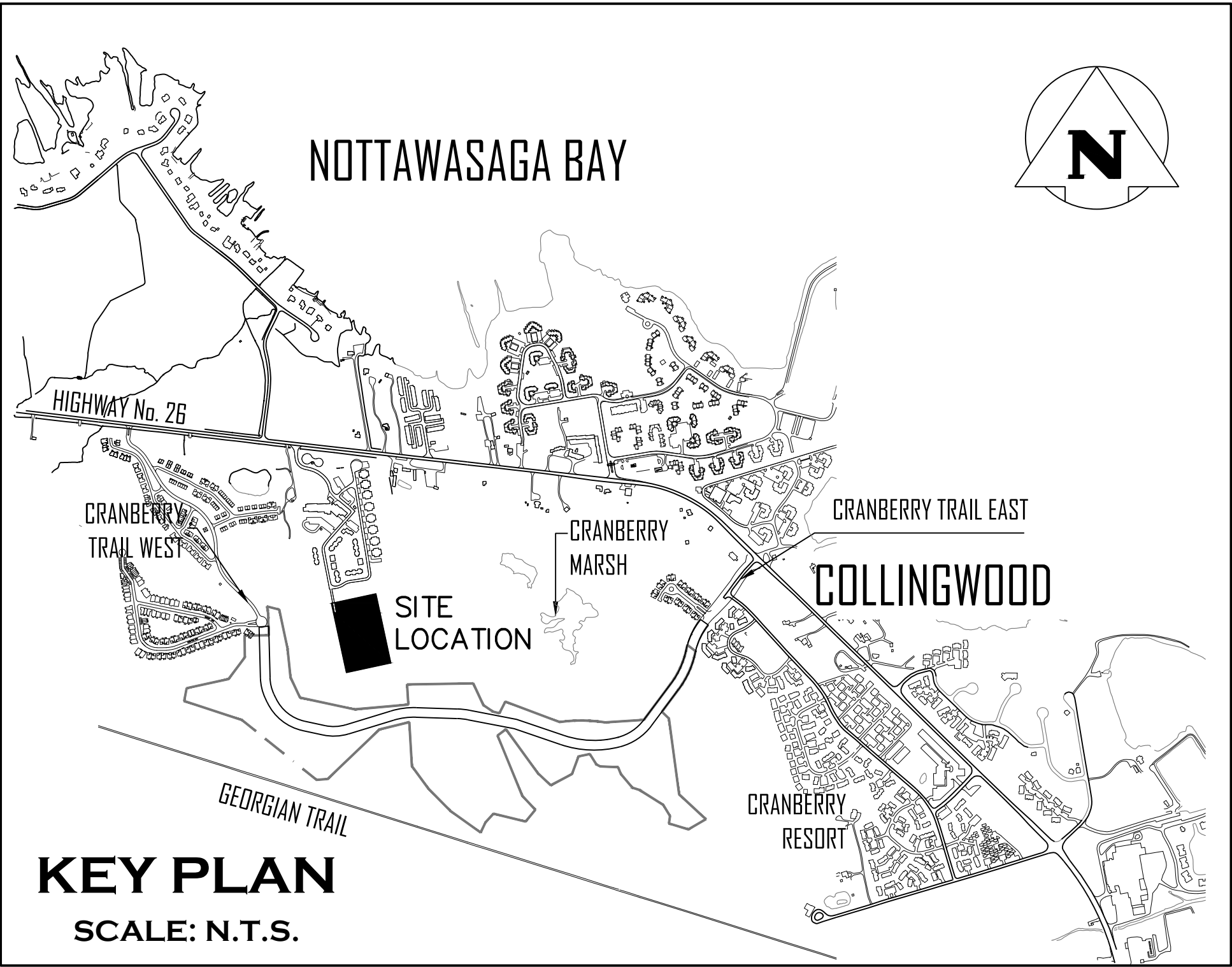


WYLDEWOOD
CREEK
TOWN OF
COLLINGWOOD
COUNTY OF SIMCOE



MUNICIPALITY

TOWN OF COLLINGWOOD
97 HURONTARIO STREET, P.O. BOX 157
COLLINGWOOD, ONTARIO, L9Y 3Z5

DEVELOPER

BRANDY LANE CORPORATION
4580 DUFFERIN STREET, SUITE 307
TORONTO, ONTARIO, M3H 5Y2

DEVELOPER'S ENGINEER AND LANDSCAPE ARCHITECT



70 HURON STREET, SUITE 100
COLLINGWOOD, ON, L9Y 4L4
705-446-3510
WWW.CFCROZIER.CA

ARCHITECT

CMV GROUP ARCHITECTS
247 SPADINA AVENUE, 4TH FLOOR
TORONTO, ONTARIO, M5T 3A8

DRAWING

	TITLE
C100	COVER SHEET
C101	GENERAL SITE SERVICING PLAN
C102.A	OVERALL SITE GRADING PLAN (NORTH)
C102.B	OVERALL SITE GRADING PLAN (SOUTH)
C103.A	PLAN & PROFILE STREET 'A' (STA. 0+000 – 0+288.22)
C103.B	PLAN & PROFILE SERVICING EASEMENT
C104	CHANNEL PLAN & PROFILE AND GRADING DETAILS
C105	CULVERT CROSSING NOTES AND DETAILS
C106	SANITARY DRAINAGE PLAN
C107	STORM DRAINAGE PLAN
C108	WATER DISTRIBUTION PLAN
C109	EROSION AND SEDIMENT CONTROL PLAN
C110	COMPOSITE UTILITY PLAN
C111	CONSTRUCTION ACCESS ROAD PLAN
C112	VEHICLE MOVEMENT PLAN
C113.A	CONSTRUCTION NOTES & STANDARD DETAILS
C113.B	STANDARD DETAILS
E100	SITE PLAN – PHOTOMETRIC
E101	SITE LIGHTING DETAILS
LP1–6	LANDSCAPE PLANS
LD1–2	LANDSCAPE DETAILS
GEO–1	CHANNEL RESTORATION DESIGN PLANFORM AND PROFILE
DET–1	CHANNEL RESTORATION DESIGN RESTORATION DETAILS
DET–2	CHANNEL RESTORATION DESIGN RESTORATION DETAILS
PESC	CHANNEL RESTORATION DESIGN RESTORATION DETAILS

MASTER LEGEND

EXISTING FEATURES (EX.)

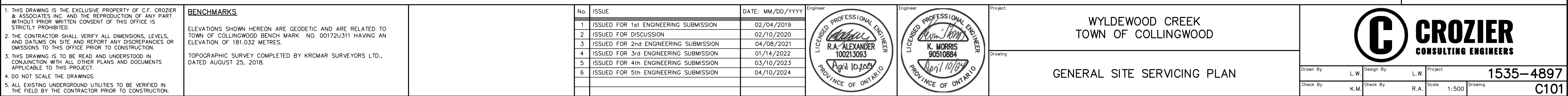
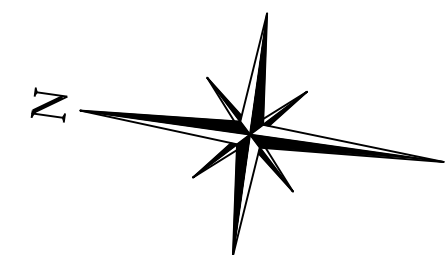
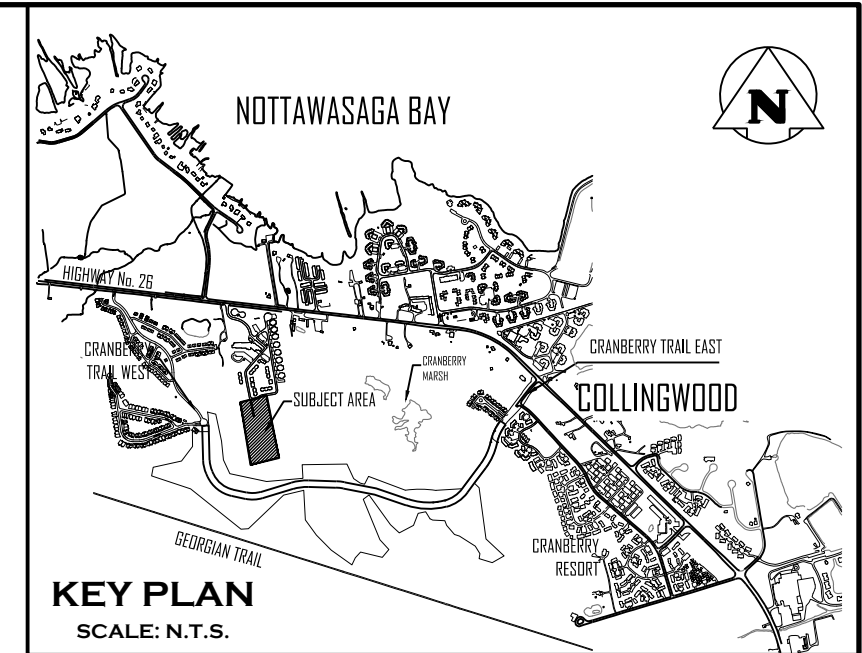
XXX.X	EX. CONTOUR
+XXX.XX	EX. GRADE
~~~~~	EX. TREELINE
=====	EX. WATERCOURSE
--->--->---	EX. DITCH
---XBM---XBM---	EX. WATERMAIN
---(V)---	EX. WATER SERVICE
---(FH)---	EX. FIRE HYDRANT & VALVE
---XSM---XSM---	EX. SANITARY SEWER & MANHOLE
---XFM---XFM---	EX. SANITARY FORCEMAIN
---(S)---	EX. SANITARY SERVICE
---(O)---	EX. STORM SEWER & MANHOLE
□	EX. STORM CATCHBASIN
□	EX. STORM DOUBLE CATCHBASIN
⊙	EX. STORM CATCHBASIN MANHOLE
⊕	EX. STORM DOUBLE CATCHBASIN MANHOLE
---XGAS---XGAS---	EX. GAS MAIN
---XB---XB---	EX. BELL LINE
□	EX. BELL PEDESTAL
□	EX. CABLE TELEVISION PEDESTAL
○HP	EX. HYDRO POLE
⊙	EX. LIGHT STANDARD
---	EX. SIGN
▨	EX. BUILDING
⊕BM#	EX. BENCHMARK NUMBER & LOCATION
⊕BH#	EX. BOREHOLE NUMBER & LOCATION

PROPOSED FEATURES (PR.)

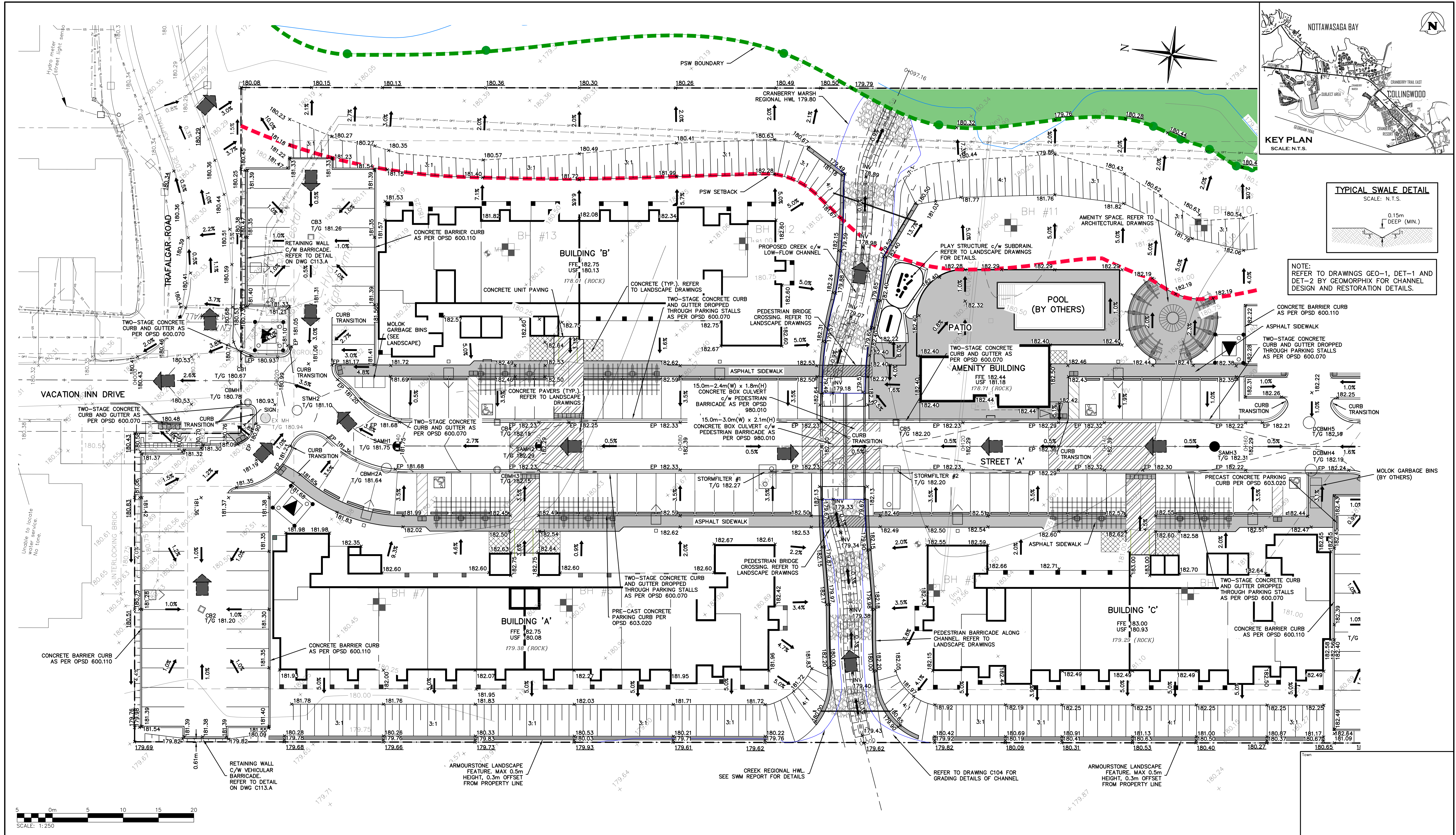
---	PR. PROPERTY LIMITS
+XXX.XX	PR. ELEVATION
+EP XXX.XX	PR. EDGE OF PAVEMENT
+XXX.XX	PR. ELEVATION (MATCH EX. ELEVATION)
XXX.XX	PR. SWALE & SLOPE
--->---	PR. DITCH DRAINAGE
---W---W---	PR. WATERMAIN & VALVE
---(V)---	PR. WATER SERVICE
---(FH)---	PR. FIRE HYDRANT & VALVE
---(VC)---	PR. WATER VALVE CHAMBER
---(QTS)---	PR. WATER QUALITY TESTING STATION
---FM---FM---	PR. SANITARY SEWER & MANHOLE
---	PR. SANITARY FORCEMAIN
---	PR. SANITARY CATCHMENT
11	CATCHMENT AREA ID
0.14	AREA (ha)
	POPULATION (1.9 p.p.u.)
---	PR. STORM SEWER & MANHOLE
□	PR. CATCHBASIN
□	PR. DOUBLE CATCHBASIN
⊙	PR. CATCHBASIN MANHOLE
⊕	PR. DOUBLE CATCHBASIN MANHOLE
---	PR. STORM CATCHMENT
102	CATCHMENT AREA ID
0.23 0.75	RUNOFF COEFFICIENT
	DRAINAGE AREA (ha)
---	PR. CURB CUT
---	PR. CANADA POST COMMUNITY MAIL BOX
---	PR. TRANSFORMER AND GROUNDING GRID
---	PR. STREET LIGHT
---	PR. STOP SIGN
---	PR. NAME SIGN
---	PR. NO PARKING SIGN
---	PR. FENCE
---	PR. BUILDING ENVELOPE
---	PR. LIGHT DUTY SILT FENCE
---	PR. HEAVY DUTY SILT FENCE
---	PR. STRAW BALE CHECK FLOW
---	PR. ROCK CHECK DAM
---	PR. SLOPE (3:1 MAX.)
---	PR. TREE PRESERVATION AREA
---	PR. TOPSOIL STOCKPILE LOCATION

PROJECT No.: 1535-4897  
5TH SUBMISSION



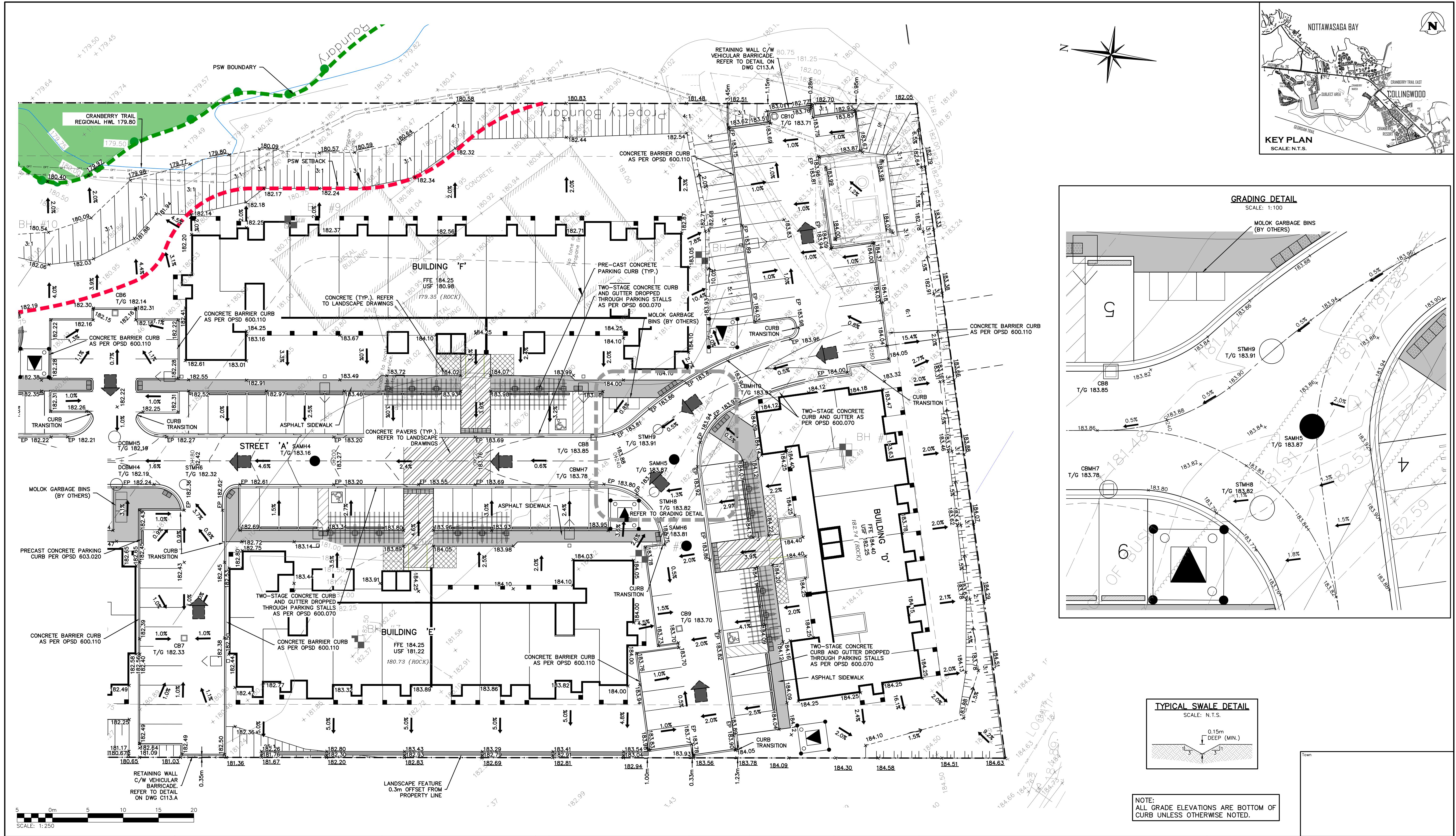






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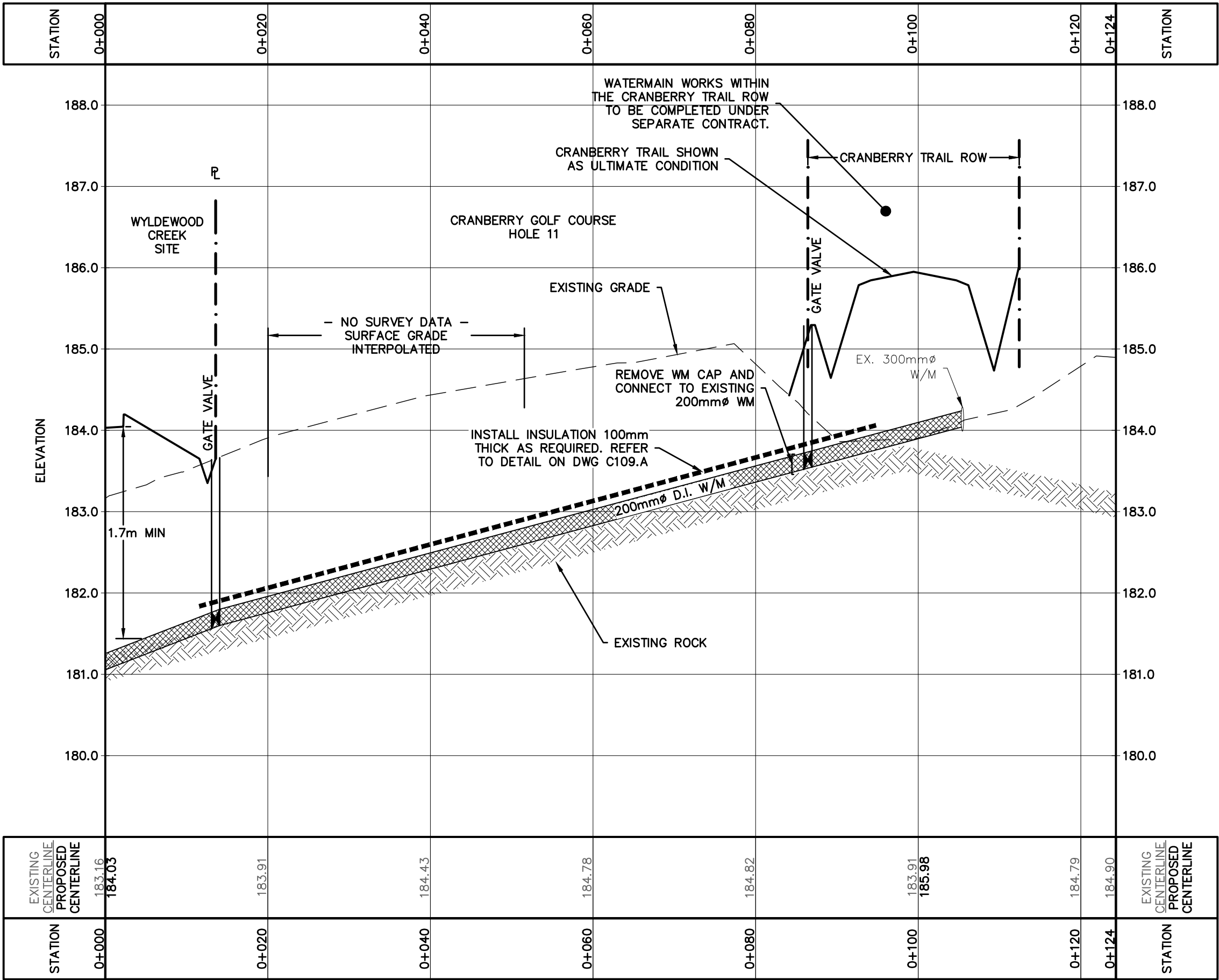
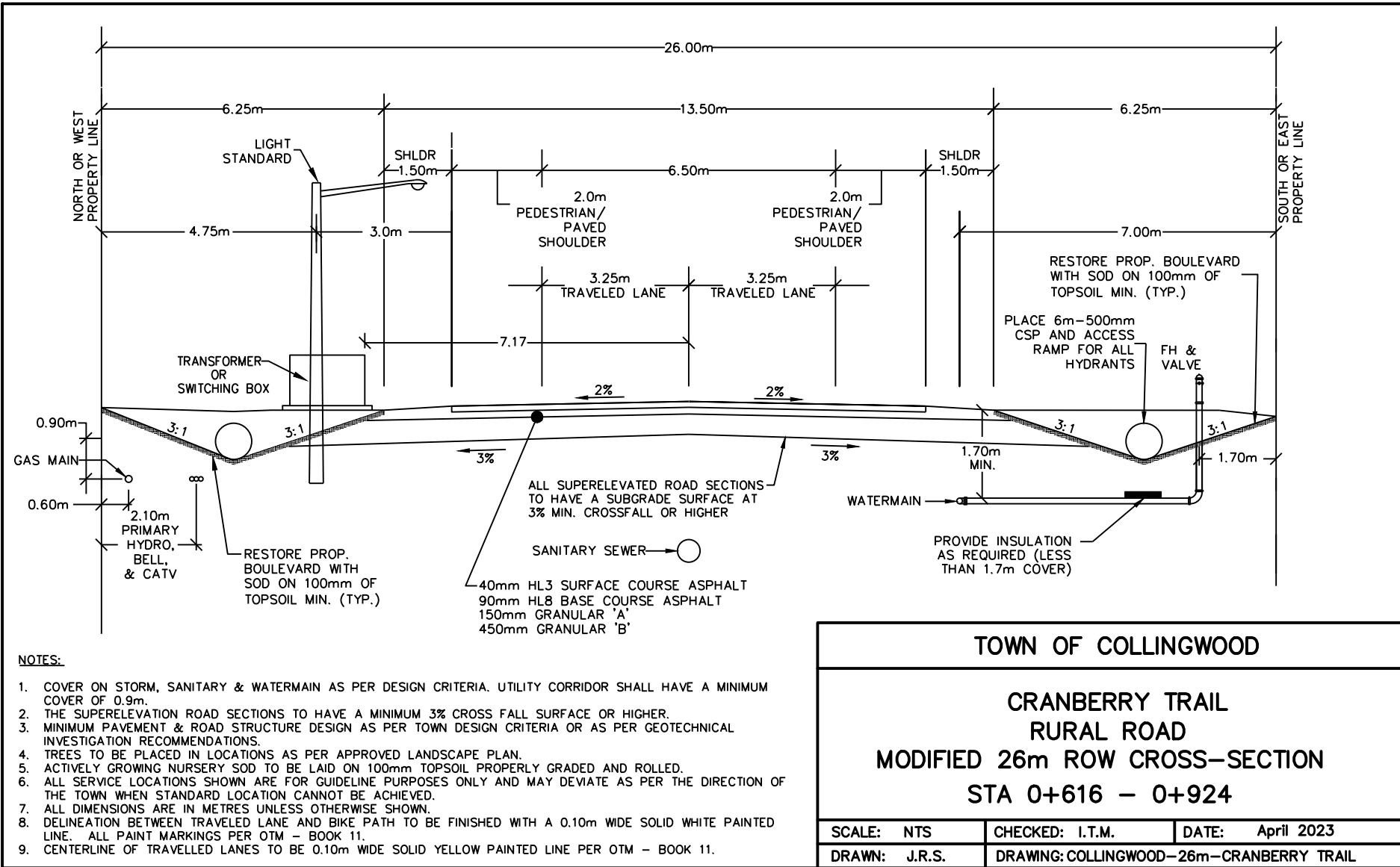
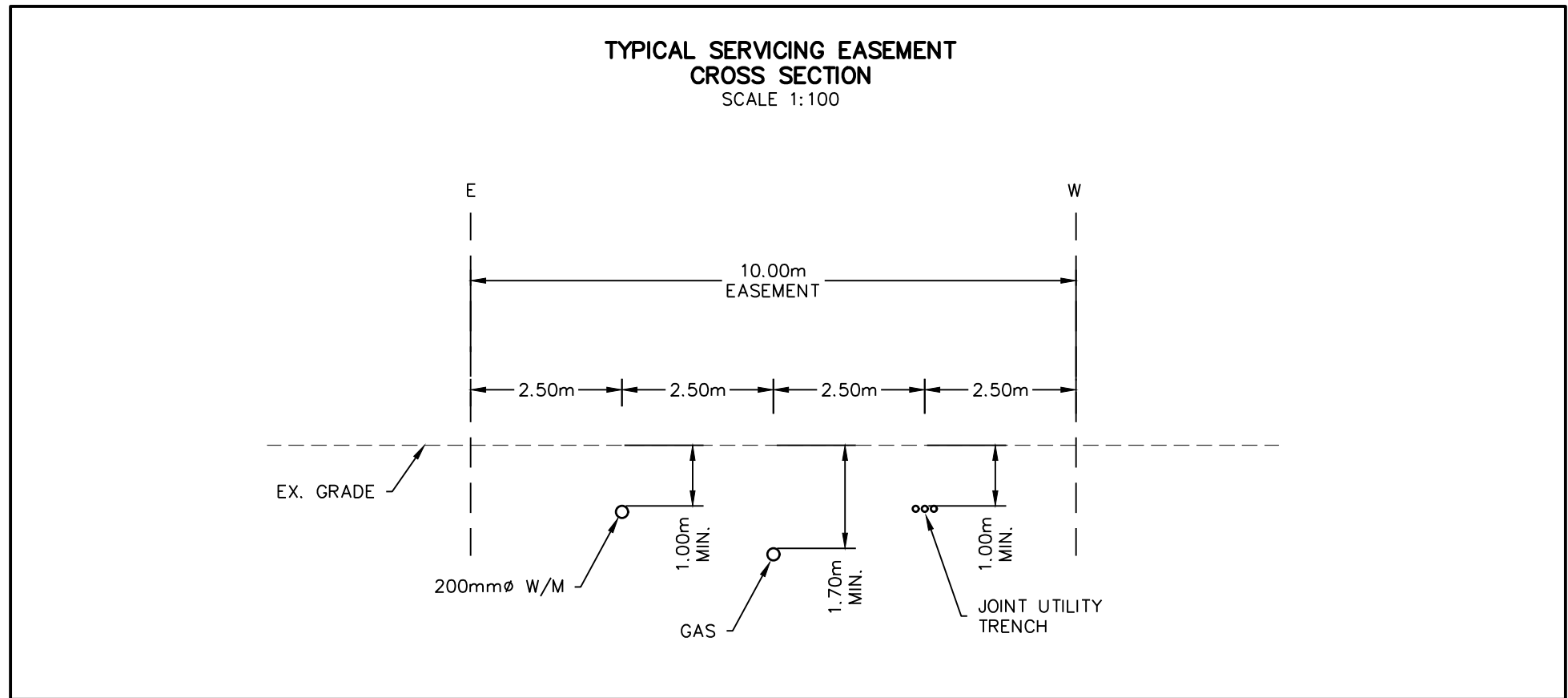
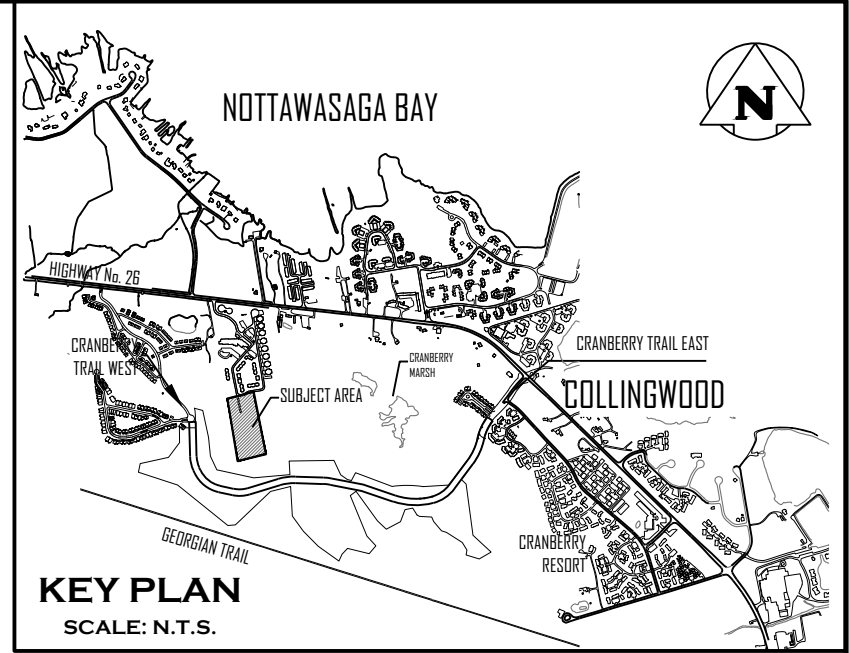
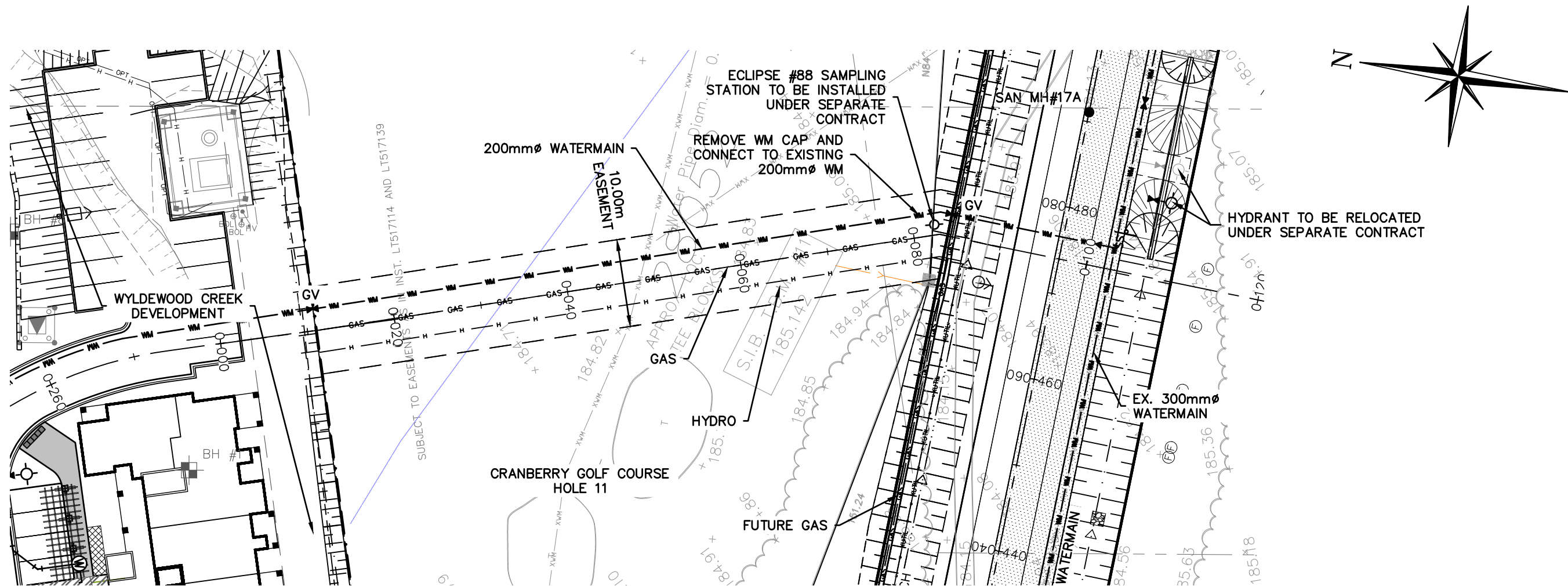


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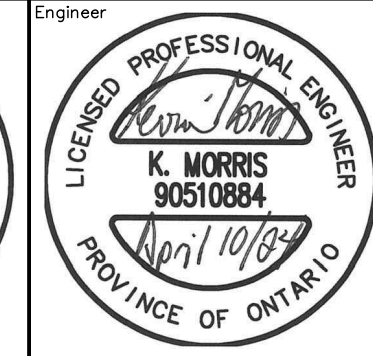
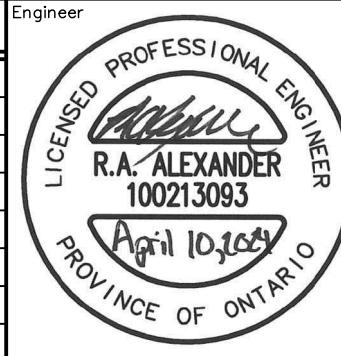
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#### BENCHMARKS

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO TOWN OF COLLINGWOOD BENCH MARK NO. 00172U311 HAVING AN ELEVATION OF 181.032 METRES.

TOPOGRAPHIC SURVEY COMPLETED BY KRCMAR SURVEYORS LTD., DATED AUGUST 25, 2018.

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Project: WYLDEWOOD CREEK TOWN OF COLLINGWOOD  
Drawing: PLAN & PROFILE SERVICING EASEMENT

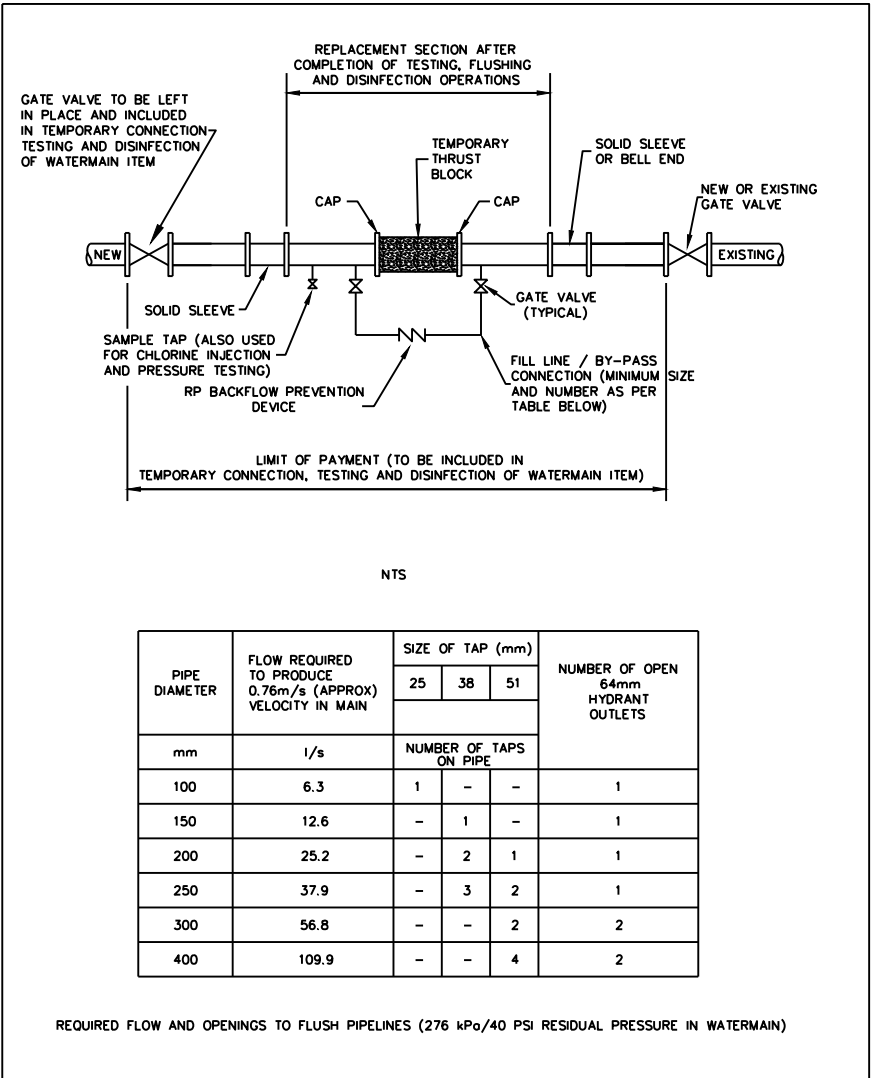
**CROZIER CONSULTING ENGINEERS**

Drawn By: L.W. Design By: L.W. Project: 1535-4897  
Check By: K.M. Check By: R.A. Scale: H 1:500 V 1:50 Drawing: C103.B









NOTE:  
GRADING AND RIP-RAP EROSION PROTECTION AT CHANNEL OUTLET TO BE FIELD FIT TO ENSURE POSITIVE DRAINAGE TO CRANBERRY MARSH

NOTE:  
REFER TO DRAWINGS GEO-1, DET-1 AND DET-2 BY GEOMORPHIX FOR CHANNEL DESIGN AND RESTORATION DETAILS.

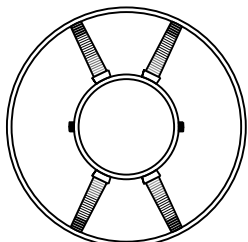
NOTE:  
CONTRACTOR TO OBTAIN AND PROVIDE SEALED SHOP DRAWINGS WITH ENGINEER'S STAMP FOR CONCRETE CULVERTS, RETAINING WALLS AND PARAPET HEADWALLS.

CASING SPACERS

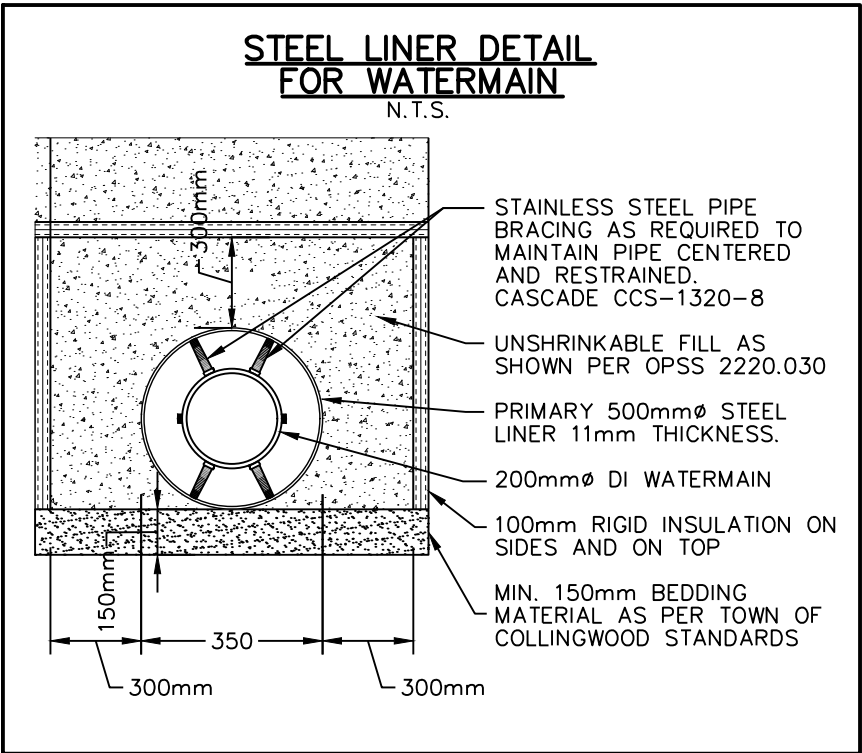
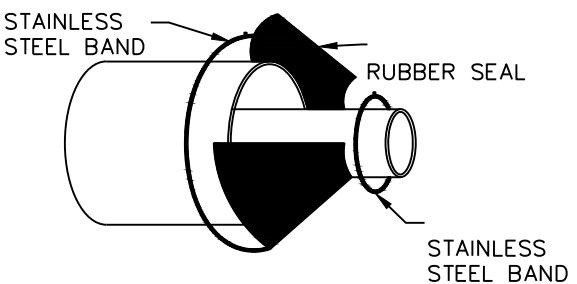
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NOTES:

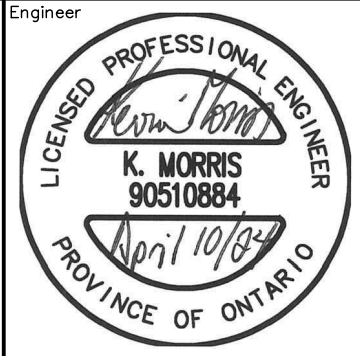
- CONTRACTOR TO SUBMIT SHOP DRAWINGS OF MATERIAL AND INSTALLATION METHODOLOGY FOR REVIEW AND APPROVAL.
- ALL CASING SPACERS ARE TO BE MADE OF T-304 STAINLESS STEEL.
- BEARING SURFACES (RUNNERS) SHALL BE ULTRA HIGH MOLECULAR WEIGHT POLYMER OR EQUIVALENT.
- POSITIONING OF SPACERS ALONG THE WATERMAIN IS TO BE AS PER MANUFACTURER'S SPECIFICATIONS.
- POSITION OF WATERMAIN WITHIN LINER TO BE CENTERED AND RESTRAINED, SUFFICIENT ENOUGH TO PROVIDE NO LESS THAN 19mm (¾") CLEARANCE BETWEEN THE CASING PIPE AND THE OUTSIDE DIAMETER OF THE BELL.



- WATERMAIN SHALL BE RESTRAINED Laterally FOR THE ENTIRE LENGTH OF THE LINER PLUS ONE FULL PIPE LENGTH BEYOND END OF CASING.
- LINER TO BE SEALED USING WRAP AROUND RUBBER ENDS COMPLETE WITH STAINLESS STEEL (T-304) BANDING.



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Project  
**WYLDEWOOD CREEK  
TOWN OF COLLINGWOOD**

Drawing  
**CULVERT CROSSING NOTES  
AND DETAILS**

**CROZIER  
CONSULTING ENGINEERS**

Drawn By	L.W.	Design By	L.W.	Project	<b>1535-4897</b>
Check By	K.M.	Check By	R.A.	Scale	AS NOTED
				Drawing	<b>C105</b>

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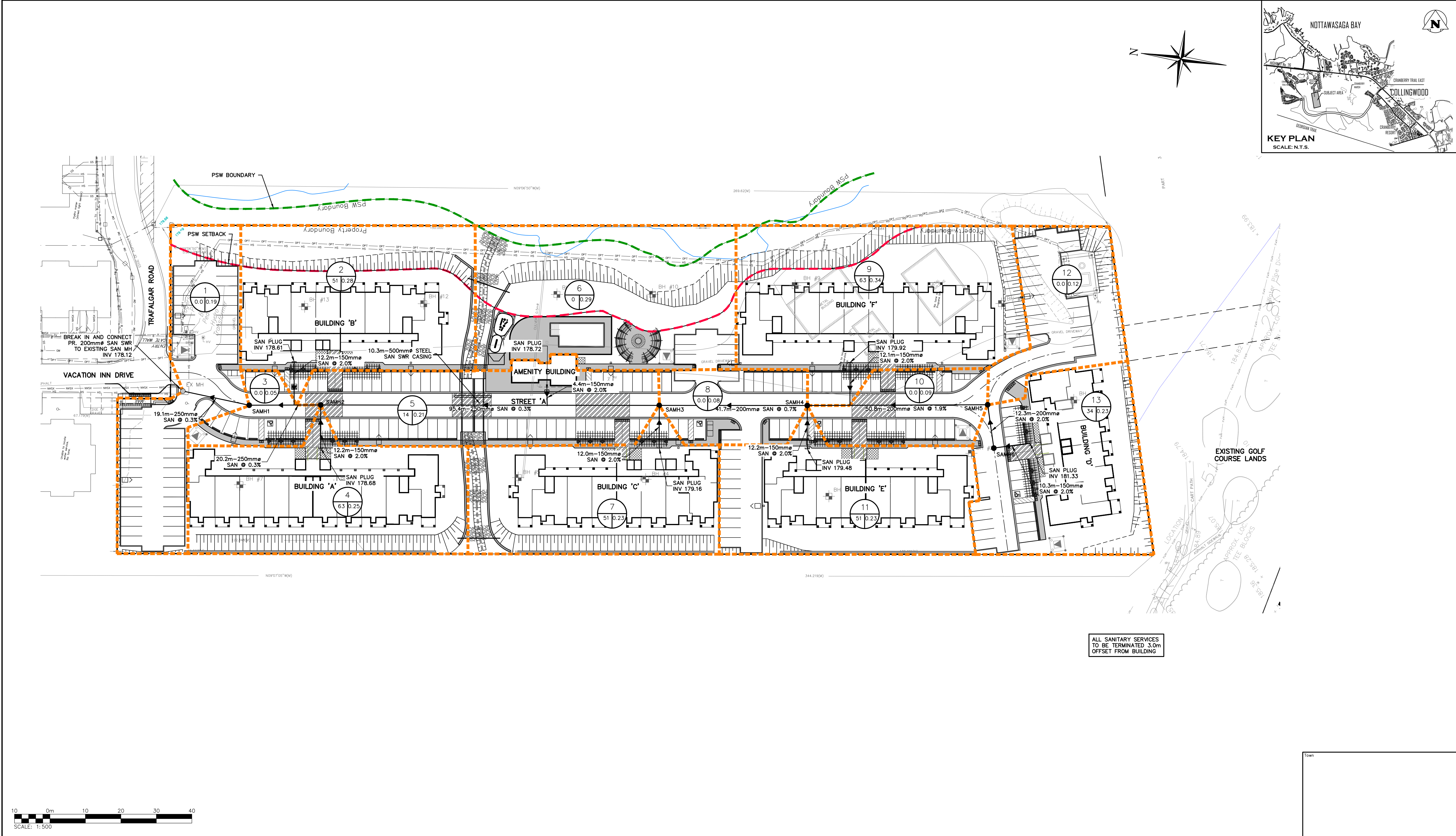
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**BENCHMARKS**

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TOPOGRAPHIC SURVEY COMPLETED BY KRCMAR SURVEYORS LTD., DATED AUGUST 25, 2018.





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Engineer

**R.A. ALEXANDER**  
100213083  
April 10/2024  
PROVINCE OF ONTARIO

Engineer

**K. MORRIS**  
90510884  
April 10/2024  
PROVINCE OF ONTARIO

Project

WYLDEWOOD CREEK  
TOWN OF COLLINGWOOD

Sanitary Drainage Plan

Drawn By

L.W.

Design By

L.W.

Project

1535-4897

Check By

K.M.

Scale

1:500

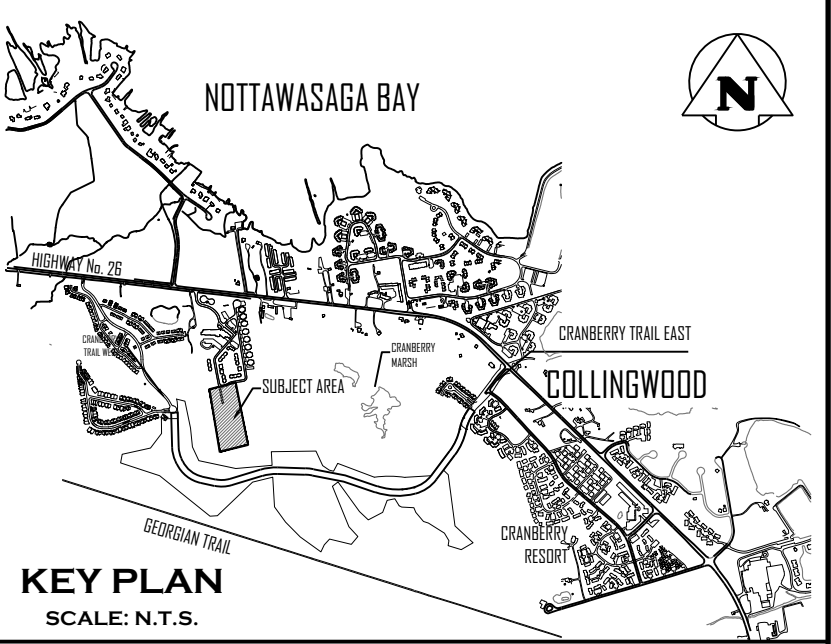
Drawing

C106

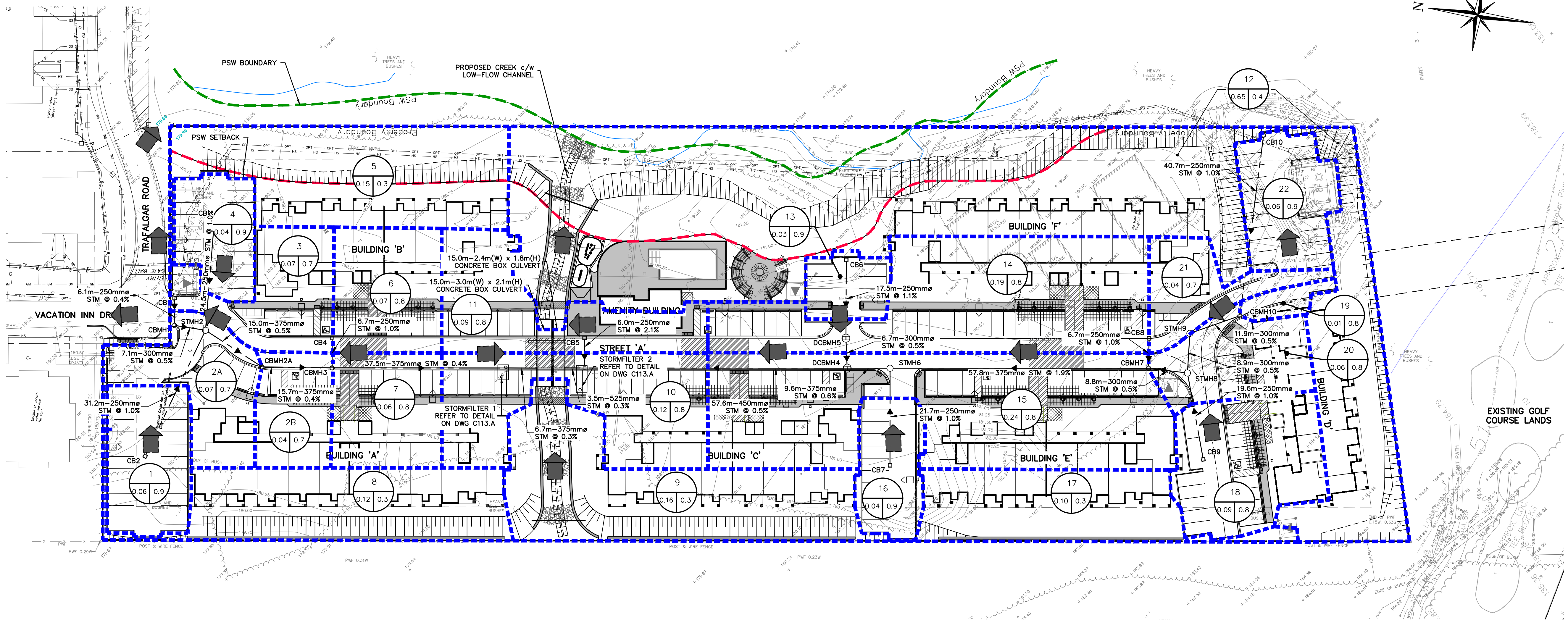
**CROZIER**  
CONSULTING ENGINEERS

J:\1500\1535-Brandy Lane Corp\4897-Georgian Bay Hotel South Block\CAD\Civil_Sheets\4897_C106 SAN.dwg, C106, 2024-04-16 11:48:47 AM, nlefebvre





NOTE: ROOFS TO DISCHARGE TO LANDSCAPED AREAS



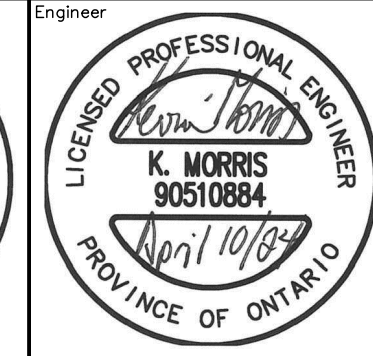
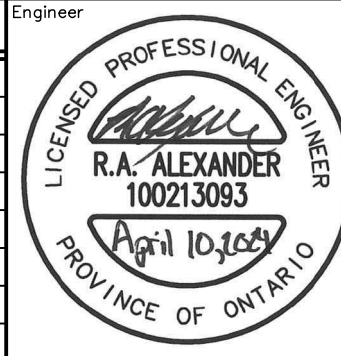
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#### BENCHMARKS

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO TOWN OF COLLINGWOOD BENCH MARK NO. 00172U311 HAVING AN ELEVATION OF 181.032 METRES.

TOPOGRAPHIC SURVEY COMPLETED BY KRCMAR SURVEYORS LTD., DATED AUGUST 25, 2018.

No.	ISSUE	DATE: MM/DD/YYYY
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6	ISSUED FOR 5th ENGINEERING SUBMISSION	04/10/2024



Project

WYLDEWOOD CREEK  
TOWN OF COLLINGWOOD

Drawing

STORM DRAINAGE PLAN



Drawn By	L.W.	Design By	L.W.	Project	1535-4897
Check By	K.M.	Check By	R.A.	Scale	1:500
				Drawing	C107



STAINLESS STEEL PIPE BRACING AS REQUIRED TO MAINTAIN PIPE CENTERED AND RESTRAINED

UNSHRINKABLE FILL AS SPECIFIED PER OPSS 220N.030

PRIMARY 500mmØ STEEL LINER 11mm THICKNESS

200mmØ DI WATERMAIN

100mm RIGID INSULATION ON SIDES AND ON TOP

MIN. 150mm BEDDING MATERIAL AS PER TOWN OF COLLINGWOOD STANDARDS

30mm

150mm

500mm

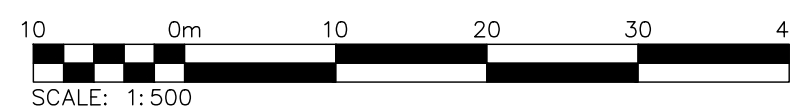
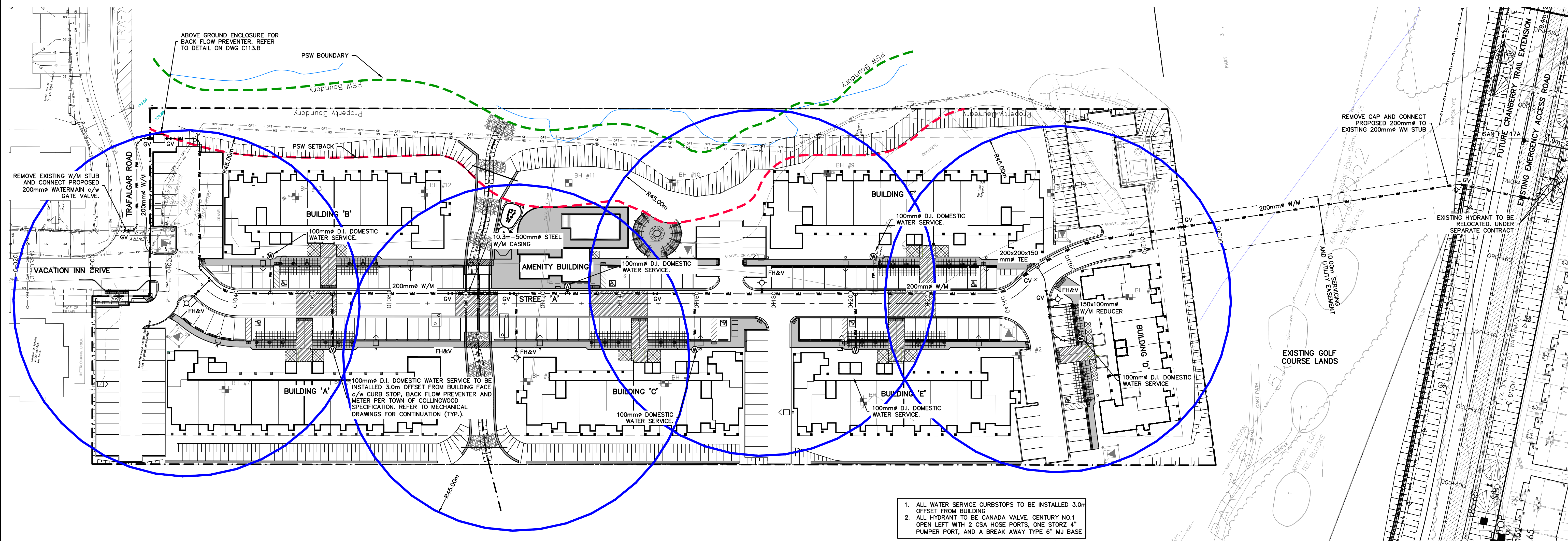
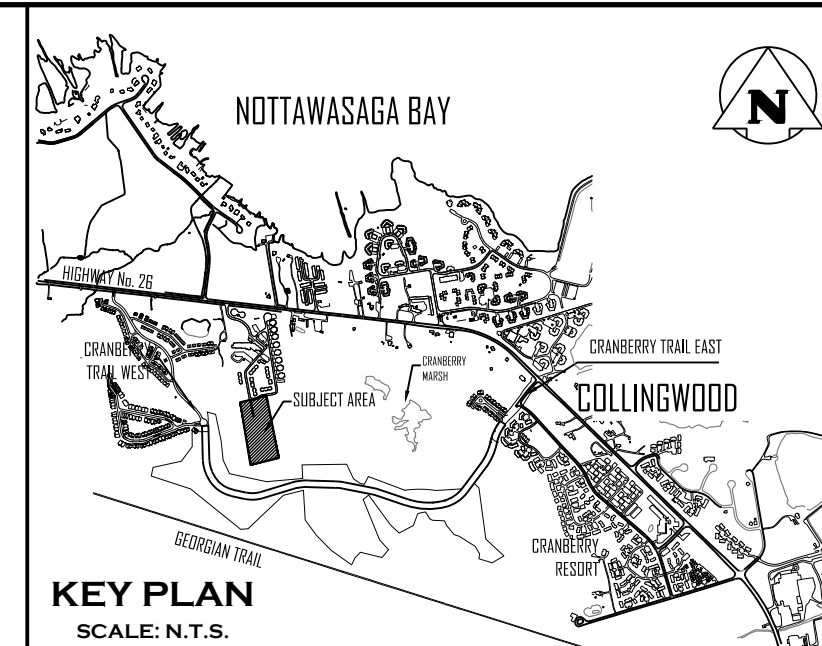
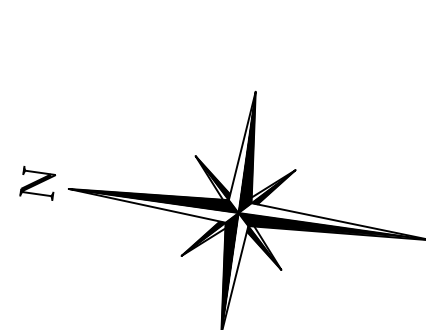
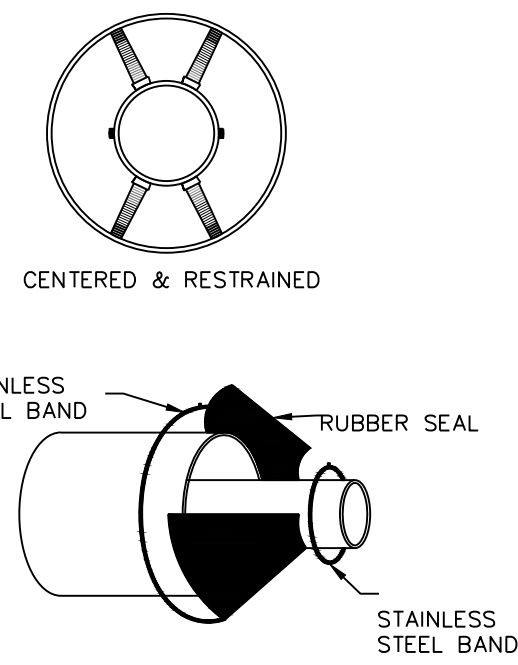
300mm

300mm

- CASCADE: CCS - 1320-8 (OR APPROVED EQUAL)

NOTES:

1. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF MATERIAL AND INSTALLATION METHODOLOGY FOR REVIEW AND APPROVAL.
2. ALL CASING SPACERS ARE TO BE MADE TO T-304 STAINLESS STEEL.
3. BEARING SURFACES (RUNNERS) SHALL BE ULTRA HIGH MOLECULAR WEIGHT POLYMER OR EQUIVALENT.
4. POSITIONING OF SPACERS ALONG THE WATERMAIN IS TO BE AS PER MANUFACTURER'S SPECIFICATIONS.
5. POSITION OF WATERMAIN WITHIN LINE TO BE CENTERED AND RESTRAINED, SUFFICIENTLY TIGHT TO PROVIDE NO LESS THAN 19mm CLEARANCE BETWEEN THE CASINO PIPE AND THE OUTSIDE DIAMETER OF THE BELL.
6. WATERMAIN SHALL BE RESTRAINED LATERALLY FOR THE ENTIRE LENGTH OF THE LINE PLUS ONE FULL PIPE LENGTH BEYOND END OF CASING.
7. LINE TO BE SEALED USING WRAP AROUND RUBBER ENDS COMPLETE WITH STAINLESS STEEL (T-304) BANDING.

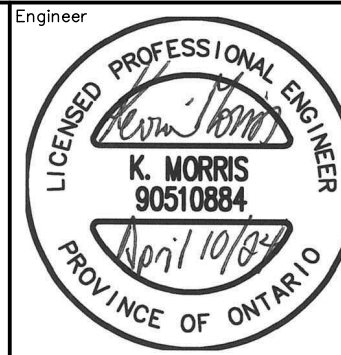
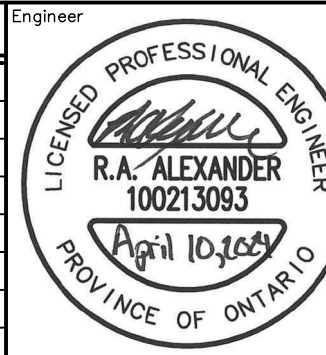


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Drawing

## WATER DISTRIBUTION PLAN



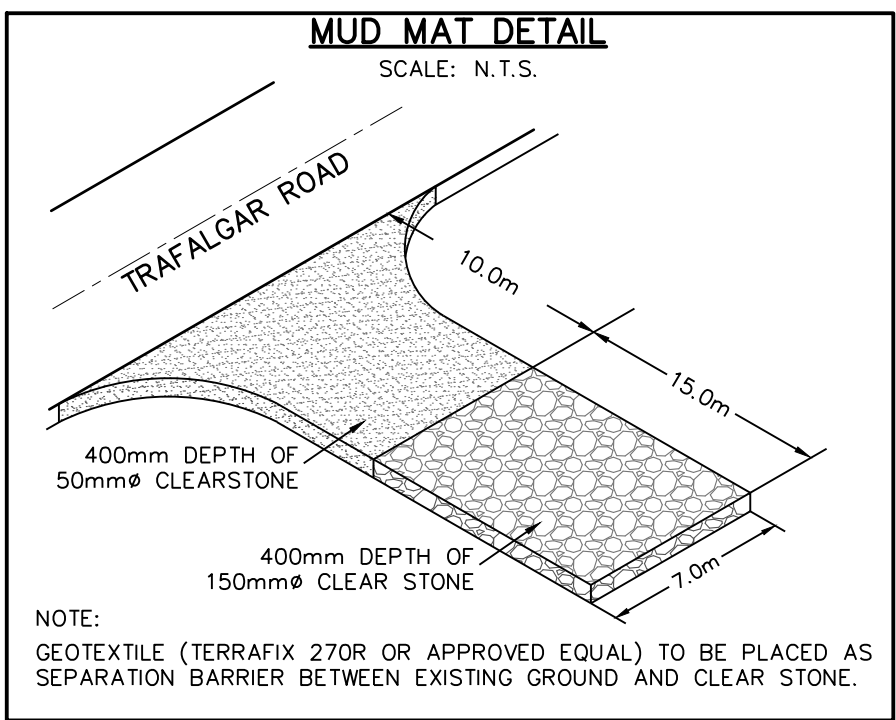
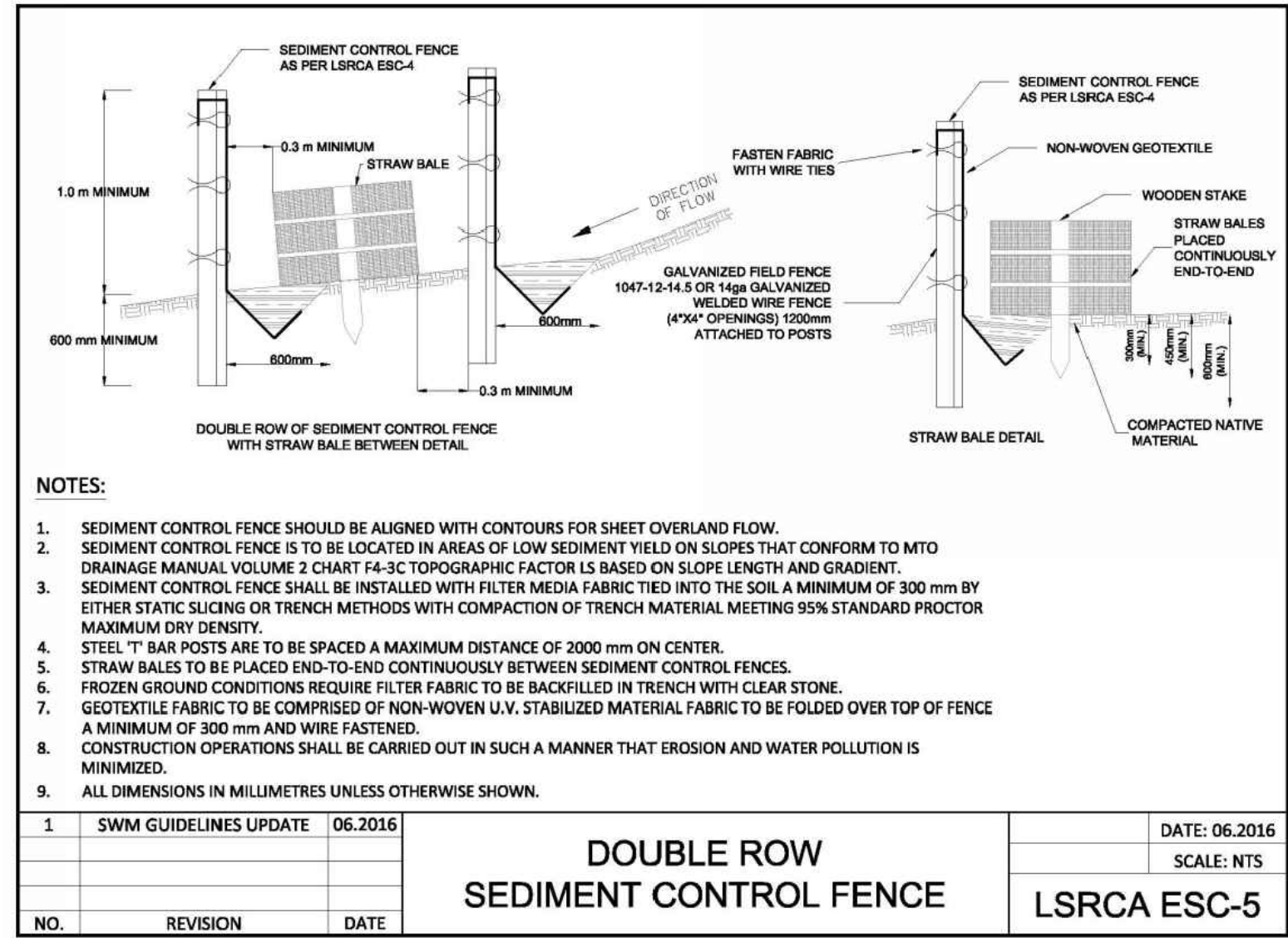
Drawn By	L.W.	Design By	L.W.	Project	1535-4897	
Check By	K.M.	Check By	R.A.	Scale	1: 500	Drawing



1. ALL CONSTRUCTION EQUIPMENT TO USE MAIN CONSTRUCTION ACCESS POINT LOCATED AT THE SOUTH END OF VACATION INN DRIVE VIA THE CONSTRUCTION ACCESS ROAD TO BE OPENED UP TO DRAWING C111 CONSTRUCTION ACCESS ROAD PLAN FOR DETAILS.
2. NO MAINTENANCE OR REPAIR WORK ON CONSTRUCTION EQUIPMENT IS ALLOWED WITHIN THE EROSION CONTROL FACILITIES OR WORK AREAS.
3. ALL MAINTENANCE AND EROSION CONTROL FACILITIES AND WORK AREAS TO BE CONSTRUCTED AND IN PLACE TO THE APPROVAL OF THE SITE ENGINEER PRIOR TO ANY GRADING OPERATIONS COMMENCING. TYPICAL WORKS INCLUDE SILT FENCE, SLOPE PROTECTION, CONSTRUCTION DRAINAGE AND CHECK DAMS.
4. ALL TEMPORARY TOPSOIL STOCKPILES ARE TO BE PROVIDED WITH THE NECESSARY SEDIMENT AND EROSION CONTROL FEATURES, IF STOCKPILES ARE MAINLY OR FULLY COVERED BY TOPSOIL, STOCKPILES SHALL BE HYDROSEED AND SURROUNDED WITH SILT FENCE.
5. THE SITE ENGINEER SHALL UNDERTAKE WEEKLY INSPECTIONS OF ALL CONSTRUCTION PROJECT SITES TO IDENTIFY ANY EXISTING OR POTENTIAL ENTIRE CONSTRUCTION PROJECT SITES DURING THE PERIOD OF RAIN EVENTS 13mm OR GREATER. THE WEEKLY INSPECTIONS ARE TO BE COMPLETED ON AN EROSION AND SEDIMENT CONTROL INSPECTION REPORT.
6. THE SITE ENGINEER SHALL REPORT TO THE PORTS TO THE MUNICIPALITY AND CONSERVATION AUTHORITY ADVISING OF THE CONDITION OF STRUCTURES AND MAINTENANCE WORKS THAT HAVE BEEN UNDERTAKEN.
7. ONCE CONSTRUCTION OF THE NEW CONSTRUCTION HAS BEEN INITIATED, CONSTRUCTION, A STREET CLEANING SCHEDULE WILL BE UNDERTAKEN ON A MINIMUM WEEKLY BASIS, OR AS DIRECTED BY THE SITE ENGINEER AND MUNICIPALITY.
8. ANY ADJUSTMENTS TO THE EROSION AND SEDIMENT CONTROLS MADE BY THE CONTRACTOR SHALL BE DOCUMENTED IN WRITING.

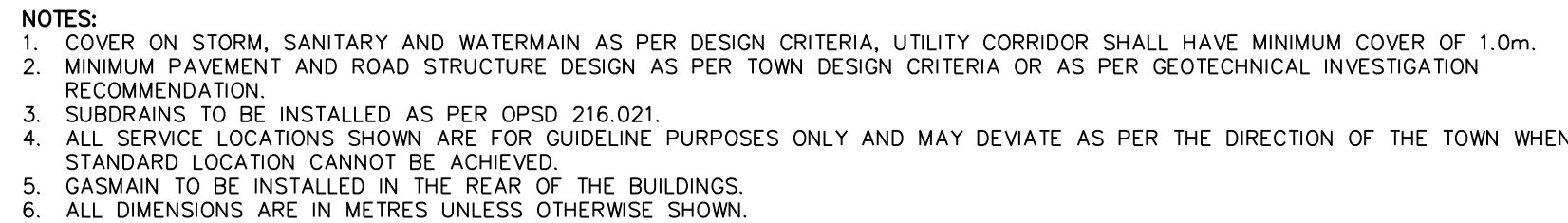
- A) PRE-CONSTRUCTION
  1. SITE ENGINEER TO ADVISE TOWN OF STAFF RESPONSIBLE FOR SITE SEDIMENT CONTROL, SUPERVISION, INSPECTION AND MAINTENANCE, INCLUDING AFTER-HOUR CONTACTS.
  2. SITE ENGINEER TO PROVIDE WRITTEN INSPECTION AND MAINTENANCE SCHEDULE OF SEDIMENT CONTROL DEVICES.
  3. CONTRACTOR TO INSTALL ALL SEDIMENT CONTROL DEVICES AS IDENTIFIED ON THE APPROVED EROSION CONTROL PLAN PRIOR TO EARTHWORKS OPERATIONS.
- B) DURING CONSTRUCTION (SITE AND BUILDING WORKS)
  1. CONTRACTOR TO ENSURE TOPSOIL STRIPPING, GRADING AND UNDERGROUND WORKS CONFORM TO APPROVED GRADING, SERVICING AND EROSION CONTROL PLANS.
  2. SITE ENGINEER TO CONDUCT REQUIRED WEEKLY INSPECTION, MAINTENANCE AND REPORTING OF SEDIMENT CONTROLS TO THE TOWN.
  3. CONTRACTOR TO STABILIZE SITE AS REQUIRED THROUGHOUT SITE CONSTRUCTION SCHEDULE.
- C) POST CONSTRUCTION (INCLUDING BUILDING CONSTRUCTION)
  1. CONTRACTOR TO COMPLETE FINAL SITE STABILIZATION AND REVEGETATION WORKS, ALL SWALES EXPECTED TO REMAIN IN EXCESS OF 30 DAYS TO BE STABILIZED BY CONTRACTOR VIA HYDROSEEDING.
  2. CONTRACTOR TO REMOVE ALL SEDIMENT CONTROL DEVICES AFTER THE SITE

- A) SILT FENCE  
1. SILT FENCE TO BE LOCATED ON CRANBERRY TRAIL PROPERTY LINE.  
2. SILT FENCE MUST BE INSPECTED WEEKLY FOR RIPS OR TEARS, BROKEN STAKES, BLOW-OUTS AND ACCUMULATION OF SEDIMENT.  
3. SILT FENCE MUST BE INSPECTED FOLLOWING ALL 13mm OR GREATER RAIN STORM EVENT OR AS DIRECTED BY SITE ENGINEER.  
4. SEDIMENT MUST BE REMOVED FROM THE TRAP WHEN ACCUMULATION REACHES 50% OF THE HEIGHT OF THE FENCE.  
5. ALL SILT FENCES MUST BE REMOVED ONLY WHEN THE ENTIRE SITE IS STABILIZED AND AS DIRECTED BY THE SITE ENGINEER.
- B) ROCK & STRAW BALE FLOW CHECK DAM  
1. REMOVE ACCUMULATED SEDIMENT UP STREAM OF THE CHECK DAM IF GREATER THAN 50% OF THE TRAP DEPTH.  
2. SILT REMOVAL MUST BE UNDERTAKEN WITH CARE TO MINIMIZE DOWN STREAM SEDIMENTATION IN SWALE OR DITCH.  
3. CHECK DAMS AND ALL ACCUMULATED SEDIMENT MUST BE REMOVED WITH THE CARE ONCE THE CONSTRUCTION SITE IS STABILIZED AND AS DIRECTED BY THE SITE ENGINEER.  
C) SEDIMENT TRAP  
1. REMOVE ACCUMULATED SEDIMENT FROM THE SEDIMENT TRAP IF THE DEPTH IS GREATER THAN 50% OF THE TRAP DEPTH.  
2. SILT REMOVAL MUST BE UNDERTAKEN WITH CARE TO MINIMIZE DOWN STREAM SEDIMENTATION IN SWALE OR DITCH.  
3. SEDIMENT AND ALL ACCUMULATED SEDIMENT MUST BE REMOVED WITH CARE ONCE THE CONSTRUCTION SITE IS STABILIZED AND AS DIRECTED BY THE SITE ENGINEER.



 <b>CROZIER</b> <b>CONSULTING ENGINEERS</b>				
Drawn By	L.W.	Design By	L.W.	Project
Check By	K.M.	Check By	R.A.	Scale 1: 500
				1535-4897 C109





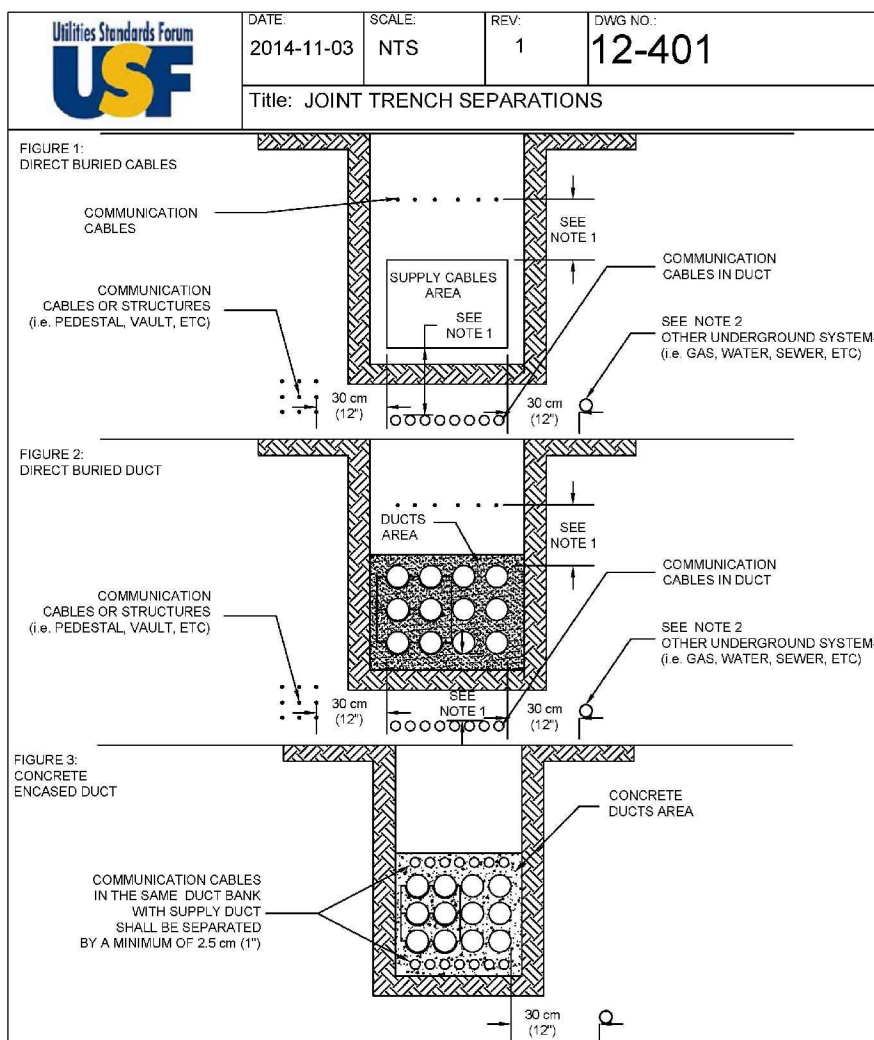
THIS PLAN HAS BEEN PREPARED BY G.F. CROZIER & ASSOCIATES INC. TO CONSOLIDATE THE DESIGNS COMPLETED BY THE RESPECTIVE UTILITIES. OUR FIRM HAS REVIEWED EACH UTILITY DESIGN TO CONFIRM IT COMPLIES WITH THE APPLICABLE MUNICIPAL GUIDELINES AND ROAD STANDARDS AND TO CONFIRM THERE ARE NO CONFLICTS WITH THE PROPOSED CIVIL SERVICING AND DRAINAGE SYSTEMS. WE HAVE NOT CHECKED NOR ACCEPTED RESPONSIBILITY FOR THE ACCURACY AND VERACITY OF EACH UTILITY DESIGN. WE USE WHICH THIRD PARTY MAKES OF OR ANY RELIANCE ON OR DECISIONS BASED ON IT, ARE THE RESPONSIBILITIES OF SUCH THIRD PARTIES. IT IS RECOMMENDED THAT DURING CONSTRUCTION THE THIRD PARTY REFERENCE OR MAKE USE OF THE APPROVED FOR CONSTRUCTION PLANS PREPARED BY EACH RESPECTIVE UTILITY.

### GENERAL CONSTRUCTION SCHEDULE

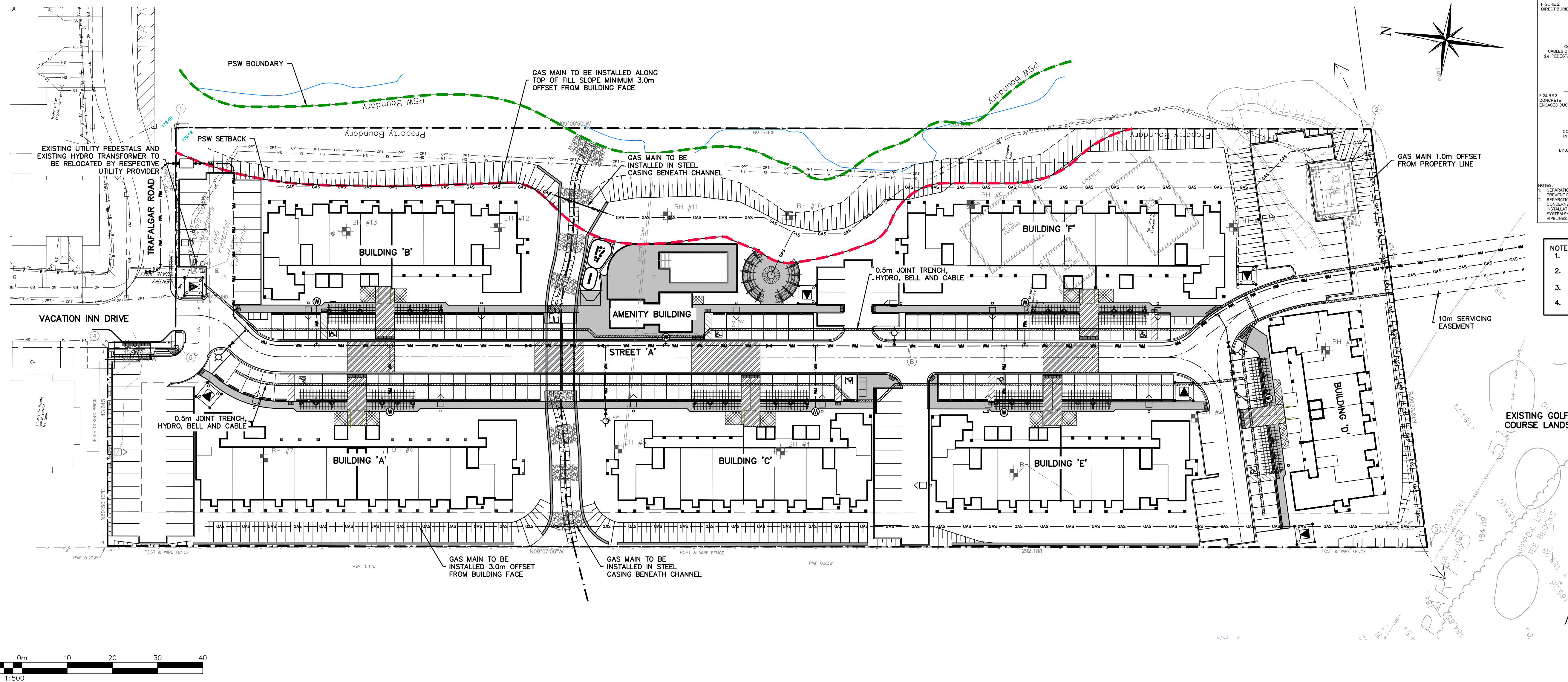
1. IN STREAM WORKS TO COMPLY WITH NVCA TIMING GUIDELINES AND ASSOCIATED PERMITTING.
  2. MAINTAIN TEMPORARY WATER MANAGEMENT WORKS AND OVERLAND SPILL ROUTE PRIOR TO ANY EXCAVATION.
  3. COMPLETE ASSOCIATED SEDIMENT CONTROLS, CULVERT AND UNDERGROUND SERVICES ENSURING WORKING IN THE DRY AT ALL TIMES.
- GENERAL NOTES**
1. ALL WORK TO BE PERFORMED IN DRY DEWATERED CONDITIONS USING APPROVED WATER MANAGEMENT PLAN.
  2. NO MAINTENANCE OR REPAIR WORK ON CONSTRUCTION EQUIPMENT IS ALLOWED WITHIN 30 METRES OF WATERCOURSE.
  3. ALL SEDIMENT & EROSION CONTROL FACILITIES AND WORKS ARE TO BE CONSTRUCTED AND IN PLACE TO THE APPROVAL OF THE SITE ENGINEER PRIOR TO EXCAVATION WORKS COMMENCING.
  4. ALL TEMPORARY SOIL OR DIRT TO BE STOCKPILED PER DESIGNATED AREAS.
  5. FLOW INFORMATION PROVIDED HEREIN CONCERNING CRANBERRY MARSH
  6. THE SEDIMENT & EROSION CONTROLS SPECIFIED HEREIN DO NOT NECESSARILY CONSTITUTE ALL MEASURES REQUIRED GIVEN FIELD CONDITIONS. CONTRACTOR TO PROVIDE ADDITIONAL SEDIMENT & EROSION CONTROL MEASURES AS REQUIRED TO ENSURE NO RELEASE OF DELETERIOUS SUBSTANCES TO WATERCOURSE.

GENERAL NOTES

1. ALL WORK TO BE PERFORMED IN DRY Dewatered CONDITIONS USING APPROVED WATER MANAGEMENT PLAN.
2. ALL EXCAVATION AND SHIELDING WORK CONSTRUCTION EQUIPMENT IS ALLOWED WITHIN 30 METRES OF WATERCOURSE.
3. ALL SEDIMENT & EROSION CONTROL FACILITIES AND WORKS ARE TO BE INSTALLED AND MAINTAINED TO THE SATISFACTION OF THE SITE ENGINEER PRIOR TO EXCAVATION WORKS COMMENCING.
4. ALL TEMPORARY SODS OR OTHERS ARE STOPPED FOR DESIGNATED AREAS. ALL INFORMATION PROVIDED HEREIN CONCERNING GRANBERY MARSH OUTLET FOR CONTRACTOR USE ONLY.
5. ALL SEDIMENT & EROSION CONTROL MEASURES SPECIFIED HEREIN DO NOT NECESSARILY CONSTITUTE ALL MEASURES REQUIRED GIVEN FIELD CONDITIONS. CONTRACTOR TO PROVIDE ANY SUPPLEMENTARY SEDIMENT & EROSION CONTROL MEASURES REQUIRED TO ENSURE NO RELEASE OF DELETERIOUS SUBSTANCES TO WATERCOURSE.



- NOTES:
1. FOR FUTURE TRENCH TO COMMUNICATION CABLE SHALL BE A MINIMUM OF 30" WITHIN C&G, BUTABLE MECHANICAL PROTECTION TO PREVENT DAMAGE TO CONTACT MAY OCCUR PROVIDER THE PERMITTED CONTRACTOR SHALL AGREE TO PROVIDE THE PROTECTION.
2. FOR FUTURE TRENCH TO COMMUNICATION CABLE SHALL BE A MINIMUM OF 30" WITHIN C&G, BUTABLE MECHANICAL PROTECTION TO PREVENT DAMAGE TO CONTACT MAY OCCUR PROVIDER THE PERMITTED CONTRACTOR SHALL AGREE TO PROVIDE THE PROTECTION.
3. CONCERNED THE SAME, TRENCES AND PRECIPITATIONS ARE TAKEN TO ENSURE THAT IN THE EVENT OF FAILURE, REPAIR AND MAINTENANCE OF THE SYSTEM SHALL BE EASY AND CONVENIENT. MECHANICAL AND THERMAL STRESS SHALL BE MINIMIZED. THE TRENCH SYSTEM SHALL BE SAME, TRENCES INSTALLED IN THE SAME OR TRENCH WITHIN THE GAS DISTRIBUTION OR TRANSMISSION PIPELINES. THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE DUCT SYSTEM AND GAS PIPELINE SHALL BE MET.
- NOTE:
1. FOR ELECTRICAL DESIGN OF PRIMARY AND SECONDARY POWER SYSTEM SEE OFGA.
2. FOR STREET LIGHT LIGHTING DESIGN SEE C.F. CROZIER AND ASSOCIATES (DWG. E300-E301)
3. FOR TELECOMMUNICATION (CABLE, TELEPHONE) SEE ROGERSON AND BELL RESPECTIVELY.
4. FOR NATURAL GAS SERVING SEE ENBRIDGE.



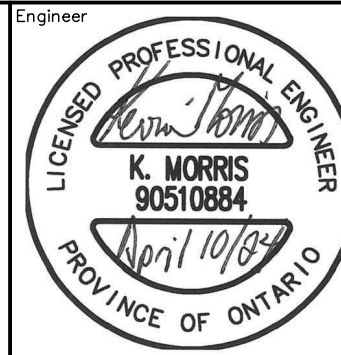
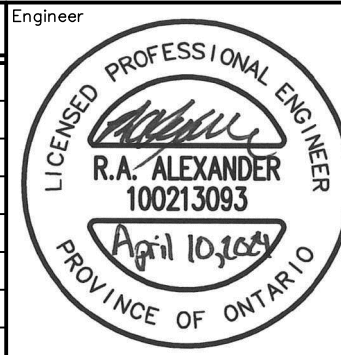
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Project	
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Drawing

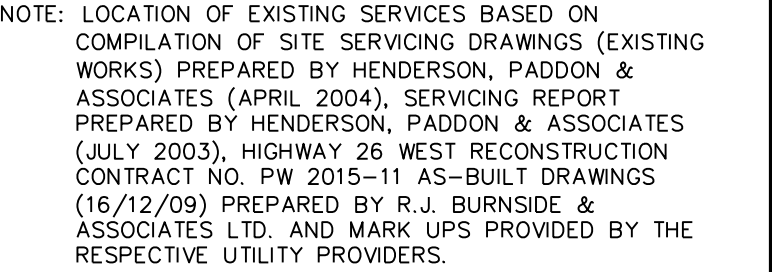
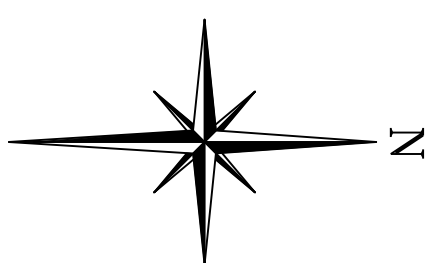
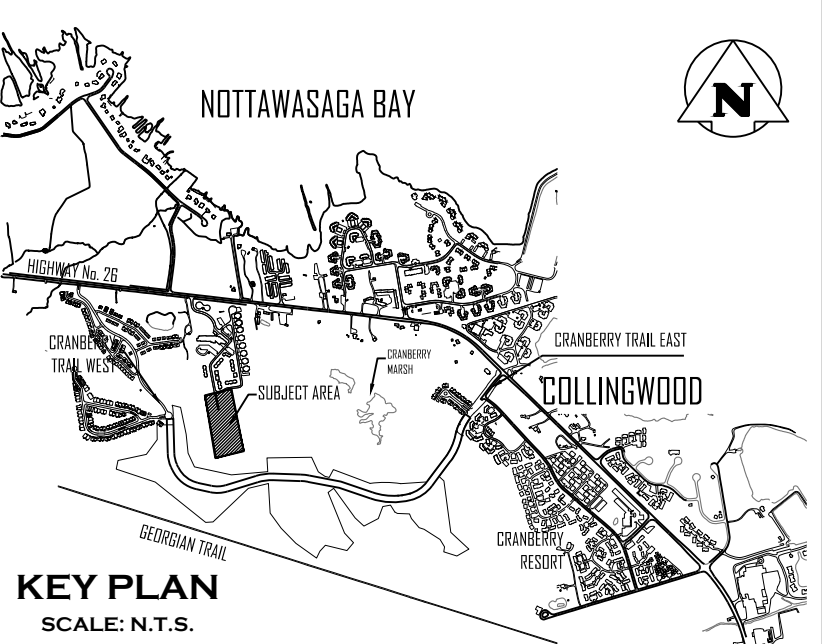
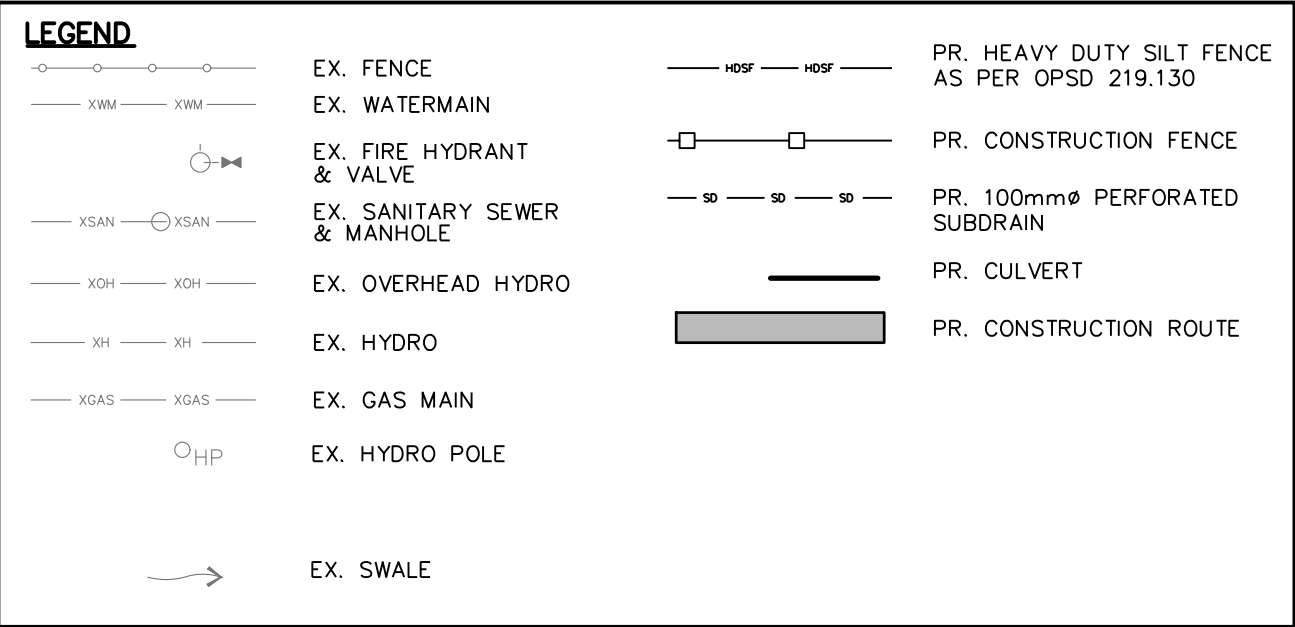
WYLDEWOOD CREEK  
TOWN OF COLLINGWOOD

COMPOSITE UTILITY PLAN



Drawn By	L.W.	Design By	L.W.	Project	1535-4897
Check By	K.M.	Check By	R.A.	Scale 1: 500	Drawing C110





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2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

3. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT.

4. DO NOT SCALE THE DRAWINGS.

5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

**BENCHMARKS**

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO TOWN OF COLLINGWOOD BENCH MARK NO. 001720311 HAVING AN ELEVATION OF 181.032 METRES.

TOPOGRAPHIC SURVEY COMPLETED BY KRCMAR SURVEYORS LTD., DATED AUGUST 25, 2018.

No.	ISSUE	DATE: MM/DD/YYYY
1	ISSUED FOR 1st ENGINEERING SUBMISSION	02/04/2019
2	ISSUED FOR DISCUSSION	02/10/2020
3	ISSUED FOR 2nd ENGINEERING SUBMISSION	04/08/2021
4	ISSUED FOR 3rd ENGINEERING SUBMISSION	01/14/2022
5	ISSUED FOR 4th ENGINEERING SUBMISSION	03/10/2023
6	ISSUED FOR 5th ENGINEERING SUBMISSION	04/10/2024

LICENSED PROFESSIONAL ENGINEER  
R.A. ALEXANDER  
100213083  
April 10/2024  
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER  
K. MORRIS  
90510884  
April 10/2024  
PROVINCE OF ONTARIO

Project  
**WYLDEWOOD CREEK  
TOWN OF COLLINGWOOD**

Drawing  
**VEHICLE MOVEMENT PLAN**

Drawn By  
L.W.

Design By  
L.W.

Project  
**1535-4897**

Check By  
K.M.

Check By  
R.A.

Scale  
1:500

Drawing  
**C112**

J:\1500\1535-Brandy Lane Corp\4897-Georgian Bay Hotel South Block\CAD\Civil_Sheets\4897_C112 TRN.dwg, C112, 2024-04-16 11:54:54 AM, nlefebvre



CONSTRUCTION NOTES:

A) GENERAL – CONSTRUCTION

- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH TOWN OF COLLINGWOOD STANDARDS (2009), OPSD AND OPSS, WHERE CONFLICT OCCURS, TOWN OF COLLINGWOOD STANDARDS (2009) TO GOVERN.
- TRENCH BACKFILL (OPSD 802.010 & 802.013) TO BE SELECT NATIVE MATERIAL OR IMPORTED SELECT SUBGRADE TO OPSS 1010. BACKFILL TO BE PLACED IN MAXIMUM 200mm THICK LIFTS AND COMPACTED TO 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
- PIPE COVER AND BEDDING TO BE GRANULAR 'A' (MINIMUM 150mm DEPTH COMPACTED TO A MINIMUM 95%SPMDD).
- ALL TOPSOIL AND EARTH EXCAVATION TO BE STOCK PILED OR REMOVED TO AN APPROVED SITE AS DIRECTED BY ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DETAILED LAYOUT OF THE WORK. THE DEVELOPER'S ENGINEER WILL CONFIRM ALL BENCH MARK ELEVATIONS AND HORIZONTAL ALIGNMENT FOR THE CONTRACTOR.
- ALL PROPERTY BARS TO BE PRESERVED AND REPLACED BY O.L.S. AT CONTRACTOR'S EXPENSE IF REMOVED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR THE SUPPLY OF TEMPORARY WATER AND POWER.
- 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.E.C.P. PERMIT IF REQUIRED.
- ALL ENGINE DRIVEN PUMPS TO BE ADEQUATELY SIZED, SUITABLE FOR OPERATION IN A RESIDENTIAL DISTRICT.
- DISTURBED AREAS OUTSIDE THE DEVELOPABLE LANDS TO BE REINSTATED TO PREVIOUS CONDITION OR BETTER.
- THE CONTRACTOR IS RESPONSIBLE TO NOTIFY ALL UTILITY COMPANIES PRIOR TO COMMENCING WORK AND CO-ORDINATE CONSTRUCTION ACCORDINGLY.
- ALL ROCK EXCAVATION PER OPSS-206.
- ALL EXCAVATION MUST BE CARRIED OUT IN FULL COMPLIANCE WITH MOST RECENT GUIDELINES OF OHSA. NATIVE SOILS ARE CLASSIFIED AS TYPE 3 SOIL.
- IMPORTED FILL MATERIAL APPROVED BY THE GEOTECHNICAL ENGINEER TO BE COMPACTED TO 98% SPMDD TO BE USED FOR FILL PADS FOR BUILDINGS TO 0.5m ABOVE UNDERFLOOR OF FOOTING ELEVATION. REFER TO GEOTECHNICAL REPORT.

B) ROADS

- SUBGRADE AND BOULEVARD MATERIAL TO BE COMPACTED TO A MINIMUM DRY DENSITY OF AT LEAST 95% SPMDD. SUBGRADE TO BE PROOF ROLLED AND CERTIFIED BY GEOTECHNICAL ENGINEER PRIOR TO PLACING GRANULAR 'B'.
- GRANULAR 'A' AND 'B' ROAD BASE TO BE COMPACTED TO 100% OF THE MATERIAL'S RESPECTIVE SPMDD AND PLACED IN MAX. 150mm LIFTS. REFER TO GEOTECHNICAL REPORT FOR FURTHER DETAILS.
- CONDO ROADWAY TO BE CONSTRUCTED WITH MINIMUM 450mm GRANULAR 'B' TYPE 1, 150mm GRANULAR 'A', 50mm HLB BASE COURSE ASPHALT, & 40mm HL3 SURFACE COURSE ASPHALT.
- SELECT SUBGRADE MATERIAL TO BE COMPACTED TO 98% SPMDD TO BE USED AS FILL IN ALL AREAS WHERE PROPOSED PIPE INVERTS ARE HIGHER THAN EXISTING GRADE OR AS INSTRUCTED BY THE ENGINEER.
- ALL GRANULARS AND ASPHALT MATERIALS AND PLACEMENT TO BE IN ACCORDANCE WITH OPSS 314 AND OPSS 310.
- JOINTS WITH EXISTING ASPHALT TO BE SAW CUT STRAIGHT WITH MIN. 1.0m LAP JOINT PRIOR TO PLACING NEW ASPHALT AND TACK COAT APPLIED TO EXISTING ASPHALT.
- STOP SIGNS AND STREET SIGNS TO TOWN STANDARDS (DETAIL DWG NO. 401).
- REINSTATEMENT OF ALL DISTURBED BOULEVARDS TO INCLUDE REGRADING, 150mm TOPSOIL AND SOD TO OPSS 802 AND 803. 100mm Ø PIPE SUBDRAINS SHALL BE PROVIDED UNDER EDGE OF PAVEMENT ON LOWER SIDE OF THE SUPER-ELEVATED ROAD.
- ALL SUBDRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 405. SUBDRAIN TO BE INSTALLED IN GRANULAR 'A' TRENCH AND CONNECTED TO EACH CB OR CBMH.
- SUBDRAINS TO BE PERFORATED OTHER THAN THE 2.0m SECTION IMMEDIATELY UPSTREAM OF ALL STRUCTURES WHICH SHALL BE NON-PERFORATED.
- ASPHALT WALKWAY TO BE CONSTRUCTED WITH MINIMUM 200mm GRANULAR 'A' AND 50mm HL3 ASPHALT IN ACCORDANCE WITH OPSS 311.
- CONCRETE SIDEWALK TO BE CONSTRUCTED PER OPSD 310.010 WITH MINIMUM 200mm GRANULAR 'A' BASES AT WALKWAY CROSSINGS AND TACTILE WALKING SURFACE INDICATORS AS PER OPSD 310.033 AND ACCESSIBLE PARKING STALL AISLES AS PER OPSD 310.039 AND OPSD 310.033.
- PARKING STALLS TO BE COMPLETE WITH PRECAST CURB WHEEL STOPS.

C) SANITARY SEWERS

- M.H.'S TO OPSD – 701.010, 701.030, & 704.010.
- BENCHING TO OPSD – 701.021.
- STEPS TO OPSD – 405.010.
- BACKFILL AND EMBEDMENT TO OPSD – 802.010 CLASS 'B', GRANULAR 'A' BEDDING.
- TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL, AS APPROVED BY GEOTECHNICAL ENGINEER, OR IMPORTED GRANULAR MATERIAL. FRAMES AND COVERS TO OPSD – 401.01 TYPE 'A' (CLOSE COVER).
- SERVICE CONNECTIONS TO OPSD – 1006.020 (125mm), GRANULAR 'A' BEDDING, TERMINATE AT SERVICING CORRIDOR LIMITS, 125 x 100 REDUCER, PLUG AND 2X4 MARKER POST PAINTED GREEN. MINIMUM GRADE TO BE 2.0%, MAXIMUM 8.0%.
- RADIUS BENDS TO BE USED ON SANITARY SEWER CONNECTIONS WHERE THE ANGLE OF CONNECTION BETWEEN THE SERVICE AND SEWER EXCEEDS 90°.
- BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
- MAINTENANCE HOLES FRAMES TO BE SET TO BASE COURSE ASPHALT ELEVATION AND RAISED BY ADDING RISER RINGS PRIOR TO PLACING SURFACE COURSE ASPHALT.
- PIPE SUPPORT AT MAINTENANCE HOLES AS PER OPSD 708.020.
- ALL MAINTENANCE HOLES, UNLESS EXPRESSLY IDENTIFIED ARE 1200mm.
- GENERAL INSTALLATION AND TESTING OF SEWERS AND APPURTENANCES TO BE IN ACCORDANCE WITH OPSS 407, 408, 409 (CCTV), 410, 421 AND ALL SPECIFICATIONS REFERENCED WITHIN THESE SECTIONS.
- SANITARY SEWER – SDR 35 PVC.
- SANITARY SERVICE – SDR 28 PVC – 125mm FOR RESIDENTIAL UNITS AND 150mm FOR MORISSE BUILDINGS AS PER OPSD 1006.020 SENTRY SERVICE CONNECTION FOR FLEXIBLE PIPE.
- FROST STRAPS PER OPSD 701.100.
- CLAY SEEPAGE PLUGS (0.5M THICK) TO BE PLACED ALONG PIPE BETWEEN MAINTENANCE HOLES.

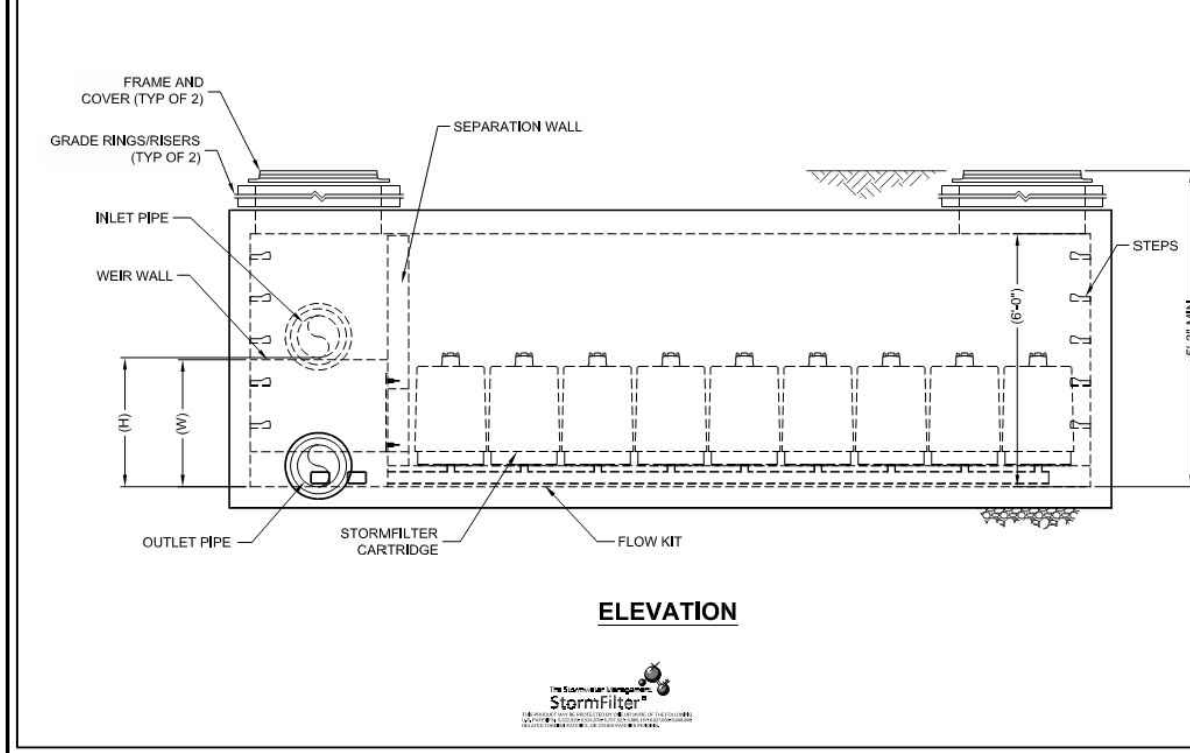
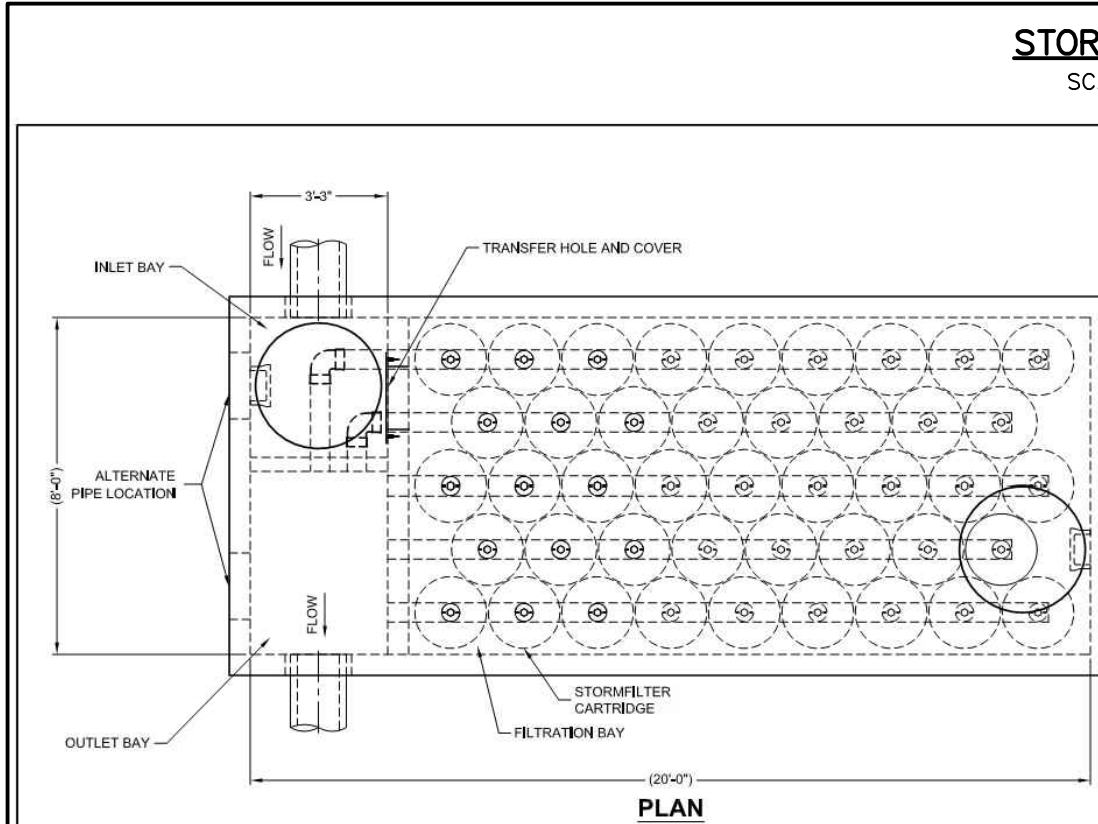
D) WATERMANS

- BACKFILL AND EMBEDMENT TO OPSD – 802.010 CLASS 'B', GRANULAR 'A' EMBEDMENT.
- TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL, AS APPROVED BY GEOTECHNICAL ENGINEER, OR IMPORTED GRANULAR MATERIAL. THRUST BLOCKS TO OPSD – 1103.010 AND 1103.020 WHERE SUITABLE SOILS ARE ENCOUNTERED.
- SERVICE CONNECTIONS TO OPSD – 1104.010, 100mm GRANULAR 'A' EMBEDMENT AND COVER OVER PIPE. TERMINATE AT SERVICING

- CORRIDOR LIMITS C/W CURB STOP AND BOX.
- HYDRANTS TO OPSD – 1105.010 DRAIN PLUGS SHALL BE INSTALLED WHERE HIGH WATER TABLE IS ENCOUNTERED.
- BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
- MINIMUM COVER ON WATERMAIN AND SERVICES TO BE 1.7m.
- GATE VALVES, BENDS AND HYDRANT LEADS AND FITTINGS TO BE CONNECTED WITH ROLMAC GRIPPER RING RESTRAINING GLANDS.
- CLEARANCE BETWEEN WATERMANS AND SEWERS TO BE AS PER M.E.C.P. GUIDELINES, MINIMUM 0.5m VERTICAL SEPARATION WHERE SEWER IS ABOVE WATERMAIN & 2.5m MINIMUM HORIZONTAL SEPARATION.
- ALL SERVICES TO BE DIRECT TAPPED.
- FOLLOWING TESTING, CONTRACTOR SHALL OPERATE EACH WATER SERVICE TO VERIFY FULL FLOW AND PRESSURE AT THE CURB STOP TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR AND TOWN OF COLLINGWOOD WATER DEPARTMENT.
- GENERAL INSTALLATION AND TESTING OF WATERMAIN AND APPURTENANCES TO BE IN ACCORDANCE WITH OPSS 441 AND ALL SPECIFICATIONS REFERENCED WITHIN THESE SECTIONS. COMPLETE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH REQUIREMENTS OF AWWA STANDARD C651-99. REFER TO DETAIL ON DRAWING C113.B FOR TYPICAL TEMPORARY CONNECTION. ALL WATERMAIN TESTING & CHLORINATION WILL BE CONDUCTED BY TOWN OF COLLINGWOOD WATER DEPARTMENT AT CONTRACTORS COST.
- PROPOSED WATERMANS ARE NOT TO BE CONNECTED TO EXISTING WATERMANS UNTIL BACTERIOLOGICAL TESTING HAS BEEN SUCCESSFULLY COMPLETED & CERTIFIED BY TOWN OF COLLINGWOOD WATER DEPARTMENT.
- COMPLETE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH REQUIREMENTS OF O. REG. 459/00 & SATISFACTION OF TOWN OF COLLINGWOOD WATER DEPARTMENT.
- WATERMAIN – CLASS 52 OR PRESSURE CLASS 350 CEMENT LINED DUCTILE IRON.
- SINGLE WATERMAIN SERVICES – 19mmØ TYPE 'K' COPPER PIPE. FOR DOUBLE WATER SERVICE, THE COMMON WATER SERVICE & MAIN STOP TO BE 25mmØ TYPE 'K' COPPER. SPLITTER FITTING SHOULD BE 'U' TYPE & LOCATED OUTSIDE OF DRIVEWAYS.
- MAIN STOPS TO 301-AH4 BAY STYLE, AWWA THREAD BY COMPRESSION CAMBRIDGE BRASS.
- CURB STOPS TO 203-H3H3, BALL STYLE WITH DRAIN. COMPRESSION JOINT BY CAMBRIDGE BRASS.
- A CURB STOP & EXTENSION SERVICE BOX & MAIN STOP MUST BE INSTALLED ON EACH SERVICE USING COMPRESSION JOINT FITTINGS.
- ALL CURB STOPS FOR SERVICES WITHIN ASPHALT TO BE LOCATED IN VALVE BOXES INSTALLED FLUSH TO FINISHED GRADE OF ASPHALT. CAP FOR VALVE BOX TO BE MARKED WITH 'W' & PAINTED BLUE.
- SERVICE BOXES TO NUMBER 7, D-I CLOW OR MUELLER, 24" BLACK ROADS STRAIGHT C/W CAP PAINTED BLUE.
- ALL SERVICES SHALL BE METERED. METERS TO BE COMPLETE WITH REMOTE READOUT OR RADIO READ AS DETERMINED BY THE TOWN OF COLLINGWOOD WATER DEPARTMENT.
- HYDRANTS – CENTURY NUMBER 1, OPEN LEFT (O/L), 2 HOSE, 33P PLUMBER PORT. 6" MJ BASE, SELF-DRAINING YELLOW BASE WITH SILVER BONNET AND PORTS.
- VALVES – RESILIENT SEATED, RSGV MECHANICAL JOINT, OPEN LEFT CLOW OR MUELLER WITH 5-SL-48 SLIDING VALVE BOX C/W CAP PAINTED BLUE.
- MECHANICAL JOINT DUCTILE FITTINGS – AWWA/ANSI C153/A21.53.
- HYDRANTS TO BE INSTALLED C/W HYDRANT MARKER STAKES PER TOWN OF COLLINGWOOD WATER DEPARTMENT STANDARD "FLEX STAKE HYDRANT MARKER MODEL FHV804, 48" LONG, COLOUR YELLOW WITH REFLECTIVE HYDRANT GRAPHIC ON BOTH SIDES". MARKER TO BE POSITIONED ON THE RIGHT PORT AS VIEWED FROM STREET.
- 50mmØ WATER SERVICES – TYPE 'K' COPPER. 100mmØ SERVICES WILL BE DUCTILE IRON.
- ALL VALVES TO BE OPERATED BY THE TOWN OF COLLINGWOOD WATER DEPARTMENT. CONTRACTOR TO PROVIDE MIN. 48 HOUR NOTIFICATION FOR REQUEST.
- HYDRANTS ARE TO BE 1.67m (5'6") LONG. MAKE-UP PIECES, IF REQUIRED, ARE TO BE INSTALLED BELOW THE HYDRANT.
- ALL WATERMAIN FITTINGS TO BE LEAD FREE.
- MECHANICAL JOINT RESTRAINTS TO BE USED DURING TRANSITION OF WATERMAIN INSTALLATION IN NATIVE SOILS TO ENGINEERED FLEX MECHANICAL JOINT RESTRAINTS TO BE MEGA-LUG OR APPROVED EQUAL FINAL LIMITS TO BE FIELD DECISION.
- PREMISE PROTECTION BACKFLOW PREVENTION DEVICES AS PER CSA B64.10-11/B64.101-11, OBC AND THE TOWN WATER BY-LAW SHALL BE PROVIDED FOR APARTMENT BUILDINGS AND RECREATIONAL FACILITIES.
- THE TOWN SHALL HAVE ONE WATER METER, CONNECTED TO ONE WATER BILL. ADDITIONAL METERS CAN BE ADDED INTERNALLY AS REQUIRED.

E) STORM SEWERS

- MH TO OPSD 701.010 AND DCBMH TO OPSD – 701.011, C/W SUMP UNLESS NOTED OTHERWISE.
- STEPS TO OPSD 405.010.
- MH FRAMES AND GRATES TO OPSD – 401.01 OPEN COVER.
- DCB'S TO OPSD – 705.030, 705.040.
- DCBMH FRAMES AND GRATES TO OPSD – 400.020.
- PIPE SUPPORT AT DCBMH'S TO OPSD – 708.020.
- DOE LEADS – 300mm Ø DOUBLE TO OPSD – 708.010, 708.030.
- PROTECTION DURING CONSTRUCTION TO OPSD – 808.010.
- BACKFILL AND EMBEDMENT TO OPSD – 802.010 (FLEXIBLE PIPE) CLASS 'B', GRANULAR 'A' EMBEDMENT OR OPSD – 802.030, 802.031 AND 802.032 (RIGID PIPE) GRANULAR 'A' EMBEDMENT. COVER MATERIAL FOR RIGID PIPE MUST BE CERTIFIED BY GEOTECHNICAL CONSULTANT PRIOR TO USING FOR REMAINING PIPE EMBEDMENT.
- BACKFILL AND EMBEDMENT MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S SPMDD.
- MAIN SEWERS OVER 450mmØ SHALL BE CONCRETE PIPE (OPSS 1820), PIPE INSTALLED BENEATH THE ROADWAYS SHALL BE REINFORCED PER CSA A257.2, CLASS 50-D. MAIN SEWERS 450mmØ AND UNDER SHALL BE PIPE (OPSS 410), MIN. PIPE STIFFNESS SHALL BE 320 kPa. PIPE INSTALLED WITHIN LANDSCAPED AREAS CAN BE NON-REINFORCED PER CSA A257.1, CLASS 3. ALL PIPE TO BE JOINED WITH A GASKETTED BELL AND SPIGOT SYSTEM.
- FROST STRAPS PER OPSD 701.100.
- STORM SERVICES TO BE 100mmØ PVC SDR28 COLORED WHITE FOR TOWNHOUSE UNITS AND 200mmØ PVC SDR35 FOR MIDRISE BUILDINGS.
- STORM SERVICES CONNECTING TO CONCRETE STORM SEWERS TO BE MADE USING CORE METHOD AND PRE-MANUFACTURED BOOT.
- STORM SERVICES TO BE MARKED WITH A 2"x4" STAKE PAINTED WHITE.
- MINIMUM COVER ON STORM SEWER AND SERVICE TO BE 1.5m AS PER TOWN OF COLLINGWOOD STANDARDS.



STORMFILTER DESIGN TABLE						
• THE # x 20" PEAK DIVERSION STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA						
SPECIFIC FLOW RATE, PEAK CONFIDENCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.						
• THE PEAK DIVERSION STORMFILTER IS AVAILABLE IN A LEFT INLET (AS SHOWN) OR RIGHT INLET CONFIGURATION.						
• ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS OTHERWISE NOTED.						
CARTRIDGE HEIGHT	27"	18"	LOW DROP			
SYSTEM HYDRAULIC DROP (H - REQ'D, MIN)	3.00"	2.25"	1.5"			
HEIGHT OF WEIR (IN)	3.00"	2.25"	1.5"			
TREATMENT BY MEDIA SURFACE AREA	2 gpm/ft ²	1 gpm/ft ²	2 gpm/ft ²	1 gpm/ft ²	2 gpm/ft ²	1 gpm/ft ²
CARTRIDGE FLOW RATE (gpm)	23.5	11.25	15	7.5	10	5

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID	-	-	-
WATER QUALITY FLOW RATE (g/s)	-	-	-
PEAK FLOW RATE (g/s)	-	-	-
RETURN PERIOD OF PEAK FLOW (yrs)	-	-	-
# OF CARTRIDGES REQUIRED	-	-	-
DESIGN MEDIA TYPE (GSP, PERLITE, ZPS)	-	-	-
PIPE DATA	LC	MATERIAL	DIAMETER
INLET PIPE	-	-	-
OUTLET PIPE	-	-	-
INLET BAY RIM ELEVATION	-	-	-
OUTLET BAY RIM ELEVATION	-	-	-
ANTI-FLUTATION BALLAST	-	WIDTH	HEIGHT

FRAME AND COVER (DIAMETER VARIES) N.T.S.

PERFORMANCE SPECIFICATION  
FILTER CARTRIDGE SHALL BE MEDIA-FILLED, PASSIVE, SIPHON-ACTUATED, RADIAL FLOW AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 18" MIN. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 37 SECONDS.

GENERAL NOTES  
1. FOR FABRICATION DRAWINGS WITH L1 ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.  
2. FOR FABRICATION DRAWINGS WITH L2 ARE REFERENCE DIMENSIONS AND HEIGHTS. PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. [www.contech.com](http://www.contech.com)  
3. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THE DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.  
4. STRUCTURE SHALL MEET ADOPTED HSB LOW RATING, ASSUMING EARTH COVER OF 0'-4" AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CARTRIDGE SHALL MEET AASHTO A308 AND BE CAST WITH THE CONTECH LOGO.

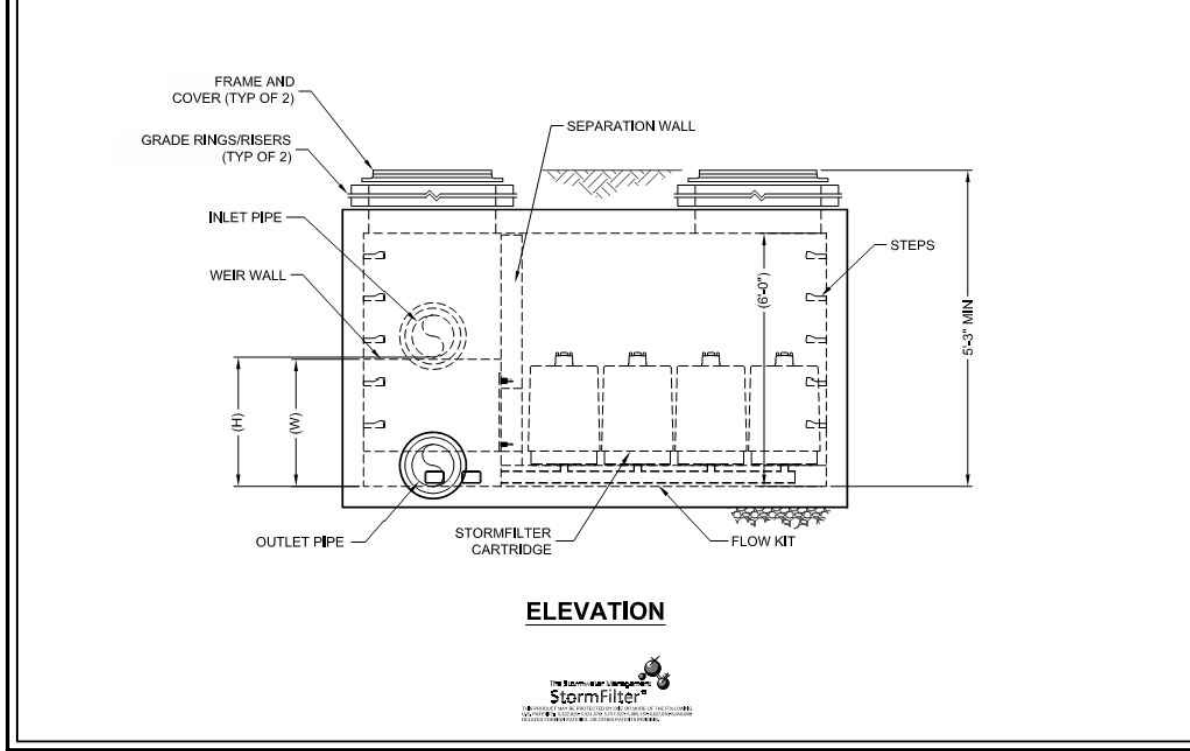
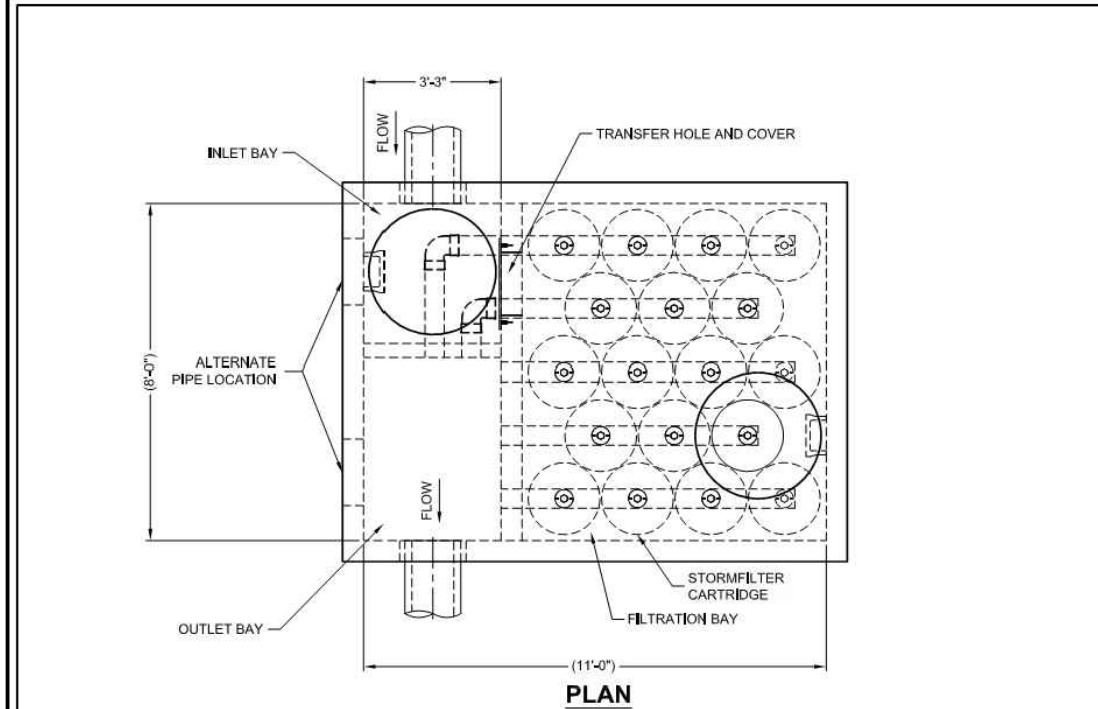
INSTALLATION NOTES  
A. ANY SUBGRADE, BACKFILL, DEPTH, AND/OR ANTI-FLUTATION PROVISIONS ARE SET-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.  
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).  
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.  
D. CONTRACTOR TO PROVIDE INSTALL AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.  
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.  
F. CONTRACTOR TO REMOVE THE TRANSFER HOLE COVER WHEN THE SYSTEM IS BROUGHT ONLINE.

**CONTECH**  
ENGINEERED SOLUTIONS LLC  
1055 Centre Rd. Suite 200, Unit 200, West Chester, OH 45386  
(603)451-1232 (603)451-7000 (603)451-7001 FAX

THE STORMWATER MANAGEMENT STORMFILTER  
8' x 20' PEAK DIVERSION STORMFILTER  
STANDARD DETAIL

STORMFILTER 1

SCALE: N.T.S.



STORMFILTER DESIGN TABLE						
• THE # x 11' PEAK DIVERSION STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA						
SPECIFIC FLOW RATE, PEAK CONFIDENCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.						
• THE PEAK DIVERSION STORMFILTER IS AVAILABLE IN A LEFT INLET (AS SHOWN) OR RIGHT INLET CONFIGURATION.						
• ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS OTHERWISE NOTED.						
CARTRIDGE HEIGHT	27"	18"	LOW DROP			
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CARTRIDGE FLOW RATE (gpm)	23.5	11.25	15	7.5	10	5

SITE SPECIFIC DATA REQUIREMENTS			
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WATER QUALITY FLOW RATE (g/s)	-	-	-
PEAK FLOW RATE (g/s)	-	-	-
RETURN PERIOD OF PEAK FLOW (yrs)	-	-	-
# OF CARTRIDGES REQUIRED	-	-	-
CARTRIDGE FLOW RATE	-	-	-
DESIGN MEDIA TYPE (GSP, PERLITE, ZPS)	-	-	-
PIPE DATA	LC	MATERIAL	DIAMETER
INLET PIPE	-	-	-
OUTLET PIPE	-	-	-
INLET BAY RIM ELEVATION	-	-	-
OUTLET BAY RIM ELEVATION	-	-	-
ANTI-FLUTATION BALLAST	-	WIDTH	HEIGHT

FRAME AND COVER (DIAMETER VARIES) N.T.S.

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4. STRUCTURE SHALL MEET ADOPTED HSB LOW RATING, ASSUMING EARTH COVER OF 0'-4" AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CARTRIDGE SHALL MEET AASHTO A308 AND BE CAST WITH THE CONTECH LOGO.

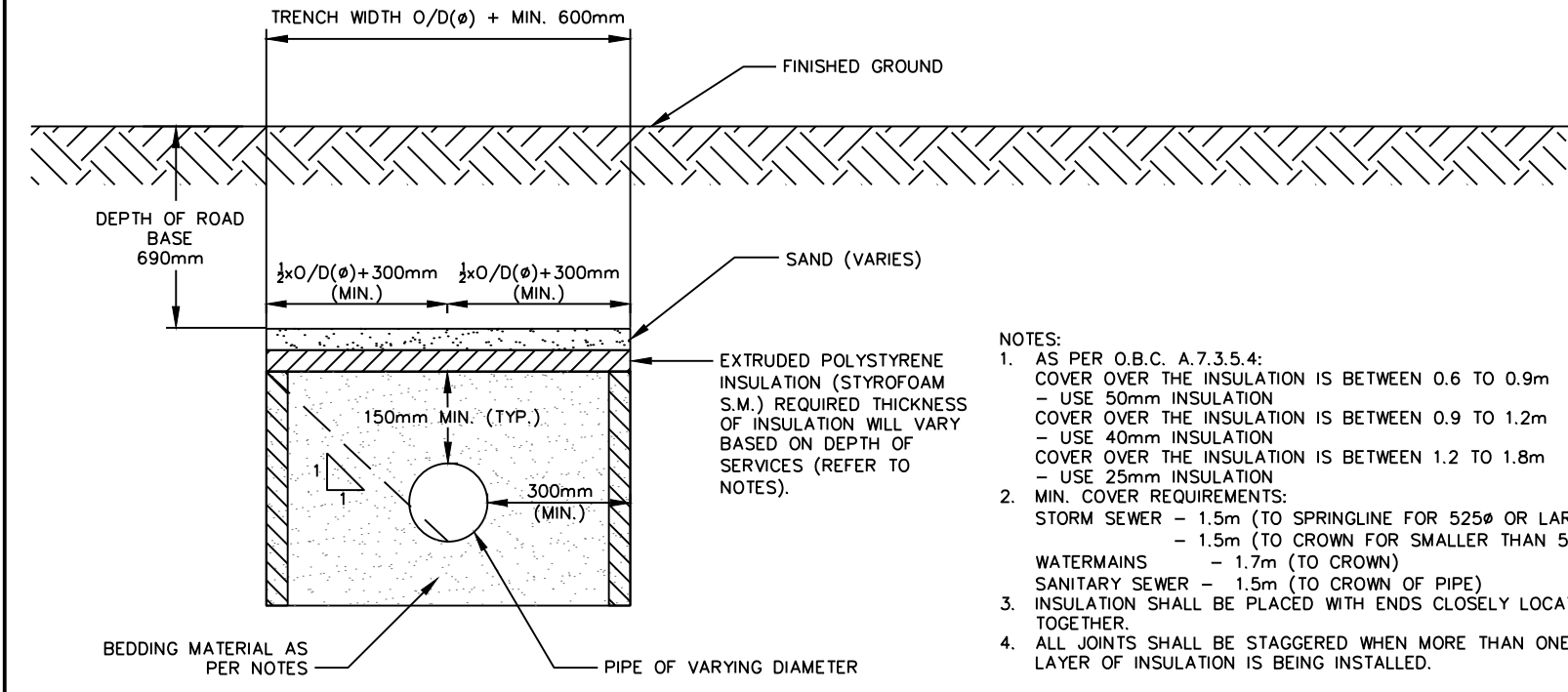
INSTALLATION NOTES  
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B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).  
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.  
D. CONTRACTOR TO PROVIDE INSTALL AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.  
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.  
F. CONTRACTOR TO REMOVE THE TRANSFER HOLE COVER WHEN THE SYSTEM IS BROUGHT ONLINE.

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8' x 11' PEAK DIVERSION STORMFILTER  
STANDARD DETAIL

INSULATION FOR VARIOUS INFRASTRUCTURE

SCALE: N.T.S.

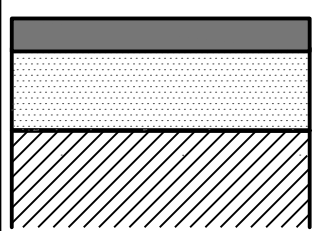


- NOTES:
- AS PER O.B.C. A.7.3.5.4:
    - COVER OVER THE INSULATION IS BETWEEN 0.6 TO 0.9m
    - USE 50mm INSULATION
    - COVER OVER THE INSULATION IS BETWEEN 0.9 TO 1.2m
    - USE 40mm INSULATION
    - COVER OVER THE INSULATION IS BETWEEN 1.2 TO 1.8m
    - USE 25mm INSULATION
  - MIN. COVER REQUIREMENTS:
    - STORM SEWER – 1.5m (TO SPRINGLINE FOR 525Ø OR LARGER)
    - WATERMANS – 1.7m (TO CROWN)
    - SANITARY SEWER – 1.7m (TO CROWN)
  - INSULATION SHALL BE PLACED WITH ENDS CLOSELY LOCATED TOGETHER.
  - ALL JOINTS SHALL BE STAGGERED WHEN MORE THAN ONE LAYER OF INSULATION IS BEING INSTALLED.

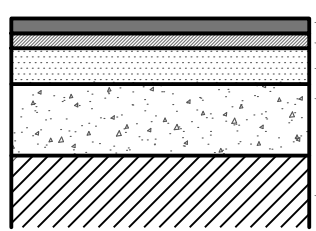
PAVEMENT STRUCTURE

SCALE: N.T.S.

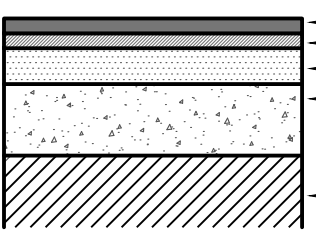
ROADSIDE PARKING STALLS



PARKING AREAS (LIGHT DUTY)



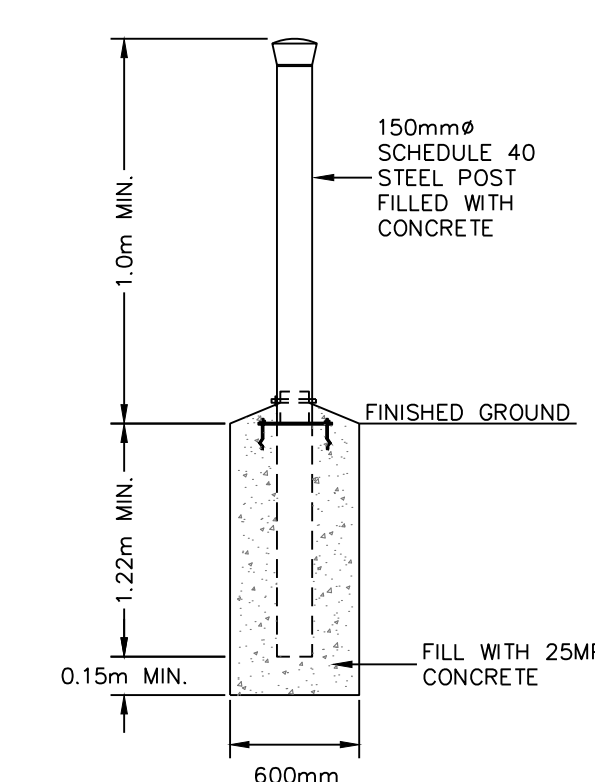
ROAD/FIRE ROUTE (HEAVY DUTY)



NOTE:  
REFER TO CONSTRUCTION NOTES FOR DETAILS ON COMPACTION. PAVEMENT STRUCTURE BASED ON GEOTECHNICAL CONSULTANTS RECOMMENDATIONS.

TYPICAL BOLLARD DETAIL

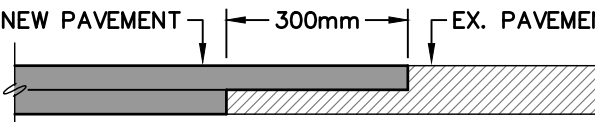
SCALE: N.T.S.



- NOTES:
- SCHEDULE 40 BOLLARDS TO BE PAINTED YELLOW.
  - CONCRETE TO BE 25MPa WITH 7.5% AIR ENTRAINMENT.
  - BOLLARD LOCATIONS TO BE CONFIRMED IN FIELD.

LAP JOINT DETAIL

N.T.S.



NOTE:  
SAWCUT & COLD PLANE. 300mm WIDE & 40mm DEEP WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT. ROUTE & SEAL WITH HOT RUBBERIZED ASPHALT.

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BENCHMARKS

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO TOWN OF COLLINGWOOD BENCH MARK NO. 001723131 HAVING AN ELEVATION OF 181.032 METRES.

TOPOGRAPHIC SURVEY COMPLETED BY KRCMAR SURVEYORS LTD., DATED AUGUST 25, 2018.

No.	ISSUE	DATE: MM/DD/YYYY
1	ISSUED FOR 1st ENGINEERING SUBMISSION	02/04/2019
2	ISSUED FOR DISCUSSION	02/10/2020
3	ISSUED FOR 2nd ENGINEERING SUBMISSION	04/08/2021
4	ISSUED FOR 3rd ENGINEERING SUBMISSION	01/14/2022
5	ISSUED FOR 4th ENGINEERING SUBMISSION	03/10/2023
6	ISSUED FOR 5th ENGINEERING SUBMISSION	04/10/2024

Engineer	Engineer	Project
Drawing		

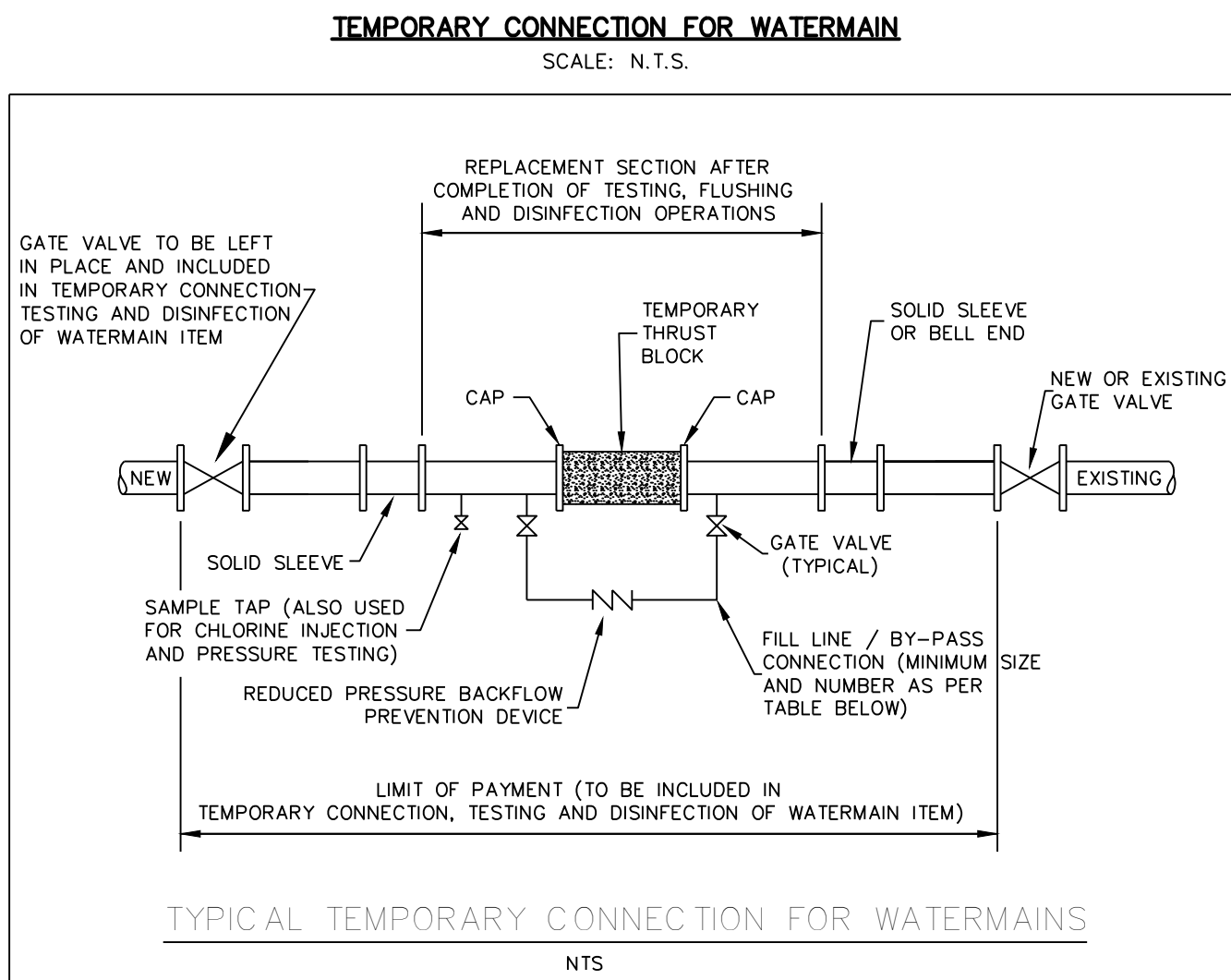
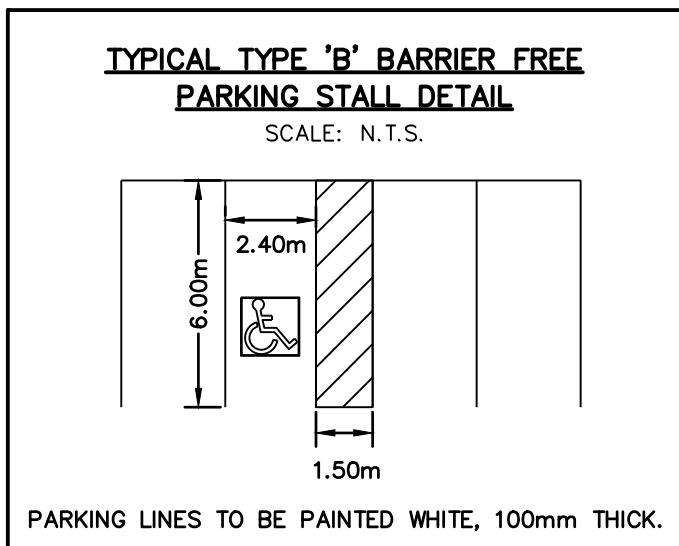
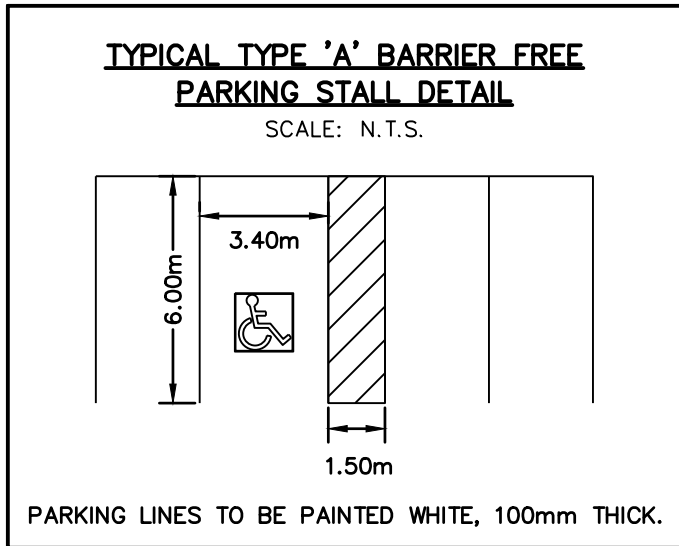
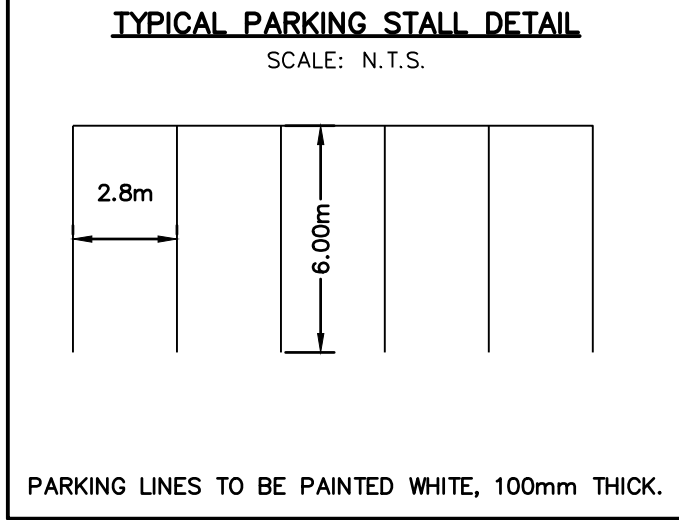
WYLDEWOOD CREEK  
TOWN OF COLLINGWOOD

CONSTRUCTION NOTES AND  
STANDARD DETAILS

**CROZIER**  
CONSULTING ENGINEERS

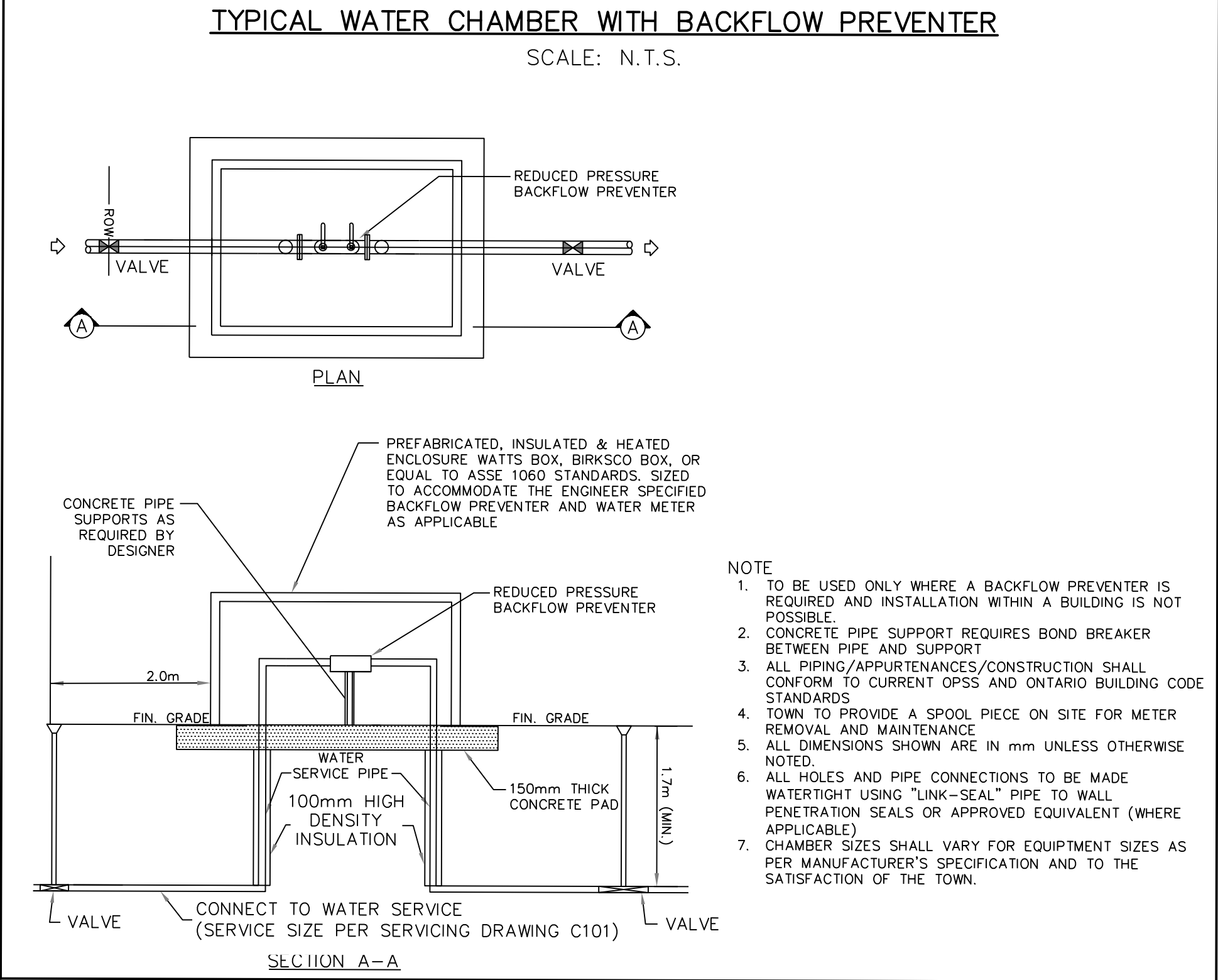
Drawn By	L.W.	Design By	L.W.	Project	1535-4897
Check By	K.M.	Check By	R.A.	Scale	AS NOTED
				Drawing	C113.A





PIPE DIAMETER	FLOW REQUIRED TO PRODUCE 0.76m/s (APPROX) VELOCITY IN MAIN	SIZE OF TAP (mm)			NUMBER OF OPEN 64mm HYDRANT OUTLETS
		25	38	51	
mm	l/s	NUMBER OF TAPS ON PIPE			
100	6.3	1	–	–	1
150	12.6	–	1	–	1
200	25.2	–	2	1	1
250	37.9	–	3	2	1
300	56.8	–	–	2	2
400	109.9	–	–	4	2

REQUIRED FLOW AND OPENINGS TO FLUSH PIPELINES (276 kPa/40 PSI RESIDUAL PRESSURE IN WATERMAIN)



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4. DO NOT SCALE THE DRAWINGS.

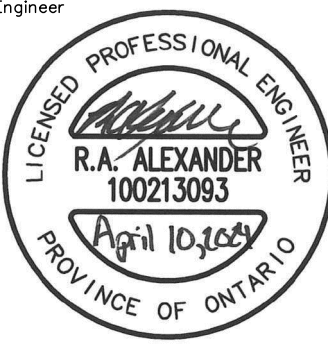
5. ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

#### BENCHMARKS

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE RELATED TO TOWN OF COLLINGWOOD BENCH MARK NO. 00172U311 HAVING AN ELEVATION OF 181.032 METRES.

TOPOGRAPHIC SURVEY COMPLETED BY KRCMAR SURVEYORS LTD., DATED AUGUST 25, 2018.

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5	ISSUED FOR 4th ENGINEERING SUBMISSION	03/10/2023
6	ISSUED FOR 5th ENGINEERING SUBMISSION	04/10/2024

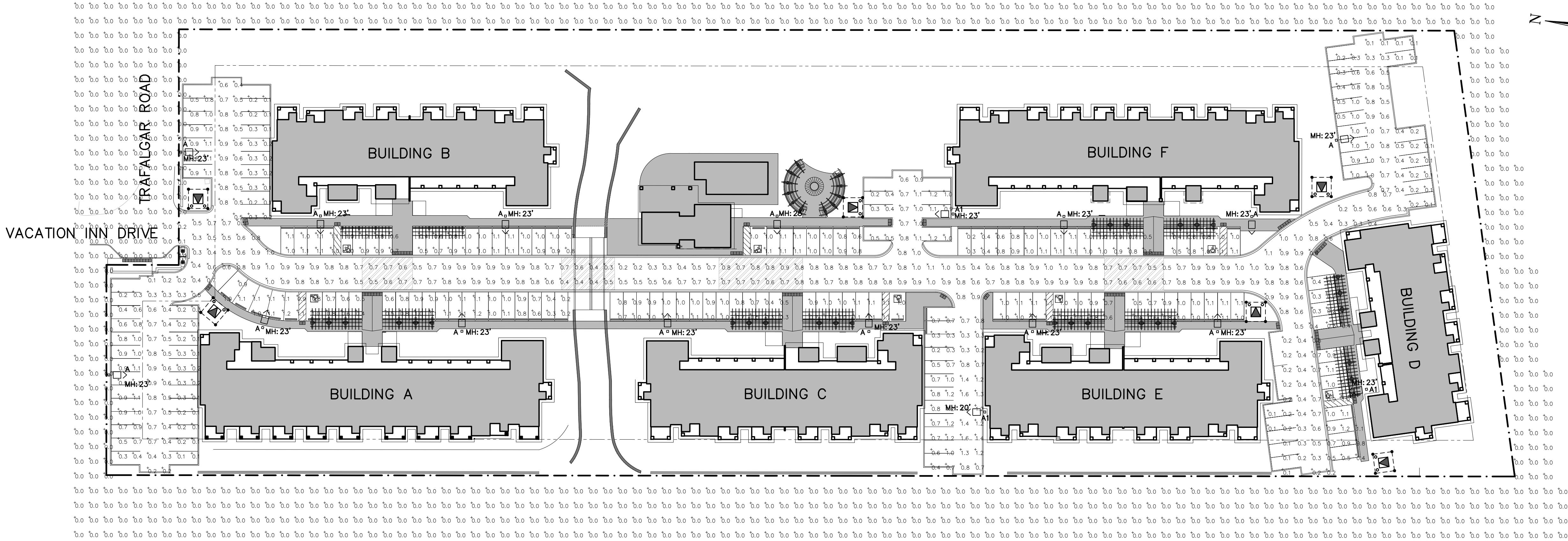


Project	WYLDEWOOD CREEK TOWN OF COLLINGWOOD
Drawing	CONSTRUCTION NOTES AND STANDARD DETAILS

Drawn By	L.W.	Design By	L.W.	Project	1535-4897
Check By	K.M.	Check By	R.A.	Scale	AS NOTED
				Drawing	C113.B







SITE PLAN – PHOTOMETRIC

SCALE: 1:500

LUMINAIRE SCHEDULE							
SYMBOL	LABEL	MANUFACTURER	CATALOG NUMBER	LIGHT LOSS FACTOR	MOUNTING HEIGHT	WATTAGE	DESCRIPTION
□>	A	US ARCHITECTURAL	RZR–M–PLED–III–M–40LED–350mA–30K–HS	0.85	REFER TO SITE PLAN DRAWINGS FOR MOUNTING HEIGHT	43W	RZRM MODEL WITH HOUSE SHIELD, TYPE III, 40LED, 3000K, 350mA
□>	A1	US ARCHITECTURAL	RZR–PLED–IV–M–40LED–350mA–30K–HS	0.85	REFER TO SITE PLAN DRAWINGS FOR MOUNTING HEIGHT	43W	RZRM MODEL WITH HOUSE SHIELD, TYPE IV, 40LED, 3000K, 350mA

THE FOLLOWING NOTATIONS APPLY TO ALL LUMINAIRES IN SCHEDULE, UNLESS OTHERWISE NOTED:

1. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE PHOTOCELLS AS REQUIRED. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH LIGHT MANUFACTURER.

STATISTICS SCHEDULE						TARGET VALUES		
DESCRIPTION	SYMBOL	AVG	MAX	MIN	AVG/MIN	ROADWAY TYPE CLASSIFICATION	AVG	AVG/MIN
RIGHT OF WAY	X	0.7 fc	1.1 fc	0.2 fc	3.6:1	LOCAL/MEDIUM	0.5 fc	6.0:1
BUILDING A EAST PARKING	+	0.9 fc	1.2 fc	0.2 fc	4.3:1	PARKING AREA	0.2 fc	6.0:1
BUILDING A NORTH PARKING	+	0.5 fc	1.1 fc	0.1 fc	4.9:1	PARKING AREA	0.2 fc	6.0:1
BUILDING B EAST PARKING	+	0.5 fc	1.0 fc	0.1 fc	5.0:1	PARKING AREA	0.2 fc	6.0:1
BUILDING B NORTH PARKING	+	0.6 fc	1.1 fc	0.1 fc	5.5:1	PARKING AREA	0.2 fc	6.0:1
BUILDING B WEST PARKING	+	0.9 fc	1.1 fc	0.4 fc	2.3:1	PARKING AREA	0.2 fc	6.0:1
BUILDING C EAST PARKING	+	0.9 fc	1.1 fc	0.3 fc	3.0:1	PARKING AREA	0.2 fc	6.0:1
BUILDING D NORTH PARKING	+	0.5 fc	1.2 fc	0.1 fc	5.2:1	PARKING AREA	0.2 fc	6.0:1
BUILDING E EAST PARKING	+	0.9 fc	1.1 fc	0.4 fc	2.3:1	PARKING AREA	0.2 fc	6.0:1
BUILDING E NORTH PARKING	+	0.9 fc	1.6 fc	0.2 fc	4.3:1	PARKING AREA	0.2 fc	6.0:1
BUILDING F NORTH PARKING	+	0.8 fc	1.2 fc	0.2 fc	4.0:1	PARKING AREA	0.2 fc	6.0:1
BUILDING F WEST PARKING	+	0.8 fc	1.1 fc	0.2 fc	4.1:1	PARKING AREA	0.2 fc	6.0:1
POOL PARKING	+	1.0 fc	1.1 fc	0.6 fc	1.6:1	PARKING AREA	0.2 fc	6.0:1



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Town

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6	ISSUED FOR 5th ENGINEERING SUBMISSION	04/10/2024

Engineer

Engineer



Project

WYLDEWOOD CREEK  
TOWN OF COLLINGWOOD

Drawing

SITE PLAN – PHOTOMETRIC



THE HARBOUREEDGE BUILDING,  
40 HURON STREET, SUITE 301,  
COLLINGWOOD, ON L9Y 4R3  
705 446-3510 F  
WWW.CFCROZIER.CA  
INFO@CFCROZIER.CA

Drawn By	J.R.B./T.S.D.	Design By	J.R.B.	Project	1535–4897
Check By		Check By	P.W.	Scale	1:500
				Drawing	E100



SOLID STATE AREA LIGHTING

RAZAR SERIES-LED  
SPECIFICATIONS

**OPTICAL HOUSING:**  
Heavy cast low copper aluminum (A356 alloy -<0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance <+.002") to facilitate thermal transfer of heat to housing and cooling fins. Solid barrier wall separates optical and electrical compartments. The optical and electrical compartments are integrated to create one assembly. Minimum wall thickness is .188".

**ELECTRICAL HOUSING w/ INTEGRATED ARM:**  
Heavy cast low copper aluminum (A356 alloy -<0.2% copper) assembly with integral cooling fins surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

**LED OPTICS:**  
Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet on IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel or group of Panels in a luminaire have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments.

**LED DRIVER(S):**  
Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical array. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz, 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

**LED EMITTERS:**  
High output LED's are utilized with drive currents ranging from 350mA to 1050mA, 70CRI Minimum. LED's are available in standard Neutral White (4000K), or optional Cool White (5000K) or Warm White (3000K). Consult Factory for other LED options.

**AMBER LED'S:**  
**PCA** (Phosphor Converted Amber) LED's utilize phosphors to create color output similar to LPS lamps and have a slight output in the blue spectral bandwidth. **TBA** (True Amber) LED's utilize material that emits light in the amber spectral bandwidth only without the use of phosphors.

**FINISH:**  
Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step media blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability.

**MAST ARM FITTER/ELECTRICAL HOUSING:**  
Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

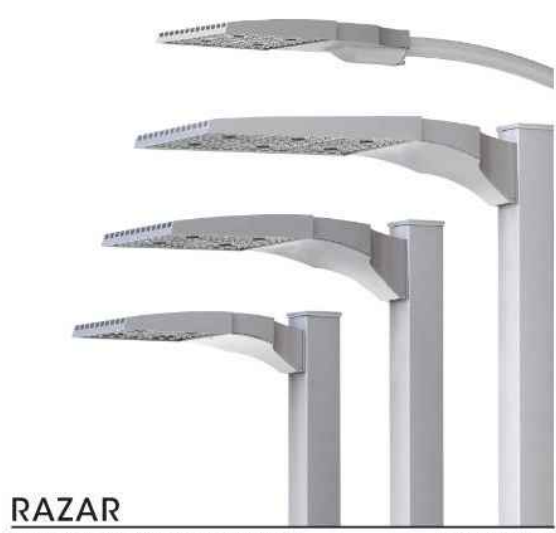
U.S. Architectural Lighting

440 West Avenue G, Redwood, CA 95570  
Phone: (909) 222-2299 Fax: (909) 222-2299  
www.usalighting.com

PROJECT NAME:

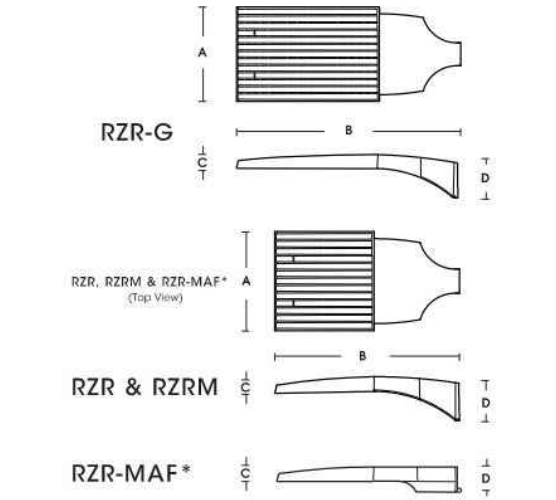
TYPE A, A1

PROJECT TYPE:



**RAZAR**  
(MODELS: RZRM, RZR, RZR-G & RZR-MAF*)

PATENT PENDING



FIXTURE	A	B	C	D
<b>RZR-G</b>	15" (381mm)	26.4" (670mm)	3" (76mm)	7" (178mm)
<b>RZR</b>	14.75" (375mm)	25.25" (642mm)	2.75" (70mm)	6.5" (165mm)
<b>RZRM</b>	11.5" (293mm)	22" (559mm)	2.5" (64mm)	5.25" (133mm)
<b>RZR-MAF*</b>	15" (381mm)	25.25" (642mm)	3.5" (89mm)	4" (102mm)

*DLC PENDING AS OF 7/17

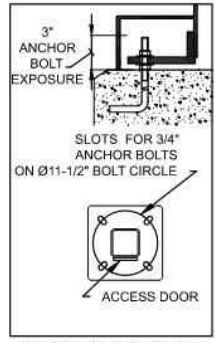


2018358

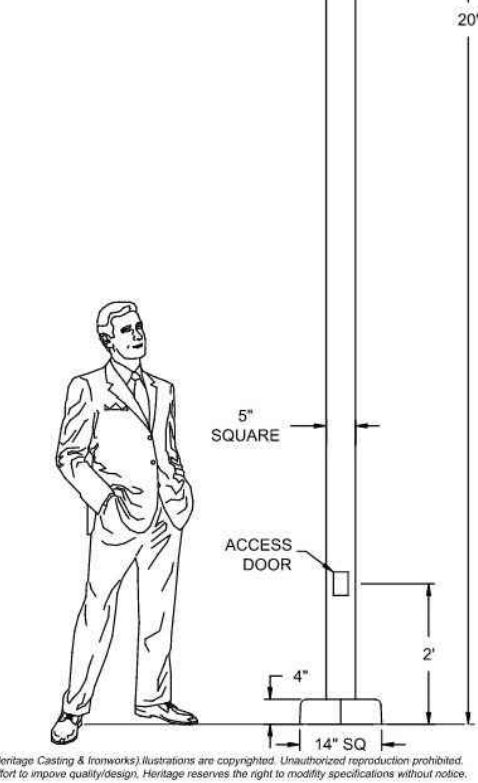
Please Note: Fabrication will not begin until this drawing is approved, signed and returned to HCI.

☐ APPROVED  
☐ APPROVED AS NOTED  
☐ REJECTED  
☐ REVISE AND RESUBMIT

By _____  
Date _____



BOTTOM ANCHOR PLATE VIEW



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Approval Drawing TYPE A, A1  
Pole Std: P422-2-SSQ-20

**Pole:** 5" square x .25 wall thickness aluminum tube welded to base plate.

**Base Cover:** Two piece cast aluminum attached to pole with stainless steel screws.

**Tenon Size:** None

**Anchor Bolts:** 4 galvanized 3/4" x 24" long. Anchor bolts and template are supplied by HCI.  
**Bolts Circle:** Ø11.5"

**Finish:** Electrostatically applied, thermoset polyester powder-coat finish.

**Colour:** RALXXXX

Sales: KIM Designer: ROMIL  
Date: DEC.17.2021 Drawing No: 11344-V8  
Model: P422-2-SSQ-20-RALXXXX  
Project: - (QTY: TBD)  
Rep: -

Please Note: Fabrication will not begin until this drawing is approved, signed and returned to HCI.

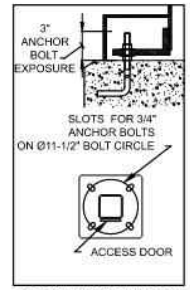


1280 Fewster Drive, Mississauga, Ontario, Canada L4W 1A4  
Tel: (905) 238-2648 Fax: (905) 238-9060  
Toll Free Canada & USA 1-800-267-3175  
E: sales@hclighting.com WEB: www.hclighting.com

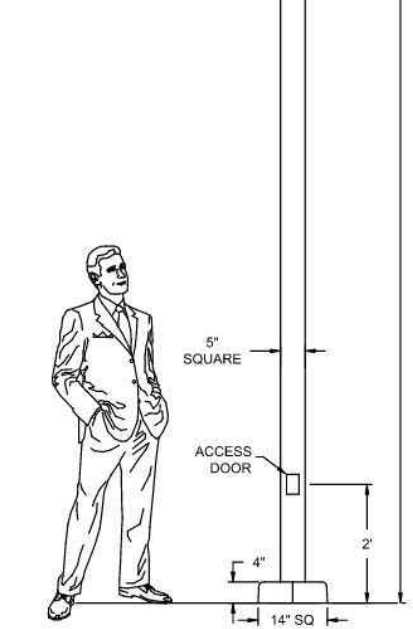
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☐ APPROVED  
☐ APPROVED AS NOTED  
☐ REJECTED  
☐ REVISE AND RESUBMIT

By _____  
Date _____



BOTTOM ANCHOR PLATE VIEW



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Approval Drawing TYPE A1  
Pole Std: P422-2-SSQ-23

**Pole:** 5" square x .25 wall thickness aluminum tube welded to base plate.

**Base Cover:** Two piece cast aluminum attached to pole with stainless steel screws.

**Tenon Size:** None

**Anchor Bolts:** 4 galvanized 3/4" x 24" long. Anchor bolts and template are supplied by HCI.  
**Bolts Circle:** Ø11.5"

**Finish:** Electrostatically applied, thermoset polyester powder-coat finish.

**Colour:** RALXXXX

Sales: KIM Designer: ROMIL  
Date: DEC.17.2021 Drawing No: 11344-V8-R2  
Model: P422-2-SSQ-23-RALXXXX  
Project: - (QTY: TBD)  
Rep: -

Please Note: Fabrication will not begin until this drawing is approved, signed and returned to HCI.



1280 Fewster Drive, Mississauga, Ontario, Canada L4W 1A4  
Tel: (905) 238-2648 Fax: (905) 238-9060  
Toll Free Canada & USA 1-800-267-3175  
E: sales@hclighting.com WEB: www.hclighting.com

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6	ISSUED FOR 5th ENGINEERING SUBMISSION	04/10/2024

Engineer

Engineer



Project

WYLDEWOOD CREEK  
TOWN OF COLLINGWOOD

Drawing

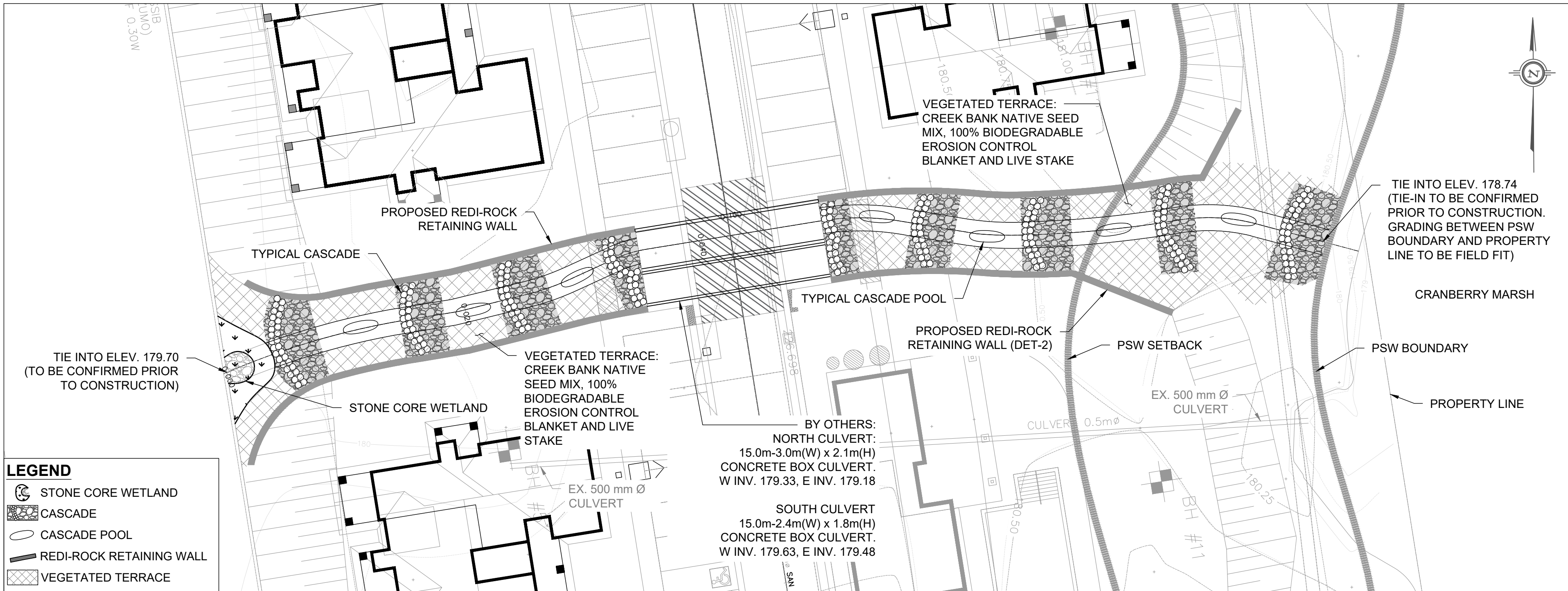
SITE LIGHTING DETAILS



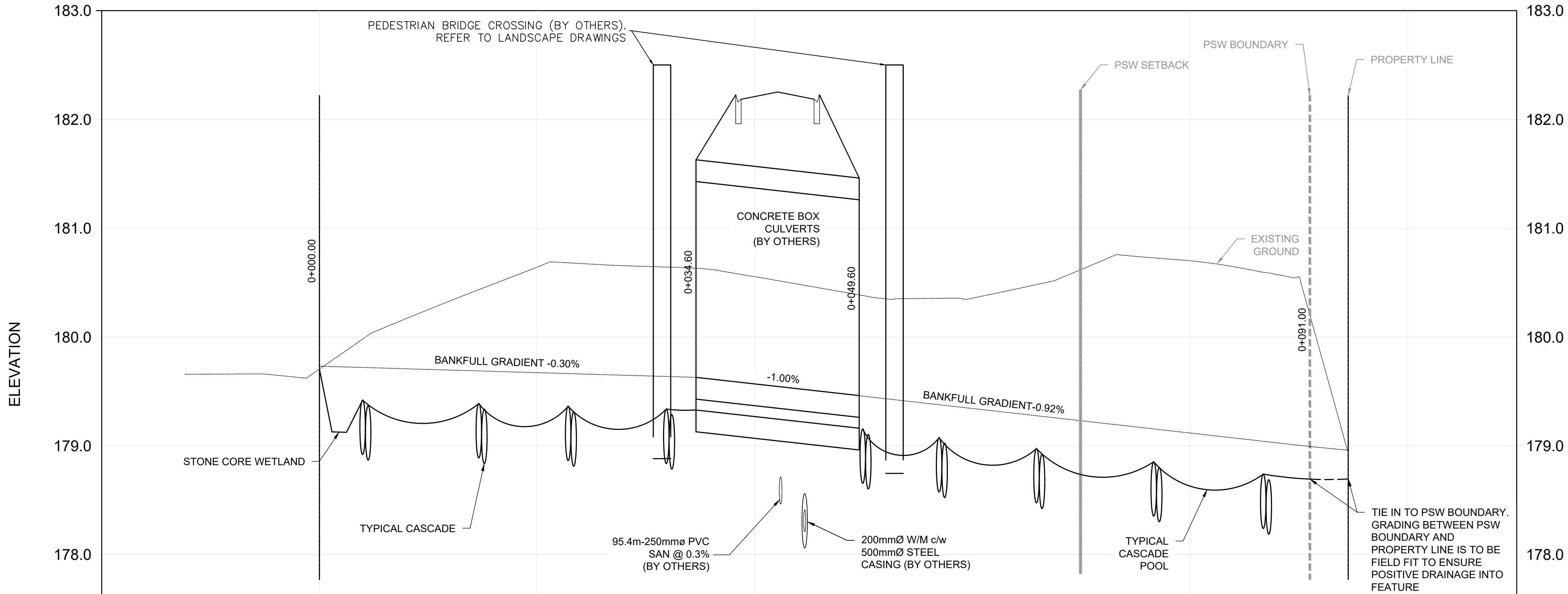
THE HARBOUREDGE BUILDING,  
40 HURON STREET, SUITE 301,  
COLLINGWOOD, ON L9Y 4R3  
705 446-3510 T  
705 446-3520 F  
WWW.CFCROZIER.CA  
INFO@CFCROZIER.CA

Drawn By	J.R.B./T.S.D.	Design By	J.R.B.	Project	1535-4897
Check By		Check By	P.W.	Scale	N.T.S.
				Drawing	E101



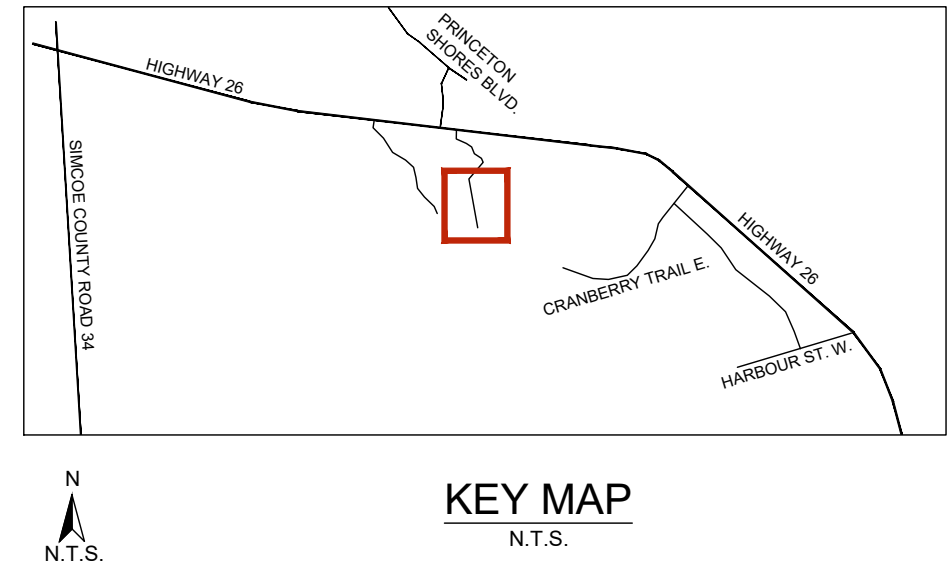


PLANFORM  
1:250



LOW FLOW CHANNEL INVERT	179.70 179.13 179.42 179.21 179.39 179.18 179.36 179.15 179.34 179.26 179.15 178.91 179.08 178.83 178.97 178.72 178.85 178.60 178.74 178.74	LOW FLOW CHANNEL INVERT
STATION	0+000  0+020  0+040  0+060  0+080  0+100	STATION

PROFILE  
H = 1:250; V=1:25



GENERAL NOTES

- ALL CONTRACT DRAWINGS, SPECIFICATIONS AND APPLICABLE PERMITS MUST BE KEPT ON SITE DURING CONSTRUCTION FOR REFERENCE.
- THE CONTRACTOR MUST NOTIFY THE CONTRACT ADMINISTRATOR AND CONSERVATION AUTHORITY OF THE INTENT TO COMMENCE WORK AT LEAST 48 HOURS IN ADVANCE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATIONS.
- LAYOUT MUST BE REVIEWED AND APPROVED BY THE CONTRACT ADMINISTRATOR.

TIMING OF WORKS

- WORKS SHALL BE COMPLETED BETWEEN JULY 1ST TO MARCH 31ST.
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	DATE	BY	REVISIONS
DESIGNED BY: P.V.		CHECKED BY: P.V.	
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2024-03-14

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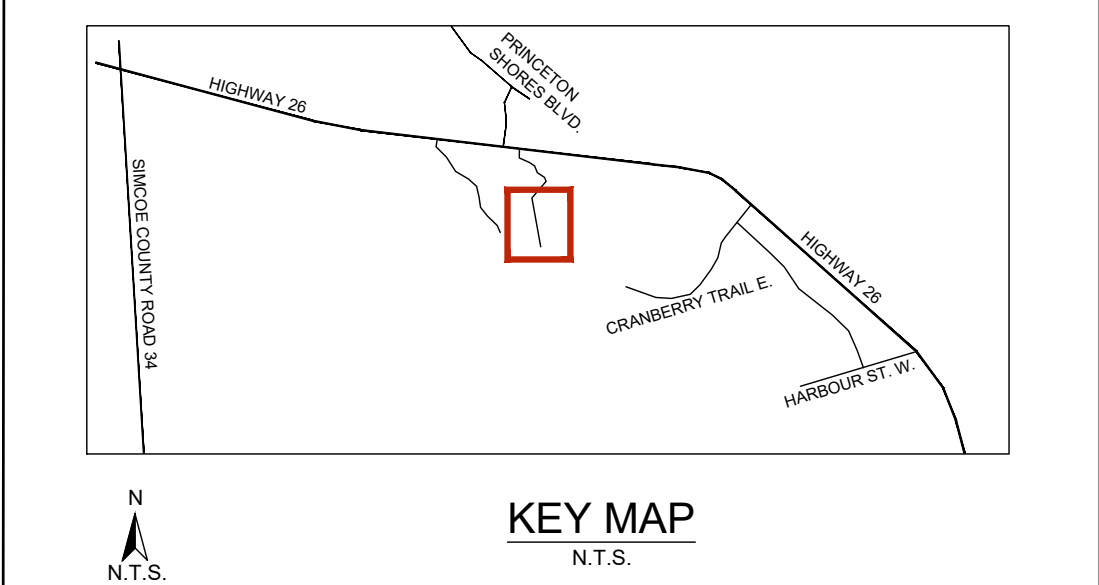
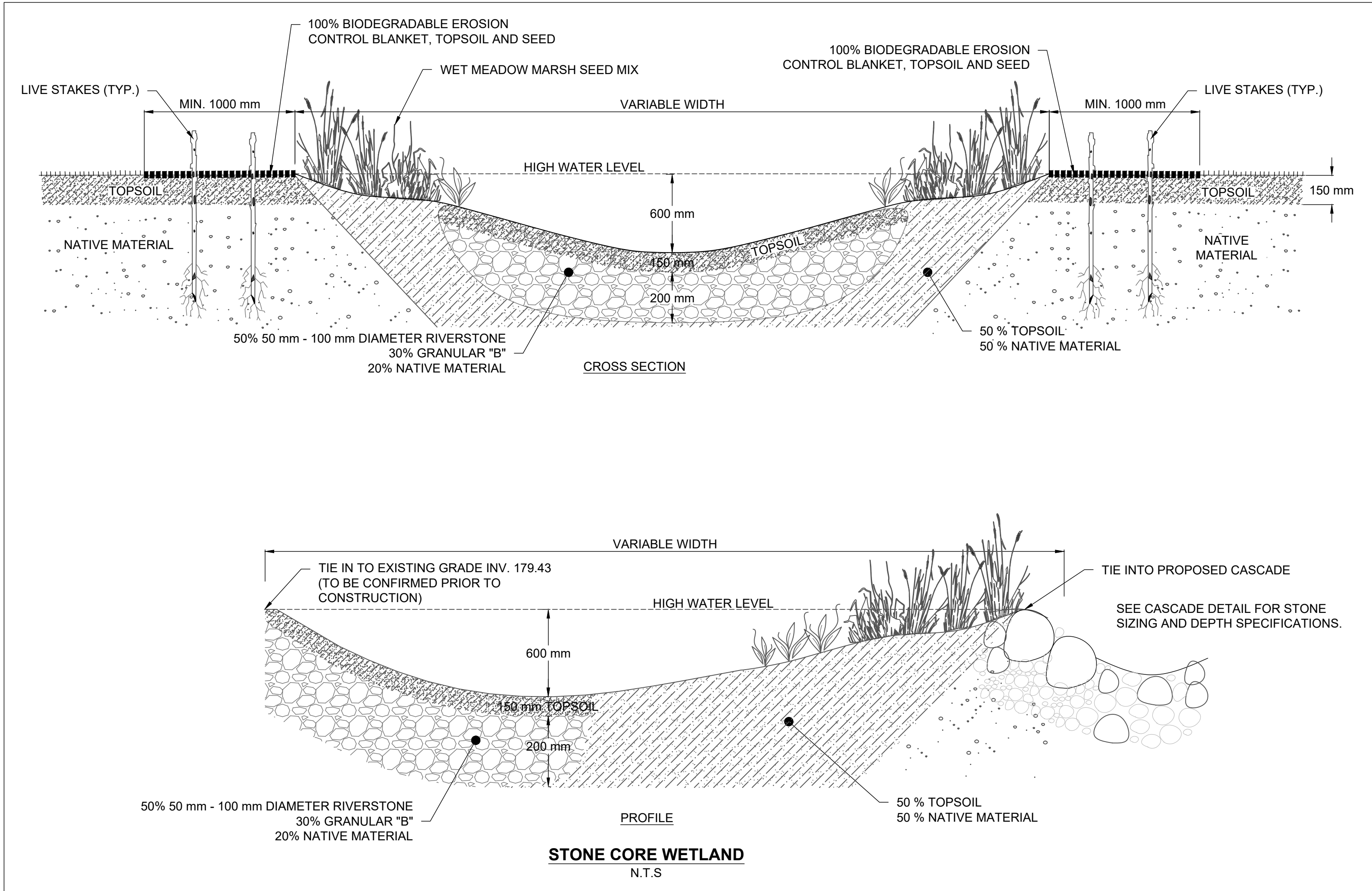
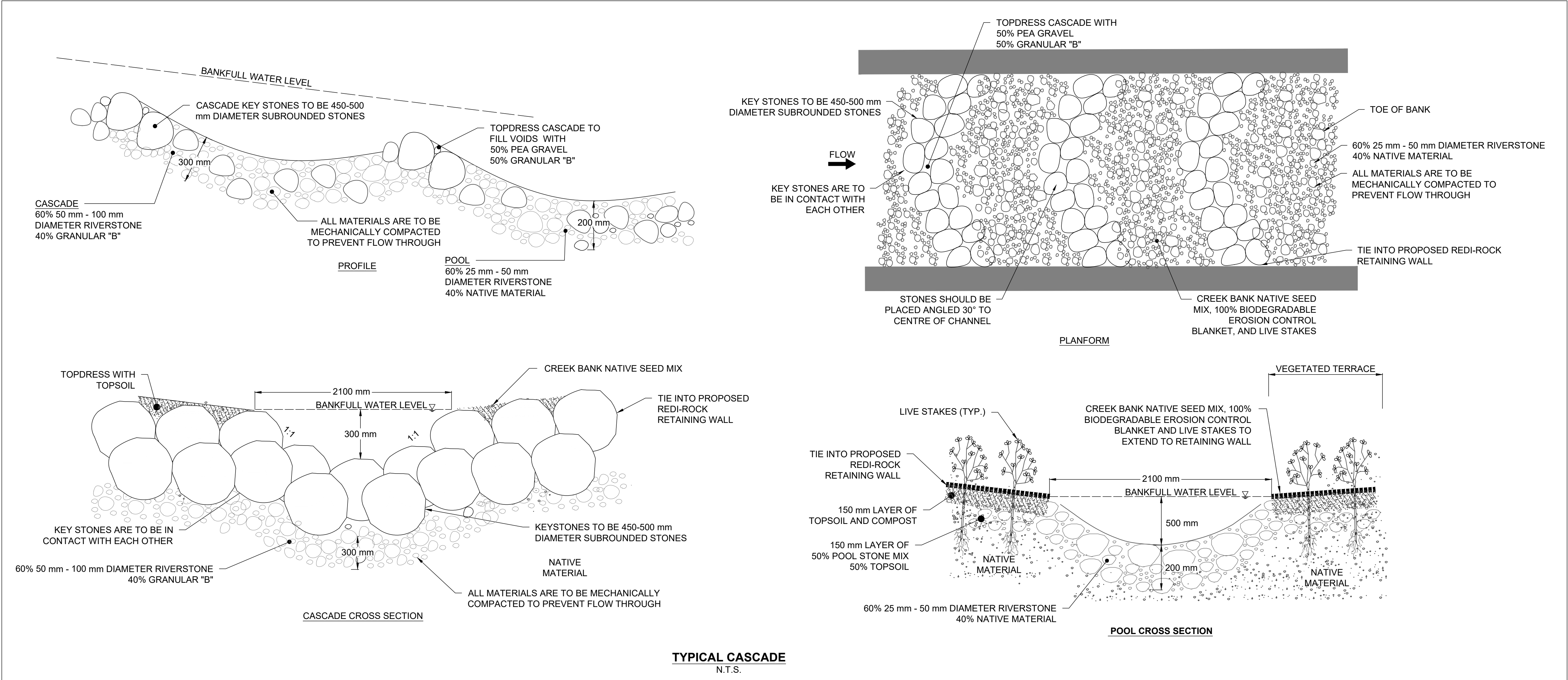
36 Main Street North, PO Box 205  
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WYLDEWOOD CREEK  
BRANDY LANE HOMES

CHANNEL RESTORATION DESIGN  
PLANFORM AND PROFILE





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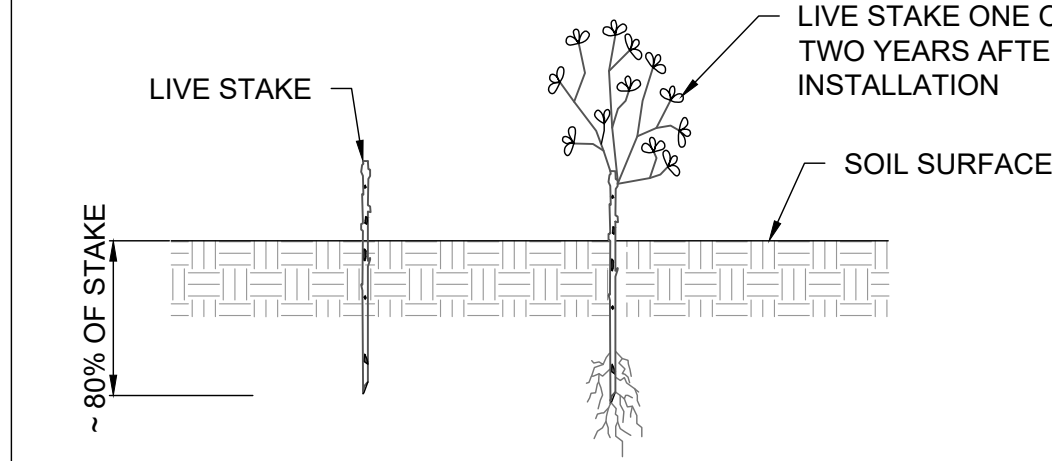
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CHANNEL RESTORATION DESIGN RESTORATION DETAILS			
PROJECT No.: 21032			DRAWING No.: DET-1
SCALE: AS NOTED			SHEET 2 OF 4

SCALED FOR PLOT ON 'ARCH D'



CHANNEL SUBSTRATE NOTES

- SUBSTRATES TO BE COMPACTED TO 90% SPD TO PREVENT PIPING/FLOW-THROUGH.
- FINE NATIVE MATERIAL TO BE ADDED TO SUBSTRATE MIX TO FILL INTERSTITIAL VOIDS, AS REQUIRED.
- GRANULAR "B" TO BE SOURCED FROM PIT-RUN MATERIAL AND ROUNDED IN NATURE. NO CRUSHED ROCK, LIMESTONE OR POST-CONSTRUCTION MATERIALS ARE TO BE USED WITHIN THE CHANNEL. MATERIAL TO BE REVIEWED BY THE DESIGNER OR REPRESENTATIVE PRIOR TO INSTALLATION.



NOTES

- QUANTITY TO BE DETERMINED BASED ON AREA OF DISTURBANCE TO BE RESTORED
- LIVE STAKES SHOULD BE FROM AT MINIMUM 2-YEAR OLD STOCK
- LIVE STAKES ARE TO BE INSTALLED AT A DENSITY OF 3 STAKES PER SQUARE METRE
- LIVE STAKES SHOULD BE PRE-SOAKED (SUBMERGED IN WATER) FOR AT LEAST 24 HOURS AFTER HARVESTING AND IMMEDIATELY BEFORE INSTALLATION.
- LIVE STAKES SHOULD NOT BE STORED FOR A PERIOD LONGER THAN 2 DAYS, UNLESS THEY ARE BEING SOAKED.
- THE CONTRACTOR SHALL PROTECT PLANT MATERIALS FROM DRYING FROM THE TIME OF HARVEST UNTIL INSTALLED.
- LIVE STAKES ARE TO BE A MINIMUM OF 25 mm IN DIAMETER AND CUT TO A LENGTH OF 1000 mm.
- CUT ANGLE AT THE BOTTOM OF THE STAKE AND FLAT ON THE TOP.
- TRIM ALL SIDE BRANCHES WHILE TAKING CARE NOT TO DAMAGE THE BARK.
- INSTALL STAKES WITH BUDS POINTING UPWARDS AND THICKER STEM IN THE BED.
- LIVE STAKES SHOULD BE INSTALLED USING A LARGE RUBBER Mallet.
- 80% OF THE STAKE IS TO BE BELOW SURFACE.
- TAMP THE LIVE STAKE INTO THE GROUND AT RIGHT ANGLE TO THE SURFACE.
- IN COMPACT SOIL A PILOT HOLE SHOULD BE USED TO LIMIT DAMAGE TO THE STAKES.
- IF USING A PILOT HOLE REPACK SOIL AROUND THE LIVE STAKE.
- LIVE STAKES SHOULD STAND FIRM FROM THE SOIL FOLLOWING INSTALLATION.
- ALL STAKES NOT PLANTED TO THE SPECIFICATIONS ABOVE WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

SPECIES AND QUANTITIES

COMMON NAME	SCIENTIFIC NAME	QTY	CONDITION
RED OSIER DOGWOOD	<i>Cornus stolonifera</i>	150	1 m, BARE ROOT
PUSSY WILLOW	<i>Salix discolor</i>	150	1 m, BARE ROOT
SANDBAR WILLOW	<i>Salix exigua</i>	150	1 m, BARE ROOT

LIVE STAKE

N.T.S.

CREEK BANK NATIVE SEED MIX - OSC 8215

COMMON NAME	SPECIES
BIG BLUESTEM	<i>Andropogon gerardii</i>
NEW ENGLAND ASTER	<i>Aster novae-angliae</i>
FOX SEDGE	<i>Carex vulpinoidea</i>
BOTTLEBRUSH GRASS	<i>Elymus hystrix</i>
FOWL MANNGRASS	<i>Glyceria striata</i>
FOWL BLUEGRASS	<i>Poa palustris</i>
BLACK EYED SUSAN	<i>Rudbeckia hirta</i>

NOTES

- SPECIES PERCENT OF MIX AS PER PRE-MIXED OSC SEED PACKET, OR EQUIVALENT.
- APPLY SEED MIX AT A RATE OF 25 kg PER HECTARE.
- SEEDING SHALL OVERLAP ADJACENT GROUND COVER BY 300 mm.
- APPLY ANNUAL RYE GRASS / ANNUAL OATS NURSE CROP AT A RATE OF 30 kg PER HECTARE.

WET MEADOW MARSH SEED MIX - OSC 8195

COMMON NAME	SPECIES
SWAMP MILKWEED	<i>Asclepias incarnate</i>
NEW ENGLAND ASTER	<i>Aster novae-angliae</i>
FLAT TOPPED ASTER	<i>Aster umbellatus</i>
FRINGED SEDGE	<i>Carex crinita</i>
BLUNT BROOM SEDGE	<i>Carex scoparia</i>
FOX SEDGE	<i>Carex vulpinoidea</i>
VIRGINIA WILD RYE	<i>Elymus virginicus</i>
SPOTTED JOE PYE WEED	<i>Eupatorium maculatum</i>
SOFT RUSH	<i>Juncus effusus</i>
RICE CUTGRASS	<i>Leersia oryzoides</i>
SQUARE STEMMED MONKEY FLOWER	<i>Mimulus ringens</i>
GREEN BULLRUSH	<i>Scirpus atrovirens</i>
WOOLGRASS	<i>Scirpus syperinus</i>
BLUE VERNIAN	<i>Verbena hastata</i>

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- THE UNWATERING DISCHARGE LOCATION MUST BE LOCATED AT LEAST 30 m FROM ANY WATERCOURSE OR WETLAND IN AN AREA WITH DENSE VEGETATIVE GROUND COVER AND WHERE THE DISCHARGE CAN RETURN TO THE WATERBODY DOWNSTREAM OF THE WORK AREA OVER THE GROUND COVER.
- FISH MUST BE REMOVED FROM THE WORK AREA ONCE ISOLATED. FISH SALVAGE MUST BE COMPLETED BY A QUALIFIED TECHNICIAN WITH A LICENSE FROM THE ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY.


2.	2024-03-14	BWM	FOURTH SUBMISSION
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1.	2023-02-07	BWM	THIRD SUBMISSION
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	DATE	BY	REVISIONS
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DESIGNED BY:	P.V.	CHECKED BY:	P.V.
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DRAWN BY:	B.W.M.	DATE:	MARCH 2024
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PAUL V. VILLARD  
PRACTISING MEMBER  
0957  
ONTARIO

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2024-03-14

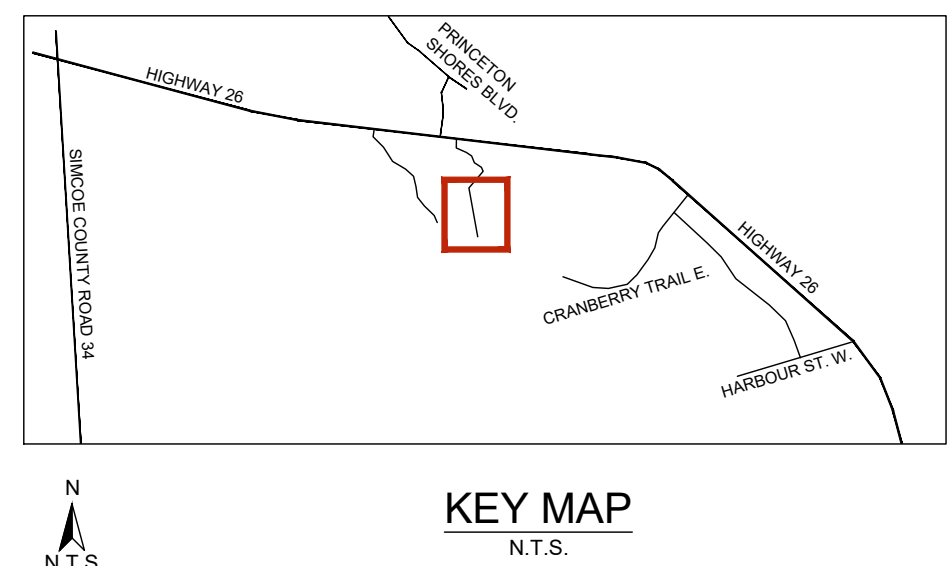
WYLDEWOOD CREEK  
BRANDY LANE HOMES

CHANNEL RESTORATION DESIGN  
RESTORATION DETAILS

PROJECT No.: 21032	DRAWING No.: DET-2
SCALE: AS NOTED	SHEET 3 OF 4

SCALED FOR PLOT ON 'ARCH D'





### GENERAL NOTES

1. ALL CONTRACT DRAWINGS, SPECIFICATIONS AND APPLICABLE PERMITS MUST BE KEPT ON SITE DURING CONSTRUCTION FOR REFERENCE.
2. THE CONTRACTOR MUST NOTIFY THE CONTRACT ADMINISTRATOR AND CONSERVATION AUTHORITY OF THE INTENT TO COMMENCE WORK AT LEAST 48 HOURS IN ADVANCE.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATES.
4. LAYOUT MUST BE REVIEWED AND APPROVED BY THE CONTRACT ADMINISTRATOR.

## TIMING OF WORKS

1. WORKS SHALL BE COMPLETED BETWEEN JULY 1ST TO MARCH 31ST.
2. TREE CLEARING SHOULD BE COMPLETED OUTSIDE THE BIRD NESTING SEASON TO COMPLY WITH THE FEDERAL MIGRATORY BIRDS CONVENTION ACT. ANY TREES THAT REQUIRE REMOVAL OUTSIDE OF THIS TIMING WINDOW MUST FIRST BE INSPECTED BY A QUALIFIED BIOLOGIST TO DETERMINE THE PRESENCE OF NESTING BIRDS.
3. THE WEATHER FORECAST SHOULD BE CONTINUALLY MONITORED TO ENSURE THAT WORKS ARE UNDERTAKEN ONLY DURING FAVOURABLE WEATHER CONDITIONS.
4. COMPLETE THE WORKS WITH MINIMAL AVOIDABLE INTERRUPTIONS ONCE THEY COMMENCE.

## SITE AND MATERIAL MANAGEMENT

1. ALL CONSTRUCTION EQUIPMENT AND MATERIALS (IMPORTED OR EXCAVATED) MUST BE STORED AT LEAST 30' AWAY FROM ANY WATERBODY IN A STABLE AREA ABOVE THE ACTIVE FLOODPLAIN, OR IN A DESIGNATED STAGING/STORAGE AREA. EQUIPMENT AND MATERIALS MUST BE PROTECTED FROM THE FLOODPLAIN TO PREVENT IT FROM CAUSING A SPILL OR AN OBSTRUCTION TO FLOW MUST BE MOVED A STABLE AREA ABOVE ACTIVE FLOODPLAIN.
2. STOCKPILES MUST BE LOCATED OUTSIDE THE ISOLATED WOE AREA. STAGING AREAS MUST BE PROTECTED FROM THE FLOODPLAIN WITH THE APPLICATION OF A NURSE CROP AT A RATE OF 60 TON/HA.
3. STABILIZE, TEMPORARILY OR PERMANENTLY, ANY DISTURBED AREAS FOR WOE PROGRESSES, OR SOON AS CONDITIONS ALLOW. COVER THE SOILS THAT ARE STORED FOR PROLONGED PERIODS BY TEMPORARILY INSTALL A BIODEGRADABLE CONTROL BLANKET ON EXPOSED SOILS, OR APPLY A NURSE CROP AT A RATE OF 60 TON/HA.
4. MINIMIZE THE AREA OF DISTURBANCE TO THE EXTENT POSSIBLE.
5. ALL DISTURBED AREAS MUST BE PROTECTED AND DELINEATED WITH CONSTRUCTION FENCING OR TREE PROTECTION BARRIERS.
6. ALL WORKS IN THE AREA REQUIRED BY THE CONSERVATION AUTHORITY MUST BE MAINTAINED OR PATCHED, UNLESS OTHERWISE AUTHORIZED IN THE APPLICABLE PERMIT.

## EROSION AND SEDIMENT CONTROL

1. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO START OF WORKS.
2. SEDIMENT CONTROLS MUST BE INSPECTED DAILY TO ENSURE THAT THEY ARE IN GOOD REPAIR AND FUNCTIONING AS INTENDED.
3. EROSION AND SEDIMENT CONTROLS MUST BE MAINTAINED DURING CONSTRUCTION, AND ANY REQUIRED REPAIRS OR REPLACEMENTS MUST BE COMPLETED IMMEDIATELY.
4. EROSION AND SEDIMENT CONTROLS MAY REQUIRE PERIODIC ADJUSTMENTS TO REFLECT CHANGING SITE CONDITIONS. ANY CHANGES TO THE EROSION AND SEDIMENT CONTROL PLAN BEYOND MINOR ADJUSTMENTS MUST BE APPROVED BY THE CONTRACT ADMINISTRATOR.
5. ADDITIONAL EROSION AND SEDIMENT CONTROL SUPPLIES MUST BE KEPT ON SITE IN ORDER TO FACILITATE IMMEDIATE REPAIRS.
6. ALL TEMPORARY SEDIMENT CONTROLS MUST BE REMOVED AFTER THE CONTRACT ADMINISTRATOR DEEMS THE SITE TO BE STABLE.
7. ANY ADJUSTMENTS TO EROSION AND SEDIMENT CONTROLS MADE BY THE CONTRACTOR WILL BE DOCUMENTED IN WRITING.

## DELETERIOUS SUBSTANCE CONTROL/SPILL MANAGEMENT

1. PREVENT THE RELEASE OF SEDIMENT, SEDIMENT-LADEN WATER, RAW SEWAGE, CONCRETE LEACHATE OR ANY OTHER DELETERIOUS SUBSTANCES INTO ANY WATERBODY, RAVINE OR STORM SEWER SYSTEM.
2. ENSURE EQUIPMENT AND MACHINERY ARE IN GOOD OPERATING CONDITION (POWER WASHED), FREE OF LEAKS, EXCESS OIL AND GREASE.
3. NO EQUIPMENT REFUELLING OR SERVICING SHOULD BE UNDERTAKEN WITHIN 30 m OF ANY WATERCOURSE OR SURFACE WATER DRAINAGE.
4. A SPILL CONTAINMENT KIT MUST BE READILY ACCESSIBLE ON SITE IN THE EVENT OF A RELEASE OF A DELETERIOUS SUBSTANCE TO THE ENVIRONMENT. ONSITE STAFF MUST BE TRAINED IN ITS USE.
5. THE CONTRACT ADMINISTRATOR MUST BE NOTIFIED IMMEDIATELY IN THE EVENT OF A SPILL OF DELETERIOUS SUBSTANCE.

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