# BLACKMOOR GATES

# BLACKMOOR GATES

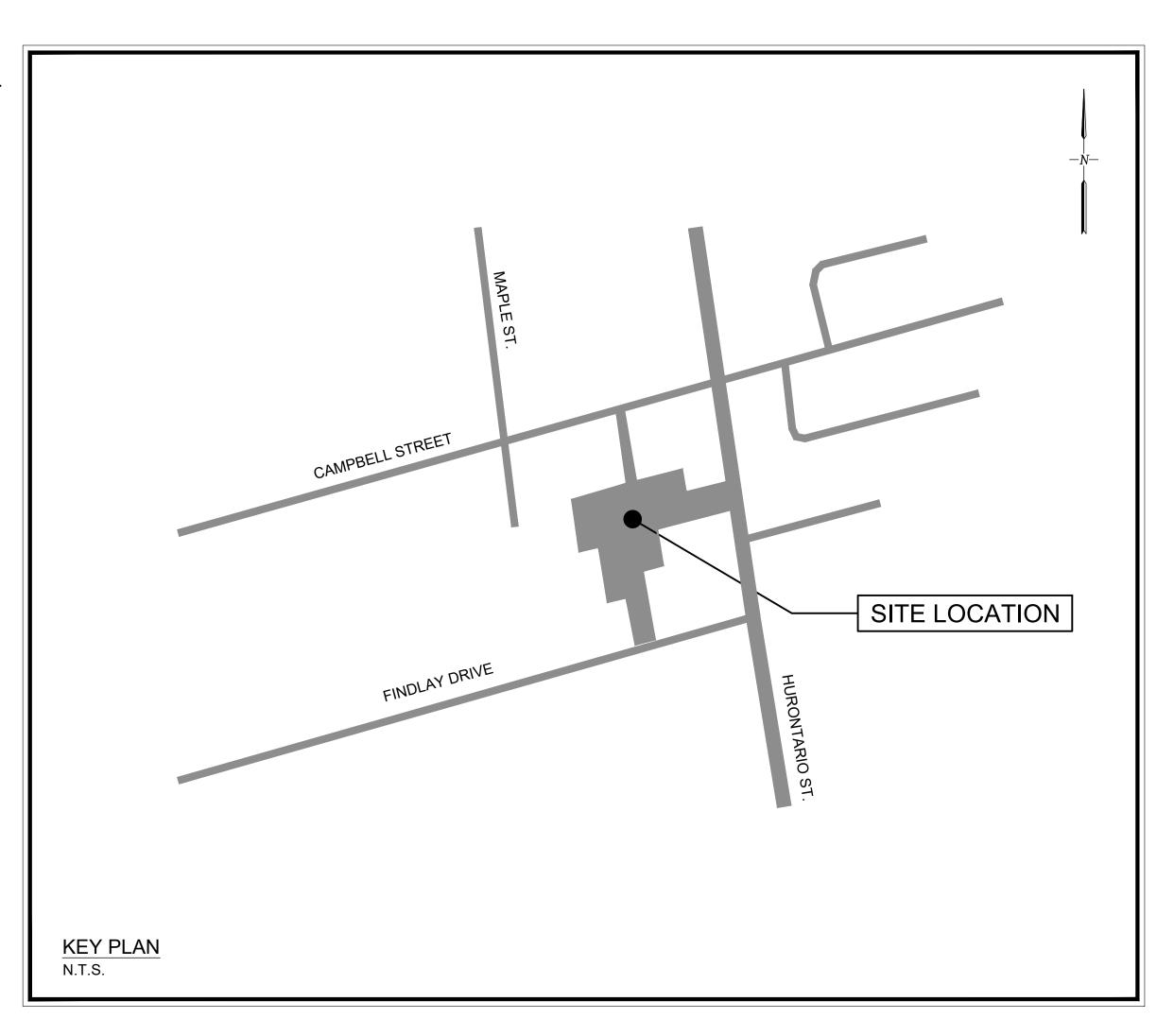
TOWN OF COLLINGWOOD

# DRAWING INDEX

STANDARD DETAILS

STANDARD DETAILS
STANDARD DETAILS

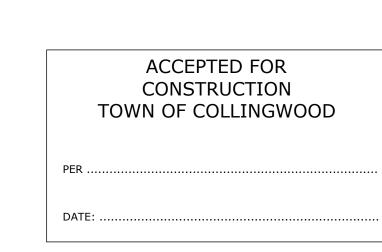
EXISTING CONDITIONS AND REMOVALS GENERAL ENGINEERING SITE PLAN **GRADING PLAN** SERVICING PLAN SERVICING PLAN POST DEVELOPMENT DRAINAGE AREA PLAN SANITARY DRAINAGE AREA PLAN BMGA PLAN AND PROFILE STA 0+000 to STA 0+096.21 **BMGB** PLAN AND PROFILE STA 0+000 to STA 0+120 PLAN AND PROFILE **BMGB** STA 0+120 to STA 0+280 PLAN AND PROFILE STA 0+280 to STA 0+350.60 PLAN AND PROFILE EMERGENCY VEHICLE STA 0+000 to STA 0+070 CAMPBELL STREET PLAN AND PROFILE STA 0+000 to STA 0+180 PLAN AND PROFILE REAR LOTS 23-28 STA 0+000 to STA 0+093.74 STA 0+000 to STA 0+071.78 PLAN AND PROFILE **REAR LOTS 19-22** EROSION AND SEDIMENT CONTROL PLAN EROSION AND SEDIMENT CONTROL DETAILS STANDARD DETAILS STANDARD DETAILS

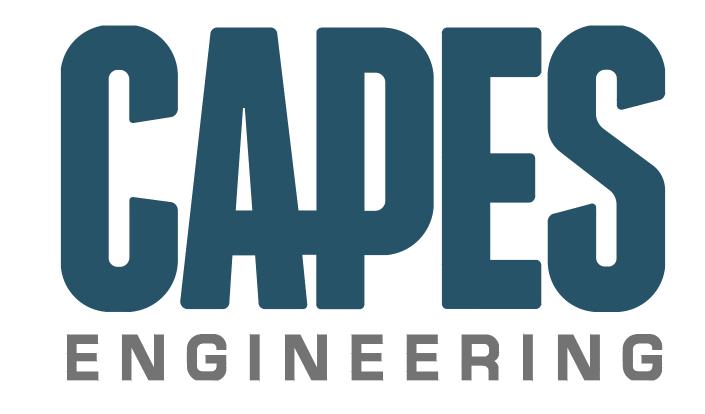


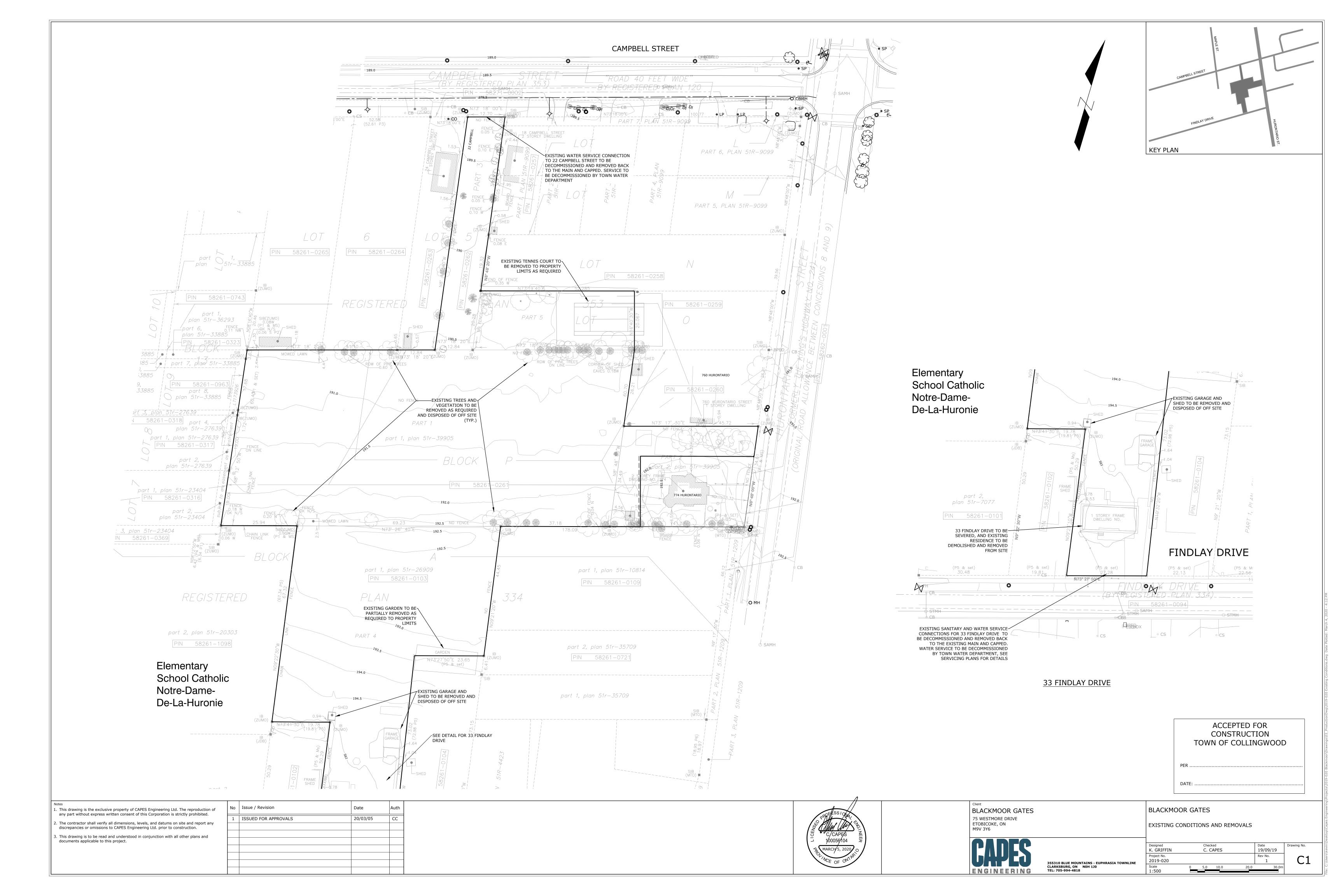
BLACKMOOR GATES
75 WESTMORE DRIVE
ETOBICOKE, ON
M9V 3Y6

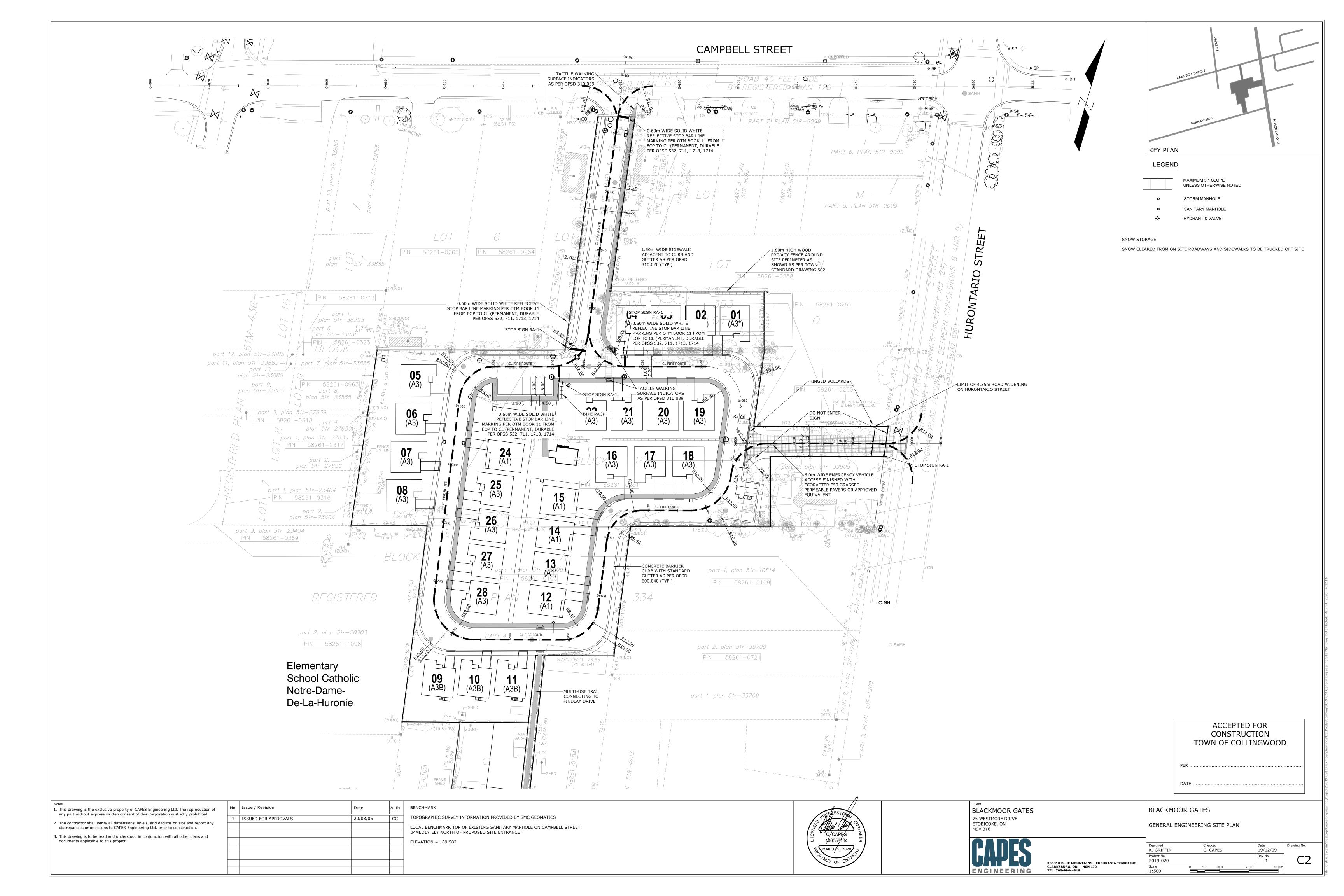
Project No. 2019-020

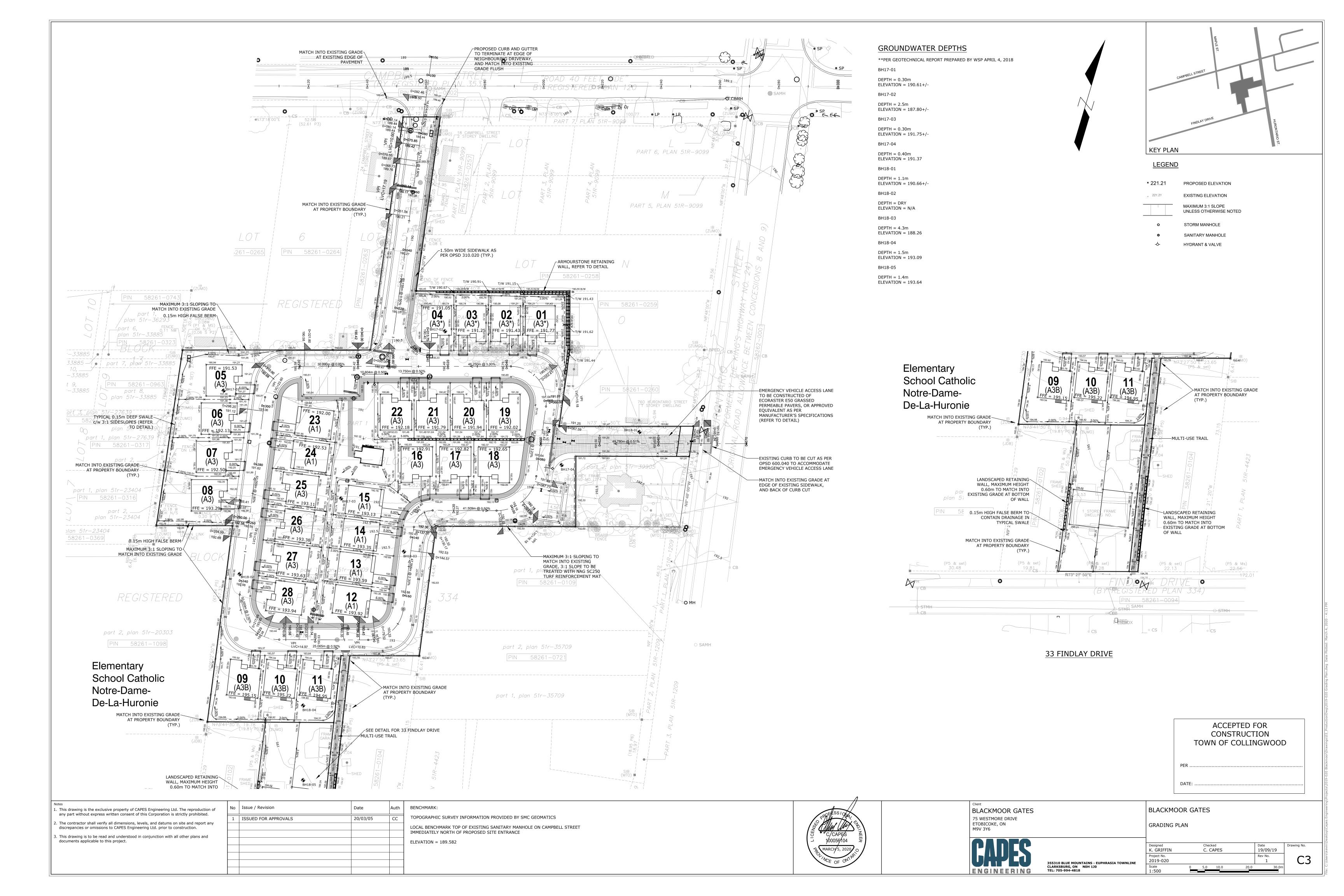
ISSUED FOR APPROVAL - MARCH 5, 2020

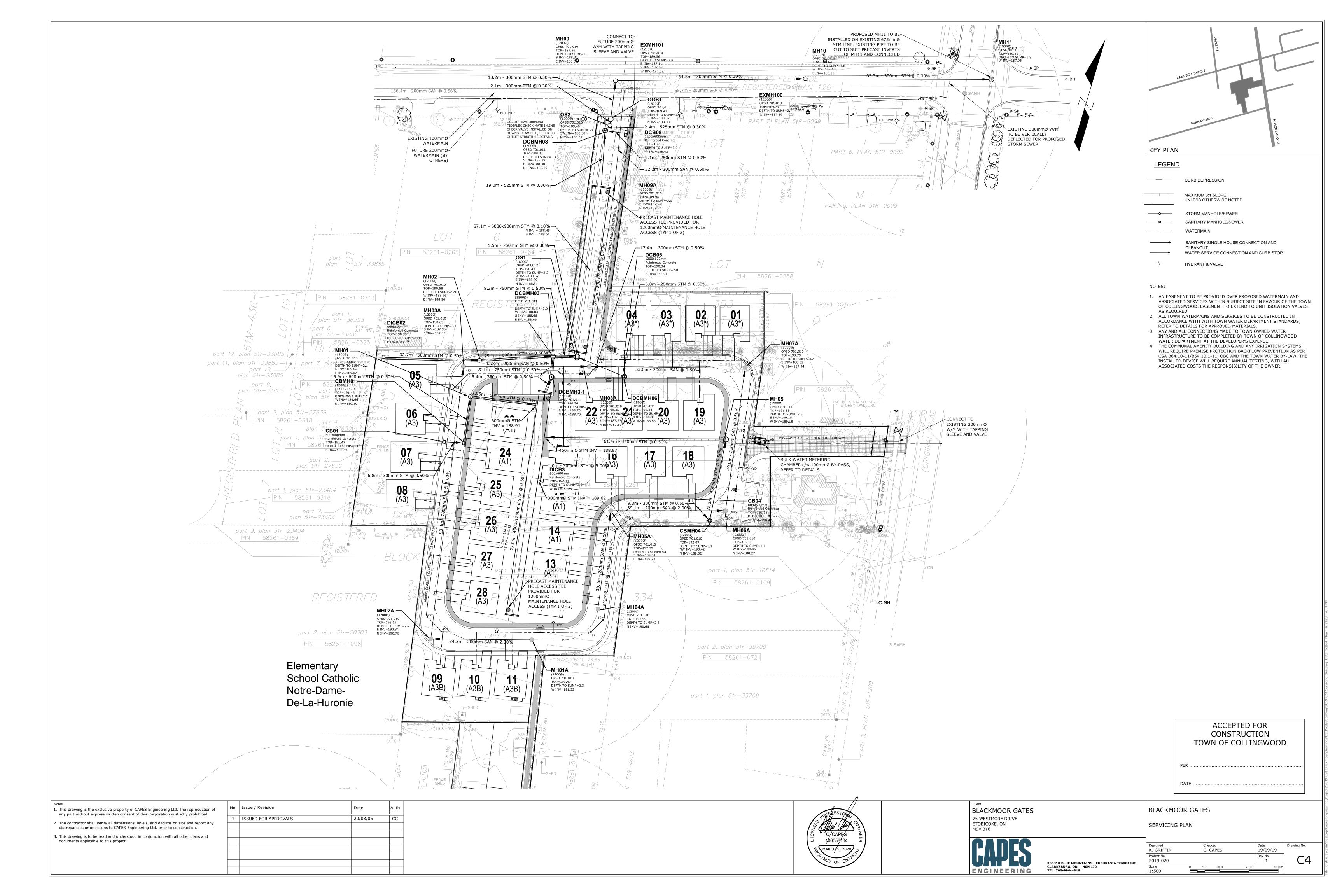


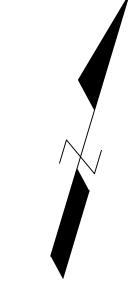


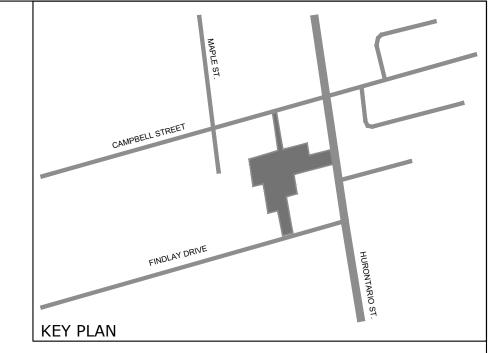












<u>LEGEND</u>

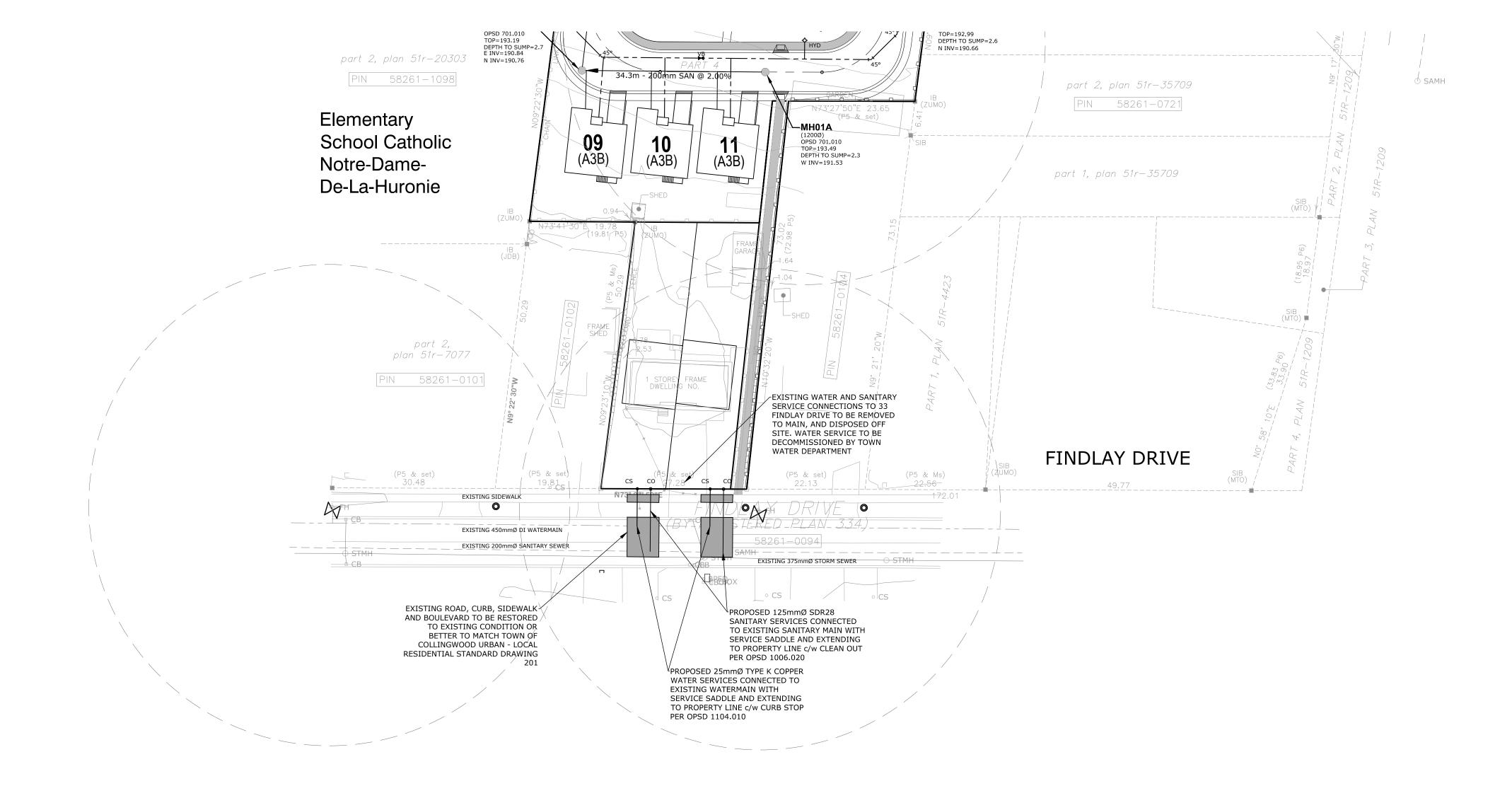
CURB DEPRESSION

MAXIMUM 3:1 SLOPE UNLESS OTHERWISE NOTED STORM MANHOLE/SEWER

SANITARY MANHOLE/SEWER

SANITARY SINGLE HOUSE CONNECTION AND CLEANOUT WATER SERVICE CONNECTION AND CURB STOP

HYDRANT & VALVE

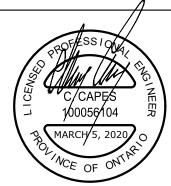


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No	Issue / Revision	Date	Auth
1	ISSUED FOR APPROVALS	20/03/05	СС



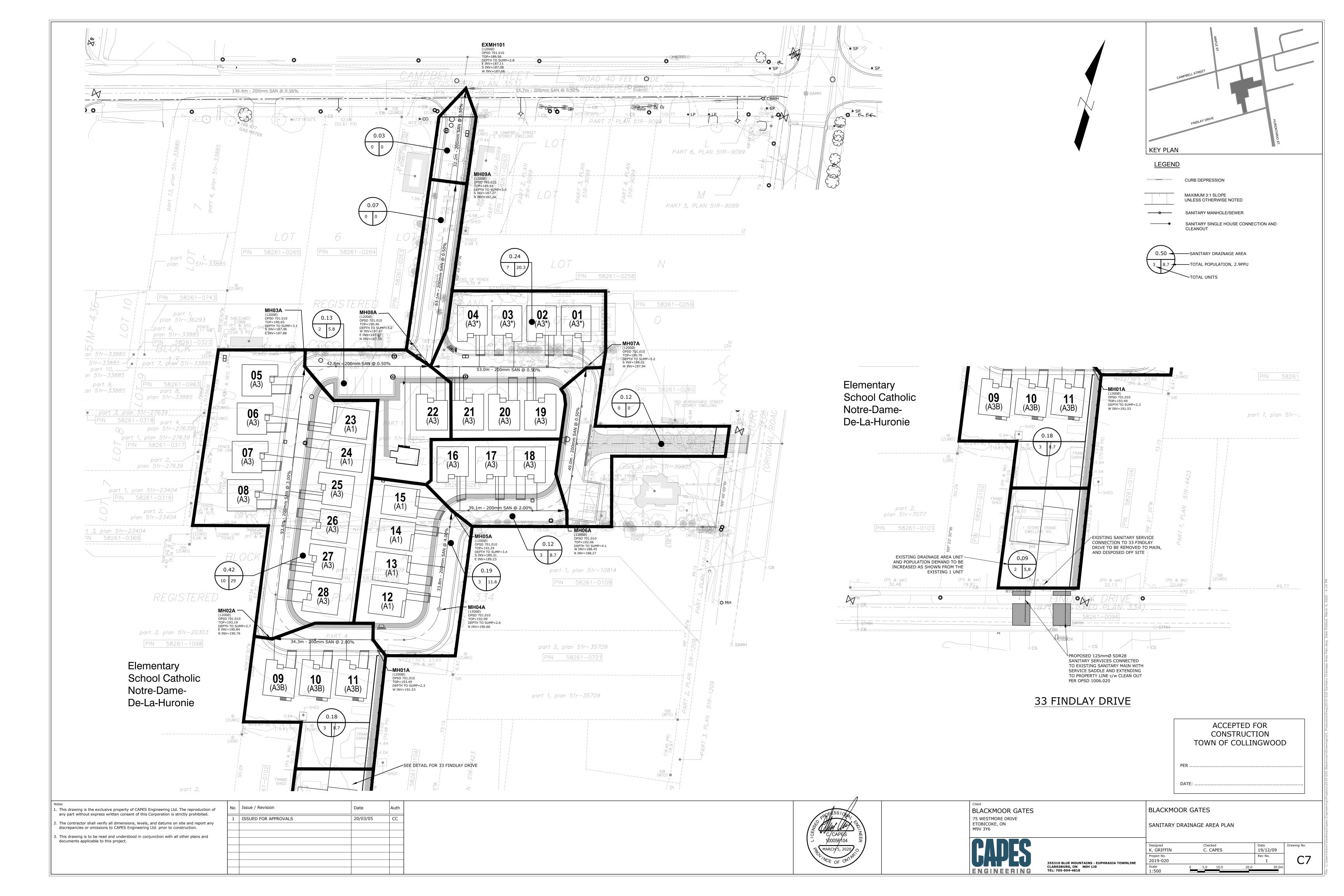
BLACKMOOR GATES 75 WESTMORE DRIVE ETOBICOKE, ON

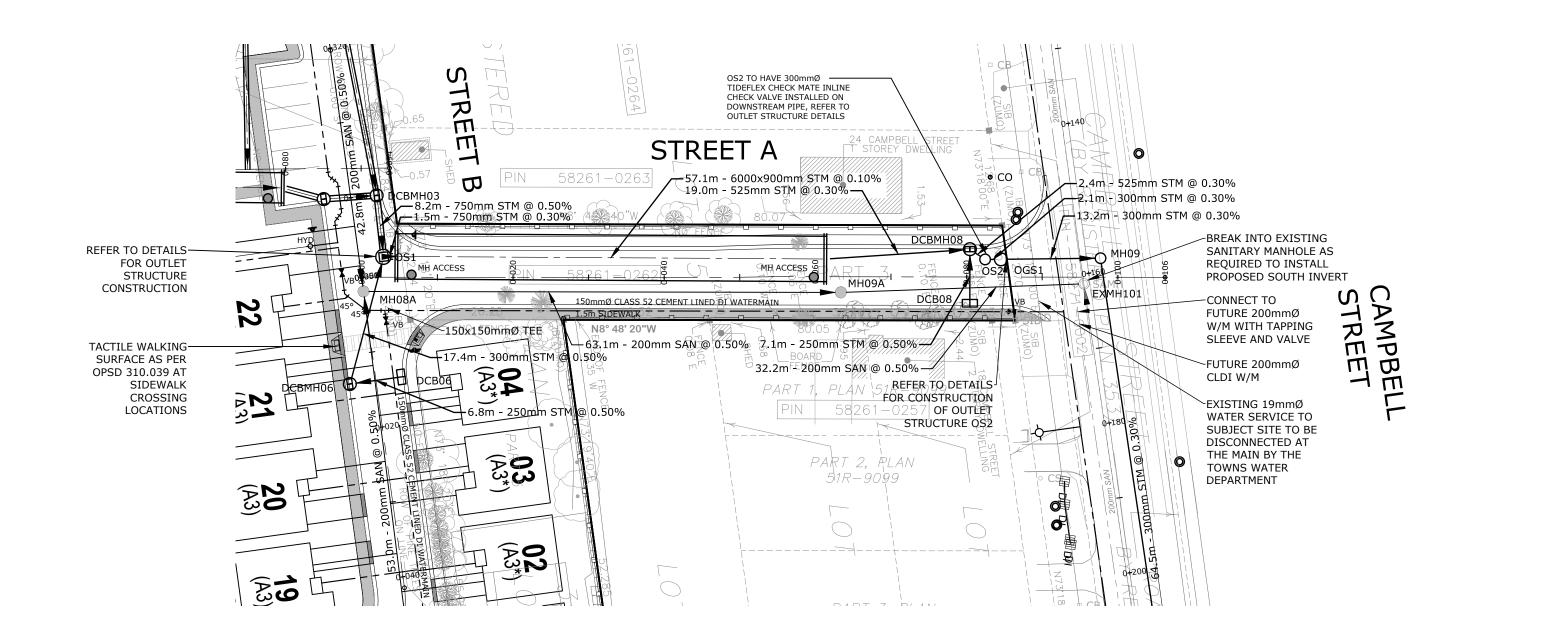
BLACKMOOR GATES SERVICING PLAN

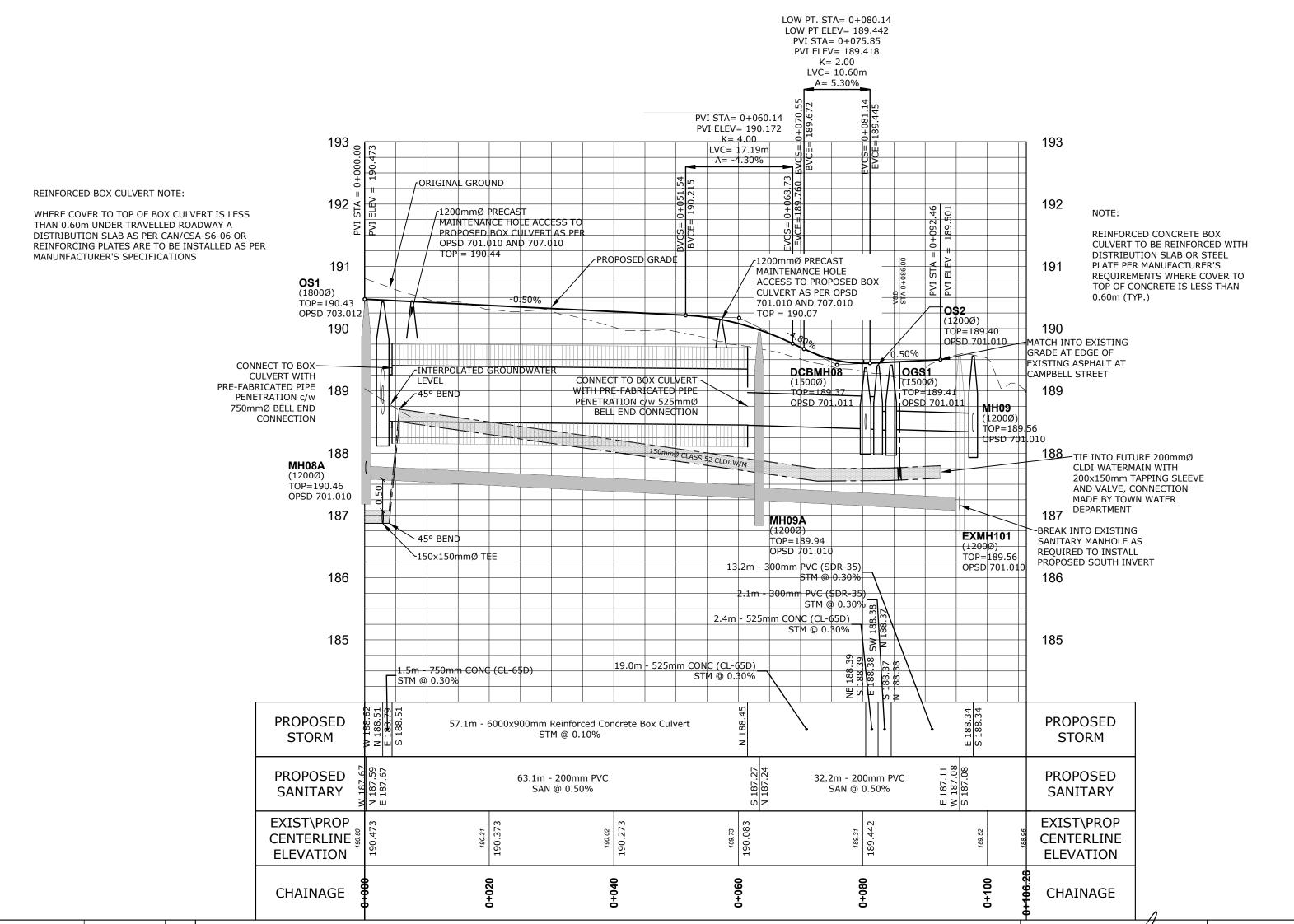
Designed
K. GRIFFIN C. CAPES 2019-020 355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE CLARKSBURG, ON NOH 1J0 TEL: 705-994-4818 Scale 1:500

19/12/09









KEY PLAN <u>LEGEND</u> CURB DEPRESSION

MAXIMUM 3:1 SLOPE UNLESS OTHERWISE NOTED STORM MANHOLE/SEWER SANITARY MANHOLE/SEWER WATERMAIN SANITARY SINGLE HOUSE CONNECTION AND CLEANOUT WATER SERVICE CONNECTION AND CURB STOP HYDRANT & VALVE

- 1. RESTORATION REQUIRED OF EXISTING RIGHT-OF-WAYS ADJACENT TO SUBJECT SITE TO MEET TOWN OF COLLINGWOOD ENGINEERING STANDARDS.
- 2. RESTORATION OF CAMPBELL STREET PAVEMENT STRUCTURE TO MEET REQUIREMENTS OF TOWN STANDARD DRAWING 201
- 2. RESTORATION OF FINDLAY DRIVE PAVEMENT STRUCTURE TO MEET REQUIREMENTS OF TOWN STANDARD DRAWING 201
- 2. RESTORATION OF HURONTARIO STREET PAVEMENT STRUCTURE TO MEET REQUIREMENTS OF TOWN STANDARD DRAWING 205
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- 4. TOWN SIDEWALKS TO BE RESTORED AS PER OPSD 310.010, AS REQUIRED 5. ALL CONNECTIONS TO TOWN OWNED WATER INFRASTRUCTURE TO BE COMPLETED BY TOWN WATER DEPARTMENT AT THE EXPENSE OF THE OWNER

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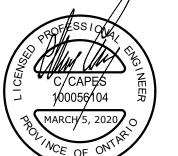
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1	ISSUED FOR APPROVALS	20/03/05	CC

TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SMC GEOMATICS

LOCAL BENCHMARK TOP OF EXISTING SANITARY MANHOLE ON CAMPBELL STREET IMMEDIATELY NORTH OF PROPOSED SITE ENTRANCE

ELEVATION = 189.582

BENCHMARK:



BLACKMOOR GATES 75 WESTMORE DRIVE ETOBICOKE, ON



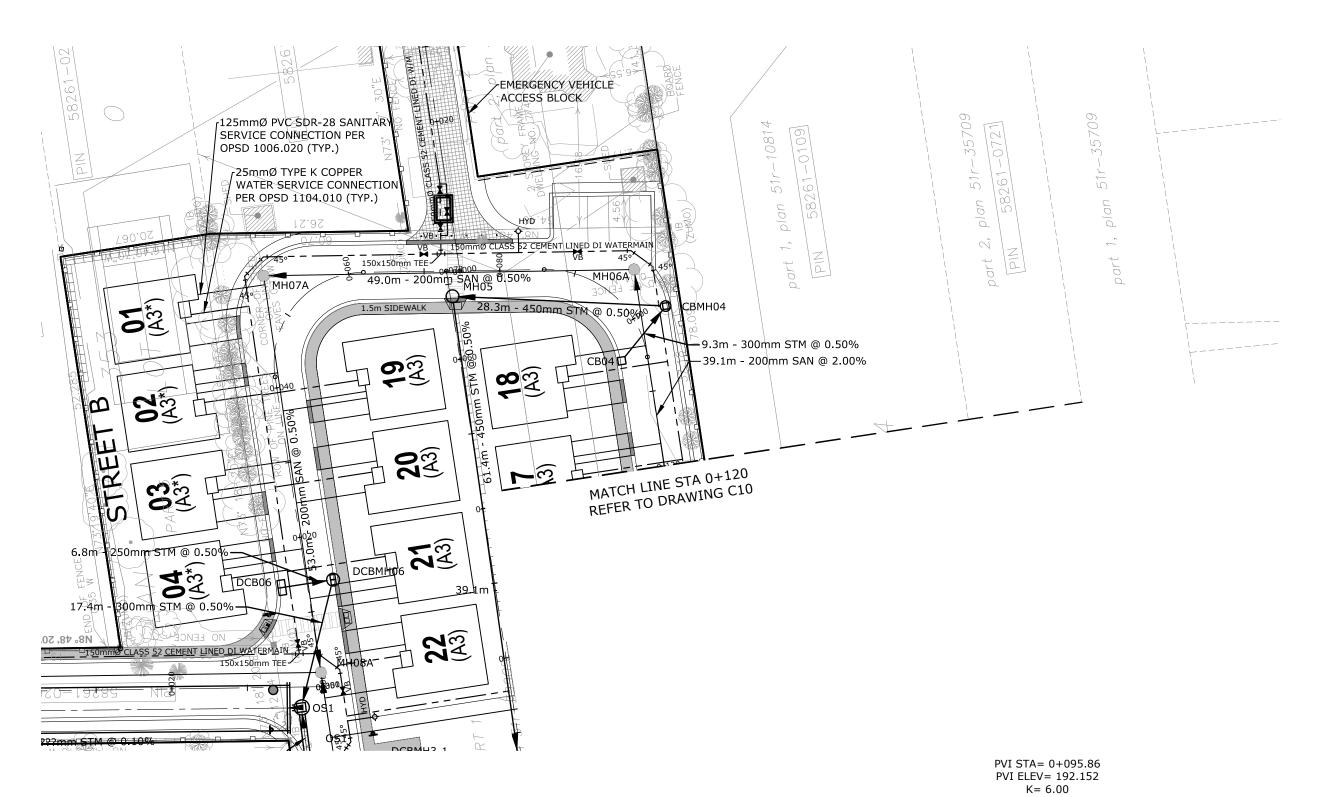
Project No. 355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE

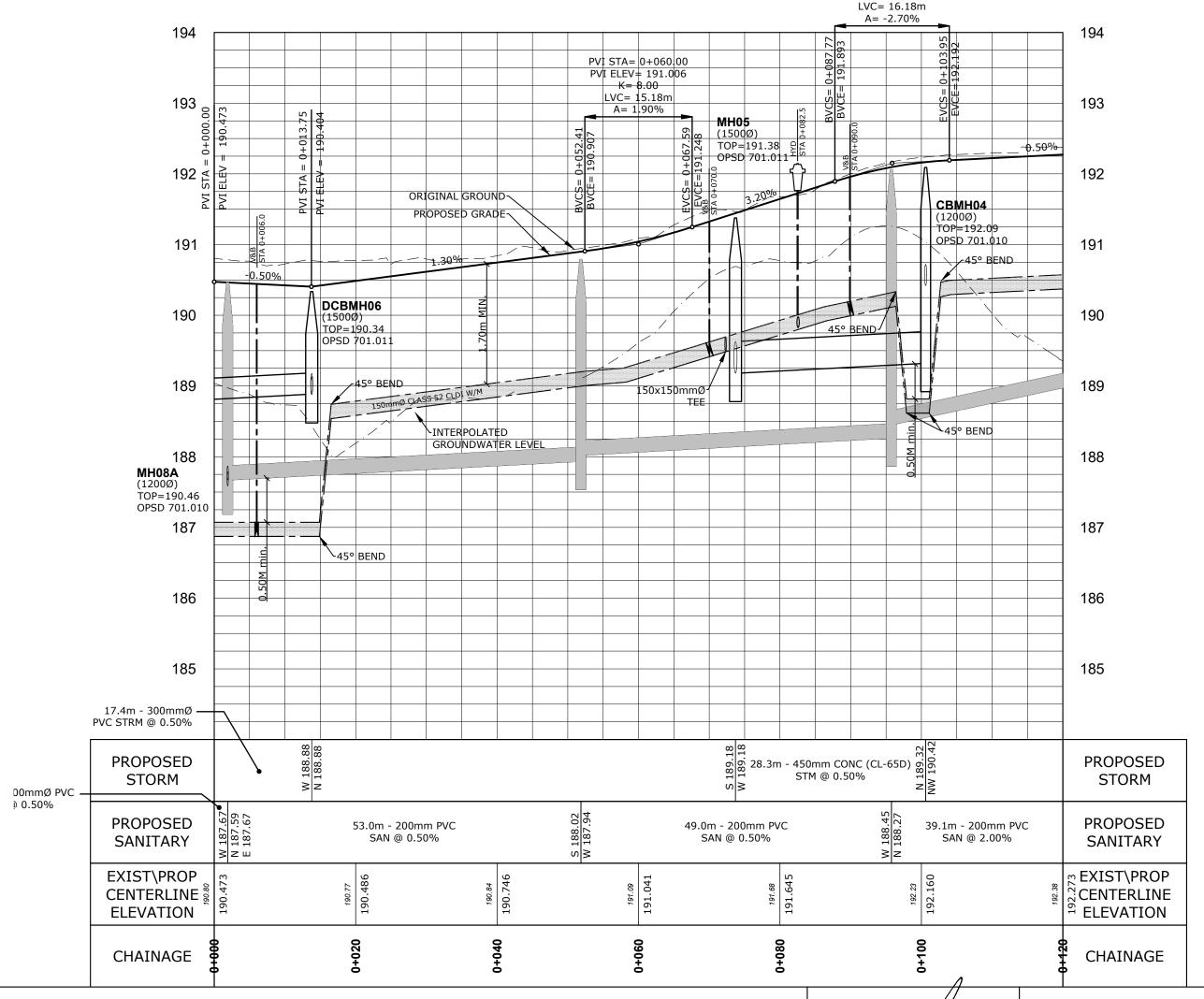
355310 BLUE MOUNTAINS - LO CLARKSBURG, ON NOH 1J0 TEL: 705-994-4818

BLACKMOOR GATES

PLAN AND PROFILE BMGA STA 0+000 to STA 0+096.21

Drawing No. K. GRIFFIN C. CAPES 19/09/19 2019-020 H 1:500 V 1:50





KEY PLAN

LEGEND	
	CURB DEPRESSION
	MAXIMUM 3:1 SLOPE UNLESS OTHERWISE NOTED
<del></del>	STORM MANHOLE/SEWER
<del></del>	SANITARY MANHOLE/SEWER
<del></del>	WATERMAIN
	SANITARY SINGLE HOUSE CONNECTION AND CLEANOUT
	WATER SERVICE CONNECTION AND CURB STOP

 RESTORATION REQUIRED OF EXISTING RIGHT-OF-WAYS ADJACENT TO SUBJECT SITE TO MEET TOWN OF COLLINGWOOD ENGINEERING STANDARDS.

HYDRANT & VALVE

- 2. RESTORATION OF CAMPBELL STREET PAVEMENT STRUCTURE TO MEET REQUIREMENTS OF TOWN STANDARD DRAWING 201 2. RESTORATION OF FINDLAY DRIVE PAVEMENT STRUCTURE TO MEET
- REQUIREMENTS OF TOWN STANDARD DRAWING 201
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ACCEPTED FOR CONSTRUCTION TOWN OF COLLINGWOOD

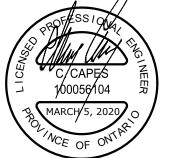
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1	ISSUED FOR APPROVALS	20/03/05	CC

TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SMC GEOMATICS LOCAL BENCHMARK TOP OF EXISTING SANITARY MANHOLE ON CAMPBELL STREET IMMEDIATELY NORTH OF PROPOSED SITE ENTRANCE

ELEVATION = 189.582



BLACKMOOR GATES 75 WESTMORE DRIVE ETOBICOKE, ON

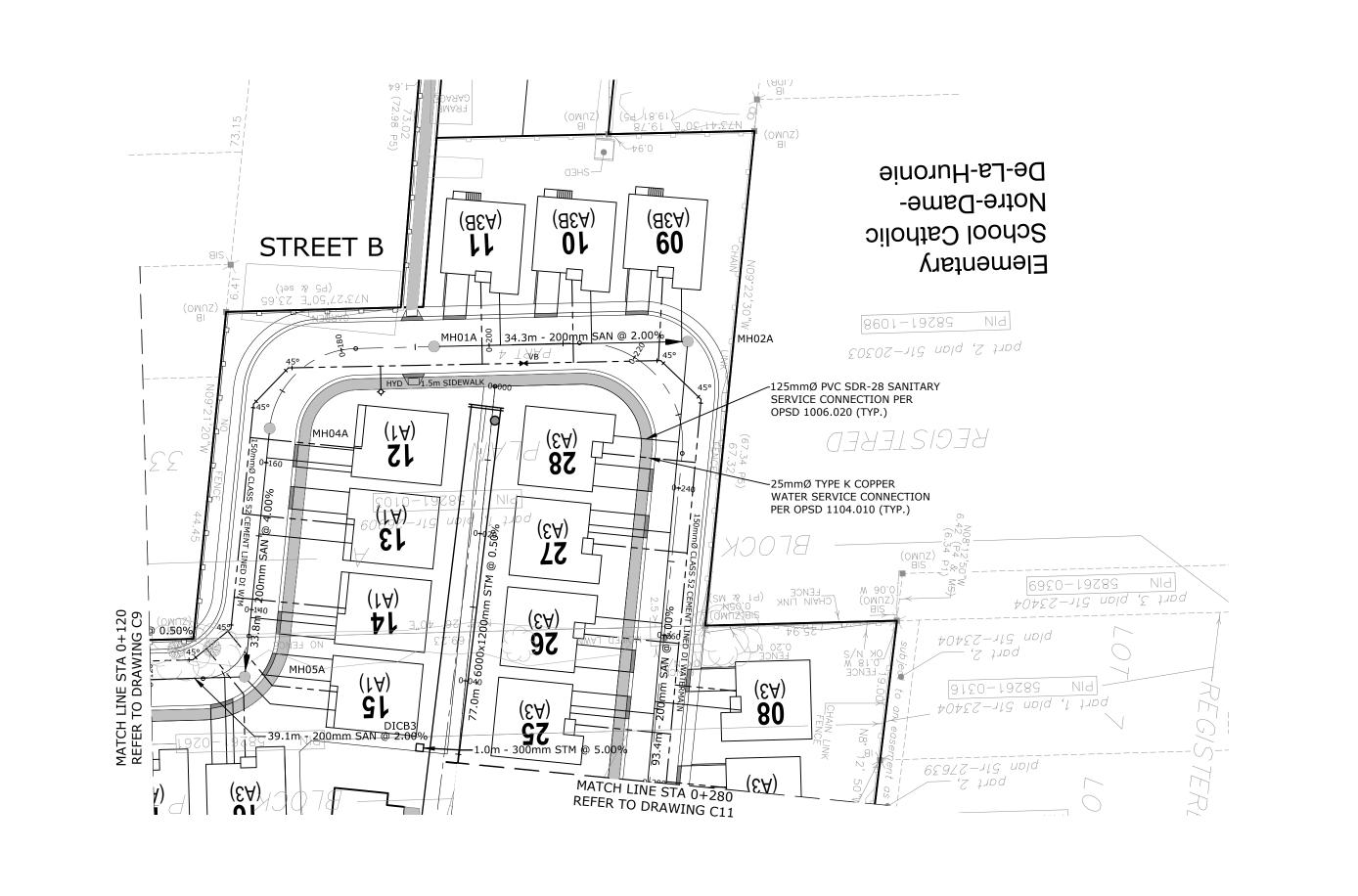


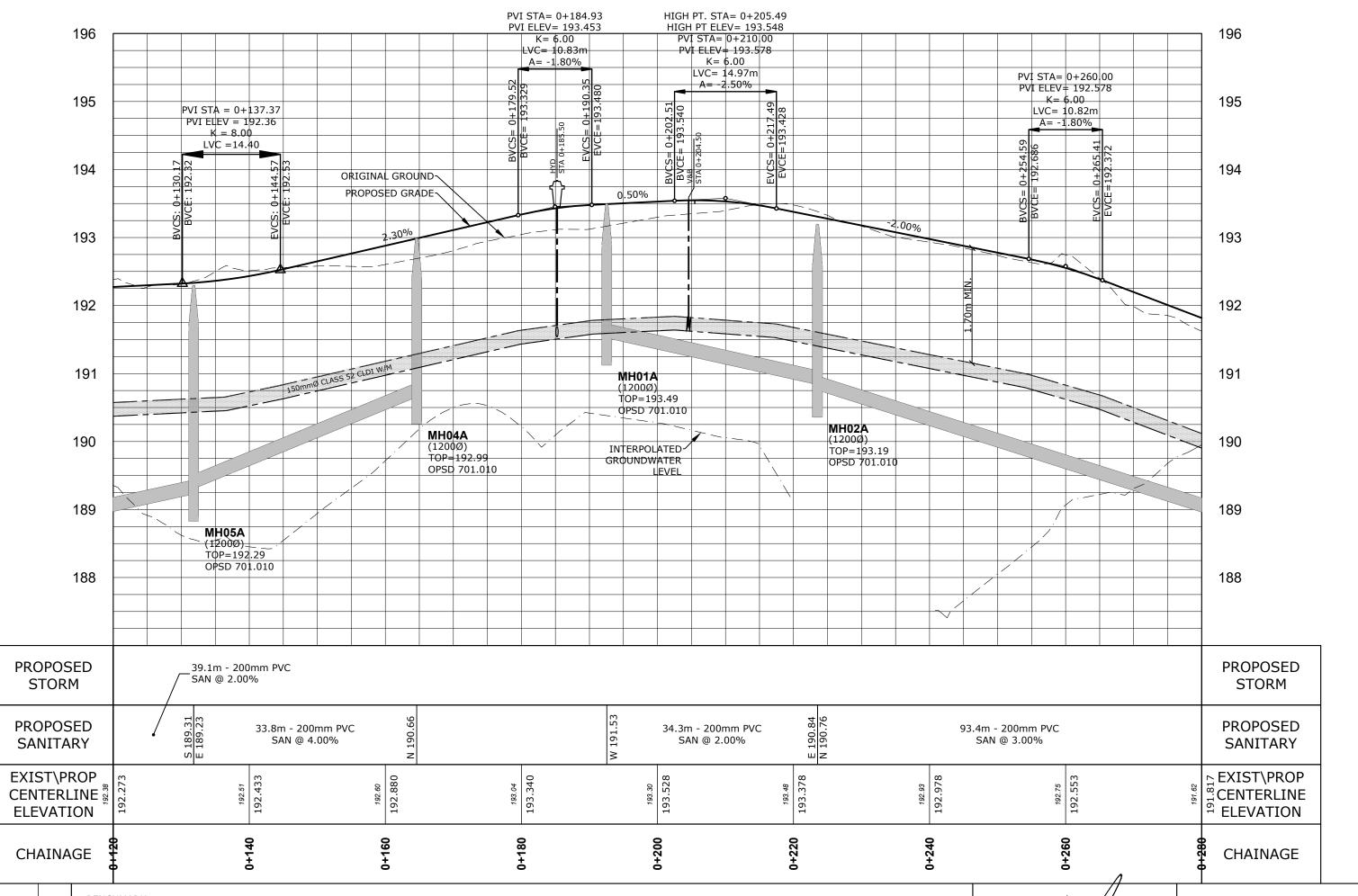
355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE CLARKSBURG, ON NOH 1J0 TEL: 705-994-4818 Scale 0 5.0 H 1:500 V 1:50

BLACKMOOR GATES PLAN AND PROFILE

BMGB STA 0+000 to STA 0+120 K. GRIFFIN C. CAPES Project No. 2019-020

Drawing No. 19/09/19





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TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SMC GEOMATICS

LOCAL BENCHMARK TOP OF EXISTING SANITARY MANHOLE ON CAMPBELL STREET IMMEDIATELY NORTH OF PROPOSED SITE ENTRANCE

ELEVATION = 189.582



BLACKMOOR GATES 75 WESTMORE DRIVE ETOBICOKE, ON



BMGB K. GRIFFIN

355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE CLARKSBURG, ON NOH 1J0 TEL: 705-994-4818

BLACKMOOR GATES PLAN AND PROFILE

KEY PLAN

<u>LEGEND</u>

STANDARDS.

OWNER

TOPOSIL AND NURSERY SOD.

CURB DEPRESSION

MAXIMUM 3:1 SLOPE

WATERMAIN

CLEANOUT

HYDRANT & VALVE

RESTORATION REQUIRED OF EXISTING RIGHT-OF-WAYS ADJACENT TO SUBJECT SITE TO MEET TOWN OF COLLINGWOOD ENGINEERING

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REQUIREMENTS OF TOWN STANDARD DRAWING 201 2. RESTORATION OF FINDLAY DRIVE PAVEMENT STRUCTURE TO MEET REQUIREMENTS OF TOWN STANDARD DRAWING 201

REQUIREMENTS OF TOWN STANDARD DRAWING 205

UNLESS OTHERWISE NOTED

STORM MANHOLE/SEWER

SANITARY MANHOLE/SEWER

SANITARY SINGLE HOUSE CONNECTION AND

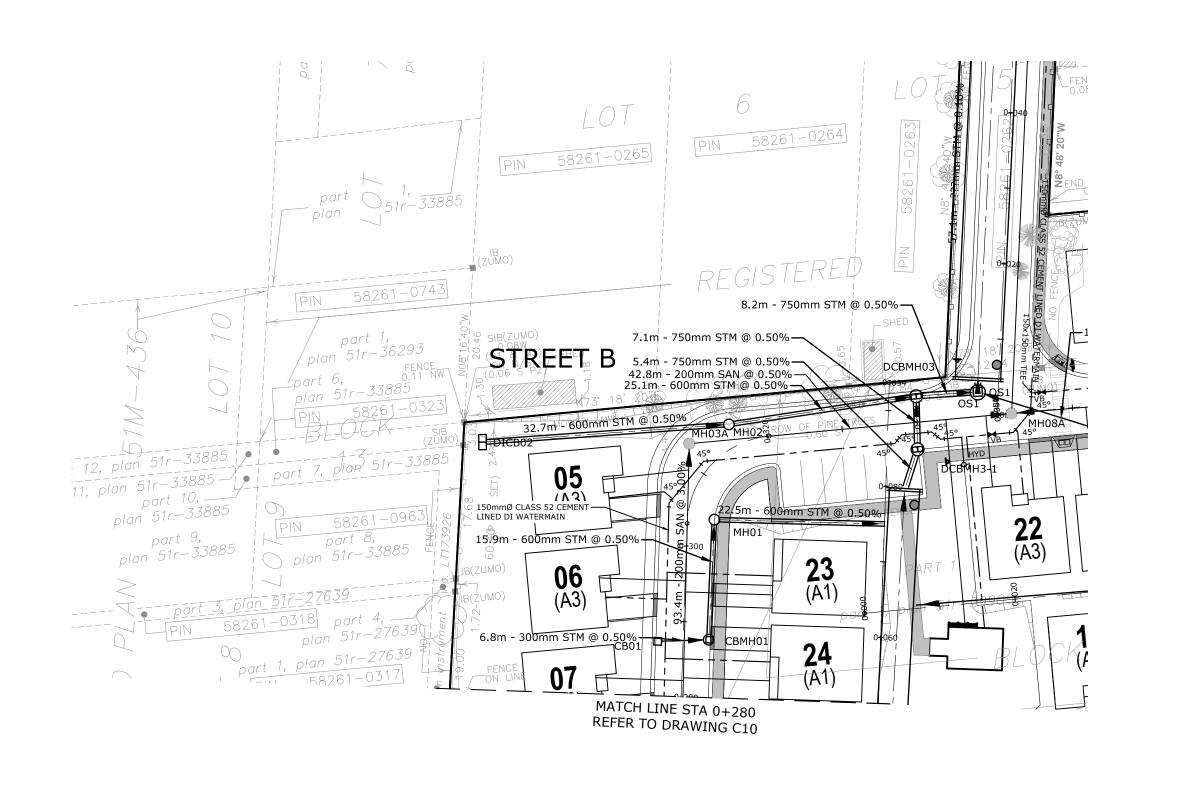
WATER SERVICE CONNECTION AND CURB STOP

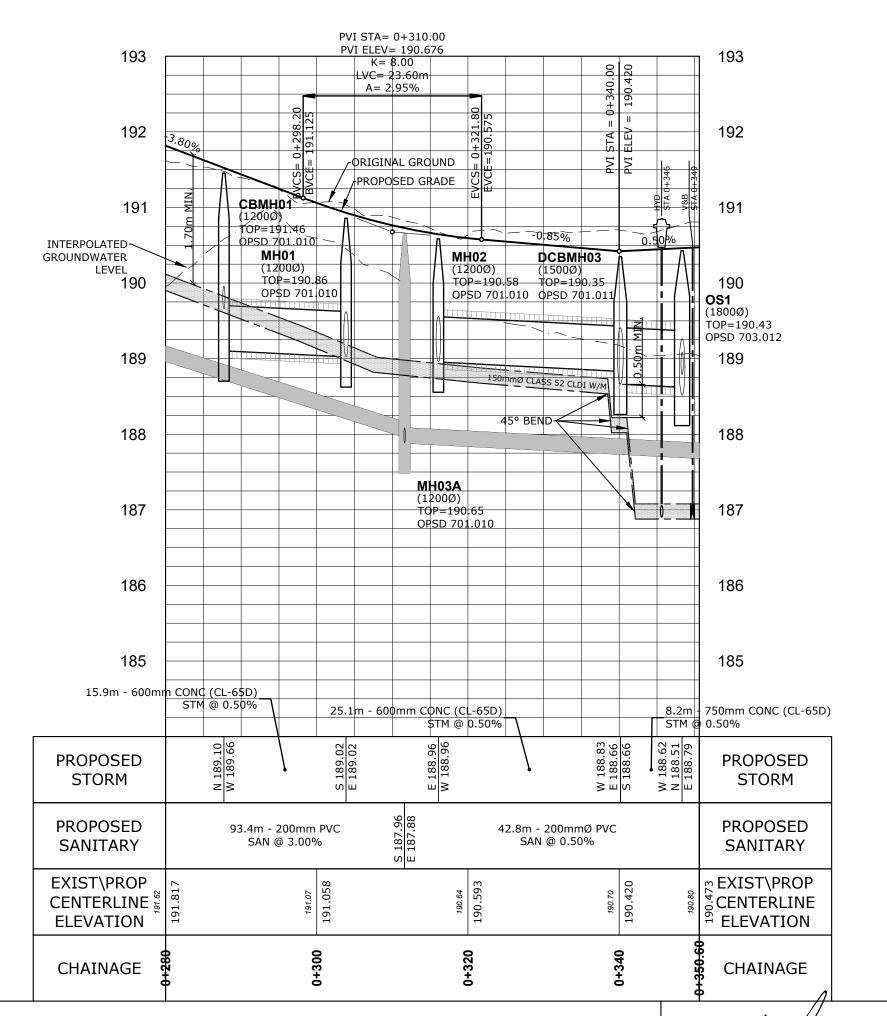
STA 0+120 to STA 0+280 C. CAPES 2019-020

H 1:500 V 1:50

19/09/19

discrepancies or omissions to CAPES Engineering Ltd. prior to construction.





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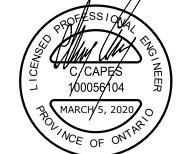
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1	ISSUED FOR APPROVALS	20/03/05	СС

BENCHMARK:

TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SMC GEOMATICS

LOCAL BENCHMARK TOP OF EXISTING SANITARY MANHOLE ON CAMPBELL STREET IMMEDIATELY NORTH OF PROPOSED SITE ENTRANCE

ELEVATION = 189.582



BLACKMOOR GATES
75 WESTMORE DRIVE
ETOBICOKE, ON
M9V 3Y6



BLACKMOOR GATES

KEY PLAN

STANDARDS.

OWNER

TOPOSIL AND NURSERY SOD.

CURB DEPRESSION

MAXIMUM 3:1 SLOPE UNLESS OTHERWISE NOTED

WATERMAIN

CLEANOUT

HYDRANT & VALVE

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REQUIREMENTS OF TOWN STANDARD DRAWING 205

STORM MANHOLE/SEWER

SANITARY MANHOLE/SEWER

SANITARY SINGLE HOUSE CONNECTION AND

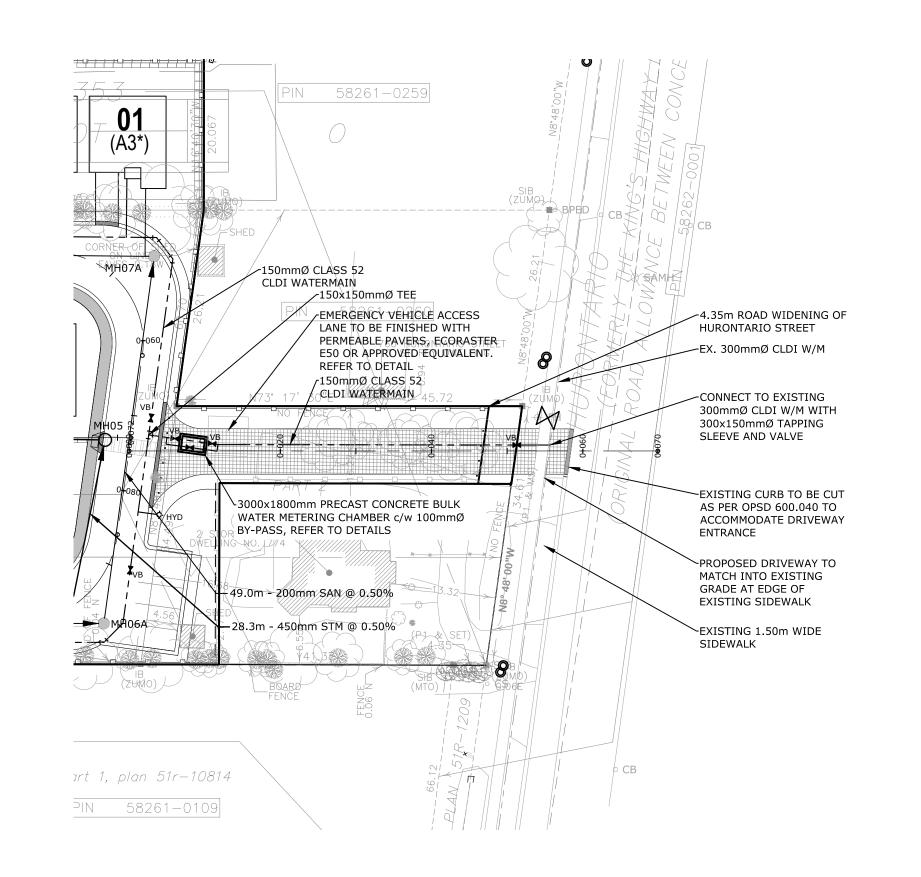
WATER SERVICE CONNECTION AND CURB STOP

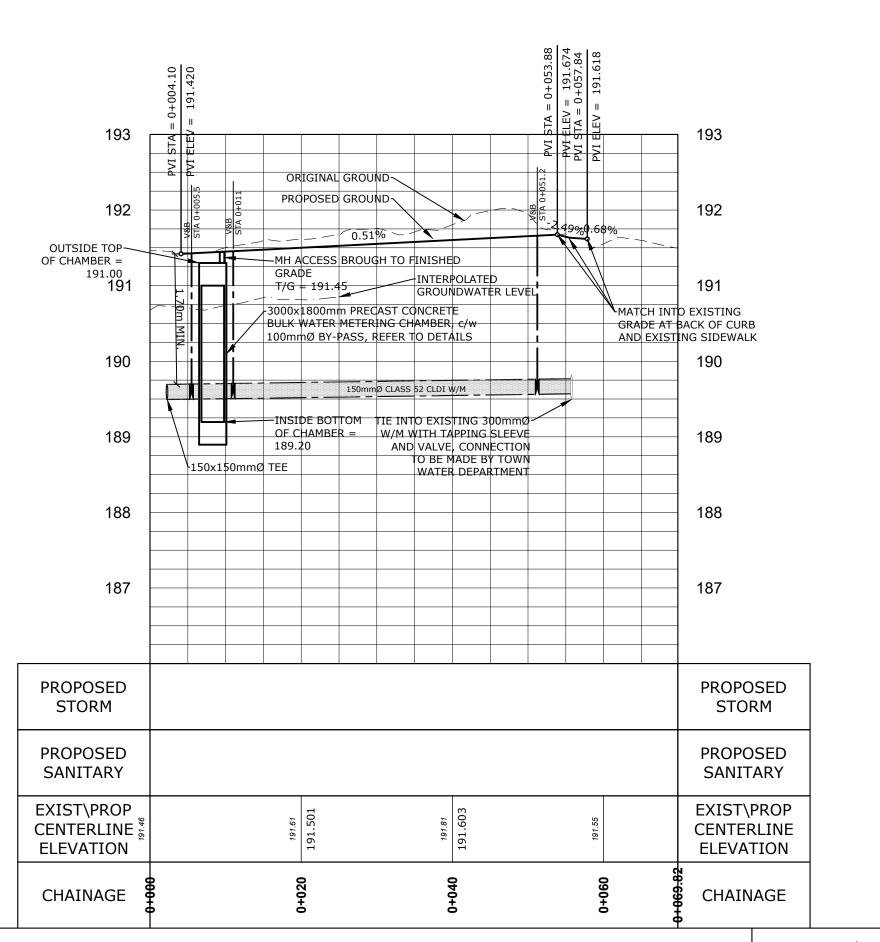
PLAN AND PROFILE BMGB

H 1:500 V 1:50

C11

19/09/19





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CONSTRUCTION
TOWN OF COLLINGWOOD

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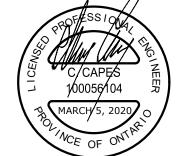
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1	ISSUED FOR APPROVALS	20/03/05	СС

n BENCHMA

TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SMC GEOMATICS

LOCAL BENCHMARK TOP OF EXISTING SANITARY MANHOLE ON CAMPBELL STREET
IMMEDIATELY NORTH OF PROPOSED SITE ENTRANCE

ELEVATION = 189.582



BLACKMOOR GATES
75 WESTMORE DRIVE
ETOBICOKE, ON
M9V 3Y6



| STA | Designe | K. GR | Project | 2019| CLARKSBURG, ON NOH 1J0 | TEL: 705-994-4818 | STA | Designe | K. GR | Project | 2019| Scale | H 1:50 | TEL: 705-994-4818 | STA | Designe | K. GR | Project | 2019| Scale | H 1:50 | TEL: 705-994-4818 |

KEY PLAN

<u>LEGEND</u>

\_\_\_\_

STANDARDS.

OWNER

TOPOSIL AND NURSERY SOD.

CURB DEPRESSION

MAXIMUM 3:1 SLOPE

WATERMAIN

CLEANOUT

HYDRANT & VALVE

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REQUIREMENTS OF TOWN STANDARD DRAWING 201

REQUIREMENTS OF TOWN STANDARD DRAWING 205

UNLESS OTHERWISE NOTED

SANITARY MANHOLE/SEWER

SANITARY SINGLE HOUSE CONNECTION AND

WATER SERVICE CONNECTION AND CURB STOP

STORM MANHOLE/SEWER

PLAN AND PROFILE
EMERGENCY VEHICLE ACCESS DRIVEWAY
STA 0+000 to STA 0+070

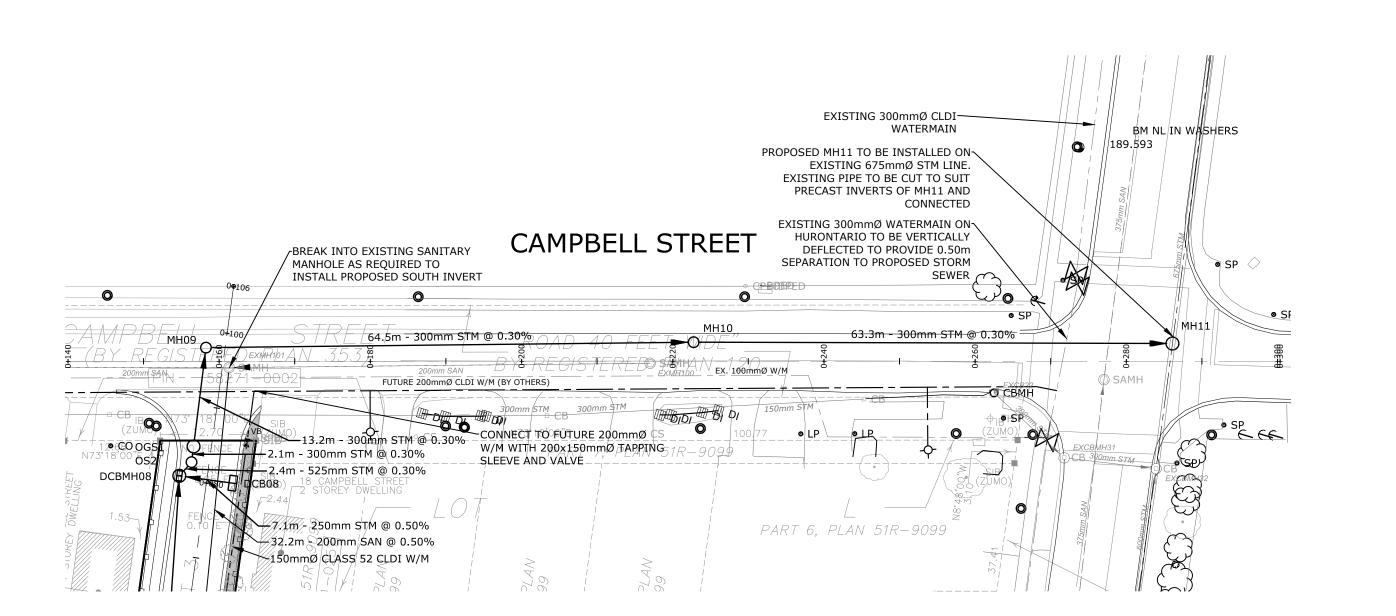
Designed Checked Date 19/09/19

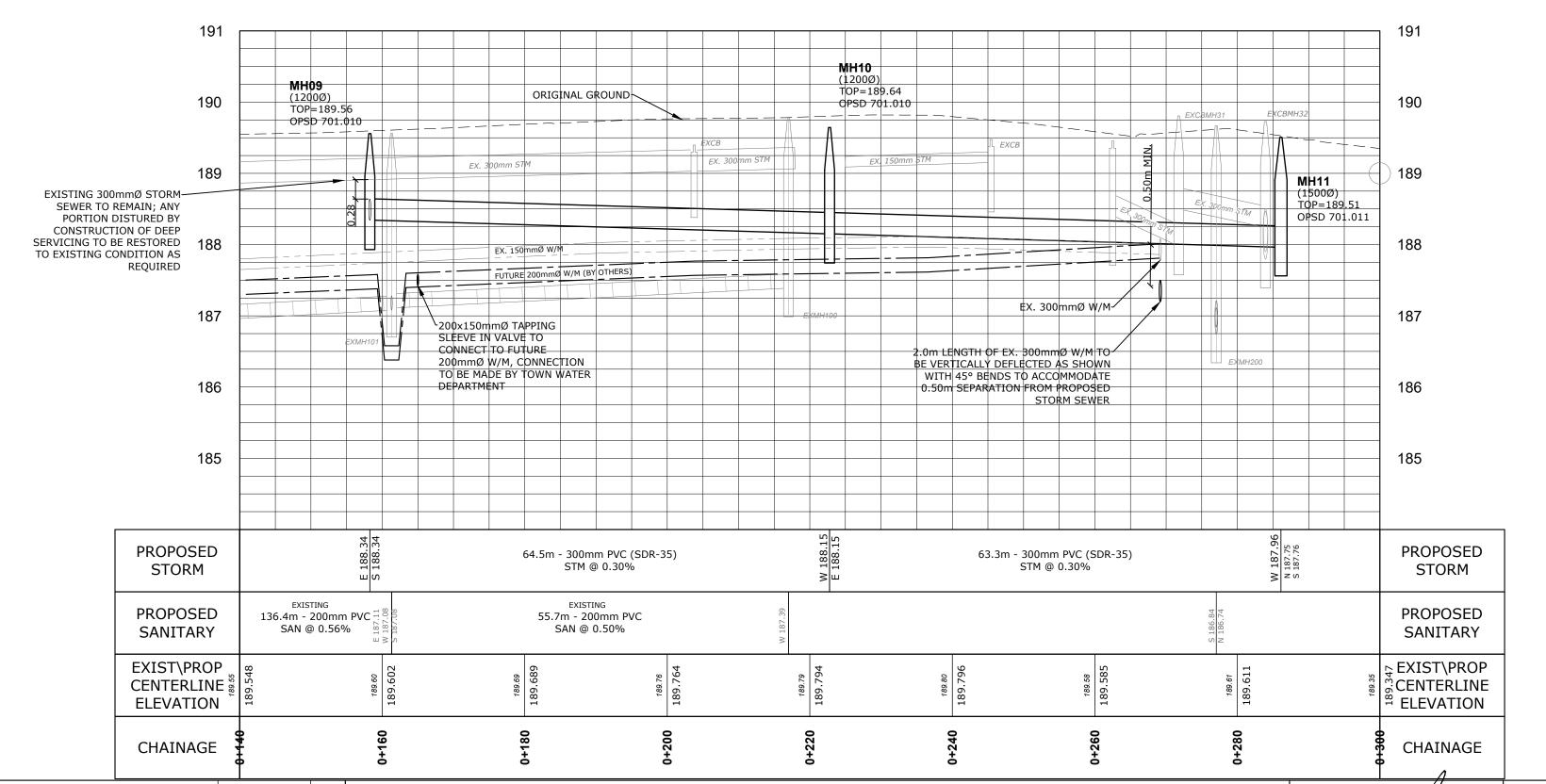
K. GRIFFIN C. CAPES 19/09/19

Project No. Rev No. 2019-020 1

Scale 0 5.0 10.0 20.0 30.0m H 1:500 V 1:50

C12





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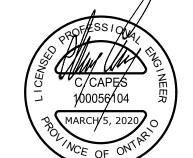
TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SMC GEOMATICS

LOCAL BENCHMARK TOP OF EXISTING SANITARY MANHOLE ON CAMPBELL STREET

IMMEDIATELY NORTH OF PROPOSED SITE ENTRANCE

ELEVATION = 189.582

BENCHMARK:



BLACKMOOR GATES
75 WESTMORE DRIVE
ETOBICOKE, ON



Desig K. G
Project
201:

CLARKSBURG, ON NOH 1J0 TEL: 705-994-4818 PLAN AND PROFILE
CAMPBELL STREET
STA 0+000 to STA 0+18

H 1:500 V 1:50

KEY PLAN

<u>LEGEND</u>

STANDARDS.

OWNER

TOPOSIL AND NURSERY SOD.

CURB DEPRESSION

MAXIMUM 3:1 SLOPE UNLESS OTHERWISE NOTED

WATERMAIN

CLEANOUT

HYDRANT & VALVE

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REQUIREMENTS OF TOWN STANDARD DRAWING 205

STORM MANHOLE/SEWER

SANITARY MANHOLE/SEWER

SANITARY SINGLE HOUSE CONNECTION AND

WATER SERVICE CONNECTION AND CURB STOP

 STA 0+000 to STA 0+180

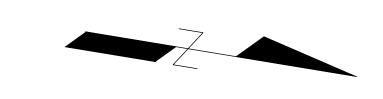
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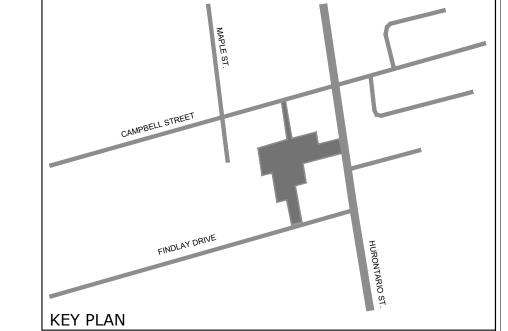
 K. GRIFFIN
 C. CAPES
 19/09/19

 Project No.
 Rev No.

 2019-020
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C13





<u>LEGEND</u>

STANDARDS.

OWNER

TOPOSIL AND NURSERY SOD.

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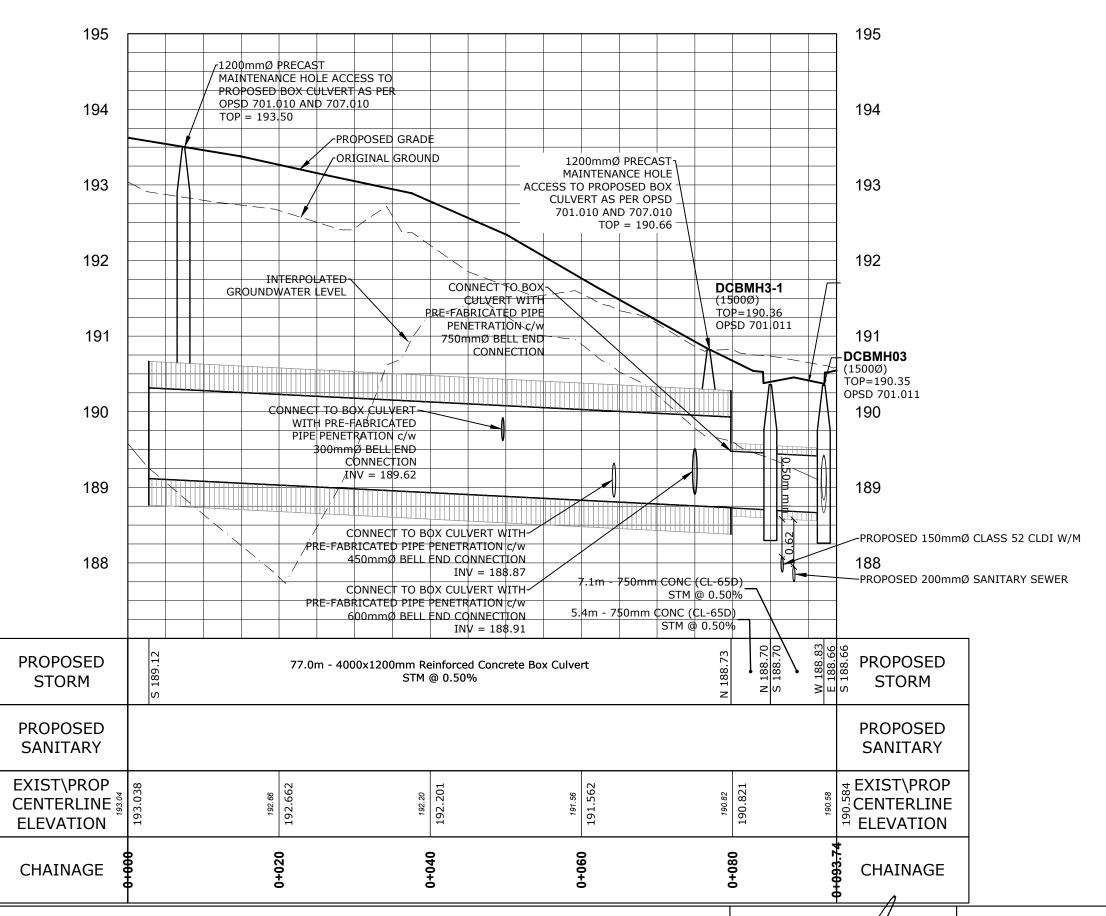
UNLESS OTHERWISE NOTED

SANITARY SINGLE HOUSE CONNECTION AND

WATER SERVICE CONNECTION AND CURB STOP

STORM MANHOLE/SEWER SANITARY MANHOLE/SEWER

—22.5m - 600mm STM @ 0.50% \_\_\_\_25.1m - 600mm \$TM @ 0.50% SEE PROFILE FOR CONNECTION -5.4m - 750mm STM @ 0.50% **−**7.1m - 750mm STM @ 0.50% PELASE REFER TO DETAILS FOR CONSTRUCTION OF 0 \$1 DICB3 NIS. WARRY WIN CARD 61.4m - 450mm STM @ 0.50% 例が



ACCEPTED FOR CONSTRUCTION TOWN OF COLLINGWOOD

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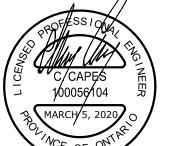
documents applicable to this project.

No	Issue / Revision	Date	Auth
1	ISSUED FOR APPROVALS	20/03/05	СС

TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SMC GEOMATICS

LOCAL BENCHMARK TOP OF EXISTING SANITARY MANHOLE ON CAMPBELL STREET IMMEDIATELY NORTH OF PROPOSED SITE ENTRANCE

ELEVATION = 189.582



BLACKMOOR GATES 75 WESTMORE DRIVE ETOBICOKE, ON

K. GRIFFIN

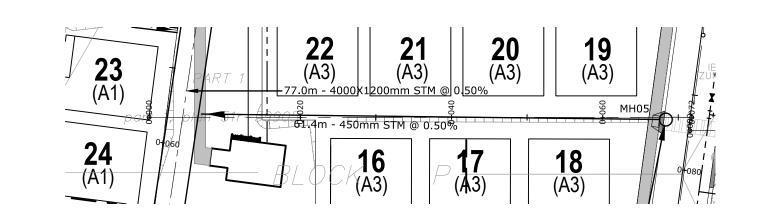
355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE CLARKSBURG, ON NOH 1J0 TEL: 705-994-4818

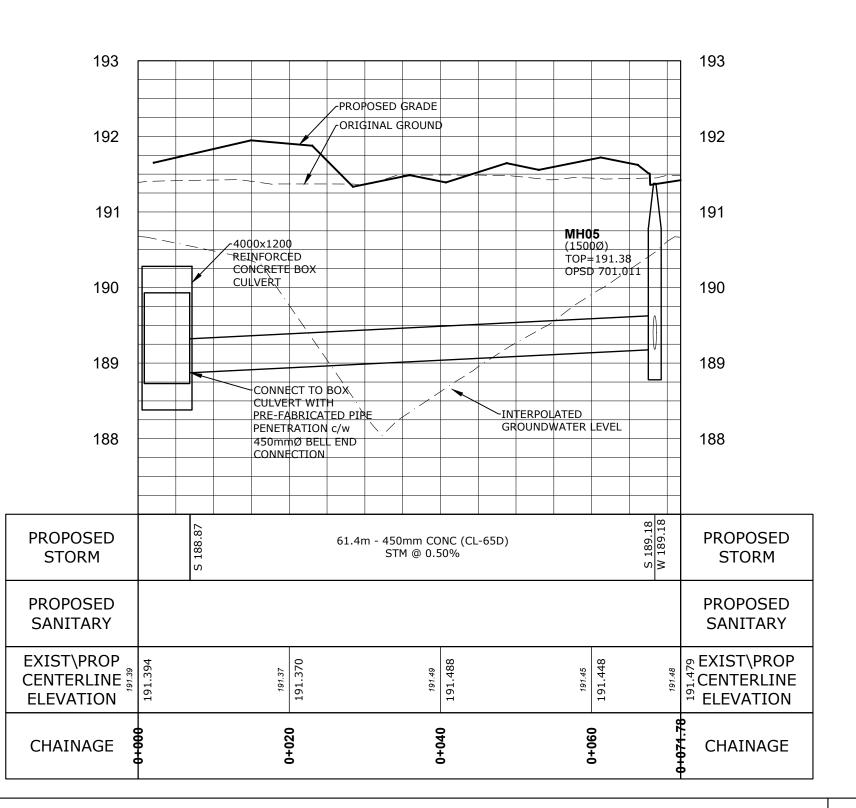
PLAN AND PROFILE REAR LOTS 23-28 STA 0+000 to STA 0+093.74 Project No.

H 1:500 V 1:50

BLACKMOOR GATES

C. CAPES 19/09/19 2019-020





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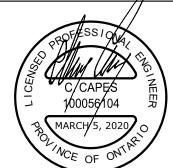
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No	Issue / Revision	Date	Auth
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TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SMC GEOMATICS

LOCAL BENCHMARK TOP OF EXISTING SANITARY MANHOLE ON CAMPBELL STREET IMMEDIATELY NORTH OF PROPOSED SITE ENTRANCE

ELEVATION = 189.582



BLACKMOOR GATES
75 WESTMORE DRIVE
ETOBICOKE, ON



| REAR | STA 0-| | Designed | K. GRIFI | Project No. | 2019-02 | | Scale | H 1:500 | | H 1:500 | | CLARKSBURG, ON NOH 1J0 | TEL: 705-994-4818 | | H 1:500 | | CLARKSBURG, ON NOH 1J0 |

PLAN AND PROFILE
REAR LOTS 19-22
STA 0+000 to STA 0+07

KEY PLAN

STANDARDS.

OWNER

TOPOSIL AND NURSERY SOD.

CURB DEPRESSION

— – — WATERMAIN

STORM MANHOLE/SEWER
SANITARY MANHOLE/SEWER

CLEANOUT

HYDRANT & VALVE

1. RESTORATION REQUIRED OF EXISTING RIGHT-OF-WAYS ADJACENT TO SUBJECT SITE TO MEET TOWN OF COLLINGWOOD ENGINEERING

2. RESTORATION OF CAMPBELL STREET PAVEMENT STRUCTURE TO MEET

2. RESTORATION OF HURONTARIO STREET PAVEMENT STRUCTURE TO MEET

TOWN SIDEWALKS TO BE RESTORED AS PER OPSD 310.010, AS REQUIRED
 ALL CONNECTIONS TO TOWN OWNED WATER INFRASTRUCTURE TO BE COMPLETED BY TOWN WATER DEPARTMENT AT THE EXPENSE OF THE

3. TOWN BOULEVARDS TO BE RESTORED WITH MINIMUM 150mm DEPTH

2. RESTORATION OF FINDLAY DRIVE PAVEMENT STRUCTURE TO MEET REQUIREMENTS OF TOWN STANDARD DRAWING 201

REQUIREMENTS OF TOWN STANDARD DRAWING 201

REQUIREMENTS OF TOWN STANDARD DRAWING 205

MAXIMUM 3:1 SLOPE UNLESS OTHERWISE NOTED

SANITARY SINGLE HOUSE CONNECTION AND

WATER SERVICE CONNECTION AND CURB STOP

STA 0+000 to STA 0+071.78

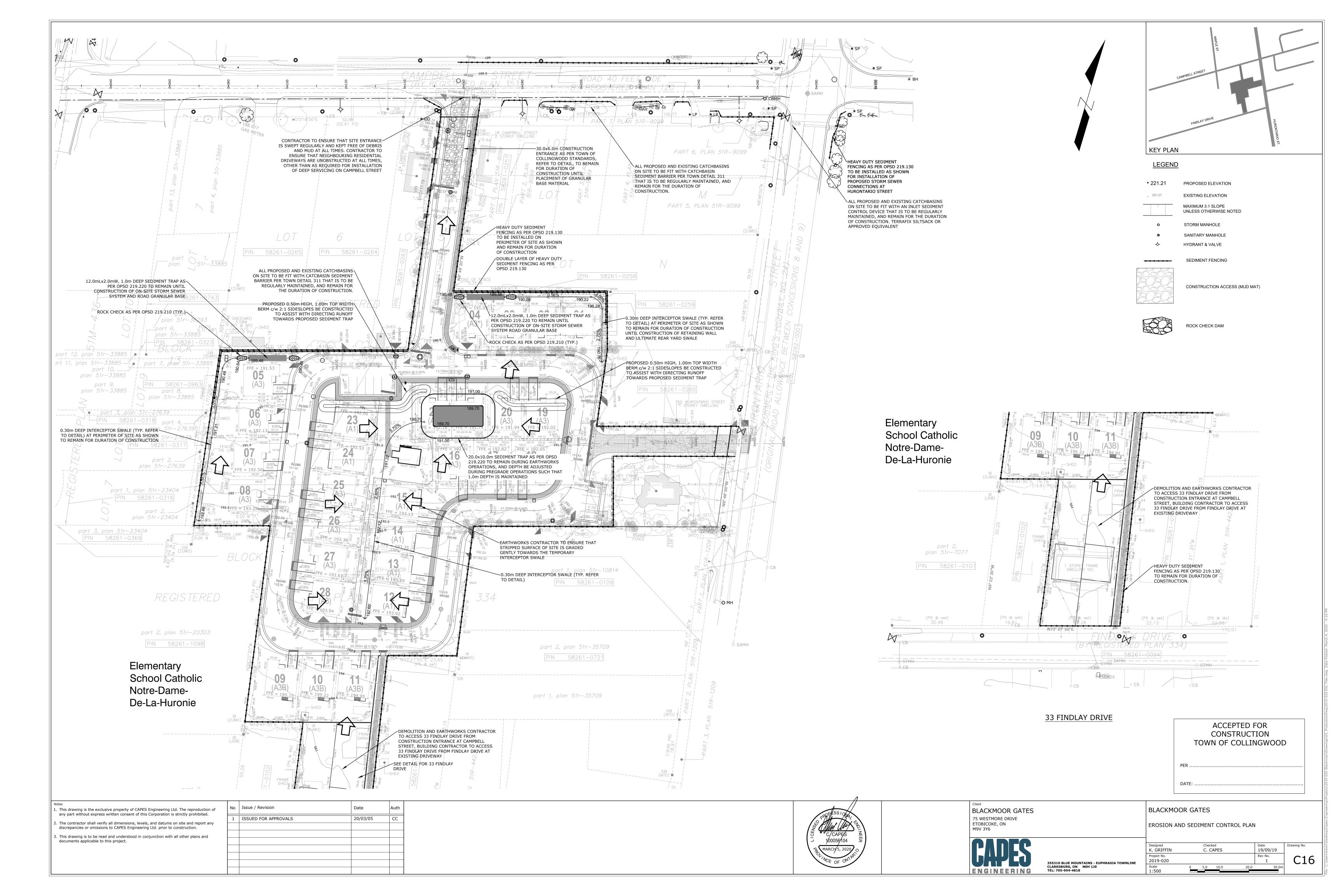
Designed Checked 19/09/19

Project No. 2019-020 Rev No. 2019-020 1

Scale 0 5.0 10.0 20.0 30.00 H 1:500 V 1:50

ACCEPTED FOR

CONSTRUCTION
TOWN OF COLLINGWOOD



#### **ESC NOTES**

- 1. AREAS OF SITE LEFT UNSTABLE FOR MORE THAN 30 DAYS TO BE
- STABILIZED WITH ACCEPTABLE GROUND COVER 2. OPTIONS: BLOWER TRUCK APPLICATION OF MEDIA/SEED/MULCH MIX, HYDROSEEDING, MECHANICAL OR BROADCAST; SPECIES TO BE APPROVED BY TOWN OF SAUGEEN SHORES, IN ACCORDANCE WITH LANDSCAPING
- 3. SEEDING IDEALLY APPLIED BETWEEN APRIL 15 & MAY 30 OR AUGUST 15 & SEPTEMBER 30.
- 4. BARE SOIL TO BE PROPERLY SCARIFIED TO PREPARE FOR PLANTING IF SOIL HAS BEEN CRUSTED OVER OR COMPACTED.
- 5. MINIMUM 75mm OF TOPSOIL APPLIED TO ALL AREAS SUBJECT TO PERMANENT LANDSCAPING.
- 6. TREAD TRACKING/CAT TRACKING METHOD TO BE USED FOR SEEDING ON SLOPES >3:1. 7. SEED COVERED WITH EROSION CONTROL MATS/BLANKETS/MATTING AS
- NEEDED FOR SLOPES > 2:1. 8. AREAS THAT DO NOT SHOW GROWTH WITHIN 14 DAYS TO BE RE-SEEDED. 9. MULCH APPLIED AFTER OR WITH SEED.

- 10. SOD TO BE LAID IN STRAIGHT LINES, PERPENDICULAR TO SLOPING. 11. PIECES OF SOD TIGHTLY BUTTED TOGETHER BUT WITHOUT OVERLAPPING
- 12. INSTALLED IN A BRICK-WORK TYPE PATTERN WITH STAGGERING OF JOINTS IN ADJACENT ROWS.
- 13. SOD TO BE NOTCHED INTO EXISTING GRASS. 14. SOD TO BE ANCHORED IN PLACE IF INSTALLED ON SLOPES >3:1.
- 15. SOD TO BE ADEQUATELY IRRIGATED POST INSTALLATION. 16. SOD TO BE INSTALLED DURING PROPER WEATHER CONDITIONS.

#### RIP-RAP

17. GEOTEXTILE FABRIC LINER TO BE INSTALLED UNDER RIP RAP.

### ROLLED EROSION CONTROL PRODUCTS

- 18. STRIPS INSTALLED PARALLEL TO FLOW IN SWALES OR CONVEYANCE
- CHANNELS. 19. STRIPS INSTALLED UP AND DOWN A HILL (VERTICALLY) FOR LONG SLOPES (DOES NOT INCLUDE WATERCOURSE BANKS).
- 20. BLANKETS OVERLAPPING 20cm ON SIDES, TOPS AND BOTTOMS. 21. BLANKETS NOT TO BE STRETCHED.
- 22. MAXIMUM SLOPE ON WHICH PRODUCT IS USED BASED ON
- MANUFACTURER'S SPECIFICATIONS.
- 23. CONTINUOUS CONTACT WITH SOIL SURFACE AND NO TENTING. 24. ANCHORED WITH SUFFICIENT QUANTITY OF WOODEN OR BIODEGRADABLE

STAKES OR METAL STAPLES, SPACED AS SPECIFIED IN MANUFACTURER

RECOMMENDATIONS. 25. FIRMLY ANCHORED AT TOP AND BOTTOM, WITH ANCHOR TRENCH AT THE

## GROWTH MEDIA EROSION CONTROL BLANKETS

26. APPLIED AT A DEPTH OF 25-100mm.

- 27. >50mm THICKNESS APPLIED FOR SLOPES >2:1.
- 28. 75-100mm APPLIED FOR SLOPES 1:1 OR GREATER. 29. OVERLAPPED 1-3m AT THE TOP OF THE SLOPE TO WHICH THE BLANKET IS

#### VEGETATIVE BUFFER STRIPS

30. >30m WIDE AND ADJACENT TO WATERCOURSES.

## INTERCEPTOR SWALE AND DIVERSION DIKE

- 31. SWALE MINIMUM 300mm DEEP AND 600mm WIDE. 32. BOTH SWALES AND DIKE SIDE SLOPES CONSTRUCTED TO BE 3:1 OR LESS.
- 33. STABILIZED BY SEEDING OR RIP RAP, ESPECIALLY AT INLET AND OUTLET. 34. IMMEDIATE STABILIZATION MANDATORY FOR SWALES/DIKES AND IMMEDIATELY FOLLOWING A STORM EVENT. SWALES TO BE STABILIZED

WITH SEEDING OPERATIONS AND RIP-RAP TREATMENT AS REQUIRED. 35. FLOW VELOCITIES IN THE SWALE REDUCED WITH FLOW INTERRUPTION

# CHECK DAMS

- 36. CENTRE HEIGHT < 1.0m; CENTRE NOTCHED APPROXIMATELY 150mm,
- INCLUDING SPILLWAY. 37. ROCK PILED WITH A MAXIMUM UPSTREAM SLOPE OF 2:1 AND MAXIMUM
- DOWNSTREAM SLOPE OF 4:1. 38. SIDES OF DAM PILED UP THE DITCH SLOPE AT LEAST 0.5m HIGHER THAN THE CENTRE OF THE DAM.
- 39. FOR DAMS USED IN SERIES IN A SWALE OR CHANNEL, HEIGHT OF SUBSEQUENT CHECK DAMS MUST BE EQUAL TO THE ELEVATION OF THE
- BASE OF THE PREVIOUS DAM. 40. CONSTRUCTED WITH 3 LAYERS; BOTTOM LAYER CONSISTING OF 450mm OF 5cm DIA. STONE, MIDDLE LAYER NON-WOVEN GEOTEXTILE FABRIC, AND
- TOP LAYER CONSISTING OF 10cm OF 15cm DIA. STONE. 41. CHECK DAM SPILLWAY WIDTH APPROXIMATELY THE SAME WIDTH AS THE
- DITCH BOTTOM. 42. STONES PLACED UP THE SIDES OF THE DITCH ABOVE THE ELEVATION ON THE SPILLWAY TO PREVENT WASHOUTS. 43. STONE SIZE OF 5-10cm FOR DITCH GRADES LESS THAN 2% AND 7-30cm
- FOR DITCH GRADES 2% AND GREATER. 44. INSTALLED DOWNSTREAM OF SEDIMENT TRAPS.

## SILT FENCING

45. TRENCHED IN AT LEAST 150mm. 46. STAKES INSTALLED ON DOWNSLOPE SIDE.

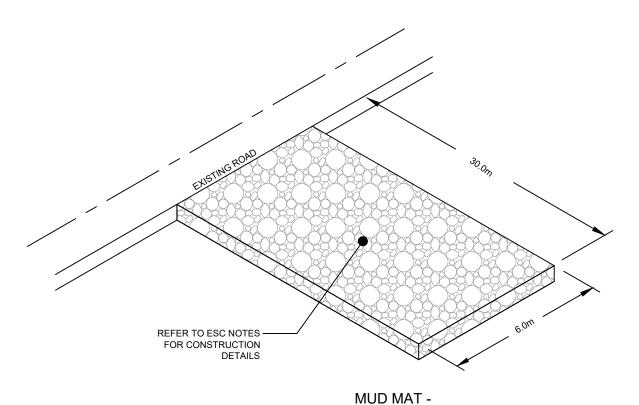
- 47. MAXIMUM 2.0m BETWEEN POSTS FOR HEAVY-DUTY FENCES AND 2.3m FOR
  - LIGHT-DUTY.
  - 48. ENDS TURNED UP SLOPE WHERE POSSIBLE. 49. FABRIC IS NON-WOVEN SYNTHETIC FABRIC MATERIAL (WITH A WEAVE
  - DENSITY OF 270R OR EQUIVALENT) STRETCHED ACROSS AND ATTACHED
  - TO SUPPORTING POST AND WIRE FENCE. 50. FABRIC TAUGHT BETWEEN POSTS.
  - 51. STRUCTURAL FENCING USED TO BACK THE SILT FENCE. 52. POSITIONED ON A LEVEL CONTOUR RATHER THAN UP AND DOWN SLOPES. 53. NO GAPS, 2.0m MINIMUM OVERLAP OF NEW CLOTH SECTIONS.
  - 54. POSITIONED TO RECEIVE ONLY MODERATE SHEET FLOWS, NOT CONCENTRATED FLOWS.
  - 55. TOE COMPACTED AS MUCH AS POSSIBLE TO AVOID USE OF STONE

## SEDIMENT TRAPS

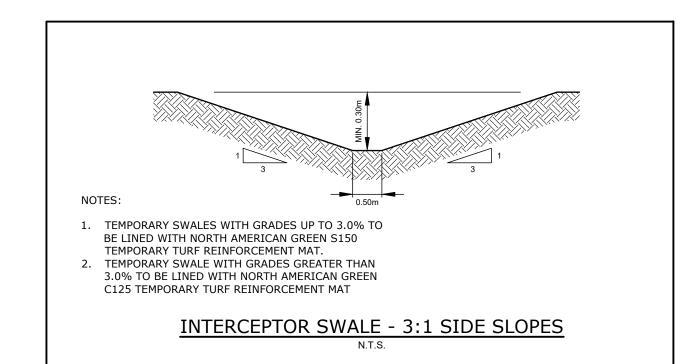
- 56. 125m³ STORAGE PER HECTARE OF DRAINAGE AREA MINIMUM. 57. SEDIMENT TRAPS CAN BE USED TO TREAT UP TO 2 HECTARES OF
- 58. STABILIZED EMBANKMENTS.
- 59. LOCATED IN A FLAT LAND AREA, AWAY FROM WATERCOURSES AND WETLANDS.

#### MUD MAT/CONSTRUCTION ENTRANCE

- 60. STONE PAD TO BE MINIMUM 450mm THICK, 30m LONG AND 6.0m WIDE. 61. THE FIRST 15m FROM THE ENTRANCE SHALL BE CONSTRUCTED OF 50mm
- CLEAR STONE. 62. THE REMAINING 15m SHALL BE CONSTRUCTED WITH 150mm RIP RAP.
- 63. PAD UNDERLAIN WITH A GEOTEXTILE (OR GRADED AGGREGATE FILTER). 64. CLEAR/REPLACE/MAINTAIN AS REQUIRED DURING CONSTRUCTION.



CONSTRUCTION ACCESS



ACCEPTED FOR CONSTRUCTION TOWN OF COLLINGWOOD

BLACKMOOR GATES 75 WESTMORE DRIVE ETOBICOKE, ON

BLACKMOOR GATES EROSION AND SEDIMENT CONTROL DETAILS

K. GRIFFIN 2019-020 355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE

C. CAPES 19/12/09

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1	ISSUED FOR APPROVALS	20/03/05	СС

## GENERAL - CONSTRUCTION

DENSITY (SPMDD).

A) ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH TOWN OF COLLINGWOOD STANDARDS, O.P.S.D. AND O.P.S.S. WHERE CONFLICT OCCURS, TOWN OF COLLINGWOOD STANDARD TO GOVERN.

B) TRENCH BACKFILL (OPSD 802.XXX AS APPLICABLE) TO BE SELECT NATIVE MATERIAL OR IMPORTED SELECT SUBGRADE TO OPSS 1010. BACKFILL TO BE PLACED IN MAXIMUM 200 mm THICK LIFTS AND COMPACTED TO 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD)

C) PIPE BEDDING TO BE GRANULAR 'A' PIPE COVER TO BE GRANULAR 'B' MAX. AGGREGATE SIZE 25mm FOR RIGID PIPE AND GRANULAR 'A' FOR FLEXIBLE

PIPE. (MINIMUM BEDDING DEPTH 150 mm, MINIMUM COVER 300mm, COMPACTED TO A MINIMUM 95% SPMDD). D) CLEAR STONE WRAPPED IN FILTER FABRIC CAN BE SUBSTITUTED FOR BEDDING MATERIAL IF APPROVED BY THE ENGINEER.

E) ALL MAINTENANCE HOLES ARE 1200 mm DIAMETER UNLESS OTHERWISE SPECIFIED.

F) ALL TOPSOIL AND EARTH EXCAVATION TO BE STOCK PILED OR REMOVED TO AN APPROVED SITE AS DIRECTED BY ENGINEER.

G) THE OWNER'S ENGINEER SHALL PROVIDE BENCH MARK ELEVATIONS AND HORIZONTAL ALIGNMENT REFERENCE FOR THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DETAILED LAYOUT OF THE WORK.

H) ALL PROPERTY BARS TO BE PRESERVED AND REPLACED BY O.L.S. AT CONTRACTOR'S EXPENSE IF REMOVED DURING CONSTRUCTION.

I) ALL MAINTENANCE HOLE AND CATCHBASIN FRAMES AND COVERS TO BE SET TO BASE COURSE HL8 ASPHALT ELEVATION AND RAISED PRIOR TO PLACEMENT OF FINAL COURSE HL3 ASPHALT TO THE SATISFACTION OF THE TOWN.

J) THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR THE SUPPLY OF TEMPORARY WATER AND POWER. K) DEWATERING TO BE CARRIED OUT IN ACCORDANCE WITH OPSS-517 AND 518 TO MAINTAIN ALL TRENCHES IN A DRY CONDITION. CONTRACTOR RESPONSIBLE FOR OBTAINING M.O.E. PERMIT IF REQUIRED.

L) ALL ENGINE DRIVEN PUMPS TO BE ADEQUATELY SILENCED, SUITABLE FOR OPERATION IN A RESIDENTIAL DISTRICT.

M) DISTURBED AREAS TO BE REINSTATED TO PREVIOUS CONDITION OR BETTER.

N) THE CONTRACTOR IS RESPONSIBLE FOR PRESERVATION OF ALL EXISTING FACILITIES AS WELL AS ALL UTILITY COMPANIES PRIOR TO COMMENCING WORK AND CO-ORDINATE CONSTRUCTION ACCORDINGLY.

NO.	REVISION	APR'D	DATE	TOWN OF COLLINIONOOD APR'D: EDH DATE: JAN/03
1.	REVISED BASE ASPHALT TYPE	EDH	JUL/04	TOWN OF COLLINGWOOD DRAWN: SCALE: N/A
				OENEDAL CONOTRUCTION NOTES
				GENERAL - CONSTRUCTION NOTES STD. No. 122

D) SERVICE CONNECTIONS TO OPSD-1104.010, 100 mm GRANULAR 'A' EMBEDMENT AND COVER OVER PIPE. TERMINATE AT PROPERTY LINE AT CENTER OF LOT C/W CURB STOP AND BOX, TESTING TAIL TO SURFACE ATTACHED TO A 38mm x 89mm MARKER POST PAINTED BLUE.

F) BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY

) CLEARANCE BETWEEN WATER MAINS AND SEWERS TO BE A MINIMUM OF 0.5m VERTICAL WHERE WATER MAIN IS BELOW SEWER OR 2.5 m MINIMUM

P) GENERAL INSTALLATION AND TESTING OF WATER MAIN AND APPURTENANCES TO BE IN ACCORDANCE WITH O.P.S.S. 701 AND ALL SPECIFICATIONS REFERENCED WITHIN THESE SECTIONS.

K) FOLLOWING TESTING, CONTRACTOR SHALL OPERATE EACH WATER SERVICE TO VERIFY FULL FLOW AND PRESSURE AT THE CURB STOP TO THE SATISFACTION OF THE ENGINEER.

Q) ALL WATERMAIN TESTING AND CHLORINATION WILL BE CONDUCTED BY CPU AT THE DEVELOPER'S COST. IT SHOULD BE NOTED THAT NEW WATERMAINS ARE NOT TO BE CONNECTED TO EXISTING WATERMAINS UNTIL BACTERIOLOGICAL TESTING HAS BEEN SUCCESSFULLY COMPLETED.

A) BEDDING AND COVER TO OPSD-802.010, GRANULAR 'A' EMBEDMENT MATERIAL OR OTHER APPROVED HOMOGENEOUS GRANULAR MATERIAL.

B) TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL AS APPROVED BY ENGINEER OR IMPORTED GRANULAR MATERIAL.

E) HYDRANTS TO OPSD-1105.010. DRAIN PLUGS SHALL BE INSTALLED WHERE HIGH WATER TABLE IS ENCOUNTERED.

H) GATE VALVES, BENDS AND HYDRANT LEADS AND FITTINGS TO BE CONNECTED WITH ROMAX GRIP RING RESTRAINING CLAMP.

HORIZONTAL SEPARATION. WHERE WATER MAIN IS ABOVE SEWER, THE MINIMUM SEPARATION TO BE 150 mm (BEDDING MATERIAL).

C) THRUST BLOCKS TO OPSD-1103.010 AND 1103.020 WHERE SUITABLE SOILS ARE ENCOUNTERED.

G) MINIMUM COVER ON WATER MAIN AND SERVICES TO BE 1.7 m.

#### STORM SEWERS

A) M.H., CBMH AND DICBMH TO OPSD - 701.XXX (AS APPROPRIATE) C/W SUMP UNLESS NOTED OTHERWISE.

C) M.H. FRAMES AND GRATES TO OPSD-401.01 OPEN COVER.

D) C.B.'S TO OPSD - 705.010, 705.020

ERTIFIED PRIOR TO PLACING GRANULAR 'B'.

G) STOP SIGNS AND STREET SIGNS TO TOWN STANDARDS.

E) DICB'S TO OPSD - 705.030, 705.040, 706.010, 706.020, 706.030, 706.040

F) C.B. AND CBMH FRAMES AND GRATES TO OPSD - 400.020 AND REAR LOT 400.120..

G) PIPE SUPPORT AT M.H.'S, CB'S AND CBMH'S TO OPSD - 708.020.

B) GRANULAR 'A' AND 'B' BASE TO BE COMPACTED TO 100% OF THE MATERIAL'S RESPECTIVE SPMDD.

) CONCRETE CURB AND GUTTER TO OPSD 600.040 OR OPSD 600.070 AND OPSS 353

E) ALL GRANULARS AND ASPHALT MATERIALS AND PLACEMENT TO BE IN ACCORDANCE WITH OPSS 314 AND OPSS 310

K) 100 mm DIAMETER PIPE SUBDRAINS SHALL BE PROVIDED AS PER STANDARD 210 ON BOTH SIDES OF THE ROAD.

L) SUBDRAIN TO BE INSTALLED 200 mm BELOW CURB IN GRANULAR 'A' TRENCH AND CONNECTED TO EACH CB OR CBMH.

H) REINSTATEMENT OF ALL DISTURBED BOULEVARDS TO INCLUDE REGRADING, 100mm TOPSOIL AND SOD TO OPSS 570 AND 571.

J) CONCRETE SIDEWALK TO OPSD 310.010, 310.030 AND OPSS 351. SUBBASE TO CONSIST OF MINIMUM 150 mm OF GRANULAR 'A'.

H) C.B. LEADS - 250mm DIA SINGLE AND 300mm DIA DOUBLE TO OPSD - 708.010, 708.030. I) PROTECTION DURING CONSTRUCTION TO OPSD - 808.010.

J) BEDDING AND COVER TO OPSD - 802.010. (FLEXIBLE PIPE) GRANULAR 'A' EMBEDMENT MATERIAL OR OTHER APPROVED HOMOGENEOUS GRANULAR

MATERIAL OR OPSD - 802.030, 802.031 AND 802.032 (RIGID PIPE) GRANULAR 'A' BEDDING AND GRANULAR 'B' (MAXIMUM AGGREGATE SIZE 25mm) COVER. K) TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL AS APPROVED BY ENGINEER OR IMPORTED GRANULAR MATERIAL.

L) BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S SPMDD.

M) WHERE RESIDENTIAL STORM SEWER CONNECTIONS ARE REQUIRED, THE STORM SEWER SHALL BE OVERSIZED.

N) SERVICE CONNECTION TO TOWN STD. 530 100mm, GRANULAR 'A' EMBEDMENT, TERMINATE AT PROPERTY LINE 1.0m RIGHT OF SANITARY SERVICE (FACING LOT) c/w A CAP/PLUG AND A 38mm x 89mm MARKER STAKE PAINTED WHITE.

10.	REVISION	APR'D	DATE	TOWN OF COLLINGWOOD	APR'D: EDH	DATE: JAN/03
1.	ADDED RESIDENTIAL STORM CONNECTION	EDH	JUL/04	TOWN OF COLLINGWOOD	DRAWN:	SCALE: N/A
				NOTES — STORM SEWERS STD.		123

A) SUBGRADE AND BOULEVARD MATERIAL TO BE COMPACTED TO A MINIMUM DRY DENSITY OF AT LEAST 95% SPMDD. SUBGRADE TO BE PROOF ROLLED AND

C) ROADWAYS TO BE CONSTRUCTED WITH MIN. 300MM GRANULAR 'B' TYPE 1, 150 MM GRANULAR 'A', AND 50 MM HL8 BASE 40 MM HL3 SURFACE COURSE ASPHALT. ALL SUBDRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 405.

D) SELECT SUBGRADE MATERIAL, OR IMPORTED GRANULAR MATERIAL APPROVED BY THE ENGINEER, COMPACTED TO 98% S.P.M.D.D. TO BE USED AS FILL IN ALL AREAS WHERE PROPOSED PIPE INVERTS ARE HIGHER THAN EXISTING GRADE OR AS INSTRUCTED BY THE ENGINEER.

F) JOINTS WITH EXISTING ASPHALT TO BE SAW CUT STRAIGHT PRIOR TO PLACING NEW ASPHALT AND TACK COAT APPLIED TO EXISTING ASPHALT.

M) SUBDRAINS TO BE PERFORATED OTHER THAN THE 2 m SECTION IMMEDIATELY UPSTREAM OF ALL STRUCTURES WHICH SHALL BE NON-PERFORATED.

TOWN OF COLLINGWOOD

NOTES - ROADS

STD. No.

A) SANITARY SEWER - SDR 35 PVC (INCREASE SPECIFICATION WHERE INSTALLATION DICTATES)

REVISED SERVICE LOCATION EDH JUL/04

REMOVED TEST FITTING

I) SANITARY SERVICES - SDR 28 PVC. - 125 mm COLOUR GREEN ( USING TEE CONNECTIONS TO MAINS UNLESS SHOWN OTHERWISE).

C) WATER MAIN - DUCTILE IRON CLASS 52, OR PRESSURE CLASS 350 CEMENT LINED. CONDUCTIVITY CONNECTORS TO BE USED ON ALL JOINTS.

D) WATER MAIN SERVICES - 20mm DIAMETER TYPE "K" SOFT COPPER PIPE.

E) MAIN STOPS TO 201-A3H3, 3/4", BALL STYLE, AWWA THREAD BY COMPRESSION CAMBRIDGE BRASS. F) CURB STOPS TO 203-H3H3, 3/4", BALL STYLE WITH DRAIN, COMPRESSION JOINT BY CAMBRIDGE BRASS.

G) SERVICE BOXES TO NUMBER 7, D-1 CLOW OR MUELLER, 24" BLACK RODS STRAIGHT.

H) HYDRANTS - CENTURY NUMBER 1, OPEN LEFT (o/1), 2 HOSE CSA, 33B PUMBER PORT, 6" MJ BASE, DRAINING. YELLOW BASE WITH SILVER BONNET AND PORTS I) HYDRANT ACCESSORIES - MARKER'S FLEX STAKE MODEL FHV 804, REFLECTIVE HYDRANR DECAL, YELLOW, 48" LENGTH; ANTI TAMPER DEVICE FOR CENTURY HYDRANTS,

B) BENCHING TO OPSD - 701.021. NOTE: MINIMUM HOLE SIZE I WALL IF PRE-CAST RISER SECTION SHALL CONFORM WITH MANUFACTURER'S SPECIFICATIONS.

E) BEDDING AND COVER TO OPSD - 802.010 (FLEXIBLE PIPE), GRANULAR 'A' EMBEDMENT MATERIAL OR OTHER APPROVED HOMOGENEOUS GRANULAR MATERIAL.

H) SERVICE CONNECTIONS TO OPSD-1006.020 (125 mm), GRANULAR 'A' EMBEDMENT, TERMINATE AT THE PROPERTY LINE 2.5m RIGHT OF WATER SERVICE (FACING LOT) WITH A 125 X 100 REDUCER C/W PLUG AND 38mm x 89mm MARKER POST PAINTED GREEN. MINIMUM GRADE TO BE 2.0%.

RADIUS BENDS TO BE USED ON SANITARY SEWER CONNECTIONS WHERE THE ANGLE OF CONNECTION BETWEEN THE SERVICE AND SEWER EXCEEDS 90°.

L) MAINTENANCE HOLE FRAMES TO BE SET TO BASE COURSE ASPHALT ELEVATION AND RAISED PRIOR TO PLACING SURFACE COURSE ASPHALT TO THE SATISFACTION OF THE TOWN.

) GENERAL INSTALLATION AND TESTING OF SEWERS AND APPURTENANCES TO BE IN ACCORDANCE WITH O.P.S.S. 407, 408, 409 (CCTV), 410, 421 AND ALL

TOWN OF COLLINGWOOD

NOTES - SANITARY SEWERS

STD. No.

J) BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY

J) VALVES - RESILIENT SEATED, RSGV, MECHANICAL JOINT, OPEN LEFT CLOW OR MUELLER WITH 5 SL-48 SLIDING VALVE BOX.

K) MECHANICAL JOINT DUCTILE FITTINGS - AWWA/ANSI C153/A21.53

) RESTRAINER-ROLMAC GRIPPER RING UP TO 300mm, SIGMA ONE LOCK RESTRAINING GLANDS OVER 300mm.

M) LIVE TAP SADDLES - EPOXY CAOTED C/W STAINLESS STEEL BOLTS.

N) FILTER FABRIC - TERRAFIX 270R OR APPROVED EQUAL.

0) PERFORATED SUBDRAINS - 100mm BIG 'O' WITH GEOTEXTILE FILTER SOCK OR APPROVED EQUAL.

P) STORM SEWER - PVC SDR35, CONCRETE CLASS III OR HDPE OPEN PROFILE BELL & SPIGOT (BOSS 2000 AND MIN. PIPE STIFFNESS=320Kpg OR EQUAL).

Q) STORM SEWER CONNECTION PVC SDR28 - 100mm COLOUR WHITE R) CULVERTS — SMOOTH WALL HDPE (MIN. PIPE STIFFNESS = 320Kpa) OR CORRUGATED METAL PIPE (MIN. THICKNESS = 2.0 mm)

S) RIP-RAP TO OPSD 1004.05.06

SANITARY SEWERS

A) M.H.'S TO OPSD-701.XXX AS APPROPRIATE.

D) FROST STRAPS SHALL BE INSTALLED ON ALL MAINTENANCE HOLE AS PER OPSD - 701.100

G) FRAMES AND COVERS TO OPSD - 401.01 TYPE 'A' (CLOSED COVER).

M) PIPE SUPPORT AT MAINTENANCE HOLES AS PER OPSD 708.020.

N) ALL MAINTENANCE HOLES, UNLESS EXPRESSLY IDENTIFIED ARE 1200 mm DIAMETER.

F) TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL AS APPROVED BY ENGINEER OR IMPORTED GRANULAR MATERIAL

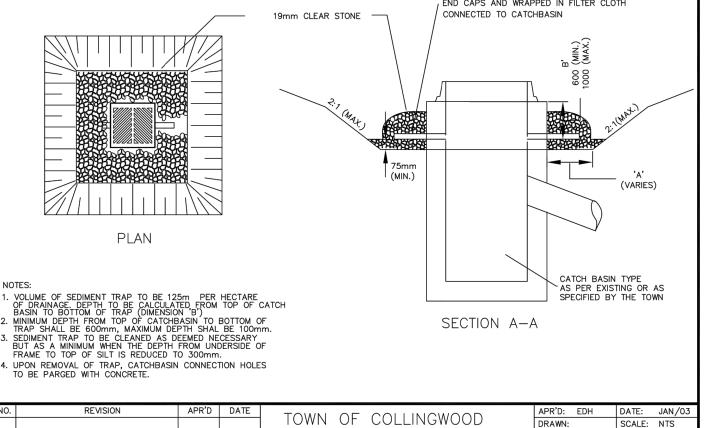
K) CLEAR STONE WRAPPED WITH FILTER FABRIC CAN BE SUBSTITUTED FOR EMBEDMENT MATERIAL IF APPROVED BY THE ENGINEER.

T) ALL SPECIFIED AGGREGATES TO OPSD 1010.

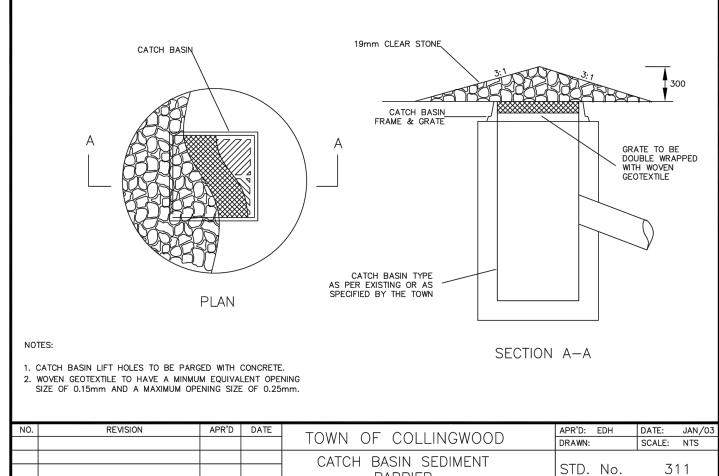
U) HYDRANTS ARE TO BE 1.85m LONG. EXTENSIONS IF REQUIRED ARE TO BE INSTALLED BELOW THE 1.85m SECTION.

REVISION	APR'D	DATE	TOWN OF COLLINGWOOD	APR'D: EDH	DATE: JAN/03
ADDED STORM SEWER CONNECTION	EDH	JUL/04	TOWN OF COLLINGWOOD	DRAWN:	SCALE: N/A
ADDED HYDRANT LENGTH	EDH	APR/07	·		
			NOTES — MATERIALS	127	
				1	

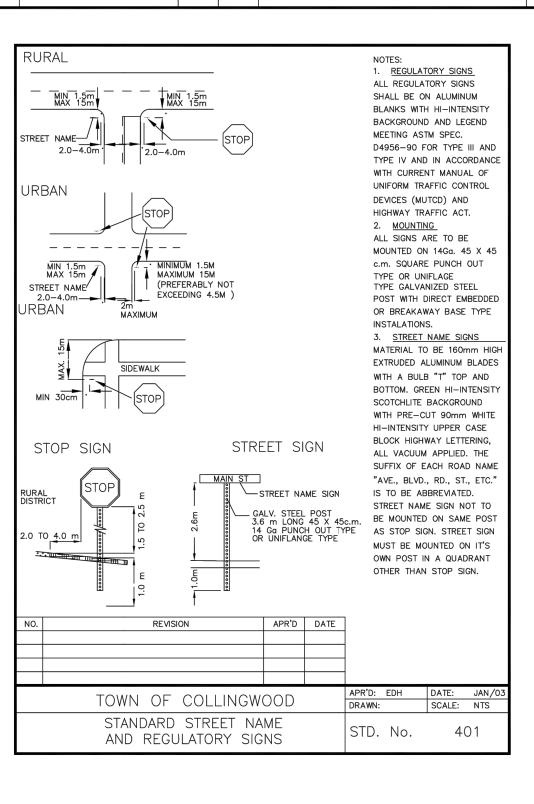
#### TOWN OF COLLINGWOOD REVISED SERVICE LOCATION EDH JUL/04 REVISED WATERMAIN TESTING EDH APR/07 125 NOTES - WATER MAINS STD. No. 150mm DIAMETER PERFORATED SUBDRAIN WITH , END CAPS AND WRAPPED IN FILTER CLOTH

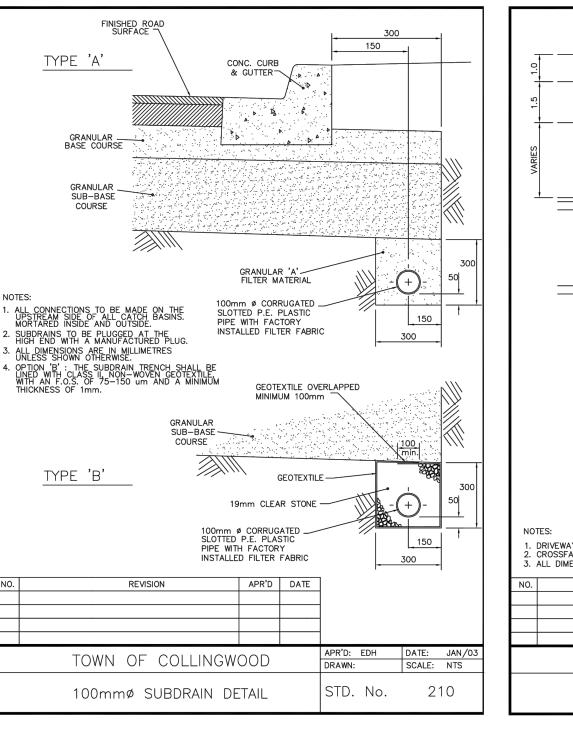


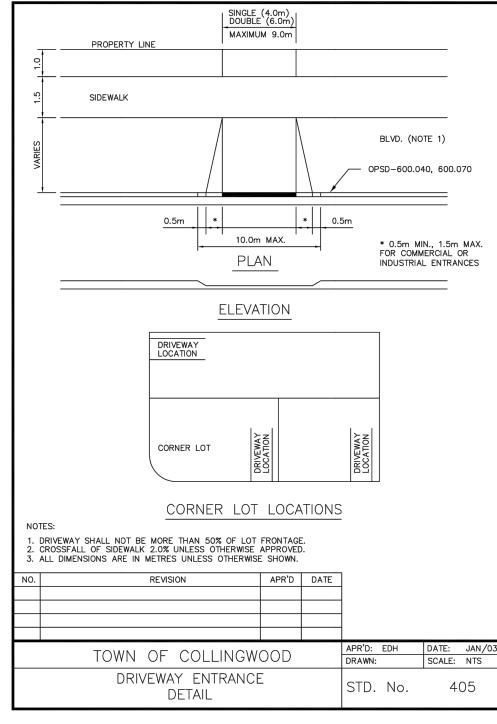
NO.	REVISION	APR'D	DATE	TOWN OF COLLINOWOOD	APR'D:	EDH	DATE:	JAN/03
				TOWN OF COLLINGWOOD	DRAWN:		SCALE:	NTS
				CATCH BASIN SEDIMENT				_
				TRAP STD. No		No.	310	
				INAF				



BARRIER







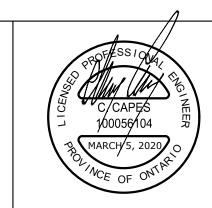
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Io Issue / Revision

1 ISSUED FOR APPROVALS

20/03/05



BLACKMOOR GATES 75 WESTMORE DRIVE ETOBICOKE, ON

BLACKMOOR GATES

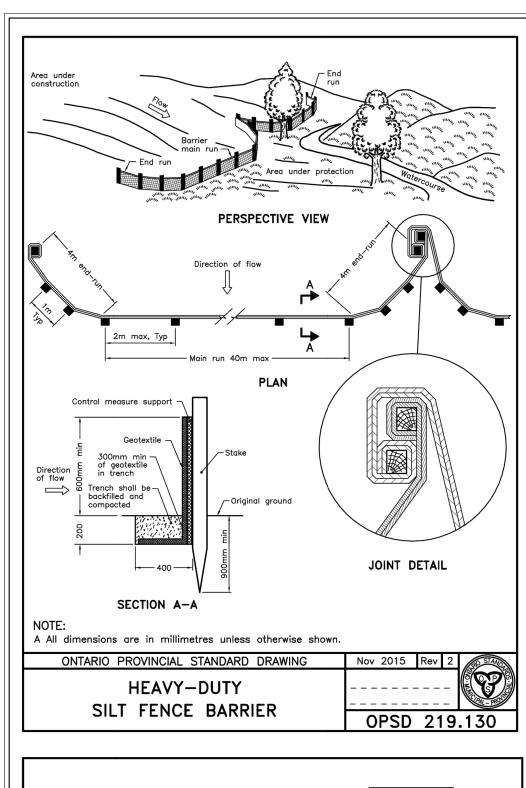
355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE

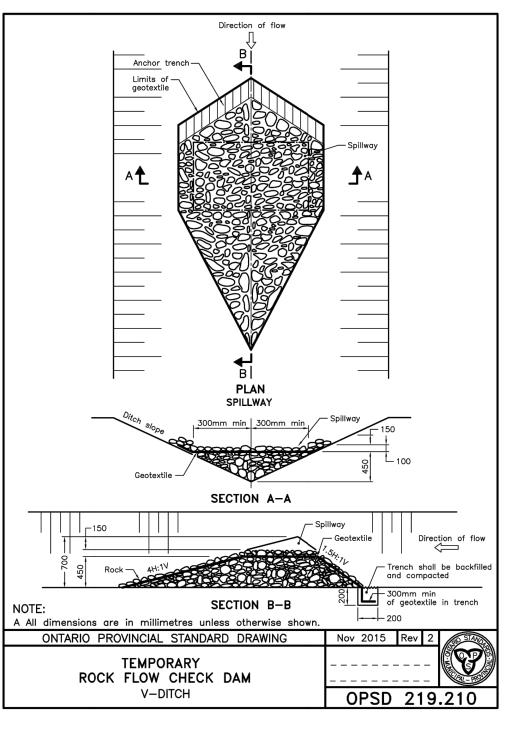
CLARKSBURG, ON NOH 1J0 TEL: 705-994-4818

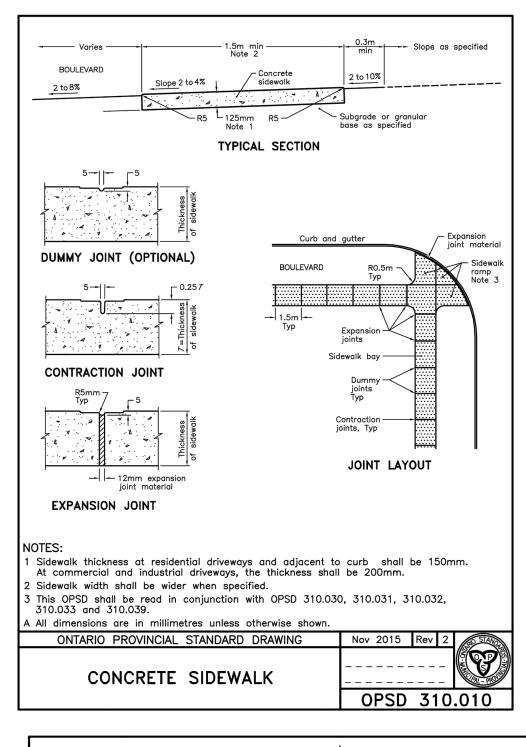
STANDARD DETAILS K. GRIFFIN

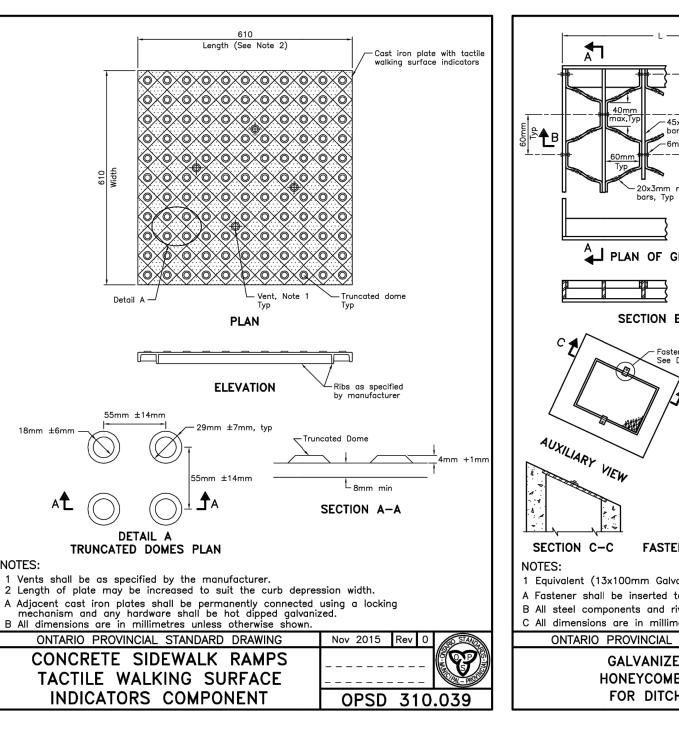
C. CAPES 19/09/19 2019-020 1:500

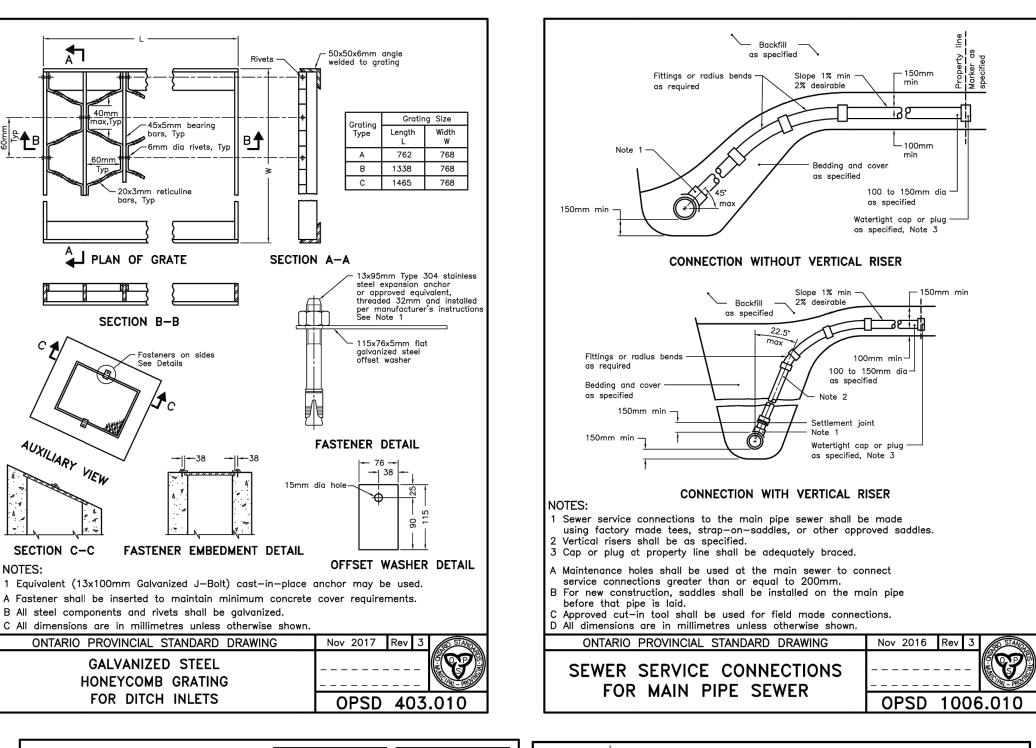
ACCEPTED FOR CONSTRUCTION TOWN OF COLLINGWOOD

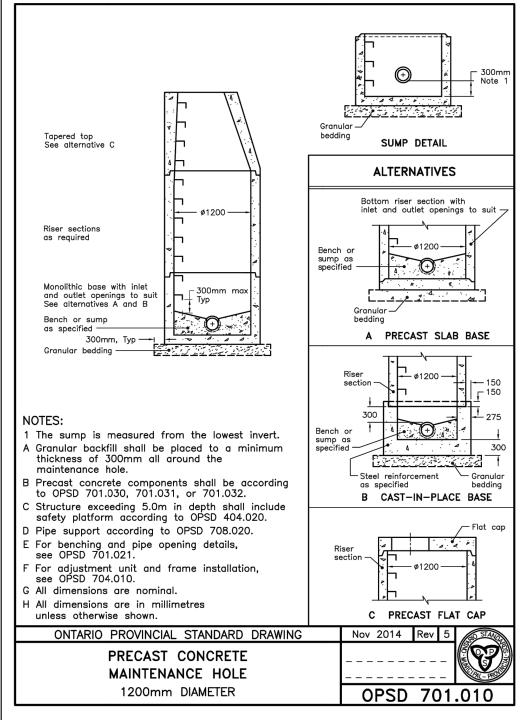


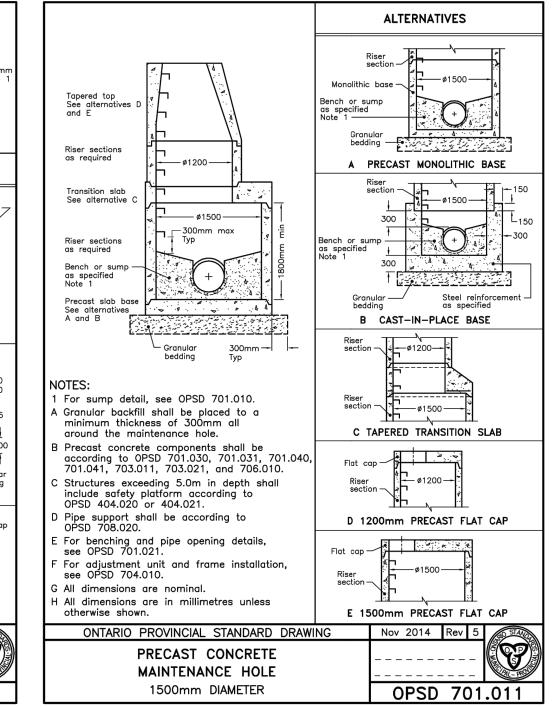




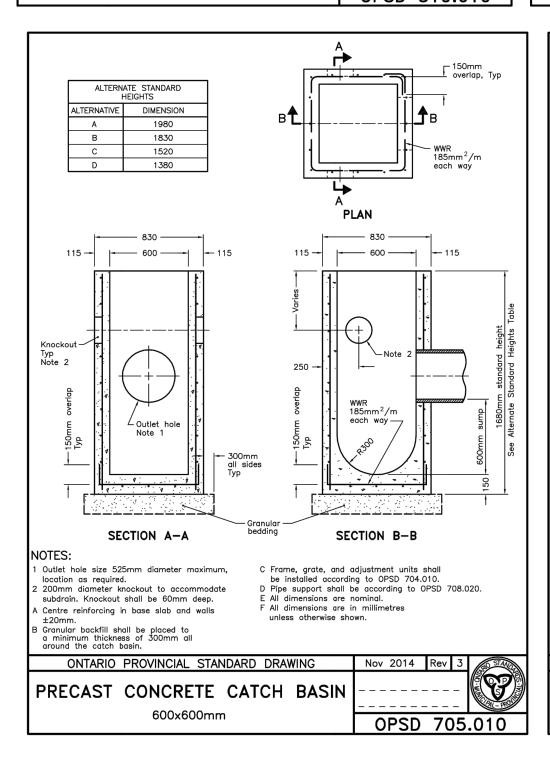




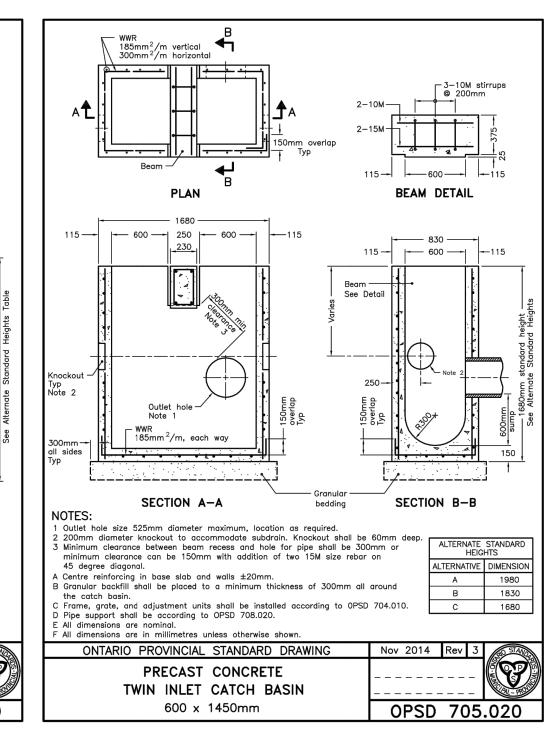


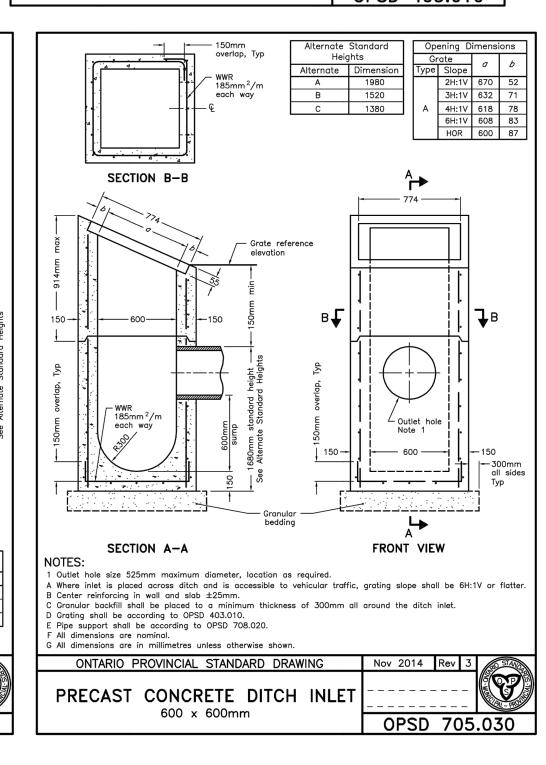


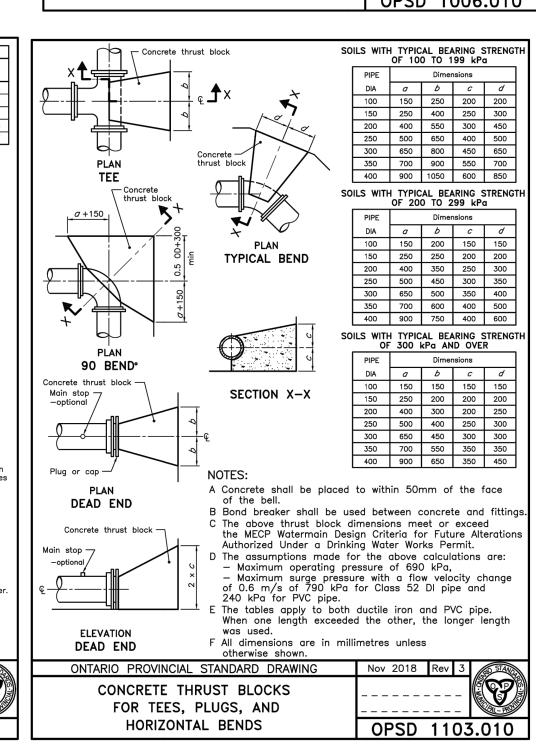
Single inlet flat cap —

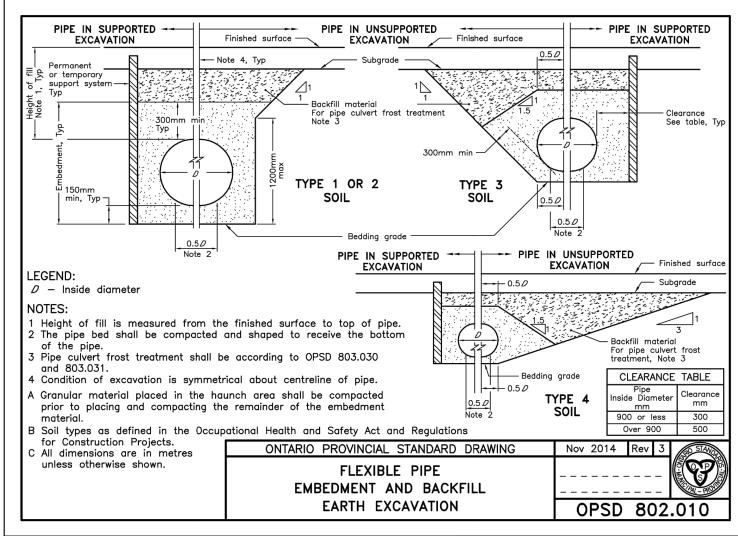


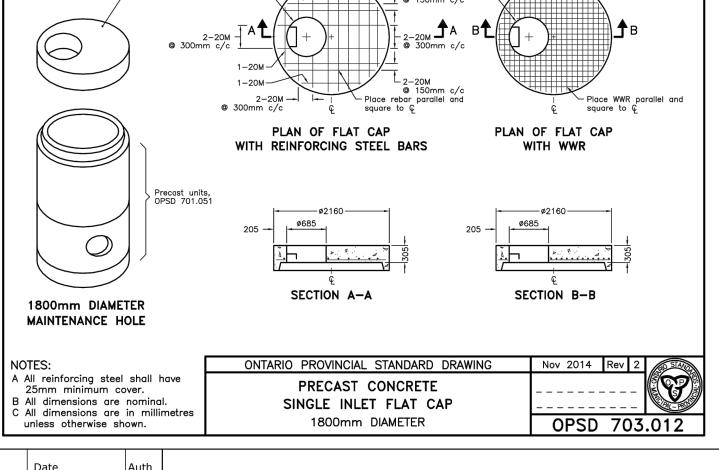
WWR 840mm²/m each wo



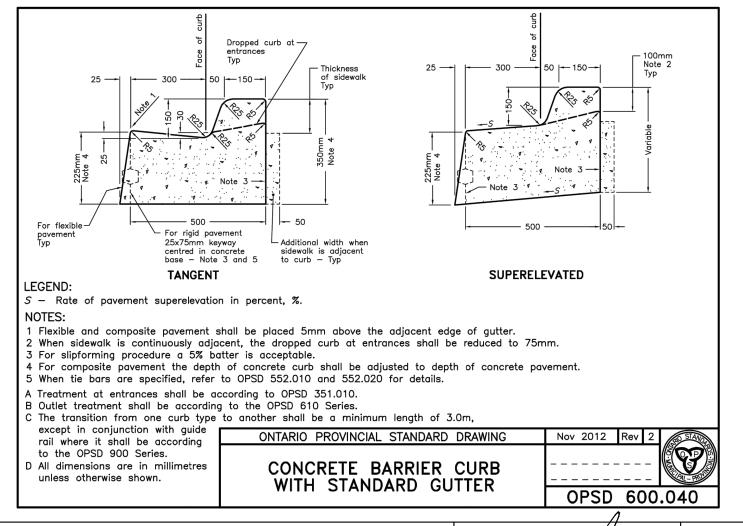


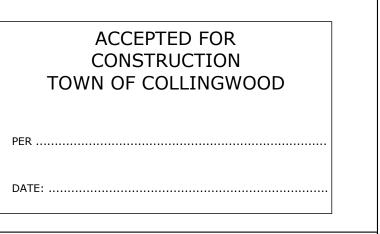






1-20M -

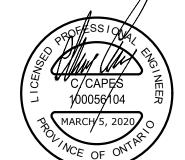




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No	Issue / Revision	Date	Auth
1	ISSUED FOR APPROVALS	20/03/05	СС



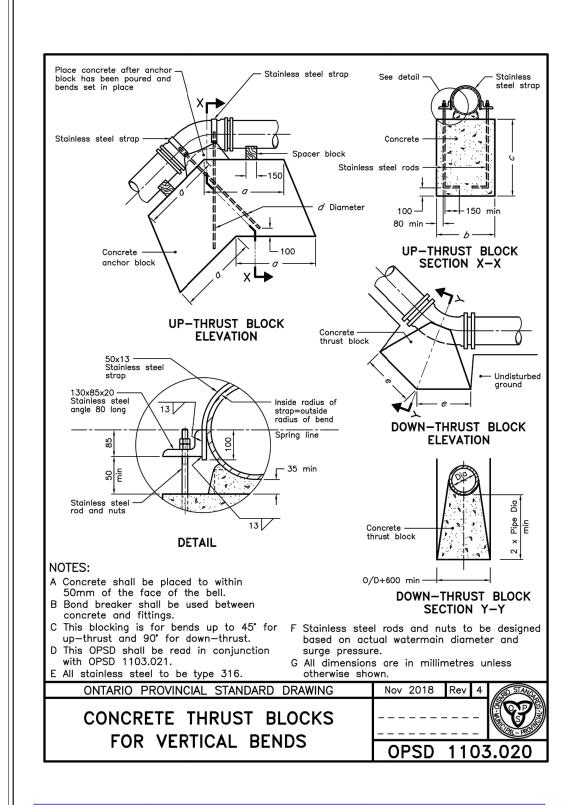
**BLACKMOOR GATES** 75 WESTMORE DRIVE ETOBICOKE, ON

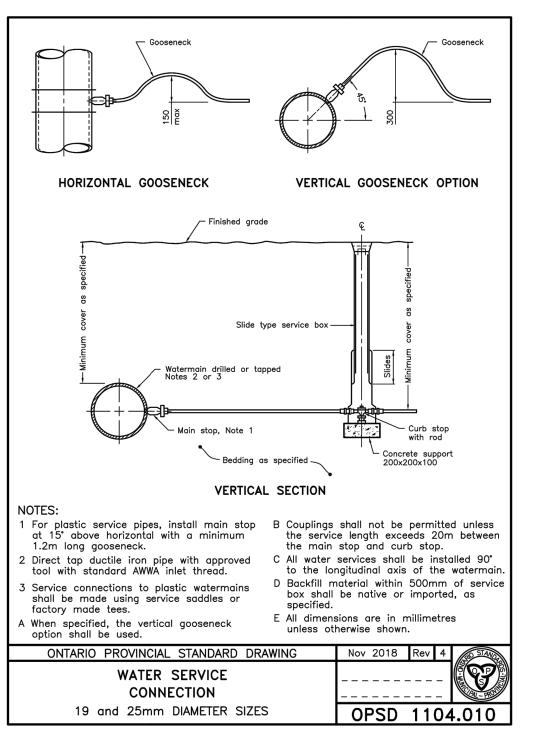
355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE CLARKSBURG, ON NOH 1J0 TEL: 705-994-4818

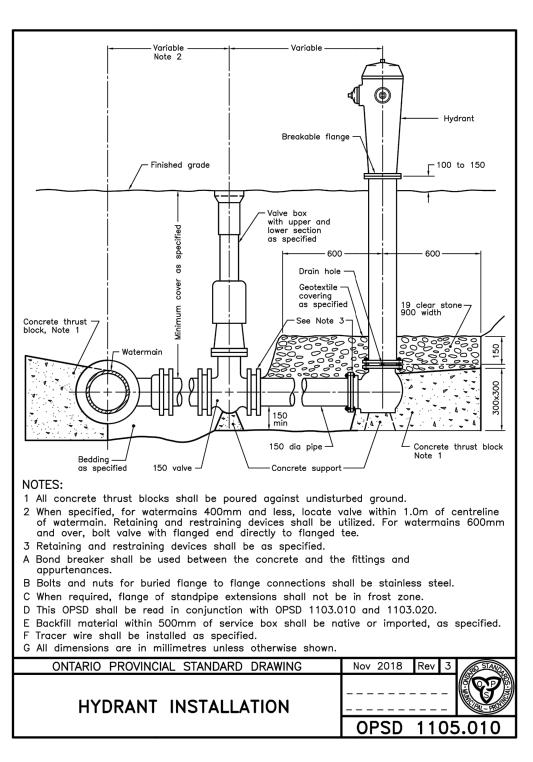
BLACKMOOR GATES STANDARD DETAILS

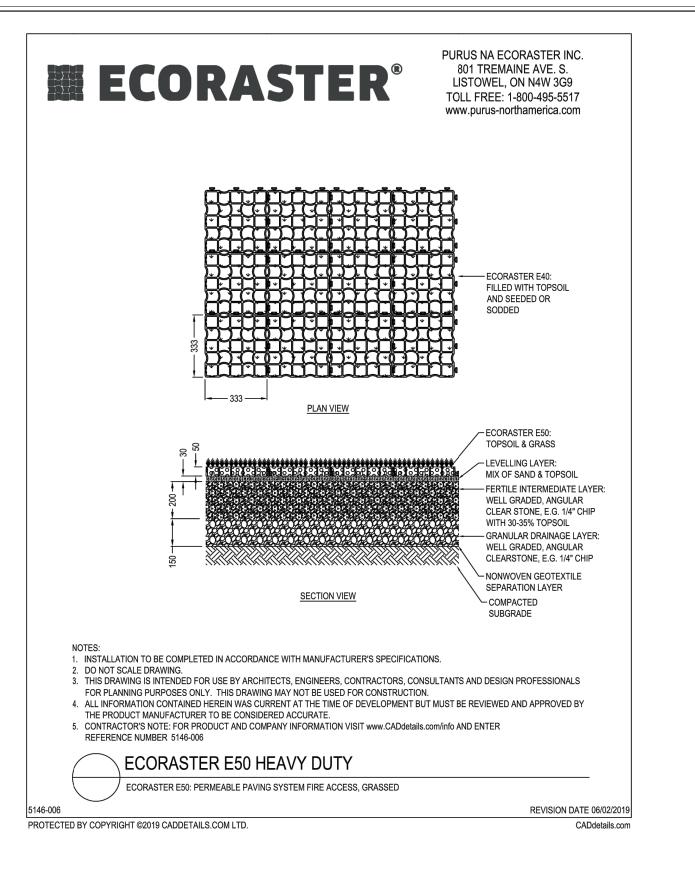
K. GRIFFIN C. CAPES Project No. 2019-020

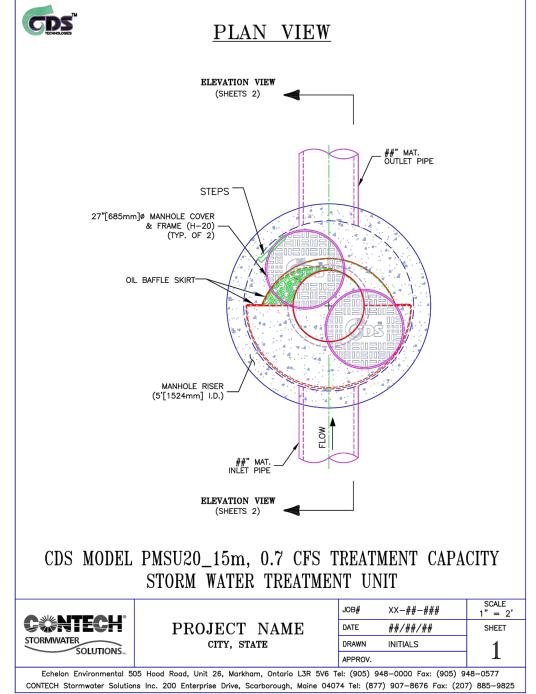
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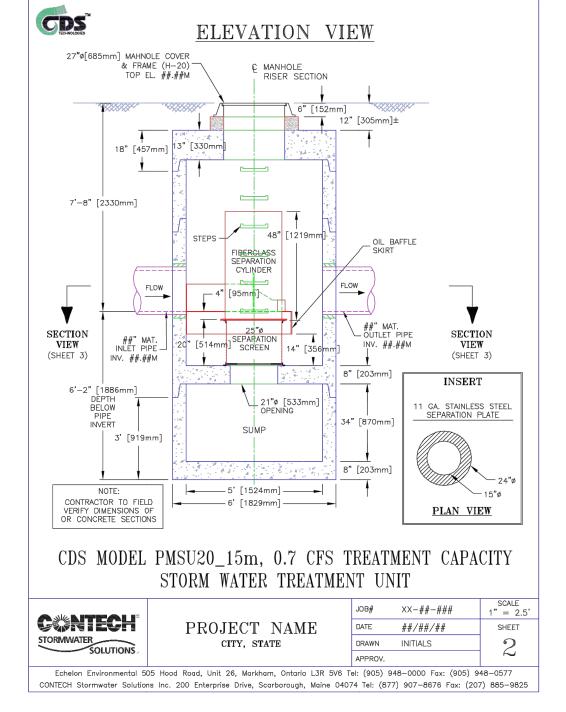


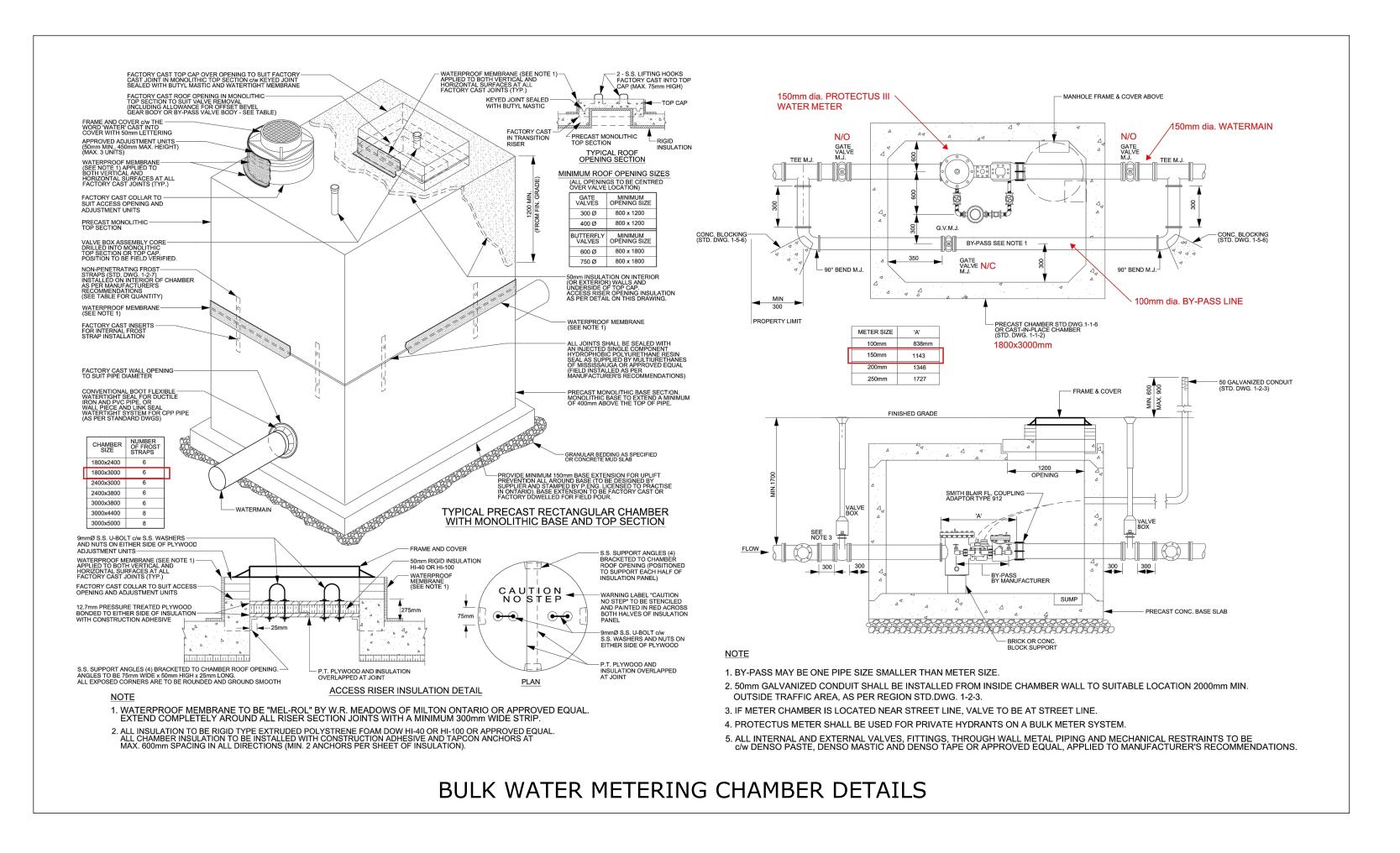








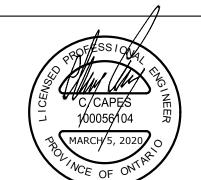




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1	ISSUED FOR APPROVALS	20/03/05	CC



**BLACKMOOR GATES** 75 WESTMORE DRIVE ETOBICOKE, ON

CLARKSBURG, ON NOH 1J0 TEL: 705-994-4818

355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE

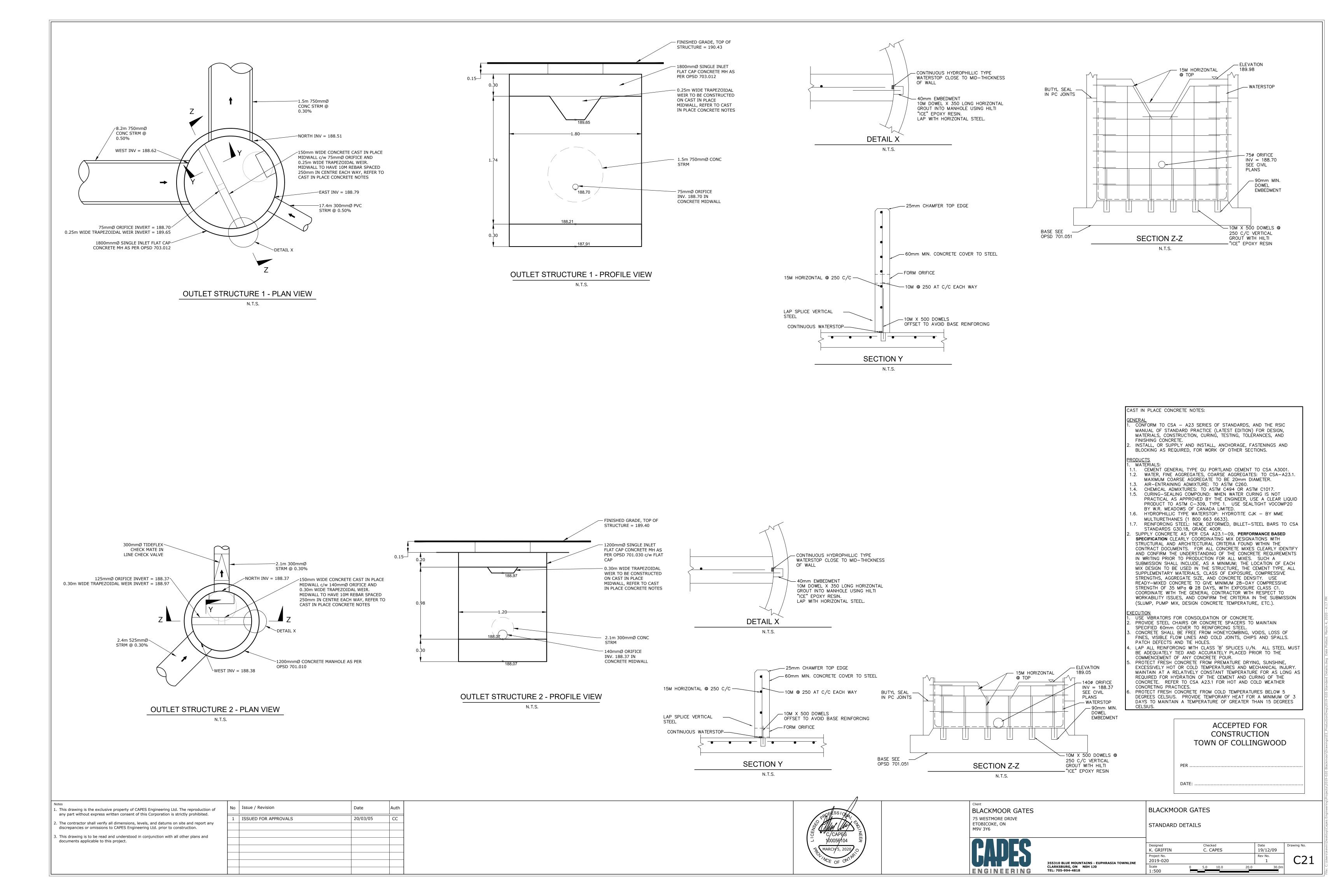
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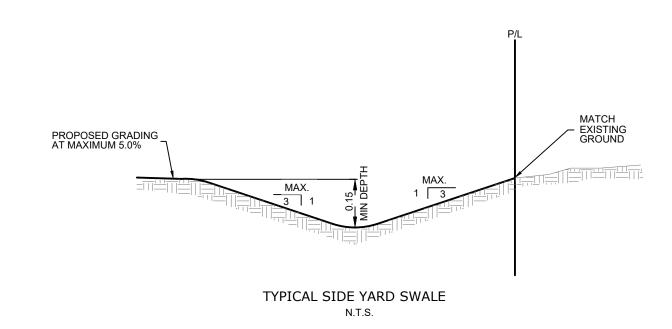
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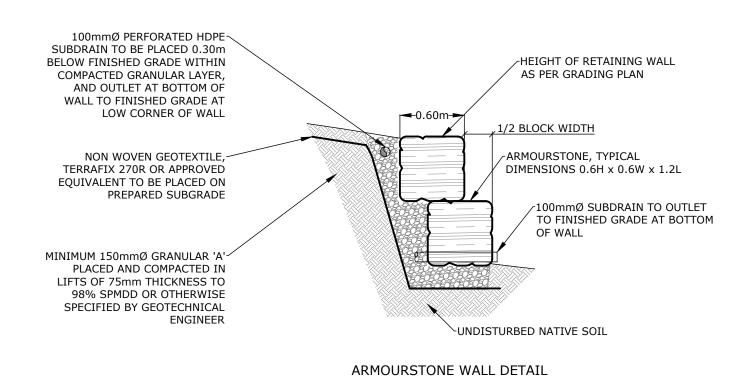
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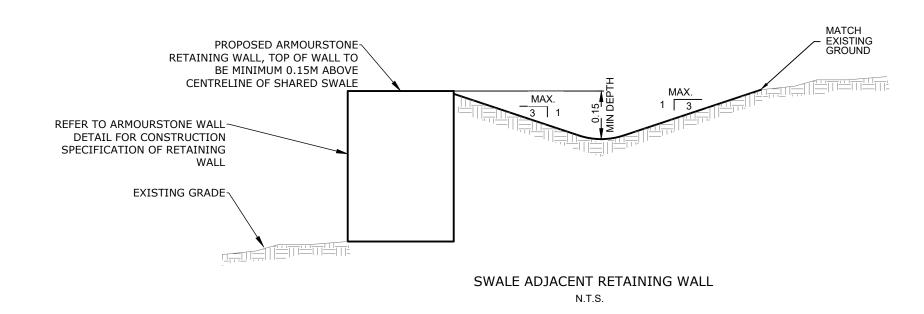
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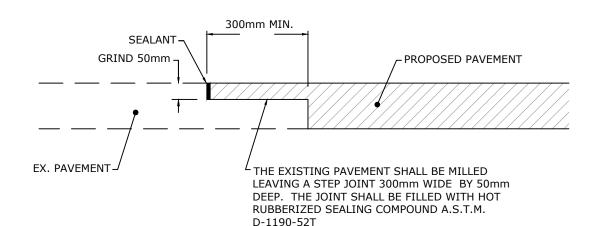
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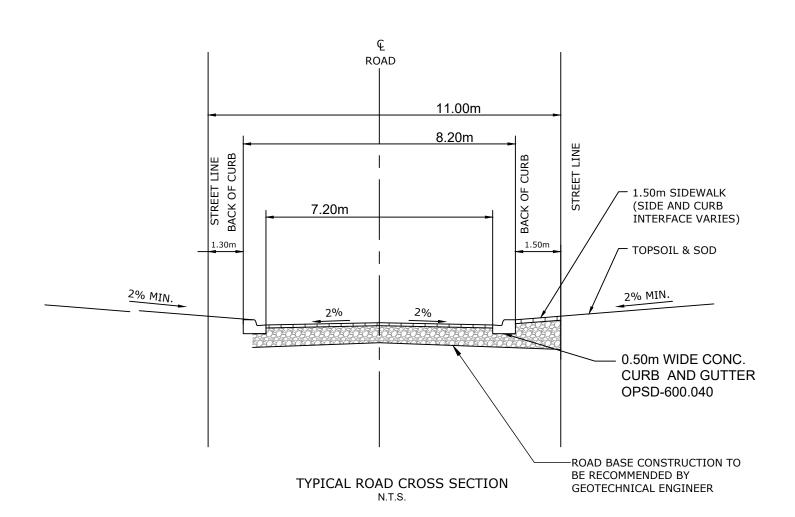








PAVEMENT LAP JOINT NOT TO SCALE



- IF FILL GREATER THAN ONE (1) METER IN THICKNESS IS TO BE PLACED AT THE SITE, WSP SHOULD BE CONTACTED TO REVIEW THE FILL AREAS. 2. REMOVAL OF ALL TOPSOIL AND FILL WILL BE REQUIRED TO FACILITATE THE PROPOSED DEVELOPMENT ON THE SITE. IT IS RECOMMENDED THAT A TOPSOIL TEST PIT PROGRAM BE COMPLETED AT THE SITE BY WSP PRIOR TO CONSTRUCTION TO REFINE THE TOPSOIL THICKNESS. REGARDING THE REUSE OF THE SITE TOPSOIL, THE TOPSOIL MAY BE REUSED IN LANDSCAPING APPLICATIONS OR OTHER NON-STRUCTURAL FILL APPLICATIONS. WSP SHOULD BE CONTACTED TO REVIEW ALL PROPOSED TOPSOIL
- 3. SUBSEQUENT TO THE COMPLETION OF THE REQUIRED STRIPPING AND REMOVAL OF UNSUITABLE MATERIALS (TOPSOIL), THE SUB-GRADE SHOULD BE PROOF-ROLLED AND INSPECTED BY EXPERIENCED WSP GEOTECHNICAL ENGINEERING PERSONNEL. THE PROOF-ROLLING AND COMPACTION OF THE EXPOSED SUB-GRADE IS RECOMMENDED TO BE CONDUCTED USING A VIBRATORY COMPACTOR WITH A MINIMUM STATIC WEIGHT OF 10 TONNES. THE PROOF-ROLLING PROGRAM SHOULD CONSIST OF A MINIMUM OF SIX (6) PASSES PER UNIT AREA AND BE TESTED TO ASSURE THAT THE SUB-GRADE IS COMPACTED TO A MINIMUM OF 98% OF THE EXPOSED MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). ANY LOOSE/SOFT OR WET AREAS IDENTIFIED AT THE TIME OF PROOF-ROLLING THAT CANNOT BE UNIFORMLY COMPACTED ARE RECOMMENDED TO BE SUB-EXCAVATED AND BACKFILLED WITH APPROVED ENGINEERED FILL CONSISTENT WITH THE RECOMMENDATIONS
- 4. WHERE ENGINEERED FILL IS REQUIRED TO DEVELOP THE DESIGN GRADES AND ELEVATIONS OR FOR USE IN BACKFILLING EXCAVATIONS CREATED THROUGH THE REMOVAL OF UNSUITABLE MATERIALS OR SOILS AS DESCRIBED ABOVE, THE EXCAVATED ON-SITE MATERIALS MAY BE RE-USED, SUBJECT THAT THESE ARE FREE OF ORGANIC AND OTHER UNSUITABLE MATERIALS AND HAVE ADEQUATE MOISTURE CONTENT. BOULDERS OR COBBLES GREATER THAN 200 MM IN SIZE SHOULD BE REMOVED FROM THE FILL.
- 5. ALTERNATIVELY, ONTARIO PROVINCIAL STANDARD SPECIFICATION (OPSS) GRANULAR B TYPE I, OPSS SELECT SUBGRADE MATERIAL (SSM) OR APPROVED EQUAL MAY BE 6. ALL FILL MATERIALS IMPORTED TO THE SITE MUST MEET ALL APPLICABLE MUNICIPAL, PROVINCIAL AND FEDERAL GUIDELINES AND REQUIREMENTS ASSOCIATED WITH
- ENVIRONMENTAL CHARACTERIZATION OF THE MATERIALS. 7. ENGINEERED FILL IS TO BE PLACED IN MAXIMUM 200 MM THICK LOOSE LIFTS UNDER FULL TIME SUPERVISION OF QUALIFIED GEOTECHNICAL PERSONNEL. EACH LIFT IS TO
- BE UNIFORMLY COMPACTED TO ACHIEVE A MINIMUM OF 100% OF THE MATERIAL'S SPMDD. 8. BASED ON THE SOIL CONDITIONS ENCOUNTERED IN THE BOREHOLES AND PROVIDED THAT THE SITE IS PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS PRESENTED IN THIS REPORT, FOOTINGS THAT ARE FOUNDED AT A MINIMUM DEPTH OF 1.5 MBGS ON THE COMPACT OR STIFF ORIGINAL SOIL OR ENGINEERED FILL SOILS MAY BE DESIGNED BASED ON A PRELIMINARY FACTORED ULTIMATE GEOTECHNICAL RESISTANCE AT ULTIMATE LIMIT STATES (ULS) OF 150 KPA. A PRELIMINARY SERVICEABILITY GEOTECHNICAL RESISTANCE AT SERVICEABILITY LIMIT STATES (SLS) OF 100 KPA MAY BE USED IN THE DESIGN OF THE FOUNDATIONS. WE NOTE THAT
- SOME SUBEXCAVATION MAY BE REQUIRED IN SOME AREAS DUE TO LOOSE SOIL CONDITIONS (I.E. BOREHOLE BH18-05). 9. ALL FOOTINGS EXPOSED TO SEASONAL FREEZING CONDITIONS SHOULD BE PROVIDED WITH AT LEAST 1.5 M OF EARTH COVER OR EQUIVALENT THERMAL INSULATION AGAINST FROST. IT IS RECOMMENDED TO KEEP FOOTINGS AS HIGH AS POSSIBLE TO AVOID OR MINIMIZE PENETRATION BELOW GROUNDWATER LEVELS WHILE CONSIDERING THE MINIMUM FROST COVER REQUIREMENT.
- 10. VARIATIONS IN THE SOIL CONDITIONS ARE EXPECTED IN BETWEEN THE BOREHOLE LOCATIONS, AND DURING CONSTRUCTION, THE GEOTECHNICAL RESISTANCES SHOULD BE CONFIRMED BY EXPERIENCED WSP SITE PERSONNEL. 11. WHERE IT IS NECESSARY TO PLACE FOOTINGS AT DIFFERENT LEVELS, THE UPPER FOOTING MUST BE FOUNDED BELOW AN IMAGINARY 10 HORIZONTAL TO 7 VERTICAL LINE
- DRAWN UP FROM THE BASE OF THE LOWER FOOTING. THE LOWER FOOTING MUST BE INSTALLED FIRST TO HELP MINIMIZE THE RISK OF UNDERMINING THE UPPER 12. THE SOILS AT THE BASE OF FOOTINGS CAN BE EASILY DISTURBED BY CONSTRUCTION MACHINERY AND FOOT TRAFFIC OR LOSE THEIR STRENGTH IN CONTACT WITH
- SURFACE WATER. CONSIDERATION COULD BE GIVEN TO PLACING A 50 MM THICK SKIM COAT OF LOW-STRENGTH CONCRETE ON THE FOUNDING SUBGRADE IMMEDIATEL AFTER ITS APPROVAL, TO PREVENT ITS DISTURBANCE BY CONSTRUCTION ACTIVITIES AND FROM GROUND OR SURFACE WATER, WHERE NECESSARY. 13. DURING WINTER CONSTRUCTION, FOUNDATIONS AND SLAB ON GRADES MUST NOT BE POURED ON FROZEN SOIL. FOUNDATIONS MUST BE ADEQUATELY PROTECTED AT ALL
- TIMES FROM COLD WEATHER AND FREEZING CONDITIONS. 14. IN THE VICINITY OF THE EXISTING BURIED UTILITIES, ALL FOOTINGS MUST BE LOWERED TO UNDISTURBED NATIVE SOILS, OR ALTERNATIVELY THE SERVICES MUST BE STRUCTURALLY BRIDGED
- 15. THE BASEMENT FLOOR SLABS CAN BE PLACED ON UNDISTURBED NATIVE SOILS OR ON ENGINEERED FILL. FOR BEDDING AND MOISTURE BARRIER PURPOSES, A 200 MM. THICK LAYER OF 19 MM CLEAR CRUSHED STONE MUST BE PROVIDED UNDER THE CONCRETE BASEMENT FLOOR SLAB. WHERE WET AND/OR FINE GRAINED SOIL CONDITIONS EXIST, THE MOISTURE BARRIER SHOULD BE SEPARATED FROM THE SUBGRADE BY A GEOTEXTILE FABRIC TO AVOID LOSS OF SOIL/FINES AND SETTLEMENT PROBLEMS. 16. BASED UPON THE SUBSURFACE CONDITIONS AT THE BOREHOLE LOCATIONS, EXCAVATIONS CAN BE CARRIED OUT WITH HEAVY HYDRAULIC BACK-HOES.IT IS RECOMMENDED
- THAT PROVISION BE CARRIED IN THE CONTRACT FOR THE EXCAVATION AND DISPOSAL OF OBSTRUCTIONS ON SITE, INCLUDING COBBLES AND BOULDERS. 17. ALL TEMPORARY EXCAVATIONS MUST BE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT (OHSA). IN ACCORDANCE WITH OHSA, THE SOILS (ASSUMING THEY ARE ABOVE THE GROUNDWATER TABLE OR PROPERLY DEWATERED) WOULD BE CLASSIFIED AS A TYPE 3 SOIL. IF SPACE LIMITATIONS EXIST DUE TO ADJACENT STRUCTURES OR FACILITIES, CONSIDERATION COULD BE GIVEN TO THE CONSTRUCTION OF A TEMPORARY SUPPORT SYSTEM TO PROVIDE PROTECTION TO THE STRUCTURES AND/OR FACILITIES. ALL EXCAVATED SPOIL SHOULD BE PLACED AT LEAST THE DEPTH OF THE TRENCH AWAY FROM THE EDGE OF THE TRENCH FOR SAFETY
- 18. AS NOTED ABOVE, GROUNDWATER WAS ENCOUNTERED IN THE MAJORITY OF THE BOREHOLES AT THE SITE; GROUNDWATER WAS MEASURED AS HIGH AS 0.3 MBGS IN TWO (2) OF THE BOREHOLES. AS SUCH, DEPENDING ON SITE GRADING REQUIREMENTS AND EXCAVATION DEPTHS IT IS LIKELY THAT DEWATERING WILL BE REQUIRED AT THE SITE AND AN ENVIRONMENTAL ACTIVITY AND SECTOR REGISTRY (EASR) OR A PERMIT TO TAKE WATER (PTTW) WILL BE REQUIRED FOR THE EXCAVATIONS.
- 19. IN ANY AREAS REQUIRING DEWATERING, THE GROUNDWATER TABLE MUST BE LOWERED A MINIMUM OF ONE (1) METER BELOW THE LOWEST EXCAVATION LEVEL. IT IS RECOMMENDED THAT, PRIOR TO EXCAVATIONS FOR SITE SERVICING, TEST PITS BE CARRIED OUT IN AREAS WHERE GROUNDWATER ISSUES ARE EXPECTED TO FURTHER EXPLORE THE GROUNDWATER AND SEEPAGE CONDITIONS. A SPECIALIZED DEWATERING CONTRACTOR SHOULD BE RETAINED TO DESIGN AND INSTALL THE DEWATERING
- 20. THE SOILS ABOVE THE GROUNDWATER LEVEL, OR PROPERLY DEWATERED IF ENCOUNTERED BELOW THE GROUNDWATER LEVEL, WILL PROVIDE ADEQUATE SUPPORT FOR THE SEWER PIPES AND ALLOW THE USE OF NORMAL CLASS B TYPE BEDDING. THE RECOMMENDED MINIMUM THICKNESS OF GRANULAR BEDDING BELOW THE INVERT OF THE PIPES IS 150 MM. THE THICKNESS OF THE BEDDING MAY, HOWEVER, HAVE TO BE INCREASED DEPENDING ON THE PIPE DIAMETER OR IN ACCORDANCE WITH LOCAL STANDARDS OR IF WET OR WEAK SUBGRADE CONDITIONS ARE ENCOUNTERED, ESPECIALLY WHEN THE SOIL AT THE TRENCH BASE LEVEL CONSISTS OF WET, DILATANT SILT THE BEDDING MATERIAL SHOULD CONSIST OF WELL GRADED GRANULAR MATERIAL SUCH AS GRANULAR 'A' OR EQUIVALENT. AFTER INSTALLING THE PIPE ON THE BEDDING, A GRANULAR SURROUND OF APPROVED BEDDING MATERIAL, WHICH EXTENDS AT LEAST 300 MM ABOVE THE OBVERT OF THE PIPE, OR AS SET OUT BY THE LOCAL AUTHORITY OR MUNICIPALITY, SHOULD BE PLACED. IT IS RECOMMENDED THAT WSP BE ON SITE DURING EXCAVATIONS TO ASSESS THE SUITABILITY OF THE SUBGRADE MATERIALS TO
- 21. IF LOCALIZED WET TRENCH CONDITIONS ARE ENCOUNTERED, A UNIFORMLY GRADED CLEAR STONE MAY BE USED PROVIDED A SUITABLE, APPROVED FILTER FABRIC (GEOTEXTILE) IS PLACED IN CONJUNCTION WITH THE CLEAR STONE. THE GEOTEXTILE MUST EXTEND UNDERNEATH THE CLEAR STONE, ALONG THE SIDES OF THE TRENCH, AND WRAPPED ON TOP OF THE CLEAR STONE SUCH THAT THE CLEAR STONE IS FULLY WRAPPED BY THE GEOTEXTILE. A MINIMUM GEOTEXTILE OVERLAP OF 1 M IS
- REQUIRED; ALTERNATIVELY STITCHING OF THE GEOTEXTILE COULD BE CONSIDERED. 22. LOCALIZED, WET AND UNSTABLE SOILS ENCOUNTERED WITHIN GENERALLY STABLE SOIL ZONES CAN BE GENERALLY STABILIZED BY 'PUNCHING' A 50 MM WELL GRADED CRUSHER RUN LIMESTONE PAD INTO THE SOFT SUBGRADE PRIOR TO BEDDING PLACEMENT. THE THICKNESS OF THE 'PAD' WILL DEPEND ON FIELD CONDITIONS AND SHOULD BE EXAMINED BY WSP PERSONNEL DURING THE CONSTRUCTION OPERATIONS. ALTERNATIVELY, IF LONGER STRETCHES OF UNSTABLE SOILS ARE ENCOUNTERED, CLASS 'A' BEDDING COULD BE CONSIDERED. THE RIGID CONCRETE BEDDING (LEAN MIX CONCRETE) SHOULD BE LAID FROM MANHOLE TO MANHOLE TO MITIGATE THE POTENTIAL FOR DIFFERENTIAL SETTLEMENT.
- 23. WHERE THE SEWER PIPE IS PLACED IN WATER BEARING SOILS BELOW THE WATER TABLE, THE JOINTS CONNECTING THE SEWER SECTIONS SHOULD BE VERY WELL SEALED
- TO PREVENT PIPING OF FINES INTO THE SEWER PIPE AND MANHOLE CATCH BASIN RISERS. 24. THE EXCAVATED SOILS CAN BE USED AS CONSTRUCTION BACKFILL PROVIDED THEIR MOISTURE CONTENT AT THE TIME OF PLACEMENT IS WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT AND THAT THE SOILS DO NOT CONTAIN ORGANIC CONTENT OR OTHER DELETERIOUS MATERIALS. BOULDERS OR COBBLES GREATER THAN 200 MM IN SIZE SHOULD BE REMOVED FROM THE TRENCH BACKFILL. WSP SHOULD BE ON SITE DURING ALL TRENCH BACKFILLING OPERATIONS TO CONFIRM THE SUITABILITY OF THE MATERIAL BEING USED.
- 25. FOR THE GRANULAR SOILS, SMOOTH DRUM TYPE VIBRATORY ROLLERS ARE RECOMMENDED. COHESIVE SOILS, IF ENCOUNTERED, SHOULD BE COMPACTED WITH SHEEPSFOOT TYPE VIBRATORY COMPACTORS. THE TRENCH BACKFILL SHOULD BE PLACED IN MAXIMUM 0.3 M LIFT THICKNESS AND COMPACTED TO AT LEAST 98 PERCENT OF ITS SPMDD. TRENCH BACKFILLING OPERATIONS SHOULD BE AVOIDED DURING FREEZING WEATHER. 26. IT IS PREFERABLE THAT THE NATIVE SOILS BE RE-USED FROM APPROXIMATELY THE POSITION AT WHICH THEY ARE EXCAVATED SO THAT FROST RESPONSE
- CHARACTERISTICS OF THE SOILS AFTER CONSTRUCTION REMAIN ESSENTIALLY SIMILAR. IF REQUIRED, CONSIDERATION MAY ALSO BE GIVEN TO BACKFILLING TRENCHES WITH A WELL GRADED, COMPACTED GRANULAR SOIL SUCH AS GRANULAR 'B' MATERIAL. 27. IT SHOULD BE NOTED THAT THE EXCAVATED SOILS ARE SUBJECT TO MOISTURE CONTENT INCREASE DURING WET WEATHER WHICH WOULD MAKE THESE MATERIALS TOO WET FOR THE COMPACTION REQUIREMENTS NOTED ABOVE. STOCKPILES SHOULD THEREFORE BE COVERED WITH TARPAULINS TO HELP MINIMIZE MOISTURE INCREASES.
- 28. PRIOR TO THE PLACEMENT OF GRANULAR MATERIALS AS PART OF THE PAVEMENT STRUCTURE, THE SUBGRADE SHOULD BE PREPARED AND HEAVILY PROOF-ROLLED UNDER THE SUPERVISION OF WSP. ANY POORLY PERFORMING AREAS SHOULD BE SUB-EXCAVATED AND REPLACED WITH EITHER GRANULAR EARTH FILL APPROVED BY WSP OR IMPORTED GRANULAR B, TYPE I MATERIAL CONFORMING TO THE REQUIREMENTS OF OPSS.
- 29. BASED ON THE ABOVE AND ASSUMING THAT TRAFFIC USAGE WILL BE INDUSTRIAL, THE FOLLOWING MINIMUM PAVEMENT THICKNESS IS RECOMMENDED: 40mm HL3 ASPHALTIC CONCRETE SURFACE COURSE 92-96.5 MRD

50mm HL8 ASPHALTIC CONCRETE 92-96.5 MRD

150mm OPSS GRANULAR 'A' BASE 100% SPMDD 300mm OPSS GRANULAR 'B' BASE 100% SPMDD

BLACKMOOR GATES 75 WESTMORE DRIVE ETOBICOKE, ON

BLACKMOOR GATES STANDARD DETAILS



355310 BLUE MOUNTAINS - EUPHRASIA TOWNLINE

K. GRIFFIN C. CAPES 19/12/09 2019-020 AS NOTED

ACCEPTED FOR

CONSTRUCTION

TOWN OF COLLINGWOOD

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