

RECONSTRUCTION OF WEST STREET - PHASE 1 HOLDEN AVENUE TO BROOK STREET SIMCOE, ON

CONTRACT No. EIS-ENG-23-38

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GENERAL NOTES

- ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST CURRENT NORFOLK COUNTY STANDARDS AND SPECIFICATIONS, ONTARIO PROVISIONAL STANDARDS DRAWINGS AND SPECIFICATIONS AND ASSOCIATED AMENDMENTS; AND APPROVED MANUFACTURER'S LIST, UNLESS OTHERWISE NOTED.
- THE LOCATION OF UNDER/ABOVE GROUND UTILITIES AND STRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY AND THE ACCURACY IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL UTILITIES AND STRUCTURES BY CONSULTING THE APPROPRIATE AUTHORITIES OR UTILITY AGENCIES. THE COUNTY DISCLAIMS ALL RESPONSIBILITY FOR THE ACCURACY AND/OR SUFFICIENCY OF THE INFORMATION. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF ALL UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY AND ASSUME THE COSTS OF REPAIR OF DAMAGE CAUSED BY THESE
- THE CONTRACTOR IS TO MEET ALL THE REQUIREMENTS OF THE OWNERS OF THE UTILITIES AND MAKE SATISFACTORY ARRANGEMENTS WITH THE UTILITY COMPANIES FOR CROSSING THEIR INSTALLATIONS AND FOR PROVIDING ADEQUATE PROTECTION DURING CONSTRUCTION.
- 4. DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWINGS.
- 5. READ ALL DRAWINGS IN CONJUNCTION WITH CONTRACT SPECIFICATIONS.
- THE LOCATION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR FOR ACCURACY PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE CONTRACT ADMINISTRATOR. DETAILS ARE NOT TO BE SCALED FROM THE DRAWINGS. IN THE CASE OF STORM, SANITARY SEWERS AND CULVERTS, THE CONTRACTOR SHALL SURVEY THE INVERTS AND SIZES TO CONSTRUCTION.
- ALL SERVICES AND UTILITIES SHALL BE SUPPORTED AS PER THE REQUIREMENTS OF THE COUNTY OR UTILITY AGENCIES. WHERE THE STABILITY, SAFETY OR FUNCTION OF THE EXISTING ROADWAY OR UNDERGROUND FACILITIES MAY BE IMPAIRED DUE TO THE CONTRACTOR'S METHOD OF OPERATIONS, THE CONTRACTOR SHALL PROVIDE SUCH PROTECTION AS MAY BE REQUIRED INCLUDING SHEETING, SHORING AND DRIVING OF PILES WHERE NECESSARY, TO PREVENT DAMAGE EXISTING WORKS OR PROPOSED WORKS. CONSTRUCTION OF SHORING, BRACING AND PROTECTION SCHEMES SHALL CONFORM TO OPSS 404 AND 539.
- 8. ALL HYDRO, POWER OR TELEPHONE POLES WITHIN 2.0m FROM PIPE TRENCHES OR OPEN EXCAVATIONS SHALL BE FULLY SUPPORTED.
- 9. EXTREME CARE IS REQUIRED DURING EXCAVATION IN THE VICINITY OF ANY EXISTING UNDERGROUND OR OVERHEAD UTILITY IN ORDER TO AVOID DAMAGE. REPAIR TO ANY DAMAGE TO THE UTILITIES SHALL BE CONTRACTOR'S RESPONSIBILITY. REPAIR SHALL BE COMPLETED TO THE SATISFACTION OF UTILITY OWNER AND
- 10. CLEARING OF ANY EXISTING VEGETATION OTHER THAN THAT DETAILED ON THE CONTRACT DRAWINGS SHALL NOT BE UNDERTAKEN WITHOUT SPECIFIC WRITTEN DIRECTIONS OF THE CONTRACT ADMINISTRATOR. VERTICAL EXCAVATION, HAND EXCAVATION, AUGURING AND IMMEDIATE BACKFILLING OF ANY TRENCH SHALL BE UNDERTAKEN BY THE CONTRACTOR AS NECESSARY TO ENSURE THAT ALL REASONABLE PRECAUTIONS ARE TAKEN TO PROMOTE THE SURVIVAL OF ANY EXISTING VEGETATION. COORDINATE WITH THE CONTRACT ADMINISTRATOR AND COUNTY APPOPLS FOR ANY WORKS WITH THE DEPLINE OF ANY TREE OVER 50MEN. CALLEDED. AND COUNTY ARBORIST FOR ANY WORKS WITH THE DRIPLINE OF ANY TREE OVER 50mm CALIPER.
- 11. EXCAVATION OF ALL TRENCHES TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH & SAFETY ACT (OHSA) AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- 12. ALL ORGANIC, SUITABLE OR UNSUITABLE MATERIALS BENEATH THE ROAD ALLOWANCE MUST BE REMOVED AND THESE AREAS BACKFILLED WITH AN APPROVED FILL MATERIAL TO THE SATISFACTION OF THE CONTRACT
- 13. SURPLUS OR UNSUITABLE EXCAVATED MATERIAL SHALL BE REMOVED AND TRANSPORTED FOR DISPOSAL OFFSITE. CONTRACTOR TO SUBMIT OPSS FORM 180 FOR DISPOSAL SITES.
- 14. HANDLING AND INSTALLATION OF ALL PIPES SHALL BE IN STRICT COMPLIANCE WITH THE MANUFACTURER'S
- 15. ALL GEOTECHNICAL BOREHOLE (BH) LOGS SHOWN ON PLAN AND PROFILE DRAWINGS ARE SCHEMATIC ONLY
- 16. PRIOR TO CLOSING ANY STREET, THE CONTRACTOR SHALL OBTAIN CLEARANCE BY FILLING OUT THE COUNTY'S NOTICE OF ROAD CLOSURE FORM AND NOTIFY SCHOOL BUS OPERATORS OR STREETS USED FOR DETOUR AND THE DURITION OF THE DETOUR. THE CONTRACTOR MUST SUPPLY AND MAINTAIN ADEQUATE LOCAL DETOUR SIGN
- 17. ACCESS TO ALL PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. CONSTRUCTION STAGING ACROSS STREETS AND DRIVEWAYS SHALL BE LIMITED TO HALF AT A TIME. SHOULD TEMPORARY DRIVEWAY BLOCKAGE BE REQUIRED, THE RESIDENT OR BUSINESS SHALL BE NOTIFIED A MINIMUM OF 24 HOURS IN ADVANCE OF WORK.
- 18. SHOP DRAWINGS FOR SHORING, SHEETING AND BRACING SHALL BE PREPARED BY THE CONTRACTOR, BY A PROFESSIONAL ENGINEER CERTIFIED IN THE PROVINCE OF ONTARIO AND SUBMITTED FOR REVIEW TO THE
- 19. THE CONTRACTOR SHALL NOT BACKFILL OR BURY ANY UTILITY OR STRUCTURE WITHOUT FIRST ENSURING THAT THE ACTUAL LOCATION OF THE SERVICE (BOTH VERTICAL AND HORIZONTAL) HAS BEEN RECORDED BY THE CONTRACT ADMINISTRATOR FOR 'AS-CONSTRUCTED' PURPOSES.
- 20. MAINTENANCE HOLE AND VALVE CHAMBER COVERS ARE TO BE SET FLUSH WITH BASE COVER ASPHALT AND ADJUSTED TO FINAL GRADE PRIOR TO INSTALLING TOP LIFT ASPHALT.
- 21. ALL PAVEMENT OR CURB MARKINGS AND TRAFFIC STRIPING REMOVED OR DISTURBED, WHETHER PARTIALLY OR COMPLETELY BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED COMPLETELY.
- 22. ALL EXISTING SURFACE IMPROVEMENTS SHALL BE ASSESSED BY THE CONTRACTOR PRIOR TO BEGINNING WORK AND SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE IF DAMAGED DURING CONSTRUCTION.
- 23. NO BLASTING IS PERMITTED.
- 24. NORFOLK COUNTY STANDARD DRAWINGS AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), AS AMENDED, SHALL CONSTITUTE PART OF THE ENGINEERING DESIGN AND CONSTRUCTION CONTRACT.
- 25. WHERE AS NECESSARY TO ENTER PRIVATE PROPERTY TO CONNECT THE EXISTING WATER RESULTS IN A NEGATIVE IMPACT TO THE PRIVATE PROPERTY, THE PRIVATE PROPERTY MUST BE RESTORED TO EXISTING CONDITION OR BETTER, AT NO ADDITIONAL COST TOT HE CONTRACT OR THE LANDOWNER.
- 26. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY MEASURES TO CONTROL SILT FROM ENTERING THE STORM DRAINAGE SYSTEM TO THE SPECIFICATIONS OUTLINED IN THE GUIDELINES ON EROSION AND SEDIMENT CONTROL FOR URBAN CONSTRUCTION SITES PREPARED BY THE MNR. THESE MEASURES ARE TO BE INSTALLED PRIOR TO COMMENCING ANY CONSTRUCTION AND ARE TO REMAIN IN PLACE UNTIL CONSTRUCTION HAS BEEN COMPLETED TO THE SPECIFICATIONS OF THE COUNTY AND CONTRACT ADMINISTRATOR.
- 27. ALL TREES OR VEGETATION REMOVAL MUST BE COMPLETED IN COMPLIANCE WITH THE MIGRATORY BIRDS CONVENTION ACT. TREES AND VEGETATION REMOVAL SHALL BE COMPLETED OUTSIDE OF THE BIRD BREEDING SEASON OR FOLLOWING INSPECTION AND CONFIRMATION OF NO ACTIVE NESTS BY A QUALIFIED BIOLOGIST. IF REMOVAL TO TAKE PLACE IN THE BIRD BREEDING WINDOW, CONSULTATION WITH THE CANADIAN WILDLIFE SERVICES SHOULD TAKE PLACE.

STORM AND SANITARY SEWER NOTES

- 1. SEWER INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS) AS AMENDED BY THE COUNTY AND AS PER THE CONTRACT
- 2. SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL CONNECTION LOCATIONS
- 3. A MINIMUM HORIZONTAL SEPARATION OF 2.5m MUST BE MAINTAINED BETWEEN WATERMAINS AND SANITARY OR STORM SEWERS, INCLUDING SERVICE LATERALS, UNLESS OTHERWISE NOTED.
- 4. A MINIMUM VERTICAL SEPARATION OF 0.50m BETWEEN WATERMAINS AND SEWERS MUST BE MAINTAINED.
- 5. MINIMUM DEPTH OF COVER OVER THE SEWER SHALL BE 1.4m UNLESS NOTED OTHERWISE
- 6. PRIVATE DRAIN CONNECTIONS SHALL BE 150mmø PVC SDR 28 WITH CLASS B BEDDING TO OPSD 1006.010 AND OPSD 1006.020 AS APPLICABLE. CONNECTIONS ARE TO BE MADE AT THE PROPERTY LINE c/w
- ALL CATCH BASIN LEADS SHALL BE 250mmø FOR SINGLE CATCH BASINS AND 300mmø FOR DOUBLE CATCH BASINS, UNLESS NOTED OTHERWISE. PIPE MATERIAL TO BE PVC SDR 35 BEDDED WITH CLASS B BEDDING.
- 8. REINFORCED CONCRETE STORM SEWER MAIN PIPE SHALL BE CLASS 65-D UNLESS NOTED OTHERWISE.
- 9. POLYVINYL CHLORIDE STORM SEWER SHALL BE (PVC SDR35) IN ACCORDANCE WITH THE REQUIREMENTS OF
- 10. HDPE PIPE SHALL BE 320 KPa IN ACCORDANCE TO CSA B182.6 (SANITARY) FOR SIZES UP TO AND INCLUDING 450mm. JOINTS SHALL HAVE AN ELECTROMETRIC GASKET. SPLIT COUPLING JOINTS WILL NOT BE ACCEPTED.
- 11. ALL PIPE SHALL HAVE A SMOOTH INTERIOR WALL.
- 12. FRAME AND GRATE ON SANITARY MAINTENANCE HOLES PER OPSD 401.010 TYPE A.
- 13. FRAME AND GRATE FOR STORM MAINTENANCE HOLES TO OPSD 401.010 TYPE B.
- 14. CATCH BASIN FRAME AND GRATE WITHIN ROADWAY TO OPSD 400.100. IN VEGETATE AREAS, PROVIDE FRAME
- 15. CATCH BASINS TO OPSD 705.010. DOUBLE CATCH BASINS TO OPSD 705.020.
- 16. CATCH BASIN INSTALLATION AT CURB AND GUTTER TO OPSD 610.010.
- 17. CONNECTIONS TO MAIN PER OPSD 708.010
- 18. MAINTENANCE HOLE RISERS AND ADJUSTMENT UNITS TO OPSD 701.031 AND 704.120.
- 19. SUBDRAIN UNDER CURB PER OPSD 207.041. PROVIDE SUBDRAIN CONNECTIONS AT STORM STRUCTURES PER
- OPSD 216.021.

WATERMAIN NOTES

- WATERMAIN INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS) AS AMENDED BY THE COUNTY AND AS PER THE CONTRACT
- 2. A MINIMUM HORIZONTAL SEPARATION OF 2.5m MUST BE MAINTAINED BETWEEN WATERMAINS AND SANITARY OR STORM SEWERS, INCLUDING SERVICE LATERALS, UNLESS OTHERWISE NOTED.
- 3. A MINIMUM VERTICAL SEPARATION OF 0.50m BETWEEN WATERMAINS AND SEWERS MUST BE MAINTAINED IF WATERMAIN IS INSTALLED ABOVE THE SEWER OR 0.50m IF SEWER IS ABOVE THE WATERMAIN.
- 4. ALL VALVES SHALL BE APPROVED TYPE WITH NON-RISING STEM AND SHALL HAVE 50mm SQUARE STANDARD AWWA OPERATING NUT. SEE THE COUNTY'S APPROVED MANUFACTURERS PRODUCTS LIST.
- ALL PLUGS, CAPS, TEES AND BENDS SHALL BE PROVIDED WITH THRUST BLOCKS AS PER OPSD 1103.01 AND OPSD 1103.020. IN ADDITION, ALL PVC PIPES SHALL BE MECHANICALLY RESTRAINED AS PER MANUFACTURERS SPECIFICATIONS. RESTRAINTS SHALL MEET ALL REQUIREMENTS OF UNI-BELL B-13. REFER TO THE THRUST RESTRAINT TABLE THIS DRAWING.
- 6. MINIMUM DEPTH OF COVER OVER THE WATERMAIN SHALL BE 1.7m UNLESS NOTED OTHERWISE
- ALL WATERMAIN FITTINGS SHALL HAVE MECHANICAL JOINTS.
- ANODES ARE TO BE PROVIDED ON ALL METALLIC BENDS, TEES, CROSSES, VALVES, REDUCERS, ETC., AT AT EACH WATER SERVICE CONNECTION PER COUNTY OF NORFOLK STANDARDS. REFER TO THE SUMMARY TABLE
- TWU 10 COPPER TRACER WIRE TO BE INSTALLED ON ALL NEW INSTALLATIONS OF PVC WATERMAIN PIPE FOR LOCATING PURPOSES. JOINTS IN THE WIRE BETWEEN VALVES ARE NOT PERMITTED.
- 10. THE CONTRACTOR SHALL TEST THE TRACING WIRE FOR CONDUCTIVITY. IF THE TRACING WIRE IS NOT CONTINUOUS FROM VALVE TO VALVE, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR
- . WATERMAIN FITTINGS, INCLUDING ALL STANDARD BENDS, VALVES, AND HYDRANTS, SHALL BE MECHANICAL JOINT OR PUSH-ON JOINT INSTALLED WITH NORFOLK COUNTY APPROVED MECHANICAL RESTRAINTS.
- 12. CHANGES IN THE VERTICAL AND HORIZONTAL ALIGNMENT OF WATERMAINS ARE GENERALLY TO BE ACHIEVED BY THE USE OF STANDARD BENDS. WHERE THE USE OF STANDARD BENDS IS NOT POSSIBLE, CHANGES IN ALIGNMENT MAY BE BY DEFLECTION OF JOINTS AS PER MANUFACTURER'S SPECIFICATIONS. DEFLECTION OF THE WATERMAIN SHALL BE 50% OF THE MANUFACTURER'S SPECIFICATIONS. PIPE BARREL DEFLECTION IS STRICTLY
- 13. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS AND BLOW OFFS REQUIRED FOR TESTING THE NEW WATERMAIN.
- 14. ALL WATER CUSTOMERS SUPPLIED BY A WATERMAIN TO BE TEMPORARILY SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS IN ADVANCE OF THE SHUT DOWN.
- 15. FIRE HYDRANTS SHALL BE CLOW M67 BRIGADIER OR CENTURY HYDRANT BY CANADA VALVE, PAINTED RED.
- 16. ALL NEW RESIDENTIAL WATER SERVICES SHALL BE 25mmø CROSS-LINKED POLYETHYLENE (PEX) PIPE, CSA CERTIFIED TO CSA B137.5 CONFORMING TO AWWA C904 AND SHALL BE SDR9, PRESSURE RATED AT THE
 - -160 PSI AT 73.4°F (1100 KPA AT 23°C)
 - -100 PSI AT 180°F (690 KPA AT 82°C) -80 PSI AT 200°F (55 KPA AT 93°C)S.
- 17. THE DEPTH OF WATER SERVICES AT PROPERTY LINE SHOULD BE A MINIMUM OF 1.7m AND A MAXIMUM OF 2.0m. THE DISTANCE BETWEEN THE GROUND ELEVATION AND THE TOP OF THE ROD SHOULD BE BETWEEN
- 18. UNLESS OTHERWISE NOTED SERVICES TO BE REPLACED FROM THE MAIN TO PROPERTY LINE WITH A NEW CURB STOP AND SERVICE BOX AT THE PROPERTY LINE.
- 19. THE CONTRACTOR SHALL NOT OPERATE ANY VALVE OR HYDRANT ON THE MUNICIPAL WATER SYSTEM. REQUESTS FOR OPERATION OF VALVES, HYDRANTS OR OTHER APPURTENANCES SHALL BE MADE TO THE COUNTY'S WATER WORKS DEPARTMENT A MINIMUM OF 48 HOURS IN ADVANCE OF OPERATIONS BEING REQUIRED..
- 20. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THEY HAVE A COPIES OF, AND ARE FAMILIAR WITH, THE MOST RECENT NORFOLK COUNTY DESIGN CRITERIA, CONTRACT SPECIFICATIONS AND STANDARD DRAWINGS AND SPECIFICATIONS FOR CONNECTIONS TO EXISTING WATERMAINS, AND SWABBING, FLUSHING, DISINFECTION, LEAKAGE TESTING AND BACTERIOLOGICAL TESTING.

ROAD WORKS NOTES

- 1. NEW AND REPLACED CURB AND GUTTER TO BE IN ACCORDANCE WITH OPSD 600.040, 605.030 AND 608.010, AS INDICATED OR AS REQUIRED TO MATCH EXISTING CONDITIONS.
- 2. ALL PAVEMENT DIMENSIONS MEASURED TO EDGE OF PAVEMENT.
- 3. SIDEWALKS TO BE IN ACCORDANCE WITH OPSD 310.010, 310.020 AND 310.030 AS INDICATED OR AS APPROPRIATE TO MATCH EXISTING CONDITIONS.
- 4. ALL NEW ASPHALT SHALL BE HOT MIX, HOT LAID, ASPHALTIC CONCRETE PLACED IN ACCORDANCE WITH OPSS FORMS 310 AND 1151 LATEST AMENDMENTS.
- 5. RESTORATION OF EXISTING DRIVEWAYS AND/OR APPROACHES DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE COMPLETED TO THE FOLLOWING STANDARDS:
 - A) GRAVEL DRIVEWAY: MINIMUM 150mm LAYER OF GRANULAR A COMPACTED TO 100% SPMDD. B) ASPHALT DRIVEWAYS: 50mm HL3A COMPACTED TO 97% MARSHALL OVERLYING 150mm GRANULAR A
 - COMPACTED TO 100% SPMDD. C) CONCRETE DRIVEWAYS: RESTORED WITH 150mm THICK 30MPa CONCRETE OVERLYING 150mm
 - GRANULAR A COMPACTED TO 100% SPMDD. D) PAVING STONES: RESTORED WITH EXISTING SALVAGED OR AUGMENTED PAVING STONES. PROVIDE MAXIMUM 3mm JOINT WIDTHS FILLED WITH MORTAR SAND, 50mm COMPACTED DEPTH OF MORTAR SAND OR LIMESTONE SCREENINGS, AND 200mm COMPACTED DEPTH GRANULAR A COMPACTED TO
- 6. BOULEVARDS SHALL BE RESTORED WITH SOD OVERLYING 150mm TOPSOIL UNLESS NOTED OTHERWISE.
- 7. CONTINUOUS SUBDRAIN SHALL BE INSTALLED UNDER CURB. SUBDRAIN SHALL BE BOSS 2000 PERFORATED PIPE c/w KNITTED SOCK OR APPROVED EQUIVALENT.
- B. CONSTRUCTION JOINTS BETWEEN EXISTING AND NEW ASPHALT SHALL BE CONSTRUCTED IN ACCORDANCE WITH
- OPSS 310 AND 1212. COMPLETE WITH STEP JOINT AS DETAILED AND HOT RUBBER SEALING COMPOUND. 7. ALL MAINTENANCE HOLES WITHIN THE TRAVELED PORTION OF THE ROAD AND CATCH BASINS LOCATED AT ROAD LOW POINTS SHALL BE SET FLUSH WITH THE BASE ASPHALT GRADE AND ADJUSTED TO FINAL GRADE IMMEDIATELY PRIOR TO PLACEMENT OF THE FINISH COURSE ASPHALT. ALL OTHER STREET CATCH BASINS SHALL BE SET TO FINAL ROAD GRADES AND TEMPORARILY COLD ASPHALT RAMPED. IMMEDIATELY PRIOR TO PLACING SURFACE COURSE THE CATCH BASIN RAMPS SHALL BE REMOVED.
- 8. EXISTING STREET NAMES AND TRAFFIC CONTROL SIGNS SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION AND RELOCATED IN ACCORDANCE WITH NORFOLK COUNTY STANDARDS IMMEDIATELY UPON COMPLETION OF BASE ASPHALT INSTALLATION.
- 9. DIRECT PEDESTRIAN TRAFFIC AROUND WORK SITE, WHERE EXISTING SIDEWALK IS REMOVED TEMPORARY ASPHALT SIDEWALK TO BE PROVIDED.
- 10. CONTRACTOR TO INSTALL TACTILE WALKING SURFACE INDICATORS AS PER OPSD 310.039 AT INTERSECTIONS IDENTIFIED ON THE PLANS. CONTRACTOR TO ENSURE INSTALLATION COMPLIES WITH NORFOLK COUNTY ACCESSIBILITY DESIGN GUIDELINES SECTION 3.4.
- 11. CONTRACTOR TO STRIP TOPSOIL FROM EXISTING DITCHES, BACKFILL WITH ONSITE SUITABLE FILL MATERIAL TO CONFORM TO GRADING PLANS. CONTRACTOR TO PLACE FILL IN DITCHES IN MAXIMUM 200mm LIFTS.
- 12. PROPOSED CATCHBASINS WITHIN SOFTSCAPE AREAS TO BE FITTED WITH BIRDCAGE FRAME AND GRATE AS PER OPSD 310.039.

EROSION CONTROL NOTES

- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED PRIOR TO, AND MAINTAINED DURING, THE CONSTRUCTION PART TO PREVENT ENTRY OF SEDIMENT INTO LOCAL STORM SEWERS OR THE NATURAL
- 2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DESIGNING AND PROVIDING ALL SEDIMENT CONTROL MEASURES AS MAY BE REQUIRED TO PROTECT THE WORK SITE OR THE ADJACENT LANDS, REGARDLESS OF THE SOURCE OR ORIGIN OF EROSION OR SEDIMENTS. IF THE CONTRACT ADMINISTRATOR IS NOT SATISFIED WITH THE EXTENT OF THE MEASURES TAKEN, THEY MAY DIRECT THAT ADDITIONAL CONTROLS BE PUT IN PLACE. THE CONTRACT REQUIREMENTS FOR SEDIMENT AND EROSION CONTROL SHALL BE CONSIDERED ABSOLUTE MINIMUMS. THE ULTIMATE RESPONSIBILITY TO ENSURE THAT THE MEASURES ARE ADEQUATE SHALL LIE SOLELY ON THE CONTRACTOR, ANY DAMAGE RESULTING FROM FAILURE OF THESE MEASURES SHALL BE REPAIRED AT THE
- 3. ALL SEDIMENT AND EROSION CONTROLS ARE TO BE INSPECTED REGULARLY, INCLUDING PRIOR TO RAIN EVENTS. ALL INEFFECTIVE OR DAMAGED ESC MEASURES SHOULD BE MAINTAINED, REPAIRED OR REPLACED WITHIN 48 HOURS OF THE INSPECTION.
- 4. PERSONNEL WILL ATTEND THE SITE TO INSPECT ALL CONTROLS, ON A REGULAR BASIS, OR FOLLOWING A RAIN EVENT, TO MONITOR ALL WORKS, AND IN PARTICULAR WORKS RELATED TO EROSION AND SEDIMENT CONTROL. DEWATERING, RESTORATION. SHOULD CONCERNS ARISE, THE CONSERVATION AUTHORITY AND THE CONTRACT
- 13. ALL COLLECTED SEDIMENT TO BE REMOVED AND TRANSPORTED FOR DISPOSAL OFFSITE, CONTRACTOR TO SUBMIT OPSS FORM 180 FOR DISPOSAL SITES.
- 14. EROSION AND SEDIMENT CONTROL MEASURES MAY NEED TO BE UPGRADED/AMENDED AS SITE CONDITIONS CHANGE IN ORDER TO PREVENT THE RELEASE OF SEDIMENT.
- 15. ALL ACTIVITIES, INCLUDING EQUIPMENT MAINTENANCE AND REFUELING WILL BE CONTROLLED TO PREVENT THE ENTRY OF PETROLEUM PRODUCTS, DEBRIS, RUBBLE, CONCRETE, OR OTHER DELETERIOUS SUBSTANCES INTO THE STORM SEWER OR THE NATURAL ENVIRONMENT.
- 16. ALL SITE DISCHARGE, INCLUDING DEWATERING, MUST BE TREATED TO MEETING THE REQUIRED OBJECTIVES OF THE RECEIVING INFRASTRUCTURE OR WATERCOURSE (e.g. COUNTY SEWER USE BY-LAW OBJECTIVES FOR STORM OR SANITARY SEWERS, AND PROVINCIAL WATER QUALITY OBJECTIVES FOR THE NATURAL ENVIRONMENT).
- 17. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE GEOTECHNICAL WORK UNDERTAKEN AND PROVIDED FOR INFORMATION BY THE CONSULTANT AND SHALL FOLLOW THE DEWATERING RECOMMENDATIONS OR REQUIREMENTS, IF NECESSARY, REQUIRED FOR CONSTRUCTION OF THE WORKS.
- 18. ALL DEWATERING EFFLUENT SHALL BE TREATED BEFORE RELEASE TO THE ENVIRONMENT AT LEAST 30 METRES FROM A WATERCOURSE OR WETLAND AND ALLOWED TO DRAIN THROUGH A WELL VEGETATED AREA. NO DEWATERING EFFLUENT SHALL BE SENT DIRECTLY TO ANY WATERCOURSE. WETLAND OR FOREST. OR ALLOWED TO DRAIN ONTO DISTURBED SOILS WITHIN THE WORK AREA. THESE CONTROL MEASURES SHALL BE MONITORED FOR EFFECTIVENESS AND MAINTAINED OR REVISED AT NO ADDITIONAL COST TO MEET THE OBJECTIVE OF PREVENTING THE RELEASE OF SEDIMENT LADEN WATER. USE OF ENVIRO-TANK, FILTER BAGS OR PERFORATED PIPE SHOULD BE CONSIDERED FOR TREATING DEWATERING EFFLUENT.
- 19. PROTECT ALL CATCHBASINS, MANHOLES AND PIPE ENDS FROM SEDIMENT INTRUSION.T. CATCH BASIN INSERT FILTERS SHALL BE UNDER GRATES OF ALL CATCH BASINS TO TRAP SEDIMENT, INSERTS ARE TO BE CLEANED REGULARLY AND ARE NOT TO BE REMOVED UNTIL SUCH TIME AS THE CURBS ARE CONSTRUCTED IF REQUIRED, AND THE BOULEVARDS ARE SODDED. CATCH BASIN INSERT TO BE TERRAFIX OR APPROVED EQUIVALENT.
- 20. ROADS TO BE CLEANED MINIMUM ONCE A WEEK OR AS INSTRUCTED BY THE CONTRACT ADMINISTRATOR. IT IS NOT ACCEPTABLE TO HAVE MUD AND DEBRIS LYING ON ROADS. ADDITIONAL ENVIRONMENTAL CONTROLS ARE TO BE PLACED AS INSTRUCTED BY THE CONTRACT ADMINISTRATOR.

21. STOCKPILES TO BE ENCLOSED WITH EROSION CONTROL SILT FENCE.

THRUST RESTRAINT TABLE

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	МІ	MINIMUM LENGTH (m) TO BE RESTRAINED EACH SIDE OF FITTING					
DIAMETER	HORIZONTAL BEND		VERTICAL BEND	TEE	VALVE	REDUCER	
	11.25°	22.5*	45°	UNDERCROSSING			
150mm	2	2	3	6	13	13	_
200mm	2	2	3	6	13	13	_
300mm	2	2	3	6	13	13	_
NOTE: RES	TRAINT DIS	TANCES W	ERE CALCU	JLATED BASED ON TI	HE USE OF	EBAA SU	IPPLIED

PRODUCTS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE DESIGN CALCULATION TO

SUPPORT THE USE OF AN ALTERNATE SUPPLIER, AS PERMITTED BY THE COUNTY.

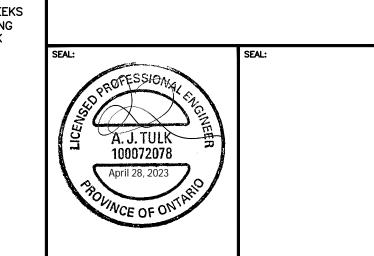
TRAFFIC MANAGEMENT NOTES

- THE CONTRACTOR IS ADVISED OF HEAVY TRAFFIC VOLUMES DURING THE MORNING AND EVENING PEAK HOURS AND MUST IMPLEMENT ALL NECESSARY MEASURES SUCH AS ENGAGING ADDITIONAL CONSTRUCTION CREWS IN ORDER TO COMPLETE THE WORK IN THE SHORTEST POSSIBLE TIME. THE WORK MUST BE SCHEDULED RESPECTING TRAFFIC FLOWS AND MUST MEET THE CONDITIONS OF THE ROAD OCCUPANCY PERMIT.
- 2. ALL OF THE CONTRACTOR'S OPERATIONS AND ACTIVITIES SHALL BE IN ACCORDANCE WITH THE MOST CURRENT VERSION OF THE ONTARIO TRAFFIC MANUAL (OTM), BOOK 7 (TEMPORARY CONDITIONS)."TRAFFIC CONTROL PERSONS" SHALL BE AS DEFINED IN BOOK 7 OF THE ONTARIO TRAFFIC MANUAL
- LAYOUTS FOR SIGNING TEMPORARY LANE CLOSURES FOR CONSTRUCTION STAGES TO BE IN ACCORDANCE WITH OTM BOOK 7.
- WHERE REQUIRED, EXISTING LANE MARKINGS ARE TO BE REMOVED AND TEMPORARY LANE MARKINGS PAINTED. AT THE COMPLETION OF PROJECT, TEMPORARY LANE MARKINGS ARE TO BE REMOVED AND PERMANENT LANE MARKINGS REINSTATED BY PAINTING.
- THE CONTRACTOR SHALL SCHEDULE THE WORK SO THAT THERE WILL BE NO OPEN EXCAVATION OVERNIGHT OR ON NON-WORKING DAYS, ADJACENT TO A LANE CARRYING TRAFFIC. EXCEPT WHERE A TRAFFIC BARRIER DESIGNED TO RESTRAIN ERRANT VEHICLES IS LOCATED BETWEEN THE TRAFFIC FLOW AND EXCAVATION.
- 6. MATERIALS SHALL NOT BE STORED WITHIN 4 METRES OF THE TRAVELED PORTION OF ANY ROAD.
- 7. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE COUNTY A DETAILED TRAFFIC MANAGEMENT PLAN FOR REVIEW AT LEAST 15 DAYS PRIOR TO CONSTRUCTION. THIS IS TO BE ACCOMPANIED BY STAGING PLANS FOR THE CONTROL OF THROUGH TRAFFIC FOR THE PROJECT AND WHERE APPLICABLE, DETAILS FOR THE SAFE PASSAGE OF PEDESTRIANS THROUGH THE CONSTRUCTION AREA.
- 8. A TRAFFIC PROTECTION PLAN FOR WORKER SAFETY IS ALSO REQUIRED IN ACCORDANCE WITH THE OHSA.
- 9. WEST STREET SHALL BE KEPT OPEN TO THROUGH TRAFFIC AND MAINTAINED WITH A MINIMUM OF ONE LANE FOR LOCAL TRAFFIC ONLY, EXCEPT WHEN APPROVED FOR THE INSTALLATION OF SERVICE CONNECTIONS. IT IS ANTICIPATED THAT THE CONTRACTOR WILL EXPEDITE THE SERVICE CONNECTION WORK REQUIRING FULL ROAD CLOSURE AND LIMIT ANY FULL CLOSURES TO LESS THAN ONE WORKING DAY AT A TIME.
- 10. THE WORK SHALL BE UNDERTAKEN IN A LOGICAL SEQUENCE THROUGHOUT THE CONSTRUCTION PERIOD AND MUST MEET CONDITIONS OF ROAD OCCUPANCY PERMIT. SAFE TRAFFIC CONTROL SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION, INCLUDING REMOVALS AND THE APPLICATION OF PAVEMENT MARKINGS AS NECESSARY TO MAINTAIN VEHICULAR TRAFFIC IN ITS DESIGNATED LANES. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING, MAINTAINING AND RELOCATING WHERE NECESSARY, SUFFICIENT SIGNS, DELINEATORS, BARRICADES, LIGHTS, ETC, AND PROVIDING TRAFFIC CONTROL PERSONS (TCP'S) AND/OR POLICE OFFICERS AS REQUIRED. SO THAT MOTORISTS AND PEDESTRIANS ARE PROPERLY DIRECTED TO ENSURE
- 11. THE CONTRACTOR SHALL PROVIDE TO THE COUNTY CONTACT DETAILS FOR A MINIMUM OF 3 STAFF MEMBERS, TO BE MADE AVAILABLE 24/7 THROUGHOUT THE DURATION OF THE PROJECT.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY APPROVALS IN ADVANCE OF COMMENCING WORK AS DETERMINED BY THE COUNTY (ROAD OCCUPANCY PERMIT ETC).
- 13. ALL TRENCHES CONSTRUCTED IN THE EXISTING ROADWAYS SHALL BE RESTORED TO MATCH THE EXISTING ROAD STRUCTURE UNLESS INDICATED OTHERWISE. RESTORATION SHALL BE COMPLETED WITHIN TWENTY-FOUR (24) HOURS OF THE COMPLETION OF THE WATERMAIN INSTALLATION. ASPHALT REPLACEMENT AND RESTORATION TO FOLLOW IMMEDIATELY WHERE CROSSING INTERSECTIONS.
- 14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL SIGNS DAMAGED OR RENDERED ILLEGIBLE ARE REINSTATED, CLEANED AND/OR REPLACED IN A TIMELY MANNER.
- 15. ALL TRAFFIC CONTROL DEVICES AND SIGNAGE MUST BE MAINTAINED IN THEIR REQUIRED PROPER LOCATION, CLEANED, WEIGHTED DOWN BY SANDBAGS ONLY AND MAINTAINED THROUGHOUT THE DURATION OF THE WORK.
- 16. SUBJECT TO APPROVAL BY THE COUNTY, ALL CONSTRUCTION VEHICLES MUST ENTER AND EXIT THE CONSTRUCTION ZONE VIA THE EAST AND WEST LIMITS OF WEST STREET USING QUEEN STREET SOUTH AND NORFOLK STREET SOUTH AS ACCESS, RESPECTIVELY. CONSTRUCTION TRAFFIC BETWEEN THE LIMITS OF CONSTRUCTION SHALL BE ROUTED USING EVERGREEN HILL ROAD. METCALFE STREET SOUTH, HEAD STREET SOUTH, TALBOT STREET SOUTH, JOHN STREET, KENT STREET SOUTH, AND JAMES STREET ARE NOT TO BE USED FOR ROUTING OF CONSTRUCTION TRAFFIC UNLESS REQUIRED TO PERFORM THE WORKS. NORFOLK COUNTY FAIRGROUNDS PROPERTY IS PRIVATE PROPERTY AND IS NOT TO BE USED FOR CONSTRUCTION TRAFFIC OR ACCESSED DURING CONSTRUCTION UNLESS APPROVED IN WRITING TO PERFORM THE WORKS.
- 17. THE CONTRACTOR SHALL PROVIDE PORTABLE VARIABLE MESSAGE SIGNS (PVMS) BOARDS AT LEAST TWO WEEKS PRIOR TO CONSTRUCTION TO ADVISE MOTORISTS OF PENDING ROAD CLOSURE/LANE RESTRICTIONS INCLUDING THE DATE AND TIME. ADDITIONAL PVMS BOARDS SHALL BE DEPLOYED AT MAJOR INTERSECTIONS ONE WEEK PRIOR TO THE ROAD CLOSURE.

ANODE SUMMARY TARLE

ANODE SUMMANT TABLE				
ANODE TYPE	WATERMAIN SYSTEM	ANODE SPACING		
ZINC	100-150mm D.I. PIPE	5.5kg ANODE PER PIPE LENGTH AND FITTING		
	200–250mm D.I. PIPE	5.5kg ANODE PER PIPE LENGTH AND FITTING		
	300mm + D.I. PIPE	11.0kg ANODE PER PIPE LENGTH AND FITTING		
	COPPER SERVICE	5.5kg ANODE PER SERVICE		
	HYDRANT	5.5kg ANODE PER HYDRANT		
	DUCTILE IRON FITTINGS ON PVC PIPE	11.0kg ANODE PER FITTING		
MAGNESIUM	100-150mm D.I. PIPE	14.5kg ANODE ON EVERY FOURTH PIPE		
	200-250mm D.I. PIPE	14.5kg ANODE ON EVERY FOURTH PIPE		
	300mm + D.I. PIPE	14.5kg ANODE ON EVERY FOURTH PIPE		

A.J. TULK April 28, 2023



THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND UTILITY LOCATIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK. THIS DRAWING IS NOT TO BE SCALED. 1 | AT | 28/04/23 | ISSUED FOR CONSTRUCTION NO. BY DATE ISSUE / REVISION

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SHALL NOT BE USED, REPRODUCED OR REVISED WITHOUT



RECONSTRUCTION OF WEST STREET - PHASE HOLDEN AVENUE TO BROOK STREET

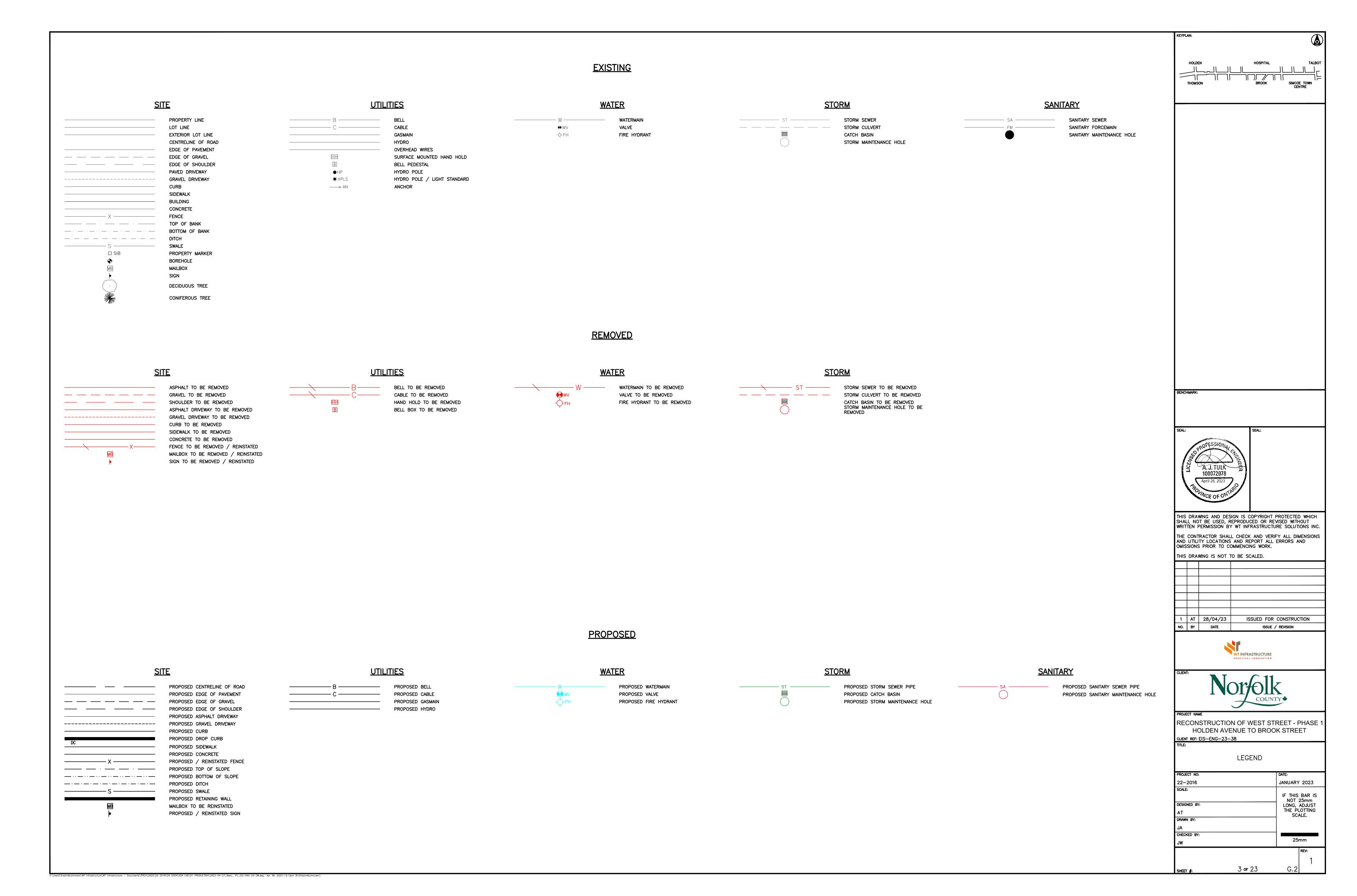
GENERAL NOTES AND SPECIFICATIONS

CLIENT REF: EIS-ENG-23-38

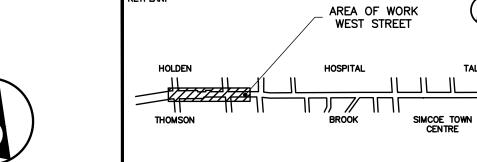
JANUARY 2023 22-2016 F THIS BAR IS NOT 25mm ESIGNED B LONG, ADJUST THE PLOTTING SCALE. HECKED B 25mm

2 of 23

20. MAINTENANCE HOLE BENCHING TO OPSD 701.021.

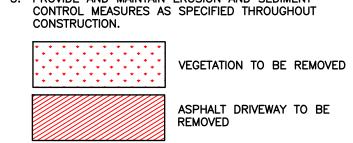






NOTES

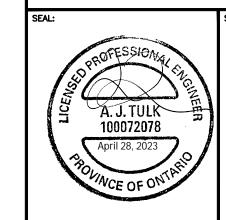
- SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL CONNECTION LOCATIONS
- 2. CONTRACTOR TO COORDINATE THIRD PARTY SUPPORT OF ALL UTILITIES AND UTILITY POLES ADJACENT TO THE AREA OF WORK.
- 3. CURB STOPS FOR THE WATER SERVICE CONNECTIONS
 ARE TO BE LOCATED AT THE PROPERTY LINE UNLESS
 INDICATED OTHERWISE. EX. SERVICE CONNECTIONS ARE
 TO BE RECONFIGURED AS REQUIRED.
- 4. PROVIDE TREE PROTECTION ZONES AS SPECIFIED AND
- AS DETAILED IN THE ARBORIST REPORT APPENDED TO THE SPECIFICATION. . PROVIDE AND MAINTAIN EROSION AND SEDIMENT



ASPHALT ROADWAY TO BE REMOVED CONCRETE DRIVEWAY / SIDEWALK TO BE REMOVED

IMPACTED PRIVATE UTILITY REQUIRING ADJUSTMENT OR RELOCATION BY CONTRACTOR OR THIRD PARTY SEDIMENT CONTROL FENCE

TBM #1: TOP OF NUT ON FH AT NW CORNER OF HOLDEN AVENUE AND WEST STREET. ELEV: 234.08m.
TBM #2: TOP OF NUT ON FH AT SE CORNER OF LEE AVENUE AND WEST STREET. ELEV: 234.40m.



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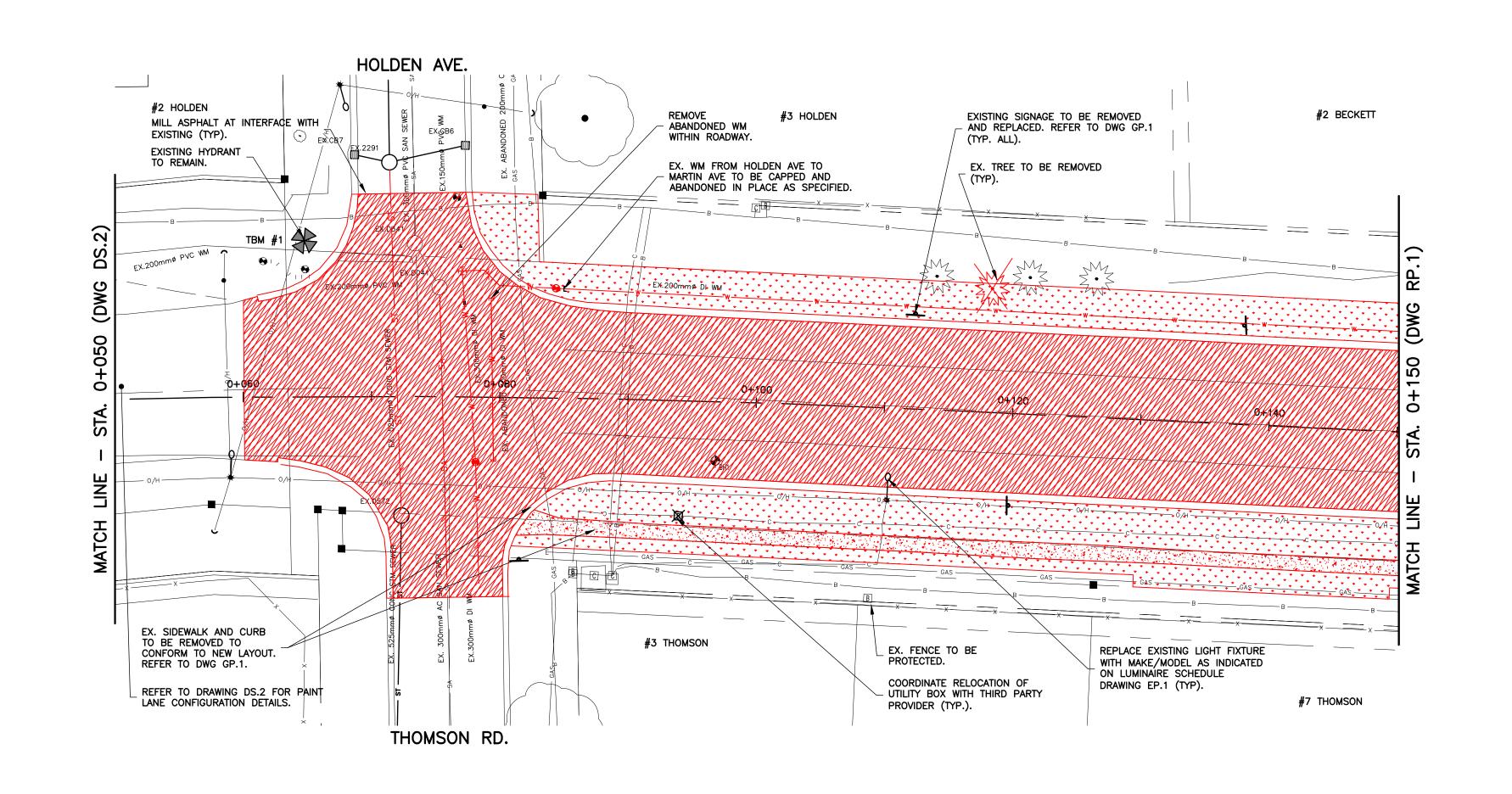
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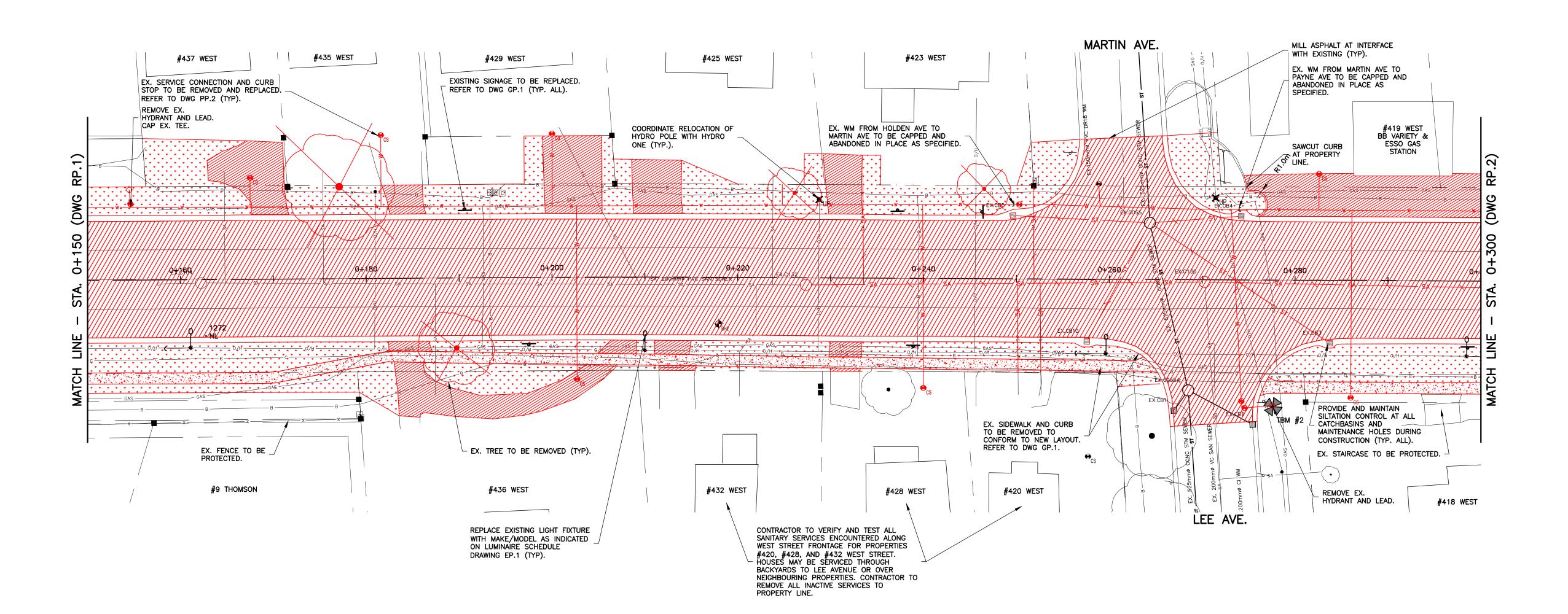
CLIENT REF: EIS-ENG-23-38 REMOVALS PLAN STA. 0+000 TO STA. 0+300

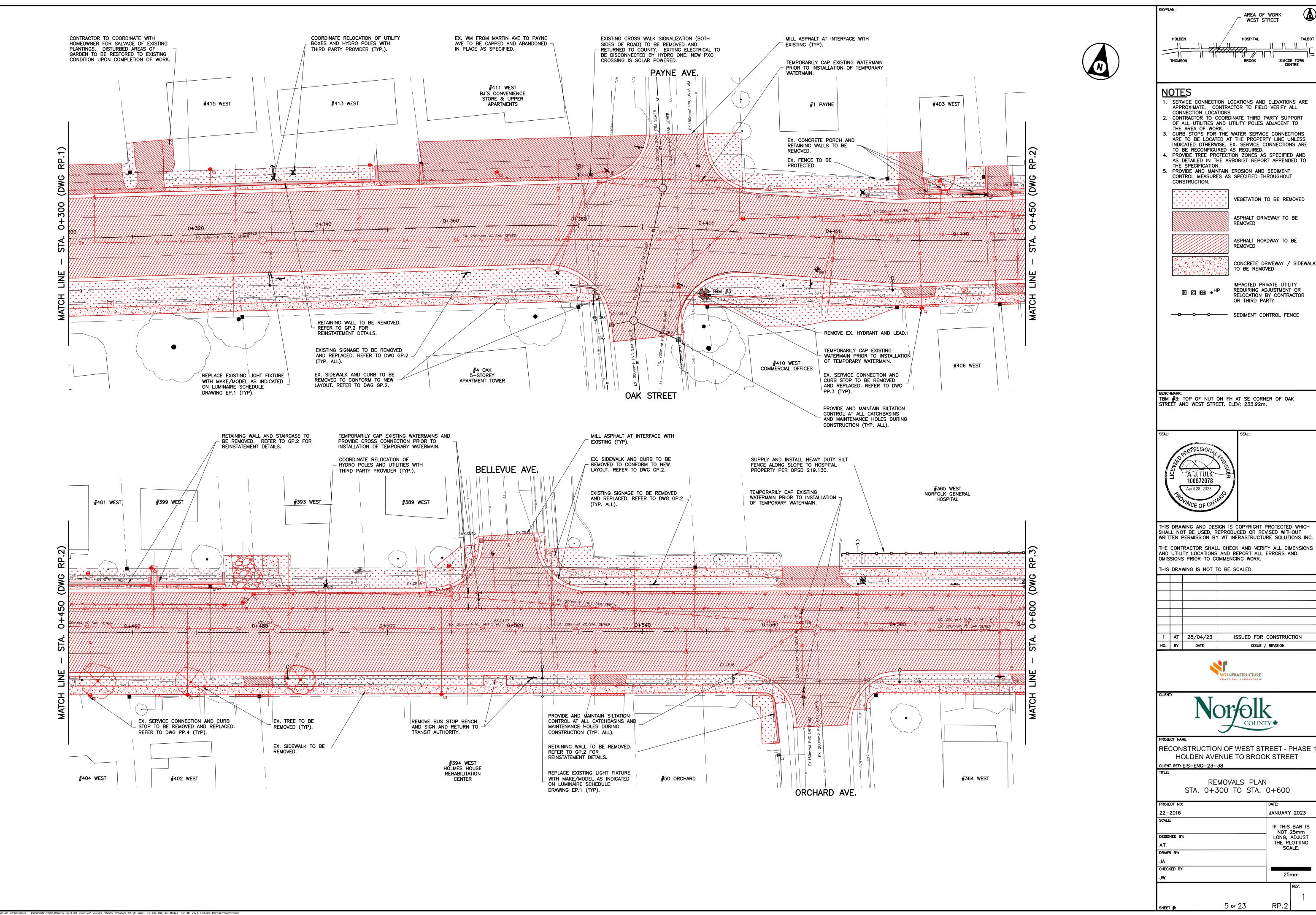
22-2016 JANUARY 2023 IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE.

> RP.1 4 of 23

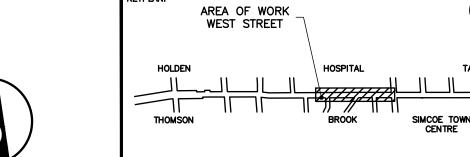
25mm



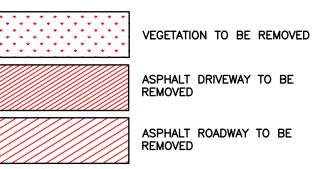








- SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL CONNECTION LOCATIONS
 CONTRACTOR TO COORDINATE THIRD PARTY SUPPORT OF ALL UTILITIES AND UTILITY POLES ADJACENT TO THE AREA OF WORK.
 CURB STOPS FOR THE WATER SERVICE CONNECTIONS ARE TO BE LOCATED AT THE PROPERTY LINE UNLESS INDICATED OTHERWISE. EX. SERVICE CONNECTIONS ARE TO BE RECONFIGURED AS REQUIRED.
 PROVIDE TREE PROTECTION ZONES AS SPECIFIED AND AS DETAILED IN THE ARBORIST REPORT APPENDED TO THE SPECIFICATION.
 PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED THROUGHOUT CONSTRUCTION.



ASPHALT DRIVEWAY TO BE REMOVED

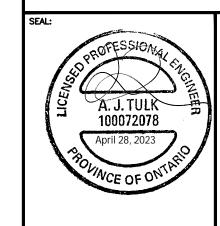
ASPHALT ROADWAY TO BE REMOVED

CONCRETE DRIVEWAY / SIDEWALK TO BE REMOVED

IMPACTED PRIVATE UTILITY REQUIRING ADJUSTMENT OR RELOCATION BY CONTRACTOR

—————— SEDIMENT CONTROL FENCE

TBM #4: TOP OF NUT ON FH AT WEST END OF HOSPITAL PROPERTY. ELEV: 229.56m. TBM #5: TOP OF NUT ON FH AT SE CORNER OF HOSPITAL ENTRANCE. ELEV: 226.88m.



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1	AT	28/04/23	ISSUED FOR CONSTRUCTION
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PROJECT NAME

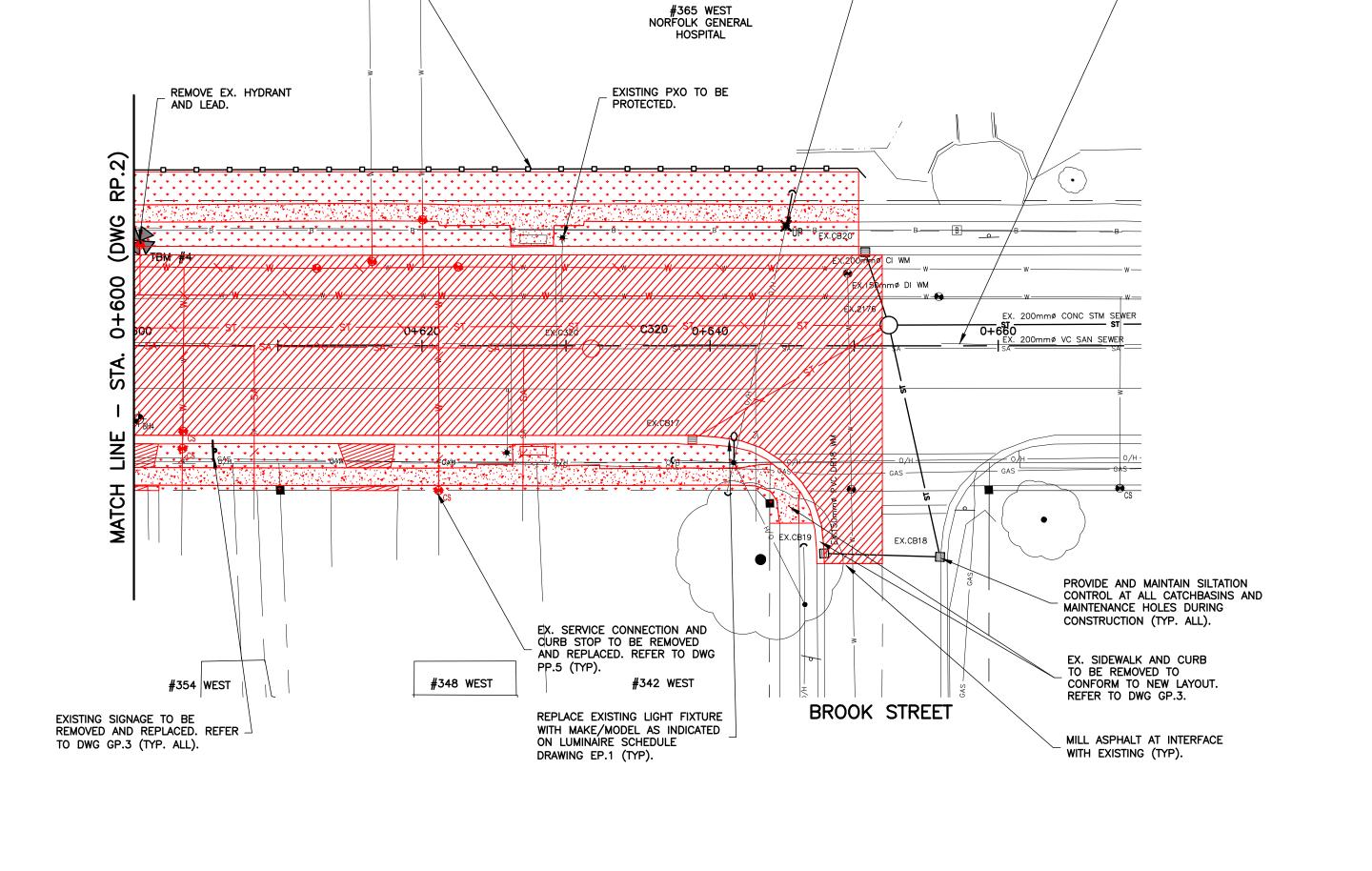
RECONSTRUCTION OF WEST STREET - PHASE ' HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS-ENG-23-38

REMOVALS PLAN STA. 0+600 TO STA. 0+680

PROJECT NO:	DATE
22-2016	JANUARY 2023
SCALE:	
	IF THIS BAR IS NOT 25mm
DESIGNED BY:	LONG, ADJUST
AT	THE PLOTTING SCALE.
DRAWN BY:	
JA	
CHECKED BY:	1

25mm 6 of 23



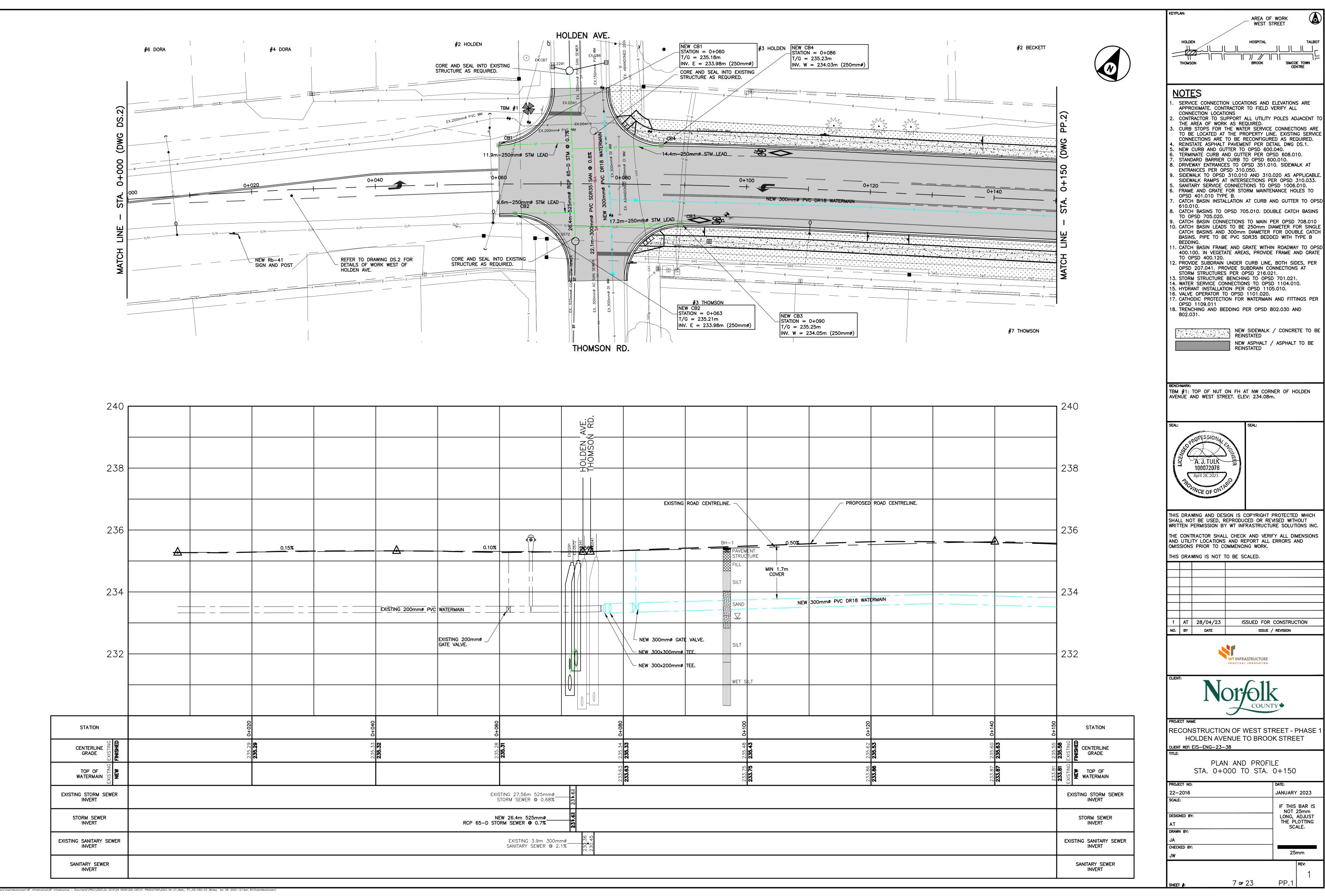
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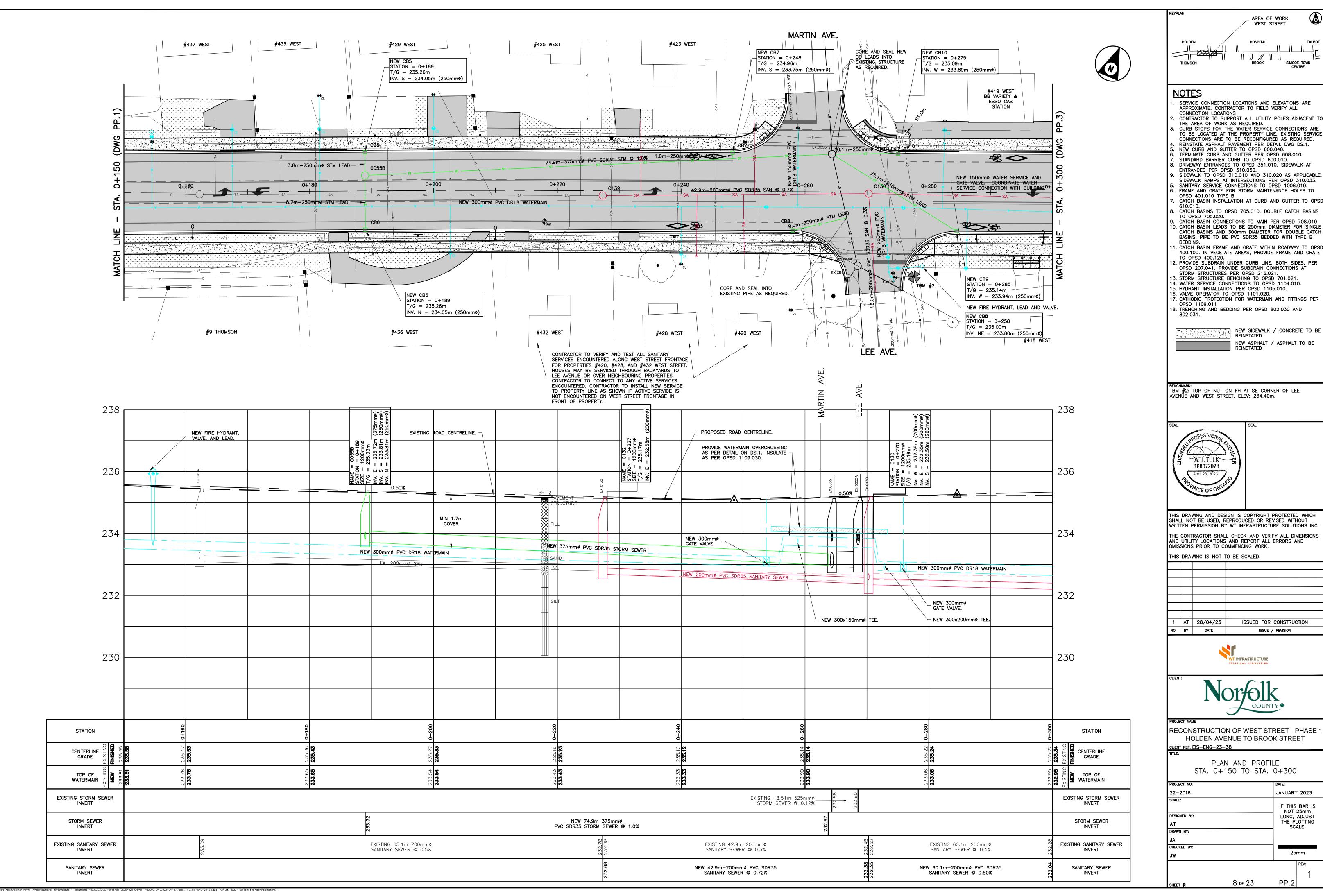
PARTY PROVIDER (TYP.).

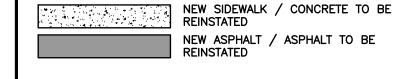
REFER TO DWG GP3 FOR PAINT LANE CONFIGURATION DETAILS.

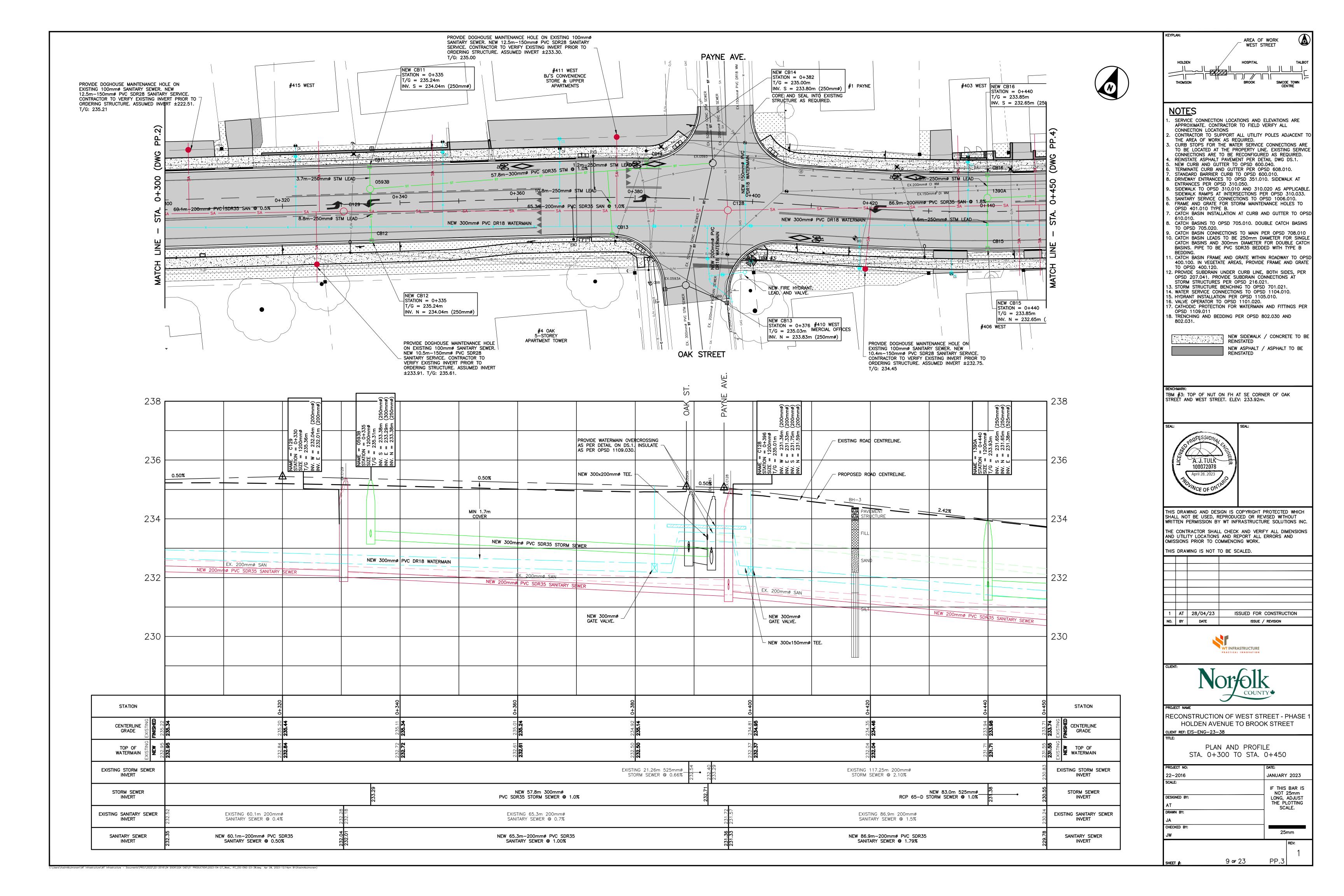
SUPPLY AND INSTALL HEAVY DUTY SILT FENCE ALONG SLOPE TO HOSPITAL

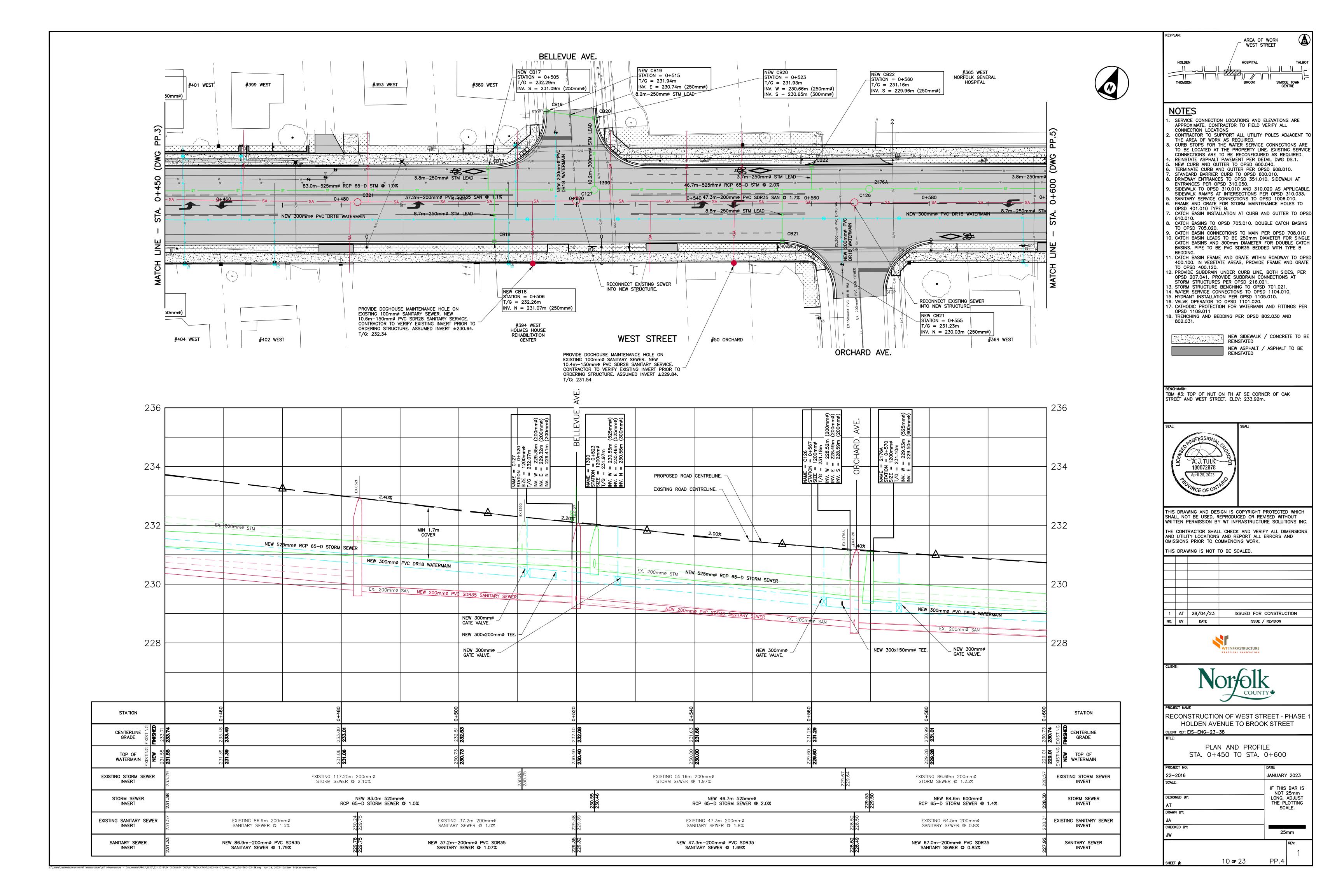
PROPERTY PER OPSD 219.130.

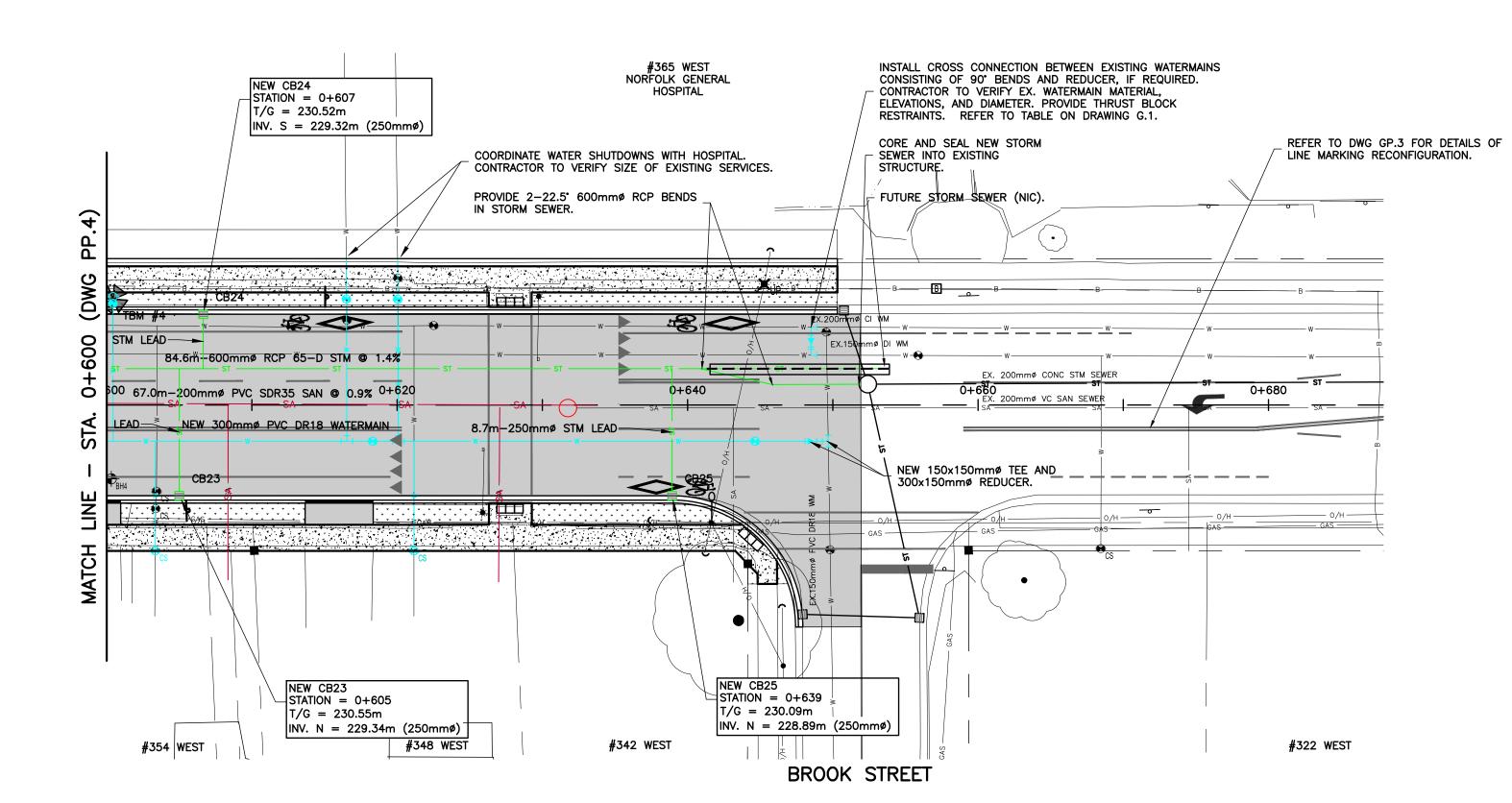


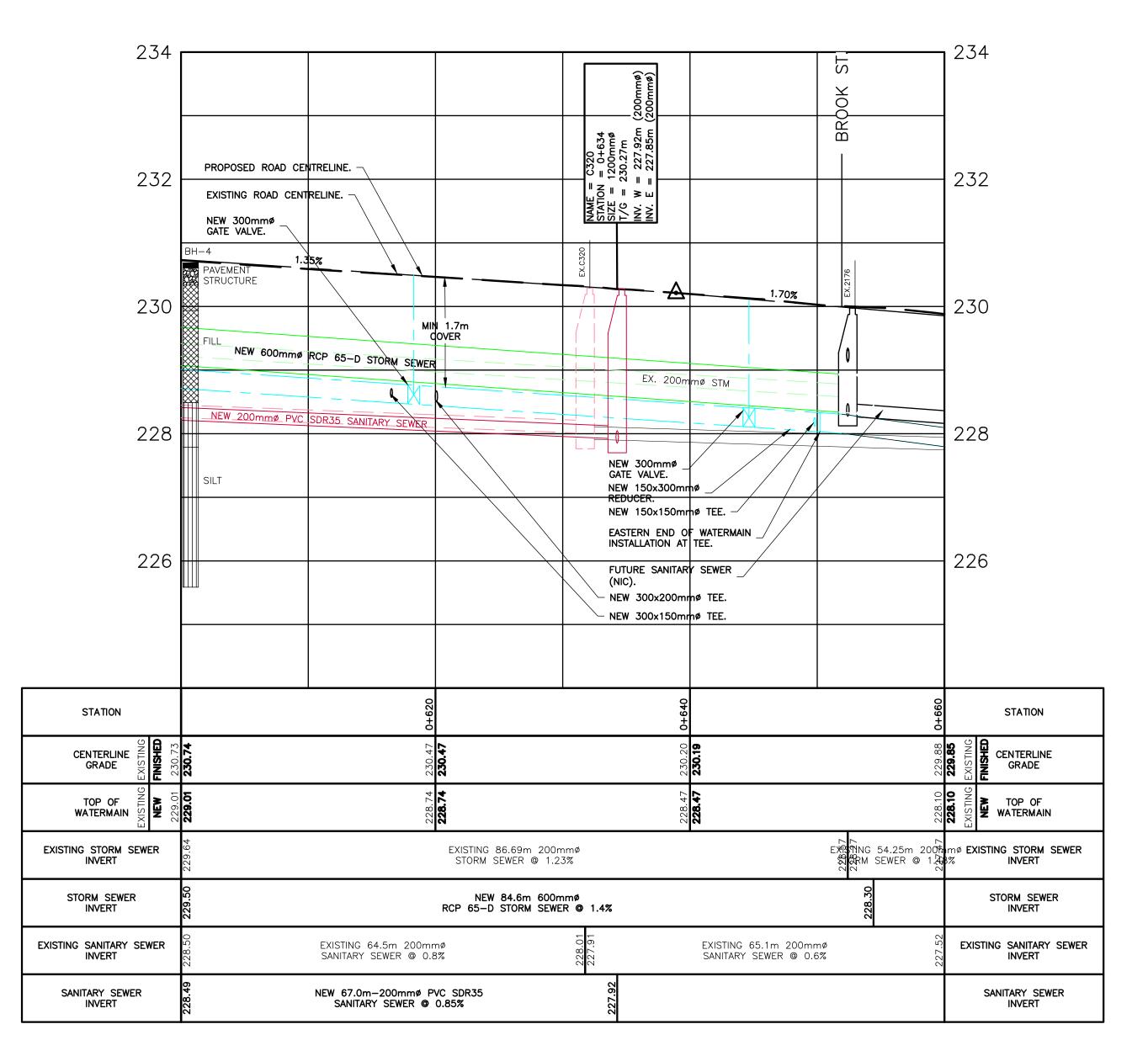














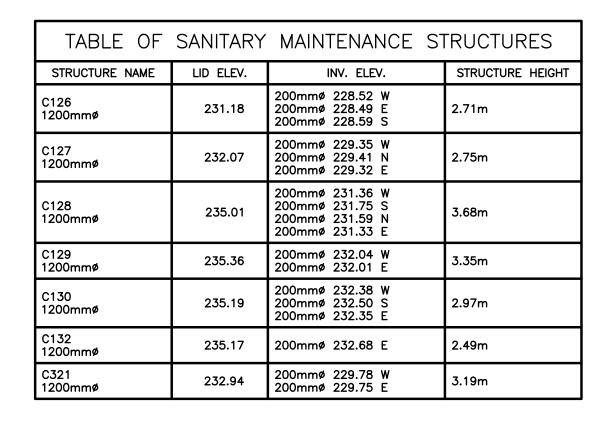
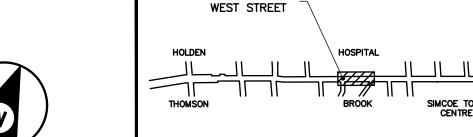


TABLE OF	STORM	MAINTENANCE STRUCTURES		
STRUCTURE NAME	LID ELEV.	INV. ELEV	STRUCTURE HEIGHT	
0593B 1200mmø	235.31	250mmø 233.38 S 300mmø 233.29 E 250mmø 233.38 N	2.03m	
1390 1200mmø	231.97	525mmø 230.55 W 300mmø 230.55 N 525mmø 230.46 E	1.50m	
1390A 1200mmø	233.93	250mmø 231.65 S 250mmø 231.65 N 525mmø 231.38 E	2.55m	
2176A 1200mmø	231.10	525mmø 229.53 W 600mmø 229.50 E	1.60m	

STRUCTURE NAME	LID ELEV.	INV. ELEV	STRUCTURE HEIGHT	SUMP
CB1 750mmx750mm	235.18	250mmø 233.98 E	1.80m	0.60m
CB2 750mmx750mm	235.21	250mmø 233.98 E	1.83m	0.60m
CB3 750mmx750mm	235.25	250mmø 234.05 W	1.80m	0.60m
CB4 750mmx750mm	235.23	250mmø 234.03 W	1.80m	0.60m
CB5 750mmx750mm	235.26	250mmø 234.05 S	1.81m	0.60m
CB6 750mmx750mm	235.26	250mmø 234.05 N	1.81m	0.60m
CB7 750mmx750mm	234.96	250mmø 233.75 S	1.81m	0.60m
CB8 750mmx750mm	235.00	250mmø 233.80 NE	1.80m	0.60m
CB9 750mmx750mm	235.14	250mmø 233.94 W	1.80m	0.60m
CB10 750mmx750mm	235.09	250mmø 233.89 W	1.80m	0.60m
CB11 750mmx750mm	235.24	250mmø 234.04 S	1.80m	0.60m
CB12 750mmx750mm	235.24	250mmø 234.04 N	1.80m	0.60m
CB13 750mmx750mm	235.03	250mmø 233.83 N	1.80m	0.60m
CB14 750mmx750mm	235.00	250mmø 233.80 S	1.80m	0.60m
CB15 750mmx750mm	233.85	250mmø 232.65 N	1.80m	0.60m
CB16 750mmx750mm	233.85	250mmø 232.65 S	1.80m	0.60m
CB17 750mmx750mm	232.29	250mmø 231.09 S	1.80m	0.60m
CB18 750mmx750mm	232.26	250mmø 231.07 N	1.79m	0.60m
CB19 750mmx750mm	231.94	250mmø 230.74 E	1.80m	0.60m
CB20 750mmx750mm	231.93	250mmø 230.66 W 300mmø 230.65 S	1.88m	0.60m
CB21 750mmx750mm	231.23	250mmø 230.03 N	1.80m	0.60m
CB23 750mmx750mm	230.55	250mmø 229.34 N	1.81m	0.60m
CB24 750mmx750mm	230.52	250mmø 229.32 S	1.80m	0.60m
CB25 750mmx750mm	230.09	250mmø 228.89 N	1.80m	0.60m



AREA OF WORK

I NOTES

- SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL
- CONNECTION LOCATIONS
 CONTRACTOR TO SUPPORT ALL UTILITY POLES ADJACENT TO THE AREA OF WORK AS REQUIRED.

CURB STOPS FOR THE WATER SERVICE CONNECTIONS ARE

- TO BE LOCATED AT THE PROPERTY LINE. EXISTING SERVICE CONNECTIONS ARE TO BE RECONFIGURED AS REQUIRED.

 4. REINSTATE ASPHALT PAVEMENT PER DETAIL DWG DS.1.
- NEW CURB AND GUTTER TO OPSD 600.040.
 TERMINATE CURB AND GUTTER PER OPSD 608.010.
- STANDARD BARRIER CURB TO OPSD 600.010.

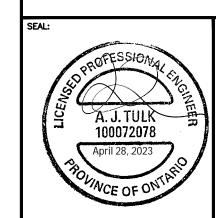
 DRIVEWAY ENTRANCES TO OPSD 351.010. SIDEWALK AT
- ENTRANCES PER OPSD 310.050.

 9. SIDEWALK TO OPSD 310.010 AND 310.020 AS APPLICABLE.
- 9. SIDEWALK TO OPSD STO.010 AND STO.020 AS APPLICABLE.
 SIDEWALK RAMPS AT INTERSECTIONS PER OPSD 100.033.
- 6. SANITARY SERVICE CONNECTIONS TO OPSD 1006.010.
 6. FRAME AND GRATE FOR STORM MAINTENANCE HOLES TO
- OPSD 401.010 TYPE B.
 7. CATCH BASIN INSTALLATION AT CURB AND GUTTER TO OPSD
- 8. CATCH BASINS TO OPSD 705.010. DOUBLE CATCH BASINS TO OPSD 705.020.

 9. CATCH BASIN CONNECTIONS TO MAIN PER OPSD 708.010.
- 10. CATCH BASIN LEADS TO BE 250mm DIAMETER FOR SINGLE CATCH BASINS AND 300mm DIAMETER FOR DOUBLE CATCH BASINS. PIPE TO BE PVC SDR35 BEDDED WITH TYPE B
- 1. CATCH BASIN FRAME AND GRATE WITHIN ROADWAY TO OPSD 400.100. IN VEGETATE AREAS, PROVIDE FRAME AND GRATE TO OPSD 400.120.
- 12. PROVIDE SUBDRAIN UNDER CURB LINE, BOTH SIDES, PER OPSD 207.041. PROVIDE SUBDRAIN CONNECTIONS AT
- STORM STRUCTURES PER OPSD 216.021.
- 13. STORM STRUCTURE BENCHING TO OPSD 701.021.
 14. WATER SERVICE CONNECTIONS TO OPSD 1104.010.
- 15. HYDRANT INSTALLATION PER OPSD 1105.010.
- 16. VALVE OPERATOR TO OPSD 1101.020.
 17. CATHODIC PROTECTION FOR WATERMAIN AND FITTINGS PER
 OPSD 1109.011
- 18. TRENCHING AND BEDDING PER OPSD 802.030 AND 802.031.



BENCHMARK:
TBM #4: TOP OF NUT ON FH AT WEST END OF HOSPITAL PROPERTY. ELEV: 229.56m.
TBM #5: TOP OF NUT ON FH AT SE CORNER OF HOSPITAL ENTRANCE. ELEV: 226.88m.



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NO.	BY	DATE	ISSUE / REVISION





PROJECT NAME

RECONSTRUCTION OF WEST STREET - PHASE
HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS—ENG—23—38
TITLE:

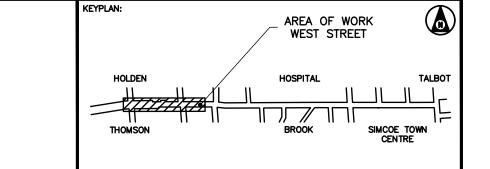
PLAN AND PROFILE STA. 0+600 TO STA. 0+680

PROJECT NO:	DATE:
22-2016	JANUARY 2023
SCALE:	
	IF THIS BAR IS NOT 25mm
DESIGNED BY:	LONG, ADJUST
AT	THE PLOTTING SCALE.
DRAWN BY:	
JA	
CHECKED BY:	
JW	25mm

PP.5

#: 11 of 23



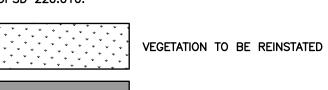


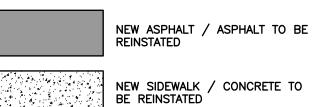
NOTES

- . SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL
- APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL
 CONNECTION LOCATIONS

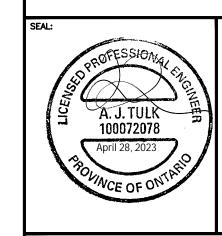
 2. CONTRACTOR TO SUPPORT ALL UTILITY POLES
 ADJACENT TO THE AREA OF WORK AS REQUIRED.

 3. CURB STOPS FOR THE WATER SERVICE CONNECTIONS
 ARE TO BE LOCATED AT THE PROPERTY LINE. EXISTING
 SERVICE CONNECTIONS ARE TO BE RECONFIGURED AS
 PROLUPED.
- . REINSTATE ASPHALT PAVEMENT PER DETAIL DWG DS.1.
- 5. PROVIDE NEW FRAME AND GRATE (TYPE A) ON SANITARY MAINTENANCE HOLES PER OPSD 401.010. 6. PROVIDE TREE PROTECTION AS SPECIFIED AND AS PER OPSD 220.010.





TBM #1: TOP OF NUT ON FH AT NW CORNER OF HOLDEN AVENUE AND WEST STREET. ELEV: 234.08m.
TBM #2: TOP OF NUT ON FH AT SE CORNER OF LEE AVENUE AND WEST STREET. ELEV: 234.40m.



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NO. BY DATE

1 AT 28/04/23 ISSUED FOR CONSTRUCTION



ISSUE / REVISION



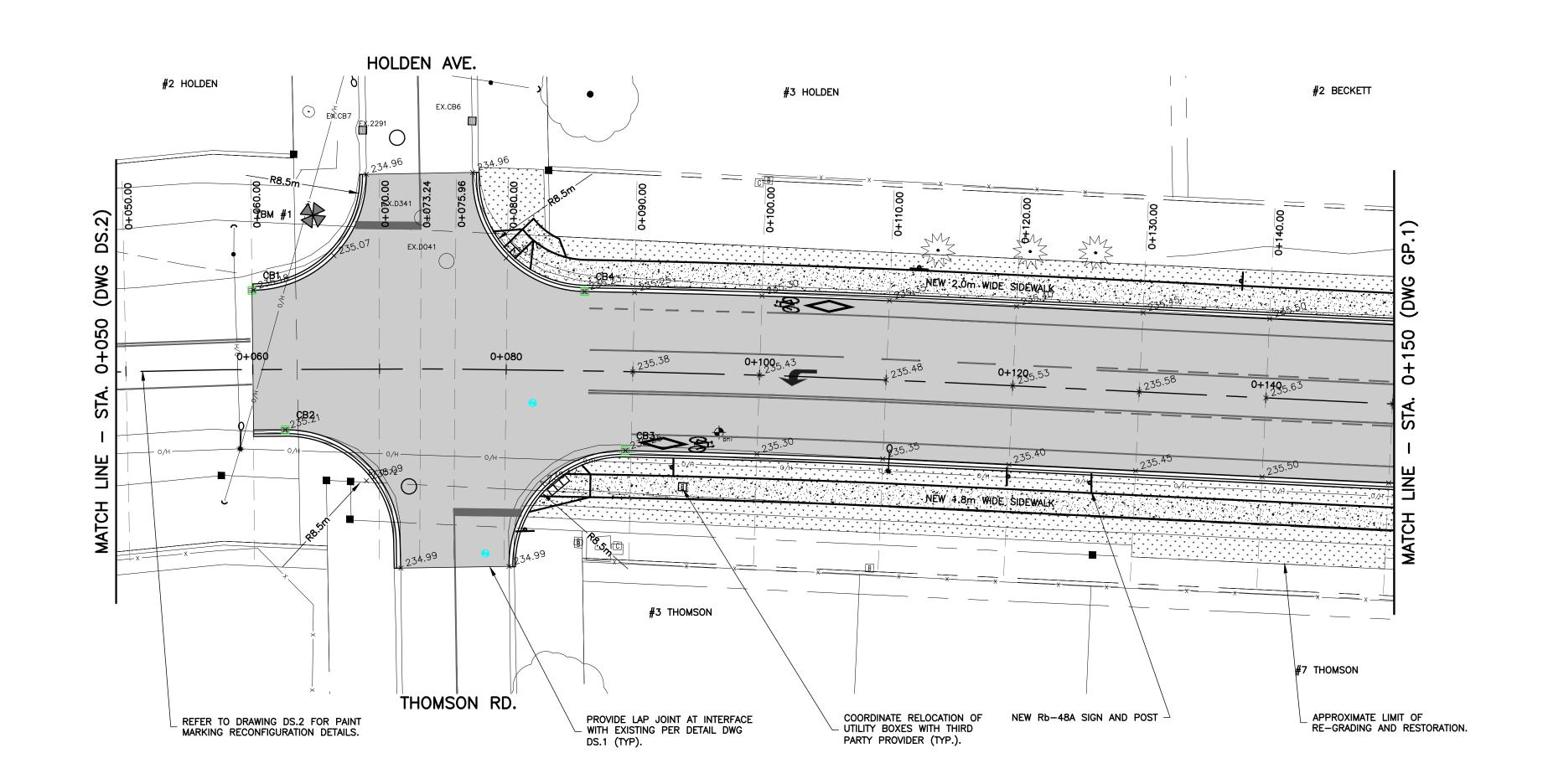
PROJECT NAME RECONSTRUCTION OF WEST STREET - PHASE HOLDEN AVENUE TO BROOK STREET

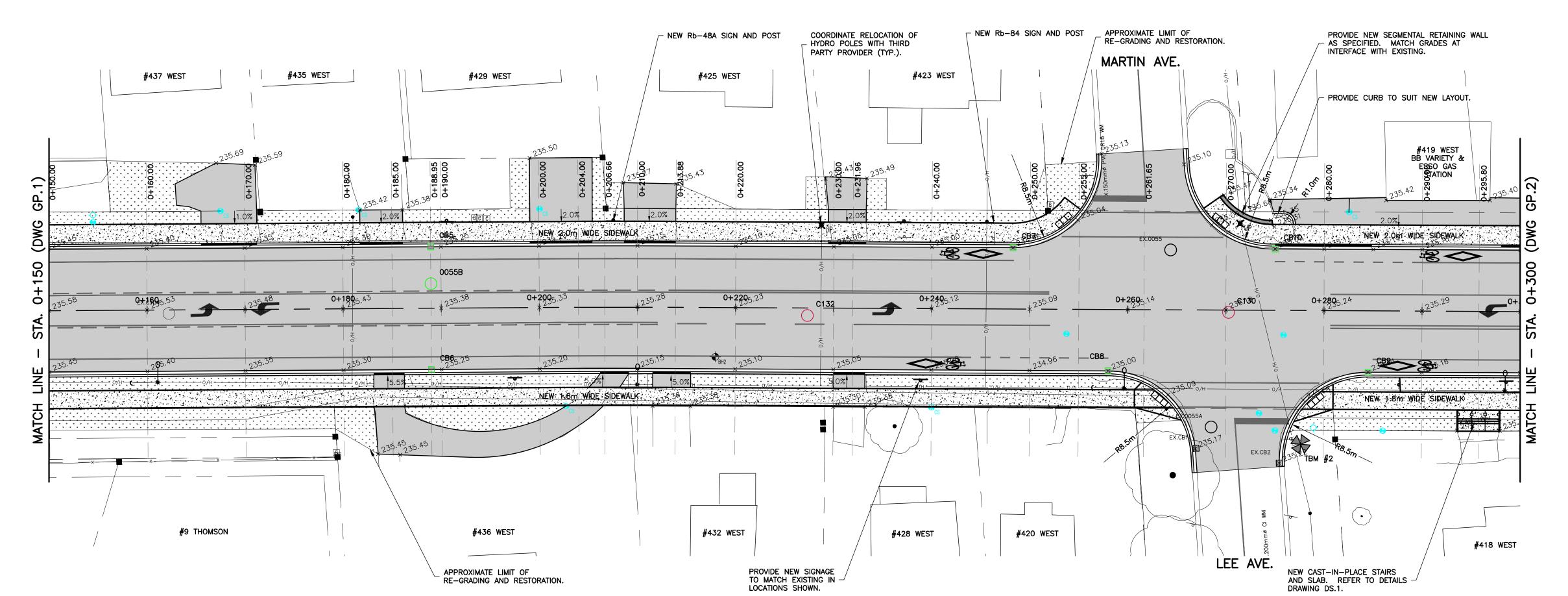
CLIENT REF: EIS-ENG-23-38

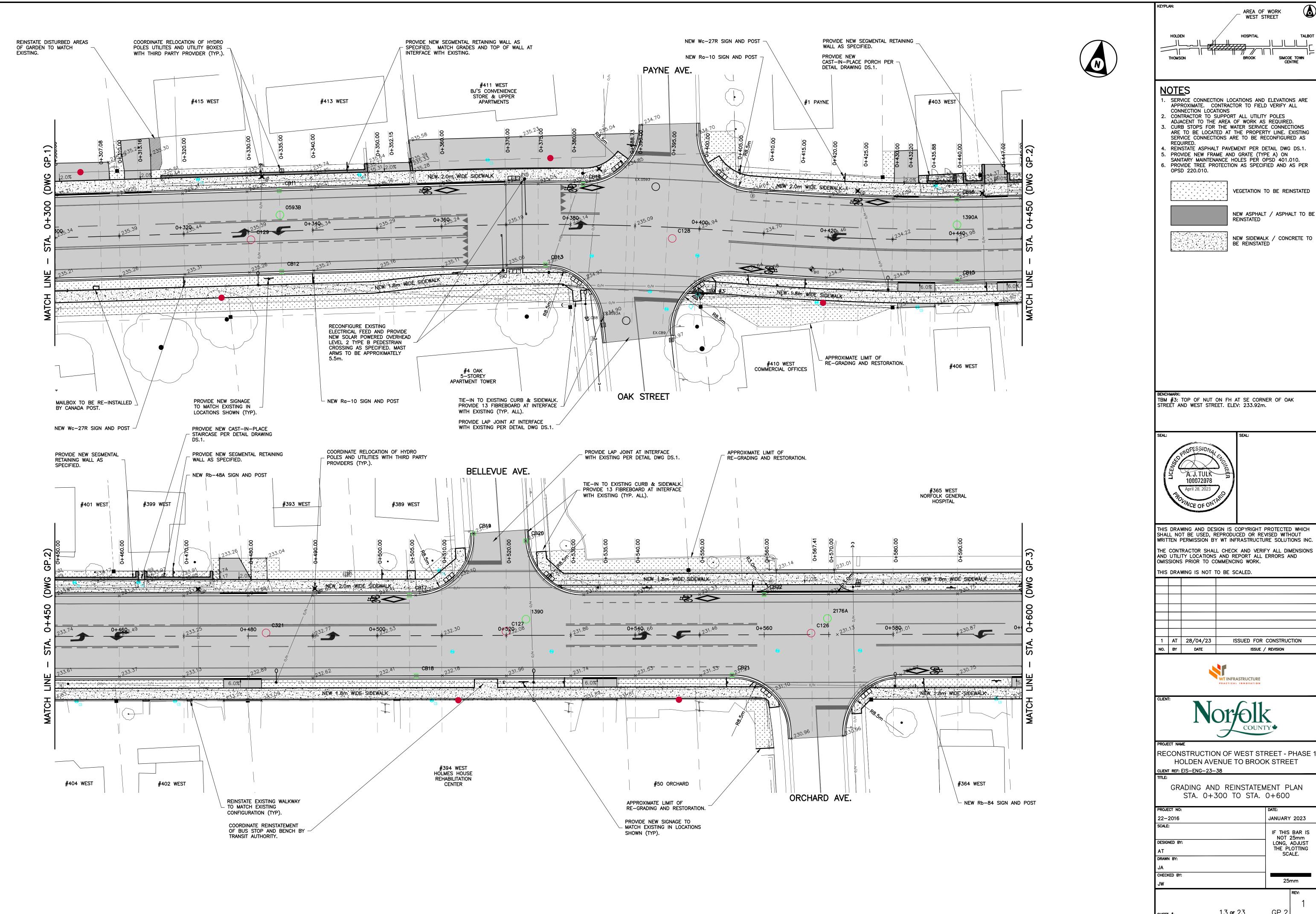
GRADING AND REINSTATEMENT PLAN STA. 0+000 TO STA. 0+300

22-2016 JANUARY 2023 IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING SCALE. 25mm

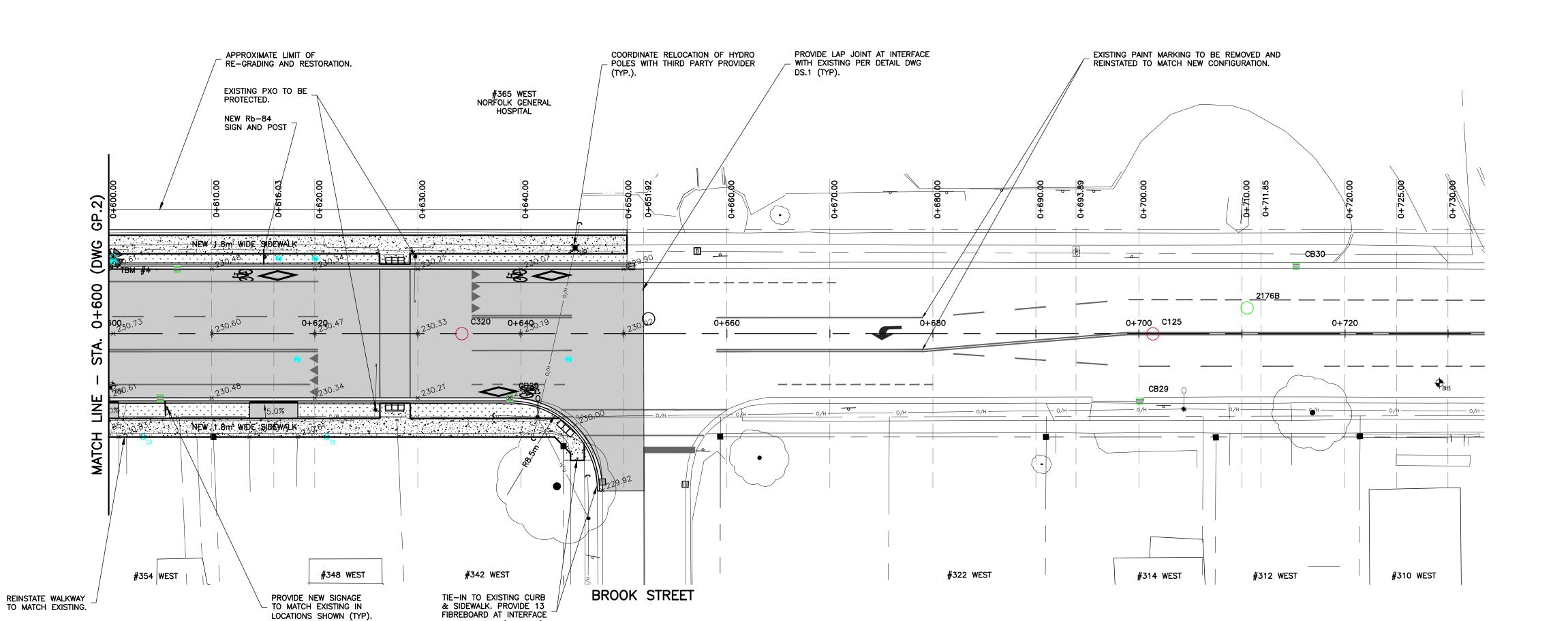
> GP.1 12 of 23







GP.2 13 of 23



LOCATIONS SHOWN (TYP).

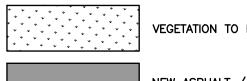
WITH EXISTING (TYP. ALL).



KETPLAN:	AREA OF WEST S			
HOLDEN	_]]]	HOSPITAL	TALBOT

<u>NOTE</u>S

- 1. SERVICE CONNECTION LOCATIONS AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY ALL CONNECTION LOCATIONS
 2. CONTRACTOR TO SUPPORT ALL UTILITY POLES ADJACENT TO THE AREA OF WORK AS REQUIRED.
 3. CURB STOPS FOR THE WATER SERVICE CONNECTIONS ARE TO BE LOCATED AT THE PROPERTY LINE. EXISTING SERVICE CONNECTIONS ARE TO BE RECONFIGURED AS REGUIRED.
- 4. REINSTATE ASPHALT PAVEMENT PER DETAIL DWG DS.1.
- PROVIDE NEW FRAME AND GRATE (TYPE A) ON SANITARY MAINTENANCE HOLES PER OPSD 401.010.
 PROVIDE TREE PROTECTION AS SPECIFIED AND AS PER OPSD 220.010.



VEGETATION TO BE REINSTATED



NEW ASPHALT / ASPHALT TO BE REINSTATED

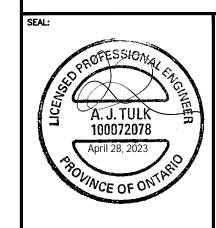


NEW SIDEWALK / CONCRETE TO BE REINSTATED

BENCHMARK:

TBM #4: TOP OF NUT ON FH AT WEST END OF HOSPITAL PROPERTY. ELEV: 229.56m.

TBM #5: TOP OF NUT ON FH AT SE CORNER OF HOSPITAL ENTRANCE. ELEV: 226.88m.



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1	AT	28/04/23	ISSUED FOR CONSTRUCTION
NO.	BY	DATE	ISSUE / REVISION





PROJECT NAME

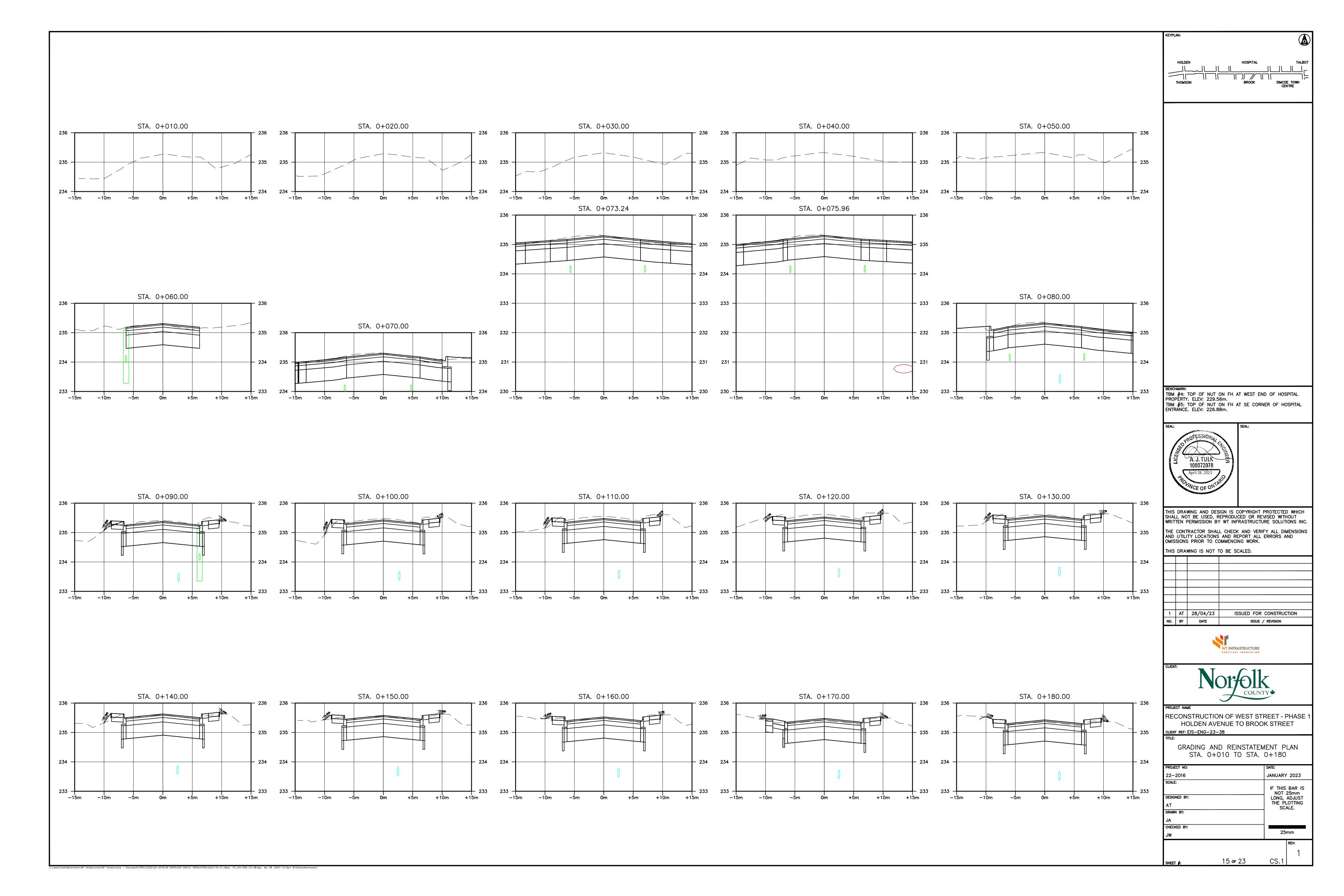
RECONSTRUCTION OF WEST STREET - PHASE ' HOLDEN AVENUE TO BROOK STREET

CLIENT REF: EIS-ENG-23-38

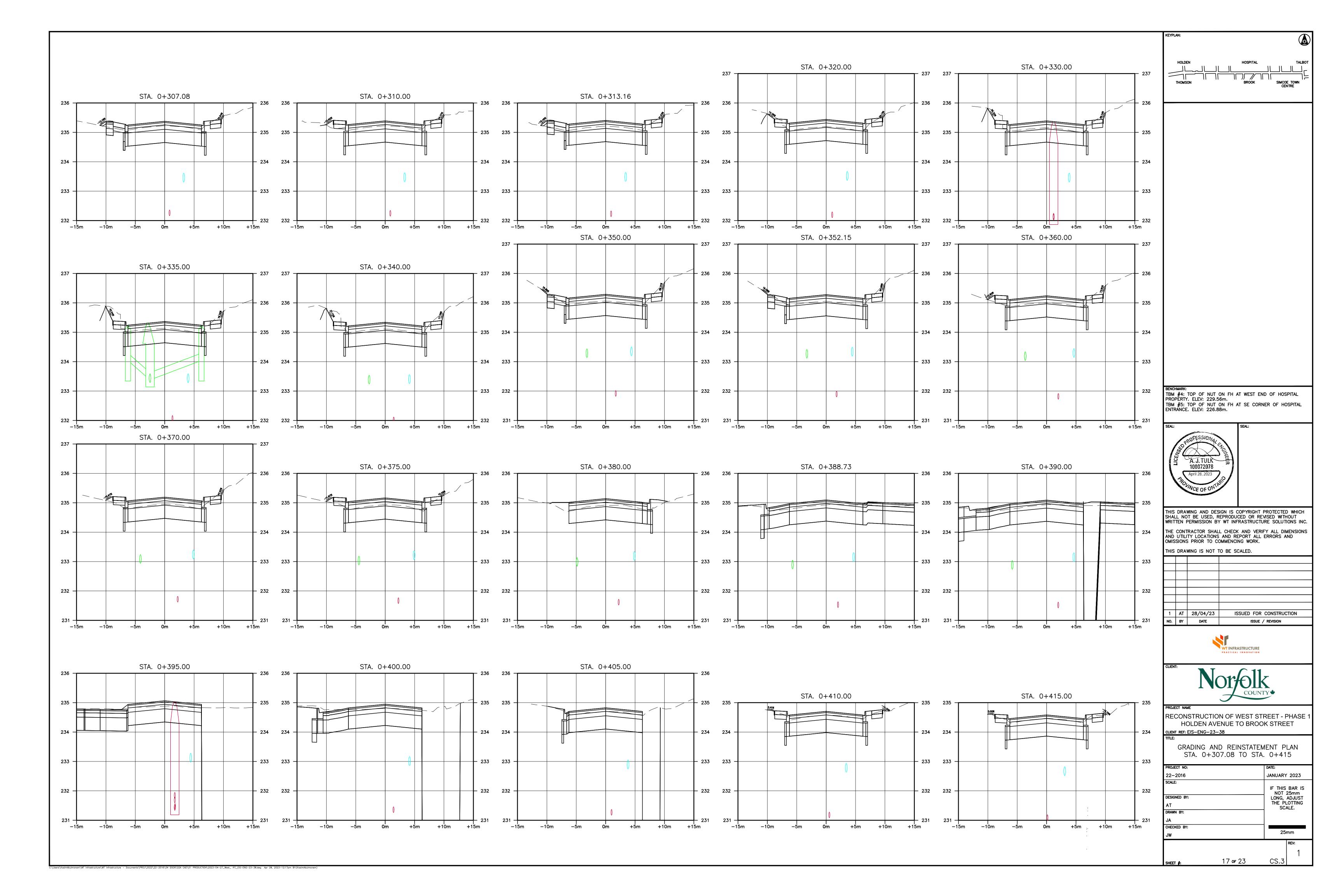
GRADING AND REINSTATEMENT PLAN STA. 0+600 TO STA. 0+680

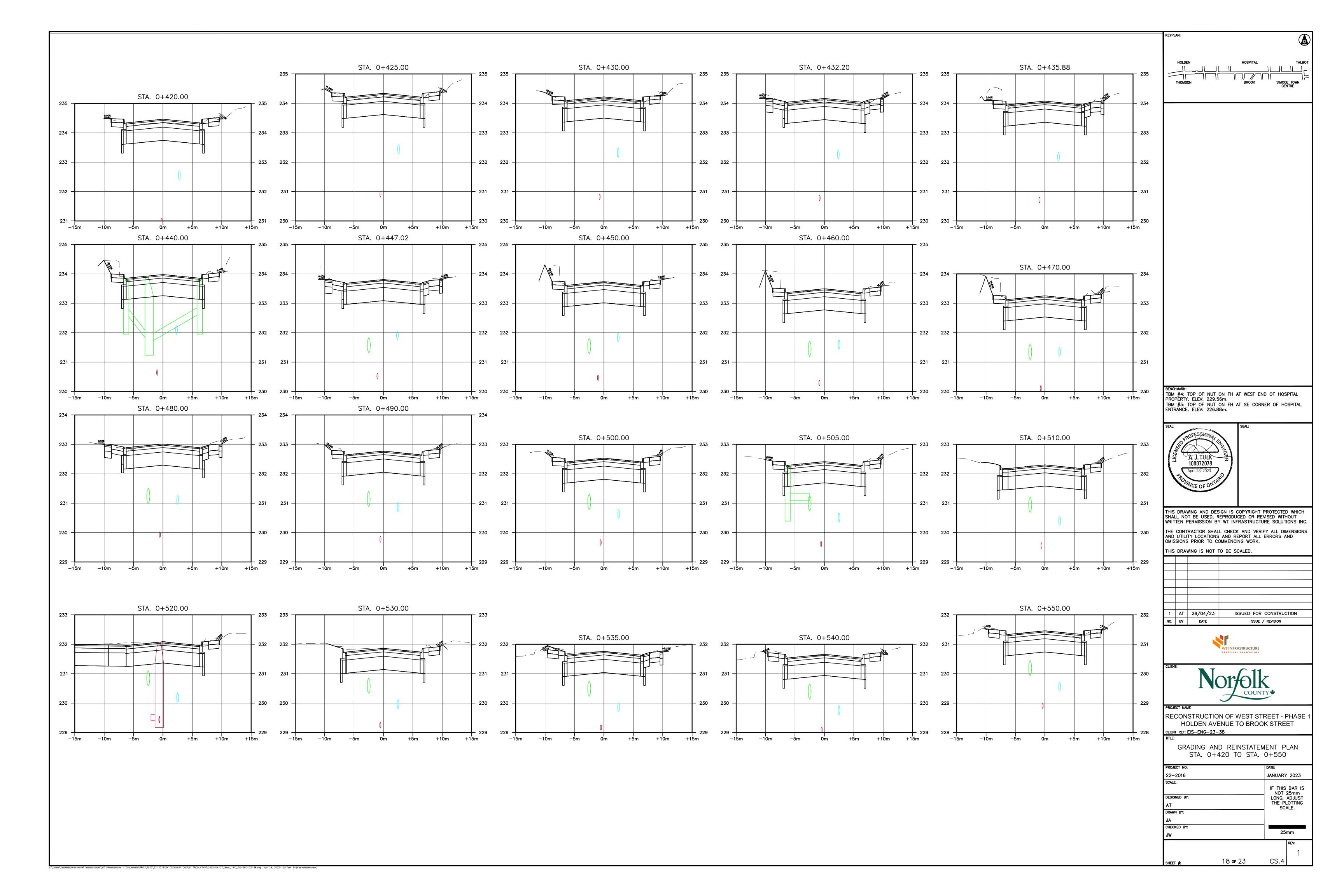
22-2016	JANUARY 2023
SCALE:	
	IF THIS BAR IS NOT 25mm
DESIGNED BY:	LONG, ADJUST
AT	THE PLOTTING SCALE.
DRAWN BY:	
JA	
CHECKED BY:	
	25mm

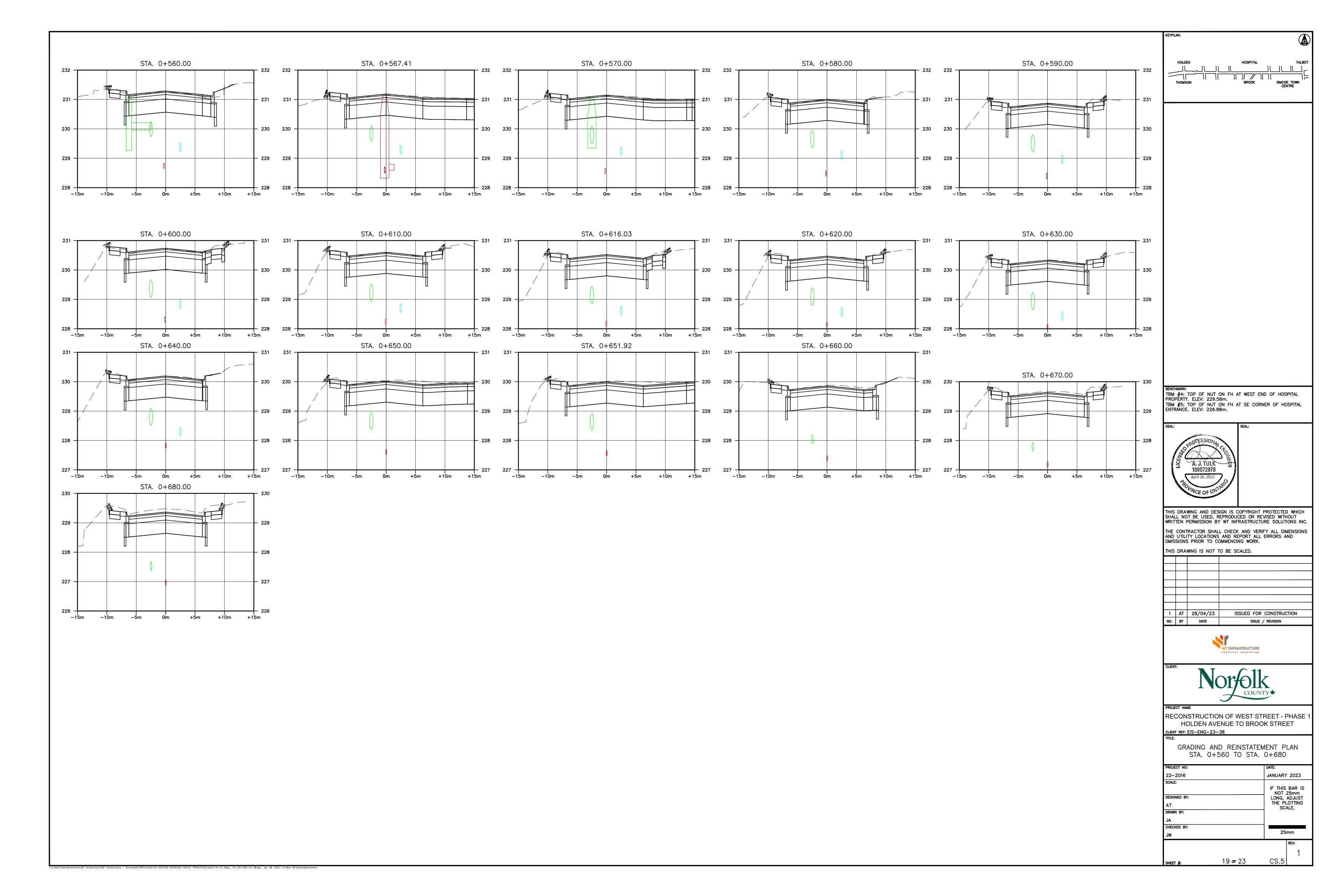
14 of 23

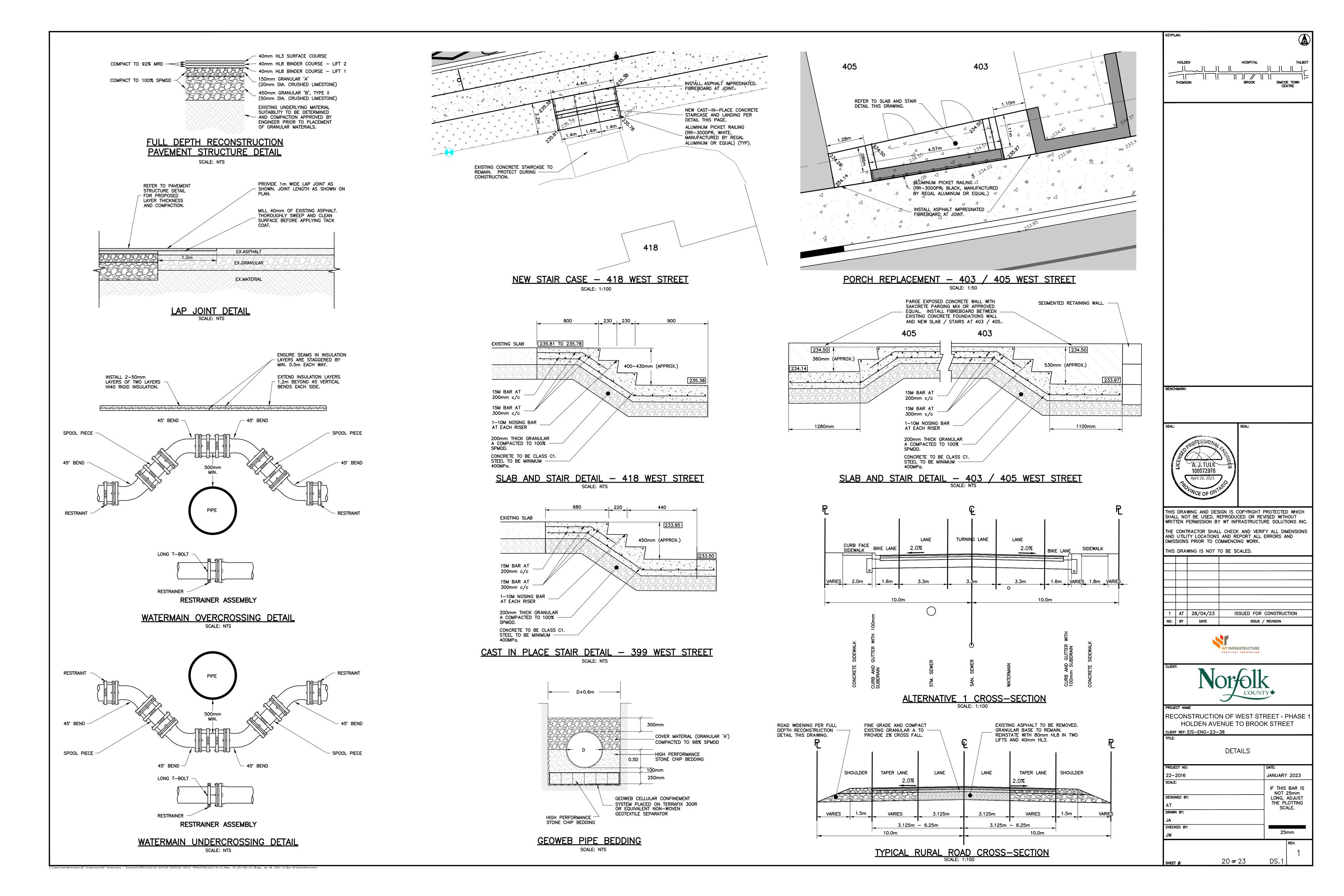


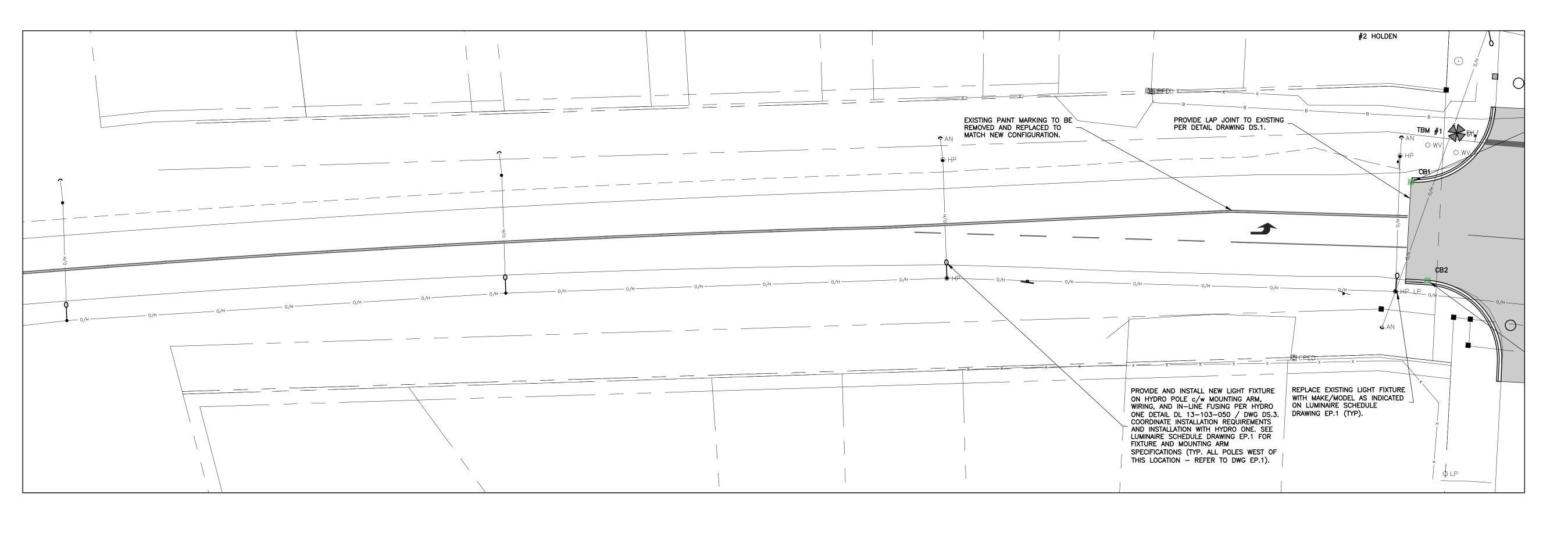


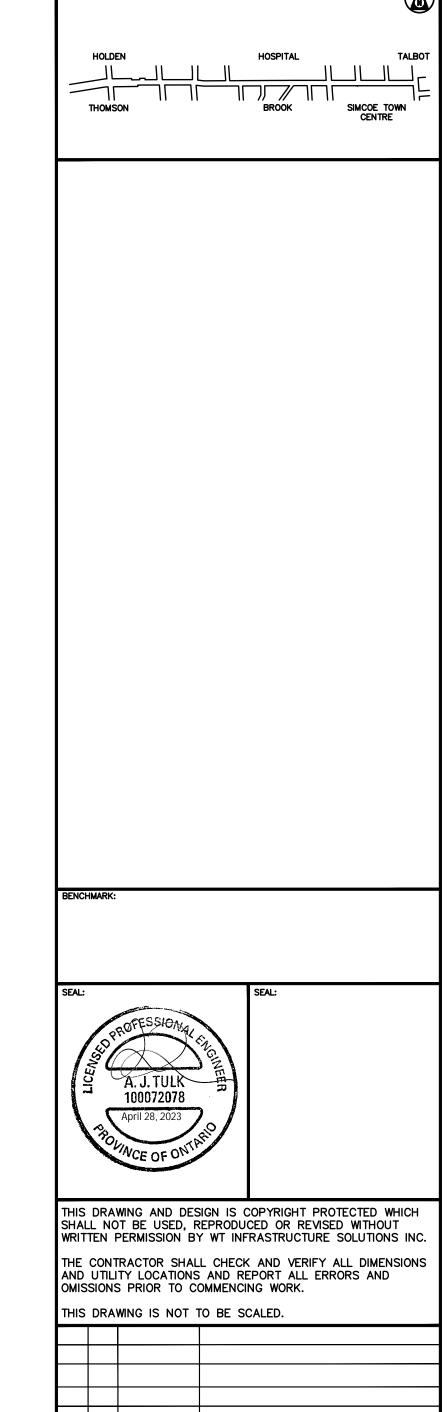












1 AT 28/04/23

CLIENT REF: EIS-ENG-23-38

22-2016

NO. BY DATE

ISSUED FOR CONSTRUCTION

ISSUE / REVISION

JANUARY 2023

IF THIS BAR IS NOT 25mm LONG, ADJUST THE PLOTTING

SCALE.

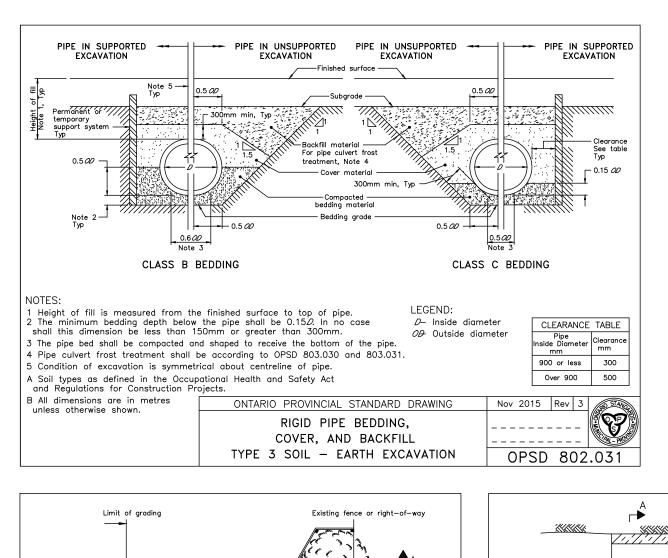
DS.2

WT INFRASTRUCTURE

RECONSTRUCTION OF WEST STREET - PHASE 1
HOLDEN AVENUE TO BROOK STREET

WEST STREET TAPER DETAIL

21 of 23



Tree or wood lot

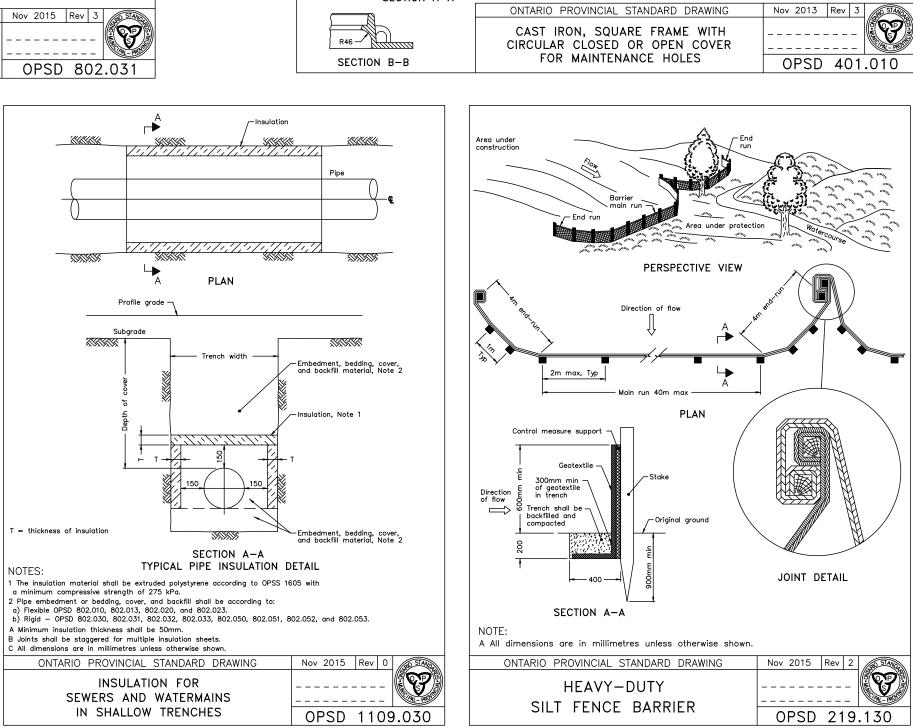
∠Barrier within dripline

ONTARIO PROVINCIAL STANDARD DRAWING

BARRIER FOR TREE PROTECTION

SECTION A-A

Limit of grading -



Pavement Curb with gutter

SECTION THROUGH

If first step is in an adjustment unit, the adjustment unit shall be of the type manufactured with a step in place.

2 Centre reinforcing in adjustment

Hoisting hook rib, Typ, OPSD 400.001 FRAME PLAN

— ø676 —

SECTION A-A

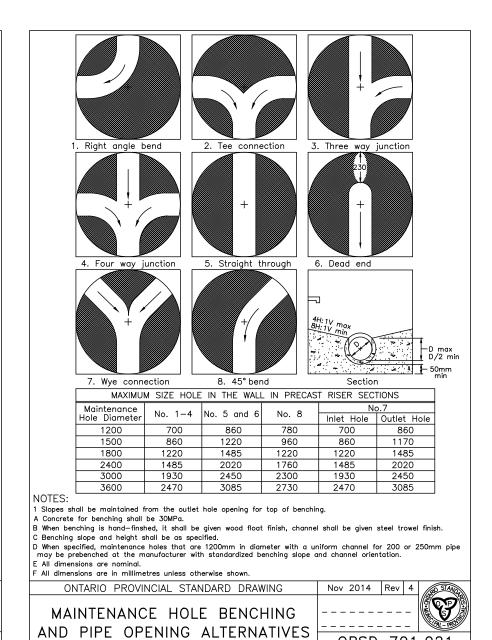
— ø632 —

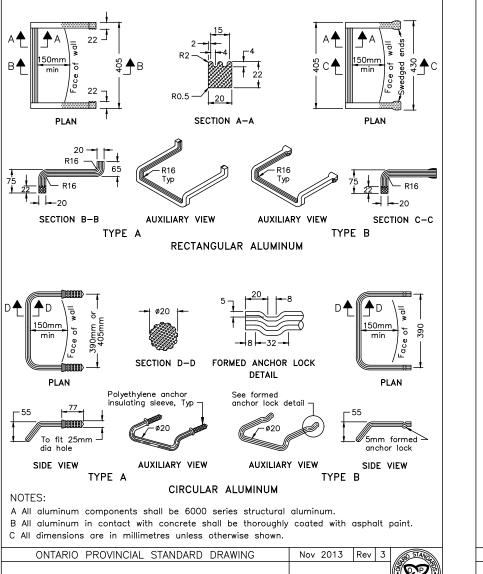
—— ø578 ——

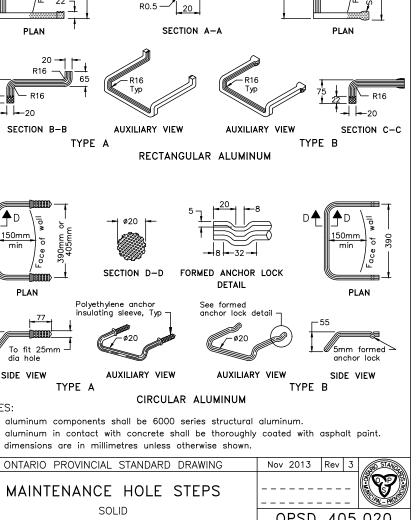
3 Round and square adjustment units

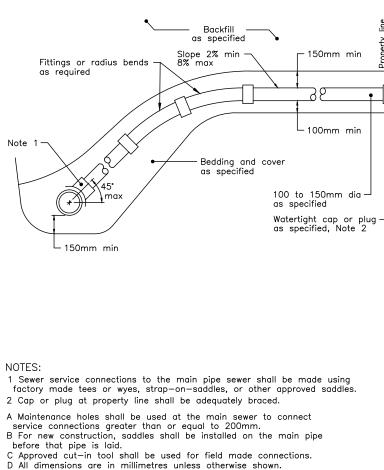
TAPER TOP

Adjustment units for-maintenance holes with round openings. Available in sections or continuous units. Use butyl tape between units.









3 When specified, retaining and restraining devices shall be utilized, in addition to

B Bolts and nuts for buried flange to flange connections shall be stainless steel.

When required, flange of standpipe extensions shall not be in frost zone.

This OPSD shall be read in conjunction with OPSD 1103.010 and 1103.020.

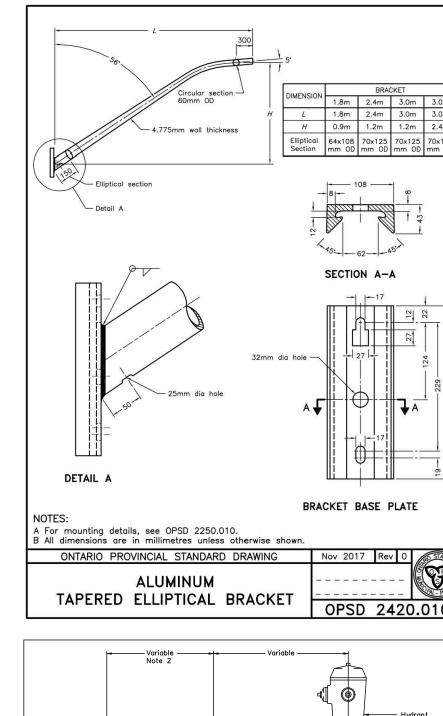
Backfill material within 500mm of service box shall be native or imported, as specified.

A Bond breaker shall be used between the concrete and the fittings and

All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

HYDRANT INSTALLATION



I. FUSE AND FUSE HOLDER SUPPLIED BY MUNICIPALITY. SEE DL13-102-0500 FOR TYPE AND SIZE.

ENSURE 1 METRE MINIMUM CLEARANCE FROM COMMUNICATION PLANT PER DL14-104-0500.

BRACKET BONDING CONDUCTOR TO BE CONNECTED TO POLE GROUND (IF PRESENT) OR SYSTEM NEUTRAL.

PARTS LIST DESCRIPTION

SUMP DETAIL

ALTERNATIVES

Bottom riser section with inlet and outlet openings to suit

A PRECAST SLAB BASE

1.00

—Steel reinforcement Granular as specified bedding

B CAST-IN-PLACE BASE

ø1200 —— 4

C PRECAST FLAT CAP

OPSD 701.010

ONNECTION OF MUNICIPAL STREET LIGHTING

R, CCS, #3 AWG 600V, 2W, #12 AWG., CU.

GROUNDING PER SECTION 12

CONNECTION TO SECONDARY SERVICE OR BUS

GROUNDING PER SECTION 12

this density is considered to be confidential. Resigness shall not you are the density of the 13-103-0500 and shall the society resource is prosed disclosure or becoming in addition parties.

CONNECTION TO ROAD CROSSING SECONDARY SERVICE OR BUS

hydro One Networks Inc.

Monolithic base with inlet

Bench or sump

and outlet openings to suit See alternatives A and B

as specified
300mm, Typ
Granular bedding

1 The sump is measured from the lowest invert.

A Granular backfill shall be placed to a minimum

B Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.

C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.

ONTARIO PROVINCIAL STANDARD DRAWING

PRECAST CONCRETE

MAINTENANCE HOLE

1200mm DIAMETER

D Pipe support according to OPSD 708.020.

E For benching and pipe opening details, see OPSD 701.021.

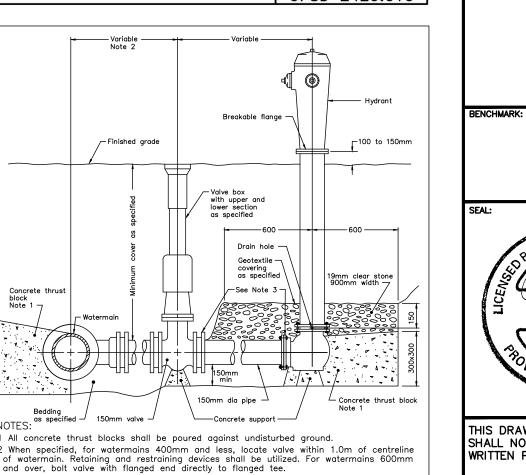
G All dimensions are nominal.

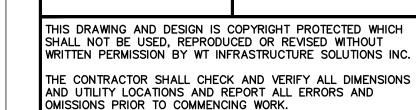
unless otherwise shown.

H All dimensions are in millimetres

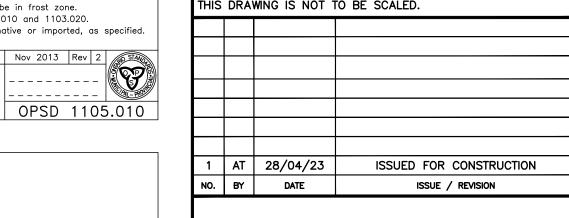
F For adjustment unit and frame installation, see OPSD 704.010.

thickness of 300mm all around the





THIS DRAWING IS NOT TO BE SCALED.







RECONSTRUCTION OF WEST STREET - PHASE HOLDEN AVENUE TO BROOK STREET

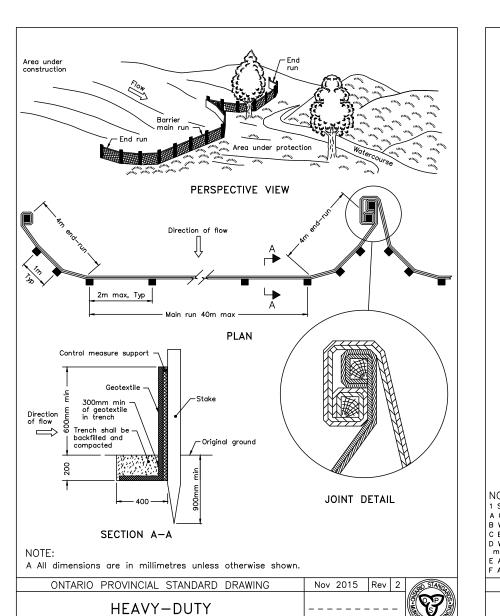
OPSDs & HYDRO ONE DETAILS

CLIENT REF: EIS-ENG-23-38

PROJECT NO:	DATE:
22-2016	JANUARY 2023
SCALE:	
	IF THIS BAR IS NOT 25mm
DESIGNED BY:	LONG, ADJUST
AT	THE PLOTTING SCALE.
DRAWN BY:	
JA	
CHECKED BY:	
IW	25mm

DS.3

Nov 2011 Rev 2 51AND ONTARIO PROVINCIAL STANDARD DRAWING SEWER SERVICE CONNECTIONS ------FOR FLEXIBLE MAIN PIPE SEWER OPSD 1006.020 22 of 23



Grate reference elevation Typ ¬

- Adjustment unit for catch basins with square openings. Available in sections or continuous unit: Use butyl tape between units.

Catch basin

OPSD 704.010

DANGER B

OPEN COVER

SECTION D-D

A Covers shall be Type A or Type B, as specified.

B All dimensions are in millimetres unless otherwise shown

Riser sections as required

Bench or sump as specified Note 1

1 For sump detail, see OPSD 701.010.

A Granular backfill shall be placed to a minimum thickness of 300mm all

B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.041, 703.011, 703.021, and 706.010.

include safety platform according to OPSD 404.020 or 404.021.

For benching and pipe opening details, see OPSD 701.021.

H All dimensions are in millimetres unless

For adjustment unit and frame installation

ONTARIO PROVINCIAL STANDARD DRAWING

PRECAST CONCRETE

MAINTENANCE HOLE

1500mm DIAMETER

D Pipe support shall be according to OPSD 708.020.

see OPSD 704.010.

otherwise shown.

G All dimensions are nominal.

Structures exceeding 5.0m in depth shall

around the maintenance hole.

SECTION THROUGH

CATCH BASIN

- First adjustment unit

A Adjustment units shall not extend beyond the outside edge of the structure.

B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING

PRECAST CONCRETE ADJUSTMENT UNITS

FOR MAINTENANCE HOLES, CATCH BASINS,

AND VALVE CHAMBERS

|■■DAN|GER■■

CLOSED COVER

SECTION C-C

ONTARIO PROVINCIAL STANDARD DRAWING

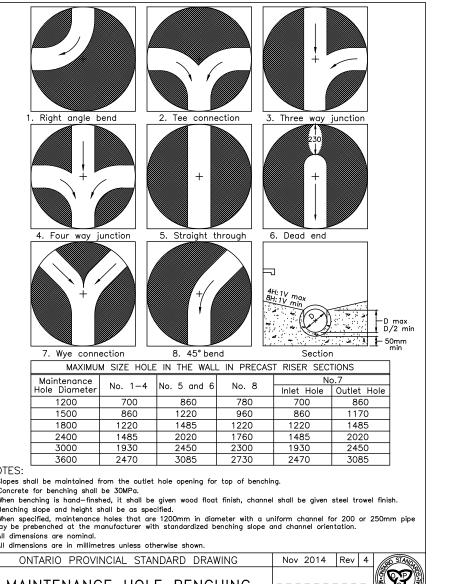
Round or square frame with grate or cover

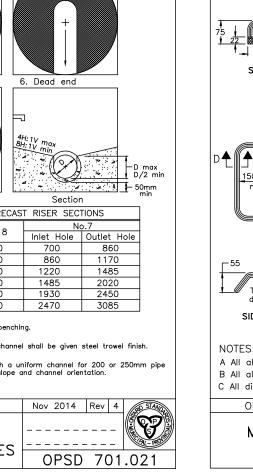
SECTION THROUGH

Reinforce each adjustment unit with a minimum of 1 wire with an end area of at least 15mm? Lap wire 150mm or butt weld.

Note 2, Typ

FLAT CAP





ALTERNATIVES

A PRECAST MONOLITHIC BASE

B CAST-IN-PLACE BASE

C TAPERED TRANSITION SLAB

D 1200mm PRECAST FLAT CAP

ø1500 —

E 1500mm PRECAST FLAT CAP

OPSD 701.011

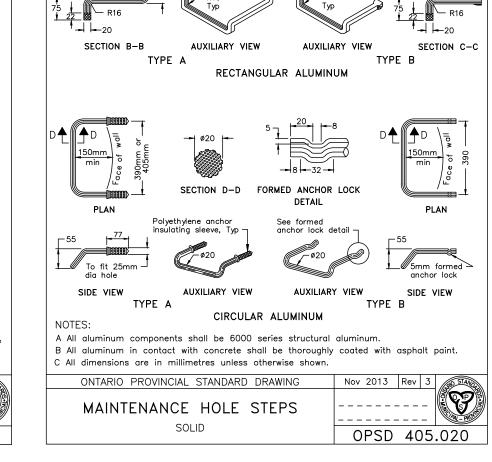
Riser section - \$1200 -

Riser section Ø1500

Riser section — Ø1200 —

Flat cap

Monolithic base -





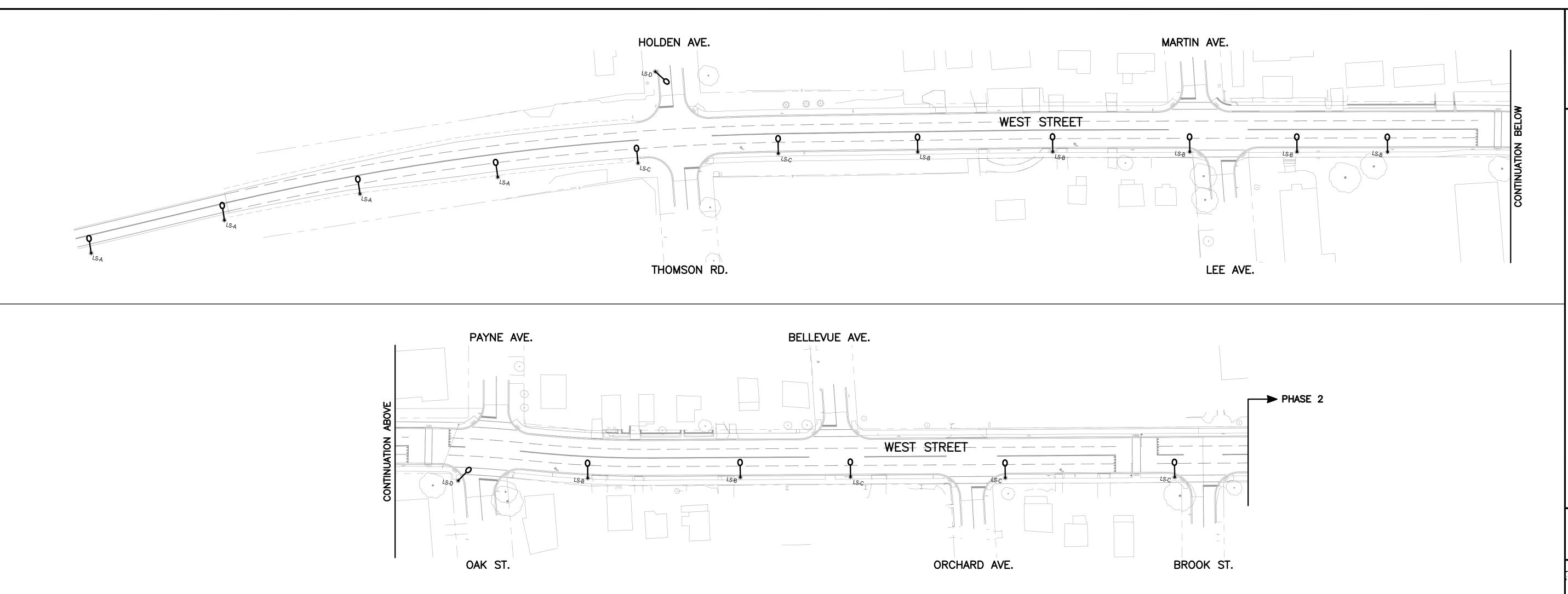
OPSD 220.010

Nov 2007 Rev 0

Existing fence or right-of-way

└─ Original ground line

NOTES:



PHOTOMETRIC RESULTS - ROADWAYS

ROAD SECTION			CALCULATED VALUES			TAC / IES GUIDELINES		
FROM	то	CALCULATION TYPE	MEAN [LUX]	UNIFORMITY RATIO (MEAN/MIN)	UNIFORMITY RATIO (MAX/MIN)	MEAN [LUX]	UNIFORMITY RATIO (MEAN/MIN)	UNIFORMITY RATIO (MAX/MIN)
APPROACH ²	HOLDEN AVE 2	HORIZONTAL ILLUMINANCE	6.5	2.4	7.6	> 4.0	< 6.0	< 10.0
HOLDEN AVE	MARTIN AVE	HORIZONTAL ILLUMINANCE	8.9	2.0	5.2		< 3.5	< 6.0
MARTIN AVE	PAYNE AVE	HORIZONTAL ILLUMINANCE	9.0	8.4 ³	19.2 ³			
PAYNE AVE	BELLEVIEW AVE	HORIZONTAL ILLUMINANCE	8.7	2.3	6.1	> 8.0		
BELLEVIEW AVE	ORCHARD AVE	HORIZONTAL ILLUMINANCE	9.1	2.5	5.7			
ORCHARD AVE	BROOK ST	HORIZONTAL ILLUMINANCE	8.1	3.1	8.1 ³			

NOTES:

1. ROADWAY CLASSIFICATION FOR WEST STREET: ARTERIAL ROAD

2. ROAD SECTION IS CONSIDERED A TRANSITION AREA BETWEEN A NON-LIGHTED AND FULLY-LIGHTED SECTION OF WEST STREET.

3. CALCULATED VALUE DOES NOT MEET TAC / IES GUIDELINES DUE TO THE LOCATION OF THE EXISTING UTILITY POLES WHERE FIXTURES CAN BE MOUNTED.

PHOTOMETRIC RESULTS - INTERSECTIONS

INTERS	CALCULATI	ED VALUES	TAC / IES GUIDELINES		
WEST STREET CROSSROAD	CALCULATION TYPE	MEAN [LUX]	UNIFORMITY RATIO (MEAN/MIN)	MEAN [LUX]	UNIFORMITY RATIO (MEAN/MIN)
HOLDEN AVE	HORIZONTAL ILLUMINANCE	9.9	7.1 ²		
MARTIN AVE / LEE AVE	HORIZONTAL ILLUMINANCE	9.5	6.8 ²		
PAYNE AVE / OAK ST	HORIZONTAL ILLUMINANCE	8.7 ²	4.0 ²	> 0.0	< 3.0
BELLEVIEW AVE	HORIZONTAL ILLUMINANCE	12.5	5.0 ²	> 9.0	3.0
ORCHARD AVE	HORIZONTAL ILLUMINANCE	9.5	4.4 ²		
BROOK ST	HORIZONTAL ILLUMINANCE	10.2	3.0		

NOTES:

1. ROADWAY CLASSIFICATION OF WEST STREET: ARTERIAL ROAD

2. CALCULATED VALUE DOES NOT MEET TAC / IES GUIDELINES DUE TO THE LOCATION OF THE EXISTING UTILITY POLES WHERE FIXTURES CAN BE MOUNTED.

LUMINAIRE SCHEDULE

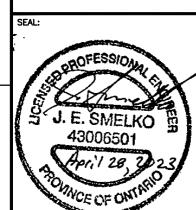
				LUMINAIRE MOUNTING ARM					
	LS-'TYPE'	QTY	MANUFACTURER, MODEL & CATALOG NUMBER	LIGHT DISTRIBUTION	VOLTS / WATTS	Q-SETTING / LUMENS	NOTES	TYPE	DIMENSIONS
NEW FIXTURES TO BE INSTALLED	LS-A	4	CREE XSP SERIES - MEDIUM (XSPMD): XSPMD-D-HT-2ME-12L-40K7-UL-SV-N-Q1		120VAC / 48W	Q1 / 6,900		ALUMINUM TAPERED ELLIPTICAL BRACKET PER OPSD 2420.010	3.0m X 1.2m
	LS-B	7	CREE XSP SERIES - MEDIUM (XSPMD): XSPMD-D-HT-2ME-12L-40K7-UL-SV-N-Q5	TYPE II MEDIUM	120VAC / 74W	09 / 9 775	4000K COLOUR TEMP, PRE—CONFIGURED FIELD ADJUSTABLE OUTPUT (SEE Q—SETTING), SILVER COLOUR, FACTORY INSTALLED WATTAGE LABEL & 7—PIN PHOTOCELL RECEPTACLE		
EXISTING FIXTURES TO BE REPLACED	LS-C	5	CREE XSP SERIES - MEDIUM (XSPMD): XSPMD-D-HT-2ME-12L-40K7-UL-SV-N-Q9		120VAC / 95W	Q9 / 11,800	PROVIDE EXTENDED LIFE PHOTOCELL FOR EACH LUMINAIRE: DARK-TO-LIGHT (DTL) DLL127-1.5-CUL, OR APPROVED EQUIVALENT.	EXISTING MOUNTING BRACKET TO BE REUSED	N/A
	LS-D	2	CREE XSP SERIES - MEDIUM (XSPMD): XSPMD-D-HT-4ME-12L-40K7-UL-SV-N-Q9	TYPE IV MEDIUM	120VAC / 95W	Q9 / 11,800			

AREA OF WORK WEST STREET

LIGHTING SIMULATION NOTES:

PHOTOMETRIC SIMULATION IS A MATHEMATICAL MODEL OF A REAL LIFE SITUATION. THE CALCULATIONS ARE BASED ON THE DATA STATED, AND ACTUAL VALUES MAY VARY FROM THE RESULTS OF THIS SIMULATION DUE TO SITE

- LUMINAIRE DETAILS:
 2.1. TYPE: CREE XSPMD SERIES, VERSION 'D'. SEE
 LUMINAIRE SCHEDULE ON THIS DRAWING FOR ADDITIONAL DETAILS.
- 2.2. LUMINAIRE MOUNTING HEIGHT: 9.3m, UNLESS OTHERWISE SHOWN ON DRAWINGS.
- 3. LIGHTING SIMULATION ASSUMPTIONS:
 3.1. NO CLEANING INTERVALS
 3.2. IMMEDIATE REPLACEMENT OF DEFECTIVE LUMINAIRES
 3.3. AVERAGE LUMINAIRE LIFE OF 10 YEAR 3.4. LIGHT LOSS FACTORS (LLF):
 LUMINAIRE DIRT DEPRECIATION:
 - LAMP LUMEN DEPRECIATION:
- SEE DWGS EV.1 THROUGH EV.4 FOR PHOTOMETRIC VISUALIZATIONS.



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2	AT	04/28/23 03/02/23	ISSUED FOR CONSTRUCTION
1	ΑT	03/02/23	ISSUED FOR TENDER
NO.	BY	DATE	ISSUE / REVISION





RECONSTRUCTION OF WEST STREET - PHASE HOLDEN AVENUE TO BROOK STREET CLIENT REF: EIS-ENG-23-38

> SITE PLAN & PHOTOMETRIC RESULTS TABLES

PROJECT NO:	DATE:
22-2016	JANUARY 2023
SCALE:	
1:750	IF THIS BAR IS NOT 25mm
DESIGNED BY:	LONG, ADJUST
TS	THE PLOTTING SCALE.
DRAWN BY:	
TS	
CHECKED BY:	
TC	25mm

EP.1

23 of 23