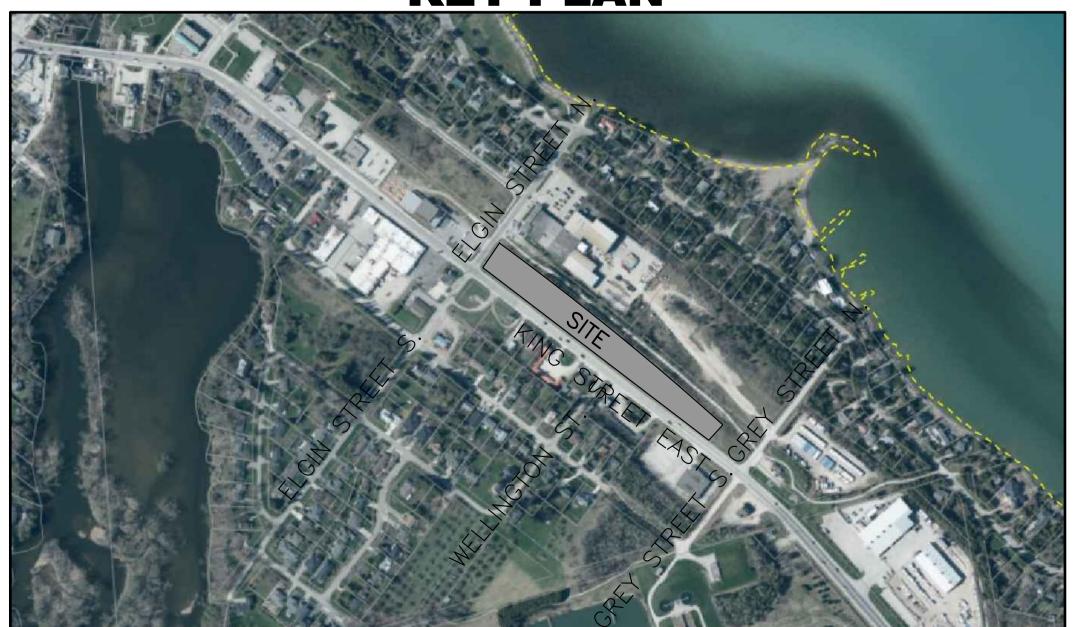
150 & 160 KING STREET EAST, THORNBURY **2706499 ONTARIO INC.**

TOWN OF THE BLUE MOUNTAINS

Dwg.No.	Description							
122030-IN-1	KEY PLAN/DRAWING INDEX							
122030-DP-1	PRE-DEVELOPMENT DRAINAGE PLAN							
122030-DP-2	POST DEVELOPMENT DRAINAGE PLAN							
122030-SS-1	SITE SERVICING PLAN							
122030-SS-2	SITE SERVICING PLAN							
122030-SG-1	SITE GRADING PLAN							
122030-SG-2	SITE GRADING PLAN							
122030-SC-1	SILTATION AND EROSION CONTROL PLAN							
122030-STM-1	STORM AREA PLAN							
122030-SAN-1	SANITARY AREA PLAN							
122030-TT-1	TRUCK TURNING PLAN							
122030-DE-1	DETAILS AND NOTES							

KEY PLAN





LEGEND

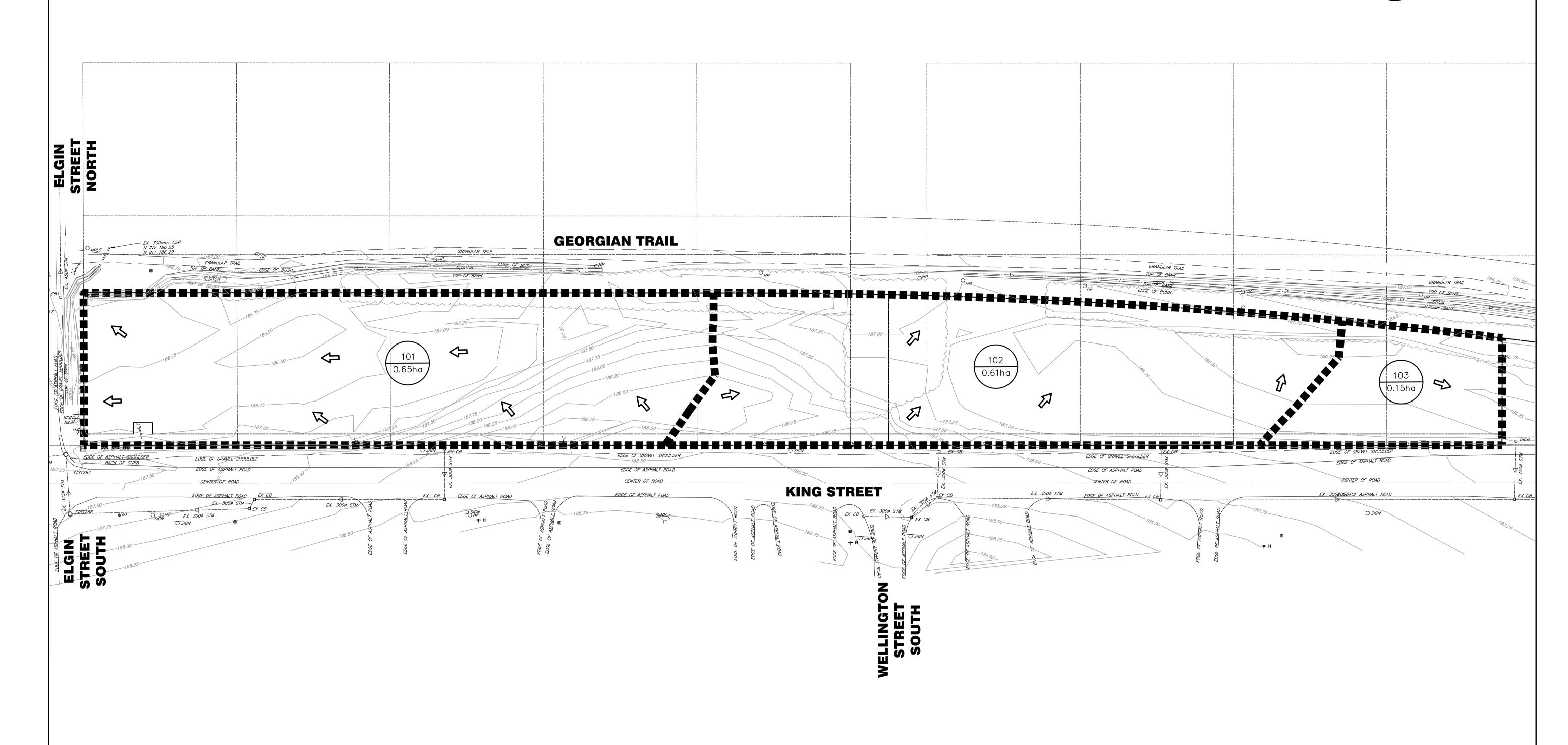
```
2000 SAN EXISTING SANITARY MAIN/ SIZE /DIRECTION OF FLOW
_______ EXISTING STORM SEWER/ SIZE/
DIRECTION OF FLOW
1500 WATERMAIN EXISTING WATERMAIN/ SIZE
---- EXISTING EASEMENT LINE
----- EXISTING EDGE OF ASPHALT
———— EXISTING EDGE OF SHOULDER
\times \times \times EXISTING FENCE LINE
EXISTING EDGE OF BUSH
     ♠ TBM EXISTING TEMPORARY BENCHMARK

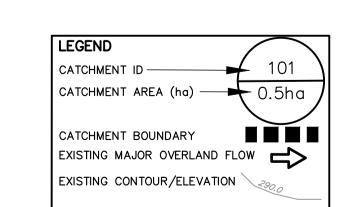
    BH9 EXISTING BOREHOLE/ NUMBER

SAN MH17 EXISTING SANITARY MANHOLE/ NUMBER
 ===== EXISTING CULVERT
         EXISTING WATERMAIN PLUG AND THRUST BLOCK
  CABLE PEDESTAL EXISTING CABLE PEDESTAL
    O BELL MANHOLE
   EXISTING BELL PEDISTAL
            EXISTING HYDRO POLE
            EXISTING HYDRO GUY POLE
            EXISTING HYDRO GUY WIRE
           EXISTING GAS MARKER
     -

■ SIB EXISTING STANDARD IRON BAR
      SIGN EXISTING TRAFFIC SIGN
            EXISTING DECIDUOUS TREE
200¢ SAN PROPOSED SANITARY SEWER/ SIZE/
            DIRECTION OF FLOW
4500 STM PROPOSED STORM SEWER/ SIZE/
DIRECTION OF FLOW
1500 WATERMAIN PROPOSED WATERMAIN/SIZE
------ PROPOSED CENTERLINE
- - PROPOSED RETAINING WALL WITH ACOUSTIC BARRIER
    SAN PROPOSED SANITARY MANHOLE/ NUMBER
           PROPOSED SANITARY CLEANOUT
    ■ DICB PROPOSED DITCH INLET CATCHBASIN
            PROPOSED STORM MANHOLE/ NUMBER
    OCBMH12 PROPOSED CATCHBASIN MANHOLE/ NUMBER
    ODCBMH22 PROPOSED DOUBLE CATCHBASIN MANHOLE/ NUMBER
          PROPOSED CATCHBASIN
    DCB PROPOSED DOUBLE CATCHBASIN
            PROPOSED HEADWALL
===== PROPOSED CULVERT
            PROPOSED RIPRAP
   → HYD
& WV PROPOSED HYDRANT & WATER VALVE
           PROPOSED WATER VALVE
            PROPOSED WATER VALVE CHAMBER
    PRVC PROPOSED PRESSURE REDUCING WATER VALVE CHAMBER
   PROPOSED AIR RELIEF VALVE CHAMBER
            PROPOSED BLOWOFF
            PROPOSED WATERMAIN PLUG
            PROPOSED PAD MOUNT HYDRO TRANSFORMER
            PROPOSED BELL GRADE LEVEL BOX
            PROPOSED BELL PEDESTAL
            PROPOSED CABLE PEDESTAL
            PROPOSED BOLLARD LUMINAIRE
            PROPOSED LIGHT STANDARD
            PROPOSED CHARGING STATION
            PROPOSED CURB CUT
            PROPOSED TRAFFIC SIGN
            VERTICAL POINT OF INFLECTION
            PROPOSED COMMUNITY MAILBOX
            ROCK CHECK DAM
            STRAW BALE CHECK DAM
            TACTILE PLATE (OPSD 310.039)
```







DP-1

DISCLAIMER AND COPYRIGHT

Drawing Name: 122030—DP01.dwg, Plotted: May 30, 2022

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

TATHAM ENGINEERING LIMITED CLAIMS COPYRIGHT TO THIS DRAWING WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE ENGINEER WITHOUT THE EXPRESS CONSENT OF TATHAM ENGINEERING LIMITED.

BENCHMARKS TBM1 - ELEVATION 186.52

ELEVATIONS SHOWN HEREON ARE GEODETIC AND REFER TO THE TOP OF IRON BAR, NORTH WEST CORNER OF LOT. TBM2 — ELEVATION 185.37 ELEVATIONS SHOWN HEREON ARE GEODETIC AND REFER TO THE TOP OF IRON BAR, NORTH EAST CORNER OF LOT.

ELEVATIONS SHOWN HEREON ARE GEODETIC AND REFER TO THE TOP OF IRON BAR, SOUTH WEST CORNER OF WELLINGTON STREET ROW.

NOTES LEGAL SURVEY INFORMATION AND LOT DIMENSIONS SHOWN ON THIS PLAN ARE TAKEN FROM A SURVEY PLAN PREPARED BY JD BARNES LTD DATED FEBRUARY 25, 2022, WHICH MAY NOT BE FINAL AND ARE NOT GUARANTEED. THE FINAL REGISTERED PLAN SHALL BE REFERRED TO FOR CONFIRMATION OF THE DATA. TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN IS FROM A SURVEY PREPARED BY JOETOPO SURVEYS AND CADD INC, DATED MARCH 28, 2020.

REVISION DESCRIPTION	DATE	ENGINEER STAMP

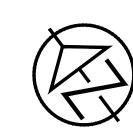
,	PROFESSIONAL
13	22 05 30
15	R & SHIPSON E
150	
13	S. S
/	OVINCE OF ONTRE

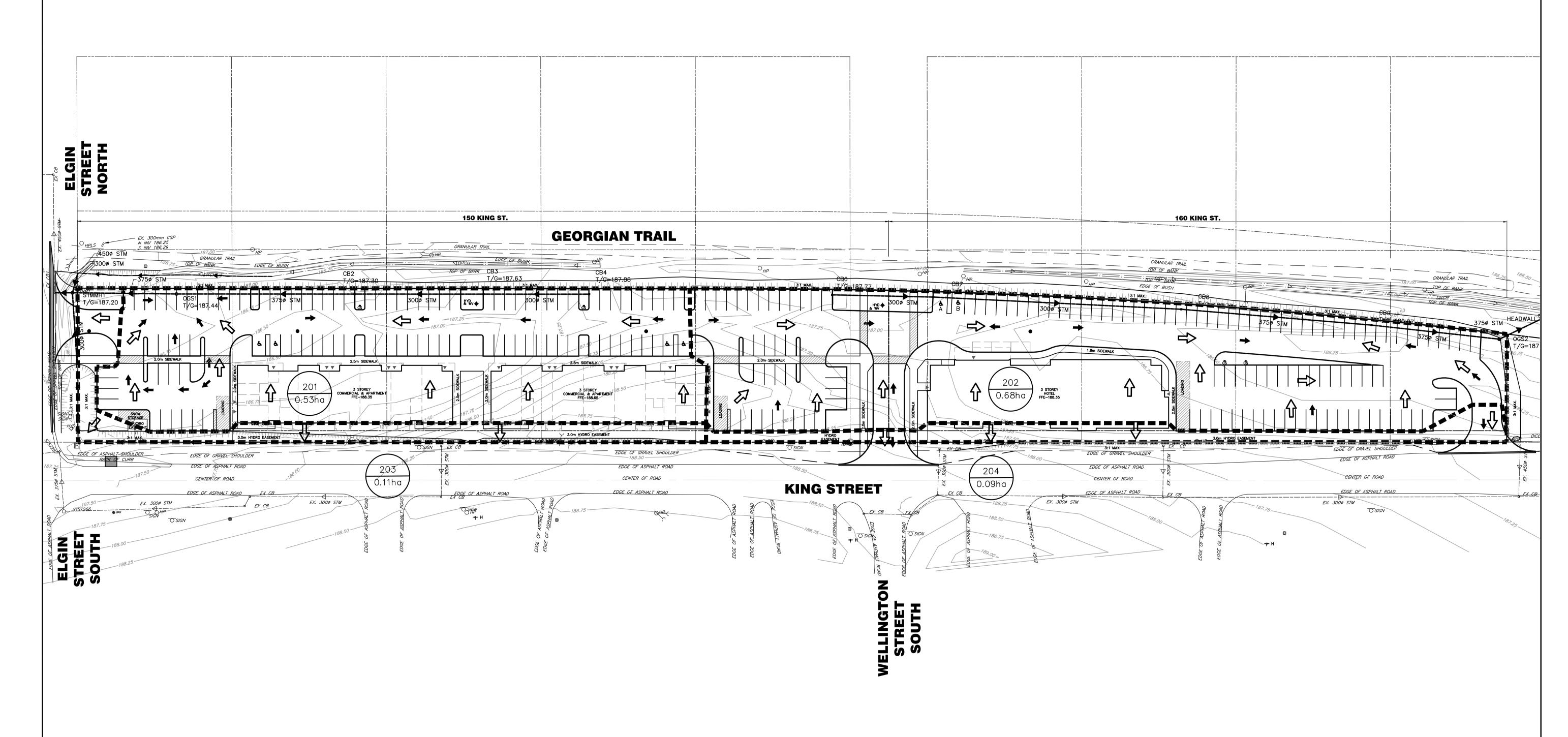
150/160 KING STREET THORNBURY TOWN OF THE BLUE MOUNTAINS

PRE-DEVELOPMENT DRAINAGE PLAN

	Т	-	4	٦	_	_	+	A	1	٨	Λ	
	E	N	G	I	N	E	E	R	I	N	G	

FILE: 122030 DESIGN: RD DRAWN: RD DATE: APR 2022 CHECK: RS SCALE: 1:500





CATCHMENT ID
CATCHMENT AREA (ha)

CATCHMENT BOUNDARY
PROPOSED MAJOR OVERLAND FLOW
PROPOSED MINOR OVERLAND FLOW
EXISTING CONTOUR/ELEVATION

DP-2

DISCLAIMER AND COPYRIGHT

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

TATHAM ENGINEERING LIMITED CLAIMS COPYRIGHT TO THIS DRAWING WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE ENGINEER WITHOUT THE EXPRESS CONSENT OF TATHAM ENGINEERING LIMITED.

Drawing Name: 122030—DP02.dwg, Plotted: May 30, 2022

BENCHMARKS

TBM1 — ELEVATION 186.52
ELEVATIONS SHOWN HEREON ARE GEODETIC AND REFER
TO THE TOP OF IRON BAR, NORTH WEST CORNER OF LOT.

TBM2 — ELEVATION 185.37
ELEVATIONS SHOWN HEREON ARE GEODETIC AND REFER
TO THE TOP OF IRON BAR, NORTH EAST CORNER OF LOT.

TBM3 — ELEVATION 188.63
ELEVATIONS SHOWN HEREON ARE GEODETIC AND REFER
TO THE TOP OF IRON BAR, SOUTH WEST CORNER OF
WELLINGTON STREET ROW.

NOTES	ľ
LEGAL SURVEY INFORMATION AND LOT DIMENSIONS SHOWN ON THIS PLAN ARE TAKEN FROM A SURVEY PLAN PREPARED BY JD BARNES LTD DATED FEBRUARY	
25, 2022, WHICH MAY NOT BE FINAL AND ARE NOT GUARANTEED. THE FINAL REGISTERED PLAN SHALL BE	
REFERRED TO FOR CONFIRMATION OF THE DATA. TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN IS	
FROM A SURVEY PREPARED BY JOETOPO SURVEYS AND CADD INC, DATED MARCH 28, 2020.	
i i	ı

REVISION DESCRIPTION	DATE	ENGINEER STAMP

,	PROFESSIONAL
135%	22 05 30
(4)	R. C. SHIPSON E
1	70/
1	OVINCE OF ONTRE

150/160 KING STREET
THORNBURY
TOWN OF THE BLUE MOUNTAINS

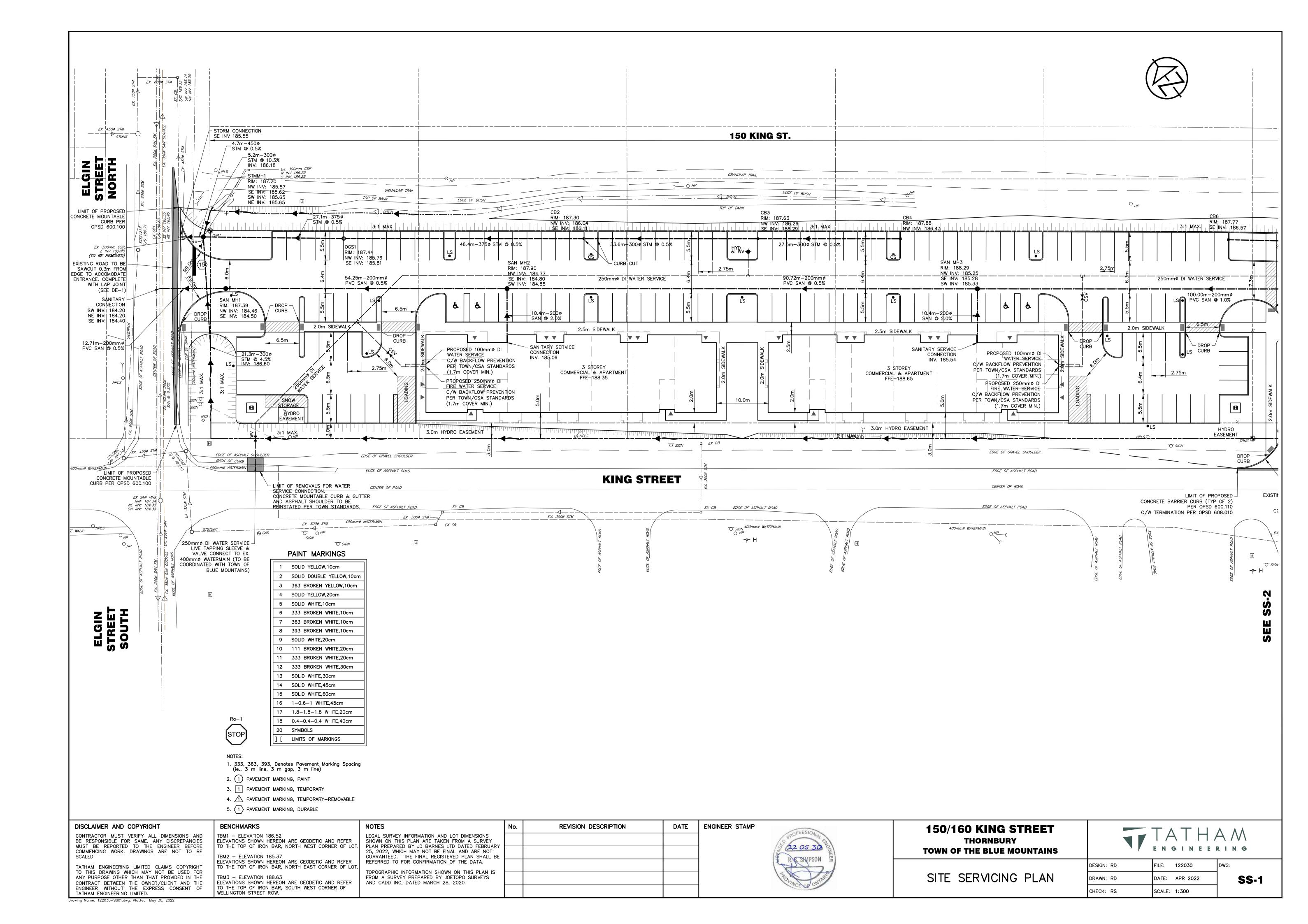
POST-DEVELOPMENT DRAINAGE PLAN

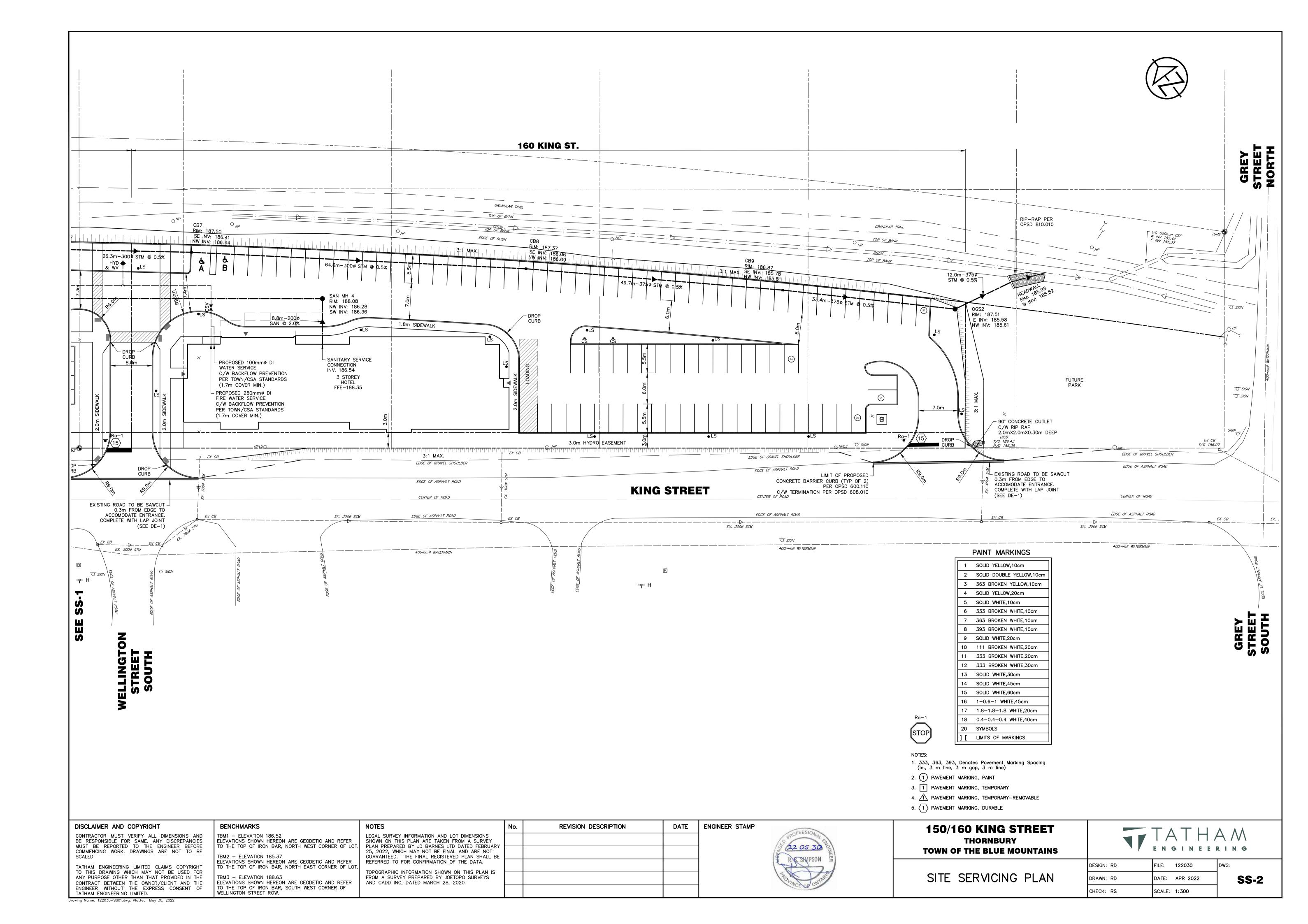
17	Τ	- /	4	٦	_	H	-	A	1	٨	\wedge	
	E	N	G	1	N	E	E	R	ı	N	G	

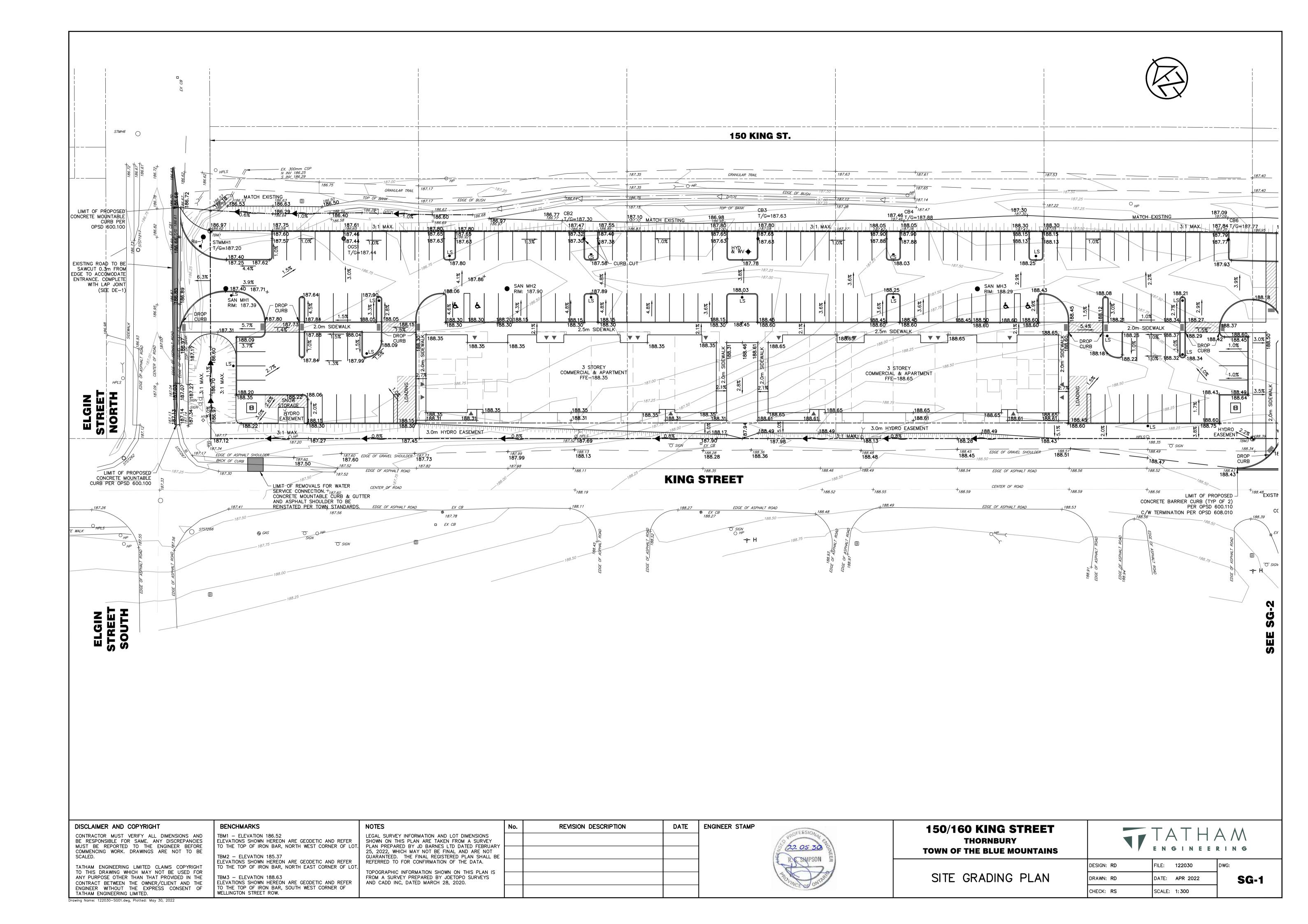
 DESIGN: RD
 FILE: 122030
 D

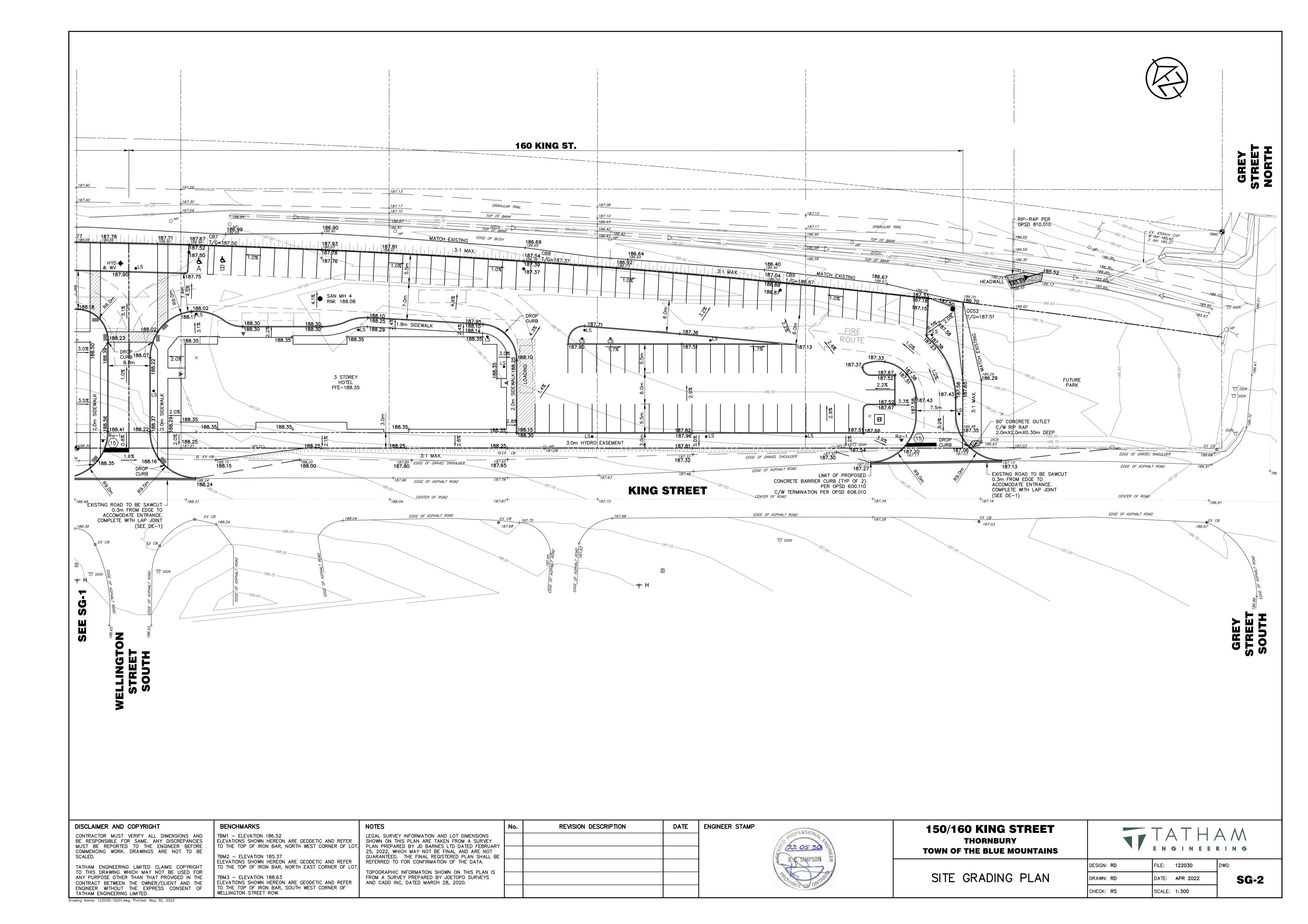
 DRAWN: RD
 DATE: APR 2022

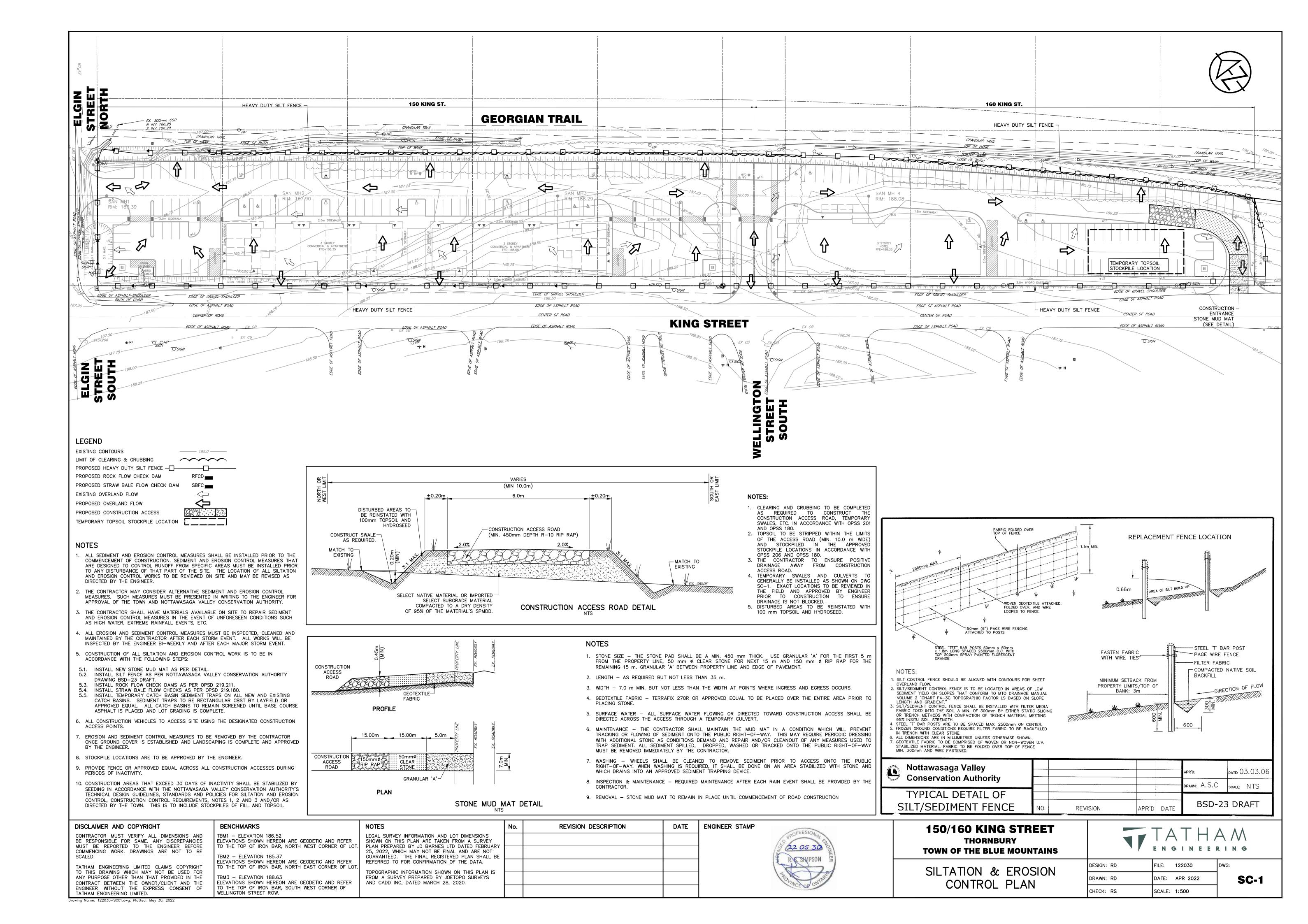
 CHECK: RS
 SCALE: 1:500

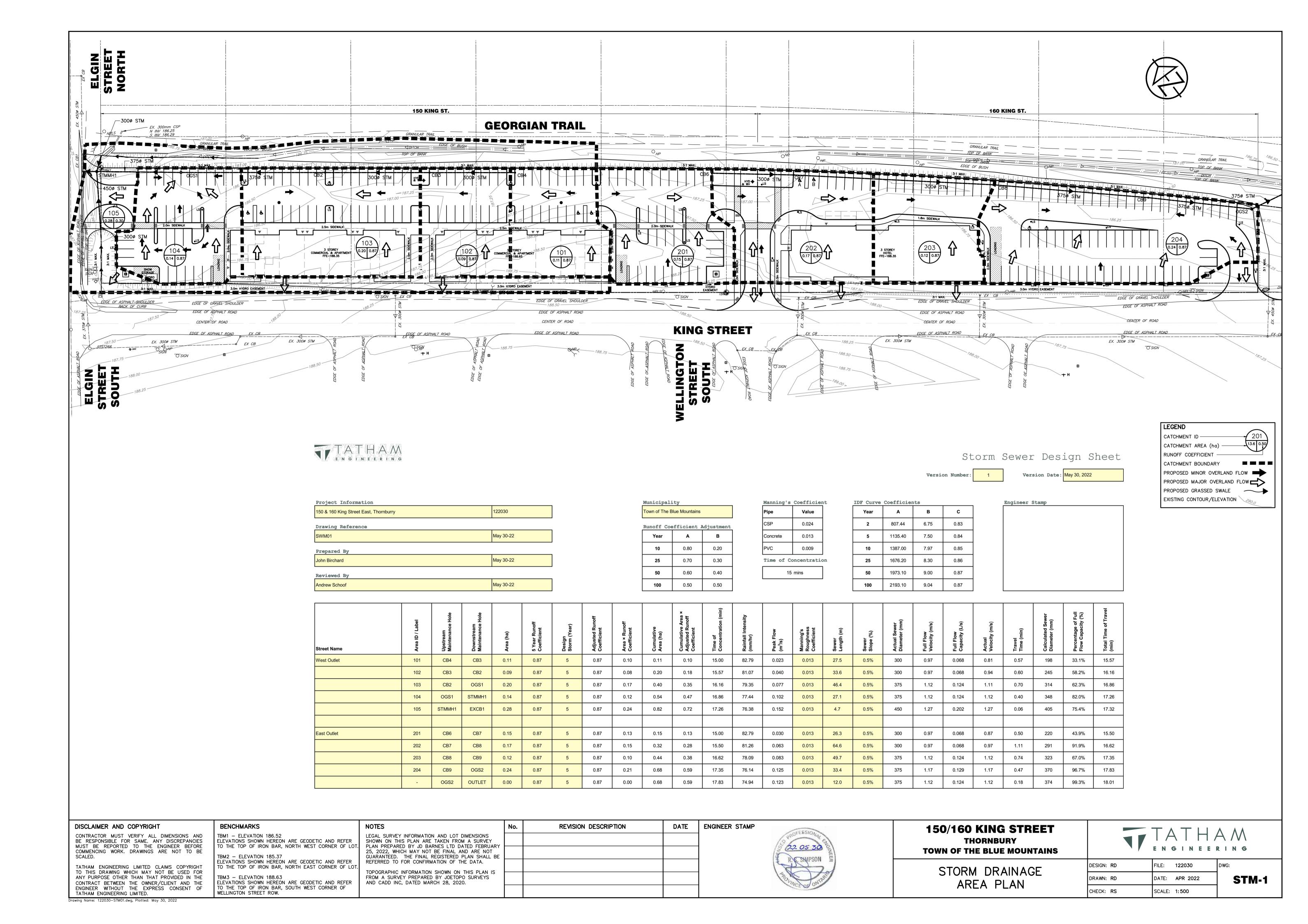


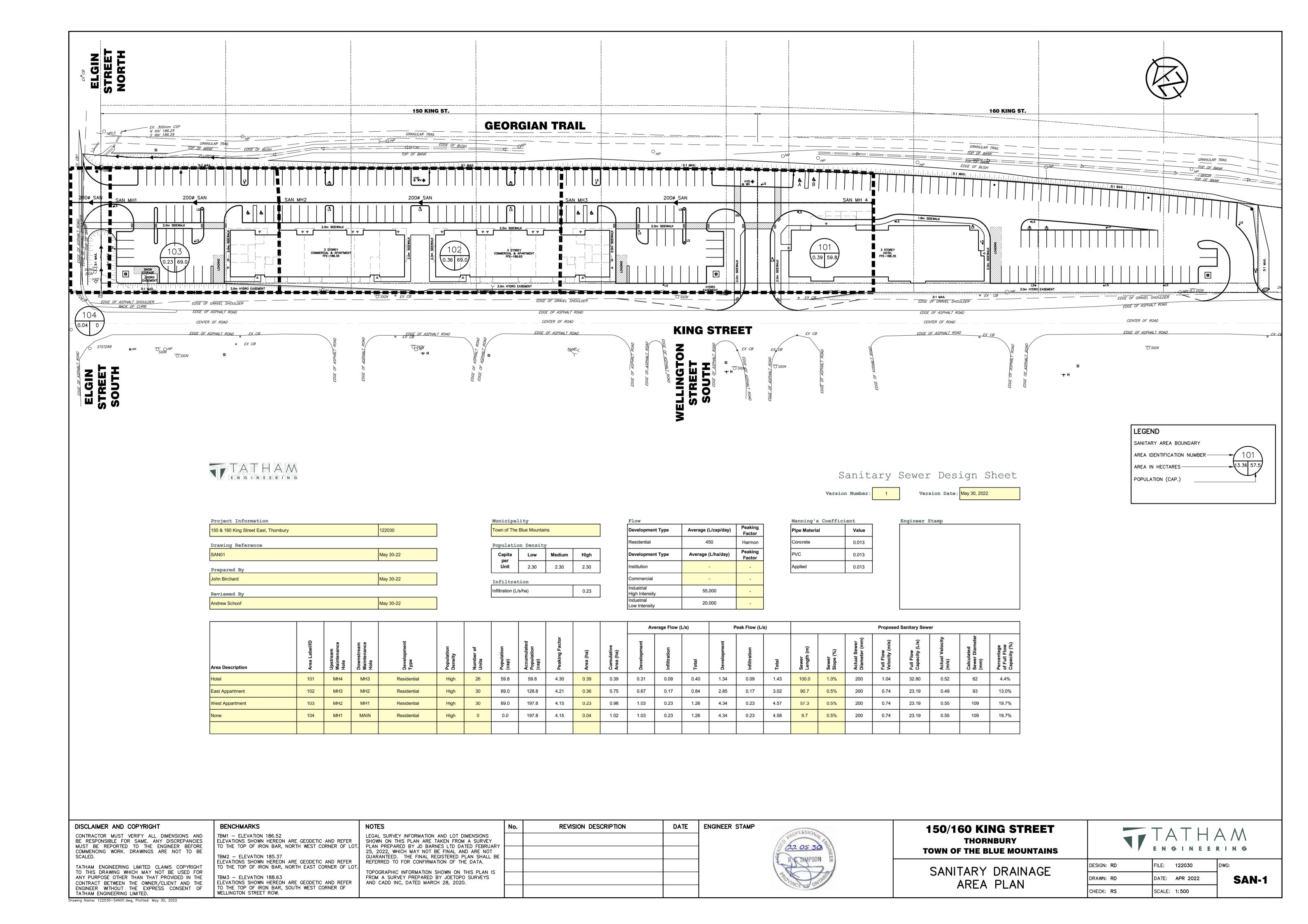


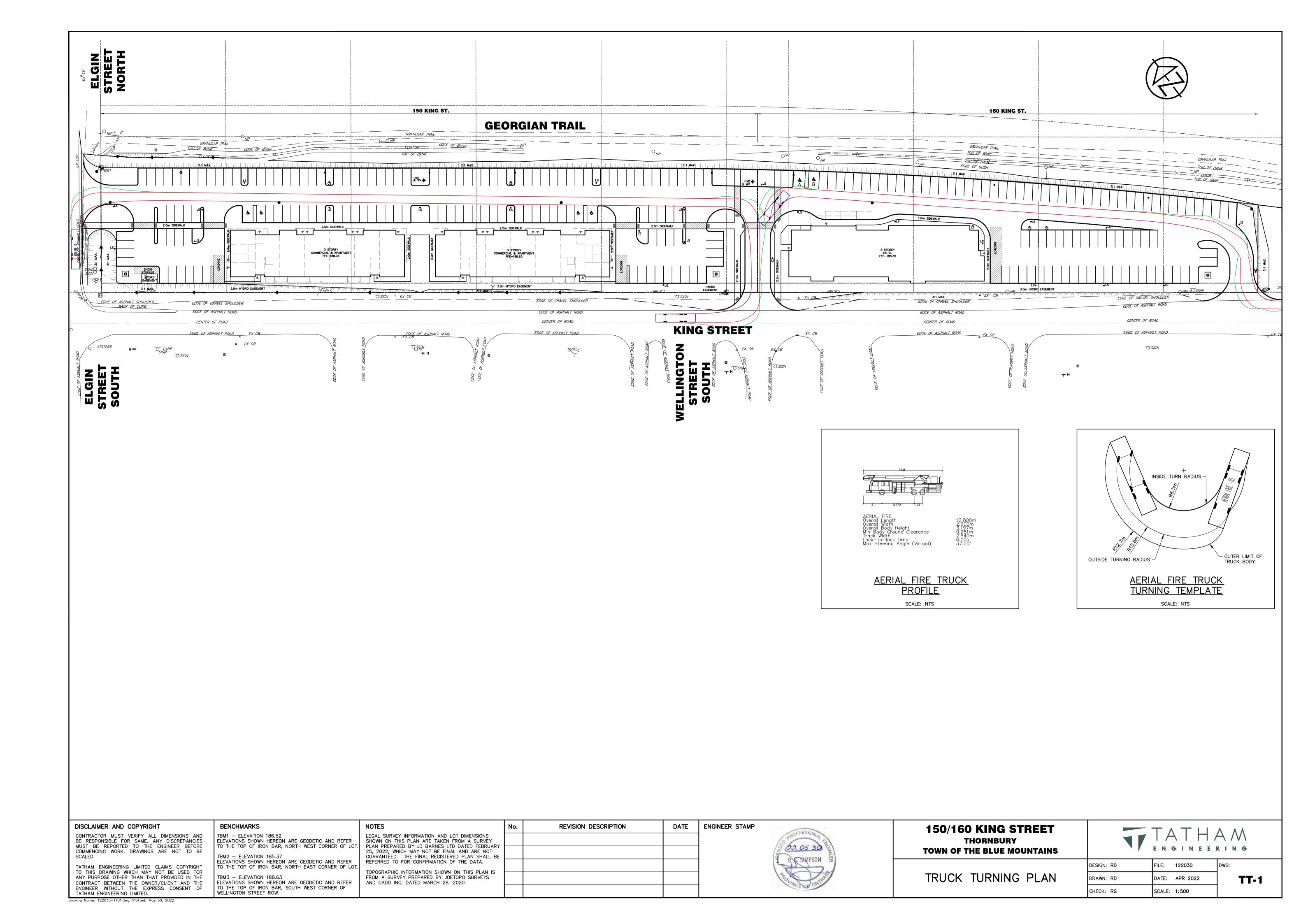


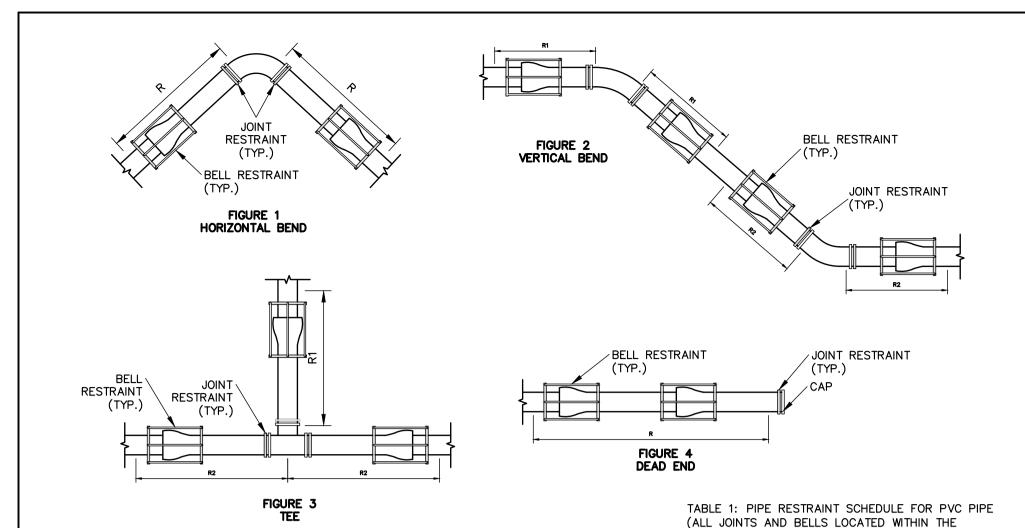












CHARACTERISTICS USED TO CALCULATE RESTRAINT LENGTH:

PIPE MATERIAL: ML (SILTS, VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS) SAFETY FACTOR: TRENCH TYPE:

5 (PIPE BEDDED IN COMPACT GRANULAR MATERIAL) DEPTH OF BURY: 1.8m (6 ft)

TEST PRESSURE: 1035 kPa (150 p.s.i.)

PROGRAM: SIGMA IRON - RESTRAINT LENGTH CALCULATOR 1.0

TABLE 2: PIPE RESTRAINT SCHEDULE FOR PVC TEES (ALL JOINTS AND BELLS LOCATED WITHIN THE CALCULATED RESTRAINT LENGTH SHALL BE RESTRAINED WITH APPROVED BELL AND JOINT RESTRAINTS)

IEES						
NOMINAL PIPE DIA.	BRANCH PIPE DIA.	RESTRAINT 1 LENGTH (m)	RESTRAINT 2 LENGTH (m)			
150	150	4.6	3.0			
200	150	2.4	3.0			
150	200	9.8	3.0			
200	200	7.9	3.0			
300	150	0.3	3.0			
300	200	4.0	3.0			
300	300	14.3	3.0			

RESTRAINT | RESTRAINT 1 | RESTRAINT 2 | RESTRAINT DIA. ANGLE LENGTH (m) LENGTH (m) LENGTH (m) LENGTH (m) 90. 3.7 45° 1.6 4.9 1.5 150ø 22.5° 2.5 0.9 0.9 1.3 0.6 0.6 90. 4.6 45° 2.2 6.1 2.2 200ø 22.5° 3.1 1.0 0.9 11° 0.6 1.6 90° 6.4

HORIZONTAL

2.8

1.5

0.9

45°

22.5°

300ø

CALCULATED RESTRAINT LENGTH SHALL BE RESTRAINED

VERTICAL BEND

DEAD END

(NO BEND ANGLE)

WITH APPROVED BELL AND JOINT RESTRAINTS)

1. CONTRACTOR TO REPORT IN WRITING TO THE ENGINEER ANY CHANGES TO SOIL OR SITE CHARACTERISTIC THAT MAY ALTER THE PIPE RESTRAINT CALCULATION.

8.9

4.3

3.4

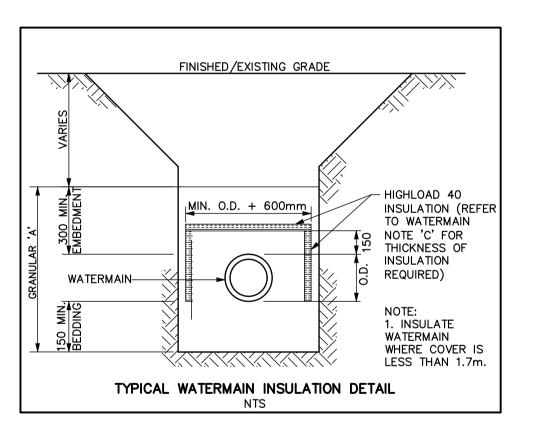
2.8

1.5

0.9

2. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THRUST RESTRAINT REQUIREMENTS WITH THE PIPE AND RESTRAINT

MANUFACTURERS 3. VALVES TO BE RESTRAINED AS IF THEY ARE DEAD ENDS.



-SAWCUT TO

PROVIDE SMOOTH

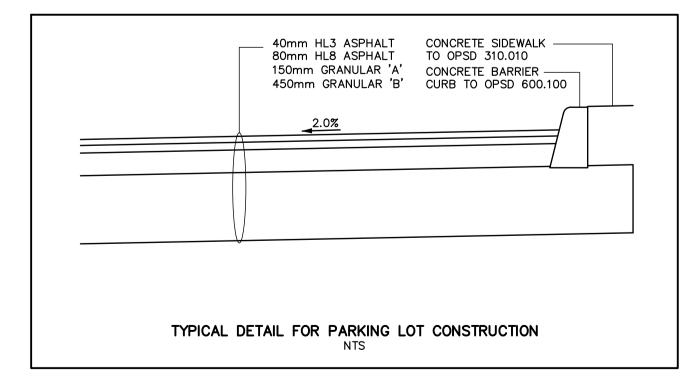
- PR. TOP COURSE

PR. GRANULAR 'E

TYPICAL DETAIL FOR LAP JOINT

- PR. BINDER COURSE

VERTICAL FACE



BENCHMARKS

- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH TOWN OF THE BLUE MOUNTAINS STANDARDS AND OPS STANDARDS. WHERE CONFLICT OCCURS, TOWN STANDARDS TO GOVERN. B. THE CONTRACTOR MUST OBTAIN AN ENCROACHMENT PERMIT FROM THE COUNTY OF GREY FOR ALL
- WORKS WITHIN THE COUNTY ROAD ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. C. THE OWNER'S ENGINEER SHALL PROVIDE BENCHMARK ELEVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DETAILED LAYOUT OF THE WORK.
- D. ALL PROPERTY BARS TO BE PRESERVED AND REPLACED BY AN OLS AT CONTRACTOR'S EXPENSE IF REMOVED/DISTURBED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE SUPPLY OF TEMPORARY WATER AND POWER. DEWATERING TO BE CARRIED OUT IN ACCORDANCE WITH OPSS.MUNI 517 AND OPSS.MUNI 518. MAINTAIN ALL TRENCHES IN A DRY CONDITION. A MOECC PERMIT TO TAKE WATER (PTTW) HAS BEEN OBTAINED FOR THIS PROJECT. THE CONTRACTOR SHALL ENSURE THAT ALL DEWATERING WORKS ARE IN
- ACCORDANCE WITH THE PERMIT. G. ALL ENGINE DRIVEN PUMPS TO BE ADEQUATELY SILENCED, SUITABLE FOR OPERATION IN A RESIDENTIAL
- GENERAL INSTALLATION AND TESTING OF SEWERS, WATERMAIN AND APPURTENANCES TO BE IN ACCORDANCE WITH OPSS 407, 408, OPSS.MUNI 409, OPSS.MUNI 410, OPSS.MUNI 421 AND OPSS.MUNI 441, AND ALL SPECIFICATIONS REFERENCED WITHIN THESE SECTIONS.
- ALL MAINTENANCE HOLES ARE 1200 mm DIAMETER, UNLESS OTHERWISE SPECIFIED.
- ALL STRUCTURES TO BE INSTALLED WITH FROST STRAPS TO OPSD 701.100. K. PIPE SUPPORT AT ALL STRUCTURES TO OPSD 708.020.

BE STAKED WHERE NECESSARY TO AVOID MOVEMENT.

- ALL MAINTENANCE HOLE AND CATCH BASIN FRAME AND GRATES TO BE SET TO FINAL COURSE ASPHALT ELEVATION IN ACCORDANCE WITH OPSD 704.010, USING CONCRETE ADJUSTMENT UNITS. MAXIMUM COMBINED HEIGHT OF ADJUSTMENT UNITS SHALL BE 450 mm.
- TRENCH BACKFILL TO BE SELECT NATIVE MATERIAL OR IMPORTED SELECT SUBGRADE MATERIAL TO OPSS.MUNI 1010. BACKFILL TO BE PLACED IN MAXIMUM 200 mm THICK LIFTS (OR AS OTHERWISE DIRECTED BY THE GEOTECHNICAL CONSULTANT) AND COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
- N. PIPE EMBEDMENT TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S SPMDD. BACKFILL AND EMBEDMENT TO OPSD 802.010 (FLEXIBLE PIPE), GRANULAR 'A' EMBEDMENT OR OPSD 802.031 (RIGID PIPE) CLASS 'B', GRANULAR 'A' BEDDING, GRANULAR 'B' COVER (MAX. AGGREGATE SIZE 25 mm). MINIMUM BEDDING DEPTH 150 mm, MINIMUM COVER DEPTH 300 mm ON ALL PIPES. WHERE EXCESSIVELY WET OR POOR SUBGRADE IS ENCOUNTERED AT THE INVERT LEVEL, IT MAY BE NECESSARY TO INCREASE THE BEDDING THICKNESS.
- O. CLEAR STONE COMPLETELY WRAPPED IN FILTER FABRIC MAY BE SUBSTITUTED FOR EMBEDMENT MATERIAL IF APPROVED BY THE ENGINEER.
- DISTURBED AREAS TO BE REINSTATED TO PREVIOUS CONDITION OR BETTER. Q. REINSTATEMENT OF ALL DISTURBED BOULEVARDS AND DITCHES TO INCLUDE REGRADING, PLACEMENT OF150mm TOPSOIL AND SEED/SOD IN ACCORDANCE WITH OPSS.MUNI 802 AND OPSS.MUNI 803. SOD TO
- R. THE CONTRACTOR IS RESPONSIBLE FOR THE PRESERVATION OF ALL EXISTING INFRASTRUCTURE/FACILITIES AS WELL AS NOTIFYING ALL UTILITY COMPANIES PRIOR TO COMMENCING WORK AND CO-ORDINATE CONSTRUCTION ACCORDINGLY.
- S. ALL ON-SITE MATERIAL SHALL BE PROPERLY STORED, SECURED, MONITORED AND COVERED AS REQUIRED. SPECIFICALLY, ALL PVC PIPE SHALL BE COVERED WHILE STORED ON-SITE.
- T. $\,$ ALL SIGNAGE TO COMPLY WITH THE TOWN OF THE BLUE MOUNTAINS SIGN BY-LAW HAZARDOUS TREE REMOVAL IS TO BE COMPLETED ALONG ANY WALKING PATHS OR TRAILS, LEANING OR BACKING ONTO INDIVIDUAL LOTS, OR ADJACENT TO ANY DITCHES OR ANY PROPOSED DITCHES TO A MINIMUM OF 6.0m FROM PROPERTY LINES, TRAILS, AND DITCHES. TREES THAT HAVE BEEN UNDERMINED
- V. THE MINIMUM COVER OVER ALL CULVERTS SHALL BE 0.3m IN ACCORDANCE WITH TOWN STANDARDS OR AS REQUIRED IN ACCORDANCE WITH MANUFACTURING GUIDELINES. THE GREATER SHALL GOVERN.

OR HAVE HAD ITS ROOTS EXPOSED DURING CONSTRUCTION MAY BECOME A HAZARDOUS TREE AND MUST

W. THE MINIMUM COVER OVER ALL UTILITIES SHALL BE 0.9m IN ACCORDANCE WITH TOWN STANDARDS OR AS REQUIRED BY UTILITY PROVIDER. THE GREATER SHALL GOVERN.

- A. SUBGRADE AND BOULEVARD MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MATERIAL'S SPMDD. SUBGRADE TO BE PROOF ROLLED WITH THE TOWN AND GEOTECHNICAL
- REPRESENTATIVE PRESENT PRIOR TO PLACING GRANULAR 'B'. B. LIMESTONE SCREENINGS, 150mm GRANULAR 'A' AND 400mm 'B' TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 100% OF THE MATERIAL'S RESPECTIVE SPMDD.
- C. ASPHALT TO BE 40mm HL3 SURFACE, 80mm HL8 BASE TO BE COMPACTED TO A MINIMUM OF 92% OF THE MARSHALL MAXIMUM RELATIVE DENSITY (M.R.D).
- D. ROADWAYS WITHIN MUNICIPAL RIGHT-OF-WAY TO BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE ROAD CROSS-SECTIONS.
- JOINTS WITH EXISTING ASPHALT TO BE SAW CUT STRAIGHT PRIOR TO PLACING NEW ASPHALT. WHERE EXISTING ASPHALT IS THICKER THAN 75 mm, A 300 mm WIDE LAP JOINT SHALL BE GROUND INTO EXISTING ASPHALT PRIOR TO THE PLACEMENT OF SURFACE COURSE ASPHALT (SEE DETAIL).
- F. ALL GRANULAR AND ASPHALT MATERIAL TO BE PLACED IN ACCORDANCE WITH OPSS.MUNI 310 AND OPSS.MUNI 314.
- STOP SIGNS AND STREET SIGNS TO BE SUPPLIED AND INSTALLED PER TOWN STANDARDS. TACK COAT TO BE APPLIED BETWEEN BASE AND TOP COURSE ASPHALT.
- CONCRETE BARRIER CURB TO OPSD 600.110, AND OPSS.MUNI 353. CURB DEPRESSIONS AT SIDEWALK CROSSINGS IN ACCORDANCE WITH OPSD 310.033. DEPRESSIONS AT DRIVEWAYS IN ACCORDANCE WITH OPSD 351.010, THE MAXIMUM WIDTH SHALL BE IN ACCORDANCE WITH TOWN BYLAW 2014-48.
- J. CONCRETE CURB TERMINATIONS TO BE CONSTRUCTED IN ACCORDANCE WITH OPSD 608.010. K. CONCRETE SIDEWALK TO OPSD 310.010, CONCRETE SIDEWALK RAMPS TO OPSD 310.033 AND OPSS.MUNI 351. SUBBASE TO CONSIST OF 150 mm DEPTH GRANULAR 'A'.
- UNPAINTED CAST IRON TACTILE WALKING SURFACE INDICATOR COMPONENTS TO BE IN ACCORDANCE WITH OPSD 310.039 M. 100 mm DIAMETER PIPE SUBDRAINS SHALL BE PROVIDED ON BOTH SIDES OF THE ROAD IN ACCORDANCE
- WITH OPSS.MUNI 405 AND OPSD 216.021. UNWRAPPED TRENCH, GRANULAR 'A' EMBEDMENT. N. SUBDRAINS TO BE PERFORATED, COMPLETE WITH FILTER SOCK, OTHER THAN THE 2.0 m SECTION IMMEDIATELY UPSTREAM OF ALL STRUCTURES WHICH SHALL BE NON-PERFORATED.
- O. All ROADWAY CULVERTS TO HAVE FROST TREATMENT AS PER OPSD 803.031 P. SURFACE ASPHALT SHALL BE COMPLETED IN A SINGLE MOBILIZATION FOR THE ENTIRE PHASE.

STORM SEWER

- A. MAINTENANCE HOLES AND CATCH BASIN MAINTENANCE HOLES TO OPSD 701.010, 701.011, 701.012. B. MAINTENANCE HOLES TO BE BENCHED TO OPSD 701.021. MINIMUM BENCHING WIDTH SHALL BE 230 mm.
- CATCH BASIN MAINTENANCE HOLES TO HAVE A SUMP PER OPSD 701.010. C. MAINTENANCE HOLE AND CATCH BASIN MAINTENANCE HOLE STEPS TO OPSD 405.010.
- D. MAINTENANCE HOLE FRAMES AND GRATES TO OPSD 401.010 TYPE 'A' CLOSED COVER. CATCH BASINS TO OPSD 705.010 AND 705.020. ROADSIDE CATCH BASINS TO HAVE A SUMP.
- DITCH INLET CATCH BASINS TO OPSD 705.030. DITCH INLET CATCH BASIN GRATES TO OPSD 403.010. 3:1 GRATE UNLESS OTHERWISE SPECIFIED.
- G. CATCH BASIN AND CATCH BASIN MAINTENANCE HOLE FRAMES AND GRATES TO OPSD 400.020. FRAME AND GRATES TO BE INSTALLED IN THE CURB LINE TO OPSS 610.010.
- H. CATCH BASIN LEADS 300 mm DIAMETER SINGLE AND 375 mm DIAMETER DOUBLE. CATCH BASIN CONNECTIONS TO OPSD 708.010 AND OPSD 708.030.
- ALL ROADWAY CULVERTS TO HAVE FROST TREATMENT AS PER OPSD 803.031.

SANITARY SEWER

- MAINTENANCE HOLES TO OPSD 701.010. MAINTENANCE HOLES TO BE BENCHED TO OPSD 701.021 ALL CONNECTIONS TO MAINTENANCE HOLES TO
- INCLUDE KOR-N-SEAL RUBBER BOOT PIPE CONNECTION. MAINTENANCE HOLE STEPS TO OPSD 405.010
 - WATER TIGHT FRAME AND GRATE TO OPSD 401.050 SHALL BE USED.

. MAINTENANCE HOLE FRAME AND COVER TO OPSD 401.010 TYPE 'A' CLOSED COVER. WHERE SPECIFIED,

- ALL WORK ON EXISTING WATERMAIN TO BE COORDINATED WITH THE TOWN. TOWN TO BE PROVIDED WITH
- PRELIMINARY SCHEDULE AND 48 HOURS NOTICE. B. FIRE SERVICE MAINS AND WATER SERVICE PIPES COMBINED WITH FIRE SERVICE MAINS ARE REQUIRED TO CONFORM WITH NFPA 24 "INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES" AS PER SENTENCE 7.2.11.1(1), DIVISION 'B' OF THE ONTARIO BUILDING CODE
- FIRE DEPARTMENT CÓNNECTIONS TO INCLUDE TWO 65 mm HOSE CONNECTIONS WITH FEMALE SWIVEL HOSE COUPLINGS MOUNTED NOT LESS THAN 300 mm AND NOT MORE THAN 900 mm ABOVE GROUND LEVEL IN ACCORDANCE WITH SECTION 3.2.5.16, DIVISION 'B' OF THE ONTARIO BUILDING CODE.
- D. ALL FIRE LINES AND SERVICE LINES TO INCLUDE THE INSTALLATION OF AN INDIVIDUAL PRV WITHIN EACH BUILDING. PRV TO BE SUPPLIED AND INSTALLED BY THE BUILDER DURING CONSTRUCTION.
- MINIMUM GROUND COVER OVER WATERMAIN, SERVICE LATERALS AND HYDRANT LEADS TO BE 1.7m AT ALL
- POINTS, MAXIMUM GROUND COVER OVER WATERMAIN TO BE 2.5 m.
- INSULATION TO BE INSTALLED OVER WATERMAIN OR SERVICES WITH LESS THAN 1.7m DEPTH OF COVER AS NOTED ON THE DRAWINGS OR MINIMUM AS FOLLOWS:
- DEPTH OF COVER BETWEEN 1.4 TO 1.7m REQUIRES 50mm INSULATION.
- DEPTH OF COVER BETWEEN 1.2 TO 1.7m REQUIRES 100mm INSULATION WATERMAIN NOT TO BE INSTALLED WITH LESS THAN 1.2 METRES DEPTH OF COVER.
- PIPE RESTRAINTS TO BE PROVIDED AT ALL CHANGES IN PIPE DIRECTION, TERMINATIONS AND ANY LOCATION WHERE THRUST PRESSURES MAY OCCUR. WATER VALVES SHALL BE RESTRAINED ON EITHER SIDE TO THE SAME STANDARD THAT A DEAD END WOULD BE. WHERE SOIL CONDITIONS ARE SUSPECT, SUCH AS IN DISTURBED SOILS OR SOILS WITH BEARING STRENGTH OF LESS THAN 200 kPa, SIGMA SLCS SHALL BE USED. IN LIEU OF THRUST BLOCKS PIPE RESTRAINTS FOR PVC SHALL BE PER TOWN STANDARDS, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS (SEE CHART). THREADED ROD IN JOINT RESTRAINT IS
- NOT PERMISSIBLE. CATHODIC PROTECTION OF ALL WATERMAIN FITTINGS AND APPURTENANCES TO BE PROVIDED AS PER TOWN STANDARD (SEE CHART).
- HYDRANTS TO BE INSTALLED TO OPSD 1105.010. HYDRANTS TO BE PAINTED CHROME YELLOW AND INCLUDE A FLEXSTAKE HYDRANT MARKER MODEL FHV804. 1.2 m LONG, COLOUR YELLOW WITH REFLECTIVE GRAPHIC ON BOTH SIDES AT THE TOP OF THE MARKER. MARKER TO BE POSITIONED ON THE RIGHT PORT AS VIEWED FROM THE STREET. A FIRE HYDRANT MARKER POST AND SIGN SHALL BE INSTALLED 0.3 m BEHIND EACH HYDRANT. THE SIGN SHALL BE REFLECTIVE WITH A RED HYDRANT ON A WHITE BACKGROUND AND MEASURE 0.3 x 0.3 m (OR APPROVED EQUAL). THE SIGN SHALL
- BE MOUNTED 1.5 m ABOVE GRADE. N. ALL PVC WATERMAIN AND FIRE LINES TO HAVE TRACER WIRE BETWEEN HYDRANTS AND OTHER CONDUCTING
- APPURTENANCES. CONTRACTOR SHALL TEST ALL TRACER WIRE TO CONFIRM CONNECTIVITY. TRACER WIRE TO BE 10 GAUGE, MULTI-STRAND SHALL BE PLACED ON TOP AND ATTACHED IN TWO PLACES ON EACH LENGTH OF PVC OR PE PIPE. ALL CONNECTIONS SHALL BE MADE WITH "DRYCONN WATERPROOF
- CONNECTORS" OR APPROVED EQUAL. VERTICAL CLEARANCE BETWEEN WATERMAINS AND SEWERS TO BE A MINIMUM OF 0.5m WHEN WATERMAIN IS BELOW THE SEWERS, HORIZONTAL CLEARANCE BETWEEN WATERMAINS AND SEWERS TO BE A MINIMUM OF 2.5m.
- THE COMPLETE WATER SYSTEM, INCLUDING SERVICE CONNECTIONS TO THE BULIDINGS AND HYDRANTS SHALL BE TESTED IN ACCORDANCE WITH THE TOWN'S WATERMAIN COMMISSIONING PROTOCOL. CONTRACTOR TO PROVIDE DETAILED WRITTEN WATERMAIN COMMISSIONING PROTOCOL FOR APPROVAL PRIOR TO COMMENCING TESTING OPERATIONS. CONNECTIONS TO EXISTING MAINS SHALL NOT BE MADE UNTIL WRITTEN AUTHORIZATION IS PROVIDED BY THE ENGINEER AND THE TOWN.
- R. FOLLOWING TESTING, THE CONTRACTOR SHALL ARRANGE FOR OPERATION OF EACH SERVICE TO VERIFY FULL FLOW AND PRESSURE AT CURB STOP TO SATISFACTION OF THE ENGINEER.
- EXISTING WATER SERVICES THAT ARE TO BE ABANDONED MUST BE CAPPED AT MAIN INCLUDING MAIN STOP REMOVED, PLUG INSERTED TO TOWN STANDARDS AND REINSTATEMENT OF ALL DISTURBED AREAS TO EXISTING CONDITION OR BETTER.
- WATER VALVES TO BE OPERATED BY TOWN STAFF ONLY. ALL WATER USED IN COMMISSIONING AND TESTING TO BE POTABLE AND SUPPLIED FROM THE TOWN OF THE BLUE MOUNTAINS, THE TOWN OF COLLINGWOOD OR THE MUNICIPALITY OF MEAFORD.

- A. ALL MATERIAL TO COMPLY WITH CSA, OPSS AND TOWN STANDARDS.
- SANITARY SEWER PVC DR 35.
- SANITARY SERVICE CONNECTIONS PVC SDR 28.
- STORM SEWER PVC SDR 35 OR CONCRETE 65-D. ALL SEWERS TO BE JOINED WITH A GASKETED BALL AND SPIGOT SYSTEM. NON-REINFORCED CONCRETE PIPE MAY BE USED FOR SIZES UP TO AND INCLUDING
- 375 mm DIA. REINFORCED CONCRETE PIPE MAY BE USED FOR ALL SIZES OF SEWER. CULVERTS - GALVANIZED CORRUGATED STEEL PIPE. MIN. WALL THICKNESS 2.0 mm UNLESS OTHERWISE NOTED. ALL CULVERTS TO HAVE END PROTECTION TO OPSD 810.010 (BOTH ENDS), TYPE B - COMPLETE
- PERFORATED SUBDRAIN BIG 'O' WITH GEOTEXTILE FILTER SOCK OR APPROVED EQUAL. ALL CHEMICALS AND MATERIALS USED IN THE ALTERATION OR OPERATION OF THE DRINKING WATER SYSTEM THAT COME IN CONTACT WITH WATER WITHIN THE SYSTEM SHALL MEET ALL APPLICABLE STANDARDS SET BY
- BOTH THE AMERICAN WATER WORKS ASSOCIATION ("AWWA") AND THE AMERICAN NATIONAL STANDARDS INSTITUTE ("ANSI") SAFETY CRITERIA STANDARDS NSF/60, NSF/61 AND NSF372.
- H. WATERMAIN PVC DR 18. WATER SERVICE CONNECTIONS TO BE TYPE 'K' COPPER PIPE, REHAU'S MUNICIPLEX (BLUE).
- WATER SERVICE FITTINGS SHALL BE:
 - MAIN STOP MUELLER H25008 CURB STOP MUELLER H25209
 - SERVICE SADDLE ROBAR 2616 TAPPING SADDLE - ROBAR 6906
- SERVICE BOXES MUELLER A-726, STAINLESS STEEL RODS K. PIPE RESTRAINERS - SIGMA C-900.
- HYDRANTS CLOW D51 CONCORD PREMIER, OPEN LEFT, WITH STORTZ CONNECTIONS ON ALL STEAMER PORTS. HYDRANT SETS SHALL BE INSTALLED NOT LESS THAN 0.9 m FROM THE CENTER OF THE VALVE TO THE
- CENTER OF THE HYDRANT. TRACER WIRE SHALL BE ATTACHED TO THE OUTSIDE OF THE VALVE BOX AND WIRE BROUGHT INTO VALVE BOX UNDER CAP. M. LIVE TAP SADDLES TO BE EPOXY COATED COMPLETE WITH STAINLESS STEEL BOLTS.
- N. MECHANICAL JOINT DUCTILE FITTINGS TO AWWA/ANSI C153/A21.53. INCLUDING PROTECTO-CAPS, CAT NO.
- 175P190 OR APPROVED EQUAL. ISOLATION VALVES TO BE RESILIENT SEAT GATE VALVES WITH MECHANICAL JOINTS, OPEN LEFT, CLOW. VALVE BOXES TO BE 5-SL-48 SLIDING OR MUELLER MVB COMPOSITE COMPLETE WITH GUIDE PLATE AND DUCTILE
- ADJUSTABLE TOP AND LID OR APPROVED EQUAL. CAPS TO BE PAINTED BLUE. ALL WATERMAIN FASTNERS (STAINLESS BOLTS) TO BE COMPLETE WITH ZINC CAPS.
- Q. ALL SPECIFIED AGGREGATES TO OPSD 1010.
- RIPRAP TO OPSS 1004.05.05, ON FILTER FABRIC.
- FILTER FABRIC TERRAFIX 270R OR APPROVED EQUAL.
- INSULATION STYROFOAM HIGHLOAD 40 EXTRUDED POLYSTYRENE FOAM INSULATION, 50mm THICK SHEETS.

WTM/FITTING	ANODE SIZE (kg)	SPACING
100 mm	2.3	PER LENGTH OVER 3.0 m OR FITTING OF SIMILAR SIZE
150 mm	2.3	PER LENGTH OVER 3.0 m OR FITTING OF SIMILAR SIZE
200 mm	5.5	PER LENGTH OVER 3.0 m OR FITTING OF SIMILAR SIZE
250 mm	5.5	PER LENGTH OVER 3.0 m OR FITTING OF SIMILAR SIZE
300 mm	11	PER LENGTH OVER 3.0 m OR FITTING OF SIMILAR SIZE
COPPER SERVICE	2.3	AT EACH CURBSTOP
HYDRANT	5.5	AT HYDRANT BASE
VALVE	5.5	AT EACH VALVE
SERVICE SADDLE	2.3	AT EACH SERVICE SADDLE (CONNECT WIRE TO BOLT ON SADDLE TIGHT BETWEEN 2 NUTS)
TEES, ELBOWS ETC.	2.3	ON EACH FITTING FOR 100 mm - 150 mm PIPE
TEES, ELBOWS ETC.	5.5	ON EACH FITTING FOR 200 mm - 300 mm PIPE

ANODE SIZING CHART FOR ZINC ANODES

150/160 KING STREET THORNBURY TOWN OF THE BLUE MOUNTAINS

DETAILS & NOTES

FILE: 122030 DESIGN: RD DRAWN: RD DATE: APR 2022 SCALE: NTS CHECK: RS

DE-1

DISCLAIMER AND COPYRIGHT

GRIND 40mm-

EX. ASPHALT -

EX. GRANULAR 'A'

EX. GRANULAR 'B'

DEPTH

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE

TATHAM ENGINEERING LIMITED CLAIMS COPYRIGHT TO THIS DRAWING WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE ENGINEER WITHOUT THE EXPRESS CONSENT OF

TBM1 - ELEVATION 186.52 ELEVATIONS SHOWN HEREON ARE GEODETIC AND REFER TO THE TOP OF IRON BAR, NORTH WEST CORNER OF LOT TBM2 - FLEVATION 185.37 ELEVATIONS SHOWN HEREON ARE GEODETIC AND REFER

TBM3 - ELEVATION 188.63 ELEVATIONS SHOWN HEREON ARE GEODETIC AND REFER TO THE TOP OF IRON BAR, SOUTH WEST CORNER OF

TO THE TOP OF IRON BAR, NORTH EAST CORNER OF LOT

NOTES LEGAL SURVEY INFORMATION AND LOT DIMENSIONS SHOWN ON THIS PLAN ARE TAKEN FROM A SURVEY PLAN PREPARED BY JD BARNES LTD DATED FEBRUARY 25. 2022. WHICH MAY NOT BE FINAL AND ARE NOT GUARANTEED. THE FINAL REGISTERED PLAN SHALL BE REFERRED TO FOR CONFIRMATION OF THE DATA. TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN IS

FROM A SURVEY PREPARED BY JOETOPO SURVEYS

AND CADD INC, DATED MARCH 28, 2020.

REVISION DESCRIPTION

DATE

ENGINEER STAMP

Drawing Name: 122030—DE01.dwg, Plotted: May 30, 2022

WELLINGTON STREET ROW.

TATHAM ENGINEERING LIMITED.