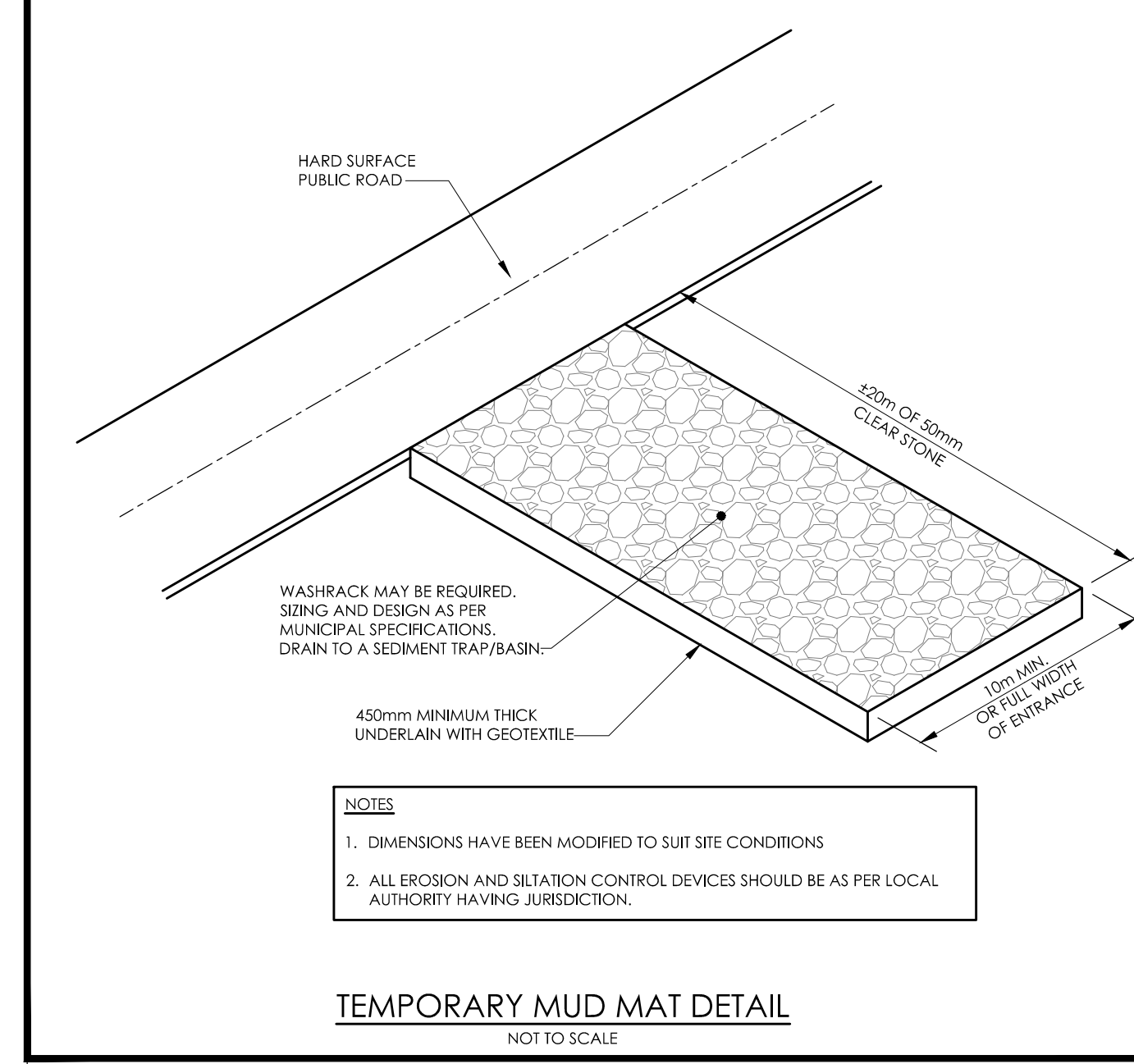
C0.1



ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2	
HEAVY-DUTY SILT FENCE BARRIER			
	OPSD 219.130		

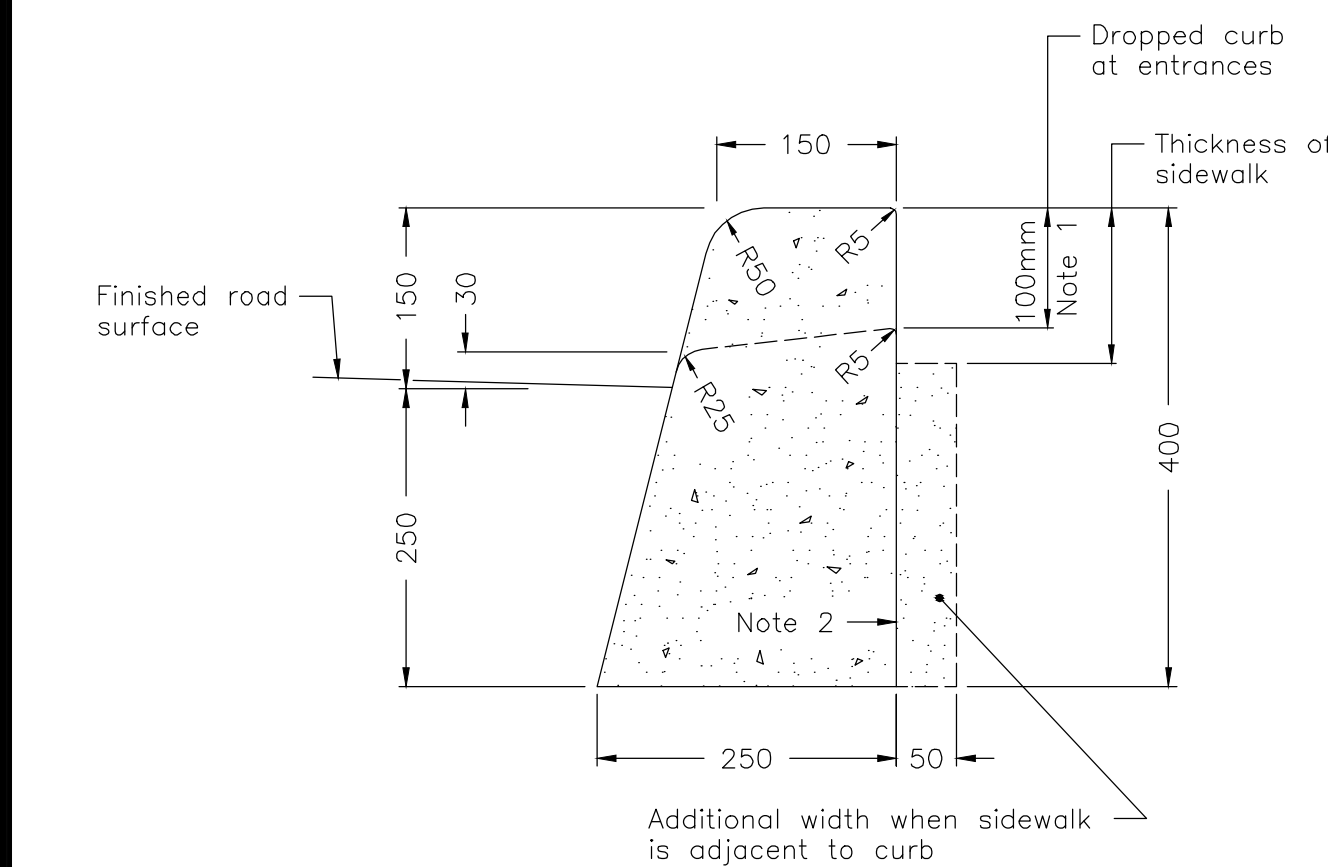


ONTARIO PROVINCIAL STANDARD DRAWING		Nov 2020	Rev	1	
INSULATION FOR SEWERS AND WATERMAINS IN SHALLOW TRENCHES		<div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px dashed black; height: 1.2em; width: 100%;"></div>			
		OPSD 1109.0			




REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF 'MANTECON PARTNERS' AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

NOTE: REFER TO ARCHITECTURAL
DRAWINGS FOR PHASING INFORMATION



NOTES:

- 1 When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
- 2 For slipforming procedure a 5% batter is acceptable.
- A Treatment at entrances shall be according to OPSD 351.010.
- B Outlet treatment shall be according to the OPSD 610 Series.
- C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
- D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev	2	
CONCRETE BARRIER CURB	<div style="border-bottom: 1px solid black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 1.2em; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 1.2em; width: 100%;"></div>			
OPSD 600.110				

4	ISSUED FOR TENDER	2025/02/25
3	ISSUED FOR TENDER REVIEW	2025/02/21
2	ISSUED FOR COSTING	2024/02/08
1	ISSUED FOR PERMIT	2024/01/31
Rev.#	Description	Date

Consultants



STRUCTURAL MECHANICAL PROCESS ELECTRICAL CIVIL
ENGINEERS AND PROJECT MANAGERS

15 Foundry Street, Dundas, ON, L9H 2V6
Phone: (905) 648-0373 www.manitexpartners.com

Seals

Project Address

HIGH PARK NATURE AND
VISITOR'S CENTER

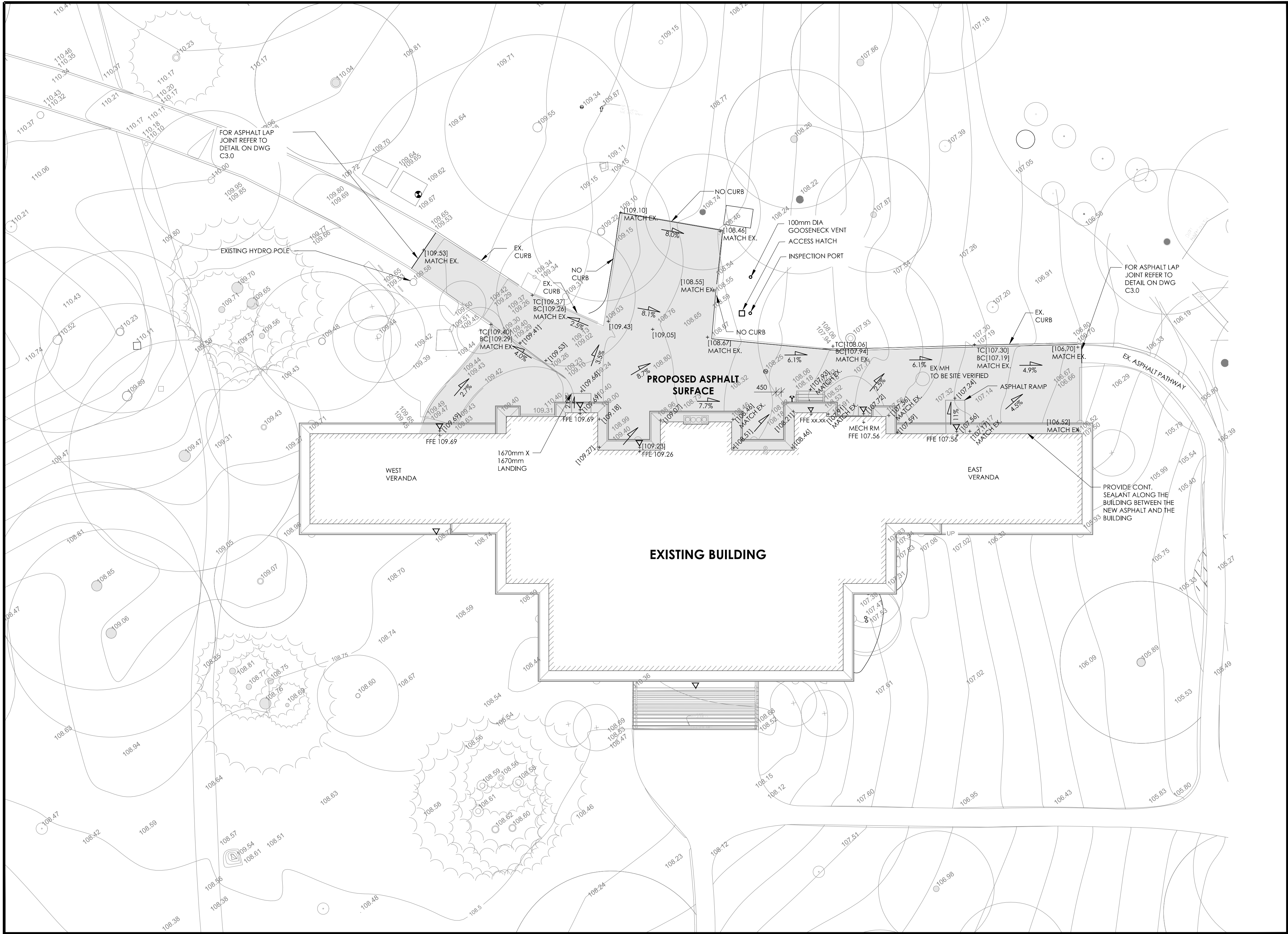
Drawing Name:

TYPICAL DETAILS

Project Number: 22-142
Drawing Scale: 1:200
Date: 2024-02-08
File Name:
Drawn By: T.I.
Reviewed By: C.B.



C1.0



LEGEND - SITE GRADING

THIS LEGEND OF SYMBOLS REPRESENTS MANTECON PARTNERS INC. STANDARD/Generic LEGEND. ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS.	
REFER	DESCRIPTION
	PROPOSED ASPHALT
	EXISTING ELEVATION
	PROPOSED ELEVATION
	EXISTING ITEMS TO BE DEMOLISHED OR REMOVED
	PROPOSED WATER METER
	PROPOSED VALVE BOX
	PROPOSED FIRE HYDRANT
	PROPOSED SIAMESE FIRE CONNECTION
	PROPOSED CLEANOUT
	MAN DOOR

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

SITE PLAN

PLAN OF TOPOGRAPHICAL SURVEY OF
HIGH PARK FOREST SCHOOL
IN THE CITY OF TORONTO

INFORMATION ON THIS SITE PLAN
TAKEN FROM SURVEY / TOPOGRAPHY
PREPARED BY:
J.H. GELBLOOM SURVEYING LIMITED
ONTARIO LAND SURVEYOR
476 MORDEN ROAD, UNIT 102
OAKVILLE, ON, L6K 3W4
PHONE (905) 338-9210 FAX (905) 338-9446
THE SURVEY WAS COMPLETED ON JULY 15, 2015

BENCHMARK

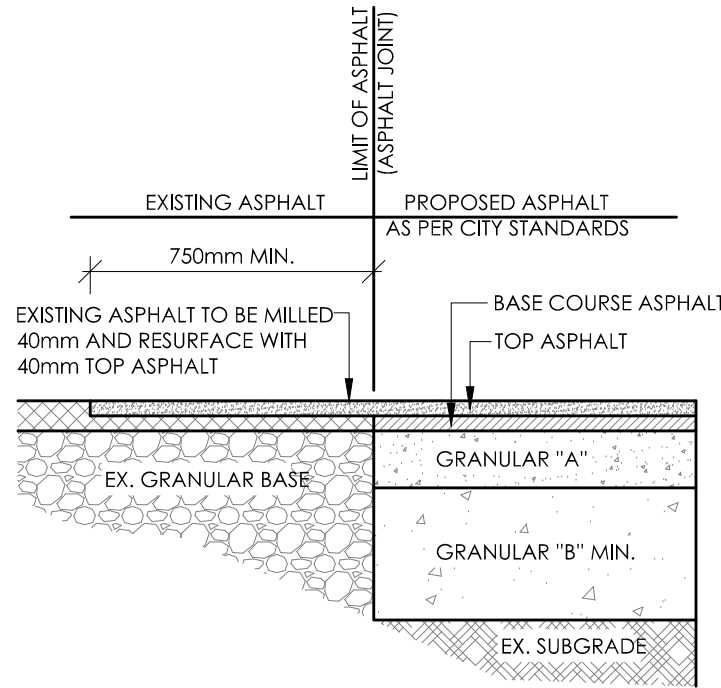
ELEVATIONS ARE REFERRED TO THE CITY OF TORONTO BENCHMARK
NO. 12219740011 HAVING AN ELEVATION OF 112.971m

DRAWING NOTES:

- IT IS THE RESPONSIBILITY OF THE APPLICANT/CONSULTANT TO ENSURE COMPLIANCE WITH ALL APPLICABLE PROVINCIAL STANDARDS AND TO OBTAIN ALL PROVINCIAL APPROVALS, INCLUDING BUT NOT LIMITED ENVIRONMENTAL COMPLIANCE APPROVALS.
- REFER TO LANDSCAPE PLANS FOR BOULEVARD RECONSTRUCTION DETAILS

ASPHALT JOINT NOTES:

- UNLESS RECOMMENDED OTHERWISE BY THE GEOTECHNICAL ENGINEER, THE LAP JOINTS SHOULD BE SUCH THAT:
 - WHERE EXISTING ASPHALT DEPTHS ARE LESS THAN 100mm, FULL DEPTH JOINT SHALL BE REQUIRED;
 - WHERE EXISTING ASPHALT DEPTHS EXCEED 100mm, THE MINIMUM DEPTH OF JOINT SHALL BE EQUAL TO 50% OF THE TOTAL EXISTING ASPHALT DEPTH; AND,
 - JOINT SURFACE SHALL BE FILLED WITH RUBBERIZED SEALING COMPOUND A.S.T.M. D-1190-92T (OR EQUIVALENT) UPON COMPLETION.



ASPHALT LAP JOINT DETAIL

SCALE: N.T.S.

REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF 'MANTECON PARTNERS' AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR PHASING INFORMATION

5	ISSUED FOR TENDER	2025/02/25
4	ISSUED FOR TORONTO HYDRO	2025/02/24
3	ISSUED FOR TENDER REVIEW	2025/02/21
2	ISSUED FOR COSTING	2024/02/09
1	ISSUED FOR PERMIT	2024/01/31
Rev.#	Description	Date

Consultants



STRUCTURAL, MECHANICAL, PROCESS, ELECTRICAL, CIVIL,
ENGINEERS AND PROJECT MANAGERS
15 Foundry Street, Dundas, ON L9H 2W6
Phone: (505) 440-0212 www.manteconpartners.com

Seals

Project Address

HIGH PARK NATURE AND
VISITOR'S CENTER

Drawing Name:
SITE GRADING PLAN

Project Number: 22-142
Drawing Scale: 1:200
Date: 2024-02-08

File Name:
Drawn By: T.I.
Reviewed By: C.B.

Drawing No.:



NORTH ARROW

C3.0