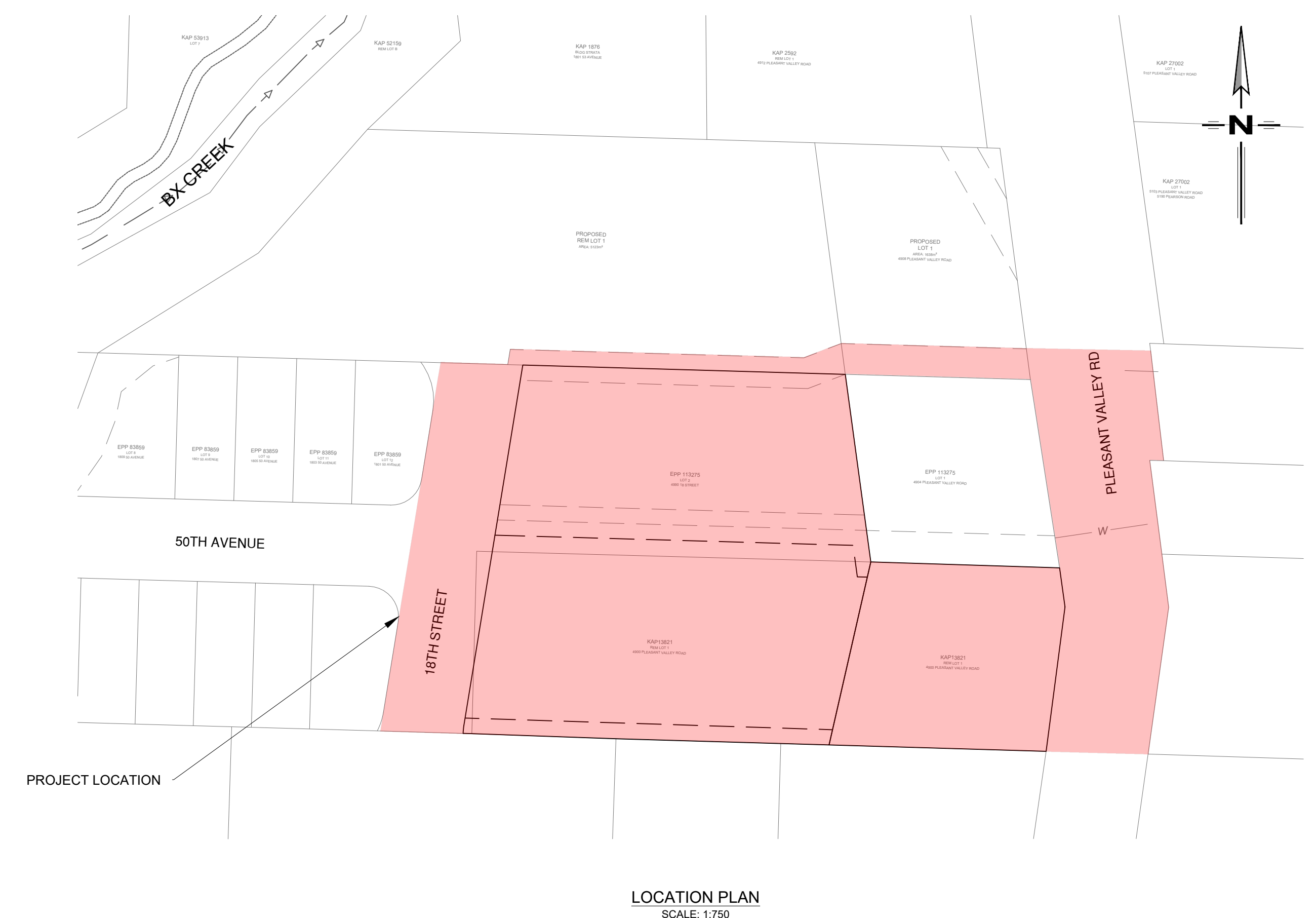


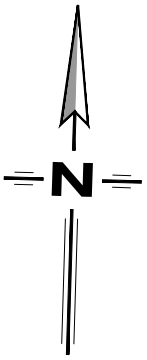
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CoV PROJECT: SUB00839

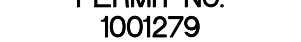
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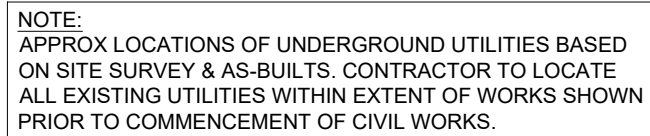
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C000 - SHEET 1 OF 10 - COVER SHEET
C101 - SHEET 2 OF 10 - OVERALL SITE SERVICING PLAN
C102 - SHEET 3 OF 10 - OVERALL SITE GRADING PLAN
C103 - SHEET 4 OF 10 - EROSION AND SEDIMENT CONTROL PLAN
C104 - SHEET 5 OF 10 - STORMWATER MANAGEMENT PLAN
C201 - SHEET 6 OF 10 - 18TH STREET ROADWORKS PLAN/PROFILE
C202 - SHEET 7 OF 10 - 18TH STREET UTILITIES PLAN/PROFILE
C203 - SHEET 8 OF 10 - WATERMAIN LOOPING UTILITY EASEMENT PLAN/PROFILE
C204 - SHEET 9 OF 10 - PLEASANT VALLEY ROADWORKS PLAN/PROFILE
C801 - SHEET 10 OF 10 - CONSTRUCTION NOTES & DETAILS

[illegible]



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					0	2023/09/20	JSJ	JKW	BTJ	ISSUED FOR APPROVAL	1001279		 UNIT B - 4705 29 STREET, VERNON, BC V1T 5C1	1:1:250	OVERALL SITE SERVICING PLAN	C101
					1	2024/01/08	JSJ	JKW	BTJ	RE-ISSUED FOR APPROVAL						
					2	2024/07/25	JKW	JKW	JSJ	RE-ISSUED FOR APPROVAL						
					3	2024/09/10	JKW	JKW	JSJ	RE-ISSUED FOR APPROVAL						
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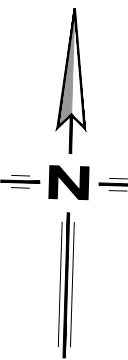
PROFESSIONAL
OF
J. S. JOHNSON
58512
REGISTERED
ENGINEER
2024-09-17



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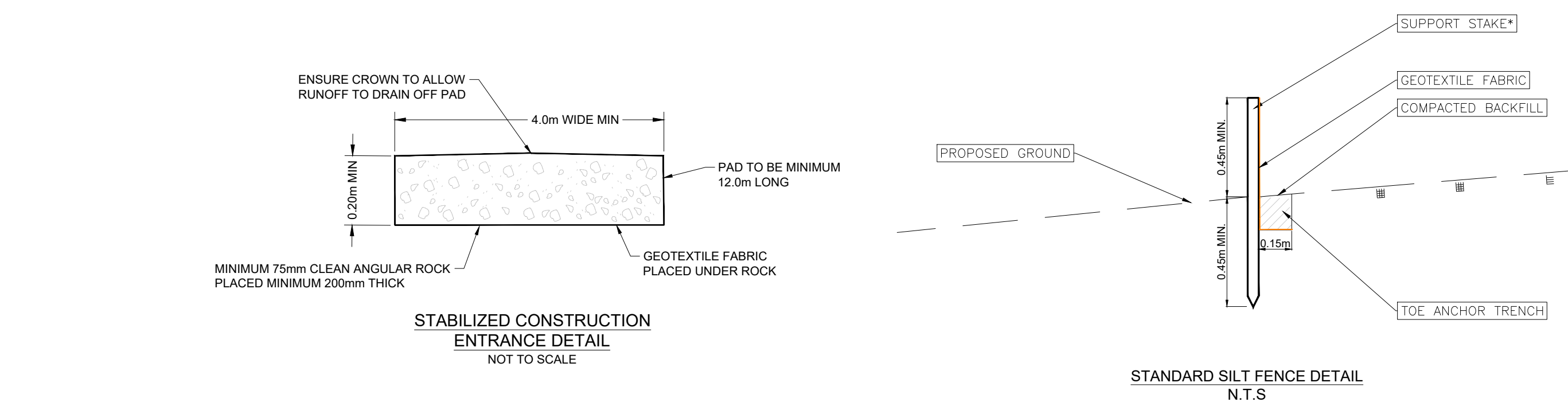
OVERALL SITE GRADING PLAN

C102



1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO ANY LAND DISTURBING ACTIVITY, INCLUDING CLEARING OR GRADING, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT, FROM COMMENCEMENT OF WORK, AN ON-SITE INSPECTION SHALL BE REQUESTED WHEN EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE PRIOR TO COMMENCEMENT OF WORK. ONCE APPROVED, THE MEASURES SHALL BE MAINTAINED THROUGH THE LIFE OF THE PROJECT, AS SHOWN ON THE PLANS.
2. THE DEVELOPER AND/OR OWNER IS RESPONSIBLE FOR MAINTAINING EROSION PREVENTION AND SEDIMENT CONTROL BMPs DURING AND AFTER INSTALLATION OF ALL UTILITY WORK ASSOCIATED WITH THE UTILITY TRENCHES.
3. PRIOR TO ANY SITE EXCAVATION, ALL STORM DRAIN INLETS SHALL BE PROTECTED AND DOWNSTREAM AREAS SHALL BE PROTECTED FROM DISTURBANCE AREAS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREAS. CLEAN FILTER FABRIC AS NECESSARY TO MAINTAIN DRAINAGE CAPACITY. FILTER AND CLEAN CATCH BASINS FOLLOWING COMPLETION OF SITE WORK.
4. NEWLY CONSTRUCTED OR MODIFIED INLETS AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT IMMEDIATELY UPON INSTALLATION.
5. NEW OR EXISTING CATCH BASINS OR INFILTRATION SYSTEMS. THIS OCCURS, THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT FROM THE CATCH BASINS, DRYWELLS, AND STORM PIPES IMMEDIATELY. FINAL ACCEPTANCE WILL NOT BE ISSUED BY THE CITY UNTIL THIS OCCURS.
6. SOIL STOCKPILES SHALL BE STABILIZED FROM EROSION, PROTECTED WITH SEDIMENT TRAPPING MEASURES, AND WHEN POSSIBLE, BE LOCATED AWAY FROM STORM DRAIN INLETS, WATERWAYS AND DRAINAGE CHANNELS.

7. CONSTRUCTION ROADS AND PARKING AREAS SHALL BE STABILIZED WHENEVER THEY ARE CONSTRUCTED, WHETHER PERMANENT OR TEMPORARY, FOR THE USE OF CONSTRUCTION TRAFFIC.
8. IF THE CITY INSPECTOR OR ENGINEER(S) HAS EVIDENCE OF POOR CONSTRUCTION, THE CITY INSPECTOR OR ENGINEER SHALL PREPARE CITATIONS AND/OR A STOP WORK ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY OF VERNON.
9. PAVEMENT SWEEPING AND SHOVELING REQUIRED, WASHING THE PAVEMENT INTO THE STORM SYSTEM IS NOT PERMITTED.
10. IF SEDIMENT, MUD, OR DEBRIS IS TRANSPORTED ONTO A PAVED SURFACE OR ROADWAY, THE PAVED SURFACE OR ROADWAY SHALL BE THOROUGHLY CLEANED WITH HIGH EFFICIENCY STREET SWEEPERS AT THE END OR EACH ROADWAY, MORE OR MORE OFTEN IF NECESSARY.
11. SIGNIFICANT SOIL, DIRT, DEBRIS, OR SEDIMENT SHALL BE REMOVED BY SHOVELING AND SWEEPING. STREET WASHING IS NOT ALLOWED UNLESS APPROVED BY THE DIRECTOR AND ONLY AFTER SEDIMENT IS REMOVED IN THE MANNER DESCRIBED ABOVE.
12. THE COST OF ALL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING MAINTENANCE OF EROSION CONTROL, STREET CLEANING AND DUST CONTROL SHALL BE INCLUDED IN THE CONTRACTORS PRICE WITH NO ADDITIONAL COST TO THE CONTRACT.



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UNIT B - 4705 29 STREET,
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4 OF 10

TITLE

EROSION AND SEDIMENT CONTROL PLAN

DRAWING NUMBER

C103

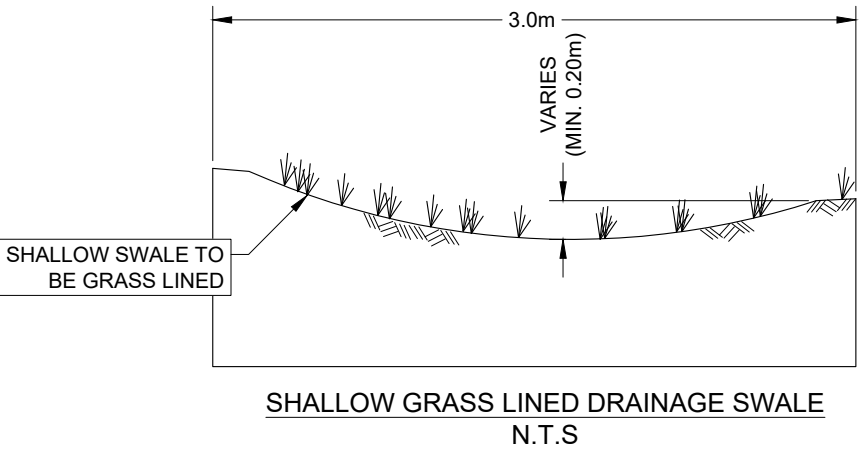
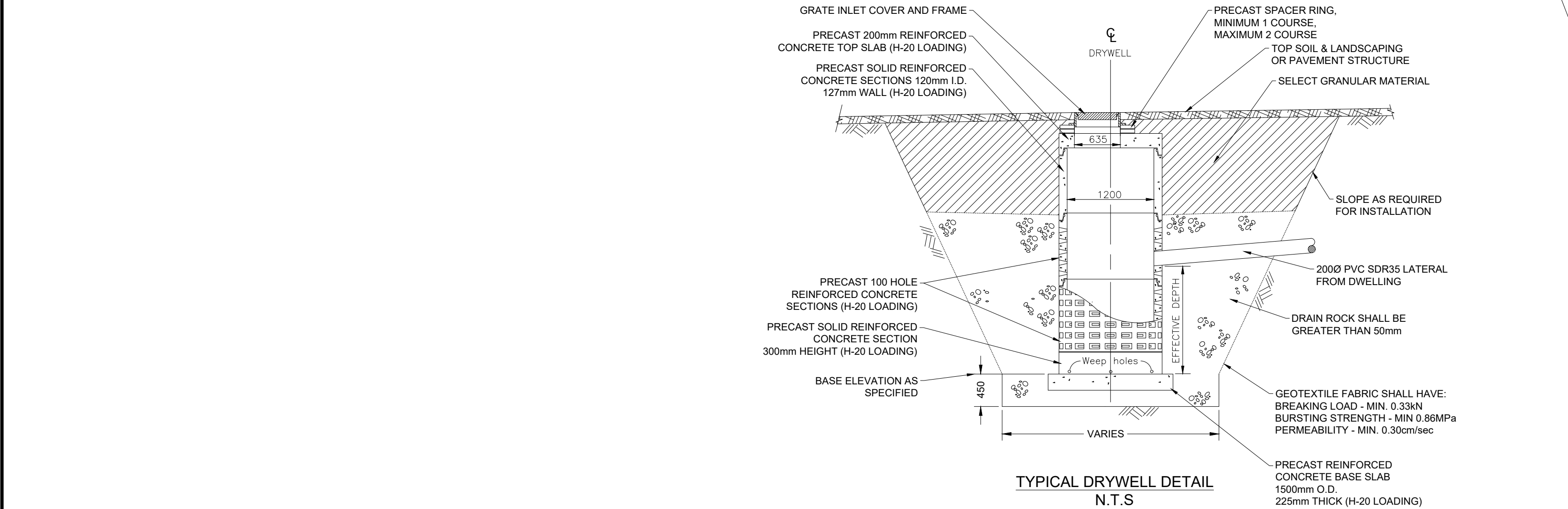


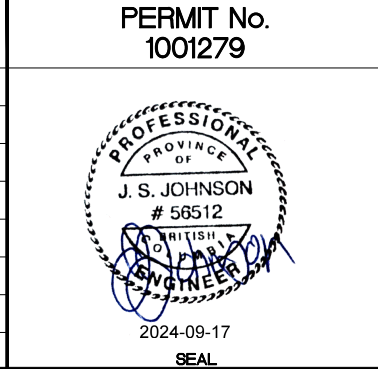
TABLE 1: PROPOSED LOT 1 DRY-WELL STORMWATER INFILTRATION & STORAGE CALCULATIONS

Project:	4900 Pleasant Valley Road	LEL Project #:	256-1
Date:	2023-08-15	Prepared By:	JKW
Location:	Vernon, BC	Checked By:	JSJ
Impervious Area (m2)	Roof	158	
	Asphalt Driveway	272	
	Total	430	
Precipitation (m)		0.02	
Post-Development Retention:			
20mm over impervious area to be retained and disposed of onsite			
Volume		8.6	m ³
Post-Development Storage:			
Volume Required		8.6	m ³
Pre development Release Rate (2 year)			
C	L (m)	S (%)	Tc (min)
0.2	50	12	9.070312491
Area (Ha)	Intensity (mm/hr)	Qpre (m3/s)	
0.146	40	0.003244444	

Post-Development Disposal Rate:					
Post Development Infiltration Volume disposed of within 48 hours					
Volume	8.6	m ³			
24 Hours	172800	s			
Q _{in} req'd	0.000050	m ³ /s			
Infiltrative Area to Achieve Q _{in} req'd	18				
Infiltration Area (m2)	k _{max} (m/s)	k _{min} (m/s)	k (m/s)	Q _{infiltration} (m ³ /s)	
18	1.00E-06	1.00E-06	1.00E-06	0.000018	
Infiltrative Area Sizing					
Infiltration Area Req'd (m2)	Length (m)	Width (m)	Depth (m)	Void %	Storage Provided (m3)
18.0	6.0	3.0	1.25	40.0	9



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3	2024/09/10	JKW	JKW	JSJ	RE-ISSUED FOR APPROVAL





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SCALE
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SHEET
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TITLE
**STORM WATER
MANAGEMENT PLAN**

DRAWING NUMBER
C104

ISSUE / REVISION INFORMATION	REV. No.	DATE	DESIGNED	DRAWN	CHECKED	DESCRIPTION
	0	2023/09/20	JSJ	JKW	BTJ	ISSUED FOR APPROVAL
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	3	2024/09/10	JKW	JKW	JSJ	RE-ISSUED FOR APPROVAL

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1001279

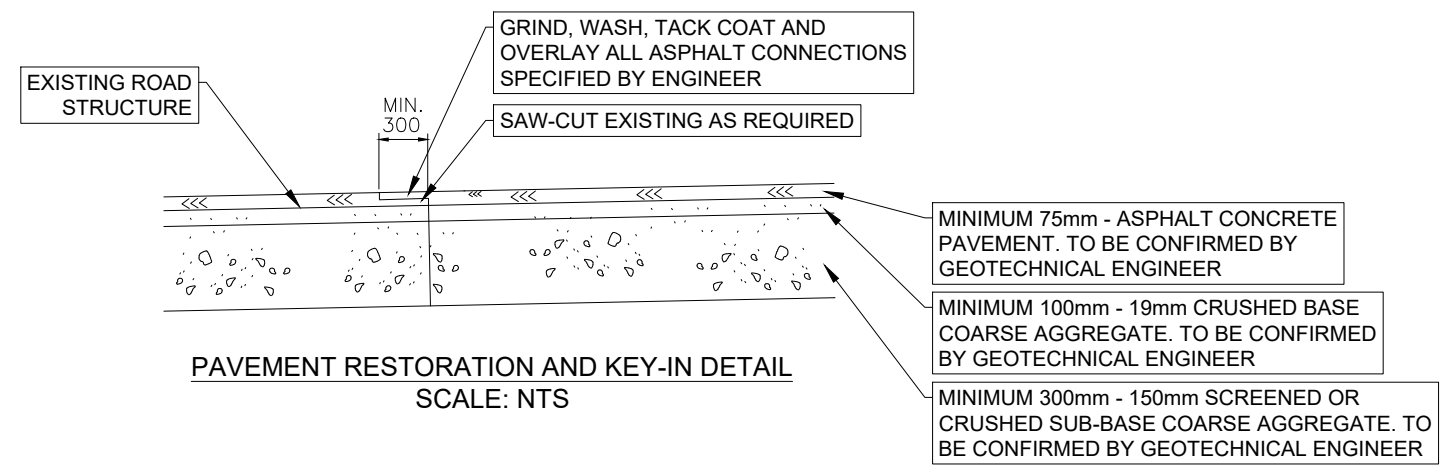
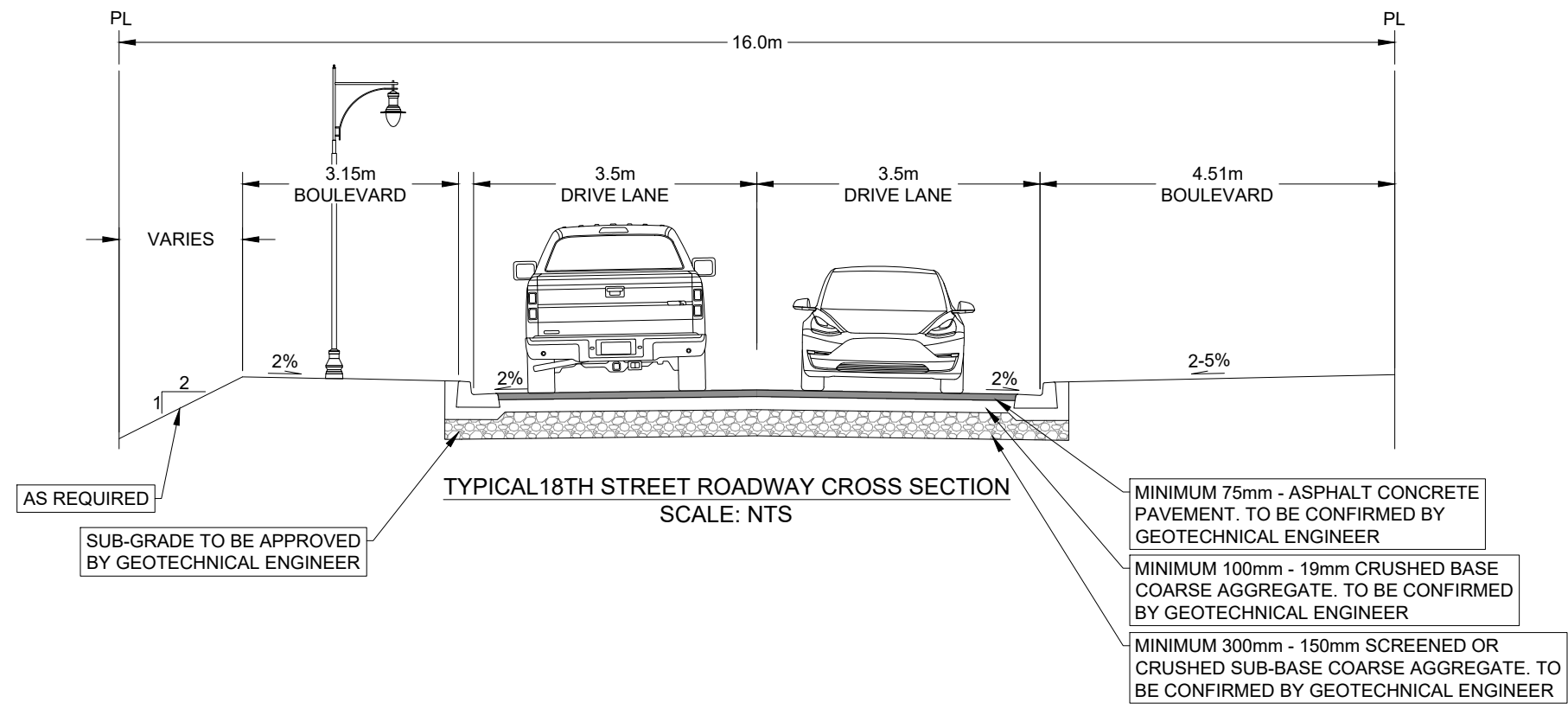
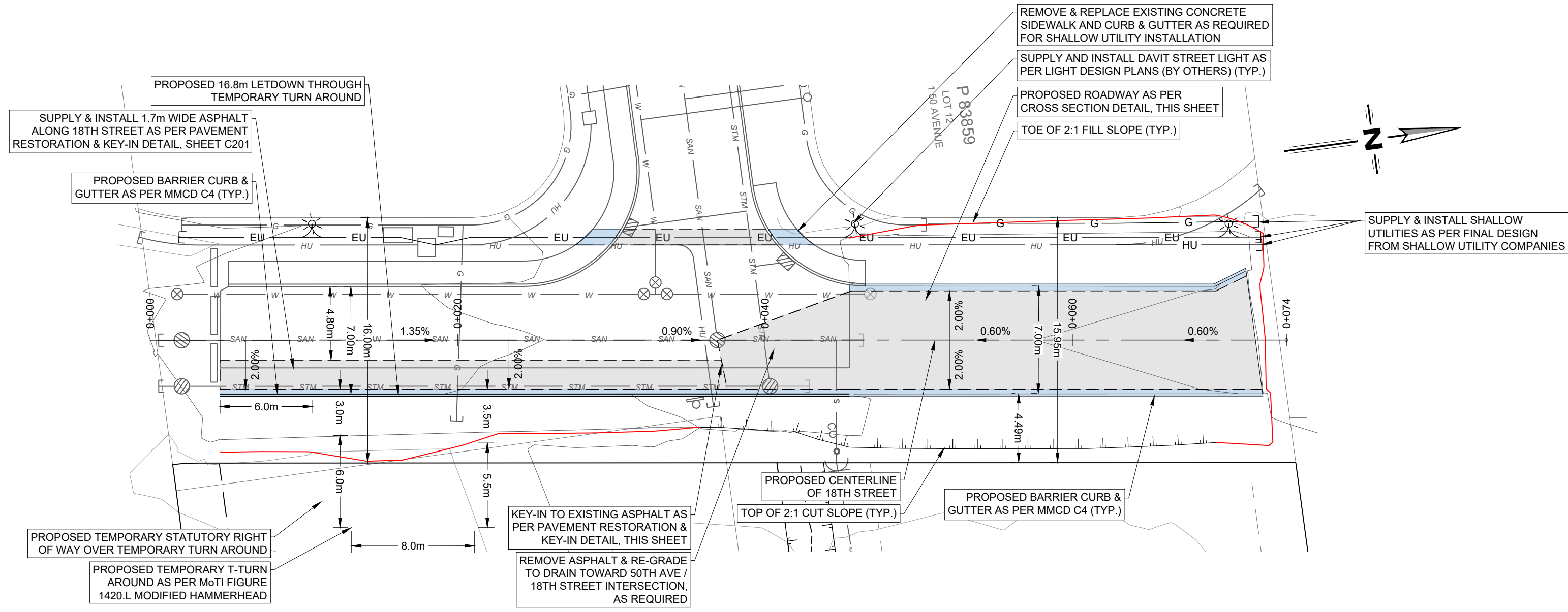
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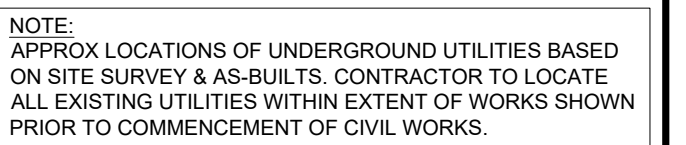
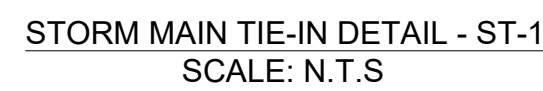
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6 OF 10

TITLE
**18TH STREET ROADWORKS
PLAN/PROFILE**

DRAWING NUMBER
C201



NOTE:
APPROX LOCATIONS OF UNDERGROUND UTILITIES BASED ON SITE SURVEY & AS-BUILTS. CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WITHIN EXTENT OF WORKS SHOWN PRIOR TO COMMENCEMENT OF CIVIL WORKS.



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1001279

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J. S. JOHNSON
56512
2024-09-17

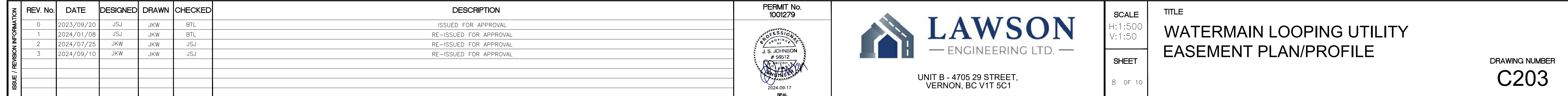


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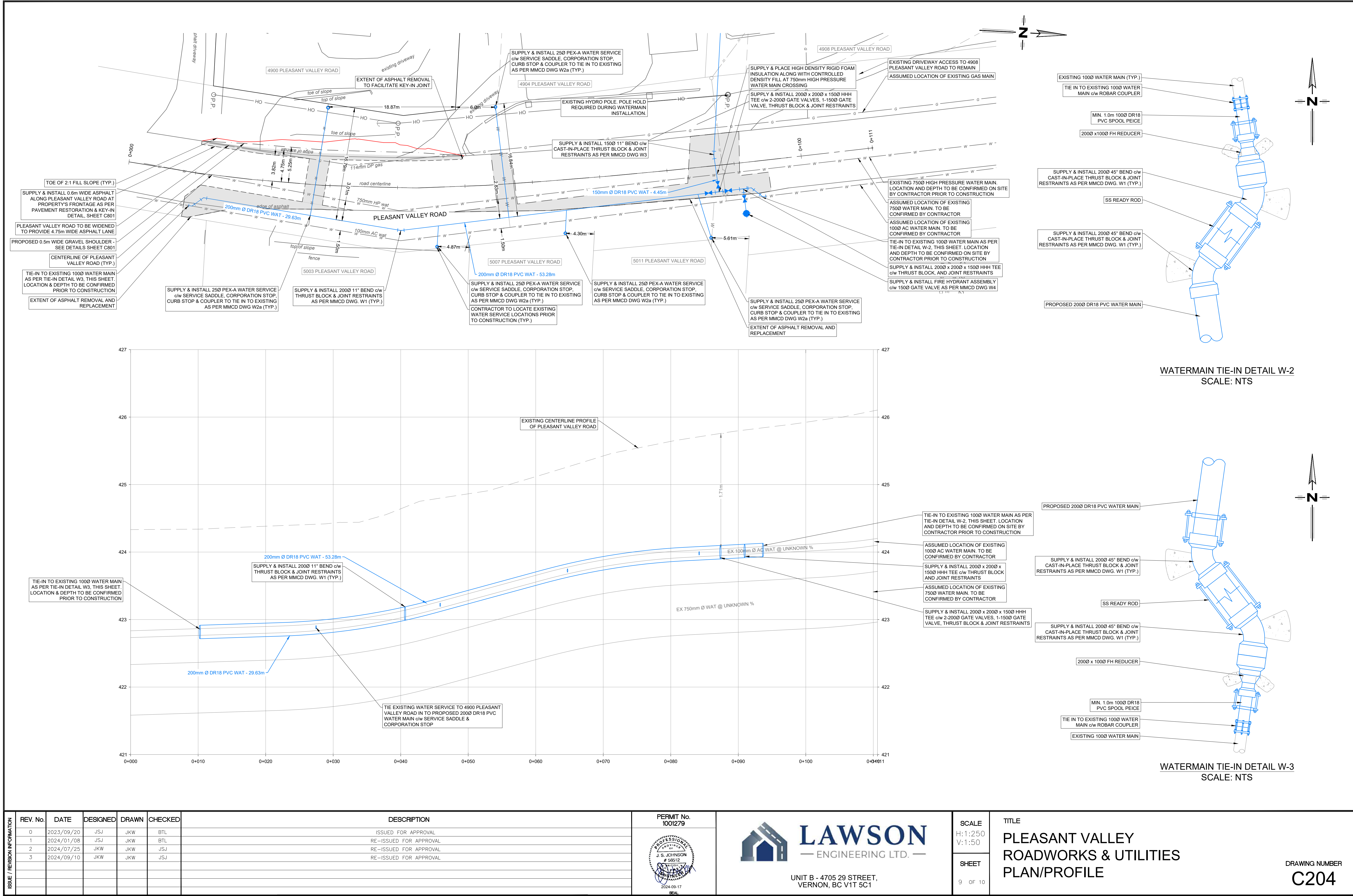
**18TH STREET UTILITIES
PLAN/PROFILE**

DRAWING NUMBER
C202

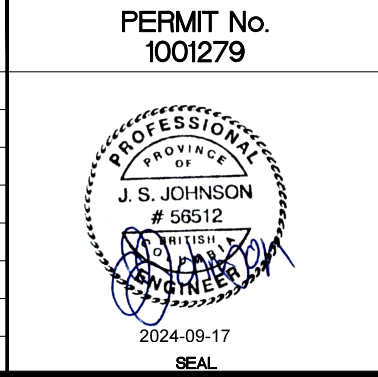


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11.09.2024



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SHEET
9 OF 10

TITLE

**PLEASANT VALLEY
ROADWORKS & UTILITIES
PLAN/PROFILE**

DRAWING NUMBER

C204

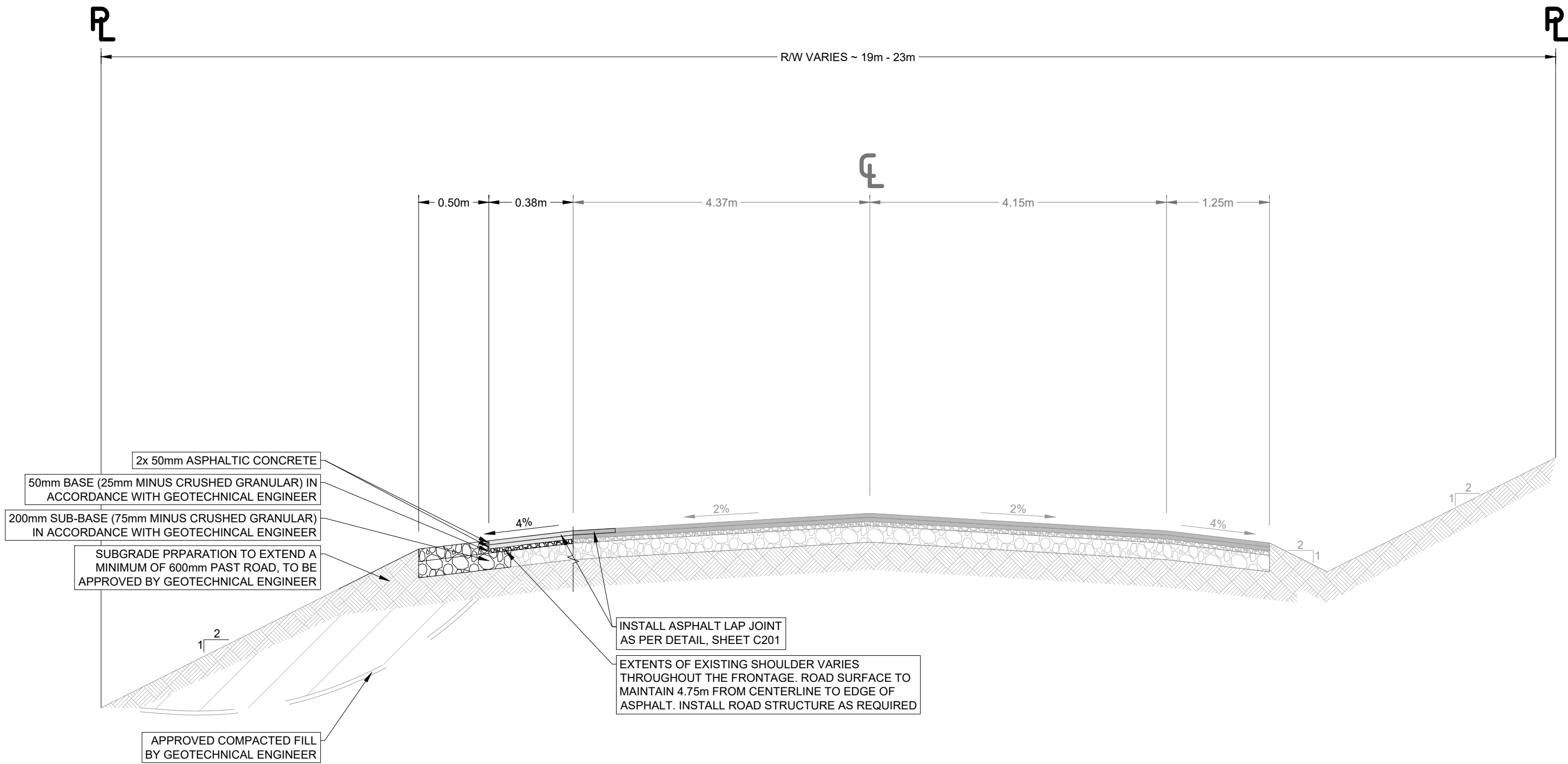
- GENERAL NOTES:
1. ALL WORKS TO CONFORM TO THE CITY OF VERNON BYLAWS AND THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD) AND STANDARD DETAIL DRAWINGS, UNLESS OTHERWISE SPECIFIED.
 2. ALL MATERIALS SHALL CONFORM TO THE CITY OF VERNON APPROVED PRODUCTS LIST.
 3. SCHEDULE 40 AND SCHEDULE 80 PLASTIC PIPE SHALL NOT BE USED FOR ANY SITE APPLICATIONS IN THE SITE WORK.
 4. ANY REVISIONS TO THESE DRAWINGS MUST BE APPROVED BY THE DESIGN ENGINEER, WHO SHALL REVIEW ANY CHANGES WITH THE CITY OF VERNON DEVELOPMENT MANAGER.
 5. CONTRACTOR MUST REQUEST A UTILITY LOCATE THROUGH BC ONE CALL, BEFORE EXCAVATING WITH ANY POWER EQUIPMENT.
 6. WORKSAFE BC IS TO BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION AND THE CONTRACTOR SHALL BE REGISTERED WITH WORKSAFE BC.
 7. CONTRACTOR TO EXPOSE ALL EXISTING UTILITIES AT ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION. CONTRACTOR IS TO VERIFY LOCATION AND INVERTS AND REPORT TO ENGINEER ANY CONFLICTS OR DISCREPANCIES.
 8. UTILITY TRENCH TO CONFORM TO MMCD STANDARD DRAWING G4.
 9. EXISTING UNDERGROUND UTILITIES MAY NEED TO BE LOWERED OR RAISED TO SUIT THE FINAL DESIGN GRADES IN ACCORDANCE WITH MINIMUM AND MAXIMUM COVER REQUIREMENTS FOR EACH UTILITY.
 10. RESIDENTS AND BUSINESS OWNERS AFFECTED BY THE PROPOSED CONSTRUCTION ARE TO BE NOTIFIED BY THE CONTRACTOR IN WRITING 48 HOURS PRIOR TO THE START OF CONSTRUCTION AND PROVIDED WITH THE CONTRACTORS PHONE NUMBER AND SCHEDULE.
 11. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED TO EXISTING STREETS OR SERVICES BY CONSTRUCTION EQUIPMENT AND/OR TRUCKS HAULING MATERIALS TO THE SITE. THIS WILL INCLUDE DAILY CLEANING OR SWEEPING OF ALL EXISTING ROADS OF DIRT AND DEBRIS CAUSED BY CONSTRUCTION ACTIVITY.
 12. TRAFFIC CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL COMPLY WITH SECTION 52 OF THE INDUSTRIAL HEALTH AND SAFETY REGULATIONS OF THE WORKER'S COMPENSATION BOARD OF B.C. THE DEVELOPER IS TO HAVE, ON SITE, A COPY OF THE CURRENT "B.C. TRAFFIC CONTROL MANUAL FOR WORK ON ROADWAYS" AS PUBLISHED BY THE MINISTRY OF TRANSPORTATION (MOT). VEHICULAR AND PEDESTRIAN ACCESS IS TO BE MAINTAINED ALONG EXISTING ROADS DURING CONSTRUCTION.
 13. A TRAFFIC MANAGEMENT PLAN WITH LANE CLOSURES MUST BE APPROVED BY THE CITY OF VERNON PRIOR TO CONSTRUCTION.
 14. LEGAL SURVEY MONUMENTS ARE TO BE PROTECTED. SHOULD THEY REQUIRE RAISING OR RELOCATING, THE CONTRACTOR MUST NOTIFY THE INSPECTOR AT LEAST 72 HOURS IN ADVANCE OF SCHEDULING WORK AFFECTING THEM.
 15. PIPE BEDDING TO BE MMCD TYPE 1 GRANULAR PIPE BEDDING COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
 16. PIPE BACKFILL TO BE IMPORTED 75mm MINUS PIT RUN GRAVEL COMPACTED TO 95% MODIFIED PROCTOR DENSITY. WHEN NATIVE SITE GRANULAR BACKFILL IS PROPOSED FOR USE IN TRENCHES THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND PROVIDE SAMPLES TO THE GEOTECHNICAL MATERIALS TESTING AGENCY FOR APPROVAL, BEFORE PROCEEDING WITH THE RE-USE OF NATIVE BACKFILL MATERIALS. THE SITE MATERIAL MUST BE APPROVED FOR RE-USE BY THE GEOTECHNICAL ENGINEER.
 17. WHEN INFILLING OF EXISTING DITCHES, ETC., IS REQUIRED OR PROPOSED, AND WHERE SERVICES ARE CONSTRUCTED IN FILL SECTIONS, THE FILL MATERIAL IS TO BE APPROVED GRANULAR MATERIAL PLACED IN LIFTS NOT EXCEEDING 300mm AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
 18. FIGURED DIMENSIONS SHALL GOVERN OVER SCALED DIMENSIONS.
 19. AFTER CONSTRUCTION, RESTORE WORK AREAS AND EXISTING FEATURES TO THEIR ORIGINAL CONDITION OR BETTER.
 20. ADJUST ALL PROPOSED AND EXISTING APPURTENANCES TO MEET FINAL DESIGN GRADES.
 21. DEWATERING FOR UTILITY INSTALLATIONS WILL BE COMPLETED AT THE CONTRACTORS EXPENSE. DEWATERING IN THE TRENCHES SHALL BE COMPLETED AS OUTLINED IN THE GEOTECHNICAL REPORT FOR THE SITE, OR AS REQUIRED.

- ROADWORKS NOTES:
1. SEE PLAN AND PROFILE DRAWINGS FOR TYPICAL ROAD CROSS-SECTIONS. WHERE INDICATED, PROVIDE DRIVEWAY CROSSINGS IN CONFORMANCE WITH MMCD STANDARD DRAWING C7.
 2. CHANGES OF GRADE ARE TO BE FORMED BY SMOOTH VERTICAL CURVES.
 3. ALL LOOSE, ORGANIC, OTHERWISE DELETERIOUS MATERIALS OR SOFT SPOT(S) ARE TO BE EXCAVATED AND REMOVED FROM THE ROADWAY AND UTILITY TRENCHES IN THE ROADWAY.
 4. SUB-BASE AND GRANULAR BASE MATERIALS SHALL BE COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
 5. THE ROAD BASE SHALL EXTEND A MINIMUM OF 0.3m BEYOND THE CURB & GUTTER.
 6. CATCH BASIN RIM ELEVATIONS GIVEN ARE THE ELEVATION OF THE SURFACE INLET.
 7. EXISTING VALVE BOXES, MANHOLES, ETC. WITHIN THE ROAD R.O.W ARE TO BE ADJUSTED TO SUIT THE PROPOSED FINISHED GRADE.
 8. THE CONDITIONS FOR PLACING ASPHALT PAVEMENT AND CONCRETE SHALL BE IN ACCORDANCE WITH CITY OF VERNON STANDARD CONSTRUCTION DOCUMENTS AND MMCD SPECIFICATIONS AND STANDARD DETAIL DRAWINGS APPLICABLE AT THE TIME OF CONSTRUCTION. WEATHER CONDITIONS MUST ALSO BE IN CONFORMANCE WITH MMCD SPECIFICATIONS. SHOULD DEVIANCES BE ALLOWED FROM THESE SPECIFICATIONS, THE CONTRACTOR IS TO ASSUME ALL RESPONSIBILITY FOR THESE PRODUCTS.
 9. TIE-INS TO EXISTING PAVEMENT SHALL BE MADE BY CUTTING BACK THE EXISTING PAVEMENT TO SOUND MATERIAL AS NECESSARY TO PRODUCE A NEAT VERTICAL FACE AND PROVIDE A KEY-WAY. PRIOR TO PLACING ASPHALTIC CONCRETE, EXPOSED PAVEMENT FACES AND OTHER ABUTTING STRUCTURES SHALL BE TACK COATED WITH ASPHALT EMULSION.
 10. ALL EXISTING ASPHALT TO BE REMOVED MUST BE DISPOSED OF AT AN APPROVED SITE.
 11. REPAIR ANY PAVEMENT DAMAGE OR DAMAGE TO PRIVATE PROPERTY. PAVEMENT RESTORATION AS PER MMCD STANDARD DRAWING G5. REFER TO ROADWORKS PLAN DRAWINGS FOR SPECIFIED PAVEMENT STRUCTURE.

- WATERWORKS NOTES:
1. WATER MAIN AND SERVICE CONNECTION MATERIALS SHALL CONFORM TO THE RDNO APPROVED PRODUCTS LIST AND MMCD SECTION 33.11.01. 100 - 300mm DIAMETER WATER MAINS TO BE DUCTILE IRON PRESSURE CLASS 350 TO AWWA C151 OR PVC CLASS 150 TO AWWA C900. 350-900mm DIAMETER WATER MAINS TO BE DUCTILE IRON PRESSURE CLASS 250 TO AWWA C151 OR PVC CLASS 150 TO AWWA C905 EXCEPT AS NOTED ABOVE. ALL FITTINGS AND VALVES TO BE DUCTILE IRON (DI) TYTON JOINT WITH CLOSED LUGS UNLESS OTHERWISE SPECIFIED. ALL CURB STOPS TO BE FITTED WITH MUELLER TELESCOPING SERVICE BOXES OR APPROVED EQUIVALENT.
 2. THE CONTRACTOR AND CONSULTANT ARE TO COMPLETE ALL TIE-INS AND DISCONNECTS FOR CITY WATER, SEWER AND DRAINAGE SYSTEMS IN THE PRESENCE OF CITY PERSONNEL. THE CONTRACTOR IS TO COORDINATE THIS WITH THE UTILITIES DEPARTMENT AT LEAST TWO (2) FULL WORKING DAYS PRIOR TO SCHEDULING. FOR WATER TIE-INS, PRIOR APPROVAL IS REQUIRED FROM THE CITY DIRECTOR OF INFRASTRUCTURE SERVICES TO CONFIRM SUCCESSFUL PRESSURE TESTING, CHLORINATION, AND FLUSHING. PRIOR TO SCHEDULING, THE CONTRACTOR MUST OBTAIN A ROAD USAGE PERMIT.
 3. CONTRACTOR TO PROVIDE A MINIMUM 1.5m COVER OVER ALL PROPOSED OFFSITE WATER MAINS.
 4. MINIMUM GRADE OF WATER MAINS TO BE 0.10%.
 5. ALL DOMESTIC SERVICE CONNECTIONS TO BE A MINIMUM OF 25mm DIAMETER UNLESS OTHERWISE SPECIFIED. SERVICE CONNECTION TO CONFORM TO MMCD STANDARD DRAWING W2.
 6. DURING CONSTRUCTION AND AT ANY TIME PRIOR TO ACCEPTANCE AND PRESSURIZING OF WATER MAINS BY THE DISTRICT, THE CONTRACTOR, ON BEHALF OF THE OWNER, SHALL INSTALL A PLASTIC BAG OVER EACH HYDRANT TO INDICATE THAT HYDRANT IS NOT IN USE.
 7. WATER MAINS SHALL BE LAID A MINIMUM OF 3m HORIZONTALLY EDGE OF PIPE TO EDGE OF PIPE FROM ANY SANITARY OR STORM SEWER. WHERE THIS HORIZONTAL SEPARATION IS NOT POSSIBLE, AND/OR WHERE WATER MAINS AND SEWERS MUST CROSS OR SHARE THE SAME TRENCH, THE WATER MAIN SHOULD BE AT LEAST 0.45m ABOVE THE SEWER (MEASURED BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SEWER) AND SUFFICIENTLY TO ONE SIDE OF THE SEWER TO ALLOW FOR SEWER REPAIRS WITHOUT DISTURBING THE WATER MAIN. IF THE WATER MAIN MUST CROSS BELOW THE SEWER THE FOLLOWING PROVISIONS MUST BE MET:
 - VERTICAL SEPARATION OF AT LEAST 0.45m (FROM WATER MAIN CROWN TO SEWER INVERT). IF THIS CANNOT BE ACHIEVED DUE TO EXTREME SITE CONDITIONS, FOR VERTICAL SEPARATION BETWEEN 0.15m TO 0.45m, STRUCTURAL SUPPORT IS TO BE PROVIDED TO PROTECT AGAINST DEFLECTION AND SETTLING. CLEAR VERTICAL SEPARATION OF LESS THAN 0.15m IS NOT PERMITTED.
 - WATER MAIN AND SEWER JOINTS WITHIN 3m EITHER SIDE OF THE CROSSING SHALL BE RESTRAINED AND PROTECTED WITH AWWA APPROVED PIPELINE PROTECTION PROJECT (IE. HEAT SHRINK WRAP, PETROLATUM TAPE).
 - THE LENGTH OF WATER MAIN IS TO BE CENTERED AT THE POINT OF CROSSING SO JOINTS ARE EQUAL DISTANCE FROM SEWER MAIN.
 - A CONTINUOUS HYDRAULIC BARRIER (IE. CLAY SPOIL, GEOMEMBRANE) IN TRENCH BETWEEN THE WATER AND SEWER. THE BARRIER MUST EXTEND AT LEAST 0.3m BEYOND THE EDGES OF THE PIPE BEDDING ZONE.
 8. A MINIMUM OF 1.5m HORIZONTAL CENTRE TO CENTRE AND 150mm CLEAR VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER MAINS AND ELECTRICAL CONDUITS, GAS MAINS AND TELEPHONE CONDUITS EXCEPT WHERE NOTED.
 9. CONTRACTOR SHALL CONDUCT PRESSURE TEST IN ACCORDANCE WITH MMCD AND AWWA SPECIFICATIONS.
 10. CONTRACTOR SHALL FLUSH AND DISINFECT WATER MAINS IN ACCORDANCE WITH AWWA STANDARDS AND AS APPROVED BY THE RDNO.
 11. CHLORINE SOLUTIONS SHALL BE NEUTRALIZED IN ACCORDANCE WITH MINISTRY OF THE ENVIRONMENT AND DEPARTMENT OF FISHERIES AND OCEAN PRIOR TO DISCHARGE TO ANY DRAINAGE COURSE.
 12. WHERE PRACTICAL, SERVICE LINES AND METER BOXES SHALL BE INSTALLED TO FINISH GRADE, OUTSIDE OF DRIVEWAYS OR PAVED AREAS.
 13. ALL METALLIC VALVES, FITTINGS, AND JOINT RESTRAINTS TO BE FULLY PROTECTED FROM CORROSION THROUGH THE USE OF DENSO PASTE AND TAPE OR APPROVED EQUIVALENT.

- SANITARY AND STORM SEWER NOTES:
1. SANITARY SEWER AND STORM SEWER MATERIALS SHALL CONFORM TO CITY OF VERNON APPROVED PRODUCTS LIST AND MMCD PLATINUM SECTIONS 33.30.01 AND 33.40.01. SANITARY AND STORM SEWER MAINS UNDER 600mm DIAMETER TO BE MINIMUM PVC SDR35 TO ASTM D2412 AND ASTM D3034 (UNLESS OTHERWISE NOTED). SANITARY AND STORM SEWER MAINS 600mm DIAMETER AND LARGER TO BE PVC SDR35 TO ASTM D2412 AND ASTM D3034 OR NON-REINFORCED CLASS 3 CONCRETE CIRCULAR TO ASTM C14M OR REINFORCED CLASS III CONCRETE CIRCULAR TO ASTM C76M OR AS NOTED ON THE DRAWINGS. PVC PROFILE PIPE TO ASTM F794 AND CSA B182.4 IS ALSO ACCEPTABLE FOR 200mm - 1200mm DIAMETER STORM SEWER. HDPE PROFILE PIPE TO CSA B182.8 IS ALSO ACCEPTABLE FOR 100mm - 900mm DIAMETER STORM SEWER.
 2. CONTRACTOR TO PROVIDE A MINIMUM 1.2m COVER OVER ALL PROPOSED OFFSITE SANITARY MAINS AND 1.2m COVER OVER ALL PROPOSED OFFSITE STORM MAINS. WHERE MINIMUM COVER CANNOT BE PROVIDED FOR OFFSITE MAINS, SEWERS SHALL BE CONSTRUCTED OF CONCRETE AS NOTED IN THE DRAWINGS.
 3. CONTRACTOR IS TO EXPOSE AND CONFIRM LOCATIONS AND INVERTS OF ALL EXISTING SANITARY AND STORM SERVICE CONNECTIONS PRIOR TO CONSTRUCTION AND REPORT TO ENGINEER ANY CONFLICTS OR DISCREPANCIES. ALL EXISTING SERVICE CONNECTIONS TO BE REPAIRED IN REQUIRED AND TIED IN TO THE PROPOSED SANITARY OR STORM SEWER.
 4. ALL SANITARY SEWER SERVICE CONNECTIONS ARE TO BE A MINIMUM 100mm DIAMETER PVC SDR28 TO ASTM D3034 FOR SINGLE-FAMILY RESIDENTIAL AND MINIMUM 150mm DIAMETER PVC SDR28 TO ASTM D3034 FOR MULTIFAMILY RESIDENTIAL UNLESS OTHERWISE NOTED. COMMERCIAL AND INDUSTRIAL MINIMUM GRADE FOR SERVICE CONNECTIONS FROM THE MAIN TO THE PROPERTY LINE SHALL BE 2.0% UNLESS OTHERWISE NOTED. REFER TO MMCD DRAWINGS S7.
 5. ALL EXISTING AND PROPOSED SERVICE CONNECTIONS ARE TO BE PROVIDED WITH AN INSPECTION CHAMBER. SANITARY SERVICE CONNECTIONS TO HAVE A 200mm DIAMETER INSPECTION CHAMBER AS PER MMCD DRAWING S9.
 6. CONNECTIONS TO THE NEW SANITARY STORM MAINS UNDER 450mm DIAMETER SHALL BE MADE USING STANDARD WYE FITTINGS. CONNECTIONS TO NEW SANITARY AND STORM MAINS 450mm DIAMETER AND LARGER AND TO EXISTING MAINS SHALL BE MADE USING WYE SADDLES OR INSERTA-TEES WHERE NOTED. REFER TO MMCD STANDARD DRAWING S1 FOR MANHOLE REQUIREMENTS.
 7. A MINIMUM OF 3m HORIZONTAL CLEAR SEPARATION SHALL BE MAINTAINED BETWEEN WATER MAINS AND ALL SANITARY AND STORM SEWERS/SERVICES EXCEPT WHERE NOTED.
 8. WHERE A SANITARY SEWER OR STORM SEWER CROSSES A WATER MAIN, THE SEWER SHALL BE BELOW THE WATER MAIN WHERE POSSIBLE WITH A MINIMUM CLEAR VERTICAL SEPARATION OF 0.45m (MEASURED BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SEWER). IF THIS CANNOT BE ACHIEVED DUE TO EXTREME SITE CONDITIONS, FOR VERTICAL SEPARATION BETWEEN 0.15m - 0.45m THE FOLLOWING PROVISIONS MUST BE MET:
 - WATER MAIN AND SEWER JOINTS WITHIN 3m EITHER SIDE OF THE CROSSING SHALL BE RESTRAINED AND PROTECTED WITH AWWA APPROVED PIPELINE PROTECTION PROJECT (IE. HEAT SHRINK WRAP, PETROLATUM TAPE).
 - STRUCTURAL SUPPORT IS TO BE PROVIDED TO PROTECT WATER MAIN AGAINST DEFLECTION AND SETTLING OF SEWER PIPE. CLEAR VERTICAL SEPARATION OF LESS THAN 0.15m IS NOT PERMITTED.
 9. ALL MANHOLES TO BE A MINIMUM OF 1050mm DIAMETER PER-CAST REINFORCED CONCRETE TO ASTM C478 OR AS NOTED ON DRAWINGS. REFER TO MMCD DRAWINGS S1.
 10. ALL MANHOLE FRAMES WITHIN PAVED ROADWAYS TO BE TERMINAL CITY IRONWORKS LTD. C44A ADJUSTABLE MH FRAME WITH SR-SUPPORT RING. IF ROAD GRADE IS GREATER THAN 8% A TAPERED CONCRETE GRADE RING UNDER THE DI SUPPORT RING IS ALSO REQUIRED. MANHOLE FRAMES OUTSIDE PAVED ROADWAYS TO BE IN ACCORDANCE WITH THE CITY OF VERNON APPROVED PRODUCT LIST.
 11. SANITARY AND STORM PIPE LENGTHS SHOW IN PROFILE REPRESENT THE LENGTH FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
 12. CONTRACTOR TO COMPLETE TIE-INS AND DISCONNECTIONS OF EXISTING SERVICE FOR CITY WATER, SANITARY AND DRAINAGE IN THE PRESENCE OF THE CONSULTANT'S REPRESENTATIVE AND UNDER SUPERVISION OF CITY OF VERNON PERSONNEL AFTER APPROPRIATE CITY APPROVALS ARE OBTAINED.
 13. SANITARY AND STORM SEWER TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL VIDEO INSPECT COMPLETED SANITARY AND STORM SEWERS UNDER 900mm IN DIAMETER FOLLOWING COMPLETION OF INSTALLATION. SHOULD VIDEO INDICATE APPARENT DEFICIENCIES, ADDITIONAL TESTING AND/OR REPLACEMENT WILL BE REQUIRED AT THE DIRECTION OF THE CONTRACT ADMINISTRATION AND AT THE COST OF THE CONTRACTOR.
 14. STORM SEWERS ARE TO BE CONSTRUCTED WITH SEALED JOINTS UNLESS OTHERWISE SPECIFIED ON THE DESIGN DRAWINGS.
 15. ALL CATCH BASINS TO BE DOBNEY FOUNDRY LTD. B-39B SIDE INLET WITH B-39A FRAME, B-39 GRATE AND ALUMINUM TRAPPING HOOD OR APPROVED EQUIVALENT. CATCH BASIN LEADS TO BE A MINIMUM 200 DIAMETER PVC DR35 * 2.0% MINIMUM SLOPE UNLESS OTHERWISE NOTED.
 16. ALL LAWN BASINS TO BE 600mm DIAMETER WITH CLOSED BOTTOM AND ALUMINUM TRAPPING HOOD AND SHALL CONFORM TO MMCD DWG S12 (TYPE 2) UNLESS OTHERWISE NOTED. LAWN BASIN LEADS TO BE A MINIMUM 150MM DIAMETER PVC DR35 * 1.0% MINIMUM SLOPE UNLESS OTHERWISE NOTED.

- PAVEMENT MARKING AND SIGNAGE NOTES:
1. ALL PAVEMENT MARKINGS AND SIGNAGE TO BE MINISTRY OF TRANSPORTATION STANDARDS (MANUAL OF STANDARD TRAFFIC SIGNS & PAVEMENT MARKINGS).
- EXISTING UTILITIES
1. THE LOCATION OF EXISTING SERVICES IS NOT GUARANTEED TO BE ACCURATE. THE INFORMATION HAS BEEN COMPILED FROM THE CITY AS-CONSTRUCTED RECORDS AND FROM TOPOGRAPHIC SURVEY. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL INVESTIGATE THE WORK AREA, TO CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES. NOTIFY LAWSON ENGINEERING LTD. IMMEDIATELY IF THERE ARE ANY DISCREPANCIES.
 2. NOTIFY TELUS, BC HYDRO, FORTIS BC, CITY WATER & SEWER AND CABLE 72 HOURS PRIOR TO CONSTRUCTION FOR LOCATION, IF APPLICABLE.
 3. ALL DRAWING DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
 4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES PRIOR TO THE START OF EXCAVATION.



PLEASANT VALLEY ROAD TYPICAL CROSS SECTION
SCALE: N.T.S.

REV. No.	DATE	DESIGNED	DRAWN	CHECKED	DESCRIPTION
0	2023/09/20	JSJ	JKW	BTL	ISSUED FOR APPROVAL
1	2024/01/08	JSJ	JKW	BTL	RE-ISSUED FOR APPROVAL
2	2024/07/25	JKW	JKW	JSJ	RE-ISSUED FOR APPROVAL
3	2024/09/10	JKW	JKW	JSJ	RE-ISSUED FOR APPROVAL

PERMIT No.
1001279

PROFESSIONAL
ENGINEER
J. S. JOHNSON
56512
2024-09-17
SEAL

 **LAWSON**
— ENGINEERING LTD. —

UNIT B - 4705 29 STREET,
VERNON, BC V1T 5C1

SCALE

SHEET

10 OF 10

TITLE

**CONSTRUCTION NOTES
& DETAILS**

DRAWING NUMBER

C801