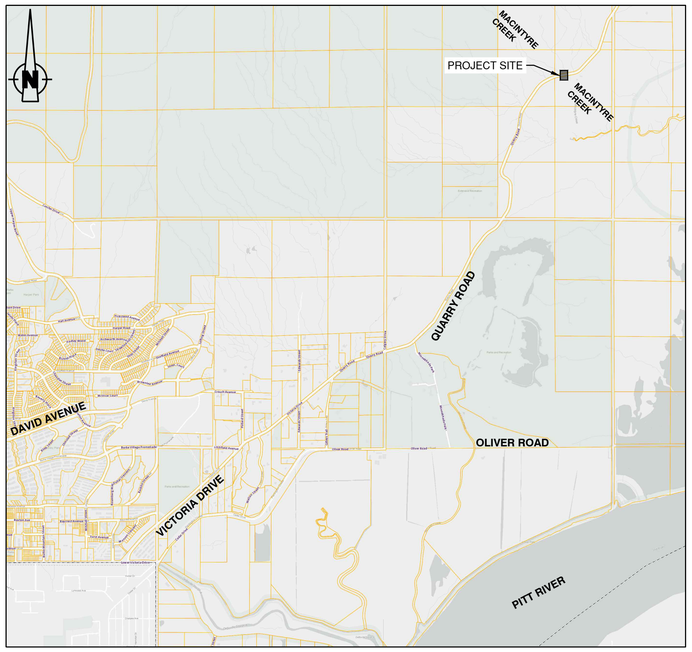
CITY OF COQUITLAM

3000 GUILDFORD WAY, COQUITLAM, BC V3B 7N2

MACINTYRE CREEK CULVERT REPLACEMENT

ISSUED FOR TENDER - DEC 03, 2025



SITE MAP
Scale: N.T.S.

DRAWING INDEX			
SHEET #	DWG TYPE	DRAWING TITLE	DWG #
		COVER SHEET	
01		GENERAL NOTES AND LEGEND	24-0260-N1
02	STORM	MACINTYRE CREEK PLAN	24-0260-KP
03	STORM	MACINTYRE CREEK CULVERT CROSSING	24-0260-ST1
04	STORM	INLET AND OUTLET DETAILS	24-0260-ST2
05	ROADWORKS	QUARRY ROAD	24-0260-R1

BINNIE
The people behind your infrastructure.

R.F. BINNIE & ASSOCIATES LTD.
300 - 4940 Canada Way,
Burnaby, BC V5G 4K6
TEL 604 420 1721
BINNIE.com

Coquitlam

GENERAL CONSTRUCTION NOTES

1. ALL MATERIALS SUPPLIED AND CONSTRUCTION PERFORMED SHALL BE IN ACCORDANCE WITH THE CITY OF COQUITLAM DESIGN CRITERIA, THE LATEST EDITION OF WORKSAFE BC, THE MASTER MUNICIPAL CONTRACT DOCUMENTS (MMCD) - 2009 EDITION (PLATINUM BOOK), AND ANY OTHER APPLICABLE DESIGN CRITERIA, SPECIFICATIONS, STANDARD DRAWINGS, AND CONSTRUCTION SPECIFICATIONS.
2. ALL MATERIAL TESTING MUST BE DONE IN ACCORDANCE WITH THE MMCD; TESTING TO BE CARRIED OUT BY QUALIFIED MATERIAL TESTING FIRM AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR IS TO PROVIDE COPIES OF ALL TEST RESULTS TO THE CONTRACT ADMINISTRATOR (CA). THE CONTRACTOR IS TO NOTIFY THE CA 48 HOURS PRIOR TO CONSTRUCTION AND VERIFY THEY HAVE THE LATEST DRAWINGS ISSUED FOR CONSTRUCTION. COPIES OF THE MMCD CAN BE OBTAINED AT MASTER MUNICIPAL CONSTRUCTION DOCUMENTS ASSOCIATION (MMCDA), 102-211 COLUMBIA STREET, VANCOUVER, BC V6B 2R5.
3. THE CONTRACTOR IS TO NOTIFY THE CITY OF COQUITLAM ENGINEERING DEPARTMENT 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WITHIN THE ROAD ALLOWANCES AND RIGHTS-OF-WAYS.
4. ALL WORK SHALL PASS THE INSPECTION OF THE ENGINEERING DEPARTMENT OF THE CITY OF COQUITLAM.
5. THE CONTRACTOR SHALL HAVE COMPLETE CONTROL OF THE WORK AND SHALL EFFECTIVELY DIRECT AND SUPERVISE THE WORK SO AS TO ENSURE CONFORMANCE WITH THE CONTRACT DOCUMENTS, SUBJECT TO THE OWNER'S RIGHTS AS SPECIFICALLY SET OUT IN THE CONTRACT DOCUMENTS TO GIVE DIRECTIONS REGARDING WORK, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING THE VARIOUS PARTS OF THE WORK UNDER THE CONTRACT.
6. THE CONTRACTOR SHALL MAINTAIN THE WORK IN A TIDY CONDITION AND FREE FROM THE ACCUMULATION OF WASTE, DEBRIS, AND WASTE PRODUCTS, OTHER THAN THAT CAUSED BY THE OWNER OR ITS EMPLOYEES.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION SAFETY AT THE PLACE OF WORK AS AND TO THE EXTENT REQUIRED BY APPLICABLE CONSTRUCTION SAFETY LEGISLATION, REGULATIONS AND CODES, INCLUDING THE WORKERS COMPENSATION ACT AND APPLICABLE REGULATIONS, AND BY GOOD CONSTRUCTION PRACTICE.
8. THE CONTRACTOR SHALL ENSURE THAT ALL APPROVALS AND/OR PERMITS REQUIRED FOR THE PROPOSED WORKS HAVE BEEN OBTAINED FROM ALL AUTHORITIES AND AGENCIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
9. WORKSAFE B.C. IS TO BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION.
10. THE LOCATIONS OF THE EXISTING UTILITIES, AS SHOWN ON THE DESIGN DRAWINGS, ARE APPROXIMATE ONLY AND THIS INFORMATION MAY NOT BE FULLY ACCURATE OR COMPLETE. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL LOCATE AND EXPOSE ALL EXISTING UTILITIES AT ALL TIE-IN POINTS, AT ALL POINTS WHERE A CONFLICT MAY ARISE DURING THE CONSTRUCTION OF THE PROPOSED WORKS, AND TO CONFIRM DESIGN ELEVATIONS. IN THE EVENT OF A CONFLICT, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE CA FOR DIRECTIONS. THE CONTRACTOR SHALL ASSUME ALL COSTS AND EXPENSES THAT MAY OCCUR FOR DAMAGES, SUPPORT OF AND REPAIR TO SUCH PLANT BY REASON OF THE NEGLIGENCE OF HIS OPERATIONS. (EXISTING UTILITIES SHOWN ARE DERIVED FROM AS-BUILT INFORMATION AND ALL UTILITIES MAY NOT BE NECESSARILY SHOWN).
11. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED TO EXISTING STREET OR SERVICES BY CONSTRUCTION EQUIPMENT AND/OR TRUCKS HAULING MATERIAL TO THE SITE. THIS MAY INCLUDE DAILY CLEANING OR SWEEPING EXISTING ROADS OF DIRT AND DEBRIS CAUSED BY CONSTRUCTION ACTIVITIES.
12. ALL CONSTRUCTION IN AND ABOUT A WATERCOURSE MUST RECEIVE PRIOR APPROVAL FROM THE PROVINCIAL MINISTRY OF ENVIRONMENT AND/OR THE FEDERAL DEPARTMENT OF FISHERIES AND OCEANS WHERE APPLICABLE.
13. EXISTING UNDERGROUND UTILITY TRENCHES ADJACENT TO THE PROPOSED UNDERGROUND UTILITY INSTALLATION SHALL BE ADEQUATELY PROTECTED FROM SLOUGHING IN ORDER TO PREVENT OVER-WIDTH EXCAVATION.
14. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR EXISTING SERVICES AND ANY SERVICES DISTURBED ARE TO BE REPLACED TO THE SATISFACTION OF THE CITY OF COQUITLAM OR OTHER APPROVING AGENCIES.
15. ANY MATERIAL SUBSTITUTION AND/OR CHANGE IN DESIGN MUST OBTAIN WRITTEN APPROVAL FROM THE CA PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CITY SHALL BE NOTIFIED OF ANY SUBSTITUTION AND/OR CHANGE IN DESIGN. ANY CHANGE IN DESIGN WILL REQUIRE A DRAWING REVISION.
16. ALL SURVEY MONUMENTS, BENCHMARKS, AND LEGAL PINS MUST BE PROTECTED AND ANY DAMAGE CAUSED BY THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
17. ALL EXISTING IMPROVEMENTS INCLUDING EXISTING LANDSCAPING, FENCES, SIDEWALKS, RETAINING WALLS, ETC. SHALL BE RESTORED TO THE SATISFACTION OF THE CITY OF COQUITLAM. THE CITY OF COQUITLAM MAY REQUIRE WRITTEN ACCEPTANCE BY THE AFFECTED PROPERTY OWNERS FOR RESTORATION WORKS PERFORMED BY THE CONTRACTOR.
18. FOR RECOMMENDATIONS REGARDING THE SUBSURFACE CONDITIONS, SITE PREPARATION, AND THE PROPOSED ROAD STRUCTURE, REFER TO THE BRAUN GEOTECHNICAL LTD GEOTECHNICAL REPORT (FILE REF: 24-9854), AND DESIGN DRAWINGS 24-9854-01 TO 03 PRIOR TO THE START OF CONSTRUCTION.
19. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNERS FOR A TEMPORARY ENCROACHMENT ON PRIVATE PROPERTY.
20. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING THE NECESSARY FIELD SURVEYS TO PERMIT THE LAYOUT, CONSTRUCTION AND MEASUREMENT OF QUANTITIES OF THE WORK FOR PAYMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS FIELD SURVEY, WHICH IS DEEMED TO BE INCLUDED IN THE UNIT PRICES TENDERED FOR THE ITEMS IN THE SCHEDULE OF QUANTITIES AND PRICES.

    THE CA WILL PROVIDE THE CONTRACTOR WITH CAD FILE WHICH CONTAINS HORIZONTAL AND VERTICAL SURVEY CONTROLS. THE CONTRACTOR SHALL GIVE NOTICE OF HIS SURVEY REQUIREMENTS AT LEAST TWO WORKING DAYS IN ADVANCE OF THE WORK AND SHALL PROTECT AND MAINTAIN THE CONTROLS PROVIDED. THE CONTRACTOR SHALL ENSURE THAT THE AREAS RECEIVING THE CONTROLS ARE UNOBSTRUCTED AND CLEAR OF DEBRIS, EQUIPMENT, EXCAVATIONS AND ANY OTHER WORK PRIOR TO REQUESTING THE CONTROLS. RE-ESTABLISHMENT OF CONTROLS, SURVEY POSTS AND BENCHMARKS WHICH ARE DAMAGED OR LOST SHALL BE AT THE CONTRACTOR'S EXPENSE.
21. THE CONTRACTOR SHALL BE RESPONSIBLE IN PROVIDING TRAFFIC CONTROL, SIGNAGE, DELINEATORS, BARRICADES, AND OTHER MISCELLANEOUS WARNING DEVICES AS REQUIRED TO MAINTAIN VEHICLE AND PEDESTRIAN FLOW AND FOR EMERGENCY VEHICLE ACCESS. A TRAFFIC MANAGEMENT PLAN WILL BE PROVIDED AS REQUIRED.
22. CONSTRUCTION IN AND CLOSE TO A WATERCOURSE MUST RECEIVE PRIOR APPROVAL FROM THE PROVINCIAL MINISTRY OF ENVIRONMENT AND/OR THE FEDERAL DEPT. OF FISHERIES AND OCEANS, WHERE APPLICABLE, BEFORE TOWNSHIP OF LANGLEY ACCEPTS OWNER'S CIVIL PLANS.
23. CONTACT COQUITLAM ENGINEERING DEPT. MIN. 48HRS PRIOR TO COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR WORKS INSPECTOR.
24. ALL EXCAVATION WITHIN EXISTING TREE DRIP LINES TO BE BY HAND OR HYDRO-VAC.
25. THE CONTRACTOR SHALL KEEP PROPER AS BUILT INFORMATION DURING CONSTRUCTION AND SUBMIT THE INFORMATION TO THE CONTRACT ADMINISTRATOR PRIOR TO THE REQUEST OF SUBSTANTIAL COMPLETION CERTIFICATE. THE CONTRACTOR SHALL PROVIDE TO THE CA ONE (1) SET OF AS-CONSTRUCTED DRAWINGS SHOWING THE LOCATION AND ELEVATION OF ALL NEW AND EXISTING WORKS ENCOUNTERED ON THE PROJECT.
26. THE CONTRACTOR SHOULD KEEP RECORDS AND/OR PHOTOS OF EXISTING RETAINING WALLS, TREES, DRIVEWAYS AND WALKWAYS WHERE REQUIRED.
27. ALL TREES DESIGNATED TO BE SAVED ARE TO BE PROTECTED BY SNOW FENCING.
28. ANY EXISTING SIGNS TEMPORARILY REMOVED DURING CONSTRUCTION WILL BE REINSTATED AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
29. RIP RAP TO BE CLEAN ANGULAR HARD FRACTURED STONE (GRADATION AS SPECIFIED IN PLAN VIEW).
30. CARE IS TO BE TAKEN TO MINIMIZE DISTURBANCE TO STREAM SIDE VEGETATION
31. THE CONTRACTOR IS TO MAINTAIN A COMPLETE SET OF CIVIL DRAWINGS MARKED IN RED TO RECORD THE CONSTRUCTED LOCATION OF ALL UTILITIES ON THIS PROJECT. THIS MARKED UP SET MUST BE AVAILABLE ONSITE FOR THE ENGINEER OR CITY TO REVIEW AT ALL TIMES. UPON COMPLETION OF EACH UTILITY AND AGAIN UPON COMPLETION OF THE CIVIL WORK, A MARKED-UP SET IS TO BE SUBMITTED TO R.F.BINNIE FOR THEIR RECORDS.
32. ADDITIONALLY, THE CONTRACTOR SHALL PROVIDE FIELD SURVEY PICKUP DURING THE COURSE OF CONSTRUCTION TO DOCUMENT RECORD INFORMATION ON ALL UNDERGROUND INSTALLATIONS OF MAINS, SERVICE CONNECTIONS, CHAMBERS, MANHOLES, APPURTENANCES, STRUCTURES AND FURNISHINGS. THE CONTRACTOR WILL BE CONTRACTUALLY REQUIRED TO SURVEY VERTICAL AND HORIZONTAL OF THE INSTALLATION OF UNDERGROUND PROPOSED UTILITIES (STORM, SANITARY, WATER). A RECORD DRAWING TOPOGRAPHICAL SURVEY SHOULD BE COMPLETED AFTER CONSTRUCTION TO PICK UP ALL SURFACE FEATURE.

ROADWORKS NOTES:

1. SUBGRADE AND GRANULAR BASE MATERIALS SHALL BE COMPACTED TO AT LEAST 95% OF THIER MODIFIED PROCTOR DRY DENSITY UNLESS NOTED OTHERWISE.
2. ALL LOOSE AND ORGANIC MATERIAL SHALL BE EXCAVATED AND REMOVED FROM THE ROADWAY.
3. THE GRANULAR ROAD STRUCTURE SHOULD EXTEND BEYOND THE EDGE OF THE ROAD SURFACE TO A DISTANCE AT LEAST EQUAL TO THE PAVEMENT STRUCTURE.
4. THE PROPOSED PAVEMENT STRUCTURE SHALL BE AS DESIGNATED BY THE ROADWORKS DESIGN DRAWINGS.
5. CHANGES IN GRADE SHALL BE FORMED WITH SMOOTH CURVES.
6. ALL PAVEMENT MARKINGS AND SIGNAGE TO BE REINSTATED IN THE PLACE OF WORK UNLESS OTHERWISE NOTED. CONTRACTOR RESPONSIBLE TO PERFORM PRE AND POST CONSTRUCTION SURVEY WORK ESSENTIAL FOR THE REINSTATEMENT OF PAVEMENT MARKINGS AND SIGNAGE.
7. OVER-EXCAVATION: WHERE DIRECTED ON THE DESIGN DRAWINGS AND BY THE CONTRACT ADMINISTRATOR, EXCAVATE UNSUITABLE MATERIAL AND REPLACE PER GEOTECHINCAL ENGINEERS RECOMMENDATIONS AND APPROVAL.
8. CONTRACTOR TO IDENTIFY ANY SURVEY MONUMENTS AND LEAD PLUGS THAT MAY BE DISTURBED DURING CONSTRUCTION AND ARRANGE WITH THE OWNER'S SURVEY DEPARTMENT 5 DAYS PRIOR TO CONSTRUCTION TO REFERENCE LOCATIONS BEFORE WORK COMMENCES.

ENVIRONMENTAL NOTES:

1. ALL WORK TO BE IN ACCORDANCE WITH MUNICIPAL, PROVINCIAL AND FEDERAL ENVIRONMENTAL REQUIREMENTS (BEST MANAGEMENT PRACTICES/GUIDELINES), INCLUDING ALL ASSOCIATED WORK AND OTHER WORKS NOT SPECIFIED ON THE CONTRACT DRAWINGS, BUT AS DIRECTED BY THE CONTRACT ADMINISTRATOR TO THE SATISFACTION OF THE PROJECT'S QUALIFIED ENVIRONMENTAL PROFESSIONAL.
2. CONTRACTOR IS RESPONSIBLE FOR BEING FAMILIAR WITH ALL MUNICIPAL, PROVINCIAL AND FEDERAL REQUIREMENTS.
3. THE CONTRACTOR SHALL SUBMIT AN EROSION AND SEDIMENT CONTROL (ESC) PLAN FOR APPROVAL BY THE CITY BEFORE STARTING ANY CONSTRUCTION.
4. AN APPROPRIATELY SIZED EMERGENCY SPILL KIT IS TO BE KEPT ON-SITE AT ALL TIMES THE CONTRACTOR IS OPERATING. SPILL KITS MUST INCLUDE BROOMS, SPILL PADS, GLOVES, AND CATCH BASIN BARRIERS.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DEVELOP A SPILL RESPONSE PLAN THAT PROVIDES WRITTEN SAFE WORK PROCEDURES IN THE EVENT OF A SPILL.
6. CONTRACTOR TO PROVIDE TEMPORARY DRAINAGE AND GRADING AS REQUIRED IN AND AROUND THE SITE TO PROTECT THE EXCAVATION AND WORK AREA DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ANY DRAINAGE FROM INADEQUATE DRAINAGE PROTECTION. THE DISCHARGE OF ANY SUCH TEMPORARY WORKS SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ENVIRONMENTAL NOTES.
7. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING NO SEDIMENT OR SEDIMENT-LADEN WATER, RAW CONCRETE LEACHATE OR OTHER DELETERIOUS SUBSTANCE IS DISCHARGED FROM THE WORKS INTO ANY DITCH, WATERCOURSE, RAVINE AND STORM SEWER SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR TREATING AND FOR THE METHODS USED TO TREAT SEDIMENT-LADEN WATER.
8. CONTRACTOR TO MAINTAIN SILT CONTROL FACILITIES FROM CONTRACT START TO FINAL APPROVAL. CONTRACTOR IS RESPONSIBLE FOR TREATING AND FOR THE METHODS USED TO TREAT THE SITE RUNOFF TO ENSURE AT NO TIME DOES THE TOTAL SUSPENDED SOLIDS EXCEED 50 NTU. PH TO BE BETWEEN 6.5-8.5
9. AVOID EARTH DISTURBING ACTIVITIES DURING SUBSTANTIAL RAIN EVENTS.
10. ALL CATCH BASINS AND LAWN BASINS IN PROXIMITY TO THE SITE ARE TO BE FITTED WITH A SEDIMENT CONTROL DONUT (NILEX MEDIUM - PERMEABILITY 0.38 cms OR APPROVED EQUIVALENT) TO ENSURE STORM WATER QUALITY. CONTROL DEVICES TO BE MAINTAINED IN A FULLY FUNCTIONAL STATE AT ALL TIMES UNTIL FINAL COMPLETION OF THE WORKS.
11. CONTRACTOR IS RESPONSIBLE TO INSPECT ALL SILT CONTROL FACILITIES AND TO ENSURE MAINTENANCE OF ALL FACILITIES TO COMPLETION OF PROJECT.
12. SILT FENCE/FILTER FABRIC TO BE AMOCO 2130 AND AMOCO 4535 (C-10) RESPECTIVELY OR APPROVED EQUIVALENT.
13. HAND-SEED FOR SLOPES (EXPOSED NATIVE AND PLACED TOPSOIL). SEED WITH COASTAL RECLAMATION MIX (WITH 5% ALDER SEED) AND COVER IN STRAW FOR ESC (TYP).
14. ALL TREES TO BE RETAINED UNLESS SPECIFICALLY NOTED FOR REMOVAL ON DRAWING. IF REMOVAL IS REQUIRED FOR CONSTRUCTION, CONTRACTOR TO REVIEW AND CONFIRM WITH ENVIRONMENTAL OPERATIONS PRIOR TO PROCEEDING.
15. VEGETATION TO BE REPLANTED AS PER ENVIRONMENTAL SPECIFICATIONS

GEOTECHNICAL NOTES

1. REFER TO BRAUN GEOTECHNICAL LTD DRAWING 24-09854-03 FOR NOTES.

TABLE A: TEST FOR RIPRAP MATERIAL PROPERTIES

PROPERTY	ASTM TEST DESIGNATION	ALLOWABLE VALUE
SPECIFIC GRAVITY	D6473	≥2.50
ABSORPTION	D6473	≤2%
SOUNDNESS BY USE OF MAGNESIUM SULPHATE	D5240	≤10% (FOLLOWING 5 CYCLES)
MICRO-DEVAL ABRASION LOSS FACTOR	D6928	≤20%

TABLE B: RIP RAP GRADATION REQUIREMENTS BY CLASS

CLASS OF RIPRAP (kg)	ROCK MASS (kg)			
	PERCENTAGE SMALLER THAN GIVEN ROCK MASS			MAX SIZE
	15%	50%	85%	
100	10	100	300	500
250	25	250	750	1250

TABLE C: RIP RAP GRADATION AND INTERMEDIATE DIMENSION OF ROCK BY CLASS

CLASS OF RIPRAP (kg)	ROCK MASS (kg)			
	PERCENTAGE SMALLER THAN INTERMEDIATE DIMENSION			MAX SIZE
	15%	50%	85%	
100	200	425	610	750
250	270	575	830	1000

NOTE: TABLE C SHOWS THE INTERMEDIATE DIMENSION AS DEFINED IN THE WOLMAN METHOD AS PER FHWA FLH T 521 CORRESPONDING TO ROCK MASS SHOWN IN TABLE B, BASED ON SPHERICAL VOLUME, USING SPECIFIC GRAVITY = 2.50. REGARDLESS OF ACTUAL SOURCE SPECIFIC GRAVITY, THE DIMENSIONS INDICATED REMAIN APPLICABLE (SUBJECT TO LIMITS SPECIFIED IN TABLE A)

LEGEND

EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION
IPF		IRON PROPERTY PIN	W	W	WATERMAIN
		BUILDING			WATER SERVICE CONNECTION
		EDGE OF PAVEMENT			WATER VALVE
		CURB & GUTTER			AIR VALVE
		TRUCK ROUTE	H	H	HYDRANT & VALVE ASSEMBLY
SFM	SFM	SANITARY FORCE MAIN	YH		YARD HYDRANT
C	C	COMBINED SEWER			CAPPED END
S	S	SANITARY SEWER	M	M	WATER METER
		SANITARY CONNECTION & INSPECTION CHAMBER			BLOW-OFF
D	D	STORM SEWER	T	T	TELEPHONE U/G DUCTS & MANHOLE
		STORM CONNECTION & INSPECTION CHAMBER	L	L	STREET LIGHT U/G DUCTS & MANHOLE
		CATCH BASIN / LAWN BASIN LEAD	G	G	GASMAIN
FD	FD	FRENCH DRAIN	TR	TR	TRAFFIC SIGNAL U/G DUCTS
CO D	CO D	STORM SEWER & CLEANOUT	H	H	HYDRO U/G DUCTS
		CATCH BASIN - TOP INLET & SIDE INLET	CATV	CATV	CABLE TV U/G DUCTS
		LAWN DRAIN			ORNAMENTAL STREET LIGHT - DAVIT
		CATCH BASIN MANHOLE			ORNAMENTAL STREET LIGHT - POST TOP
		SWALE	UP	UP	UTILITY POLE
		DITCH			UTILITY POLE W/ LIGHT
		SIDEWALK (ASPHALT)	J	J	JUNCTION BOX
		SIDEWALK (CONCRETE)	9.27	9.270	GROUND ELEVATION
		RETAINING WALL			DIRECTION OF OVERLAND FLOW
		TOP OF SLOPE			TREE REMOVAL
		BOTTOM OF SLOPE			HANDRAIL
		RIP RAP AREA			CONCRETE LOCK BLOCK
		REVEGETATION AREA			

EGBC PERMIT No. 1001128

NOT FOR CONSTRUCTION

NOT TO SCALE

Edge of pavement; Watermain and valve; Drainage sewer, MH; Drainage ditch; Sanitary sewer, MH; Sanitary forcemain; Gasmain and valve; Hydro duct, MH; Telephone duct, MH
Hydrant; Water air valve; Water blowoff; Water service; Catch basin, top inlet; Catch basin, side inlet; Catch basin, round; Drainage service; Drainage cleanout
Sanitary service; Sanitary cleanout; Utility pole(joint pole); Utility pole with light; Streetlight, davit; Streetlight, post top; Comb signal pole; Traffic signal pole; Junction box
Hydro Guy Wire; Hydro Kiosk; Vegetation Conifer; Vegetation Deciduous; Vegetation Shrub; Survey Traverse Hub; Survey Iron Pin; Survey Lead Plug; Survey Monument

No.	Date	By	Revisions

Design by GB Date
Drawn by TL Date
Checked by JT Date
Approved by JT Date

BINNIE
The people behind your infrastructure.
TEL 604 420 1721 BINNIE.com

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

Scale horiz. N.T.S. Scale vert. N.T.S.
Sheet 01 of 05
Eng. Project No. 51145

Project: MACINTYRE CREEK CULVERT REPLACEMENT
Description: GENERAL NOTES AND LEGEND
File: 24-0260-N1 REV. 0

FILE: \\BC-RBF-FILE001\PROJECTS\2024\24-0260\00 - CAD FILES\DWG\PAN\24-0260-00-GNR.DWG LAYOUT: GENERAL NOTES AND LEGEND LAST SAVED BY: SUNG PLOTTED BY: SUNG
PLOTTED: 2025-12-01 9:53:48 AM
Plot Date: December 1, 2025

BENCHMARK:
MONUMENT 77H4129 LOCATED AT INTERSECTION
OF QUARRY ROAD & GILLEYS TRAIL
ELEV. 17.527M (CVD28GVRD2018)

J. C. TOUSSAINT
49168
BRITISH COLUMBIA
ENGINEER

0 1:200 8m

DISCLAIMER:
This drawing must not be reproduced without the written permission of R.F. Binnie & Associates Ltd.
This drawing is not to be used for construction unless it is stamped "ISSUED FOR CONSTRUCTION" and signed by R.F. Binnie & Associates Ltd. It is the contractor's responsibility to ensure that he is in possession of the latest revision of this drawing.

EGBC PERMIT No. 1001128

NOT FOR CONSTRUCTION

Edge of pavement	Hydrant	Sanitary service	Hydro Guy Wire
Watermain and valve	Water air valve	Sanitary cleanout	Hydro Kiosk
Drainage sewer, MH	Water blowoff	Utility pole(joint pole)	Vegetation Conifer
Drainage ditch	Water service	Utility pole with light	Vegetation Deciduous
Sanitary sewer, MH	Catch basin, top inlet	Streetlight, davit	Vegetation Shrub
Sanitary forcemain	Catch basin, side inlet	Streetlight, post top	Survey Traverse Hub
Gasmain and valve	Catch basin, round	Comb signal pole	Survey Iron Pin
Hydro duct, MH	Drainage service	Traffic signal pole	Survey Lead Plug
Telephone duct, MH	Drainage cleanout	Junction box	Survey Monument

No.	Date	By	Revisions

Design by GB	Date
Drawn by TL	Date
Checked by JT	Date
Approved by JT	Date

BINNIE
The people behind your infrastructure.
TEL 604 420 1721 BINNIE.com

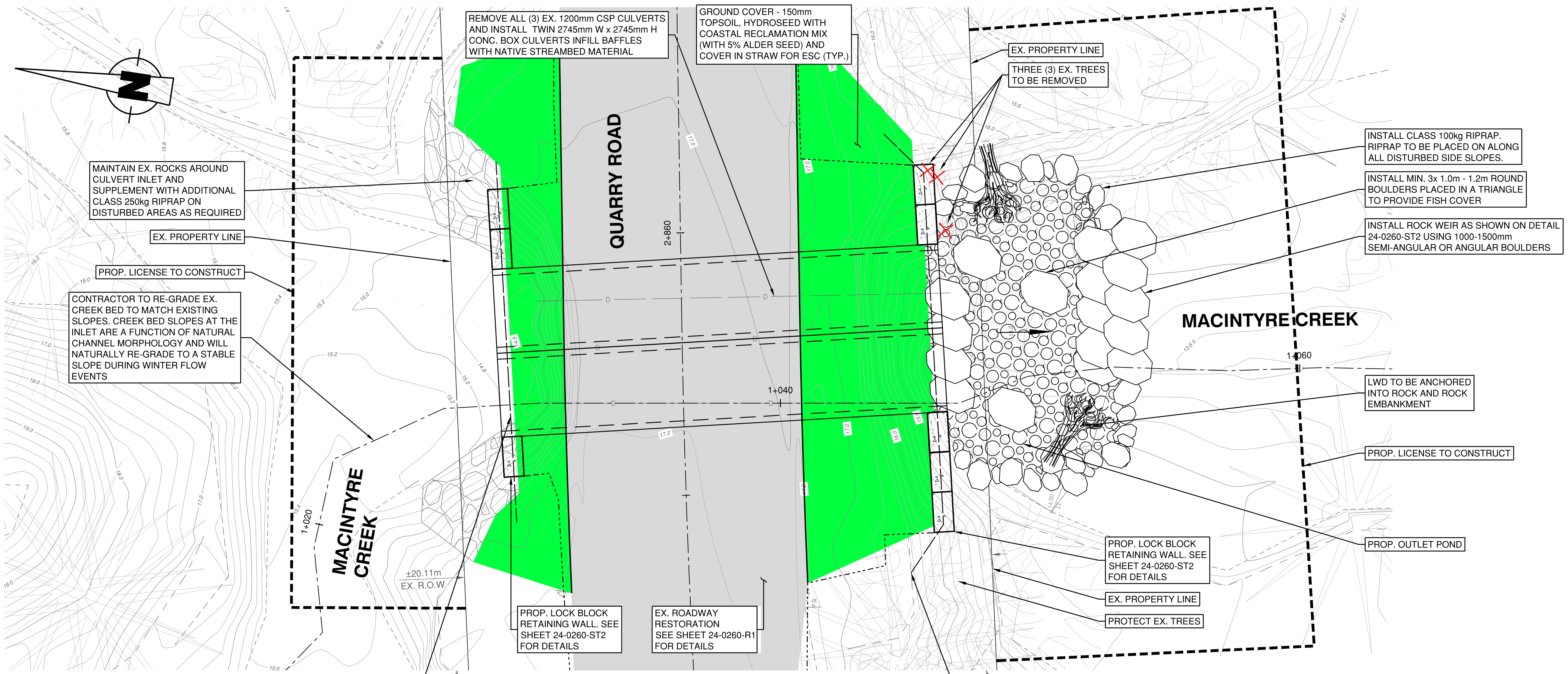
Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

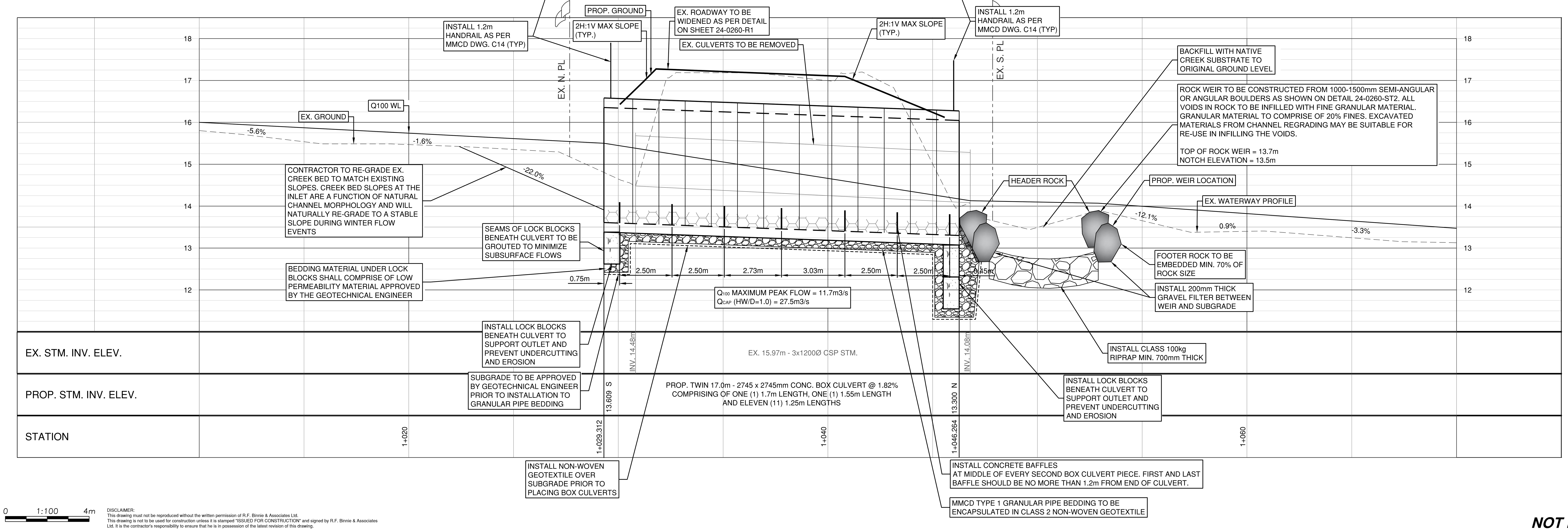
Scale horiz. 1:200 Scale vert. 1:200
Sheet 02 of 05
Eng. Project No. 51145

Project: MACKINTYRE CREEK CULVERT REPLACEMENT STORM
Description: MACINTYRE CREEK PLAN
File: 24-0260-KP REV. 0

Plot Date: December 1, 2025

BENCHMARK:
MONUMENT 77H4129 LOCATED AT INTERSECTION OF QUARRY ROAD & GILLEYS TRAIL
ELEV. 17.527M (CVD28GVRD2018)





0 1:100 4m

PROFESSIONAL ENGINEER — J. C. TOUSSAINT # 49168 — BRITISH COLUMBIA

EGBC PERMIT No. 1001128

NOT FOR CONSTRUCTION

Edge of pavement	Hydrant	Sanitory service	Hydro Guy Wire				
Watermain and valve	Water air valve	Sanitory cleanout	Hydro Kiosk				
Drainage sewer, MH	Water blowoff	Utility pole(joint pole)	Vegetation Conifer				
Drainage ditch	Water service	Utility pole with light	Vegetation Deciduous				
Sanitory sewer, MH	Catch basin, top inlet	Streetlight, davit	Vegetation Shrub				
Sanitory forcemain	Catch basin, side inlet	Streetlight, post top	Survey Traverse Hub				
Gasmain and valve	Catch basin, round	Comb signal pole	Survey Iron Pin				
Hydro duct, MH	Drainage service	Traffic signal pole	Survey Lead Plug				
Telephone duct, MH	Drainage cleanout	Junction box	Survey Monument				

No.	Date	By	Revisions

Design by GB — Date
Drawn by TL — Date
Checked by JT — Date
Approved by JT — Date

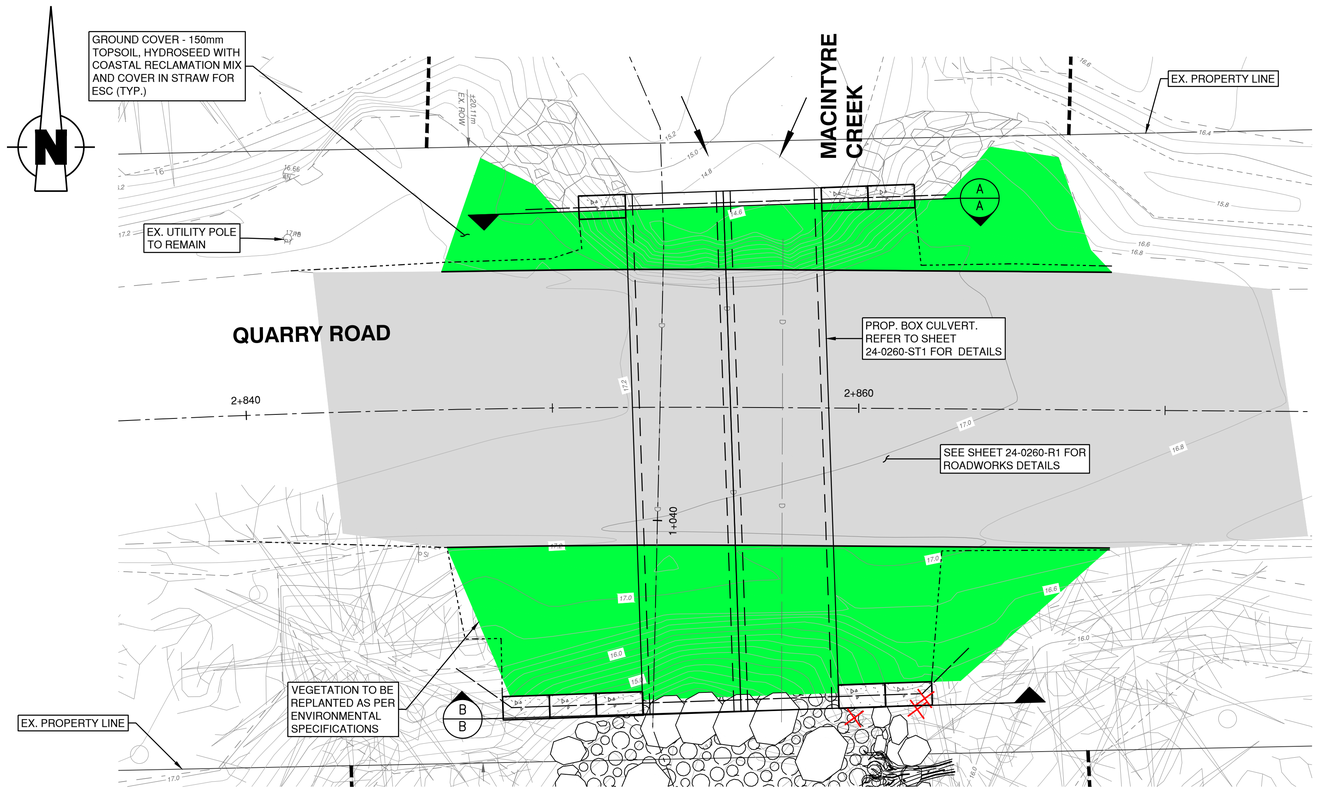
BINNIE — The people behind your infrastructure. TEL 604 420 1721 BINNIE.com

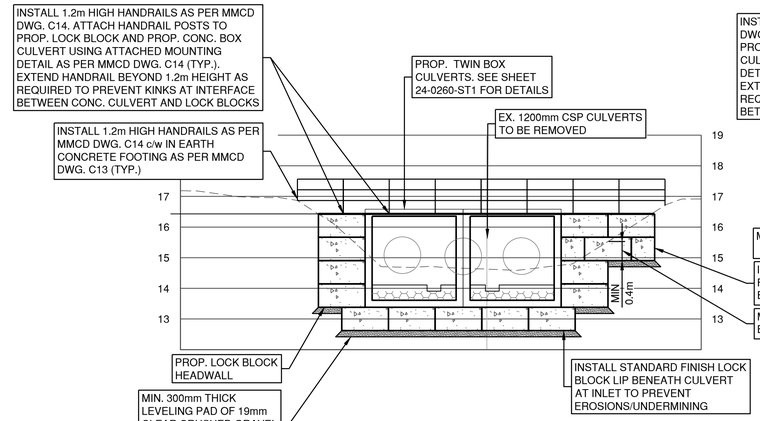
Coquitlam — Engineering & Public Works — 3000 Guildford Way, Coquitlam, B.C. V3B 7N2

Scale horiz. 1:100 Scale vert. 1:100
Sheet 03 of 05
Eng. Project No. 51145

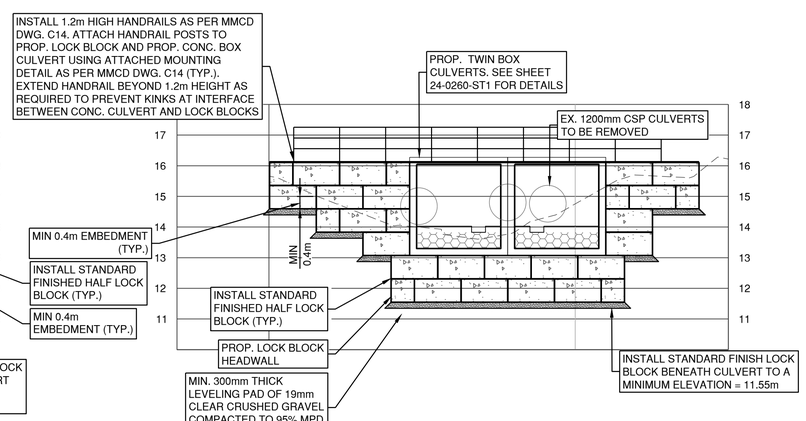
Project: MACINTYRE CREEK CULVERT REPLACEMENT
STORM
Description: MACINTYRE CREEK CULVERT CROSSING
File: 24-0260-ST1 REV. 0

Plot Date: December 3, 2025





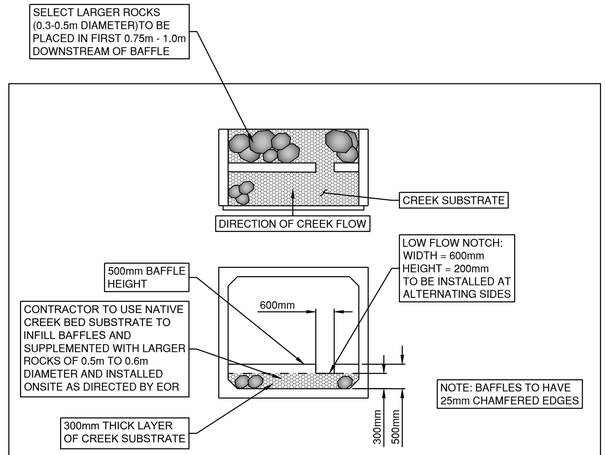
MACINTYRE CREEK INLET (NORTH)
SECTION A-A
FACING DOWNSTREAM
SCALE 1:100H
1:100V



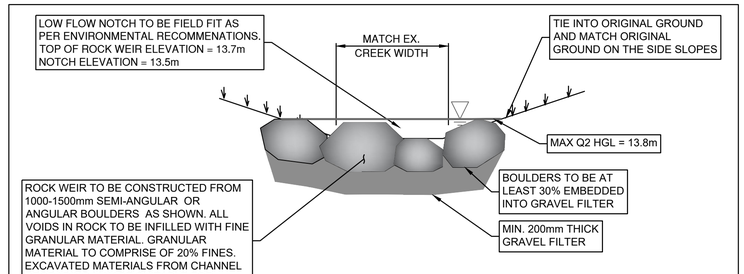
MACINTYRE CREEK OUTLET (SOUTH)
SECTION B-B
FACING UPSTREAM
SCALE 1:100H
1:100V

LOCKBLOCK WALL NOTES:

1. GEOGRID REINFORCING BEHIND LOCK BLOCK RETAINING WALL TO BE COMPLETE AS PER GEOTECHNICAL SPECIFICATIONS REFER TO BRAUN GEOTECHNICAL DWGS (24-9854-02 & 03) FOR DETAILS.
2. TEMPORARY EXCAVATION TO BE BACKFILLED WITH IMPORTED 75MM MINUS SAND AND GRAVEL COMPACTED TO NOT LESS THAN 95% MPD, UNLESS DIRECTED BY THE GEOTECHNICAL ENGNINEER
3. COMPACTION EQUIPMENT GREATER THAN 1000LB MUST NOT BE OPERATED WITH 2M OF THE BACK OF THE WALL.\
4. SUBGRADE TO BE REVIEWED/APPROVED BY BRAUN GEOTECHNICAL



TYPICAL LAYOUT FOR BOX CULVERT OFFSET FISH BAFFLES
NTS



ROCK WEIR TYPICAL SECTION
NTS

BOX CULVERT GENERAL NOTES

1. CULVERT TO BE INSTALLED WITH RUBBER GASKETED BOX CULVERT (FACTORY INSTALLED PRE-LUBRICATED SUPER-SEAL GASKET) MEETING ASTM C1677-11a SPECIFICATION OR APPROVED EQUIVALENT
2. REMOVAL OF EXISTING CULVERT AND INSTALLATION OF THE REPLACEMENT BOX CULVERT SECTIONS TO OCCUR IN ISOLATION OF FLOWING WATER. OWNER'S ENVIRONMENTAL MONITOR TO COMPLETE A FISH SALVAGE IN ADVANCE OF CONSTRUCTION.
3. CONSTRUCTION TO BE ISOLATED FROM THE ADJACENT WATERCOURSE TO PREVENT SEDIMENT FROM ENTERING. SEDIMENT CONTAINMENT METHODS AND ISOLATION PROCEDURES TO BE REVIEWED AND APPROVED BY THE ENVIRONMENTAL MONITOR PRIOR TO PROCEEDING.
4. THE PROJECT WORK AREA IS ADJACENT TO FISHERIES SENSITIVE HABITAT. CONTRACTOR'S ACTIVITIES TO COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL MONITOR, THE CONSTRUCTION MITIGATION PLAN PREPARED FOR THIS PROJECT, AND ALL APPLICABLE REGULATORY REQUIREMENTS OF THE DFO AND BC MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT
5. PIPE BEDDING SHOULD COMPRISE MMCD COMPLIANT TYPE 1 GRANULAR PIPE BEDDING AND SURROUND MATERIALS PLACED AND COMPACTED TO AT LEAST 95% MPD. SURROUND MATERIALS SHOULD BE PLACED AND COMPACTED TO AT LEAST 300mm HORIZONTALLY BEYOND THE CULVERT AND/ OR AS REQUIRED TO PERMIT COMPACTION. THE PIPE BEDDING SHOULD TYPICALLY BE ENCAPSULATED IN A CLASS 2 NON-WOVEN GEOTEXTILE.
6. IF WET TRENCH CONDITIONS ARE ENCOUNTERED A ZONE OF 20mm CLEAR CRUSHED GRAVEL WRAPPED IN CLASS 2 NON-WOVEN GEOTEXTILE MAY BE PLACED BELOW THE CULVERT
7. PRIOR TO PLACING ANY BEDDING MATERIAL, SUBGRADE SHALL BE REVIEWED BY BRAUN GEOTECHNICAL
8. CULVERT BACKFILL SHOULD CONSIST OF CLEAN, FREE DRAINING WELL GRADED SAND AND GRAVEL WITH LESS THAN 5% FINES (PERCENT PASSING THE No. 200 SIEVE). BACKFILL SHOULD BE PLACED AND COMPACTED IN MAXIMUM 300mm THICK LOOSE LAYERS WITH EACH LAYER COMPACTED TO AT LEAST 95% MPD. CULVERT BACKFILL AND PLACEMENT METHOD SHULD MEET THE CULVERT MANUFACTURER'S RECOMMENDATIONS.
9. BOX CULVERT SUPPLIER TO BE NOTIFIED IN ADVANCE OF SHOP DRAWING PRODUCTION THAT CONCRETE BOX PIECES AT INLET AND OUTLET WILL BE SITTING DIRECTLY ON LOCK BLOCK PIECES

BENCHMARK:
MONUMENT 77H4129 LOCATED AT INTERSECTION OF QUARRY ROAD & GILLEYS TRAIL
ELEV. 17.527M (CVD28GVRD2018)

0 1:100 4m

J. C. TOUSSAINT
49168
PROFESSIONAL ENGINEER
BRITISH COLUMBIA

EGBC PERMIT No. 1001128

NOT FOR CONSTRUCTION

Edge of pavement		Hydrant		Sanitary service		Hydro Guy Wire	
Watermain and valve	W	Water air valve		Sanitary cleanout		Hydro Kiosk	
Drainage sewer, MH	D	Water blowoff		Utility pole(joint pole)		Vegetation Conifer	
Drainage ditch		Water service		Utility pole with light		Vegetation Deciduous	
Sanitary sewer, MH	S	Catch basin, top inlet		Streetlight, davit		Vegetation Shrub	
Sanitary forcemain	SFM	Catch basin, side inlet		Streetlight, post top		Survey Traverse Hub	
Gasmain and valve	G	Catch basin, round		Comb signal pole		Survey Iron Pin	
Hydro duct, MH	H	Drainage service		Traffic signal pole		Survey Lead Plug	
Telephone duct, MH	T	Drainage cleanout		Junction box		Survey Monument	

No.	Date	By	Revisions

Design by GB Date
Drawn by TL Date
Checked by JT Date
Approved by JT Date

BINNIE
The people behind your infrastructure.
TEL 604 420 1721 BINNIE.com

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

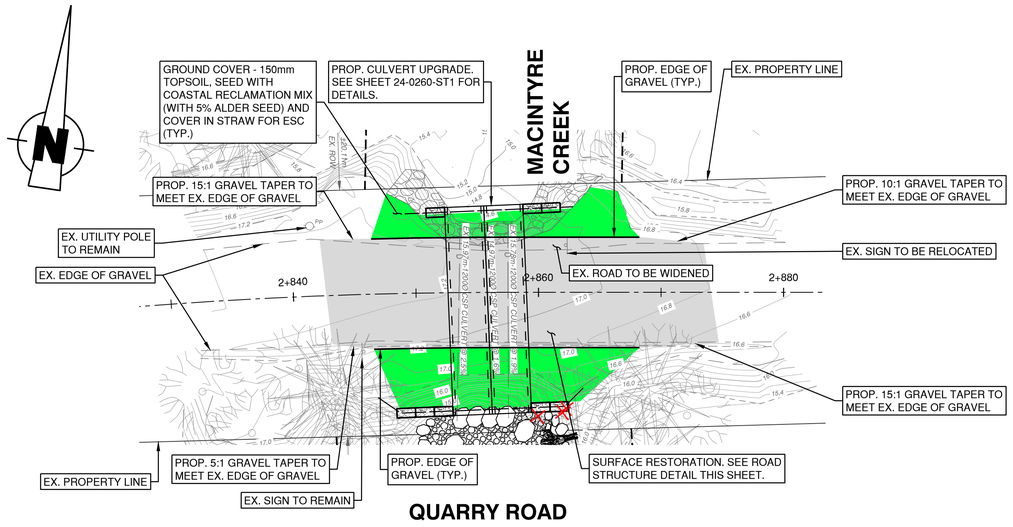
Scale horiz. 1:100 Scale vert. 1:100
Sheet 04 of 05
Eng. Project No. 51145

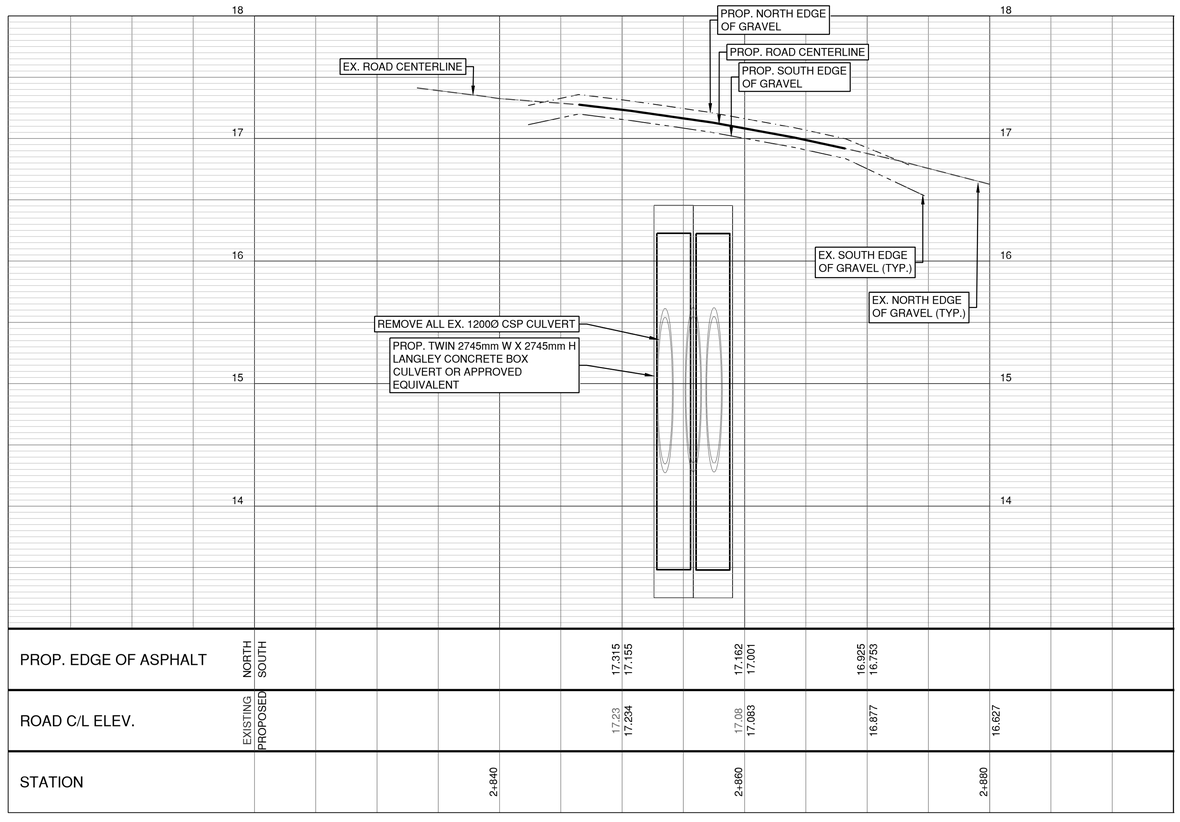
Project: MACINTYRE CREEK CULVERT REPLACEMENT STORM
Description: INLET AND OUTLET DETAILS
File: 24-0260-ST2 REV. 0

PLOTTED: 2025-12-03 12:51:51 PM
FILE: \\BC-BIF-FILE04\PROJECTS\2024\24-0260\00 - CAD FILES\DWG\PAN_24-0260_CULVERT-ING LAYOUT, INLET AND OUTLET DETAILS - LAST SAVED BY: SUNG PLOTTED BY: SUNG

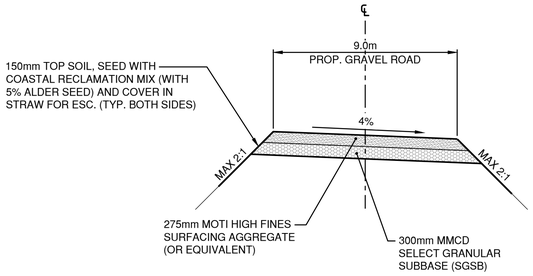
Plot Date: December 3, 2025

BENCHMARK:
MONUMENT 77H4129 LOCATED AT INTERSECTION OF QUARRY ROAD & GILLEYS TRAIL
ELEV. 17.527M (CVD28GVRD2018)





PROP. EDGE OF ASPHALT	NORTH							17.315		17.162		16.925					
	SOUTH							17.155		17.001		16.753					
ROAD C/L ELEV.	EXISTING							17.23		17.08							
	PROPOSED							17.234		17.083		16.877		16.627			
STATION					2+840					2+860				2+880			



TYPICAL ROAD SECTION
SCALE N.T.S.

0 H 1:250 10m
0 V 1:25 1m

J. C. TOUSSAINT # 49168 PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

EGBC PERMIT No. 1001128

NOT FOR CONSTRUCTION

Edge of pavement
Watermain and valve — W
Drainage sewer, MH — D
Drainage ditch
Sanitary sewer, MH — S
Sanitary forcemain — SFM
Gasmain and valve — G
Hydro duct, MH — H
Telephone duct, MH — T
Hydrant
Water air valve
Water blowoff
Water service
Catch basin, top inlet
Catch basin, side inlet
Catch basin, round
Drainage service
Drainage cleanout
Sanitary service
Sanitary cleanout
Utility pole(joint pole)
Utility pole with light
Streetlight, davit
Streetlight, post top
Comb signal pole
Traffic signal pole
Junction box
Hydro Guy Wire
Hydro Kiosk
Vegetation Conifer
Vegetation Deciduous
Vegetation Shrub
Survey Traverse Hub
Survey Iron Pin
Survey Lead Plug
Survey Monument

No.	Date	By	Revisions
3			
2			

Design by GB Date
Drawn by TL Date
Checked by JT Date
Approved by JT Date

BINNIE
The people behind your infrastructure.
TEL 604 420 1721 BINNIE.com

Coquitlam
Engineering & Public Works
3000 Guildford Way, Coquitlam, B.C. V3B 7N2

Scale horiz. 1:250 Scale vert. 1:25
Sheet 05 of 05
Eng. Project No. 51145

Project MACINTYRE CREEK CULVERT REPLACEMENT ROADWORKS
Description QUARRY ROAD
File: 24-0260-R1 REV. 0

PLOTTED: 2025-12-01 10:36:39 AM
FILE: V:\SRC-RBR-FILES\24 PROJECTS\2024\24-0260\05 - CAD FILES\DWG\PWA_Q24-0260_ROADWORKS.DWG LAYOUT: ROADS LAST SAVED BY: SLONG PLOTTED BY: SLONG

Plot Date: December 1, 2025

CLIENT:

CITY OF COQUITLAM
3000 GUILFORD WAY
COQUITLAM, BC V3B 7N2

PROJECT DESCRIPTION:

MACINTYRE CREEK CULVERT REPLACEMENTS
QUARRY ROAD, COQUITLAM, BC

CONSULTANT

BRAUN GEOTECHNICAL LTD.
102 - 19049 95A AVENUE
Surrey, B.C. V4N 4P3
Ph: 604-513-4190
Fax: 604-513-4195
email: info@braungeo.com
Permit to Practice # 1002594

DRAWING LIST

01	COVER SHEET
02	TYPICAL SECTION
03	NOTES

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
S. W. HRYSIO
30952
Sept 27/24

BRAUN GEOTECHNICAL LTD.

Rev.	Description	Date
Rev 0	Issued for Review	Sep 27, 2024

Client: City of Coquitlam
Project: MacIntyre Creek Culvert Replacements, Quarry Road, Coquitlam, BC

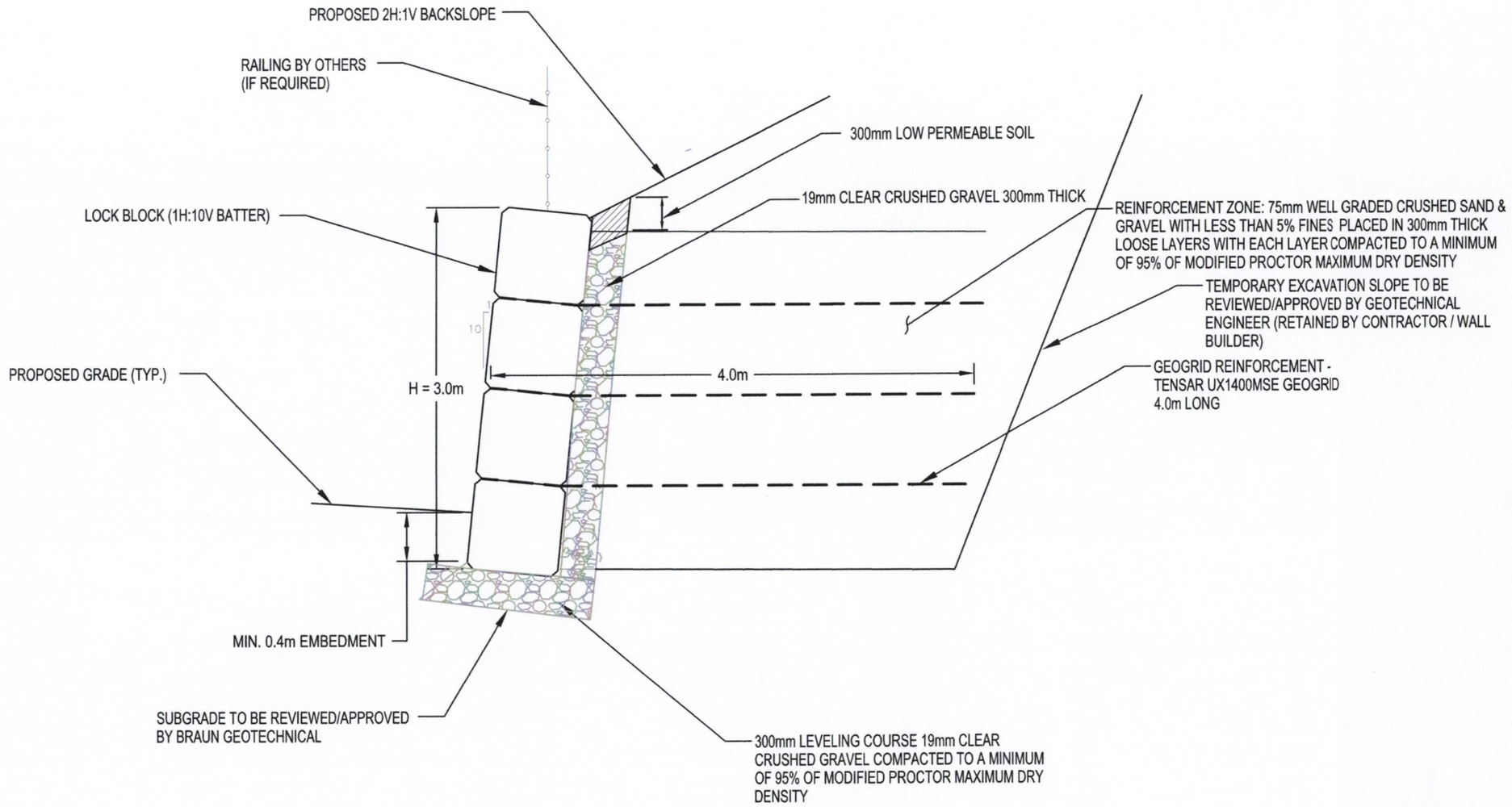
Project no.	Drawn	Design	Checked	Date
24-9854	SN	SN/SH	GY	September 27, 2024

Title: PROPOSED BLOCK WALL COVER

Date	Scale	Drawing no.
September 27, 2024	NTS	24-9854-01

TYPICAL SECTION

# BLOCKS	GRID LENGTH (m)
1	-
2	3.0
3	3.0
4	4.0



Refer to Binnie Dwg. No. 24-0260 "MacIntyre Creek Culvert Replacement" for wall locations

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
S. W. HRYSIO
30855

BRAUN GEOTECHNICAL LTD.

Rev.	Description	Date
Rev 0	Issued for Review	Sep 27, 2024

Client: City of Coquitlam

Project: MacIntyre Creek Culvert Replacements
Quarry Road, Coquitlam, BC

Title: PROPOSED BLOCK WALL
TYPICAL SECTION

Project no.	Drawn	Design	Checked	Date	Date	Scale	Drawing no.
24-9854	SN	SN/SH	GY	September 27, 2024	September 27, 2024	1:40	24-9854-02

PART 1 GENERAL

1.1 INSTALLATION GUIDELINES

A. The Contractor is to obtain installation recommendations/manuals from the Geosynthetic and Wall Suppliers.

1.2 MEETINGS

A. Pre-Construction Meeting: Prior to erection of retaining walls, conduct a meeting with the retaining wall materials supplier, the retaining wall installer and the Geotechnical Engineer to review the retaining wall requirements. Notify the above at least 3 days in advance of the time of the meeting.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging and in accordance with the manufacturers specifications until ready for installation.

B. Prevent excessive mud, fluid concrete, epoxy, or other deleterious materials from coming in contact with retaining wall materials.

C. Polymeric Materials: Store at temperatures above minus 20 degrees F (minus 29 degrees C); rolled materials may be laid flat or stood on end.

D. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.4 PROJECT CONDITIONS

A. Do not install leveling pad when subgrade is wet or frozen.

B. Do not place or compact backfill during wet or freezing weather that prevents achievement of specified compaction requirements.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Tensar Structural Geogrids (or alternate approved by Braun Geotechnical).

B. Acceptable Manufacturer: Modular Concrete Facing Units: Concrete Blocks approved by the Owner's engineer.

2.2 MATERIALS

A. System Description: Modular Concrete Retaining Walls consist of a mechanically stabilized wall system of engineered backfill reinforced with geogrids.

B. Modular Concrete Facing Units:

1. Standard Unit: Solid Concrete Blocks
a. Size: 1.5m (60") Wide, 0.75m (30") High, 0.75m (30") Deep
b. Concrete Strength: 20MPa or greater (new blocks without cold joints)

2. Structural Geogrid: Tensar UX1400MSE (or approved alternate by Braun Geotechnical).

C. Levelling Pad: 19mm (3/4") Clear Crushed Gravel

D. Reinforced Backfill: Well graded, 75mm (3") minus crushed rock fill with less than 5% fines.

PART 3 EXECUTION

3.1 PREPARATION

A. Do not begin installation until excavation, foundation preparation and leveling pad have been completed and properly prepared under field review of Braun Geotechnical.

B. Excavation:
1. Excavate the subgrade vertically to the plan elevation and horizontally to the extent of the geogrid lengths.
2. Excavate trench for leveling pad to the dimensions indicated on the drawings.
3. Remove soils not meeting required strength and replace with approved materials by Braun Geotechnical.
4. Protect all services from damage during excavation. Provide support as required.
5. Temporary cut slopes should be reviewed by a Geotechnical Engineer (retained by contractor / wall builder) prior to worker entry. 3H:4V or flatter cut slopes may be required.

C. Foundation Preparation:
1. Compact the exposed subgrade for the leveling pad and reinforced backfill to a minimum of 95 percent Modified Proctor Maximum Dry Density (ASTM D1557).
2. Over-excavated areas of the subgrade and leveling pad trench shall be filled in maximum loose lifts of 12 inches (300 mm) and shall be compacted to a minimum of 95 percent Modified Proctor Maximum Dry Density (ASTM D1557).
3. Braun Geotechnical should review the subgrade soil for the reinforced zone and leveling pad for suitable bearing strength.

D. Leveling Pad:
1. Material: 3/4" (19mm) clear crushed gravel compacted to 95 percent Modified Proctor Maximum Dry Density in accordance with ASTM D1557.
2. Dimensions: Maximum 12 inch (300mm) thickness, 60 inch (1500mm) minimum width.
3. Surface of Leveling pad shall be smooth and horizontal (side-to-side) and sloped from front-to-back to ensure the first course of units and subsequent courses are level (side to side), and the wall slopes front to back as required.
4. Vertical steps in the leveling pad shall be equal to the height of the concrete block units or multiples of that height to provide uniform support to overlying units.

3.2 CONSTRUCTION

F. Construct modular concrete retaining walls in accordance with the drawings and the recommendations of the wall system manufacuturer.

G. Facing Unit Installation:
1. Place first course of modular concrete facing units on the leveling pad.
2. Verify the first row of units is level from side-to-side and slopes as required from front-to-back.
3. Use a string line to align a straight wall; use flexible pipes to establish a smooth convex or concave curved wall.
4. Sweep tops of modular concrete facing units clean of all debris.
5. Pull a string line after each course has been set to ensure maintenance of the wall's geometry.

C. Reinforced backfill:
1. Place the reinforced backfill material in maximum loose lifts of 12 inches (300 mm) and compact to a minimum of 95 percent Modified Proctor Maximum Dry Density, per ASTM D1557.
2. Use only relatively light compaction equipment within 3 feet (1 meter) of the rear edges of the facing units. Use a minimum of 3 passes to compact this zone.
3. Smooth and level or slope the backfill as indicated so that the geogrid lays flat.

D. Geogrid placement:
1. Unroll geogrid on the compacted backfill perpendicular to the wall alignment and cut to the length indicated. Cut geogrid ribs immediately in front of the transverse bar, in accordance with the manufacturer's and/or supplier's recommendations.
2. Place the geogrid on the facing unit, ensuring that it extends to the outer face.
3. Place the next row of facing units without sliding to avoid damaging the geogrid.
4. Pull the geogrid taut to remove slack in the geogrid.
5. Stake or pin the geogrid near the end to maintain alignment and tension during filling.
6. Reinforced fill placement should begin from wall face to reduce potential for "bunching up" of reinforcement.
7. Place a minimum of 3 inches (75 mm) of fill between overlapping layers of geogrid where overlapping occurs behind curves and corners of a wall.
8. Rubber tired vehicles may travel on the geogrid at low speeds, less than 5 miles per hour. Turning of vehicles should be avoided to prevent dislocation or damage to the geogrid and the connected wall facing units.
9. Tracked vehicles shall not be operated directly on the geogrid. A minimum of 8 inches (200 mm) of fill cover over the geogrid is required for operation of tracked construction vehicles in the reinforced zone.
10. Shim the blocks as required to maintain alignment using permanent shims.

E. Toe Fill:
1. Area in front of leveling course and lower facing courses shall be filled and compacted before the wall is constructed above 5 feet (1.5 m) high.
2. Toe fill shall be placed in loose lifts of 10 inches (250 mm) and shall be compacted to a minimum of 95 percent Modified Proctor Maximum Dry Density in accordance with ASTM D1557.

F. Tolerances:
1. Variation from overall wall batter measured between top and bottom of the wall: Plus or minus 1/8 inch per foot (10 mm per meter), maximum.
2. Horizontal and vertical alignment: 3/4 inch per 10 feet (6 mm per meter) excluding variations due to facing unit shape or split face irregularities.
3. Provision for wall tolerances should be considered in location of the wall with respect to property lines, easements, right of ways, etc.

3.3 FIELD QUALITY CONTROL

A. Density testing will be provided by the Contractors Testing Agency.

B Perform Proctor material tests in accordance with ASTM D1557.

C. Braun Geotechnical must be provided 24 hours notice for required site reviews of subgrade preparation, compaction of granular leveling pad, construction of wall, and compaction of reinforced soils.

D. Frequency of Tests:
1. Leveling Pad: A minimum of one test every 20' (6m) horizontal.
2. Reinforced Backfill: Provide tests at 20' (6m) horizontal spacings. Test levels shall be on first and after every 2.5' (0.76m) thickness of fill placed, and on the final lift of reinforced soil.
I. Retests shall be carried out at no cost to the Owner.

3.4 PROTECTION

A. Protect installed products in accordance with manufacturers specifications until completion of project.

B. Repair or replace damaged products before Substantial Completion.

PART 4 SPECIAL PROVISIONS

A. The design presented herein is based on the soil parameters indicated below.

	Effective Friction Angle (degrees)	Effective Cohesion (kPa)	Moist Unit Weight (kN/m3)
Reinforced Backfill	36	0	20
Retained Soil	34	0	20
Foundation Soil	34	0	20

B. Wall geometry and locations, and location of new and existing structures and services must be verified by the Contractor prior to construction.

C. If groundwater or soil conditions not considered in this design are encountered during construction, immediately contact Braun Geotechnical.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
S. W. HRYSIO
30855
2024-09-27

BRAUN GEOTECHNICAL LTD.

Rev.	Description	Date
Rev 0	Issued for Review	Sep. 27, 2024

Client: City of Coquitlam
Project: MacIntyre Creek Culvert Replacements
Quarry Road, Coquitlam, BC

Project no.	Drawn	Design	Checked	Date
24-9854	SN	SN/SH	GY	September 27, 2024

Title: PROPOSED BLOCK WALL NOTES

Date	Scale	Drawing no.
September 27, 2024	1:40	24-9854-03