SEE SANITARY SERVICE PLAN ON SHEET G1 FOR SANITARY SEWER CONTINUATION

NORTH SERVICE ROAD

KERR STREET

QEW OFF-RAMP

REMOVE 2.3m EX. 300mm AND REPLACE WITH 375mm AND MAINTAIN INVERTS

REMOVE 55.6m EX. 300mm AND REPLACE WITH 375mm

CONNECT AT INV. 115.43

CONNECT CB LEAD TO NEW 375mm STM SEWER

REMOVE EX. "CB 103" AND REPLACE WITH "CBMH 103" AND MAINTAIN EX. INVERTS. EX. N. INV. 117.71 NW. INV. 117.80

EXISTING FIRE HYDRANT 40m AWAY FROM THE PROPOSED SIAMESE CONNECTION

PROPOSED HOTEL "AVID" BY IHG 7 STOREY – 114 RMS FFE 120.10

STONE INFILTRATION TRENCH 25.0mLONGx2.4mWIDEx1.5mDEEP VOL. RET. =36.0m³ REFER TO DETAILS ON G1

STORMTECH SC-310 CHAMBER FOOTPRINT, REFER TO DETAIL ON SHEET G1
100 CHAMBERS – 88m³ DETENTION VOLUME
AVERAGE GROUND ELEVATION ±119.55
COVER ABOVE CHAMBERS (MIN. 0.45m) 0.78m
TOP OF STONE – (DEPTH 152mm) 118.92
TOP OF CHAMBERS (H=405mm) 118.77
BOTTOM OF CHAMBERS 118.36
BOTTOM OF STONE (DEPTH 152mm) /OUTLET INVERT 118.21

INTERM CB AND LEAD IN MTO BUFFER, MAY BE REMOVED IN FUTURE

DICB 12 OPSD 705.030 w/ 3:1 GRATE TOP 118.80 SW 118.36

SLOPE TO PROP. SWALE/DICB 12 3:1 MAX. REFER TO DICB 12 DETAIL ON SHEET G1

MATCH INTO EX. 3:1 MAX.

2.5m CURB CUT FOR EMERGENCY OVERLAND FLOW

EXISTING TO REMAIN, REFER TO LANDSCAPE DWGS.

KEY PLAN

LEGEND

- CATCHBASIN
- CATCHBASIN MANHOLE
- STORM MANHOLE
- SANITARY MANHOLE
- VALVE AND BOX
- HYDRANT AND VALVE
- STORM
- SANITARY
- WATERMAIN
- EXISTING ELEVATION
- ×120.00 EX EXISTING ELEVATION
- ×120.00 PROPOSED ELEVATION
- ×120.00 T/C PROPOSED TOP OF CURB ELEVATION
- ×120.00 T/W PROPOSED TOP OF WALL ELEVATION
- ×120.00 B/W PROPOSED BOTTOM OF WALL ELEVATION
- ×120.00 SW PROPOSED SWALE ELEVATION
- EMERGENCY OVERLAND FLOW ROUTE

REGION OF HALTON NOTES

GENERAL NOTES
1. THE LOCATION OF ALL UNDERGROUND AND ABOVEGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THESE DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE LOCATION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.
2. ALL AREAS DISTURBED BY THE CONTRACTOR DURING THE CONSTRUCTION OF THE WORKS SHOWN HEREIN SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER AS DETERMINED BY PLANNING AND PUBLIC WORKS DEPARTMENT. ALL GRASS AND VEGETATION COVERED AREAS SHALL BE RESTORED BY PLACING 100MM OF TOPSOIL AND NO. 1 NURSERY SOD TO ESTABLISH A GRASS COVER TO THE SATISFACTION OF THE CITY/TOWN UNLESS NOTED OTHERWISE.
3. TOWN OF OAKVILLE AND REGION OF HALTON STANDARD DRAWINGS AND O.P.S.D. WITH REGIONAL AMENDMENTS FOR SANITARY SEWERS AND WATERMAINS SHALL CONSTITUTE PART OF THE ENGINEERING DESIGN AND CONSTRUCTION CONTRACT.
4. ALTERNATIVE MATERIALS MAY BE ACCEPTABLE, PROVIDED APPROVAL HAS FIRST BEEN OBTAINED FROM THE TOWN ENGINEER AND/OR THE REGIONAL COMMISSIONER OF PLANNING AND PUBLIC WORKS.
5. NO BLASTING IS PERMITTED.
6. ANY AREAS WITHIN R.O.W. WHICH REQUIRE FILL IN EXCESS OF 0.30M ARE SUBJECT TO COMPACTION TESTS AND SUCH TESTS MUST SHOW A MIN. COMPACTION OF 95% S.P.D. AT ALL DEPTHS.
7. MANHOLE AND VALVE CHAMBER COVERS ARE TO BE SET FLUSH WITH BASE COURSE ASPHALT AND ADJUSTED TO FINAL GRADE PRIOR TO INSTALLING TOP LIFT OF ASPHALT.
8. ALL TRENCHES WITHIN EXISTING RIGHT-OF-WAY ARE TO BE BACKFILLED IN ACCORDANCE WITH TOWN OF OAKVILLE REQUIREMENTS.

SANITARY SEWER NOTES
1. SANITARY MANHOLES AS PER O.P.S.D. 701.010 WITH FRAMES AND COVERS AS PER O.P.S.D. 401.01 TYPE 'A' UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. BENCHING IN MANHOLES TO BE AS PER O.P.S.D. 701.021 AS AMENDED BY THE REGION OF HALTON. BENCHING IN SANITARY MANHOLES TO BE TO THE CROWN OF THE PIPE.
3. SAFETY PLATFORMS AS PER O.P.S.D. 404.020 TO BE INSTALLED ONLY IN MANHOLES WHERE DEPTHS EXCEED 5.0M AS DIRECTED BY THE REGION AND AS INDICATED ON THE PROFILE DRAWINGS.
4. SANITARY SEWER PIPE SHALL BE PVC SDR35 CONFORMING TO A.S.T.M. D3034 UNLESS OTHERWISE NOTED.
5. SANITARY SERVICE CONNECTIONS TO BE 125MM DIA FOR SINGLE RESIDENTIAL CONNECTIONS AND 150MM DIA FOR DUAL RESIDENTIAL AND SINGLE NON-RESIDENTIAL CONNECTIONS. SANITARY SERVICE CONNECTIONS TO BE:
6. MINIMUM 2% GRADE AND SHALL BE NON-WHITE IN COLOUR.
7. SERVICES TO BE MIN. 2.15M AND MAX. 2.75M DEEP AT PROPERTY LINE. RISERS SHALL BE USED WHERE NOTED AS PER OPSD 1006.03.
8. CLASS 'B' BEDDING ON ALL SEWERS AND CONNECTIONS TO BE AS PER O.P.S.D. 1005.02 UNLESS NOTED OTHERWISE.
9. GRANULAR BACKFILL AROUND MANHOLES SHALL BE COMPACTED BY MECHANICAL MEANS TO A MINIMUM OF 95% S.P.D.

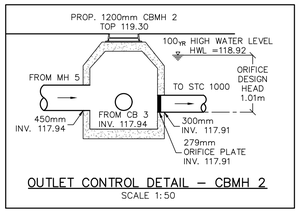
WATERMAIN NOTES
1. WATERMAINS 150MM TO 300MM DIAMETER TO BE P.V.C. CL150 (DR-18) WITH GASKETED JOINTS.
2. WATER SERVICE CONNECTIONS TO BE AS PER O.P.S.D. 1104.01. PIPE FOR ALL SERVICE CONNECTIONS UP TO 50MM DIA. SHALL BE TYPE K SOFT COPPER TUBING.
3. A MIN. HORIZONTAL SEPARATION OF 2.5M MUST BE MAINTAINED BETWEEN WATERMAINS AND SANITARY OR STORM SEWERS, INCLUDING SERVICE LATERALS.
4. A MIN. VERTICAL SEPARATION OF 0.15M BETWEEN WATERMAINS AND SEWERS MUST BE MAINTAINED IF WATERMAIN IS INSTALLED ABOVE SEWER OR 0.50M IF SEWER IS ABOVE WATERMAIN.
5. WATERMAIN BEDDING TO BE SUITABLE GRANULAR BEDDING MATERIAL AS PER O.P.S.D. 1102.01, CLASS 'B'.
6. ALL HYDRANTS AS PER O.P.S.D. 1105.01 TO HAVE STEAMER CONNECTIONS. HYDRANTS TO BE SUPPLIED WITH
   6.1. TWO (2) 63.5MM (2 ½") WITH CSA STANDARD THREAD, 63.5MM I.D., 79.4 O.D., 5 THREADS PER 25MM, 31.75MM SQUARE OPERATING NUT;
   AND
   6.2. ONE (1) 100MM (4") STORZ PUMPER CONNECTION AS PER CAN/ULC #S-520, 31.75MM SQUARE OPERATING NUT, AND STORZ CAP PAINTED GLOSS BLACK.
7. HYDRANTS SHALL BE INSTALLED SUCH THAT THE ROD STEM LENGTH SHALL NOT EXCEED 1.7M MEASURED FROM THE BREAK-OFF FLANGE. IF HYDRANT BARREL LENGTH EXCEEDS 1.7M THEN A HYDRANT THAT CAN BE RAISED FROM THE BOTTOM WITHOUT INCREASING ROD LENGTH IS TO BE USED.
8. ALL METALLIC WATERMAINS, FITTINGS, HYDRANTS AND RESTRAINERS TO HAVE CATHODIC PROTECTION IN ACCORDANCE WITH REGION OF HALTON STANDARD DRAWINGS RH 420.01 AND RH 420.02.
9. ALL SACRIFICIAL ANODES SHALL CONFORM TO A.S.T.M. B-418 TYPE II AND SHALL BE MADE OF HIGH GRADE ELECTROLYTIC ZINC, 99.99% PURE.
10. ANODE INSTALLATION IS NOT REQUIRED WITHIN VALVE-CHAMBERS, DRAIN CHAMBERS OR AIR RELEASE CHAMBERS.
11. ALL WELD CONNECTIONS TO BE COATED WITH '7C MASTIC' OR APPROVED EQUIVALENT.
12. FOR ALL ANODES CONNECTED TO NEW PIPE, FITTINGS OR TO EXISTING METALLIC WATERMAINS, A CADWELDER AND CA-15 OR EQUIVALENT CARTRIDGE SHALL BE USED. ANODE INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
13. WHERE NEW PIPE IS TO BE CONNECTED TO EXISTING DUCTILE IRON OR CAST IRON PIPE A 14.5KG MAGNESIUM ANODE IS TO BE CONNECTED TO THE FIRST LENGTH OF EXISTING PIPE, AS PER REGION OF HALTON STANDARD DRAWING RH 420.01.
14. ALL VALVES TO OPEN LEFT (COUNTER-CLOCKWISE) AND SHALL HAVE 50MM SQUARE STANDARD AWWA OPERATING NUT.
15. ALL PLUGS, CAPS, TEES, AND BENDS SHALL BE MECHANICALLY RESTRAINED AS PER MANUFACTURERS SPECIFICATIONS. RESTRAINTS SHALL MEET UNI-B-13-92.
16. RECOMMENDED RESTRAINED LENGTH ARE AS FOLLOWS:

RECOMMENDED RESTRAINED LENGTH OF PVC PIPE INSTALLED IN SAND-SILT:

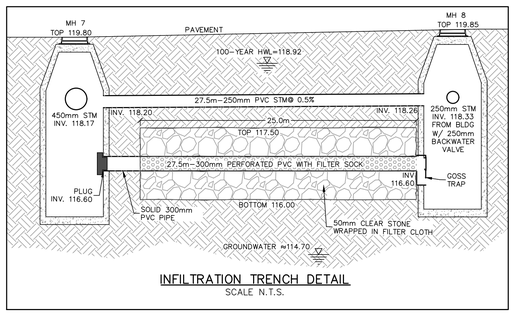
NOM. PIPE SIZE	90° BEND	45° BEND	22.5° BEND	11.25° BEND	45° VERT. BEND DOWN/UP	VALVE/HYD DEAD-END
150	3.7m	1.6m	0.8m	0.4m	4.6m/1.6m	11.1m
200	4.8m	2.0m	1.0m	0.5m	2.9m/1.0m	14.4m
300	6.8m	2.5m	1.4m	0.7m	8.6m/2.9m	20.7m

NOM. PIPE SIZE	REDUCING TEE	NOM. PIPE SIZE	STRAIGHT TEE
200x150	6.2m (BRANCH ONLY)	150	8.5m (BRANCH)/2.9m (MAIN)
300x150	3.7m (BRANCH ONLY)	200	12.1m (BRANCH)/6.5m (MAIN)
300x200	8.9m (BRANCH)/1.8m (MAIN)	300	18.9m (BRANCH)/13.3m (MAIN)

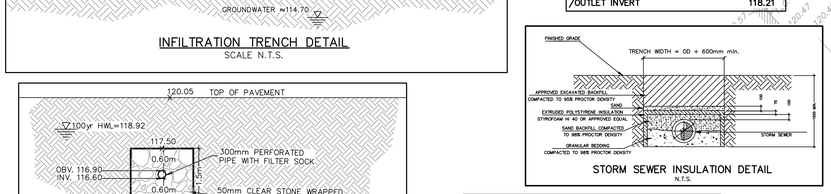
17. WHERE WATERMAIN IS PLACED IN FILL OR IN PREVIOUSLY DISTURBED GROUND ALL JOINTS TO BE MECHANICALLY RESTRAINED.
18. MINIMUM DEPTH OF COVER OVER WATERMAIN SHALL BE 1.70M MEASURED FROM THE ROAD CENTRELINE ELEVATION.
19. THE DEPTH OF WATER SERVICES AT PROPERTY LINE SHOULD BE A MINIMUM OF 1.7M AND A MAXIMUM OF 2.0M. THE DISTANCE BETWEEN THE GROUND ELEVATION AND THE TOP OF THE ROD SHOULD BE BETWEEN 0.9M AND 1.0M.
20. WATER SERVICES CROSSING THE STORM SEWER TO HAVE MIN. 1.70M OF COVER. WHERE THIS CANNOT BE ACHIEVED, WATER SERVICE IS TO CROSS UNDER STORM SEWER.
21. GATE VALVES CONFORMING TO A.W.W.A. C500 STANDARDS ARE REQUIRED ON WATERMAINS 300MM AND UNDER. LINE GATE VALVES SHALL HAVE AUGER OF SCREW TYPE VALVE BOXES.
22. ALL WATERMAIN FITTINGS SHALL HAVE MECHANICAL JOINTS.
23. VERTICAL AND HORIZONTAL ALIGNMENT OF WATERMAIN TO BE ACHIEVED BY DEFLECTION OF JOINTS AS PER MANUFACTURER'S SPECIFICATIONS. DEFLECTION IN THE BARREL IS NOT PERMITTED.
24. TRACER WIRE IS TO BE INSTALLED ON ALL NEW INSTALLATIONS OF PVC WATERMAIN PIPE FOR LOCATING PURPOSES. A SOLID 10 GAUGE T.W.U. COPPER WIRE IS TO BE INSTALLED ALONG THE PIPE, STRAPPED TO THE PIPE AT 6 METRE INTERVALS. JOINTS IN THE WIRE BETWEEN VALVES ARE NOT PERMITTED.
25. THE INSPECTOR MAY TEST THE TRACING WIRE FOR CONDUCTIVITY. IF THE TRACING WIRE IS NOT CONTINUOUS FROM VALVE TO VALVE, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR THE WIRE.
26. ALL WATER CUSTOMERS SUPPLIED BY A WATERMAIN TO BE SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 24 HOURS IN ADVANCE OF THE SHUT DOWN AS PER REGION OF HALTON SPECIFICATIONS. NOTIFICATION SHALL TAKE PLACE UNDER THE ENGINEER'S DIRECTION.
27. OPERATION OF EXISTING WATERMAINS SHALL BE BY REGION OF HALTON STAFF ONLY.
28. FIRE HYDRANT CAPS SHALL BE COLOUR CODED AS PER NFPA STANDARDS.



OUTLET CONTROL DETAIL – CBMH 2
SCALE 1:50



INFILTRATION TRENCH DETAIL
SCALE N.T.S.

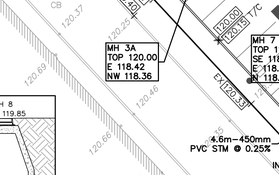


REQUIRED:
REQUIRED INFILTRATION TRENCH VOLUME = 50m³/ha
(5.0mm) SITE AREA : 0.67925ha
INFILTRATION TRENCH VOLUME REQUIRED: 0.67925ha X 50m³/ha = 34.0m³

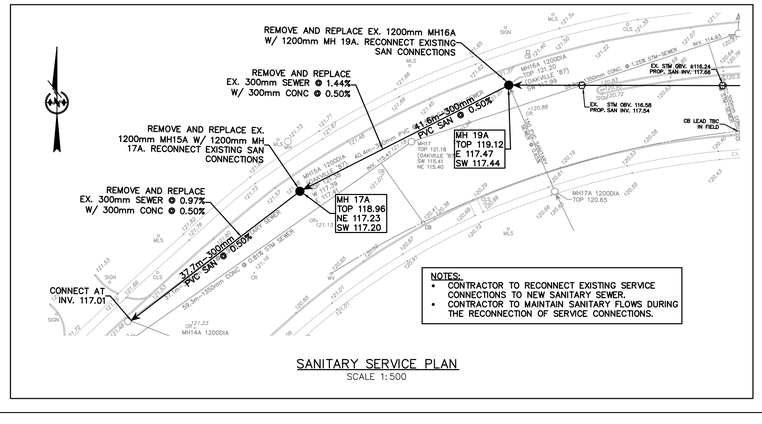
PROVIDED:
TRENCH AREA 2.4m X 1.5m = 3.6m²
TRENCH LENGTH = 25.0m
TRENCH STORAGE VOLUME = 25.0m X 3.6m² x 0.40* = 36.0m³
*50mm CLEAR STONE @ 40% VOID RATIO

INFILTRATION TRENCH CROSS-SECTION DETAIL
SCALE N.T.S.

STORM SEWER INSULATION DETAIL
N.T.S.

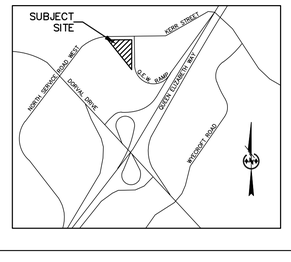


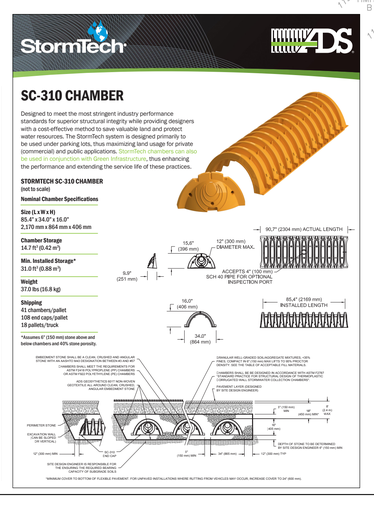
DICB 12 DETAIL
SCALE 1:50



NOTES:
- CONTRACTOR TO RECONNECT EXISTING SERVICE CONNECTIONS TO NEW SANITARY SEWER.
- CONTRACTOR TO MAINTAIN SANITARY FLOWS DURING THE RECONNECTION OF SERVICE CONNECTIONS.

SANITARY SERVICE PLAN
SCALE 1:500





PAVEMENT STRUCTURE DESIGN DETAILS, SPECIFICATIONS AND SUB-DRAINAGE DESIGN, IS NOT UNDER THE CIVIL DESIGN SCOPE. CONTRACTOR IS TO REFER TO GEOTECHNICAL REPORT RELATED SPECIFICATIONS. CONTRACTOR IS TO COORDINATE PAVEMENT MAKEUP AND SUB-DRAINAGE INSPECTION WITH GEOTECHNICAL CONSULTANT.
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LICENSED PROFESSIONAL ENGINEER
2018-07-31
A. M. CANDARAS
PROVINCE OF ONTARIO

No.	Date	By	REVISIONS
2	JUL.31/18	Z.S.S.	2ND SPA SUBMISSION
1	MAR.20/18	Z.S.S.	1ST SPA SUBMISSION

a.m.candaras associates inc.
consulting engineers
8551 Weston rd., suite 203
Woodbridge ont. L4L 9R4
905-850-8020 Fax 905-850-8099
Email: civil@amcai.com

NORTH SERVICE ROAD
PT 10/RP: 20R–15377
NORTH SERVICE RD @ QEW RAMP

TOWN OF OAKVILLE
REGION OF HALTON

SITE GRADING, SERVICING AND STORMWATER MANAGEMENT PLAN

SCALE: 1:300	DATE: FEBRUARY 2018	PROJ No. 1705	
DRAWN: Z.S.S.	CHK'D: A.M.C.	PLAN No.	G1
DESIGNED: A.M.C.	SHEET 1 OF 2		

FILENAME: G:\1705\1705-mst.dwg
PLOT DATE: 7/13/2018 - 11:52am
PLOTTED By: zackary

NORTH SERVICE ROAD

KERR STREET

QEW OFF-RAMP

PROPOSED
HOTEL 'AVID' BY IHG
7 STOREY – 114 RMS FFE 120.10

M/E ROOM

CB 22 WITH ROUND LID TOP 120.47

MH16 TOP 120.81 (OAKVILLE '87) N 114.31 E DROP 114.84 E 117.77 SE 115.22 SW 114.87

MH16A 1200DIA TOP 121.20 (OAKVILLE '87) SW 117.99

MH17A 1200DIA TOP 120.65

MH18 TOP 120.23 NW 115.30

MH21 TOP 120.05

MH20 TOP 119.67

CB20 TOP 119.58

CB 120.04 (M.D.) N 119.00

CB 119.70 (M.D.) N 118.46

EX. MH 100 (SURVEY) S INV. 114.69 N INV. 114.66 EX. 300mm

EX. CB 102 (SURVEY) W 117.89 (150mm) S 117.89 (150mm) E 117.74 (300mm)

EX. CBMH 101 (SURVEY) W 116.75 (300mm) W 117.51 (150mm) N 114.97 (300mm)

EX. CB 103 118.99 (M.D.) N 117.71

250 PVC STM LEAD

750mm CONC. STM–SEWER

300mm PVC STM–SEWER

59.9m–1350mm CONC. @ 1.25% STM–SEWER

27.8m–375mm CONC. @ 0.30% STM–SEWER

55.3m–300mm PVC STM @ 1.79%

300mm PVC STM @ 0.65% CAPACITY = 78.01 l/s

600mm CONC WATERMAIN

150mm DIA. SANITARY SEWER @ 0.62%

SILT FENCE INSTALLED AS PER OAKVILLE STD. 1, REFER TO DETAIL ON G2

CONSTRUCTION MUD MAT INSTALLED AS PER OAKVILLE STD. 6, REFER TO DETAIL ON G2

CURB RADII TO BE CONSTRUCTED TO NOT IMPACT AND EXISTING TREES

FLUSH CURB OR NO CURB

30.0m

Bottom of Slope

Top of Slope

Ditch

Bus Shelter

KEY PLAN

LEGEND

- CATCHBASIN
- CATCHBASIN MANHOLE
- STORM MANHOLE
- SANITARY MANHOLE
- HYDRANT AND VALVE
- +118.02 EXISTING ELEVATION
- SILT SILT FENCE
- CONSTRUCTION MUD MAT
- CB FILTER TRAP

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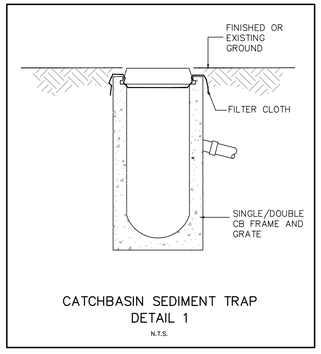
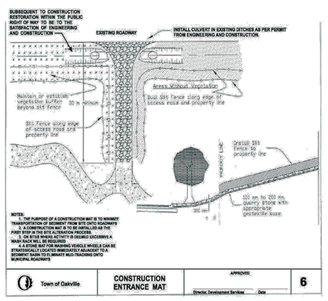
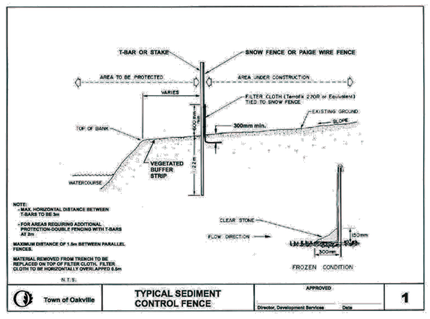


CATCHBASIN SEDIMENT TRAP DETAIL 1
N.T.S.



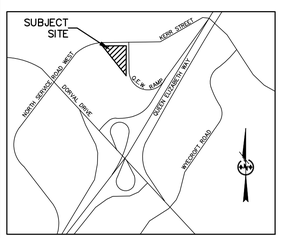
Town of Oakville | CONSTRUCTION ENTRANCE MAT | APPROVED: Director, Development Services Date | 6



Town of Oakville | TYPICAL SEDIMENT CONTROL FENCE | APPROVED: Director, Development Services Date | 1

SEDIMENT & EROSION CONTROL NOTES:
1. ALL SILT CONTROL AND EROSION PROTECTION DEVICES ARE TO BE IN PLACE PRIOR TO THE COMMENCEMENT OF FILLING AND SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL FILLING IS COMPLETE.
2. IF SITE CONSTRUCTION ACTIVITIES ARE INTERRUPTED AND/OR INACTIVITY EXCEEDS 30 DAYS ALL STRIPPED AND/OR BARE SOIL AREAS ARE TO BE STABILIZED BY SODDING/SEEDING/MULCHING OR OTHER APPROVED METHOD TO THE SATISFACTION OF THE TOWN OF OAKVILLE.
3. ALL SILT CONTROLS ARE TO BE MAINTAINED AS REQUIRED & INSPECTED ON A REGULAR BASIS.
4. SILT CONTROLS ARE TO BE INSPECTED AFTER EVERY RAINFALL & ANY NECESSARY REPAIRS TO BE MADE IMMEDIATELY THEREAFTER.

SEQUENCE NOTES FOR PLACEMENT OF FILL:
1. INSTALL SILT FENCE & MUD MAT.
2. INSTALL TEMPORARY SWALE & ROCK CHECK DAM.
3. IMPORT & PLACE FILL WITHIN GRADING LIMITS.



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CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL EXISTING UNDERGROUND AND ABOVE UTILITIES AND SERVICES. THE CONTRACTOR SHALL ADVISE THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION. VARIOUS UTILITIES CONCERNED TO BE GIVEN REQUIRED ADVANCED NOTICE PRIOR TO ANY DIGGING, FOR STAKE OUT.
A.M. CANDARAS ASSOCIATES INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING UTILITIES AS INDICATED ON THIS DRAWING.

LICENSED PROFESSIONAL ENGINEER 2018-07-31 A. M. CANDARAS PROVINCE OF ONTARIO

No.	Date	By	REVISIONS
2	JUL.31/18	Z.S.S.	2ND SPA SUBMISSION
1	MAR.20/18	Z.S.S.	1ST SPA SUBMISSION

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__NORTH SERVICE ROAD
PT 10/RP: 20R–15377
NORTH SERVICE RD @ QEW RAMP

TOWN OF OAKVILLE
REGION OF HALTON

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1:300	DATE: FEBRUARY 2018	PROJ No.	1705
DRAWN: Z.S.S.	CHK'D: AMC	PLAN No.	G2
DESIGNED: A.M.C.	SHEET 2 OF 2		

FILENAME: G:\1705\1705-most.dwg
PLOTTED: July 05, 2018 - 11:17pm
PLOTTED BY: zsakary

Table 3-1 Residential Dry Weather Flow

Type of Development	Equivalent Population Density (persons/hectare)	Unit Sewage Flow	
		m^3/pcd	m^3/person/s
Single Family	55	0.275	0.003183×10^{-3}
Semi-detached, duplex and 4-plex	100	0.275	0.003183×10^{-3}
Townhouse, Maisonette (6 storey apt. or less)	135	0.275	0.003183×10^{-3}
Apartment (over 6 stories High)	285	0.275	0.003183×10^{-3}

Notes:
1) m^3pcd = metres^3 per capita per day
2) m^3/ha/s = metres^3 per hectare per second
3) m^3/ha/day = metres^3 per hectare per day

Table 3-2 Commercial, Industrial, and Community Dry Weather Flow

Type of Development	Equivalent Population Density (persons/hectare)	Unit Sewage Flow	
		m^3/ha/day	m^3/ha/s
Light Commercial Areas	90	24.750	0.28646×10^{-3}
Community Services	40	11.000	0.12732×10^{-3}
Light Industrial Areas	125	34.375	~~0.003183×10^{-3}~~ 0.00039786
Hospitals	4 persons per bed	1.1 m^3/bed/day	0.0127×10^{-3} m^3/bed/s

Notes:
1) m^3pcd = metres^3 per capita per day
2) m^3/ha/s = metres^3 per hectare per second
3) m^3/ha/day = metres^3 per hectare per day

REGIONAL MUNICIPALITY OF HALTON
Department of Public Works

SANITARY OPERATING MAPS

TOWN OF OAKVILLE

REGIONAL MUNICIPALITY OF HALTON IT"S EMPLOYEES, OFFICERS AND AGENTS ARE NOT RESPONSIBLE FOR ANY ERRORS, OMISSIONS OR INACCURACIES WHETHER DUE TO THEIR NEGLIGENCE OR OTHERWISE. ALL INFORMATION SHOULD BE VERIFIED.
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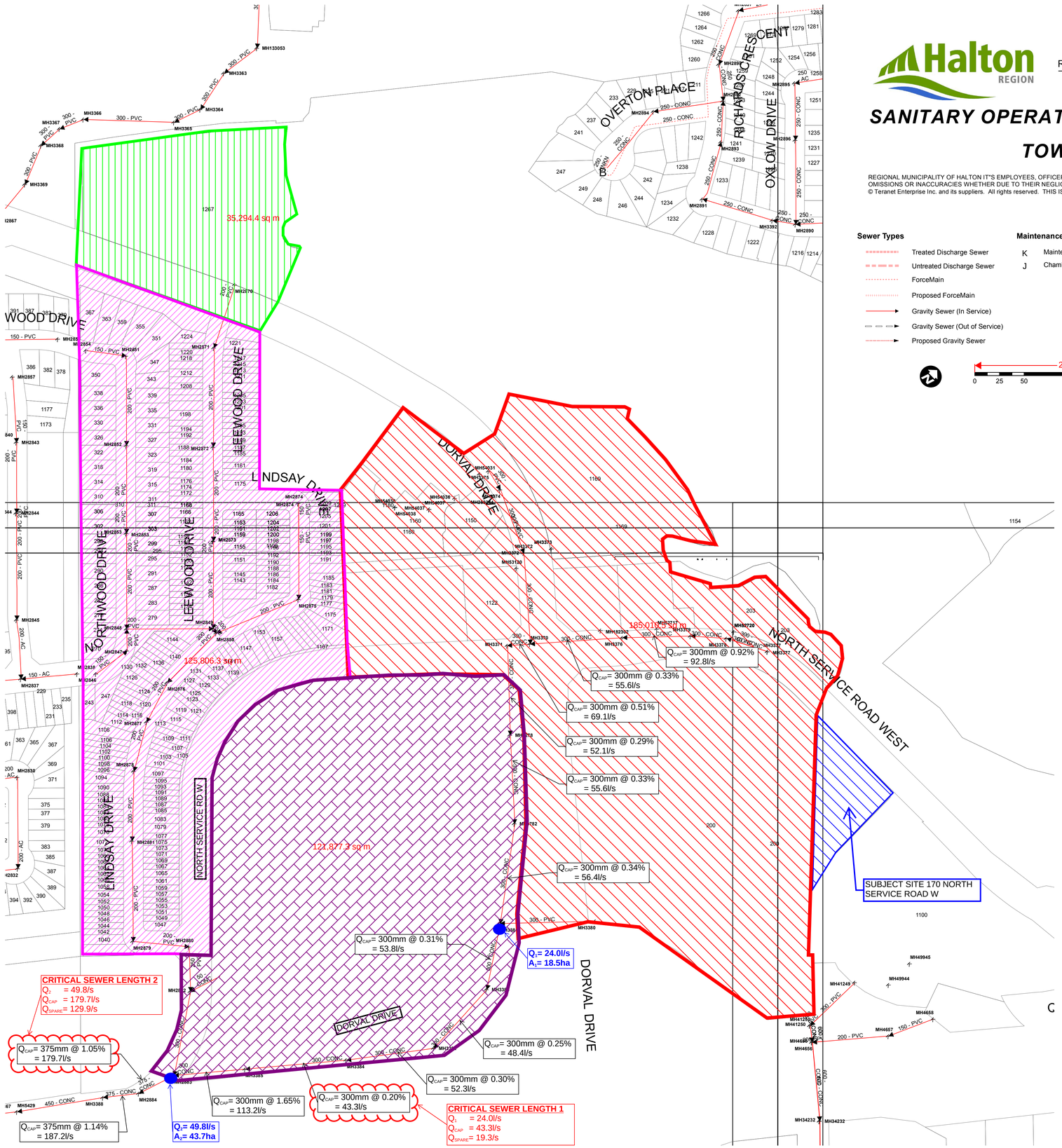
Sewer Types
- Treated Discharge Sewer
- Untreated Discharge Sewer
- ForceMain
- Proposed ForceMain
- Gravity Sewer (In Service)
- Gravity Sewer (Out of Service)
- Proposed Gravity Sewer

Maintenance Hole Types
- K Maintenance Hole
- J Chamber

Major System Facilities
- E Wastewater Storage Tank
- G Wastewater Treatment Plant
- B Pumping Station
- Municipal Boundary

200.4 m
0 25 50 100 150 200 Meters



Q_{SITE}

SITE PROPOSED SANITARY FLOWS
AS PER STORMWATER MANAGEMENT AND FUNCTIONAL SERVICE REPORT FOR HOTEL PROJECT - 170 NORTH SERVICE ROAD WEST, PT 10/RP: 20R-15377

Q_{SITE}=3.19l/s = **3.2l/s**

Q_1

= POP_{C1} = COMMERCIAL (18.5ha)
= 18.5ha x 90persons/ha = 1,665persons

$M_{COM.}$ (1,665)= 2.92

Q_{DRY} = 18.5ha x 0.28646l/s
= 5.30l/s

Q_{II} = 18.5ha x 0.286l/s/ha
= 5.29l/s

$Q_{C1,TOT}$ = 5.30l/s x 2.92 + 5.29l/s
= 20.77l/s = **20.8l/s**

$Q_{I,TOT}$ = 20.8l/s + 3.2l/s

Q_1 = 24.0l/s

Q_2

= POP_{R1} = TOWNHOUSES (0.4ha)
= 0.4ha x 135persons/ha = 54persons

= POP_{R2} = SINGLE FAMILY (12.6ha)
= 12.6ha x 55persons/ha = 693persons

POP_{RTOTAL} = 54 + 693 = 747persons
A_{RTOTAL} = 0.4ha + 12.6ha = 13.0ha

$M_{RES.}$ (747)= 3.88

Q_{DRY} = 747persons x 0.003183l/persons/s
= 2.38l/s

Q_{II} = 13.0ha x 0.286l/s/ha
= 3.72l/s

Q_{RES} = 2.38l/s x 3.88 + 3.72l/s
= 12.95l/s = **13.0l/s**

= POP_{C2} = COMMERCIAL (12.2ha)
= 12.2ha x 90persons/ha = 1,098persons

$POP_{C,TOTAL}$ = 1,665 + 1,098 = 2,763persons
$A_{C,TOTAL}$ = 18.5ha + 12.2ha = 30.7ha

$M_{COM.}$ (2,763)= 2.78

Q_{DRY} = 30.7ha x 0.28646l/s
= 8.79l/s

Q_{II} = 30.7ha x 0.286l/s/ha
= 8.78l/s

$Q_{C,TOTAL}$ = 8.79l/s x 3.88 + 8.78l/s
= 33.21l/s = **33.2l/s**

Q_{TOTAL} = **13.0l/s + 33.2l/s + 3.2l/s**

Q_2 = 49.8l/s