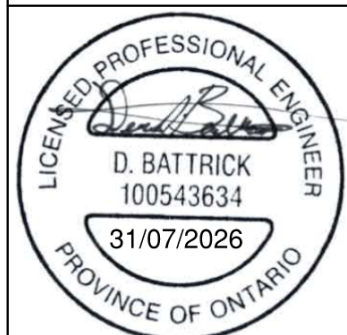
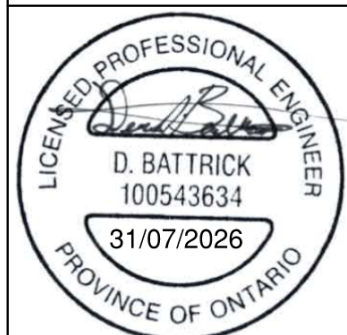
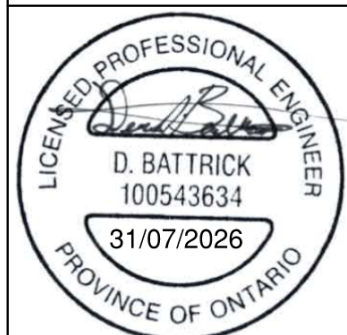
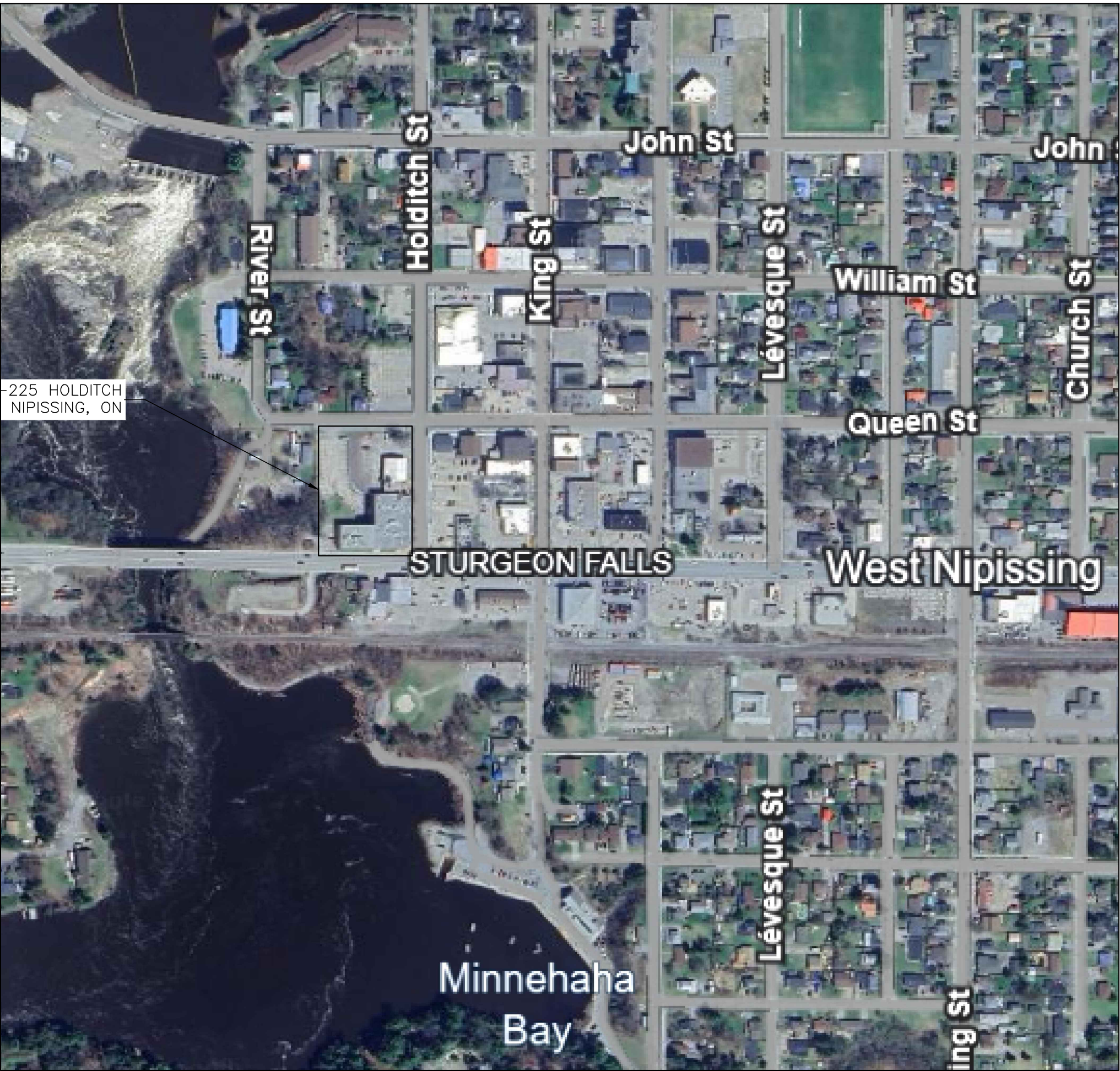
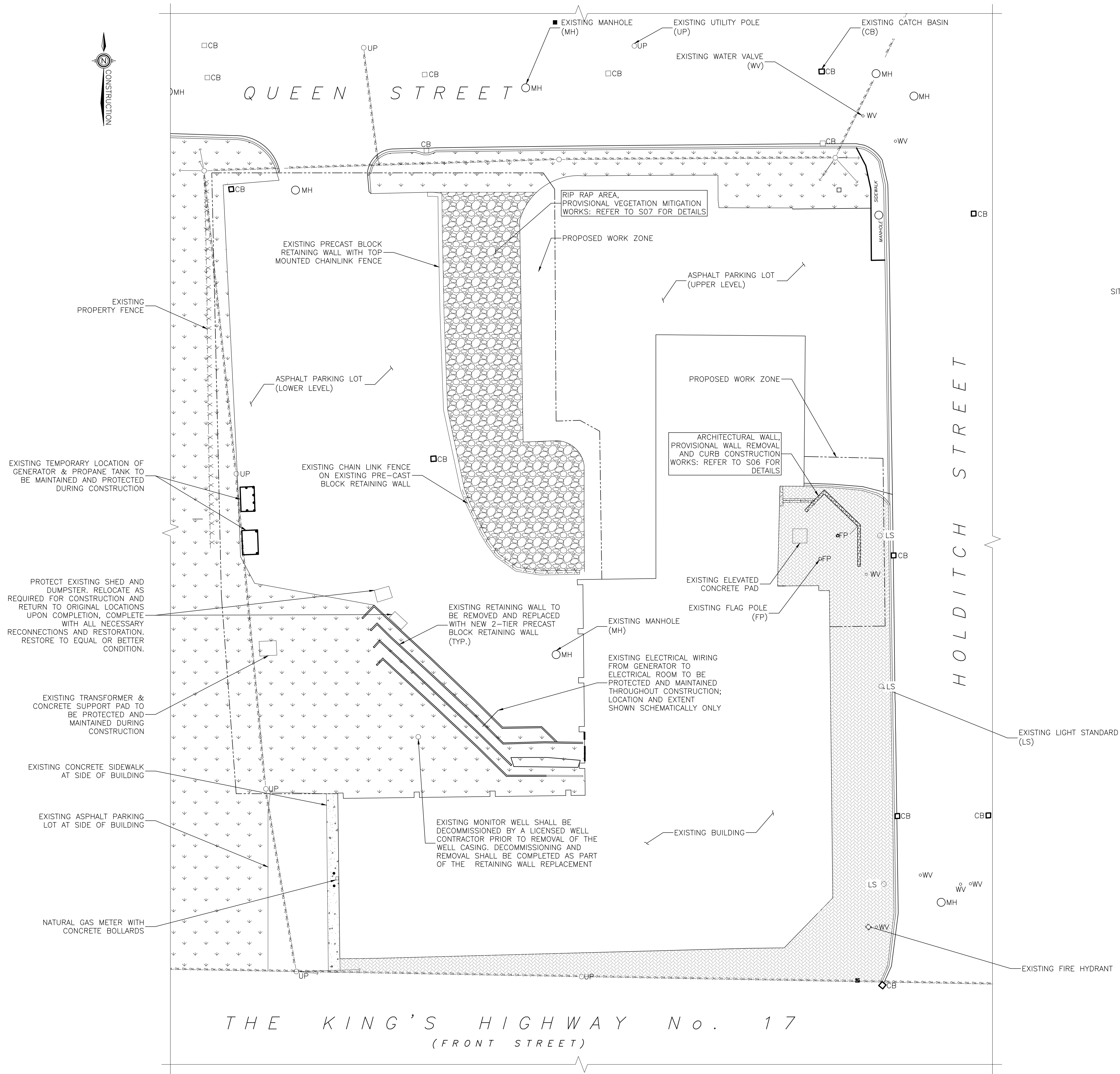


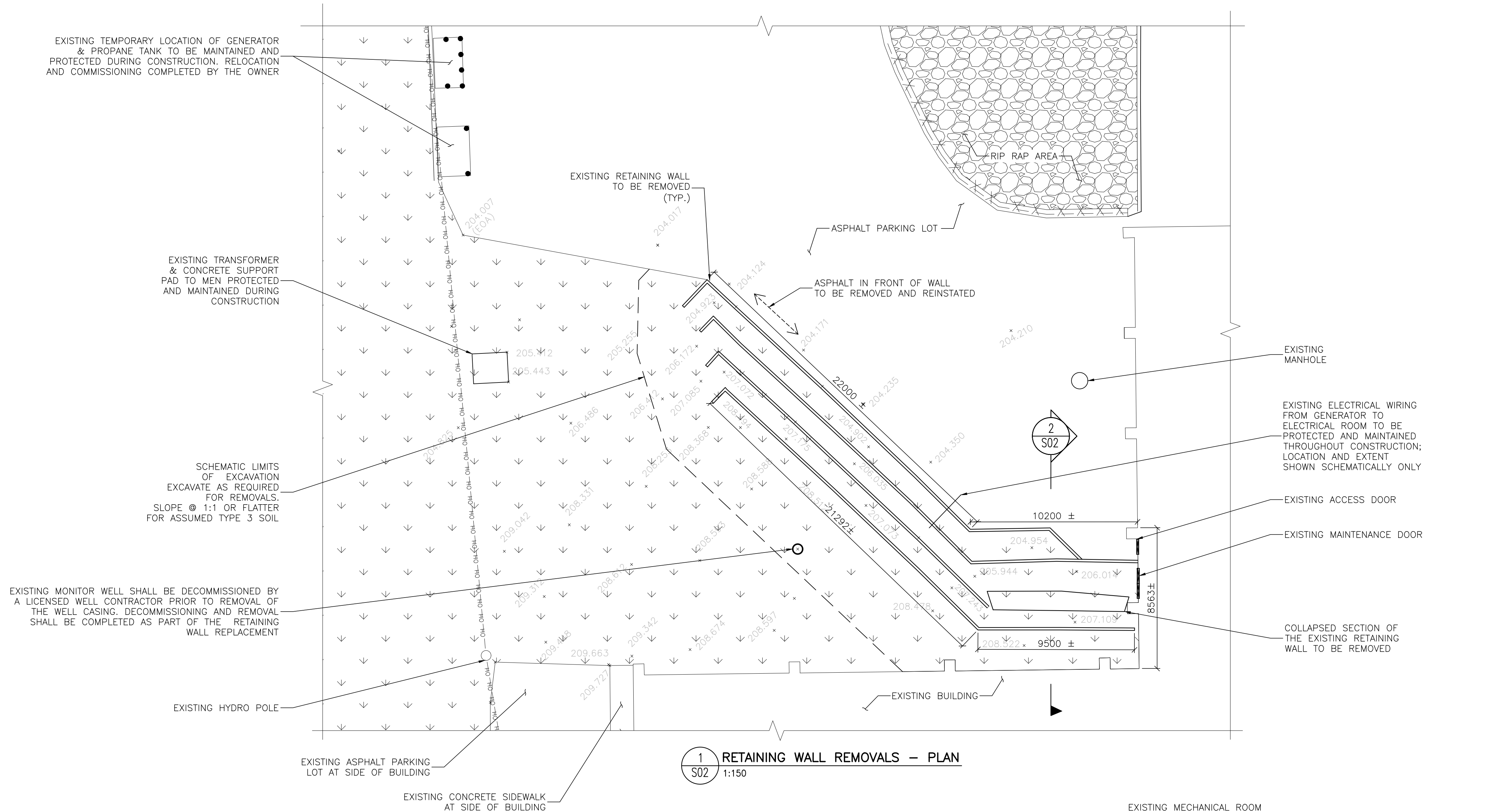
1. ANY DEVIATION FROM THE CONDITIONS SHOWN ON THESE DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCING WORK. REPORT ANY INCONSISTENCIES BEFORE PROCEEDING WITH THE WORK. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE. DO NOT SCALE THESE DRAWINGS. 3. THE CONTRACTOR SHALL IDENTIFY, VERIFY, AND PROTECT ALL EXISTING ADJACENT STRUCTURES AND THEIR FOUNDATIONS DURING CONSTRUCTION. UNDERMINING OF EXISTING FOUNDATIONS IS NOT PERMITTED. THE CONTRACTOR SHALL IMPLEMENT ALL NECESSARY MEASURES TO SAFELY COMPLETE THE WORK WITHOUT ADVERSELY AFFECTING ADJACENT STRUCTURES. 4. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DESIGN DOCUMENTS INCLUDING THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS, AS APPLICABLE, IN THE EVENT OF DISCREPANCY BETWEEN THESE STRUCTURAL DRAWINGS AND THE PROJECT SPECIFICATIONS, THE MORE STRINGENT OF THE TWO SHALL GOVERN. 5. IF DETAILS IN THESE DRAWINGS DIFFER, THE MORE STRINGENT CONDITION SHALL GOVERN. 6. NO MODIFICATION TO THE STRUCTURAL ELEMENTS, NO OPENINGS, PERFORATION OR CUTS ARE ALLOWED UNLESS SPECIFICALLY SHOWN ON THESE DRAWINGS AND MODIFIED ONLY WITH WRITTEN CONSENT FROM THE STRUCTURAL ENGINEER. 7. STRUCTURAL DESIGN COMPLETED IN CONFORMANCE WITH THE 2024 ONTARIO BUILDING CODE (OBC 2024), THE CANADIAN FOUNDATION ENGINEERING DESIGN MANUAL 5TH EDITION (CFEM 5TH), CSA23.3 DESIGN OF CONCRETE STRUCTURES (CSA A23.3-19), AND CSA S6-19 DESIGN OF STEEL STRUCTURES (CSA S6-19). THESE DRAWINGS HAVE BEEN COMPLETED WITH RESPECT TO STRUCTURAL REQUIREMENTS ONLY. NON-STRUCTURAL DETAILS ARE SHOWN FOR REFERENCE ONLY AND SHALL BE CONFIRMED BY OTHERS. 8. THESE DRAWINGS SHOW THE COMPLETED STRUCTURE. TEMPORARY BRACING SHALL BE EMPLOYED WHENEVER NECESSARY TO WITHSTAND ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECT TO DURING ERECTION AND SUBSEQUENT CONSTRUCTION. TEMPORARY BRACING SHALL REMAIN IN PLACE AS LONG AS REQUIRED FOR THE SAFETY AND INTEGRITY OF THE STRUCTURE. THE CONTRACTOR SHALL HAVE THE SOLE RESPONSIBILITY FOR THE DESIGN, ERECTION, OPERATION, MAINTENANCE, AND REMOVAL OF TEMPORARY SUPPORTS, EXCAVATION SHORING, STRUCTURES, AND FACILITIES, AND THE DESIGN AND EXECUTION OF CONSTRUCTION METHODS REQUIRED IN THEIR USE. 9. ALL WORK TO BE COMPLETED IN ACCORDANCE WITH THE ONTARIO HEALTH AND SAFETY ACT (OHSA) AND ITS REGULATIONS. 10. ALL MATERIAL SPECIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PROCUREMENT. 11. STRUCTURAL DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION, WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED, BUT ARE SIMILAR IN CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED. THIS IS SUBJECT TO REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER THROUGHOUT THE SHOP DRAWING REVIEW PROCESS. 12. ALL SHOP DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE PROFESSIONAL ENGINEERING IN ONTARIO FOR CONFORMANCE WITH THESE DRAWINGS. SHOP DRAWINGS SHALL BE SUBMITTED TO ART ENGINEERING INC. (AEI) FOR REVIEW AND APPROVAL.	1. RETAINING WALL LOADS: 1.1. DEAD LOADS: – SELF WEIGHT; 1.2. A MINIMUM COEFFICIENT OF FRICTION OF 0.55 HAS BEEN ASSUMED BETWEEN COMPACTED GRANULAR 'A' PAD AND CAST-IN-PLACE FOOTING. 1.3. THE DESIGN HAS BEEN REVIEWED FOR THE STABILITY OF THE ARMOUR STONE RETAINING WALL SYSTEMS WITH A FACTOR OF SAFETY OF 1.1 UNDER SEISMIC CONDITIONS. 1.4. ANY PROPOSED SUPERNORMAL LOADS SUCH AS CRANE OUTRIGGERS OR EXCAVATORS APPLIED TO OR IMMEDIATELY ADJACENT TO THE TOP OF THE RETAINING WALL, OTHER THAN INDICATED ON THESE DRAWINGS, MUST BE PROVIDED FOR REVIEW AND APPROVAL BY AEI PRIOR TO PLACEMENT. 1.5. DESIGN IS BASED ON THE ASSUMPTION THAT THE RETAINING WALL FOUNDATION CONFIGURATIONS, ELEVATIONS, AND LOADS (IF SPECIFIED) AS INDICATED ON THE RETAINING WALL DRAWINGS ARE CORRECT. SHOULD ANY OF THESE ASSUMPTIONS CHANGE, A REDESIGN OF THE RETAINING WALL MAY BE REQUIRED. 2. MATERIALS: 2.1. LOCK-BLOCK UNITS: TEXTURLOCK™ 750mm X 750mm BY 1500mm LONG, 750mm X 750mm BY 750mm LONG UNITS, & 750mm X 375mm BY 750mm LONG UNITS. BOTTOM AND MIDDLE COURSES SHALL BE c/w INTEGRATED SHEAR KEYS. SMOOTH TOP UNITS SHALL BE PROVIDED FOR TOP COURSE OF WALL. UNITS SHALL HAVE A COMPRESSIVE STRENGTH NO LESS THAN 20MPa. 2.2. GEOTEXTILE: TERRAFIX 270 R OR AN APPROVED EQUIVALENT. CAST-IN-PLACE CONCRETE 1. <u>GENERAL:</u> 1.1. CONCRETE DESIGN COMPLETED IN ACCORDANCE WITH CSA A23.3-19 "DESIGN OF CONCRETE STRUCTURES". 1.2. CONCRETE MATERIALS AND PLACEMENT PROCEDURES ARE TO BE COMPLETED IN ACCORDANCE WITH CSA A23.1-19 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION". 1.3. CONCRETE TESTING IS TO BE COMPLETED IN ACCORDANCE WITH CASE A23.2-19 "TEST METHODS AND STANDARD PRACTICES FOR CONCRETE". 2. <u>MATERIALS:</u> 2.1. CONCRETE – IN ACCORDANCE WITH CSA A23.1/A23.2/A23.3: <table><tr><th>ELEMENT</th><th>MINIMUM 28-DAY COMPRESSIVE STRENGTH U.N.O.</th><th>EXPOSURE CLASS</th><th>COMMENTS</th></tr><tr><td>RETAINING WALL FOOTINGS / FENCE FOUNDATIONS</td><td>32 MPa</td><td>C-2</td><td>19 mm MAXIMUM NOMINAL AGGREGATE SIZE</td></tr></table> 2.2. REINFORCEMENT: REINFORCING STEEL – PLAIN, GRADE 400W IN ACCORDANCE WITH CSA G30.18; 3. <u>EXECUTION:</u> 3.1. FORMWORK DESIGN, FABRICATION, ERECTION AND MATERIAL SHALL BE BY THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH CSA S269.1-16 AND CSA A23.1-19. 3.2. FORMWORK SHALL BE LEFT IN PLACE FOR THE ENTIRE DURATION OF THE CURING PERIOD. NO LIVE LOAD FROM EQUIPMENT IS PERMITTED ON THE STRUCTURE DURING CONCRETE PLACEMENT AND CURING. 3.3. CONCRETE REINFORCING, PLACEMENT AND TOLERANCES SHALL BE IN ACCORDANCE WITH CSA A23.1-19 & A23.2-19. 3.4. ALL REINFORCING STEEL SHALL BE CLEAN AND FREE OF RUST, OIL OR ANY OTHER DELETERIOUS MATERIAL. 3.5. SECURE AND SUPPORT REINFORCING STEEL TO PREVENT MOVEMENT DURING THE POURING OF CONCRETE. 3.6. CLEAR COVER TO REINFORCING STEEL SHALL BE AS FOLLOWS: CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 75 ± 25 mm; TOP OF SLAB ON GRADE / FOOTING = 50 ± 12 mm; VERTICAL ELEMENTS = 60 ± 20 mm; ALL OTHER LOCATIONS = 70 ± 20 mm. 3.7. REINFORCING BAR SPLICES SHALL BE 650 mm LONG MINIMUM FOR HORIZONTAL 15M BARS. 3.8. CONCRETE SHALL BE MIXED, PLACED, AND CURED IN ACCORDANCE WITH CSA A23.1-19 AND CSA A23.2-19. MAINTAIN RECORDS OF POURED CONCRETE ITEMS. RECORD DATE, LOCATION OF POUR, QUANTITY, AIR TEMPERATURE AND ANY TEST SAMPLES TAKEN. 3.9. DO NOT POUR CONCRETE OVER A FROZEN SUBGRADE. ENSURE A MINIMUM TEMPERATURE OF 10°C DURING PLACEMENT OF CONCRETE AND FOR A MINIMUM OF 3 DAYS AFTER PLACEMENT. 3.10. ALL CONCRETE SHALL BE CONSOLIDATED WITH INTERNAL VIBRATORS. 3.11. THE LOCATION AND ORIENTATION OF ALL CONCRETE CONSTRUCTION/COLD JOINTS SHALL BE AS SHOWN ON THESE DRAWINGS. ANY ADDITIONAL PROPOSED CONSTRUCTION JOINTS SHALL BE SUBMITTED TO AEI FOR APPROVAL, PRIOR TO CONSTRUCTION. 3.12. CRACK CONTROL JOINTS SHALL BE PROVIDED AT 3.6 m CENTER-TO-CENTER MAXIMUM SPACING IN THE CURB. CRACK CONTROL JOINTS SHALL BE SAW CUT INTO THE CONCRETE SURFACE 6 TO 18 HOURS AFTER POURING THE CONCRETE. CRACK CONTROL JOINTS SHALL BE 30 ± 5 mm DEEP AND 5 mm WIDE. DO NOT LAP REINFORCEMENT THROUGH CONTROL JOINTS. 3.13. REINFORCING STEEL BAR HOOKS SHALL HAVE STANDARD HOOK DIMENSIONS, USING MINIMUM BEND DIAMETERS, U.N.O. 3.14. ALL PERMANENTLY EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 25 mm U.N.O. 4. <u>QUALITY CONTROL:</u> 4.1. THE CONTRACTOR SHALL ENSURE THAT ALL REINFORCING STEEL IS INSPECTED AND APPROVED BY THE ENGINEER UPON COMPLETION AND PRIOR TO PLACING CONCRETE.	ELEMENT	MINIMUM 28-DAY COMPRESSIVE STRENGTH U.N.O.	EXPOSURE CLASS	COMMENTS	RETAINING WALL FOOTINGS / FENCE FOUNDATIONS	32 MPa	C-2	19 mm MAXIMUM NOMINAL AGGREGATE SIZE	1. <u>GENERAL:</u> 1.1. ALL EXCAVATION AND EARTHWORK SHALL BE COMPLETED IN CONFORMANCE WITH THE FOLLOWING: 1.1.1. ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT (OHSA) AND ITS REGULATIONS; 1.1.2. "PROPOSED RETAINING WALL REPLACEMENT, WEST NIPissing MUNICIPAL OFFICES, STURGEON FALLS ONTARIO" GEOTECHNICAL REPORT DATED OCTOBER 16, 2026 PREPARED BY EXP SERVICES INC. 1.2. FOOTINGS HAVE BEEN DESIGN FOR A BEARING CAPACITY OF 100kPa (SLS) AND 150kPa (ULS). 1.3. EXCAVATED MATERIALS ARE NOT SUITABLE FOR RE-USE. EXCAVATED SOILS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. 1.4. A MINIMUM 300mm THICK LAYER OF COMPACTED GRANULAR 'A' CONFORMING TO OPSS 1010 SHALL BE PROVIDED BENEATH BLOCK WALLS. 1.5. ALL ORGANICS, DELETERIOUS MATERIALS, LOOSE FILL, SOFTENED SOILS, AND UNSUITABLE MATERIALS SHALL BE REMOVED TO COMPETENT NATIVE SOILS. ANY REMOVED MATERIALS BEYOND THE GRANULAR 'A' LIMITS SHALL BE REPLACED WITH COMPACTED GRANULAR 'B' TYPE II TO OPSS 1010. 1.6. EXPOSED SUB-GRADES SHALL BE PROOF ROLLED AND INSPECTED BY A QUALIFIED GEOTECHNICAL REPRESENTATIVE PRIOR TO PLACING ENGINEERED FILL. 1.7. ENGINEERED FILL SHALL BE PLACED IMMEDIATELY FOLLOWING SUBGRADE APPROVAL. A NON-WOVEN GEOTEXTILE SEPARATOR (TERRAFIX 270R OR AN APPROVED EQUIVALENT) SHALL BE INSTALLED BETWEEN NATIVE SUBGRADE SOILS AND ENGINEERED FILL. 1.8. ENGINEERED FILL SHALL BE PLACED IN MAXIMUM 150mm LOOSE LIFTS AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD) WITHIN ±1.5% OF THE OPTIMUM MOISTURE CONTENT. 2. <u>MATERIALS:</u> 2.1. RETAINING WALL BACKFILL MATERIAL SHALL BE GRANULAR 'B' TYPE II IN ACCORDANCE WITH OPSS 1010. 2.2. RETAINING WALL BASE MATERIAL SHALL BE GRANULAR 'A' IN ACCORDANCE WITH OPSS 1010. 2.3. WEEPING TILE: 100mm Ø PERFORATED DRAINAGE PIPE c/w CLEAR STONE AND NON-WOVEN GEOTEXTILE. 2.4. FOR SUBGRADE REQUIREMENTS BELOW PAVEMENT USE: 2.4.1. BASE: GRANULAR 'A' IN ACCORDANCE WITH OPSS 1010, COMPACT TO 100% SPMDD, 150 mm THICK; 2.4.2. SUBBASE: GRANULAR 'B' TYPE II, IN ACCORDANCE WITH OPSS 1010, COMPACT TO 100% SPMDD IN 200 mm MAX. THICK LIFTS. 2.5. EQUIPMENT PAD BASE (TEMPORARY AND PERMANENT PADS): 2.5.1. WELL COMPACTED 19 mm CLEAR STONE BASE AT LEAST 200 mm THICK PLACED DIRECTLY ON NATIVE SOIL OR OPSS GRANULAR 'A' COMPACTED TO 98% SPMDD AND OVERLAIN BY A VAPOUR BARRIER. 2.5.2. RIGID INSULATION AS PER GEOTECHNICAL REQUIREMENTS – MIN. R5 PER INCH, 275 kPa MIN. COMPRESSIVE STRENGTH. 3. <u>EXECUTIONS:</u> 3.1. LOCATE ALL PUBLIC AND PRIVATE UTILITIES AND BURIED STRUCTURES PRIOR TO COMMENCING EXCAVATION. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND REINSTATEMENT OF ANY SERVICES AND UTILITIES ENCOUNTERED. 3.2. SHALLOW TEMPORARY EXCAVATIONS SHALL HAVE THEIR SIDES SLOPED AT 1 VERTICAL TO 1 HORIZONTAL OR FLATTER, AS SPECIFIED BY THE GEOTECHNICAL ENGINEER. 3.3. DO NOT EXCAVATE BELOW A PLANE EXTENDING DOWNWARD FROM ANY BEARING STRATA AT A SLOPE OF 7 VERTICAL TO 10 HORIZONTAL. ANY EXISTING FOOTINGS. ELEVATION OF ADJACENT FOOTINGS SHALL BE DETERMINED BY THE CONTRACTOR, PRIOR TO COMMENCING EXCAVATION. 3.4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING BACKFILL WITHOUT ANY DAMAGE TO NEW AND EXISTING ADJACENT FOUNDATIONS. 3.5. THE FINAL EXTERIOR GRADE SHALL BE SLOPED TO DIRECT WATER AWAY FROM THE EXISTING BUILDING FOUNDATIONS. 4. <u>QUALITY CONTROL:</u> 4.1. THE CONTRACTOR IS RESPONSIBLE FOR HAVING THE BEARING SURFACES INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING ENGINEERED FILL. 4.2. THE CONTRACTOR IS RESPONSIBLE FOR HAVING THE COMPACTION OF GRANULAR FILL APPROVED BY A GEOTECHNICAL ENGINEER. 4.3. THE CONTRACTOR IS TO SUBMIT COPIES OF THE QUALITY CONTROL REPORTS TO THE ENGINEER. 5. <u>COLD WEATHER CONDITIONS:</u> 5.1. MAINTAIN ALL EXPOSED SUBGRADE SOILS AT A MINIMUM OF 5°C DURING EXCAVATION AND CONSTRUCTION ACTIVITIES. 5.2. DO NOT PLACE GRANULAR MATERIALS ON FROZEN SUBGRADE OR UNDER FROZEN CONDITIONS. ALL FILL MATERIALS SHALL BE MAINTAINED AT A MINIMUM TEMPERATURE OF 5°C BEFORE AND DURING PLACEMENT. 5.3. HEATED AND TARPED AREAS SHALL BE CONTINUOUSLY TEMPERATURE MONITORED USING A MAX./MIN. THERMOMETER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SUITABLE CONDITION IN ACCORDANCE WITH THE GEOTECHNICAL'S RECOMMENDATIONS. SHOP DRAWINGS AND SUBMITTALS 1. REPRODUCTION OF THE STRUCTURAL DRAWINGS SHALL NOT BE ACCEPTED AS SHOP DRAWINGS. 2. "PROFESSIONAL ENGINEER" THROUGHOUT THESE DRAWINGS MEANS A PROFESSIONAL ENGINEER REGISTERED IN AND LICENSED TO PRACTICE IN THE PROVINCE OF ONTARIO AND THE ENGINEER'S "SEAL" SHALL INCLUDE THEIR STAMP, THEIR SIGNATURE AND THE DATE OF SEALING. 3. REVIEW OF DRAWINGS APPLIES TO GENERAL ARRANGEMENT ONLY FOR THE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THIS REVIEW DOES NOT IMPLY APPROVAL OF DESIGN OR QUANTITIES IN SUBMITTED DRAWINGS, IT DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR MAKING THE WORK COMPLETE, ACCURATE, AND IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS. 4. ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW OF EACH SUBMISSION OF SHOP DRAWINGS. ALLOW MORE TIME WHEN LARGE QUANTITIES OF SHOP DRAWINGS ARE SUBMITTED. SUBMIT IN GENERAL CONFORMITY WITH THE SEQUENCE OF WORK INTENDED. 5. DO NOT COMMENCE PROCUREMENT OF SHOP DRAWING ELEMENTS UNTIL RETURNED SHOP DRAWINGS HAVE BEEN MARKED AS EITHER: "REVIEWED AND ACCEPTED" OR "REVIEWED AS NOTED". 6. SHOP DRAWINGS MARKED AS "REVISE AND RESUBMIT" REQUIRE SUBSTANTIAL REVISIONS AND MUST BE RESUBMITTED FOR ADDITIONAL REVIEW PRIOR TO PROCUREMENT. ALL CHANGES AND ADDITIONS TO THE PREVIOUS SUBMISSION SHALL BE CLEARLY IDENTIFIED ON THE RESUBMITTED DRAWINGS. ONLY THE IDENTIFIED CHANGES WILL BE REVIEWED ON RE-SUBMISSION. 7. DRAWINGS MARKED AS "NOT REVIEWED" SHOW WORKS WHICH ARE NOT WITHIN THE SCOPE OF STRUCTURAL CONSULTING SERVICES AND DO NOT IMPACT THE STRUCTURE. <u>SHORING & TEMPORARY WORKS:</u> SHOULD THE CONTRACTORS DEMOLITION PLAN REQUIRE SHORING AND TEMPORARY WORKS, THE SHORING AND TEMPORARY WORKS SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR'S ENGINEER IN ACCORDANCE WITH THE 2024 ONTARIO BUILDING CODE. ENGINEERED DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. SHORING PLANS SHALL BE SEALED BY A PROFESSIONAL ENGINEER. <u>CHAIN LINK FENCE:</u> SHOP DRAWINGS SHALL BE PREPARED, SIGNED AND SEALED BY THE CONTRACTOR'S PROFESSIONAL ENGINEER AND SUBMITTED TO AEI FOR REVIEW AND APPROVAL. <u>REINFORCING STEEL:</u> REINFORCING STEEL SHOP DRAWINGS SHALL BE PREPARED, SIGNED AND SEALED BY THE CONTRACTOR'S PROFESSIONAL ENGINEER AND SUBMITTED FOR REVIEW AND APPROVAL. REINFORCING STEEL SHOP DRAWINGS SHALL INDICATE QUANTITY OF BARS, PROFILES, BEND DIAMETERS, SPACING AND ALL OTHER NECESSARY INFORMATION TO ENSURE PLACEMENT IN ACCORDANCE WITH THE CONTRACT DRAWINGS. <u>OTHER SUBMITTALS:</u> IN ADDITION TO THE ABOVE, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING ITEMS: - DEMOLITION PLAN: INCLUDING PROPOSED METHODOLOGIES, SEQUENCE OF WORK, ACCESS AND STAGING, SLOPE EXCAVATION PLAN, PROTECTION OF ADJACENT STRUCTURES, ETC. AS REQUIRED TO SAFELY PERFORM THE WORK. IF THE CONTRACTOR PROPOSES TO DEViate FROM THE ANTICIPATED SLOPED EXCAVATION APPROACH (OR IF SITE CONDITIONS REQUIRE IT), ENGINEERED TEMPORARY WORKS ARE REQUIRED AND SHALL BE COMPLETED AND SUBMITTED BY THE CONTRACTOR'S ENGINEER TO THE CONSULTANT FOR REVIEW AND APPROVAL. (SEE SHORING & TEMPORARY WORKS ABOVE). - CONCRETE MIX DESIGN & POUR SCHEDULE SHOWING LOCATION OF ALL PROPOSED CONSTRUCTION JOINTS. CONSTRUCTION JOINTS NOT SHOWN ON THESE DRAWINGS ARE PROHIBITED UNLESS APPROVED IN WRITING BY THE ENGINEER. - STRUCTURAL STEEL MILL CERTIFICATES. - WELDABLE REINFORCEMENT MILL CERTIFICATES. - QUANTITY SHEETS AND BILLS OF MATERIAL. - STRUCTURAL CALCULATIONS, UPON REQUEST.	1. AEI PROVIDES FIELD REVIEW ONLY FOR THE WORK SHOWN ON THESE STRUCTURAL DRAWINGS. THIS REVIEW IS NOT A "FULL TIME" REVIEW BUT WILL BE CONDUCTED WITH SUCH FREQUENCY AS AEI DEEMS APPROPRIATE TO OBSERVE VARIOUS STAGES OF THE WORK AND TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS PREPARED BY AEI. 2. FIELD REVIEW BY AEI IS NOT CARRIED OUT FOR THE BENEFIT OF THE CONTRACTOR, NOR DOES IT MAKE AEI A GUARANTOR OF THE CONTRACTOR'S WORK. IT REMAINS THE CONTRACTOR'S RESPONSIBILITY TO BUILD THE WORK IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. AEI SHALL NOT BE RESPONSIBLE TO THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. 3. FIELD REVIEWS DO NOT MEAN THAT AEI HAS SEEN ALL OF THE CONSTRUCTION OR CONSTRUCTION PROCEDURES. 4. PROVIDE 24 HOURS ADVANCE NOTICE OF EACH REQUIRED FIELD REVIEW AS OUTLINED IN THE 'MILESTONE STRUCTURAL INSPECTIONS'. FIELD REVIEWS SHALL BE SCHEDULED TO BE CARRIED OUT DURING NORMAL BUSINESS HOURS UNLESS SPECIAL ARRANGEMENTS ARE MADE WITH AEI. 5. THE WORK TO BE REVIEWED SHALL BE COMPLETE. 6. CONTRACTOR IS RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH THE REMOVAL OF FINISHES REQUIRED FOR INSPECTIONS OR TESTING THAT IS COVERED BEFORE INSPECTIONS ARE COMPLETED. PRE-CAST CONCRETE BLOCK GRAVITY RETAINING WALL INSTALLATION NOTES 1. PRE-CAST CONCRETE BLOCK WALLS SHALL BE CONSTRUCTED OF LOCK-BLOCK LTD. UNITS AS IDENTIFIED HERE-IN, OR AN APPROVED EQUIVALENT. 2. BLOCKS SHALL BE INSTALLED PLUMB AND LEVEL. 3. BLOCK WALL UNITS ARE TO BE DELIVERED, STORED, HANDLED, AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS. 4. SUB-BASE SHALL BE APPROVED BY A GEOTECHNICAL CONSULTANT PRIOR TO INSTALLATION OF WALL. BASE SHALL MEET SPECIFICATIONS AND SHALL BE COMPACTED AND RAKED SMOOTH FOR PLACEMENT OF THE BASE COURSE OF BLOCKS TO MINIMIZE BUMPS AND HOLLOW'S. 5. ONLY USE HANDHELD COMPACTING EQUIPMENT WITHIN 1.2m (4ft) OF THE FILL SIDE OF THE WALL. 6. INSTALLERS SHALL ENSURE THAT THE 'BEST FACE' OF THE BLOCK IS OUTWARD FACING (AS SURFACE FINISH OF THE BLOCKS IS VARIABLE). 7. BEGIN PLACING THE SECOND ROW OF BLOCKS AFTER NO MORE THAN 5 OR 6 BOTTOM BLOCKS HAVE BEEN PLACED, TAKING CARE TO ALIGN THE FRONT FACE OF THE WALL. THIS IS PARTICULARLY IMPORTANT IF THE BOTTOM ROW OF BLOCKS IS TURNED SIDEWAYS TO THE DIRECTION OF THE WALL, BECAUSE THE SMOOTH-FACED LINER BLOCKS ARE SLIGHTLY LESS THAN 750mm WIDE. THE BOTTOM ROW IN THIS CASE WILL HAVE A SMALL GAP TO PROVIDE THE CORRECT CLEARANCE FOR THE SUBSEQUENT ROW. THAT IS, WHEN A ROW OF BLOCKS IS PLACED PERPENDICULAR TO THE FACE OF THE WALL, THE DISTANCE BETWEEN THE CENTERS OF THE KEY OF THE TWO CONSECUTIVE BLOCKS MUST BE 750mm. THIS WOULD CREATE A SMALL GAP BETWEEN BLOCKS. NOTE THERE IS APPROXIMATELY 12mm OF CLEARANCE IN EVERY DIRECTION IN THE FIT OF THE KEYS. 8. SHOULD THE CLEARANCE BECOME TIGHT FOR THE SECOND ROW OF BLOCKS, MERELY PLACE THE NEXT BLOCK ALONG THE BOTTOM ROW, WITH A SLIGHT GAP (10mm); THE SECOND AND SUBSEQUENT ROWS WILL THEN HAVE SUFFICIENT CLEARANCE. CONTINUE PLACING SUBSEQUENT ROWS, TAKING CARE TO ALIGN THE FRONT FACE. ANCHORS & DOWELS 1. UNLESS OTHERWISE INDICATED ON THESE DRAWINGS, ANCHORAGE SHALL BE AS FOLLOWS, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS: 1.1. MECHANICAL ANCHORS INTO CONCRETE SHALL BE HILTI KWIK X SCREW ANCHORS (KH-EZ CRC) OR AN APPROVED EQUIVALENT; 1.2. ADHESIVE ANCHORS INTO CONCRETE SHALL BE HILTI HIT-HY 200 ADHESIVE ANCHORING SYSTEM WITH HILTI HAS-V-36 GALVANIZED ANCHOR RODS OR APPROVED EQUIVALENT; 1.3. REBAR DOWELS NOTED ON THE DRAWINGS SHALL ANCHORED USING HILTI HIT-HY 200 ADHESIVE ANCHORING SYSTEM USING HILTI SAFESET HOLLOW DRILL BIT TECHNOLOGY OR APPROVED EQUIVALENT; 2. ANCHORS INDICATED TO BE GALVANIZED SHALL BE HOT DIP GALVANIZED. 3. ANCHOR RODS, NUTS AND WASHERS FOR BASE PLATES AND BEARING PLATES SHALL CONFORM TO ASTM A307 OR ASTM F1554 GRADE 36 UNLESS OTHERWISE NOTES. 4. CONCRETE SHALL BE MINIMUM 28 DAYS OLD AT THE TIME OF ANCHOR INSTALLATION. 5. DRILLED HOLES SHALL NOT EXCEED THE DIAMETER OUTLINED BY THE MANUFACTURER. 6. DO NOT CUT ANY EXISTING REINFORCEMENT TO ACCOMMODATE ANCHORS OR DOWELS. EXISTING REINFORCEMENT SHALL BE LOCATED PRIOR TO FABRICATION OR PROCUREMENT. 7. ANCHORS OR DOWELS MAY BE RELOCATED TO ACCOMMODATE SITE CONDITIONS PENDING REVIEW AND APPROVALS OF AEI. ALL ABANDONED HOLES SHALL BE FILLED WITH MINIMUM 35 MPa NON-SHRINK GROUT. 8. ANCHOR RODS OR DOWELS SHALL NOT BE BENT AFTER INSTALLATION. 9. PLATES FASTENED WITH ADHESIVE ANCHORS SHALL NOT BE WELDED AFTER THE ADHESIVE HAS BEEN PLACED. 10. PROPRIETARY PRODUCTS SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS. STRUCTURAL STEEL 1. <u>GENERAL:</u> 1.1. STRUCTURAL STEEL DESIGN COMPLETED IN ACCORDANCE WITH CSA S16-19 "DESIGN OF STEEL STRUCTURES". 2. <u>MATERIALS:</u> 2.1. STRUCTURAL STEEL ROLLED, CSA G40.20/G40.21 GRADE 350W. 2.2. STRUCTURAL STEEL PLATES, CSA G40.20/G40.21 GRADE 300W. 2.3. WELDING ELECTRODE, E49XX IN ACCORDANCE WITH CSA W59-18. 2.4. BOLTS, NUTS AND WASHERS – CONFORMING TO ASTM A325. 2.5. ALL STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123/A123M. REPAIR OF DAMAGED GALVANIZED COATINGS SHALL BE IN ACCORDANCE WITH ASTM A780/A780M. 2.6. ALL BOLTS, NUTS, WASHERS, THREADED RODS, AND ANCHOR RODS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM F2329/F2329M. 3. <u>EXECUTION:</u> 3.1. ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH CSA S16-14, CISC CODE OF STANDARD PRACTICE AND THE ONTARIO SAFETY ACT (OHSA) AND IT'S REGULATIONS. TEMPORARY BRACING DURING ERECTION SHALL BE EMPLOYED WHENEVER NECESSARY AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. 3.2. ALL BOLT HOLES SHALL BE DRILLED TO THE BOLT Ø + 2 mm U.N.O. 4. <u>QUALITY CONTROL:</u> 4.1. STRUCTURAL STEEL SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO COVERING. 4.2. THE CONTRACTOR SHALL SUBMIT A CERTIFIED COPY OF MILL REPORTS COVERING CHEMICAL AND MECHANICAL PROPERTIES OF STEEL USED IN THIS PROJECT.																																				
ELEMENT	MINIMUM 28-DAY COMPRESSIVE STRENGTH U.N.O.	EXPOSURE CLASS	COMMENTS																																												
RETAINING WALL FOOTINGS / FENCE FOUNDATIONS	32 MPa	C-2	19 mm MAXIMUM NOMINAL AGGREGATE SIZE																																												
PRECAST CONCRETE BLOCK WALLS			<table><tr><td></td><td></td><td></td><td></td></tr><tr><td>0.</td><td>ISSUED FOR TENDER</td><td></td><td>31-07-26</td></tr></table> <table><tr><td>project</td><td>115 HOLTIDITCH STREET WEST NIPissing ONTARIO: RETAINING WALL REPLACEMENT PROJECT</td><td>client</td><td>MUNICIPALITY OF WEST NIPissing</td></tr><tr><td>drawing</td><td colspan="2">GENERAL NOTES</td><td></td></tr><tr><td>approved</td><td>D. Bottrick</td><td>checked</td><td>D. Berger</td></tr><tr><td colspan="2"></td><td colspan="2"><table><tr><td colspan="2">A detail no. or detail</td></tr><tr><td colspan="2">B location drawing no. or sheet no.</td></tr><tr><td>project number</td><td>8611</td></tr><tr><td>drawing number</td><td>S00</td></tr><tr><td>designed</td><td>D.W.B.</td></tr><tr><td>checked</td><td>D.B.</td></tr><tr><td>drawn</td><td>D.W.B.</td></tr><tr><td>scale</td><td>AS SHOWN</td></tr><tr><td>code</td><td>OBC</td></tr><tr><td>date</td><td>July 31, 2026</td></tr></table></td></tr></table>					0.	ISSUED FOR TENDER		31-07-26	project	115 HOLTIDITCH STREET WEST NIPissing ONTARIO: RETAINING WALL REPLACEMENT PROJECT	client	MUNICIPALITY OF WEST NIPissing	drawing	GENERAL NOTES			approved	D. Bottrick	checked	D. Berger			<table><tr><td colspan="2">A detail no. or detail</td></tr><tr><td colspan="2">B location drawing no. or sheet no.</td></tr><tr><td>project number</td><td>8611</td></tr><tr><td>drawing number</td><td>S00</td></tr><tr><td>designed</td><td>D.W.B.</td></tr><tr><td>checked</td><td>D.B.</td></tr><tr><td>drawn</td><td>D.W.B.</td></tr><tr><td>scale</td><td>AS SHOWN</td></tr><tr><td>code</td><td>OBC</td></tr><tr><td>date</td><td>July 31, 2026</td></tr></table>		A detail no. or detail		B location drawing no. or sheet no.		project number	8611	drawing number	S00	designed	D.W.B.	checked	D.B.	drawn	D.W.B.	scale	AS SHOWN	code	OBC	date	July 31, 2026
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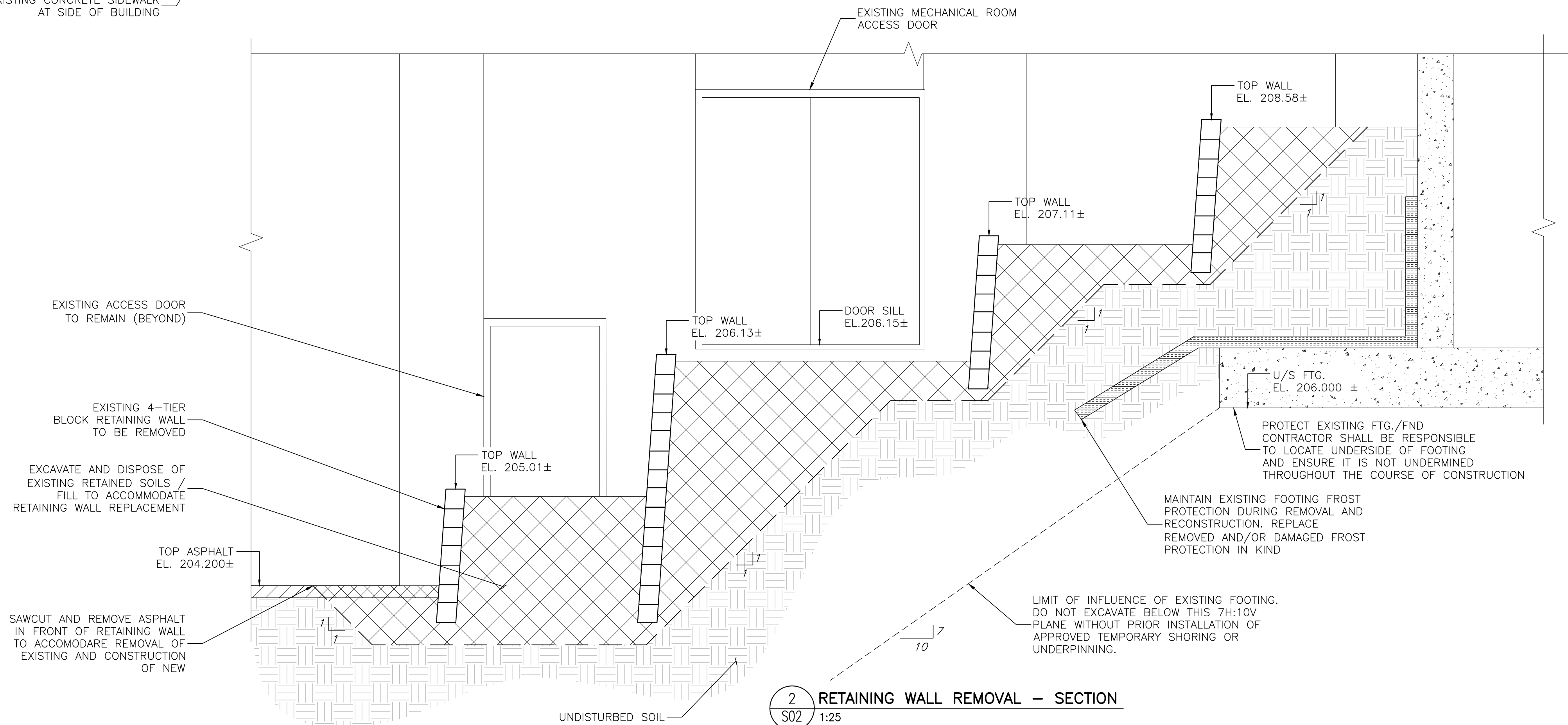
1 SITE LOCATION PLAN
S01 N.T.S.

2 SITE KEY PLAN - EXISTING CONDITIONS
S01 1:250

0. ISSUED FOR TENDER		31-07-26
revision		date
project	115 HOLDITCH STREET WEST NIPISSING ONTARIO: RETAINING WALL REPLACEMENT PROJECT	client MUNICIPALITY OF WEST NIPISSING
drawing	SITE LOCATION PLAN & SITE KEY PLAN	art engineering inc. 1155 10TH AVE. S. UNIT 101 WILLOWDALE, ONT. M2H 1C6 416-491-8888 www.artengineering.ca
approved	D. Battrick	checked D. Berger
		A detail no. no. de detail B location drawing no. sur dessin no. project number 8611 drawing number S01 designed D.W.B. reviewed D.B. drawn D.W.B. scale AS SHOWN code OBC date July 31, 2026



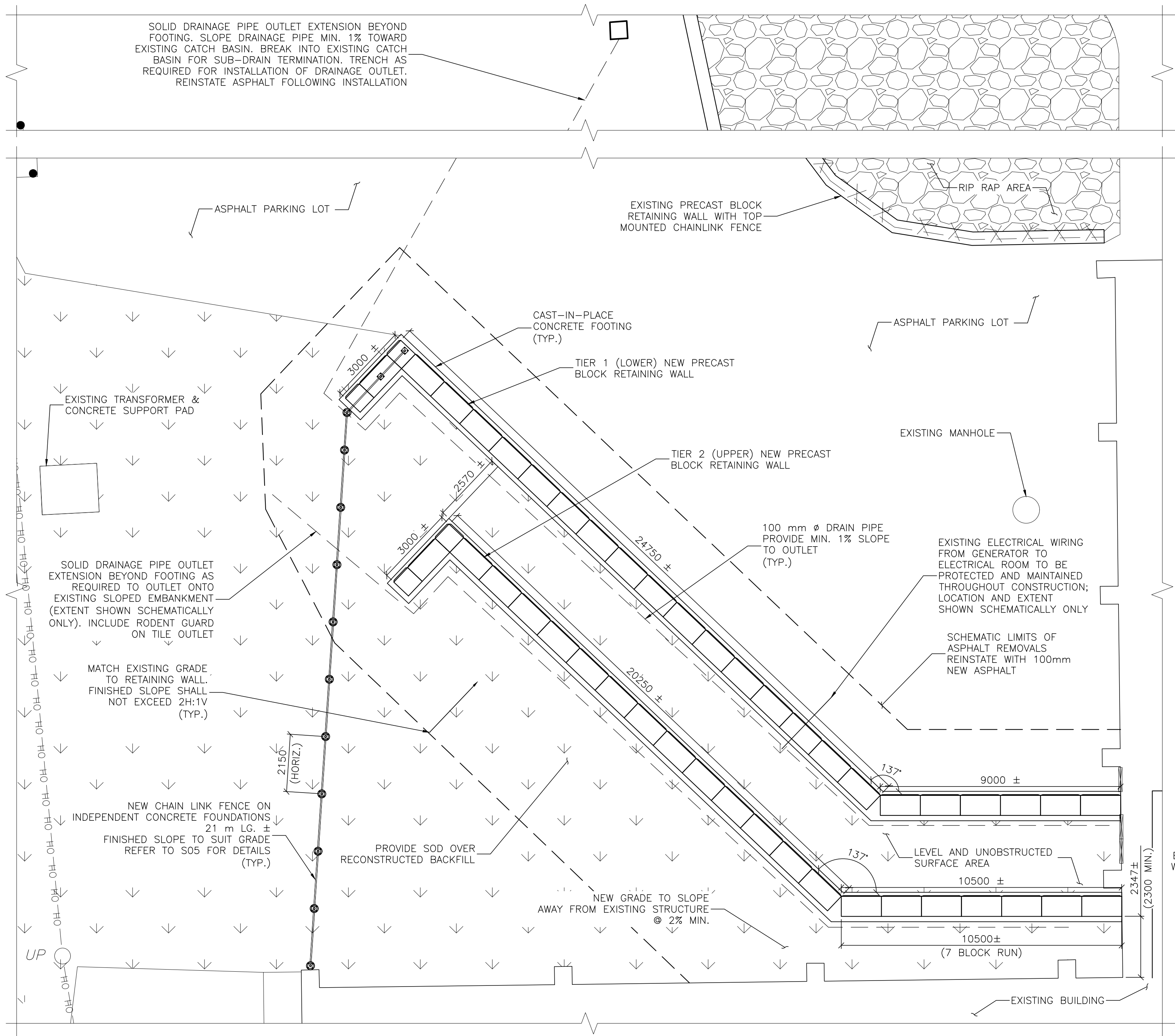
- EXCAVATION NOTES:
- UNLESS OTHERWISE INDICATED IN THE GEOTECHNICAL REPORT, DO NOT EXCAVATE BELOW A LINE EXTENDING DOWNWARD FROM THE EDGE OF THE EXISTING BUILDING FOOTINGS AT A SLOPE OF 7 VERTICAL TO 10 HORIZONTAL.
 - PRIOR TO ANY EXCAVATION, LOCATE EXISTING SERVICES AND UTILITIES AND TAKE ALL NECESSARY MEASURES TO ENSURE SERVICES ARE MAINTAINED WHERE REQUIRED. NOTIFY OWNER / ENGINEER IF ANY SERVICES NOT SHOWN ON PLAN OR OTHERWISE EXPECTED ARE ENCOUNTERED. DO NOT PROCEED FURTHER UNTIL DIRECTED.
 - CARE SHALL BE UNDERTAKEN TO AVOID UNDERMINING EXISTING OR ADJACENT BUILDING FOUNDATIONS OR UNDERGROUND SERVICES.
 - EXCAVATED MATERIALS ARE TO BE DISPOSED OF AT THE STURGEON FALLS LANDFILL: 256, LANDFIL SITE ROAD, WEST NIPISSING, ON P2B 2P1, UNLESS APPROVED OTHERWISE BY CONSULTANT.
 - THE INFORMATION PROVIDED ON THIS DRAWING ARE PROVIDED FOR INFORMATION PURPOSES ONLY FOR THE CONTRACTOR. THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE FOR ESTABLISHING AND MAINTAINING HIS OWN CONTROL POINTS, WORKING POINTS, LOCAL BENCHMARKS, STATIONS, ELEVATIONS, ETC. AS REQUIRED IN ORDER TO PROPERLY INSTALL THE RETAINING WALL STRUCTURE AND PROPERLY RECONSTRUCT THE EMBANKMENT.



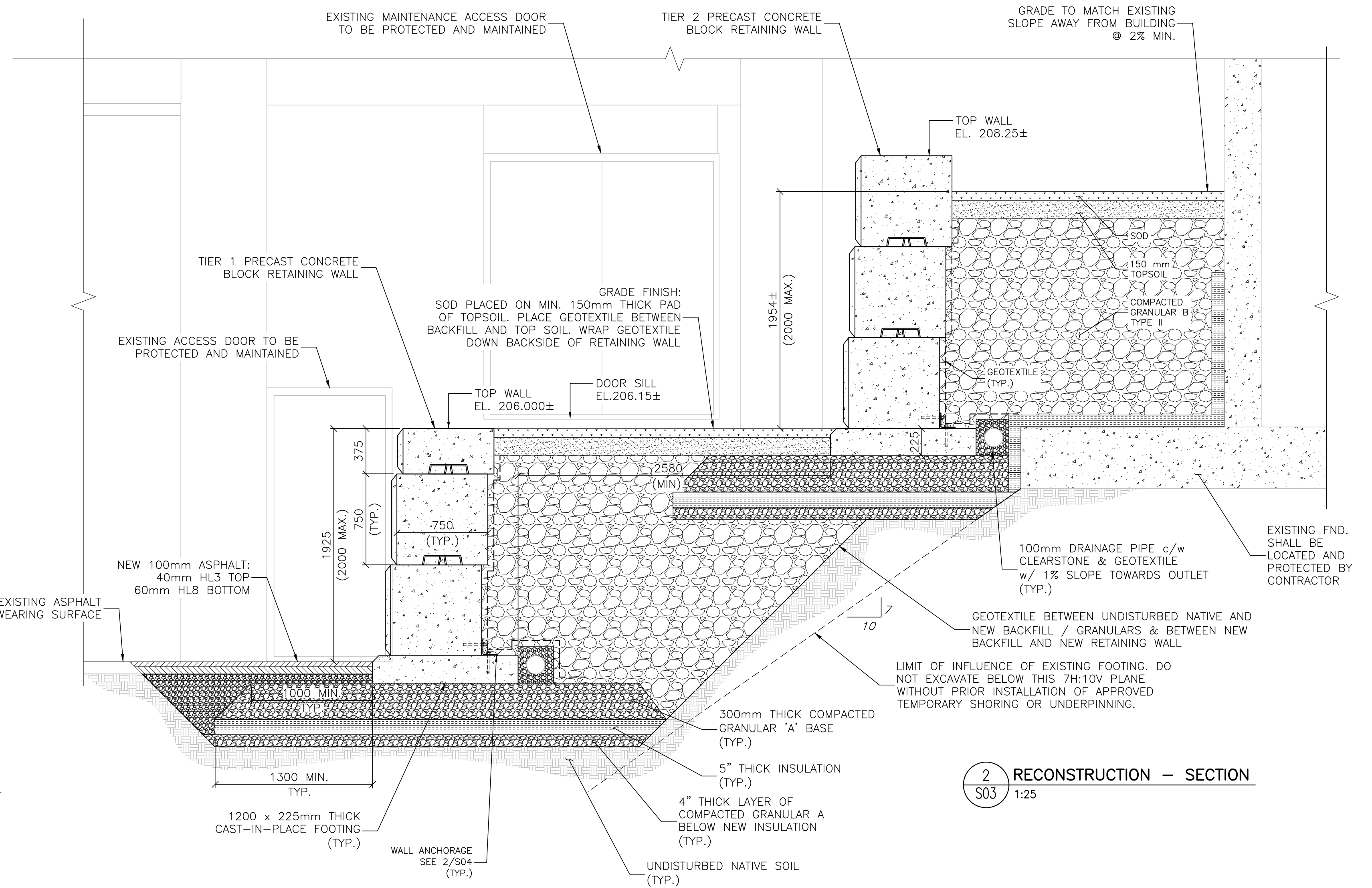
0. ISSUED FOR TENDER		31-07-26
revision		date
project	115 HOLDITCH STREET WEST NIPISSING ONTARIO: RETAINING WALL REPLACEMENT PROJECT	
client	MUNICIPALITY OF WEST NIPISSING	
drawing	RETAINING WALL REMOVALS	
approved	D. Bottrick	checked D. Berger
project number 8611		drawing number S02
designed D.W.B.		revised D.B.
drawn D.W.B.		scale AS SHOWN
code OBC		date July 31, 2026

LICENSED PROFESSIONAL ENGINEER
D. BATTRICK
100543634
31/07/2026
PROVINCE OF ONTARIO

A detail no.
no. de detail
B location drawing no.
sur dessin no.

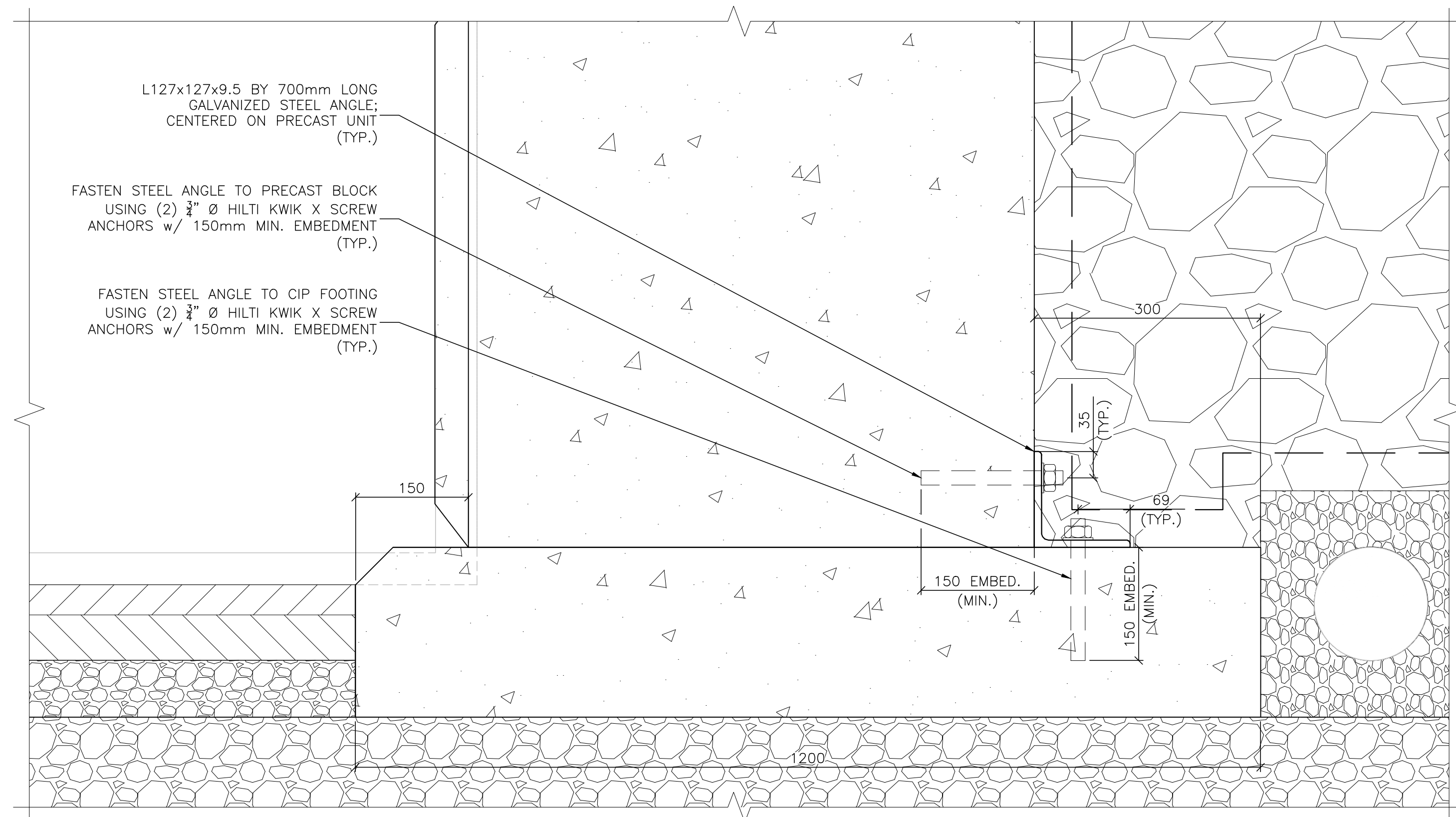


1 RECONSTRUCTION - PLAN
S03 1:100

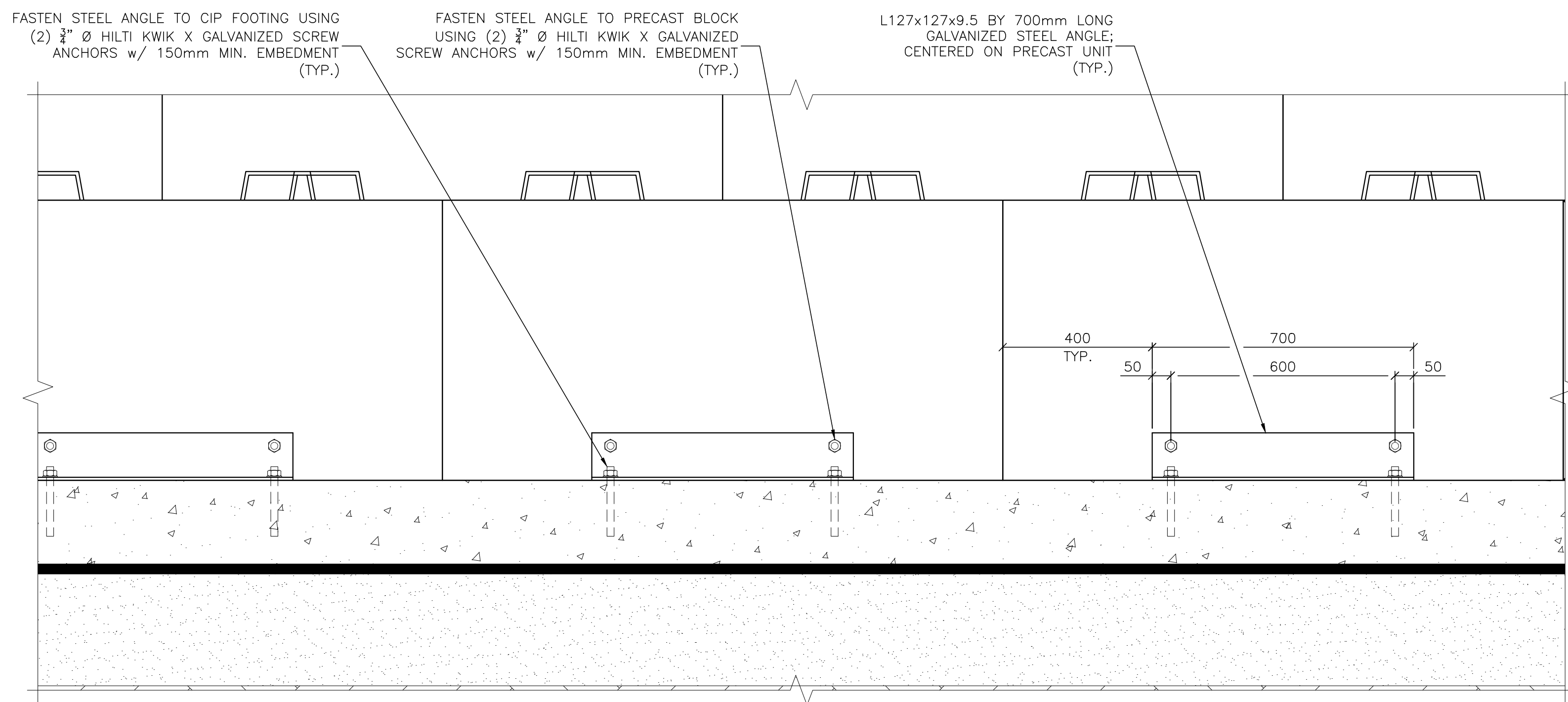


2 RECONSTRUCTION - SECTION
S03 1:25

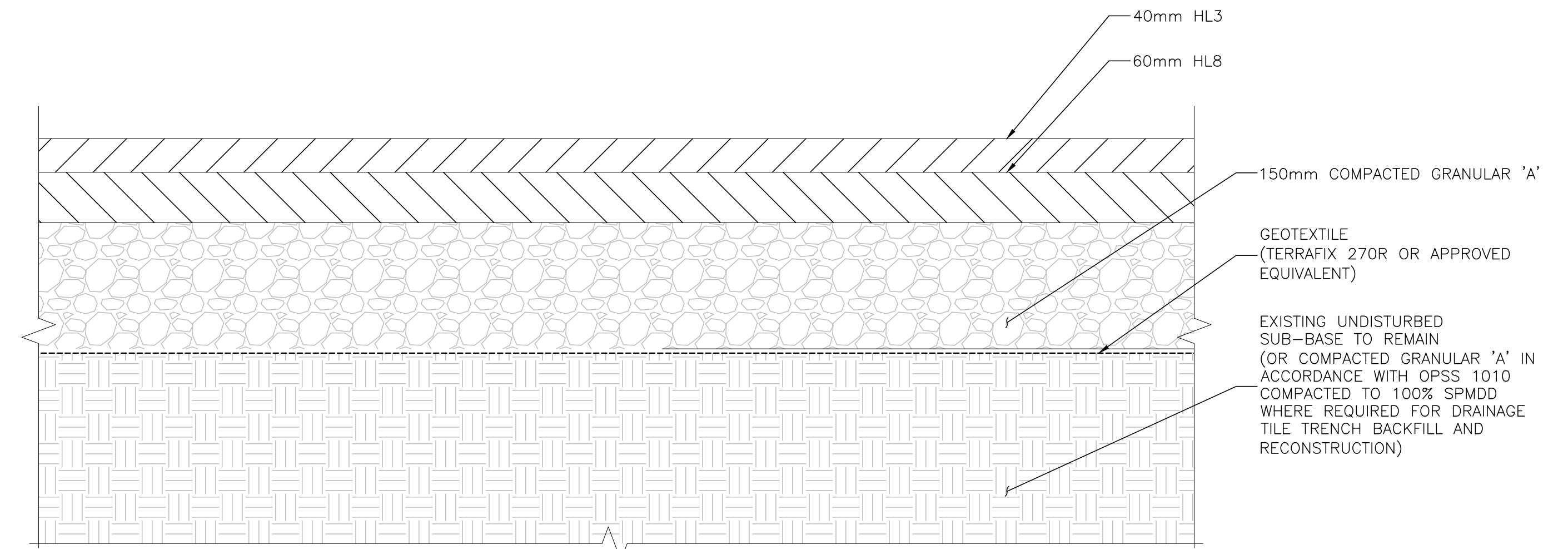
0. ISSUED FOR TENDER		31-07-26
revision	date	
project	115 HOLDITCH STREET WEST NIPissing ONTARIO: RETAINING WALL REPLACEMENT PROJECT	
client	MUNICIPALITY OF WEST NIPissing	
drawing	RECONSTRUCTION PLAN, SECTION, AND DETAILS	
approved	D. Bottrick	checked D. Berger
project number	8611	drawing number S03
designed	D.W.B.	revised D.B.
drawn	D.W.B.	scale AS SHOWN
code	OBC	code -
date	July 31, 2026	



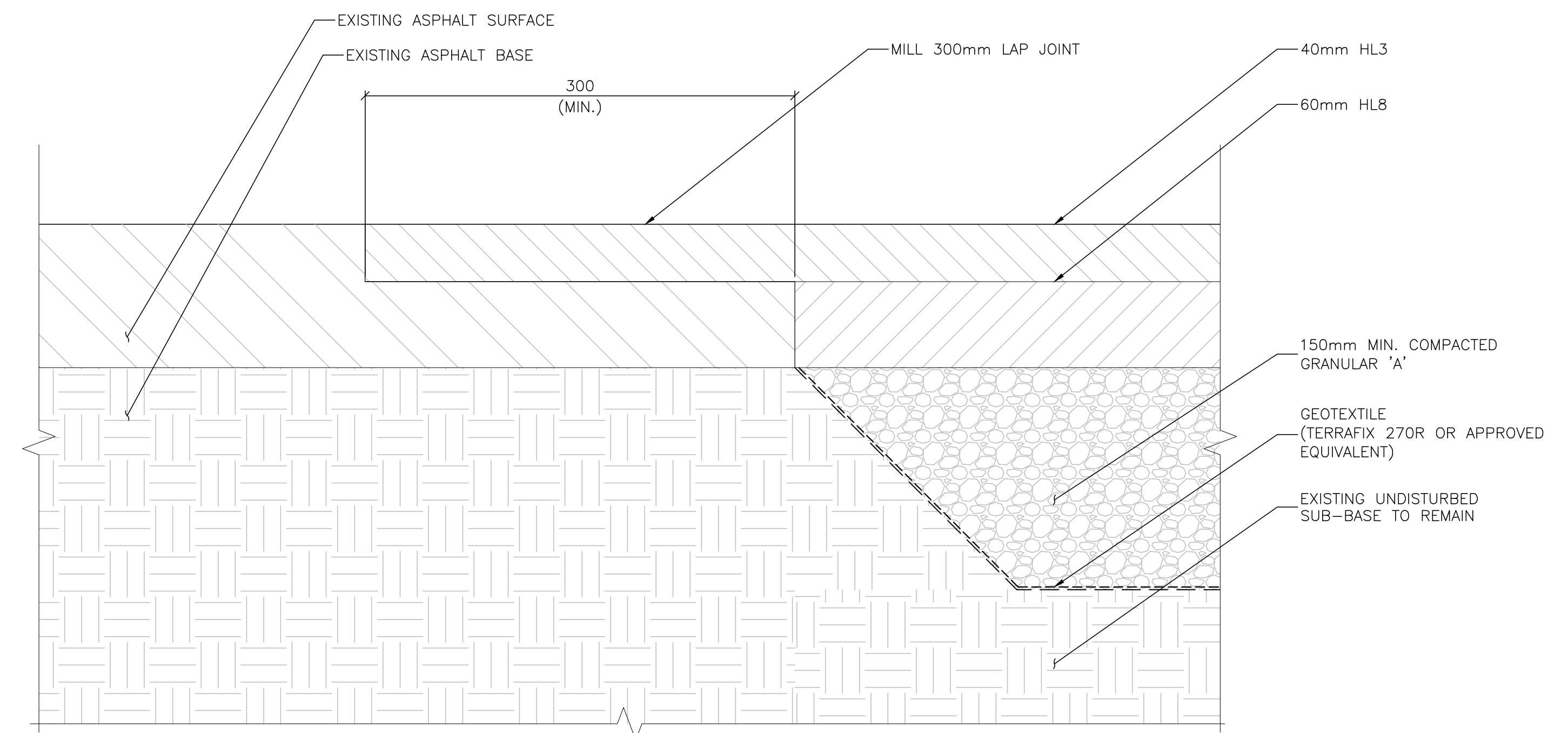
1 WALL BLOCK ANCHORAGE TO FOOTING SECTION – TYPICAL SECTION
 S04 1:5 (TIER 1 SHOWN; TIER 2 SIMILAR)



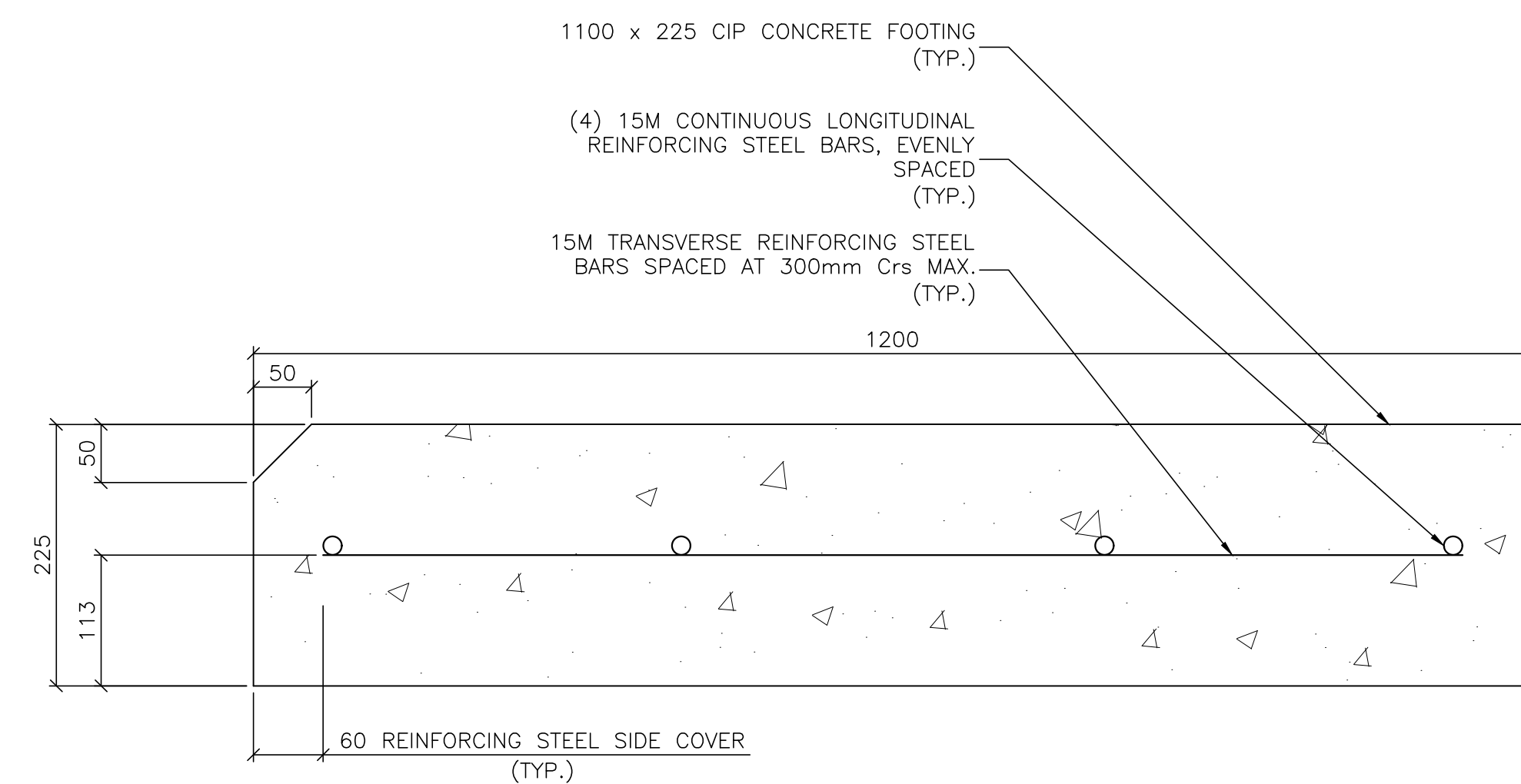
2 WALL BLOCK ANCHORAGE TO FOOTING – TYPICAL ELEVATION
 S04 1:10 (TIER 1 SHOWN; TIER 2 SIMILAR)



3 ASPHALT RECONSTRUCTION – TYPICAL DETAIL
 S04 N.T.S.

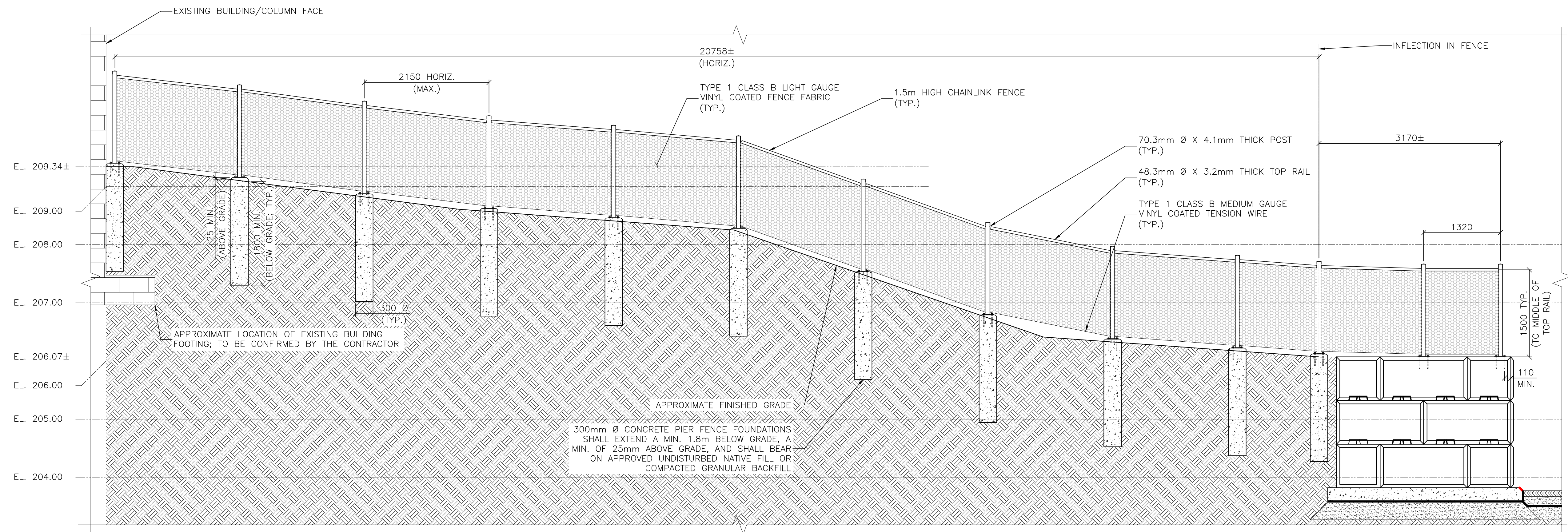


4 RECONSTRUCTION – TYPICAL ASPAHLT STEP JOINT DETAIL
 S04 N.T.S.

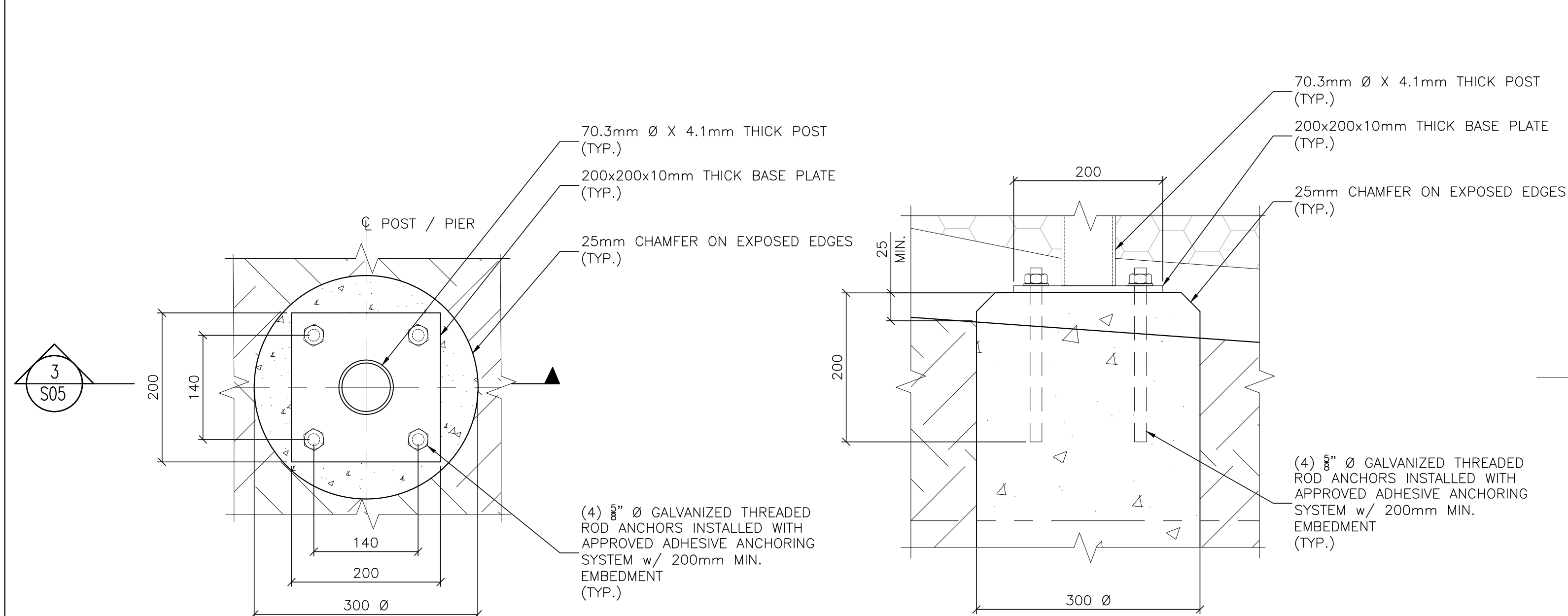


5 CAST-IN-PLACE FOOTING – REINFORCING DETAILS
 S04 1:5

0. ISSUED FOR TENDER revision: _____ date: 31-07-26															
project 115 HOLDITCH STREET WEST NIPISSING ONTARIO: RETAINING WALL REPLACEMENT PROJECT	client MUNICIPALITY OF WEST NIPISSING														
drawing MISCELLANEOUS RECONSTRUCTION DETAILS															
approved D. Bottrick	checked D. Berger														
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A detail no. no. de detail															
B location drawing no. sur dessin no.															
project number 8611	drawing number S04														
designed D.W.B.	reviewed D.B.														
drawn D.W.B.	scale AS SHOWN														
code OBC	code -														
date July 31, 2026															

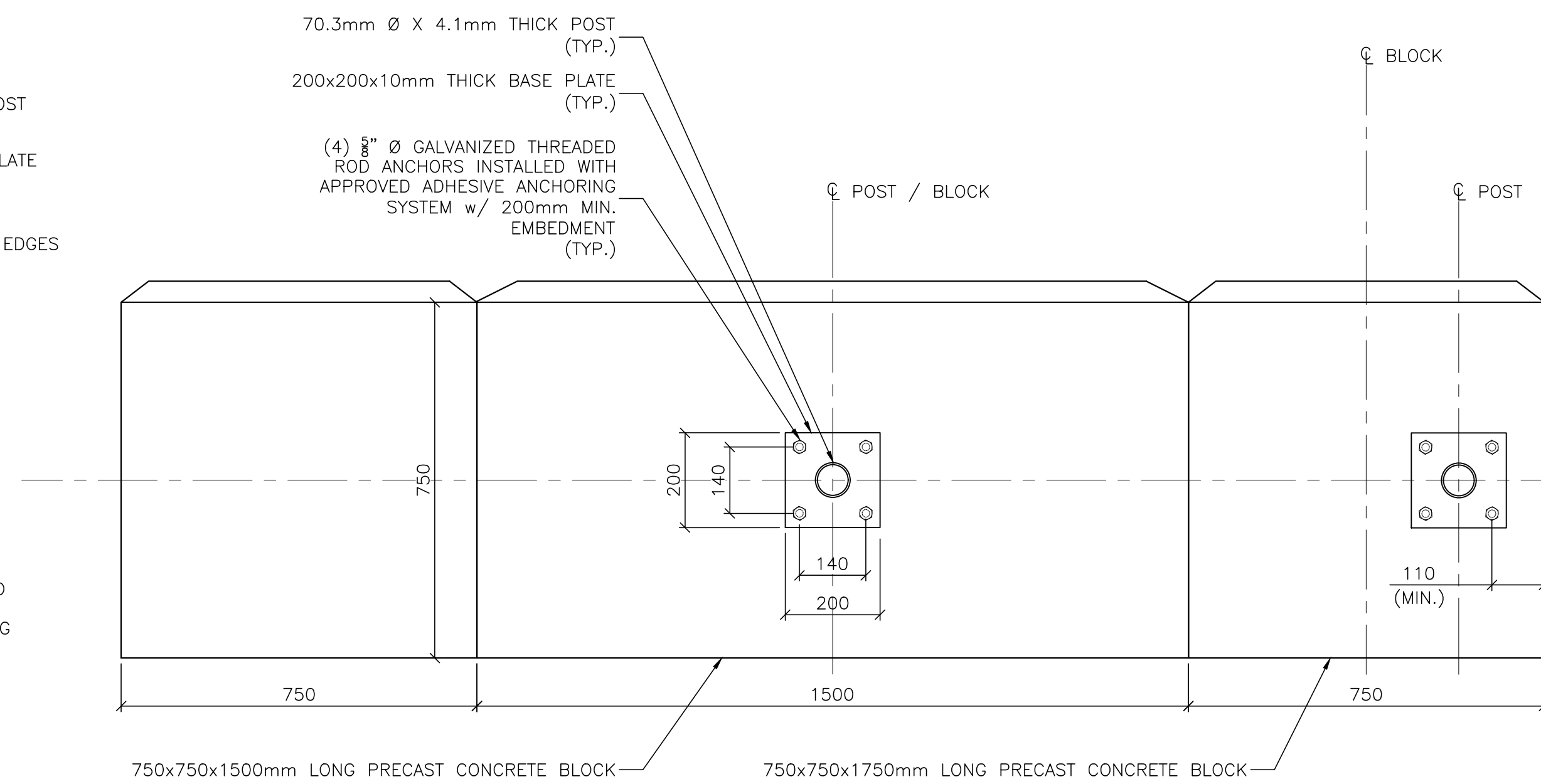


1 CHAINLINK FENCE – ELEVATION
S05 1:40



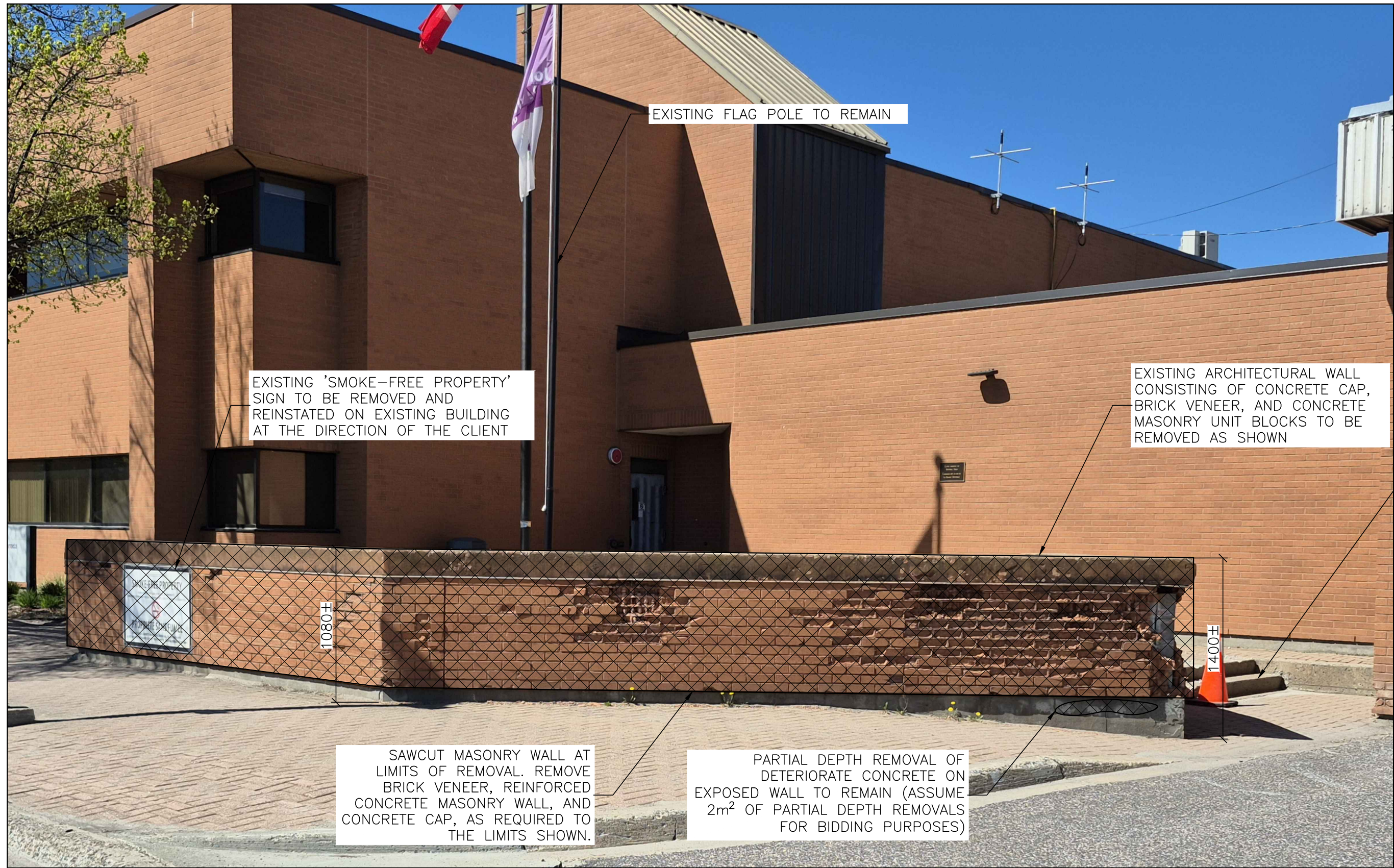
2 TYP. CHAINLINK FENCE POST PIER ANCHORAGE – PLAN
S05 1:5

3 CHAINLINK FENCE POST ANCHORAGE – SECTION
S05 1:5

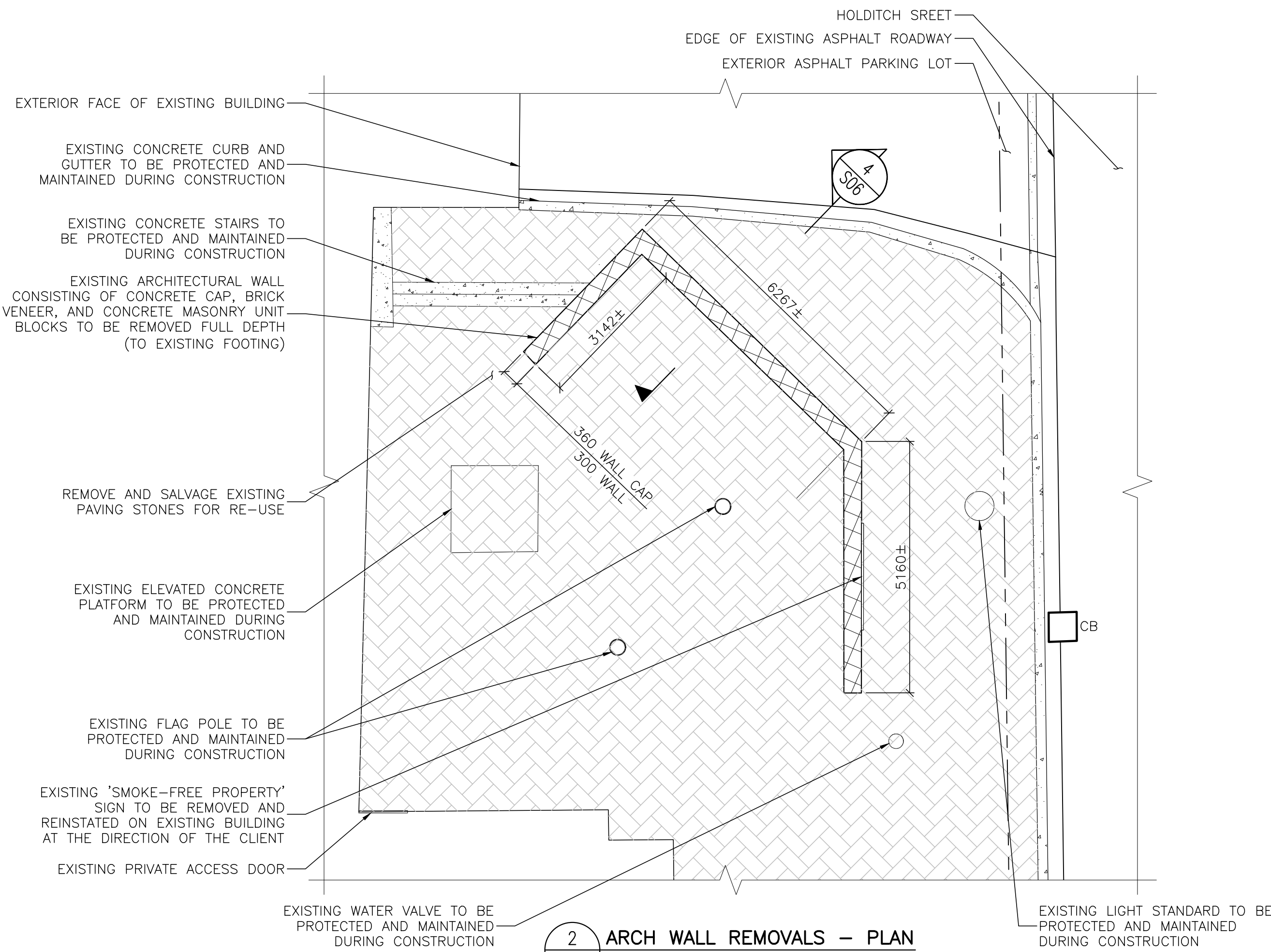


4 CHAINLINK FENCE POST ANCHORAGE TO RETAINING WALL – PLAN
S05 1:10

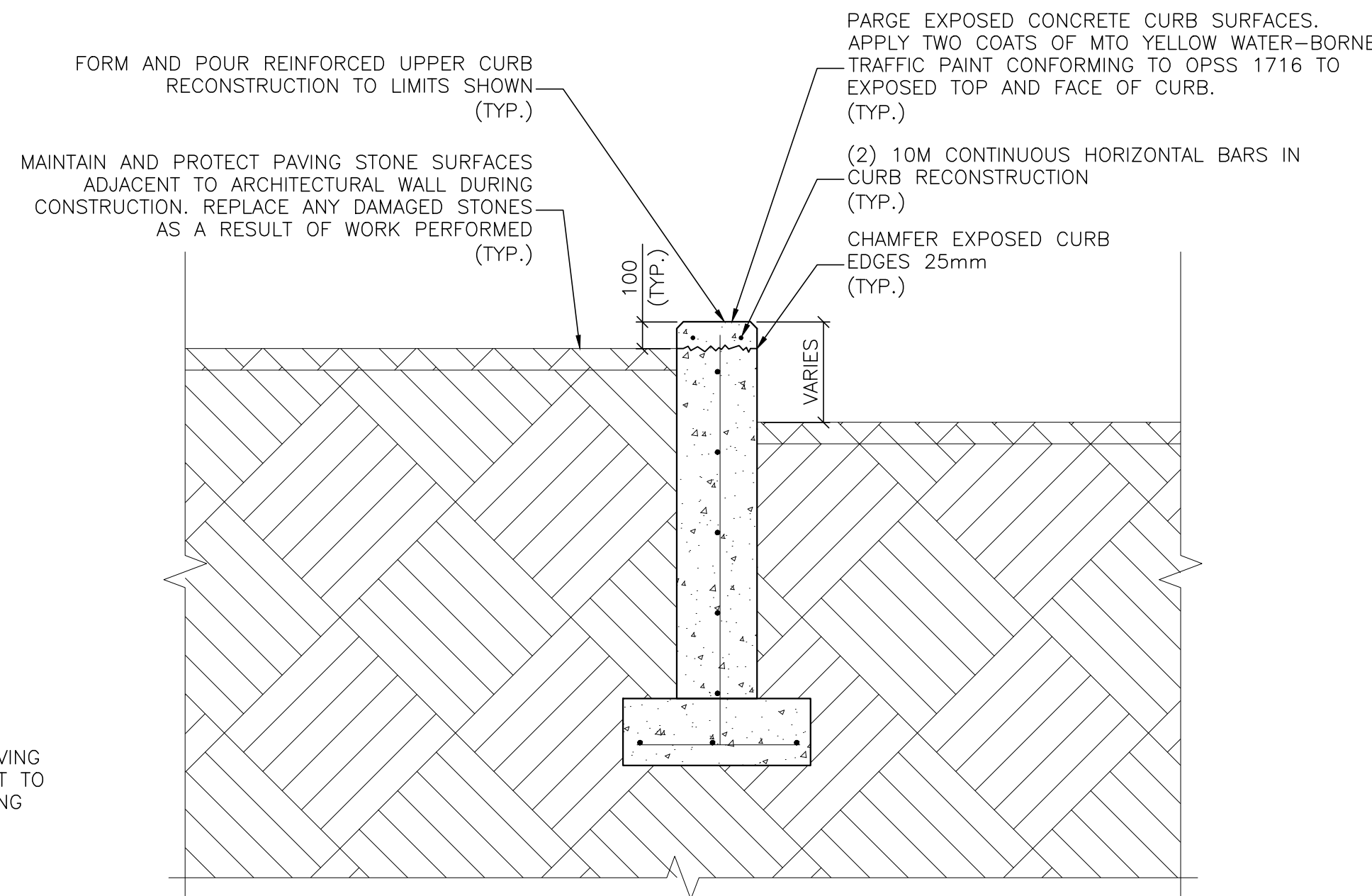
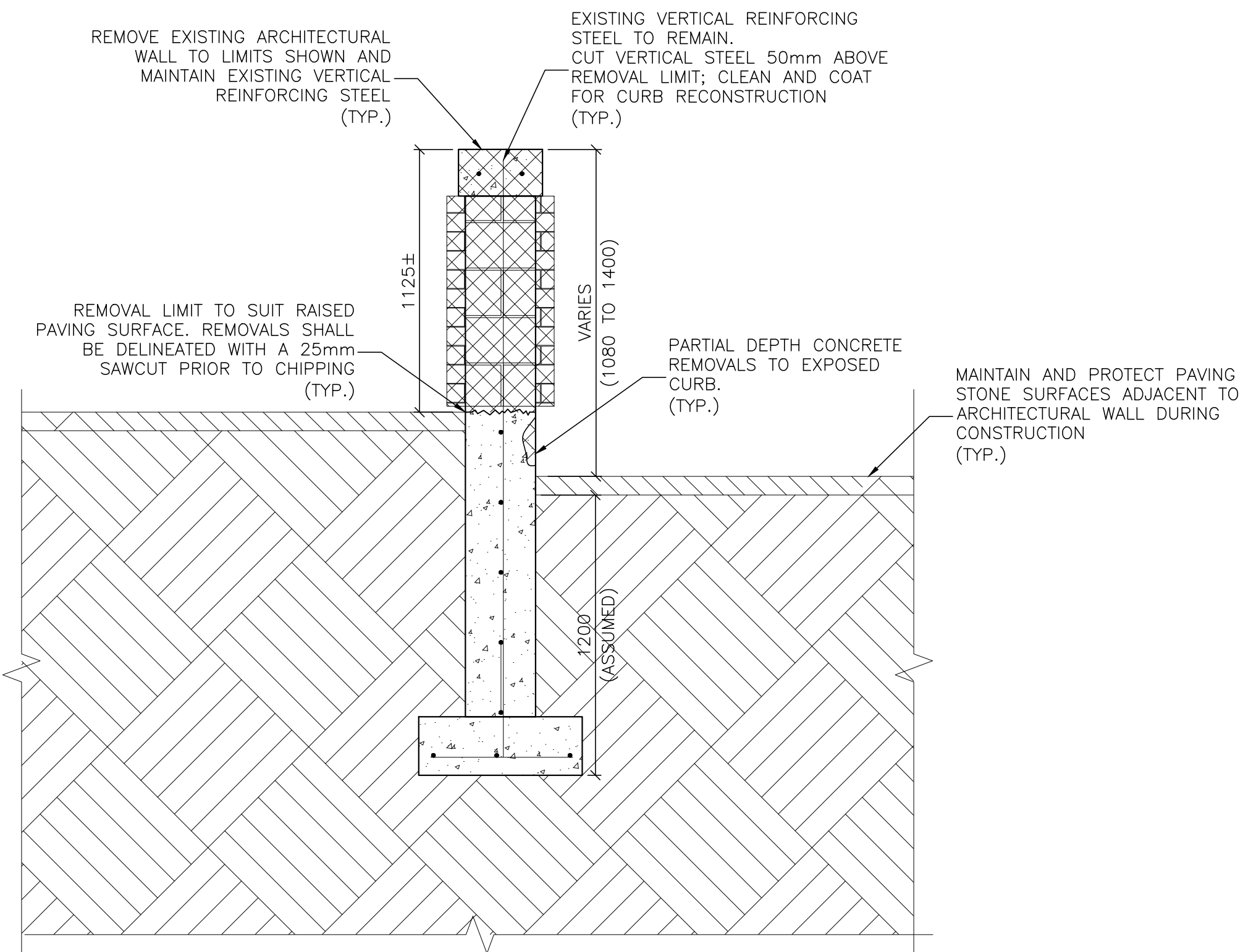
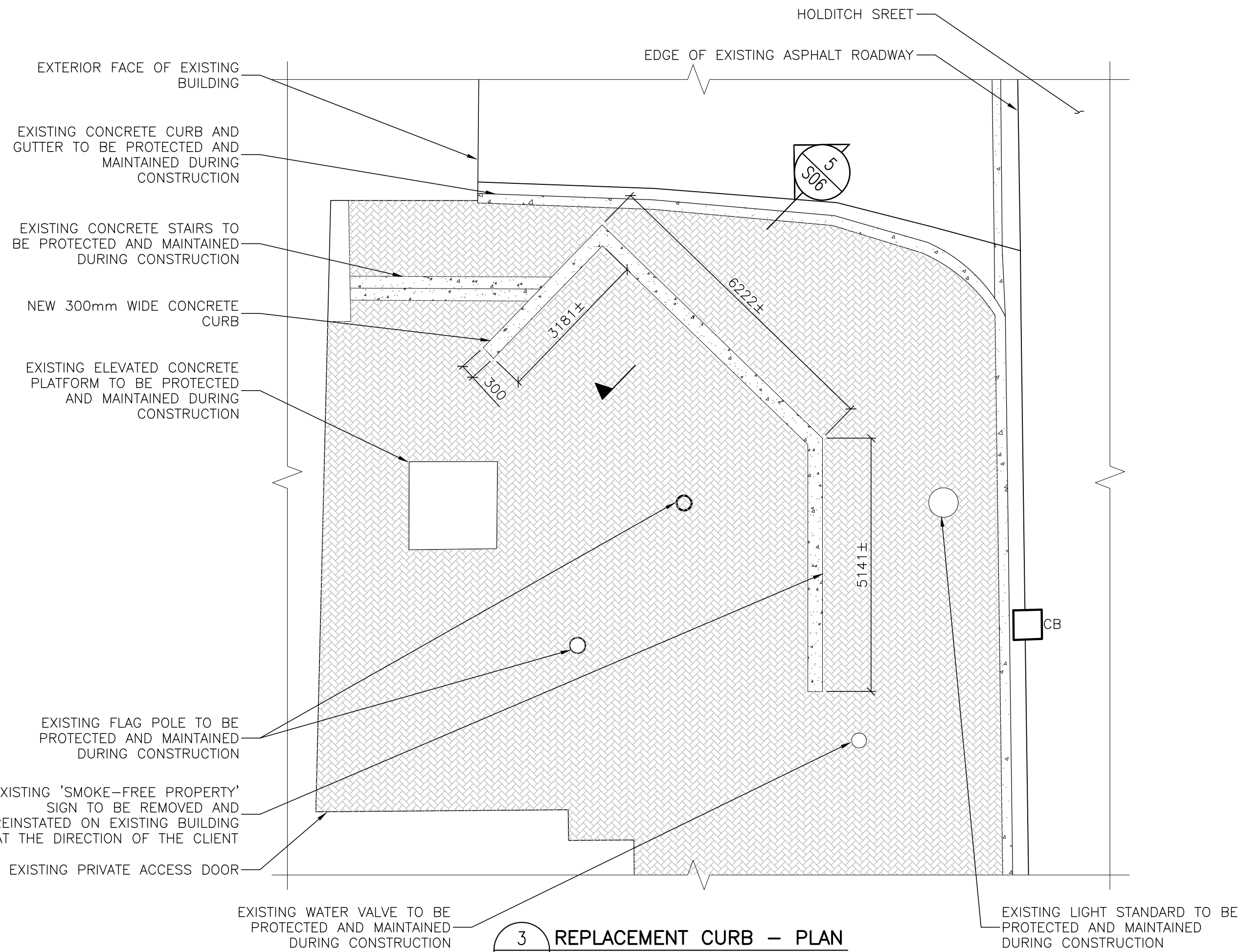
0. ISSUED FOR TENDER		31-07-26
project	115 HOLDITCH STREET WEST NIPISSING ONTARIO: RETAINING WALL REPLACEMENT PROJECT	client MUNICIPALITY OF WEST NIPISSING
drawing	FENCE SECTIONS AND DETAILS	
approved	D. Battrick	checked D. Berger
project number	8611	drawing number S05
designed	D.W.B.	reviewed D.B.
drawn	D.W.B.	scale AS SHOWN
code	OBC	date July 31, 2026



1 ARCH WALL REMOVALS – GENERAL
S06 N.T.S.



- NOTES:
1. EXISTING ARCHITECTURAL WALL CONSTRUCTION IS SHOWN SCHEMATICALLY ONLY. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS DURING CONSTRUCTION AND NOTIFY THE CONSULTANT OF ANY DISCREPANCIES EXPOSED ON SITE.
 2. CONTRACTOR SHALL ASSUME 2m² PARTIAL DEPTH REMOVALS TO EXISTING EXPOSED LOWER WALL SECTION / CURB BEFORE UPPER CURB RECONSTRUCTION.
 3. PARTIAL DEPTH REMOVALS SHALL BE DELINEATED ON SITE BY THE CONSULTANT PRIOR TO FORMING AND POURING CURB RECONSTRUCTION.
 4. CONTRACTOR SHALL SUBMIT DATA SHEETS TO CONSULTANT FOR PROPOSED WATER-BORNE TRAFFIC PAINT (IN ACCORDANCE WITH OPSS 1716) FOR REVIEW AND APPROVAL.



0. ISSUED FOR TENDER		31-07-26
revision	date	
project	115 HOLDITCH STREET WEST NIPissing ONTARIO: RETAINING WALL REPLACEMENT PROJECT	
client	MUNICIPALITY OF WEST NIPissing	
drawing	ARCH. WALL REMOVAL & CURB CONSTRUCTION DETAILS (PROVISIONAL)	
approved	D. Bottrick	checked D. Berger
project number	8611	drawing number S06
designed	D.W.B.	reviewed D.B.
drawn	D.W.B.	AS SHOWN
code	0BC	code -
date	July 31, 2026	

1. GENERAL NOTES:
 - 1.1. THE LIMITS OF VEGETATION MANAGEMENT SHALL BE AS SHOWN ON THE DRAWINGS.
 - 1.2. THE INTENT OF THE WORK IS TO REMOVE AND CONTROL EXISTING VEGETATION GROWTH WITHIN THE RIPRAP SYSTEM TO MAINTAIN THE APPEARANCE, FUNCTION, AND SERVICEABILITY OF THE ENGINEERED EROSION PROTECTION SYSTEM.
 - 1.3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LABOUR, MATERIALS, EQUIPMENT, TRAFFIC CONTROL, ENVIRONMENTAL PROTECTION MEASURES, DISPOSAL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
 - 1.4. THE CONTRACTOR SHALL RETAIN QUALIFIED PERSONNEL AND, WHERE PESTICIDE APPLICATION IS PROPOSED, SHALL UTILIZE APPROPRIATELY LICENSED PESTICIDE APPLICATORS IN ACCORDANCE WITH APPLICABLE PROVINCIAL REQUIREMENTS.
 - 1.5. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL REVIEW EXISTING SITE CONDITIONS AND VERIFY ALL ACCESS, SAFETY, ENVIRONMENTAL, AND REGULATORY REQUIREMENTS.
2. SUBMITTALS
 - 2.1. PRIOR TO COMMENCING VEGETATION MANAGEMENT ACTIVITIES, THE CONTRACTOR SHALL SUBMIT A VEGETATION MANAGEMENT PLAN TO THE CONTRACT ADMINISTRATOR FOR REVIEW.
 - 2.2. THE VEGETATION MANAGEMENT PLAN SHALL INCLUDE, AT A MINIMUM:
 - A) PROPOSED VEGETATION REMOVAL METHODOLOGY;
 - B) PROPOSED HERBICIDE TREATMENT METHODOLOGY, IF APPLICABLE;
 - C) PROPOSED HERBICIDE PRODUCTS AND PRODUCT LABELS, IF APPLICABLE;
 - D) SAFETY DATA SHEETS (SDS) FOR ALL PROPOSED PRODUCTS;
 - E) APPLICATOR LICENSING AND CERTIFICATION DOCUMENTATION;
 - F) ENVIRONMENTAL PROTECTION MEASURES;
 - G) PUBLIC NOTIFICATION AND SIGNAGE PROCEDURES, WHERE REQUIRED;
 - H) CONFIRMATION OF COMPLIANCE WITH APPLICABLE REGULATORY REQUIREMENTS;
 - I) PROPOSED SCHEDULE OF WORK.

- 3.1. ALL VEGETATION MANAGEMENT ACTIVITIES SHALL COMPLY WITH ALL APPLICABLE FEDERAL, PROVINCIAL, AND MUNICIPAL REGULATIONS IN EFFECT AT THE TIME OF CONSTRUCTION.
- 3.2. WHERE HERBICIDES ARE PROPOSED, PRODUCTS SHALL BE LEGALLY REGISTERED FOR THE INTENDED USE AND APPLIED IN ACCORDANCE WITH ALL PRODUCT LABEL REQUIREMENTS.
- 3.3. THE CONTRACTOR SHALL OBTAIN AND MAINTAIN ALL LICENCES, PERMITS, APPROVALS, NOTIFICATIONS, AND CERTIFICATIONS REQUIRED TO COMPLETE THE WORK.
- 3.4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE SUITABILITY OF PROPOSED HERBICIDE PRODUCTS, APPLICATION METHODS, APPLICATION RATES, BUFFER REQUIREMENTS, AND ENVIRONMENTAL PROTECTION MEASURES NECESSARY TO SATISFY APPLICABLE REGULATIONS.
4. SITE PREPARATION AND VEGETATION REMOVAL
 - 4.1. EXISTING VEGETATION WITHIN THE DESIGNATED TREATMENT AREA SHALL BE REMOVED BY MANUAL PULLING, TRIMMING, CUTTING, OR OTHER APPROVED METHODS.
 - 4.2. CARE SHALL BE TAKEN TO AVOID DISPLACEMENT OF RIPRAP STONE, DAMAGE TO UNDERLYING GEOTEXTILE MATERIALS, OR DISTURBANCE OF ADJACENT INFRASTRUCTURE.
 - 4.3. WOODY VEGETATION AND SHRUBS SHALL BE REMOVED AS CLOSE TO THE ROOT CROWN AS PRACTICABLE (TYPICALLY VIA LOPPERS OR PRUNING SAWS).
 - 4.4. VEGETATION SHALL BE REMOVED PRIOR TO SEED PRODUCTION WHERE FEASIBLE.
 - 4.5. THE CONTRACTOR SHALL INSPECT THE RIPRAP AREA DURING VEGETATION REMOVAL AND REPORT ANY OBSERVED AREAS OF EROSION, SETTLEMENT, GEOTEXTILE EXPOSURE, OR RIPRAP DISPLACEMENT TO THE CONTRACT ADMINISTRATOR.
5. ORGANIC MATERIAL REMOVAL
 - 5.1. FOLLOWING VEGETATION REMOVAL, ACCUMULATED ORGANIC MATTER, LOOSE SOIL, AND PLANT DEBRIS SHALL BE REMOVED FROM ACCESSIBLE RIPRAP VOIDS WHERE PRACTICAL.
 - 5.2. REMOVAL ACTIVITIES SHALL NOT DAMAGE, DISPLACE, OR DESTABILIZE THE EXISTING RIPRAP SYSTEM AND SHOULD GENERALLY CONSIST OF MANUAL RAKING AND OR HAND REMOVAL OF ACCUMULATED SOIL POCKETS.

- 6.1. HERBICIDE TREATMENT SHALL BE UTILIZED AS A SUPPLEMENTARY VEGETATION CONTROL MEASURE WHERE DETERMINED APPROPRIATE BY THE CONTRACTOR AND LICENSED APPLICATOR.
- 6.2. THE CONTRACTOR SHALL DETERMINE THE SPECIFIC HERBICIDE PRODUCTS, APPLICATION METHODS, APPLICATION RATES, TIMING, AND SEQUENCING NECESSARY TO ACHIEVE THE INTENDED VEGETATION CONTROL OBJECTIVES, IN ACCORDANCE WITH ONTARIO'S PESTICIDES ACT AND ONTARIO REGULATION 63/09 AND ALL OTHER APPLICABLE LAWS AND REGULATIONS.
- 6.3. HERBICIDE APPLICATION SHALL BE LIMITED TO TARGETED SPOT-TREATMENT, CUT-STUMP TREATMENT, WICK APPLICATION, OR OTHER CONTROLLED APPLICATION METHODS INTENDED TO MINIMIZE OFF-TARGET IMPACTS.
- 6.4. BROADCAST APPLICATION METHODS ARE NOT PERMITTED UNLESS SPECIFICALLY APPROVED BY THE LICENSED APPLICATOR AND SHOWN IN WRITING TO BE COMPLIANT WITH ALL APPLICABLE LAWS AND REGULATIONS.
- 6.5. HERBICIDE APPLICATIONS SHALL NOT BE UNDERTAKEN DURING CONDITIONS THAT MAY RESULT IN EXCESSIVE DRIFT, RUNOFF, OR UNINTENDED ENVIRONMENTAL IMPACTS.
7. DISPOSAL
 - 7.1. ALL REMOVED VEGETATION, ROOTS, ORGANIC DEBRIS, AND WASTE MATERIALS SHALL BE COLLECTED AND REMOVED FROM THE SITE.
 - 7.2. MATERIALS SHALL BE DISPOSED OF AT A FACILITY APPROVED TO ACCEPT SUCH MATERIALS AND IN ACCORDANCE WITH APPLICABLE REGULATIONS.
 - 7.3. VEGETATIVE MATERIAL SHALL NOT BE STOCKPILED OR LEFT WITHIN THE RIPRAP AREA UPON COMPLETION OF THE WORK.
 - 7.4. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL LEAVE THE SITE IN A NEAT AND ORDERLY CONDITION, FREE OF ALL GARBAGE, WASTE MATERIALS, SURPLUS MATERIALS, EQUIPMENT, AND DEBRIS RESULTING FROM THE WORK, ANY DAMAGE TO EXISTING INFRASTRUCTURE, LANDSCAPING, VEGETATION, PAVEMENT, RIPRAP, DRAINAGE FEATURES, OR OTHER SITE ELEMENTS CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REINSTITATED TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR AT NO ADDITIONAL COST TO THE OWNER. ANY DISTURBED AREAS RESULTING FROM THE WORK SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION OR BETTER.

- 8.1. THE CONTRACTOR SHALL IMPLEMENT ALL SIGNAGE, NOTIFICATION, PUBLIC PROTECTION, AND ACCESS CONTROL MEASURES REQUIRED BY APPLICABLE LEGISLATION, REGULATIONS AND PRODUCT LABEL REQUIREMENTS.
- 8.2. THE CONTRACTOR SHALL MAINTAIN SAFE PUBLIC ACCESS ADJACENT TO THE WORK AREA THROUGHOUT THE DURATION OF THE WORK.
- 8.3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING AND PROVIDING SAFE ACCESS TO ALL AREAS OF THE WORK REQUIRED TO COMPLETE THE CONTRACT. ACCESS METHODS SHALL COMPLY WITH ALL APPLICABLE OCCUPATIONAL HEALTH AND SAFETY LEGISLATION, REGULATION, AND CSA STANDARDS.
- 8.4. WHERE REQUIRED TO SAFELY PERFORM THE WORK, THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY AND PORTABLE ACCESS EQUIPMENT AND FALL PROTECTION SYSTEM, INCLUDING BUT NOT LIMITED TO TEMPORARY FALL RESTRAINT SYSTEMS, FALL ARREST SYSTEMS, ANCHORS, LIFELINES, SCAFFOLDING, ROPE ACCESS SYSTEMS, OR OTHER SUITABLE MEANS, AS NECESSARY TO SAFELY COMPLETE THE WORK IN ACCORDANCE WITH ALL APPLICABLE OCCUPATIONAL HEALTH AND SAFETY LEGISLATION, REGULATION, AND CSA STANDARDS
9. COMPLETION REQUIREMENTS
- 9.1. UPON COMPLETION OF THE WORK, THE RIPRAP TREATMENT AREA SHALL BE SUBSTANTIALLY FREE OF VISIBLE LIVE VEGETATION, PLANT DEBRIS, AND ACCUMULATED ORGANIC MATERIAL.
- 9.2. THE RIPRAP SYSTEM SHALL REMAIN INTACT AND FREE FROM DAMAGE RESULTING FROM THE VEGETATION MANAGEMENT ACTIVITIES.
- 9.3. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION CONFIRMING COMPLETION OF THE WORK AND, WHERE HERBICIDES WERE UTILIZED, CONFIRMATION THAT APPLICATION WAS COMPLETED IN ACCORDANCE WITH APPLICABLE REGULATORY REQUIREMENTS AND PRODUCT LABEL DIRECTIONS.
- 9.4. A FOLLOW-UP INSPECTION AND SPOT TREATMENT OF VEGETATION REGROWTH SHALL BE COMPLETED APPROXIMATELY 60 TO 90 DAYS FOLLOWING THE INITIAL TREATMENT UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR.



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drawing RIPRAP VEGETATION MITIGATION PLAN PROPOSED METHODS AND PROCEDURES (PROVISIONAL)		 art engineering inc. 1000 72nd Avenue, Suite 100 West Nipissing, Ontario www.artengineering.ca			
approved D. Battrock		checked D. Berger			
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