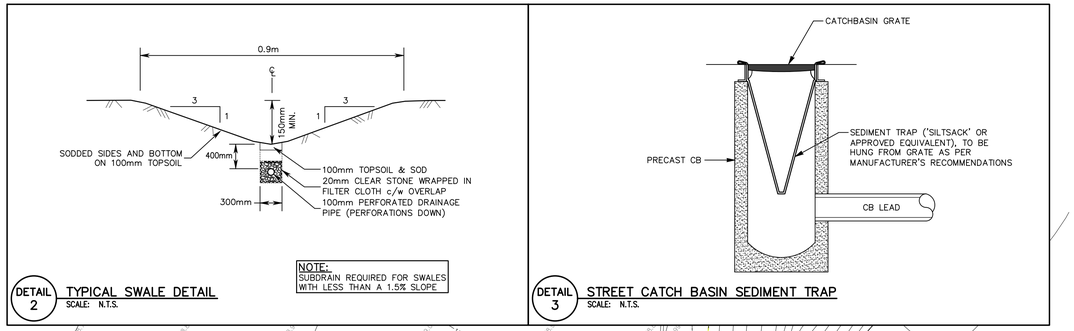
DWG No.: 16115 –C1
GRADING & EROSION CONTROL PLAN
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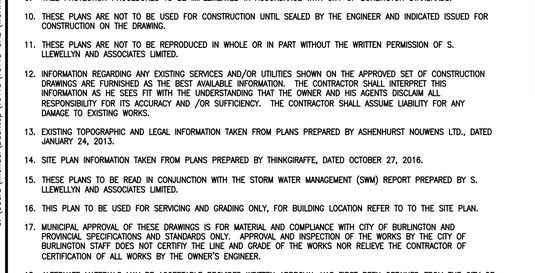
GENERAL NOTES:

1. CONSTRUCTION OF SEWERS, AND RELATED APPURTENANCES SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE CURRENT STANDARD DRAWINGS OF THE CITY OF BURLINGTON, THE REGIONAL MUNICIPALITY OF HALTON AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD). THE TOWN AND THE REGION'S DRAWINGS SHALL TAKE PRECEDENCE OVER THE OPSD DRAWINGS.
2. ONTARIO PROVINCIAL STANDARD DRAWINGS TO BE READ IN CONJUNCTION WITH THE REGION OF HALTON REVISIONS.
3. RELOCATION OF EXISTING SERVICES AND/OR UTILITIES SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR CONSTRUCTION.
5. FOR ALL SEWERS AND WATERMAIN IN FILL SECTIONS, THE COMPACTION SHALL BE VERIFIED PRIOR TO LAYING OF PIPE.
6. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN APPROVAL FROM THE REGIONAL ENGINEER, CITY OF BURLINGTON OR THE ENGINEER.
7. ALL EXCAVATIONS TO BE BACKFILLED WITH SELECT NATIVE MATERIAL, APPROVED BY THE ENGINEER, TO 95% SPD.
8. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING SILT CONTROL DEVICES AS SHOWN ON THE DRAWINGS AND AS DIRECTED BY THE ENGINEER.
9. TREE PROTECTION PROCEDURES TO BE IMPLEMENTED IN ACCORDANCE WITH CITY OF BURLINGTON STANDARDS.
10. THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION UNTIL SEALED BY THE ENGINEER AND INDICATED ISSUED FOR CONSTRUCTION ON THE DRAWING.
11. THESE PLANS ARE NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF S. LLEWELLYN AND ASSOCIATES LIMITED.
12. INFORMATION REGARDING ANY EXISTING SERVICES AND/OR UTILITIES SHOWN ON THE APPROVED SET OF CONSTRUCTION DRAWINGS ARE FURNISHED AS THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL INTERPRET THIS INFORMATION AS HE SEES FIT WITH THE UNDERSTANDING THAT THE OWNER AND HIS AGENTS DISCLAIM ALL RESPONSIBILITY FOR ITS ACCURACY AND /OR SUFFICIENCY. THE CONTRACTOR SHALL ASSUME LIABILITY FOR ANY DAMAGE TO EXISTING WORKS.
13. EXISTING TOPOGRAPHIC AND LEGAL INFORMATION TAKEN FROM PLANS PREPARED BY ASHENHURST NOUWENS LTD., DATED JANUARY 24, 2013.
14. SITE PLAN INFORMATION TAKEN FROM PLANS PREPARED BY THINKGIRAFFE, DATED OCTOBER 27, 2016.
15. THESE PLANS TO BE READ IN CONJUNCTION WITH THE STORM WATER MANAGEMENT (SWM) REPORT PREPARED BY S. LLEWELLYN AND ASSOCIATES LIMITED.
16. THIS PLAN TO BE USED FOR SERVICING AND GRADING ONLY, FOR BUILDING LOCATION REFER TO TO THE SITE PLAN.
17. MUNICIPAL APPROVAL OF THESE DRAWINGS IS FOR MATERIAL AND COMPLIANCE WITH CITY OF BURLINGTON AND PROVINCIAL SPECIFICATIONS AND STANDARDS ONLY. APPROVAL AND INSPECTION OF THE WORKS BY THE CITY OF BURLINGTON STAFF DOES NOT CERTIFY THE LINE AND GRADE OF THE WORKS NOR RELIEVE THE CONTRACTOR OF CERTIFICATION OF ALL WORKS BY THE OWNER'S ENGINEER.
18. ALTERNATE MATERIALS MAY BE ACCEPTABLE PROVIDED WRITTEN APPROVAL HAS FIRST BEEN OBTAINED FROM THE CITY OF BURLINGTON AND THE THE ENGINEER.
19. THE APPROVAL OF THIS PLAN DOES NOT EXEMPT THE OWNER'S BONDED CONTRACTOR FROM THE REQUIREMENTS TO OBTAIN THE VARIOUS PERMITS/APPROVALS NORMALLY REQUIRED TO COMPLETE A CONSTRUCTION PROJECT, SUCH AS, BUT NOT LIMITED TO THE FOLLOWING:
    - ROAD CUT PERMITS
    - SEWER PERMITS
    - APPROACH APPROVAL PERMITS
    - RELOCATION OF SERVICES
    - COMMITTEE OF ADJUSTMENT
    - ENCROACHMENT AGREEMENTS
20. PRIOR TO CONSTRUCTION THE CONTRACTOR MUST:
    i. CHECK AND VERIFY ALL DIMENSIONS AND EXISTING ELEVATIONS WHICH INCLUDE BUT ARE NOT LIMITED TO THE BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS, EXISTING INVERTS AND REPORT FINDING IN WRITING TO THE ENGINEER.
    ii. OBTAIN ALL UTILITY LOCATES AND REQUIRED PERMITS AND LICENSES.
    iii. VERIFY ALL FINISHED FLOOR ELEVATIONS AND BASEMENT FLOOR ELEVATIONS WHICH MY APPEAR ON THESE PLANS COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.
    iv. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT REVISION.
    v. NOTIFY THE ENGINEER OF THE PROPOSED CONSTRUCTION SCHEDULE FOR COORDINATION OF NECESSARY INSPECTIONS.
21. **THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE ENGINEER 48 HOURS PRIOR TO THE COMMENCING SITE WORKS TO ARRANGE FOR INSPECTION. THE ENGINEER SHALL DETERMINE THE EXTENT OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF THE UNDERGROUND SERVICE INSTALLATION AS MANDATED BY THE ONTARIO BUILDING CODE DIVISION C, PART 1, SECTION 1.2.2, GENERAL REVIEW. FAILURE TO MAKE SUITABLE ARRANGEMENTS FOR INSPECTION WILL LEAD TO POST CONSTRUCTION TESTING AND INSPECTION AS DETERMINED BY THE ENGINEER, THE COSTS OF WHICH INCLUDING ANY DELAYS IN CONSTRUCTION SHALL BE BOURNE BY THE CONTRACTOR. FULL PAYMENT FOR UN-INSPECTED WORKS MAY BE WITHHELD UNTIL THE COMPLETION OF THE POST CONSTRUCTION INSPECTION AND TESTING TO THE SATISFACTION OF THE ENGINEER.**
22. INSPECTION BY THE OWNER'S ENGINEER IS FOR CERTIFICATION AND GENERAL CONFORMANCE PURPOSES AND DOES NOT CERTIFY LINE AND GRADE OR IMPLY AN ASSURANCE OF QUALITY CONTROL. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THE INSTALLATION OF THE WORKS TO PROPER LINE, GRADE AND QUALITY TO CURRENT INDUSTRY STANDARDS.
23. ANY UTILITY RELOCATIONS AND RESTORATIONS DUE TO THE DEVELOPMENT TO BE UNDERTAKEN AT THE EXPENSE OF THE OWNER/DEVELOPER AND SHALL BE COORDINATED BY THE CONTRACTOR.
24. ALL RESTORATIONS AND RECONSTRUCTIONS SHALL BE TO COMPLETED TO MATCH EXISTING CONDITIONS OR BETTER AND ARE TO BE PERFORMED TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF BURLINGTON.
25. SERVICING CONTRACTOR TO MAINTAIN A "CONFINED TRENCH CONDITION" IN ALL SEWER AND WATERMAIN INSTALLATION TRENCHES.
26. THE SITE SERVICING CONTRACTOR SHALL TERMINATE ALL SERVICES 1.0m FROM THE BUILDING FACE.
27. NO BLASTING WILL BE PERMITTED.



DETAIL 2 TYPICAL SWALE DETAIL
SCALE: N.T.S.

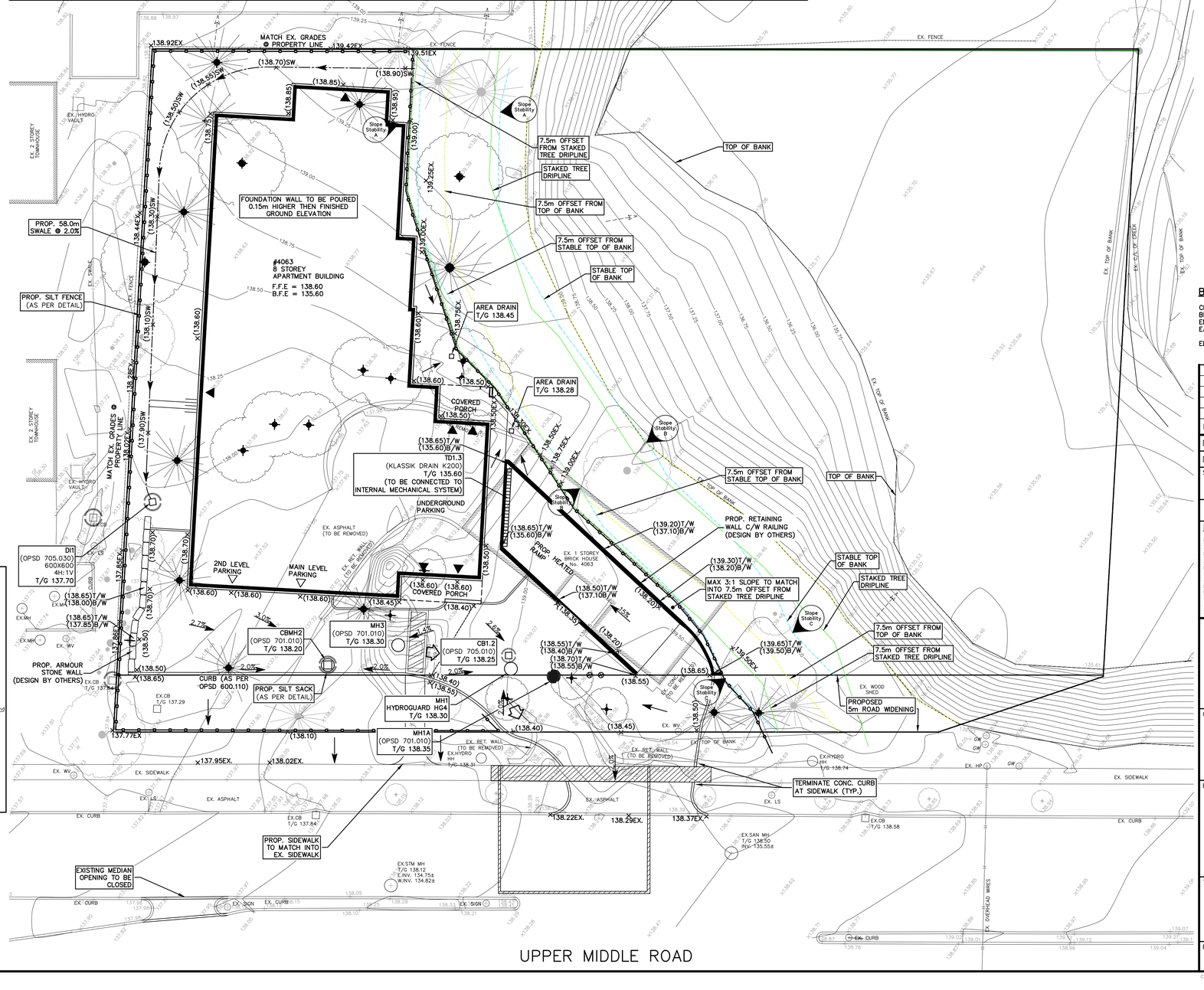
DETAIL 3 STREET CATCH BASIN SEDIMENT TRAP
SCALE: N.T.S.



DETAIL 1 HEAVY-DUTY SILT FENCE (PER OPSD 219.130)
SCALE: N.T.S.

NOTES TO CONTRACTOR:

1. INSPECTION
   CONTRACTOR IS RESPONSIBLE FOR CONTACTING ENGINEER 48 HRS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION. ENGINEER TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION AS MANDATED BY ONTARIO BUILDING CODE DIVISION C, PART 1, SECTION 1.2.2, GENERAL REVIEW. FAILURE TO NOTIFY ENGINEER WILL RESULT IN EXTENSIVE POST CONSTRUCTION INSPECTION AT CONTRACTORS EXPENSE.
2. CONFIRMATION OF EXISTING INVERTS
   72 HOURS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS TO LOCATE, EXPOSE AND VERIFY INVERTS OF EXISTING SEWERS AT CONNECTION POINTS. SHOULD THE CONTRACTOR PROCEED WITHOUT COMPLETING THESE LOCATES, EXTRA COSTS RESULTING FROM DELAYS AND STANDBY TIME WILL NOT BE CONSIDERED.





KEY MAP
N.T.S.

LEGEND:

- 209.00 — EXISTING GROUND ELEVATION
- ×(209.00) — PROPOSED GROUND ELEVATION
- ×209.00EX — PROPOSED ELEVATION TO MATCH EXISTING
- ×209.00SW — PROPOSED SWALE ELEVATION
- 2.0% — PROPOSED DIRECTION OF SHEET FLOW
- EXISTING CATCHBASIN
- EXISTING STORM/SANITARY MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED STORM/SANITARY MANHOLE
- EXISTING DIRECTION OF DRAINAGE
- PROPOSED SILTATION CONTROL FENCE
- PROPOSED CATCHBASIN SILT SACK
- TREES REMOVAL (REFER TO LANDSCAPE DRAWINGS)
- PROPOSED O2 ZONE & DEVELOPMENT AREA FENCE
- TOP OF BANK & 7.5m OFFSET FROM TOP OF BANK
- STAKED TREE DRIPLINE & 7.5m OFFSET FROM STAKED DRIPLINE
- STABLE TOP OF BANK & 7.5m OFFSET FROM STABLE TOP OF BANK

BENCH MARK NOTE:

CITY OF BURLINGTON BENCHMARK No. 429
BRASS PLAQUE SET ON THE NORTHWEST FACE OF HEADER WALL ON WEST END OF BRIDGE OVER SHOREACRES CREEK ON UPPER MIDDLE ROAD, 380m EAST OF WALKERS LINE, 15c EAST AND 40cm BELOW TOP OF WALL.

ELEVATION=139.935

NO.	DATE	BY	REVISIONS
05	MAY 05/20	MC	REVISED PER CITY/REGION COMMENTS
04	AUG 14/19	SJD	REVISED PER CITY/REGION COMMENTS
03	DEC 12/18	MC	REVISED RETAINING WALL
02	NOV 16/18	MC	REVISED SITE PLAN
01	AUG 7/18	MC	REVISED SITE PLAN

DESIGN		CHK'D	
DRAWN		CHK'D	
DATE	Jan. 3, 17		
SCALE	1:200	0 5 10 20	

APPROVALS

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS AND SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY.

SIGNED: _____ DATED: _____
INFRASTRUCTURE PLANNING & POLICY

THE APPLICANT SHALL BE AWARE THAT THE APPROVAL OF THE WATER SYSTEM ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE LOCAL MUNICIPALITY; REGARDLESS, THE APPLICANT MUST ENSURE THAT THE REGION OF HALTON'S STANDARDS AND SPECIFICATIONS ARE MET (THE WATER AND WASTEWATER LINEAR DESIGN MANUAL MAY BE OBTAINED FROM THE DATA MANAGEMENT GROUP AT 905-825-6032). FURTHERMORE, ALL WATER QUALITY TESTS MUST BE COMPLETE TO THE REGION OF HALTON'S SATISFACTION, BEFORE THE WATER SUPPLY CAN BE TURNED ON.

STAMP

S. LLEWELLYN & ASSOCIATES LIMITED
CONSULTING ENGINEERS
Tel. (905) 631-6978
Fax (905) 631-8927
email: info@sla.on.ca
3228 South Service Road, Suite #105 East Wing, Burlington, Ont., L7N 3H8

CLIENT
100 HAMILTON STREET LIMITED

PROJECT NAME
4063 UPPER MIDDLE ROAD
BURLINGTON, ONTARIO

TITLE
PRELIMINARY GRADING & EROSION CONTROL PLAN

PROJECT No.	DRAWING No.
16115	C1

ROADWORKS:
1. APPROVED FILL, FREE OF DELETERIOUS AND ORGANIC MATERIAL AND BOULDERS SHALL BE COMPACTED TO A DRY DENSITY NOT LESS THAN 95% THAN THE STANDARD PROCTOR DENSITY. AFTER COMPACTION, SOIL DENSITY TESTS SHALL BE CONDUCTED TO ENSURE ADEQUATE COMPACTION AND STABILITY OF THE FILL AND TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER.
2. SUBGRADE TO BE PROOF ROLLED PRIOR TO PLACEMENT OF SUB BASE. UNSUITABLE MATERIAL TO BE REMOVED AND REPLACED WITH SELECT FILL OR GRANULAR "B" AND COMPACTED TO 98% SPD.
3. ASPHALTIC CONCRETE TO BE COMPACTED TO 97% MARSHALL DENSITY.
4. PAVEMENT STRUCTURE FOR INTERNAL ROADS SHALL CONSIST OF COMPACTED THICKNESSES OF: 40mm HL3 SURFACE ASPHALT 60mm HL8 BASE BINDER ASPHALT 150mm GRANULAR "A" BASE COURSE 250mm GRANULAR "B" SUB-BASE COURSE
5. BOULEVARDS TO BE SODDED WITH #1 NURSERY SOD ON A MINIMUM 150mm OF SELECT TOPSOIL.
6. MANHOLE FRAMES AND COVERS AND WATER VALVE BOXES SHALL BE SET FLUSH WITH BASE COURSE ASPHALT AND ADJUSTED TO FINAL GRADE AFTER INSTALLATION OF SURFACE ASPHALT AS PER CITY OF BURLINGTON STANDARD DRAWINGS S-130.
7. TRAFFIC CONTROL SHALL BE MAINTAINED AT ALL TIMES FOR WORKS ON EXISTING ROADWAYS TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING. THE EXPENSE FOR THE ERECTION OF SIGNS, DELINEATORS AND OTHER TRAFFIC CONTROL DEVICES SHALL BE BORNE BY THE CONTRACTOR.
8. STANDARD PARKING SPACES SHALL BE 2.75mx6.0m. ACCESSIBLE PARKING SPACES SHALL BE 2.75mx6.0m AND SHALL HAVE AN ADJACENT ACCESS AISLE AT LEAST 2.0m WIDE, AS PER CITY OF BURLINGTON ACCESSIBILITY DESIGN STANDARDS (SECTION 4.3.12).

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.ENG.
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. TOP OF FOUNDATION WALLS FOR BUILDINGS SHALL BE 150mm (MIN) ABOVE FINISHED GRADE.
6. DRIVEWAY SLOPES SHALL NOT BE LESS THAN 2% AND NOT MORE THAN 7.0%. REVERSED SLOPED DRIVEWAYS IN NEW DEVELOPMENTS ARE NOT PERMITTED.
7. 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.
8. THE WRITTEN PERMISSION REQUIRED FROM THE ADJACENT LANDOWNER SHALL BE OBTAINED PRIOR TO ENTERING THE LANDS. SHOULD PERMISSION NOT BE OBTAINED OR IS WITHDRAWN PRIOR TO COMMENCING THE WORK, THEN THE DEVELOPER SHALL LIMIT HIS ACTIVITIES TO THE LIMITS OF THE DEVELOPMENT SITE.
9. DRIVEWAY AND DRIVEWAY APPROACHES SHALL BE LOCATED SUCH THAT HYDRO VAULTS AND OTHER STREET FURNITURE ARE A MIN. OF 1.2m FROM THE DRIVEWAY ENTRANCE CURB RADII.
10. ANY CHANGES IN GRADES AND CATCH BASINS REQUIRE THE APPROVAL OF THE CITY'S MANAGER OF DEVELOPMENT ENGINEERING.
11. ALL DRIVEWAYS FROM PROPERTY LINES FOR THE FIRST 7.5m SHALL BE WITHIN 5% MAXIMUM GRADE, THEREAFTER, ALL DRIVEWAYS SHALL BE WITHIN 10% MAXIMUM GRADES.

SILTATION AND EROSION CONTROL
1. SILTATION CONTROL BARRIERS SHALL BE PLACED AS DETAILED.
2. ALL SILTATION CONTROL MEASURES SHALL BE CLEANED AND MAINTAINED AFTER EACH RAINFALL AS DIRECTED AND TO THE SATISFACTION OF THE CITY OF BURLINGTON AND/OR THE HALTON CONSERVATION AUTHORITY.
3. ADDITIONAL SILT CONTROL LOCATIONS MAY BE REQUIRED AS DETERMINED BY THE ENGINEER, THE CITY OF BURLINGTON AND/OR THE HALTON CONSERVATION AUTHORITY.

SANITARY SEWERS:
1. SANITARY SEWERS SHALL BE PVC. PVC PIPE IS TO BE BELL AND SPIGOT AND COMPLY TO ASTM D-3034 WITH MINIMUM SDR 35.
2. MINIMUM BEDDING REQUIREMENTS FOR ALL SANITARY SEWER MAINS AND RELATED CONNECTIONS IN A SINGLE TRENCH SHALL BE CLASS B GRANULAR BEDDING AS PER OPSD 802.010 UNLESS OTHERWISE NOTED.
3. SANITARY SEWER MANHOLES FRAME AND COVER AS PER OPSD 401.01. ALL SANITARY MANHOLE COVERS ARE TO BE STAMPED "DANGER" AND "SANITARY".
4. ALL PVC LATERALS TO BE SDR 28 AND SHALL BE ANY COLOUR EXCEPT WHITE. MINIMUM SLOPE OF LATERAL TO BE 2.0%.
5. SINGLE SERVICE CONNECTIONS TO BE MINIMUM 125mm DIA PIPE.
6. DOUBLE SERVICE CONNECTIONS TO BE MINIMUM 150mm DIA PIPE FROM THE MAIN TO THE WYE CONNECTION AND 125mm DIA THEREAFTER.
7. TAPPING AT EXISTING SANITARY SEWERS SHALL BE UNDERTAKEN IN ACCORDANCE WITH REGION OF HALTON REQUIREMENTS.
8. ALL SEWERS TO BE VIDEO INSPECTED.
9. ALL SEWERS TO BE FLUSHED PRIOR TO VIDEO INSPECTION.
10. ALL PVC SEWERS ARE TO BE TESTED FOR DEFLECTION (MANDREL 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.

STORM SEWERS:
1. 300mm-450mm STORM SEWERS SHALL BE PVC, BELL AND SPIGOT AND SHALL COMPLY TO ASTM D-3034 WITH MINIMUM SDR 35 OR ULTRARIB.
2. MINIMUM BEDDING REQUIREMENTS FOR ALL SINGLE STORM SEWER MAINS AND ALL RELATED CONNECTIONS SHALL BE HIGH PERFORMANCE CLEAR STONE (HL-8 GRADED) AS PER CITY OF BURLINGTON STANDARD DRAWINGS S-188.
3. STORM SEWER MANHOLES SHALL BE IN ACCORDANCE WITH OPSD 701.010. AND 703.010. FRAME AND COVER AS PER OPSD 401.01 TYPE A. FRAMES TO BE STAMPED "DANGER" AND "STORM".
4. CATCHBASINS SHALL BE IN ACCORDANCE WITH OPSD 705.010. CATCHBASIN MANHOLES SHALL BE IN ACCORDANCE WITH OPSD 701.010 AND 701.030 UNLESS OTHERWISE SPECIFIED. CATCHBASINS TO LOCATED WITHIN LANDSCAPED AREAS TO BE SUMPLESS. FRAME AND COVER FOR CATCHBASINS AND CATCHBASIN MANHOLES SHALL BE AS PER OPSD 400.100 (ROADS) AND PER CITY OF BURLINGTON STANDARD DRAWING S-176 (REAR YARDS).
5. DOUBLE CATCH BASINS SHALL BE IN ACCORDANCE WITH OPSD 705.020 WITH 250mm DIA. LEAD. FRAMES AND COVERS TO BE OPSD 400.11 (ROADS) AND CITY OF BURLINGTON STD. S-176 (REAR YARDS). LEADS TO BE PVC SDR 35.
6. CATCH BASIN AND MANHOLE TOPS SHALL BE INITIALLY SET TO BASE COURSE ASPHALT ELEVATION AND ADJUSTED TO GRADE PRIOR TO PLACEMENT OF TOP LIFT OF ASPHALT.
7. ALL TRENCH EXCAVATIONS ARE TO BE BACKFILLED WITH SELECT NATIVE MATERIAL PLACED IN MAXIMUM 200mm LIFT THICKNESSES WITHIN 3% OF THE OPTIMUM MOISTURE CONTENT AND COMPACTED TO A MINIMUM OF 95% SPD, UNLESS OTHERWISE SPECIFIED.
8. INVERTS OF ALL SWALES TO BE SODDED TO A MINIMUM WIDTH OF 3.0m. ALL OTHER DISTURBED AREAS TO BE TOPSOILED AND SEEDED. SOD SHALL BE #1 NURSERY LAID ON A MINIMUM OF 100mm OF TOPSOIL.
9. ALL SEWERS TO BE VIDEO INSPECTED.
10. ALL SEWERS TO BE FLUSHED PRIOR TO VIDEO INSPECTION.
11. ALL PVC SEWERS (SANITARY AND STORM) ARE TO BE TESTED FOR DEFLECTION (MANDREL PASSAGE) AFTER INSTALLATION. PRIOR TO ASSUMPTION BY THE CITY, PIPE DEFLECTION TESTING SHALL BE REPEATED.

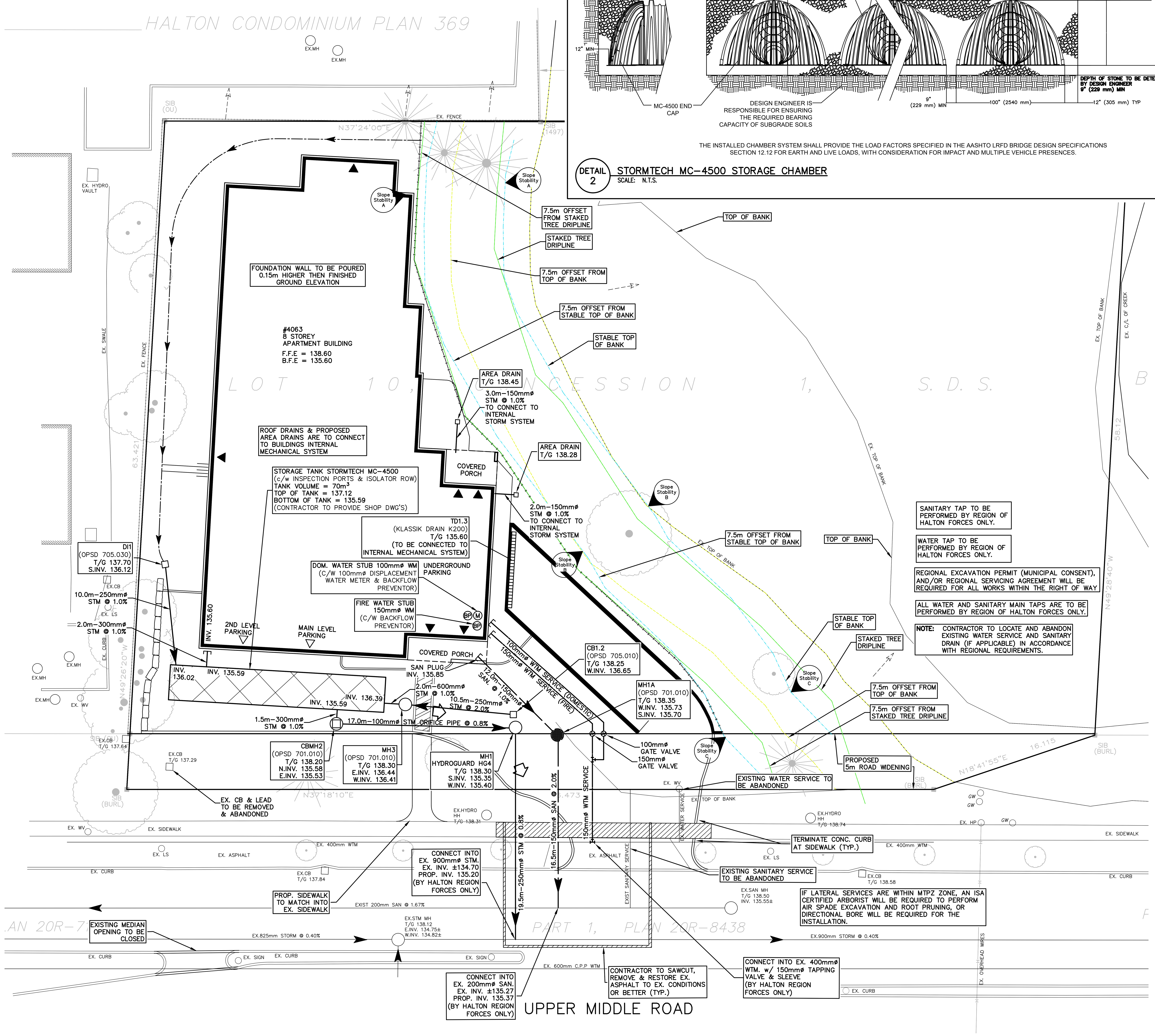
WATERMAINS:
1. FLEXIBLE WATERMAIN PIPE UP TO 300mm DIAMETER TO BE P.V.C. DR-18 AND CONFORM TO A.W.W.A. C-900 WITH MECHANICAL JOINTS AS PER A.W.W.A. C-110, AND TO BE INSTALLED WITH A 10 GAUGE TRACER WIRE.
2. FLEXIBLE PIPE BEDDING TO BE OPSD 802.010 WITH COMPACTED GRANULAR B MATERIAL.
3. MINIMUM COVER TO BE 1.7m TO TOP OF PIPE.
4. DEFLECTION AT JOINTS NOT TO EXCEED 2.5 DEGREES AND SHALL BE EQUAL AT ALL JOINTS.
5. GATE VALVES AND BOXES FOR 150mm DIAMETER WATERMAINS AS PER A.W.W.A. STANDARD C-500 AND ARE TO OPEN TO THE LEFT (COUNTER CLOCKWISE).
6. HYDRANTS SHALL MEET THE REQUIREMENTS OF A.W.W.A. STANDARD C-502 AND SHALL BE SET IN ACCORDANCE WITH REGION OF HALTON, AND CITY OF BURLINGTON BUILDING DEPARTMENT STANDARDS, COMPLETE WITH STEAMER CONNECTIONS. THE 100mm STEAMER PORT SHALL FACE THE FIRE ROUTE AND SHALL BE UNOBSTRUCTED BY ANY PROPOSED LANDSCAPING.
7. ALL FITTINGS TO HAVE MECHANICAL RESTRAINTS THAT MEET UNI-B-13-92.
8. ALL TEMPORARY AND PERMANENT WATERMAIN PLUGS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH OPSD 1103.01.
9. TAPPING AT EXISTING WATERMAINS SHALL BE UNDERTAKEN IN ACCORDANCE WITH REGION OF HALTON REQUIREMENTS.
10. ALL WATER CUSTOMERS SUPPLIED BY A WATERMAIN TO BE SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS IN ADVANCE OF THE SHUT DOWN AS PER REGION OF HALTON SPECIFICATIONS. NOTIFICATION SHALL TAKE PLACE UNDER THE ENGINEER'S DIRECTION.
11. MINIMUM HORIZONTAL SEPERATION BETWEEN WATERMAINS (INCLUDING PRIVATE SERVICES) AND STORM AND SANITARY SEWERS SHALL BE 2.5m. WATERMAINS MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 150mm OVER AND 500mm UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
12. WATER SERVICE CONNECTIONS (25mm & 20mm DIA. TYPE 'K' SOFT COPPER) AS PER OPSD 1104.01 AND OPSD 1104.02.

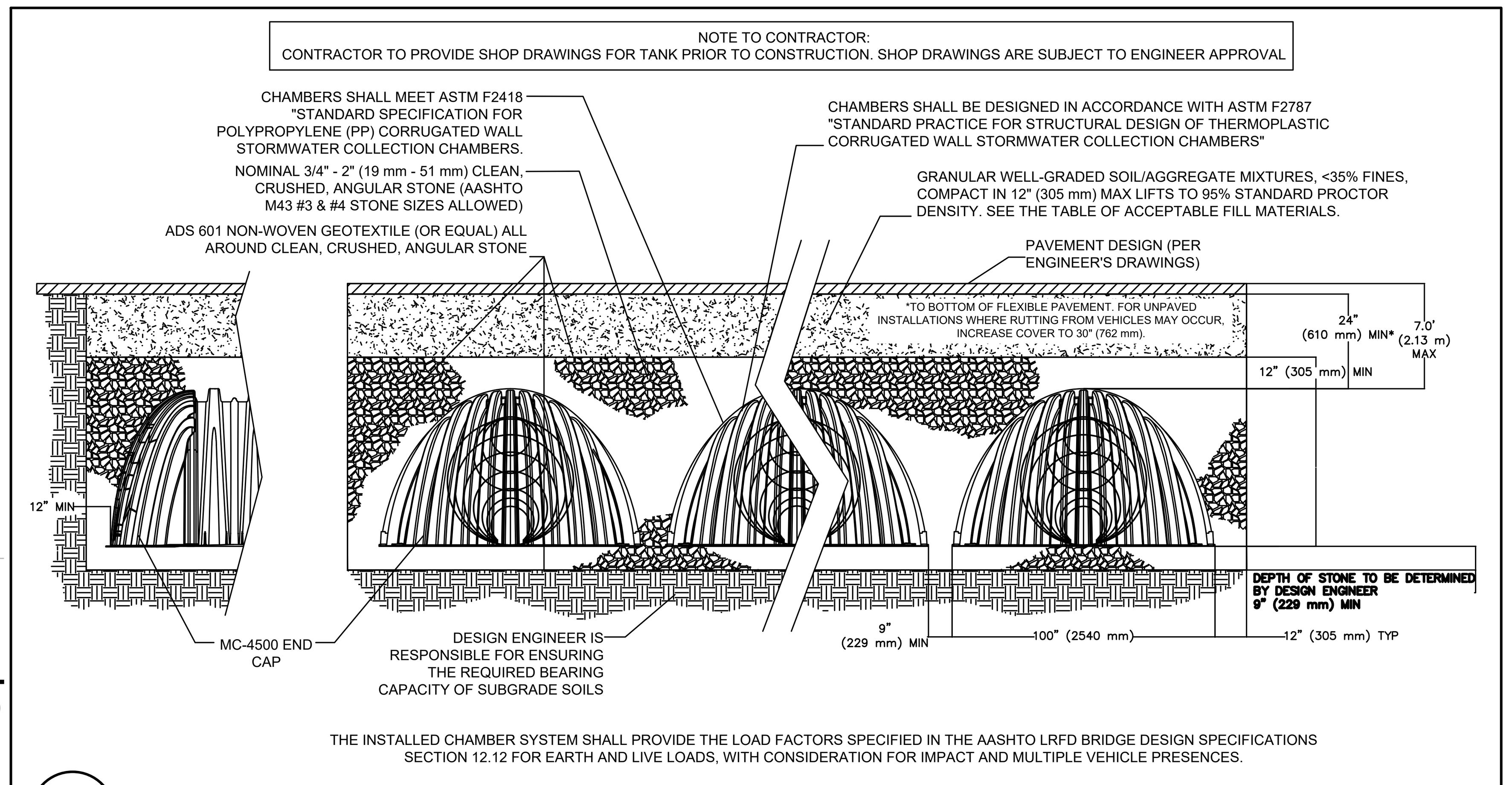
RESTORATIONS:
13. ALL TRENCH EXCAVATIONS WITHIN EXISTING ROAD ALLOWANCES SHALL BE AS BACKFILLED AS PER CITY OF BURLINGTON STANDARD DRAWING S-114 AND S-114A.
14. EXISTING PRIVATE FENCING IS TO BE MAINTAINED THROUGHOUT CONSTRUCTION. WHERE REMOVAL OR RELOCATION OF FENCING IS NECESSARY IT SHALL BE RESTORED OR REPLACED TO ORIGINAL CONDITIONS OR BETTER UNDER THE DIRECTION OF THE ENGINEER.
15. DAMAGED CURB, GUTTER AND SIDEWALK TO BE REPLACED WITH 28 MPa CONCRETE TO EXISTING CONDITIONS OR BETTER.
16. PAVEMENT SURFACE ON EXISTING UPPER MIDDLE ROAD TO BE REPAIRED BY CONTRACTOR AT THEIR EXPENSE IF DAMAGED BY CONSTRUCTION TRAFFIC.

NOTES TO CONTRACTOR:

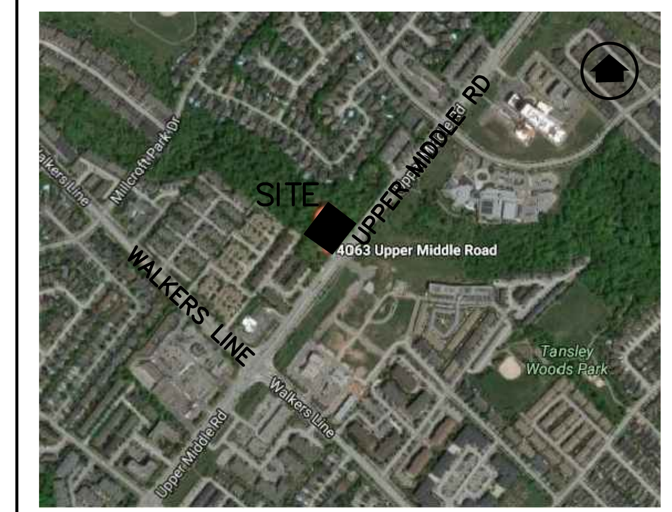
1. INSPECTION
CONTRACTOR IS RESPONSIBLE FOR CONTACTING ENGINEER 48 HRS PRIOR TO COMMENCING WORK TO ARRANGE FOR INSPECTION. ENGINEER TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION AS MANDATED BY ONTARIO BUILDING CODE DIVISION C, PART 1, SECTION 1.2.2, GENERAL REVIEW. FAILURE TO NOTIFY ENGINEER WILL RESULT IN EXTENSIVE POST CONSTRUCTION INSPECTION AT CONTRACTORS EXPENSE.

2. CONFIRMATION OF EXISTING INVERTS
72 HOURS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS TO LOCATE, EXPOSE AND VERIFY INVERTS OF EXISTING SEWERS AT CONNECTION POINTS. SHOULD THE CONTRACTOR PROCEED WITHOUT COMPLETING THESE LOCATES, EXTRA COSTS RESULTING FROM DELAYS AND STANDBY TIME WILL NOT BE CONSIDERED.





DETAIL 2 — STORMTECH MC–4500 STORAGE CHAMBER
SCALE: N.T.S.



KEY MAP
N.T.S.

LEGEND:
- EXISTING CATCHBASIN
- EXISTING STORM/SANITARY MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED STORM/SANITARY MANHOLE
- PROPOSED CURB STOP/GATE VALVE
- (M) PROPOSED WATER METER
- (BP) PROPOSED BACKFLOW PREVENTOR
- PROPOSED 02 ZONE & DEVELOPMENT AREA FENCE
- TOP OF BANK & 7.5m OFFSET FROM TOP OF BANK
- STAKED TREE DRIPLINE & 7.5m OFFSET FROM STAKED DRIPLINE
- STABLE TOP OF BANK & 7.5m OFFSET FROM STABLE TOP OF BANK

BENCH MARK NOTE:

CITY OF BURLINGTON BENCHMARK No. 429
BRASS PLAQUE SET ON THE NORTHWEST FACE OF HEADER WALL ON WEST END OF BRIDGE OVER SHOREACRES CREEK ON UPPER MIDDLE ROAD, 380m EAST OF WALKERS LINE, 15c EAST AND 40cm BELOW TOP OF WALL.

ELEVATION=139.935

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03	DEC 12/18	MC	REVISED RETAINING WALL
02	NOV 16/18	MC	REVISED SITE PLAN
01	AUG 7/18	MC	REVISED SITE PLAN

DESIGN		CHK'D		DATE Jan. 3, 17
DRAWN		CHK'D		

SCALE 1:200 (0, 5, 10, 20)

APPROVALS

REGIONAL APPROVAL

REGION DESIGN OF WATER AND/OR WASTEWATER SERVICES APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS AND SPECIFICATIONS AND LOCATION APPROVAL FROM AREA MUNICIPALITY.

SIGNED:________ DATED:________
INFRASTRUCTURE PLANNING & POLICY

THE APPLICANT SHALL BE AWARE THAT THE APPROVAL OF THE WATER SYSTEM ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE LOCAL MUNICIPALITY. REGARDLESS, THE APPLICANT MUST ENSURE THAT THE REGION OF HALTON'S STANDARDS AND SPECIFICATIONS ARE MET (THE WATER AND WASTEWATER LINEAR DESIGN MANUAL MAY BE OBTAINED FROM THE DATA MANAGEMENT GROUP AT 905-825-6032). FURTHERMORE, ALL WATER QUALITY TESTS MUST BE COMPLETE TO THE REGION OF HALTON'S SATISFACTION, BEFORE THE WATER SUPPLY CAN BE TURNED ON.

STAMP

S. LLEWELLYN & ASSOCIATES LIMITED
CONSULTING ENGINEERS
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email: info@sla.on.ca
3228 South Service Road, Suite #105 East Wing, Burlington, Ont., L7N 3H8

CLIENT
100 HAMILTON STREET LIMITED

PROJECT NAME
4063 UPPER MIDDLE ROAD
BURLINGTON, ONTARIO

TITLE
PRELIMINARY SITE SERVICING PLAN

PROJECT No. 16115
DRAWING No. C2