

GENERAL

- 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 AND PAY ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
- ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. GAS, HYDRO, TELEPHONE OR ANY OTHER UTILITY THAT MAY EXIST ON SITE OR WITHIN THE STREET LINES MUST BE LOCATED BY ITS OWN UTILITIES AND VERIFIED PRIOR TO CONSTRUCTION.
- 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 ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
- ALL UNDERGROUND SERVICES MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND CODES OF THE MUNICIPALITY.
- ALL SURFACE DRAINAGE SHALL BE SELF-CONTAINED, COLLECTED AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
- WHEREVER PIPES ARE PASSING THROUGH UNCOMPACTED FILL AREA, THE BEDDING TRENCH SHALL BE EXCAVATED TO THE UNDISTURBED GROUND LEVEL AND BACKFILLED WITH GRANULAR 'A' COMPACTED TO 100% STANDARD PROCTOR DENSITY.
- BEFORE COMMENCING CONSTRUCTION PROVIDE PROOF OF COMPREHENSIVE ALL RISK AND OPERATIONAL LIABILITY INSURANCE INCLUDING BLASTING (ONLY IF REQUIRED), INSURANCE POLICY TO NAME THE OWNER, ENGINEER AND ARCHITECT AS CO-INSURED. AMOUNT OF INSURANCE TO BE SPECIFIED BY OWNERS AGENT.
- CONNECTION TO EXISTING SYSTEMS AS DETAILED, INCLUDING ALL RESTORATION WORK NECESSARY TO REINSTATE SURFACES TO THE CONDITION THAT EXISTED PRIOR TO CONSTRUCTION OR BETTER.
- STANDARD ROAD CUT SHALL BE IN ACCORDANCE WITH CITY STANDARD R10.
- ASPHALT REINSTATEMENT SHALL BE IN ACCORDANCE WITH CITY STANDARD R25.
- CONCRETE SIDEWALK TO BE CONSTRUCTED AS PER CITY STANDARDS SC-3, SC-5, SC-7, AND SC-8
- CONTRACTOR TO PROVIDE LINE/PARKING PAINT LINES
- BOULEVARDS SHALL BE REINSTATED WITH 150mm OF TOPSOIL AND SODDED.
- INVESTIGATION REPORT FOR SUBSURFACE INFORMATION PREPARED BY THE GEOTECHNICAL CONSULTANT. INTERPRETATION OF INFORMATION IS THE RESPONSIBILITY OF THE CONTRACTOR.
- REMOVE TOPSOIL AND STOCKPILE ONSITE IN A SUITABLE LOCATION.
- TOPSOIL IN FILL AREA TO BE STRIPPED AND CLEAN FILL TO BE PLACED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
- THE ORIGINAL TOPOGRAPHY AND GROUND ELEVATIONS, SERVICING AND SURVEY DATA SHOWN ON THIS PLAN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF ALL INFORMATION OBTAINED FROM THESE PLANS.
- THICKNESS OF GRANULAR MATERIAL AND ASPHALT LAYERS SHALL BE IN ACCORDANCE WITH CITY STANDARD ROAD CROSS SECTION AND AS PER THE GEOTECHNICAL CONSULTANTS RECOMMENDATIONS.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS. ALL MEASUREMENTS UTILIZE METRIC UNITS.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INDICATE PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TIG ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANTS LOCATIONS, TWM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
- REFER TO ARCHITECTS AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS

SEWERS

- ALL SEWER MATERIALS AND CONSTRUCTION METHODS MUST FOLLOW CITY OF OTTAWA STANDARDS.
- ALL CATCHBASIN MANHOLES AND MANHOLES SHALL BE PRECAST AND CONFORM TO CITY OF OTTAWA DETAILS S24, S24.1, S25, S28, S28.1 AND OPSD 701.010.
- ALL CATCHBASINS SHALL BE PRECAST AND CONFORM TO OPSD 705.010.
- ALL CATCHBASIN MANHOLES AND CATCHBASINS TO HAVE A MINIMUM 0.6m SUMP AS PER OPSD UNLESS NOTED OTHERWISE.
- REAR YARD CATCHBASINS SHALL BE IN ACCORDANCE WITH CITY STANDARD DETAIL S29, S30 AND S31.
- ALL CATCHBASINS SHALL INCLUDE 6.0m OF 150mmØ PERFORATED SUBDRAIN C/W FILTER CLOTH.
- ROAD CATCHBASINS WITH SOLID COVER TO BE AS PER S19 SOLID COVER ALTERNATIVE.
- ALL CATCHBASIN LEADS TO BE 200mm DIAMETER AND ALL REAR YARD CATCHBASIN LEADS TO BE 250mm DIAMETER, UNLESS OTHERWISE NOTED.
- STORM SEWER SHALL BE CONCRETE CL III WITH TYPE 'B' BEDDING OR PVC PIPE SDR 35 THROUGHOUT EXCEPT AT RISERS, UNLESS OTHERWISE NOTED, AS PER OPSD.
- ALL PROPOSED FOUNDATION DRAINS SHALL BE CONNECTED TO STORM SEWER.
- MANHOLE BENCHING SHALL FOLLOW MUNICIPALITY STANDARD DETAIL FOR MANHOLES WITH CONNECTING PIPES 900mm OR LARGER.
- SEWER TRENCHING AND BEDDING SHALL BE AS PER CLASS 'B' BEDDING CITY OF OTTAWA STANDARD DRAWING S-7, UNLESS NOTED OTHERWISE. BEDDING SHALL BE COMPACTED TO MINIMUM 98% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.
- SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR 28.
- SANITARY SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR 35 WITH TYPE 'B' BEDDING THROUGHOUT EXCEPT AT RISERS, UNLESS OTHERWISE NOTED.
- ALL STORM AND SANITARY SERVICES ARE TO BE THE SIZES INDICATED AND THE MATERIAL SHALL BE PVC DR-28 @ 1.0% MINIMUM SLOPE.
- INSULATE ALL STORM AND SANITARY SEWERS THAT HAVE LESS THAN 2.0m AND 2.5m OF EFFECTIVE COVER RESPECTIVELY WITH THERMAL INSULATION. PROVIDE 150mm OF CLEARANCE BETWEEN PIPE AND INSULATION.
- SANITARY AND STORM SERVICES ARE TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, AT A MINIMUM SLOPE OF 1.0% UNLESS OTHERWISE INDICATED.
- 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 410.07.16 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
- CONTRACTOR TO TELEVISION (CCTV) ALL PROPOSED SEWERS, 200mm OR GREATER PRIOR TO BASE COURSE ASPHALT UPON COMPLETION OF CONTRACT. THE CONTRACTOR IS RESPONSIBLE TO FLUSH, CLEAN AND RE-TELEVISION ALL SEWERS & APPURTENANCES.
- FULL PORT BACKWATER VALVES ARE REQUIRED ON THE SANITARY SERIES INSTALLED AS PER THE MANUFACTURERS BUILDING, INSTALLED AS PER ST. DWG S14.
- WATERTIGHT COVERS TO BE LOCATED WITHIN STORMWATER MANAGEMENT PONDING AREAS AS PER OPSD 401.030. REFER TO SANITARY AND STORM WATERTIGHT LID TABLES.

WATERMANS

- CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. WATERMAIN TO BE PVC DR 18 EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY CONTRACTOR. CONNECTION TO EXISTING WATERMAIN BY CITY OF OTTAWA. NO WORK TO COMMENCE UNLESS A CITY WATER WORKS INSPECTOR IS ON SITE.
- WATERMAIN MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.25m OVER AND 0.50m UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
- WATERMANS ARE TO HAVE A MINIMUM COVER OF 2.4m WITH A MINIMUM HORIZONTAL SPACING OF 2.0m FROM THEMSELVES AND OTHER UTILITIES, AS PER CITY OF OTTAWA STANDARD DETAIL R-20.
- PROVIDE THERMAL INSULATION FOR WATERMAIN AT OPEN STRUCTURES PER CITY OF OTTAWA STANDARD DETAIL W-23.
- IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
- ALL CURB STOPS TO BE INSTALLED ON THE PROPERTY LINE UNLESS OTHERWISE NOTED.
- WATERMAIN TRENCHING AND BEDDING TO CONFORM TO CITY OF OTTAWA STANDARD DETAIL W-17.
- VALVES AND VALVE BOXES TO CONFORM WITH CITY OF OTTAWA STANDARD DETAIL W-24.
- FIRE HYDRANT C/W VALVE AND BOX SHALL CONFORM TO CITY OF OTTAWA STANDARD DETAIL W-19.
- CONCRETE THRUST BLOCKS ARE TO BE CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS W25.3 AND W25.4.
- ALL WATERMAIN SERVICE INSTALLATIONS AT SEWER CROSSINGS PER CITY OF OTTAWA STANDARD DETAIL W-38.
- WATER METER SHALL CONFORM TO CITY OF OTTAWA STANDARD DETAIL W-32. INSTALLATION BY CITY OF OTTAWA.
- WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND LEAVE 6.0m OF COIL UNLESS OTHERWISE INDICATED
- PRESSURE REDUCING VALVES (PRV) ARE TO BE INSTALLED ON EVERY WATER SERVICE.

TYPICAL SERVICING NOTES:

- SERVICES TO BUILDINGS TO BE 135mmØ SANITARY, 150mmØ STORM AND 38mmØ WATERMAIN
- NO HORIZONTAL BENDS IN RIGHT-OF-WAY UNLESS OTHERWISE APPROVED BY THE CITY. MAXIMUM OF TWO 22.5° HORIZONTAL BENDS FOR SANITARY AND STORM SERVICES.
- 1.0% MINIMUM SANITARY AND STORM SERVICE GRADIENT WITH 2% PREFERRED.
- STORM SERVICE LATERAL SHALL BE LOCATED TO THE LEFT OF SANITARY SERVICE LATERAL WHEN LOOKING AT THE STRUCTURE FROM THE STREET. SERVICE SIZES IN CONFORMANCE WITH S11.
- SEE S7 FOR PIPE FOUNDATION, EMBEDMENT AND FINAL BACKFILL REQUIREMENTS.
- MULTIPLE TAPS WITH SADDLES IN PVC WATERMAIN SHALL BE STAGGERED AND MINIMUM 600mm APART.
- ELEVATION OF SERVICES VARIABLE DEPENDING ON GRADIENT AND/OR DEPTH OF COVER.
- ALL DIMENSIONS ARE IN MILLIMETRES.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING AS-BUILT ELEVATIONS OF ALL DESIGN GRADES SHOWN ON THIS PLAN.
- GRADE AND/OR FILL BEHIND PROPOSED CURB AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
- REFER TO ELECTRICAL DESIGN FOR UTILITY LOCATIONS.
- SEE W27 FOR ADDITIONAL WATER SERVICING SCENARIOS.

GRADING

- CONTACT CITY FOR ROUGH GRADING INSPECTION PRIOR TO PLACEMENT OF TOPSOIL OR TOPSOIL AND SOD.
- FINISHED GRADING WILL NOT ADVERSELY AFFECT DRAINAGE PATTERNS OF ADJACENT LANDS.
- MAXIMUM (3:1) SLOPES AT PROPERTY LINE AND WITHIN THE SITE UNLESS OTHERWISE INDICATED.
- MATCH EXISTING ELEVATIONS AT ALL PROPERTY LINES. ENSURE POSITIVE DRAINAGE WHETHER INDICATED OR NOT.
- WHERE EXISTING GRADE IS FOUND TO BE MORE THAN 300mm BELOW THE PROPOSED GRADES INDICATED ON THIS GRADING PLAN, CONTACT ENGINEER IMMEDIATELY.
- SWALES LESS THAN 1.5% SHALL HAVE A 250mm SUBDRAIN AS PER CITY OF OTTAWA STANDARD S29, S30 AND S31.
- MINIMUM OF 2% AND MAXIMUM OF 6% GRADE FOR GRASSED AREAS UNLESS OTHERWISE NOTED. SIDEWALK CROSSFALL NOT TO EXCEED 2%.
- CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
- ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED
- ALL PROPOSED STEPS IN WALKWAYS ARE TO BE WITHIN THE PROPERTY BOUNDARY.
- ALL RETAINING WALLS GREATER THAN 1.0m IN HEIGHT ARE TO BE DESIGNED, REVIEWED, INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER.
- REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS

UTILITY NOTES:

- CONTRACTOR TO CONTACT RESPECTIVE UTILITY COMPANIES TO DETERMINE EXACT LOCATION OF EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR TO ASSUME ALL LIABILITY FOR DAMAGE TO EXISTING UTILITIES.
- EXTEND ENCASED DUCT CROSSINGS 1.0m FROM BACK OF CURB OR SIDEWALK ON EACH SIDE.
- CONTRACTOR SHALL EXCAVATE, BACKFILL, AND RESTORE ALL SURFACES TO EXISTING CONDITIONS FOR HYDRO PRIMARY, BELL AND CABLEVISION CABLES.
- CONTRACTOR SHALL SUPPLY AND INSTALL ALL DUCT WORK AND TRANSFORMER PAD. SINGLE PHASE TRANSFORMER PAD PER HYDRO OTTAWA DETAIL UCS0003.
- TEMPORARILY COIL ALL SERVICE WIRES ON A 76mm X 76mm X 2.4m WOODEN POST FOR EACH UNIT WITH ENOUGH CONDUCTOR TO ALLOW FOR COMPLETION OF TRENCHING AND BUILDING CONNECTION.
- MINIMUM 1.5m CLEARANCE TO BE PROVIDED FROM WATER SERVICES TO ALL PEDESTALS, TRANSFORMER PADS, ROAD DUCT CROSSINGS, AND STREET LIGHTS.
- MINIMUM 3.0m CLEARANCE TO BE PROVIDED FROM HYDRANT TO ALL ABOVE GROUND STRUCTURES INCLUDING STREETLIGHTS, BELL PEDESTALS, CABLE PEDESTALS, TRANSFORMERS, SECTIONALIZERS, ETC.

PAVEMENT STRUCTURE NOTES

- SUBGRADE MATERIAL SHALL BE PLACED IN MAXIMUM 300mm LIFTS AND COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY
- ROADWAY GRANULAR MATERIAL SHALL BE PLACED IN MAXIMUM 300mm LIFTS AND COMPACTED TO AT LEAST 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY
- ASPHALTIC CONCRETE TO BE COMPACTED TO AT LEAST 97% OF MARSHALL DENSITY
- ROADWAY SUBGRADE TO BE INSPECTED BY THE GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION TO REVIEW THE GRANULAR 'B' DEPTH AND FOR THE NECESSITY OF A WOVEN GEOTEXTILE BELOW THE GRANULAR MATERIALS.
- PRIOR TO THE PLACEMENT OF TOPLIFT, CONTRACTOR IS TO ADJUST ALL STRUCTURES AS PER CITY OF OTTAWA STANDARD R-2.

EROSION AND SEDIMENT CONTROL NOTES:

- THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS AND DURING ALL PHASES OF THE SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL. SUCK AS BUT NOT LIMITED TO INSTALLING CATCHBASIN INSERTS ACROSS MH & CBS AND INSTALLING AND MAINTAINING LIGHT DUTY SILT FENCE BARRIERS AND STRAW BALE/ROCK CHECK DAMS AS REQUIRED.
- CONDITIONS OF THE SILT FENCE AND STRAW BALE/ROCK CHECK DAMS TO BE INSPECTED REGULARLY AND REPLACED OR REPAIRED AS INSTRUCTED BY THE ENGINEER.
- THE CONTRACTOR SHALL ENSURE THAT ROADS ARE KEPT CLEAN AT ALL TIMES USING SUCH PRACTICES AS WASHING DOWN TRUCK TIRES, ROAD SWEEPING AND FLUSHING ETC.
- THE CONTRACTOR ACKNOWLEDGES THAT SURFACE EROSION AND SEDIMENT RUNOFF RESULTING FROM HIS CONSTRUCTION OPERATIONS WILL HAVE A DETRIMENTAL IMPACT TO ANY DOWNSTREAM WATERCOURSE OR SEWER, AND THAT ALL CONSTRUCTION OPERATIONS THAT MAY IMPACT UPON WATER QUALITY SHALL BE CARRIED OUT IN A MANNER THAT STRICTLY MEETS THE REQUIREMENTS OF ALL APPLICABLE LEGISLATION AND REGULATIONS.
- AS SUCH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT HIS OPERATIONS, AND SUPPLYING AND INSTALLING AN APPROPRIATE CONTROL MEASURES, SO AS TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING ANY SEWER OR WATERCOURSE WITHIN DOWNSTREAM OF THE WORKING AREA. FOR THIS PROJECT THE SUGGESTED ON-SITE MEASURES SHALL INCLUDE BUT SHALL NOT BE LIMITED TO THE FOLLOWING METHODS:
 - CATCH BASIN SILT SOCKS
 - MAINTENANCE HOLE AND REAR YARD CATCH BASIN FILTERS
 - LIGHT DUTY SILT FENCE
 - MUD MATS
 - STRAW BALE CHECK DAMS

SPECIFIC MEASURES SHALL BE INSTALLED AT THE SPECIFIED LOCATIONS AND IN ACCORDANCE WITH THE REQUIREMENTS OF OPS 577 WHERE APPROPRIATE, OR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

- WHERE, IN THE OPINION OF THE CONTRACT ADMINISTRATOR OR ANY REGULATORY AGENCY, THE INSTALLED CONTROL MEASURES FAIL TO PERFORM ADEQUATELY, THE CONTRACTOR SHALL SUPPLY AND INSTALL ADDITIONAL OR ALTERNATIVE MEASURES AS DIRECTED BY THE CONTRACT ADMINISTRATOR OR THE REGULATORY AGENCY. AS SUCH, THE CONTRACTOR SHALL HAVE ADDITIONAL CONTROL MATERIALS ON SITE AT ALL TIMES WHICH ARE EASILY ACCESSIBLE AND MAY BE IMPLEMENTED BY HIM AT A MOMENT'S NOTICE.
- THE CONTRACTOR SHALL ENSURE THAT ALL WORKERS, INCLUDING IN THE WORKING AREA ARE AWARE OF THE IMPORTANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES AND INFORMED OF THE CONSEQUENCES OF THE FAILURE TO COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AGENCIES AND THE SPECIFICATIONS DETAILED HEREIN.
- THE CONTRACTOR SHALL PERIODICALLY, OR WHEN REQUESTED BY THE CONTRACT ADMINISTRATOR, CLEAN OUT ACCUMULATED SEDIMENT DEPOSITS AS REQUIRED AT THE SEDIMENT CONTROL DEVICES, INCLUDING THOSE DEPOSITS THAT MAY ORIGINATE FROM OUTSIDE THE CONSTRUCTION AREA. ACCUMULATED SEDIMENT SHALL BE REMOVED IN SUCH A MANNER THAT PREVENTS THE DEPOSITION OF THIS MATERIAL INTO ANY SEWER OR WATERCOURSE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. THE SEDIMENT SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH THE REQUIREMENTS FOR EXCESS EARTH MATERIAL, AS SPECIFIED ELSEWHERE IN THE CONTRACT.

PAVEMENT STRUCTURE:

REFER TO GEOTECHNICAL REPORT FOR SUBSURFACE CONDITIONS AND CONSTRUCTION RECOMMENDATIONS

- Light Duty Parking
50mm HL3 OR SUPERPAVE 12.5
150mm GRAN 'A'
300mm GRAN 'B' TYPE II
- Access Lanes and Heavy Duty Truck Parking
40mm SUPERPAVE 12.5 CLASS B
50mm SUPERPAVE 19.0 CLASS B
150mm GRAN 'A'
400mm GRAN 'B' TYPE II

* GRANULAR BASE TO BE COMPACTED TO 99% STANDARD PROCTOR DRY DENSITY.

SEWER & WATERMAIN INSULATION NOTES:

'FLAT' INSTALLATIONS
THERMAL INSULATION TO BE INSTALLED IN ACCORDANCE WITH THE GEOTECHNICAL RECOMMENDATIONS. WHERE "FLAT" PANELS OF HI-40 RIGID INSULATION ARE CONSTRUCTED, THE INSULATION DIMENSIONS SHALL CONFORM WITH TABLE 1:

Thermal Condition	Soil Cover Provided (mm)	Insulation Dimensions	
		Thickness (mm)	Extension (mm)
Unheated	1800-2000	25	Extend 600 mm horizontally beyond edge of the pipe
	1500-1800	50	Extend 900 mm horizontally beyond edge of the pipe
	1200-1500	75	Extend 1200 mm horizontally beyond edge of the pipe

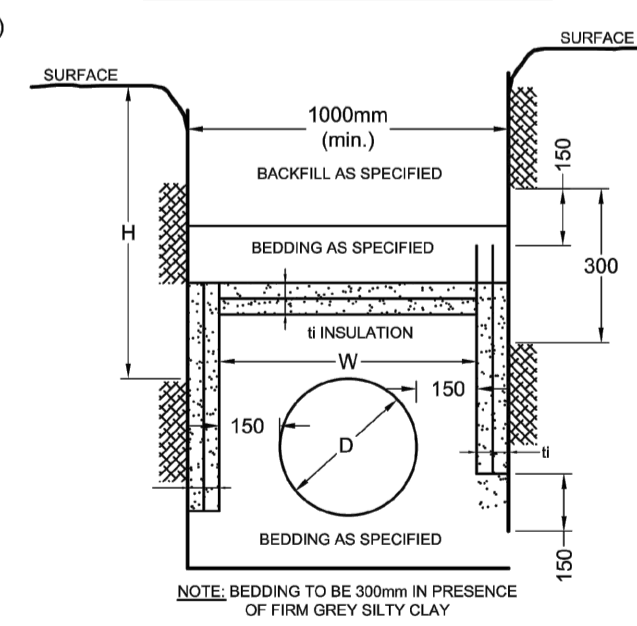
'BOXED' INSTALLATIONS

ALTERNATIVELY, INSTEAD OF EXTENDING THE RIGID INSULATION 600 TO 1200 MM BEYOND THE EDGE OF THE PIPE, THE RIGID INSULATION CAN BE 'BOXED' AROUND THE PIPE BY TRANSITIONING FROM HORIZONTAL TO VERTICAL PLACEMENT OF THE RIGID INSULATION AND EXTENDING TO THE INVERT PIPE ELEVATION, EFFECTIVELY FORMING A BOX OF RIGID INSULATION AROUND THE PIPE. IN THIS CASE, THE RIGID INSULATION SHOULD STILL BE EXTENDED FAR ENOUGH TO PROVIDE ADEQUATE SPRING-LINE AND COVER BACKFILL MATERIAL AROUND THE PIPE, AS INDICATED BELOW:

SEWER & WATERMAIN INSULATION NOTES:

- INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 2.0m COVER AND ALL WATERMAIN WITH LESS THAN 2.4m OF COVER WITH EXPANDED POLYSTYRENE INSULATION AS PER OPSD 1109.030.
- THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER WITH 50mm MINIMUM (SEE TABLE)

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

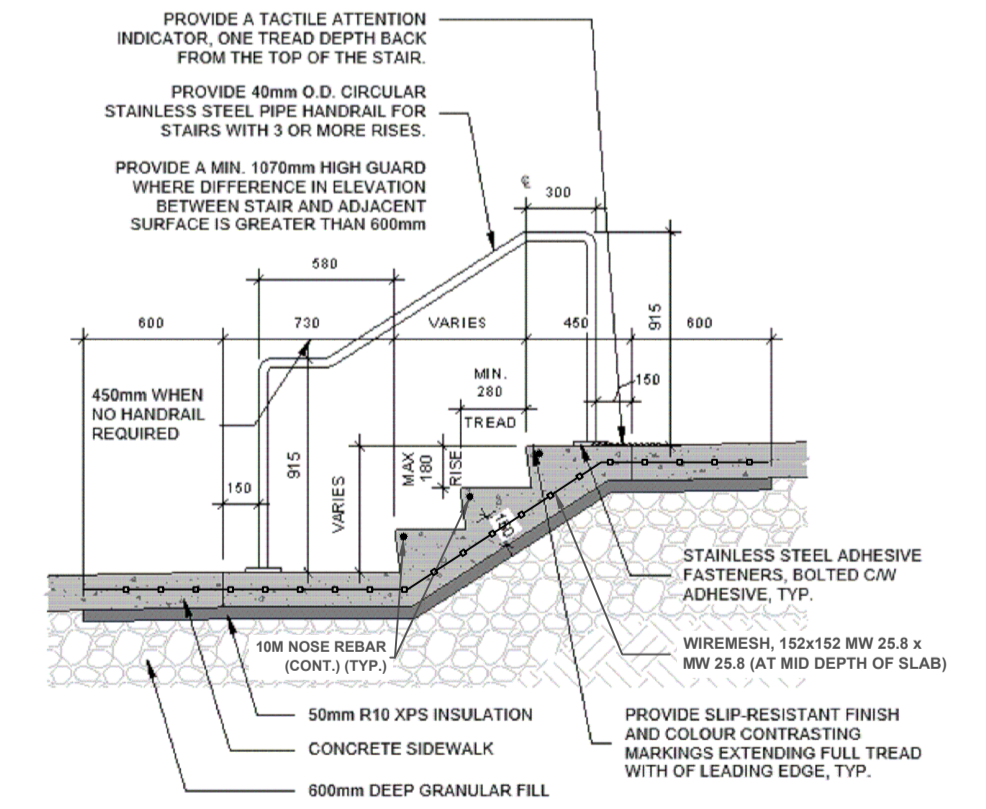


INSULATION DETAIL FOR SHALLOW SEWERS & WATERMAIN

LEGEND

	SITE BOUNDARY		PROPOSED CATCHBASIN MANHOLE INSERT
	PROPOSED ELEVATION		PROPOSED SILT FENCE (SEE OPSD)
	EXISTING ELEVATION		PROPOSED ROCK CHECK DAM (SEE OPSD 219.210)
	PROPOSED TOP OF WALL ELEVATION		PROPOSED MUD MAT
	PROPOSED BOTTOM OF WALL ELEVATION		PROPOSED STRAW BALE (SEE OPSD 219.180)
	PROPOSED CENTERLINE OF DITCH ELEVATION		PROPOSED TWSI AS PER SC7.3
	PROPOSED SWALE ELEVATION		CONCRETE
	PROPOSED TERRACE ELEVATION		ROAD CUT AS PER CITY OF OTTAWA DETAIL R10
	PROPOSED SLOPE		EXISTING STORM MANHOLE AND SEWER
	PROPOSED CENTRELINE SWALE		EXISTING SANITARY MANHOLE AND SEWER
	PROPOSED TERRACING (MAXIMUM 3:1 SLOPE)		EXISTING VALVE AND VALE BOX
	PROPOSED BARRIER CURB AS PER SC1.1		EXISTING FIRE HYDRANT
	PROPOSED TWSI AS PER CITY OF OTTAWA DETAIL 7.2		EXISTING CATCHBASIN
	PROPOSED RETAINING WALL		EXISTING TOP OF GRATE
	PROPOSED SIDEWALK		EXISTING UTILITY POLE W/G C/W Wires
	STATIC PONDING AREA AND SPILL DEPTH ELEVATION		EXISTING LIGHT STANDARD
	1.100yr PONDING AREA AND ELEVATION		EXISTING DITCH
	1.5yr PONDING AREA AND ELEVATION		EXISTING SANITARY MANHOLE & SEWER
	USF		EXISTING WATERMAIN
	HYD. T/F		EXISTING FIRE HYDRANT C/W LEAD
	T/G		EXISTING VALVE & VALVE BOX LOCATION
	PROPOSED MAJOR OVERLAND FLOW ROUTE		EXISTING VALVE & VALVE CHAMBER LOCATION
	AREA ID		EXISTING UTILITY POLE
	MANHOLE TO MANHOLE		EXISTING OVER HEAD WIRE
	POPULATION EQUIVALENT		EXISTING SIDEWALK
	AREA IN HECTARES		EXISTING SANITARY MH & SEWER
	RUN-OFF COEFFICIENT		EXISTING STORM MH & SEWER
	DRAINAGE AREA BOUNDARY		EXISTING WATERMAIN
	PROPOSED STORM MANHOLE		
	PROPOSED SANITARY MANHOLE		
	PROPOSED CATCHBASIN MANHOLE		
	PROPOSED CATCHBASIN		
	PROPOSED CURB INLET CATCHBASIN		
	PROPOSED CATCHBASIN & LEAD		
	PROPOSED REAR YARD ELBOW		
	PROPOSED REAR YARD TEE		
	PROPOSED VALVE & VALVE BOX LOCATION		
	PROPOSED HYDRANT C/W VALVE & LEAD		
	PROPOSED WATERMAIN AND DIAMETER		
	PROPOSED VALVE LOCATION		
	VALVE & VALVE BOX		
	VALVE & VALVE CHAMBER		
	PROPOSED TOP OF BOTTOM FLANGE		
	PROPOSED BEND AND THRUSTBLOCK 11.25°, 22.5°, 45° or TEE		
	PRESSURE REDUCING VALVE		
	PROPOSED DIRECTION OF FLOW		

SANITARY MANHOLES THAT REQUIRE WATERTIGHT LIDS AS PER CITY SPEC MS-22.15		STORM MANHOLES THAT REQUIRE WATERTIGHT LIDS AS PER CITY SPEC MS-22.15	
MH ID		MH ID	
107		106	
109		110	
113		114	
115		116	
205		204	
207			
209			
215			



EXTERIOR SIDEWALK STAIRS

No.	REVISION	DATE	BY	No.	REVISION	DATE	BY	DESIGN	FOR REVIEW ONLY	CITY OF OTTAWA	DRAWING NAME	PROJECT No.
				8.	RE-ISSUED FOR TENDER	APR 15/26	DOB	SCALE		CITY OF OTTAWA	5331 FERNBANK ROAD	121011-00
				7.	REVISED PER CITY COMMENTS	MAR 18/26	DOB			IRON VALLEY 2		REV
				6.	REVISED SITE PLAN SUBMISSION	NOV 14/25	DOB					REV # 11
				5.	RE-ISSUED FOR TENDER	JAN 18/24	DOB					DRAWING No.
				4.	ISSUED FOR TENDER	MAY 20/22	DOB					121011-NLD
11.	ISSUED FOR SITE PLAN APPROVAL	JUN 25/26	DOB	3.	REVISED PER CITY COMMENTS	FEB 17/22	DOB					
10.	RE-ISSUED FOR TENDER	JUN 18/26	DOB	2.	REVISED PER CITY COMMENTS	NOV 5/21	DOB					
9.	ISSUED WITH TENDER ADDENDUM CHANGES	MAY 6/26	DOB	1.	ISSUED FOR CITY OF OTTAWA REVIEW	JUN 21/21	DOB					
No.	REVISION	DATE	BY	No.	REVISION	DATE	BY					

NOTE: THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

FOR REVIEW ONLY

DESIGN: BM

CHECKED: DDB

DRAWN: ATE

CHECKED: BM

APPROVED: DDB

NOVATECH

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