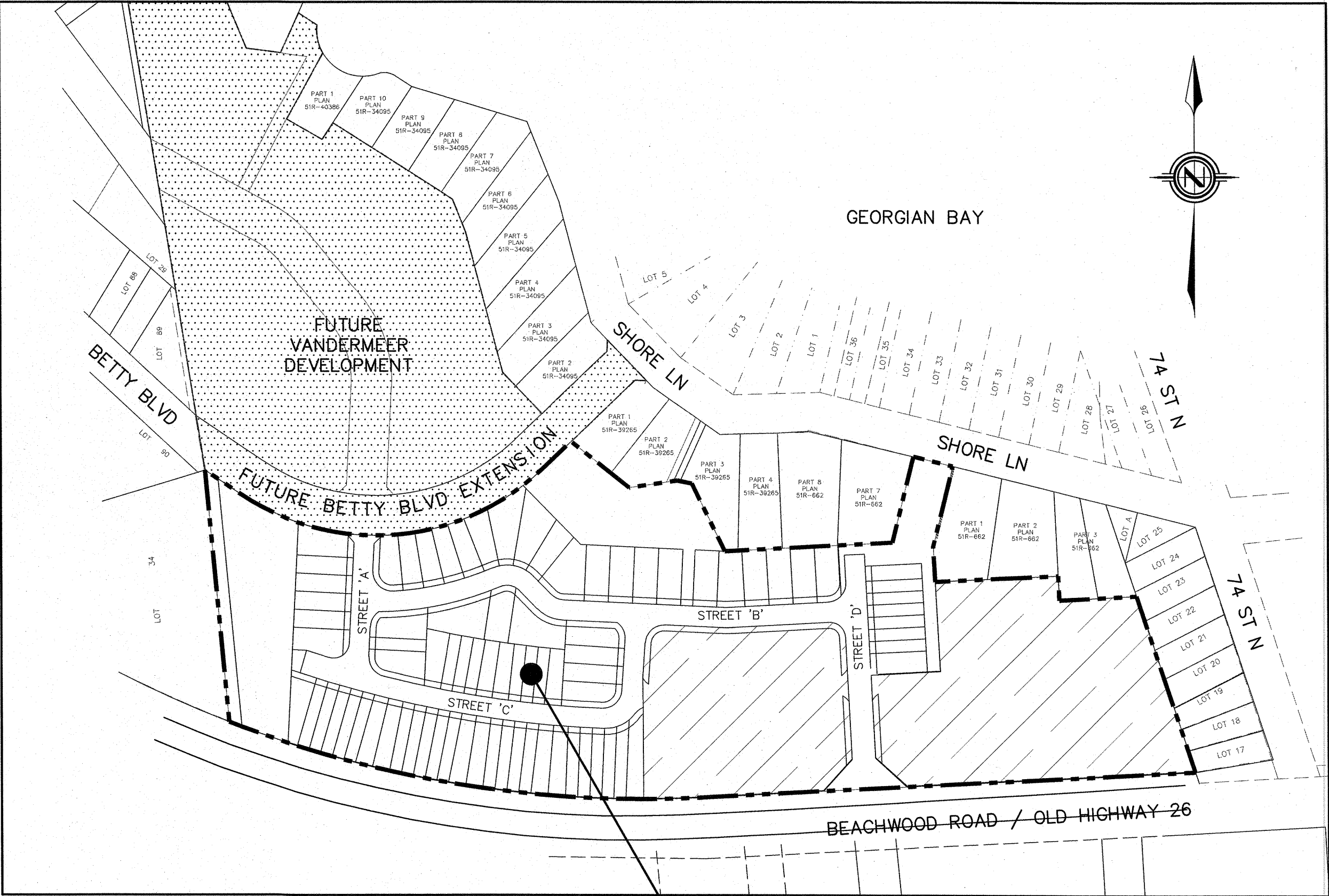


BEACHWOOD DEVELOPMENT TOWN OF WASAGA BEACH

DRAWING LEGEND

TITLE	TITLE PAGE
GS-1	GENERAL SERVICING PLAN
GP-1	GRADING PLAN
GP-2	GRADING PLAN
PP-1	PROFILE -- STREETS 'A' & 'D', DRAINAGE EASEMENT
PP-2	PROFILE -- STREETS 'B' & 'C'
SAN-1	SANITARY DRAINAGE SUB-CATCHMENT AREAS
STM-1	STORMWATER SUB-CATCHMENT PLAN
DS-1	STORM SEWER DESIGN SHEET
DS-2	SANITARY SEWER DESIGN SHEET
SWM-1	STORMWATER MANAGEMENT PRE-DEVELOPMENT AREAS
SWM-2	OVERALL STORMWATER MANAGEMENT POST-DEVELOPMENT AREAS
WM-1	WATERMAIN SWABBING PLAN
PND-1	SWM FACILITY PLAN VIEW
PND-2	SWM FACILITY SECTIONS & DETAILS
DE-1	WESTERN DRAINAGE EASEMENT
DE-2	EASTERN DRAINAGE EASEMENT



SUBJECT
SITE

MUNICIPALITY:

TOWN OF WASAGA BEACH
30 LEWIS STREET
WASAGA BEACH, ON L9Z 2K5
PH. 705.429.3844

CLIENT:

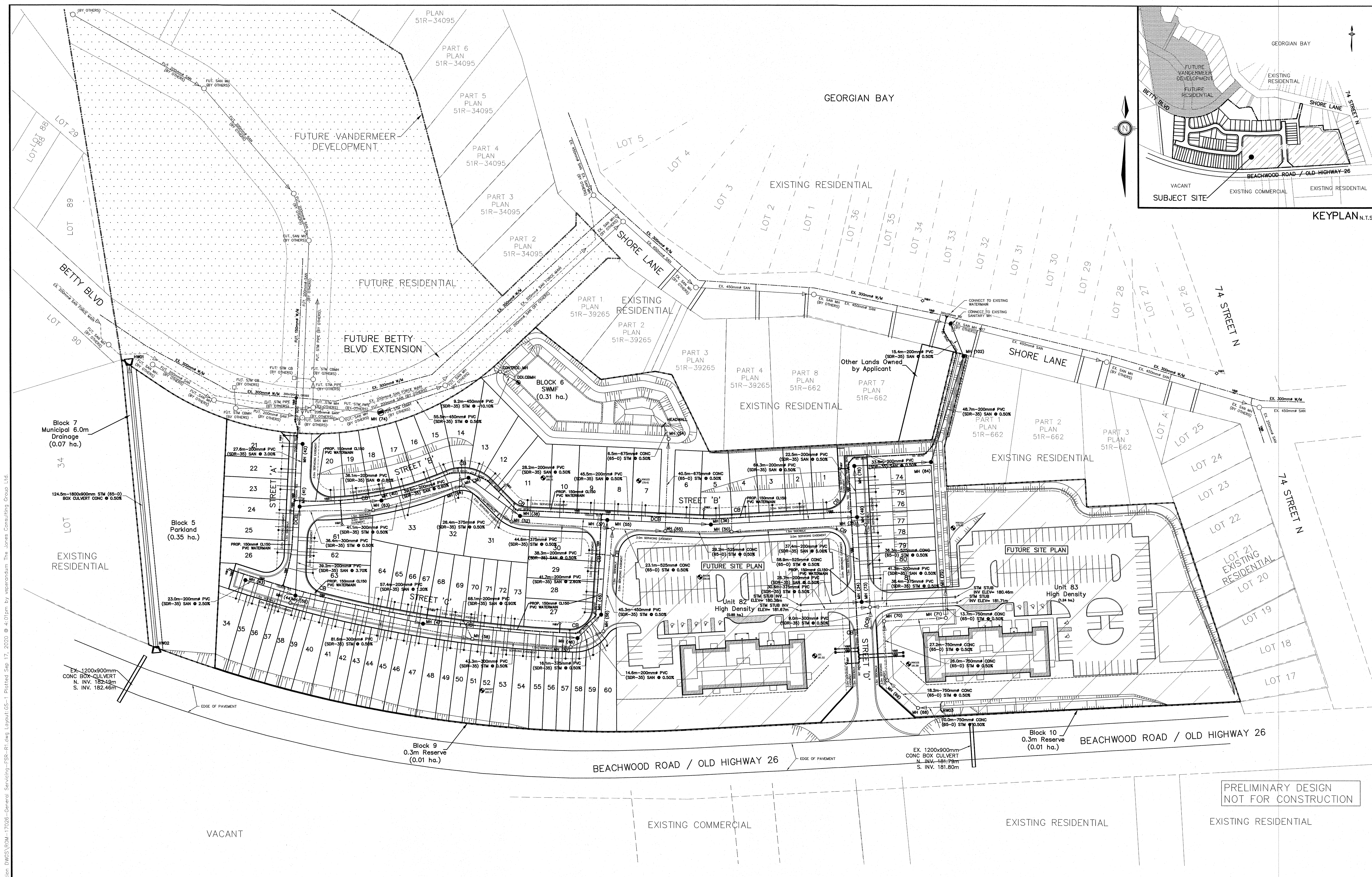
BEACHWOOD DEVELOPMENT INC.
60 PIPPIN ROAD, UNIT 46
VAUGHAN, ON L4K 4M8

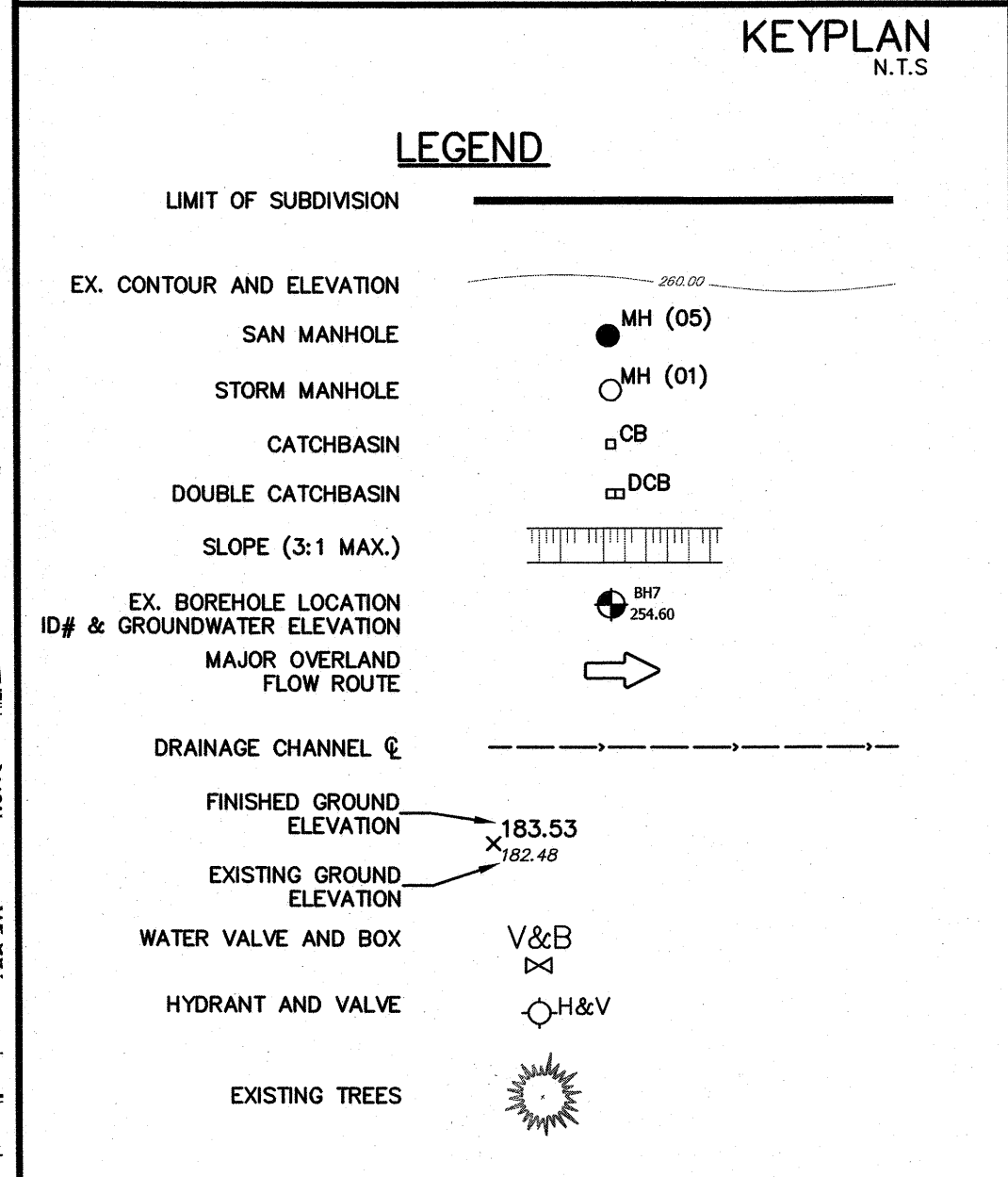
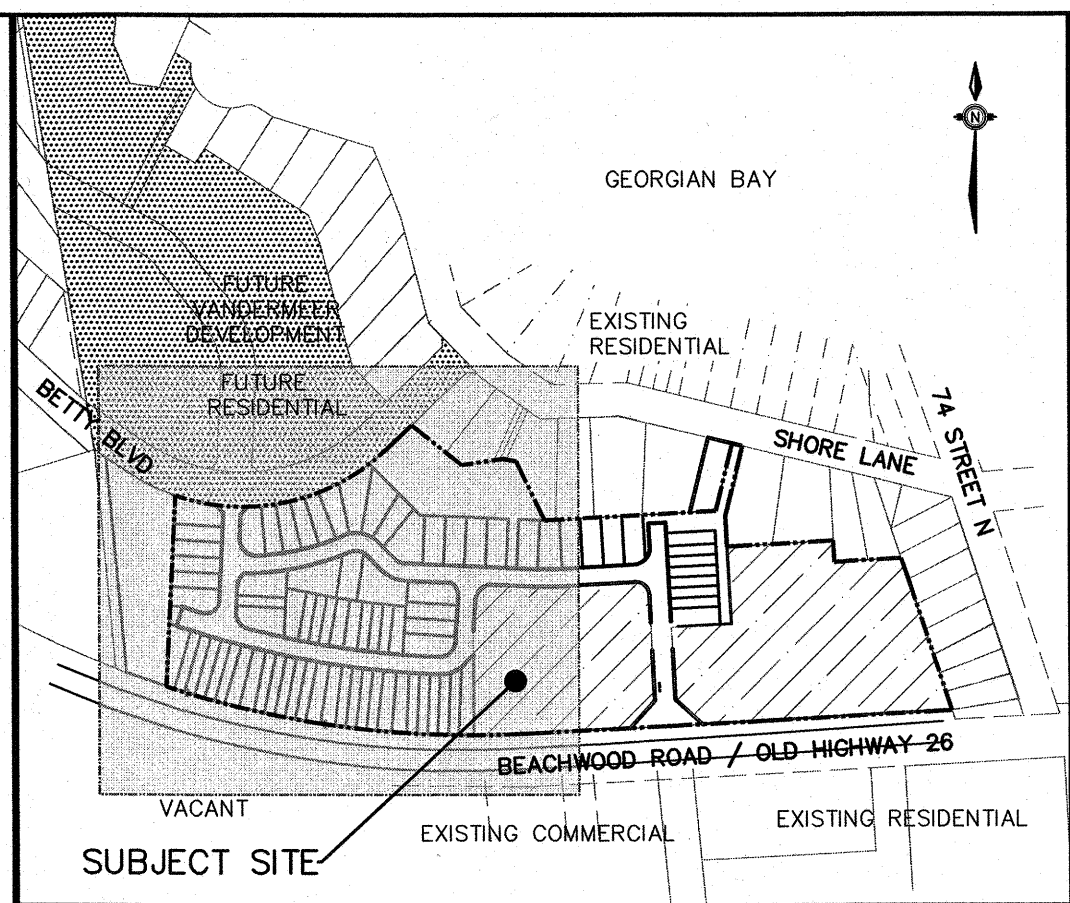
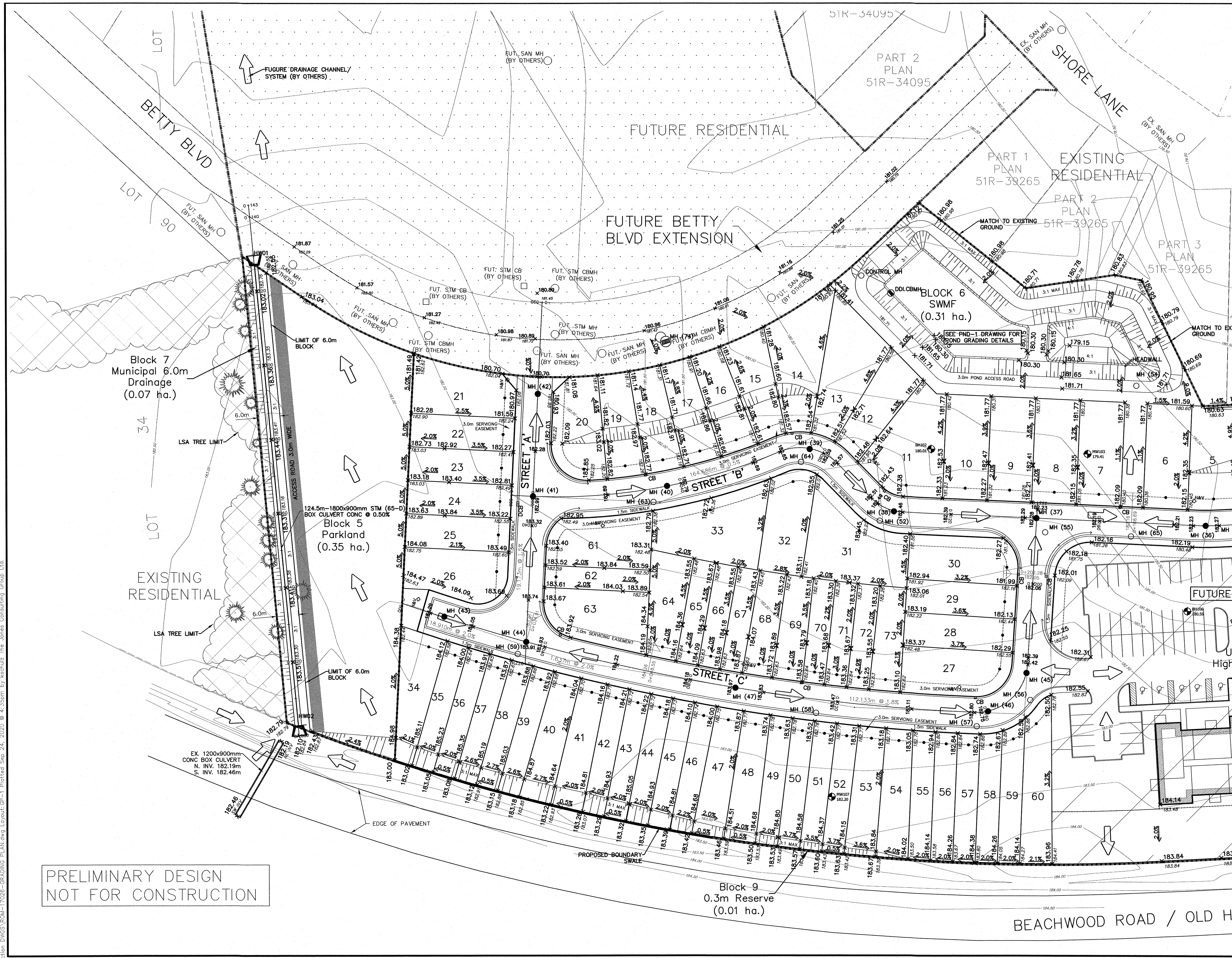
DEVELOPER'S ENGINEER:



229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

TJCG PROJECT # ROM-17026



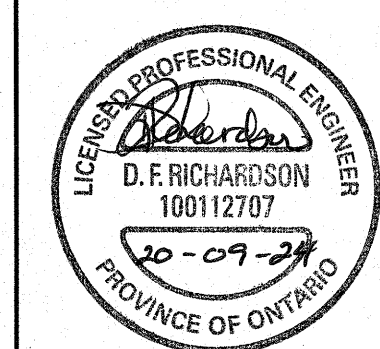


PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

6: E:\3D_ROM-17026-Grading-PLAN.dwg layout (GP-1) Printed Sep 24, 2020 @ 4:35pm by keshulz The Jones Consulting Group Ltd.

BENCHMARK:
BENCHMARK NO. 001971U100 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SIMCOE ROAD NO. 7, IN LANE 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SIMCOE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 5.8 M NORTH OF A PINE TREE. N4924007.000 ELEV 180.020
BENCHMARK NO. 0081980756 MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.3 KM WEST FROM 24TH STREET NORTH ALSO 0.8 KM EAST FROM MARLIN LANE. N4924007.000 ELEV 180.020
BENCHMARK NO. 001971U183 COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SIMCOE ROAD NO. 7, TABLET IN TOP OF CULVERT, 2.4 CM FROM SOUTHWEST END AND 15 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.000 ELEV 183.992

NO.	REVISIONS	DATE	INITIAL
1	FSR SUBMISSION	SEP 2020	DR

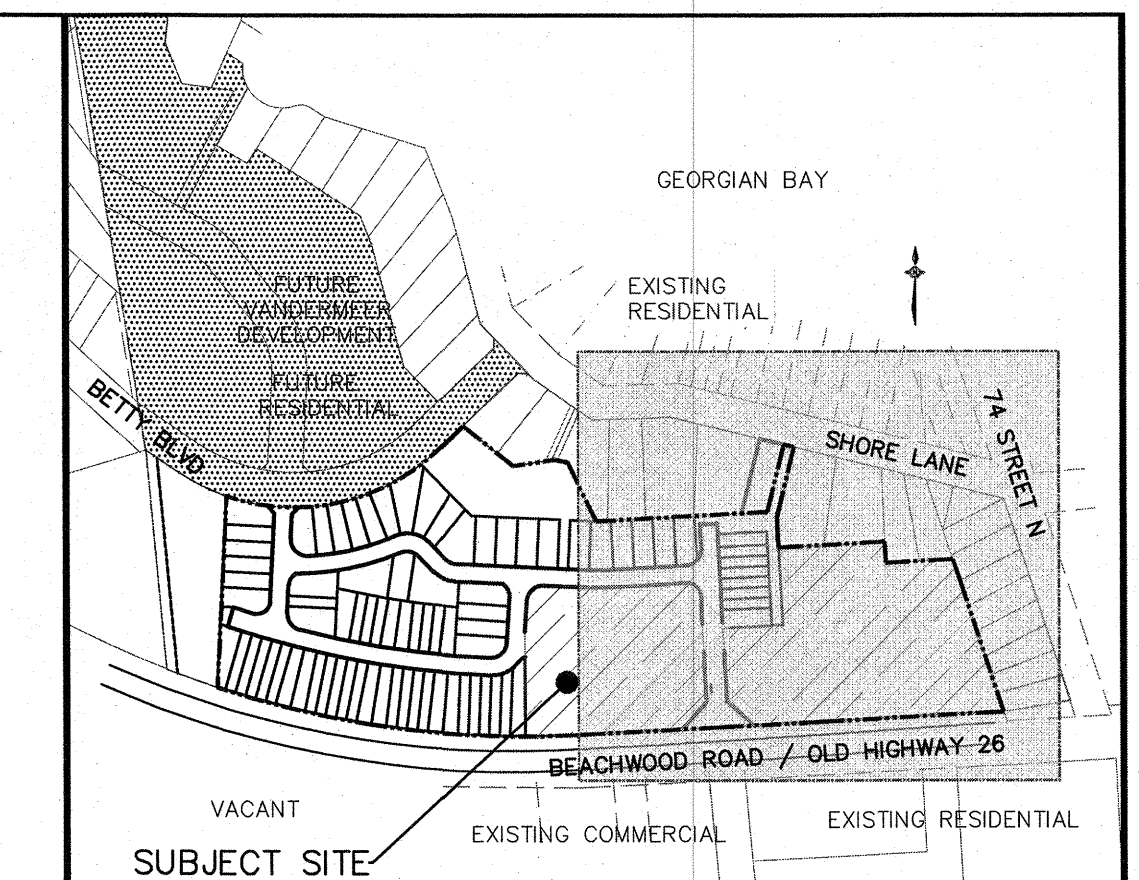
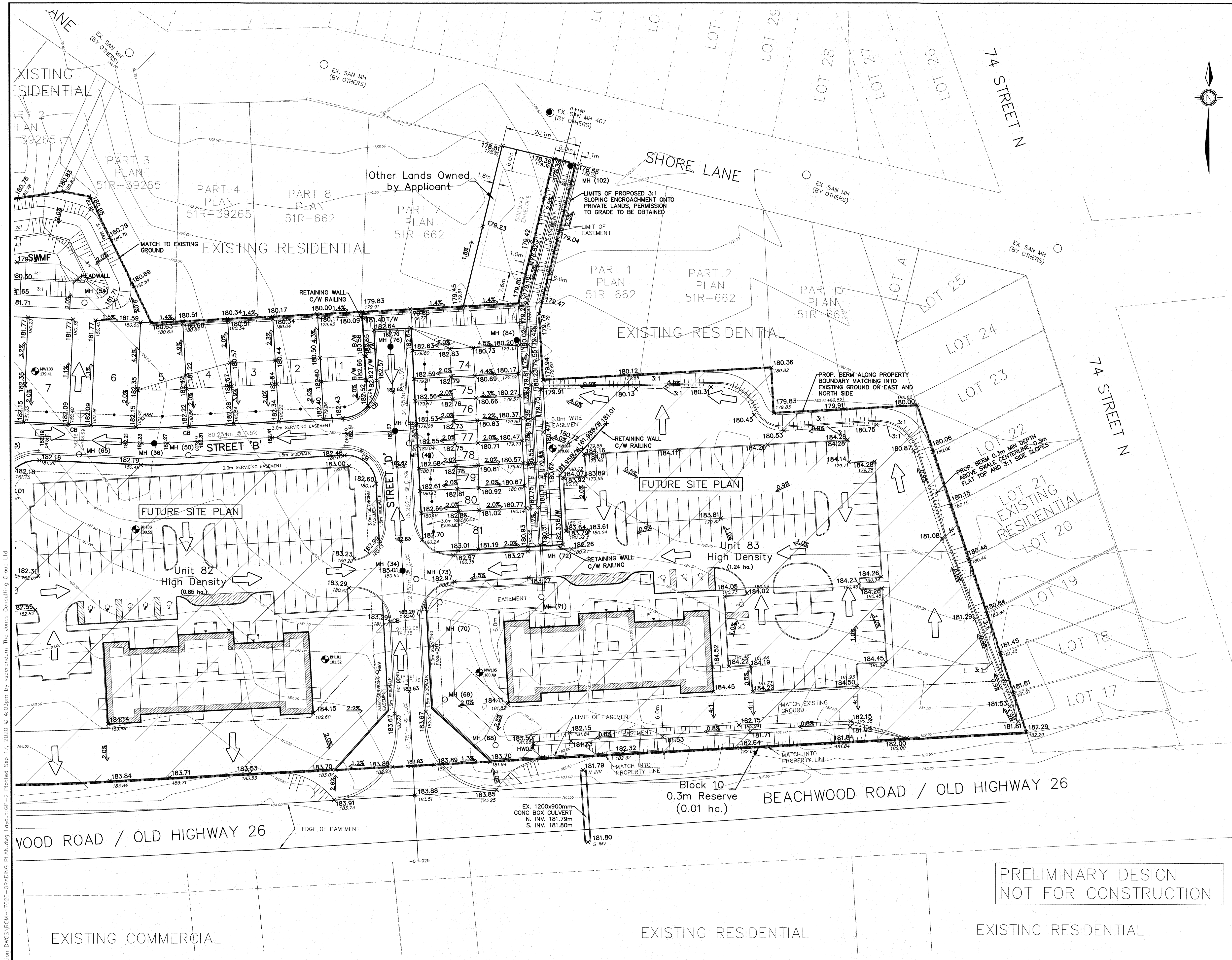


BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH

GRADING PLAN



DESIGN	JT/VS	SCALE: 1:500	DATE	JULY 2020
DRAWN	JT/VS	PROJECT	DWG. NO.	
CHECKED	JB	ROM-17026	GP-1	



LEGEND

- LIMIT OF SUBDIVISION
- EX. CONTOUR AND ELEVATION
- SAN MANHOLE (MH (05))
- STORM MANHOLE (MH (01))
- CATCHBASIN (CB)
- DOUBLE CATCHBASIN (DCB)
- SLOPE (3:1 MAX.)
- EX. BOREHOLE LOCATION (ID# & GROUNDWATER ELEVATION)
- MAJOR OVERLAND FLOW ROUTE
- DRAINAGE CHANNEL
- FINISHED GROUND ELEVATION
- EXISTING GROUND ELEVATION
- WATER VALVE AND BOX (V&B)
- HYDRANT AND VALVE (H&V)
- EXISTING TREES

DESIGN INFORMATION

DESIGN	JT/VS	SCALE: 1:500	DATE	JULY 2020
DRAWN	JT/VS	PROJECT	DWG. N ^o	
CHECKED	JB	ROM-17026	GP-2	

BENCHMARK:

BENCHMARK NO. 0019711910 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SMOKE ROAD NO. 7, IN LANE, 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SMOKE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 3.8 M NORTH OF A PINE TREE. N4924007.000 E571589.000 ELEV 180.020

BENCHMARK NO. 00816950756 MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.6 KM EAST FROM MARLIN LANE. N4924007.506 E568777.320 ELEV 184

BENCHMARK NO. 0019711183 COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SMOKE ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST END OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.000 E568779.000 ELEV 183.582

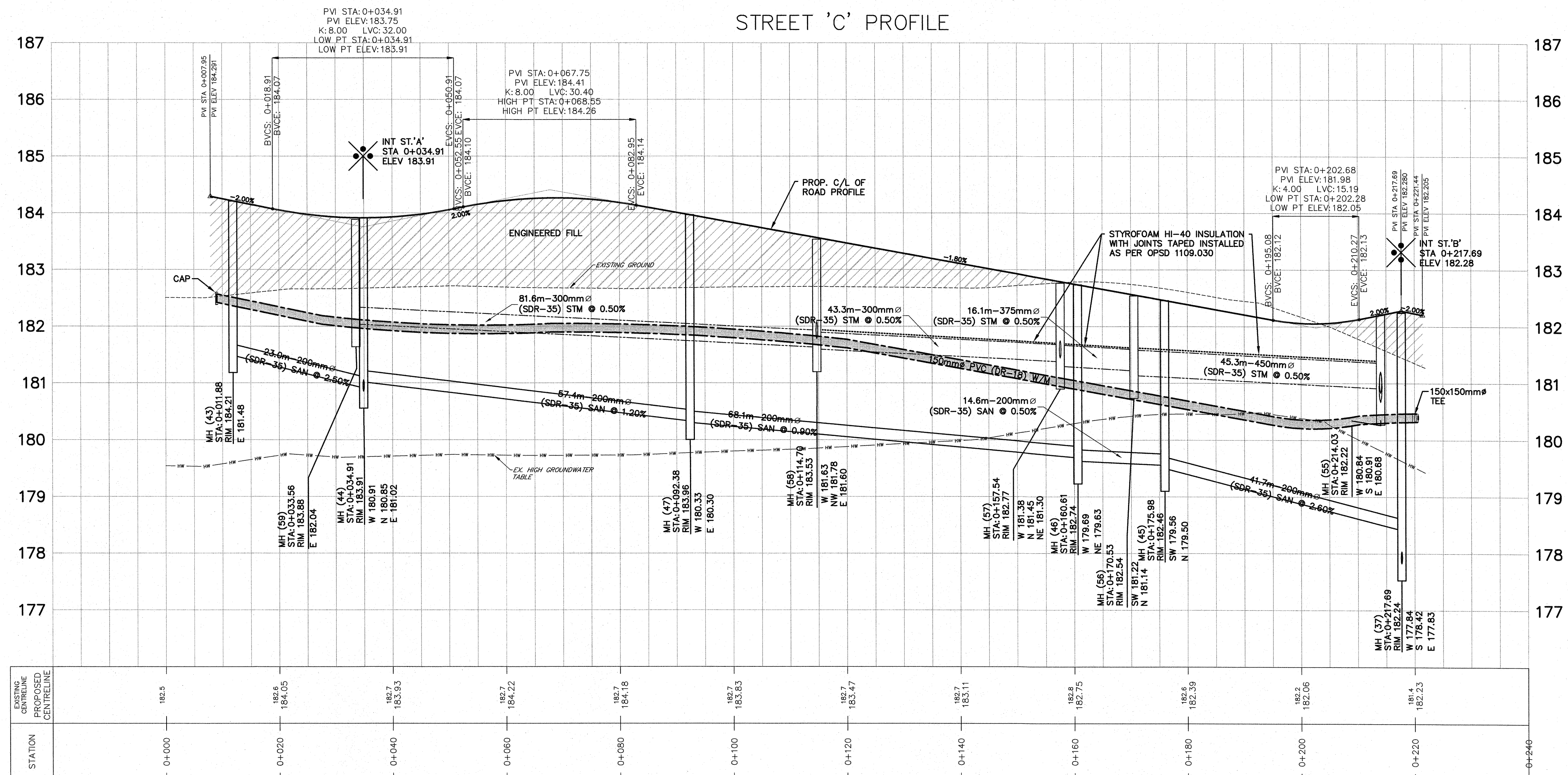
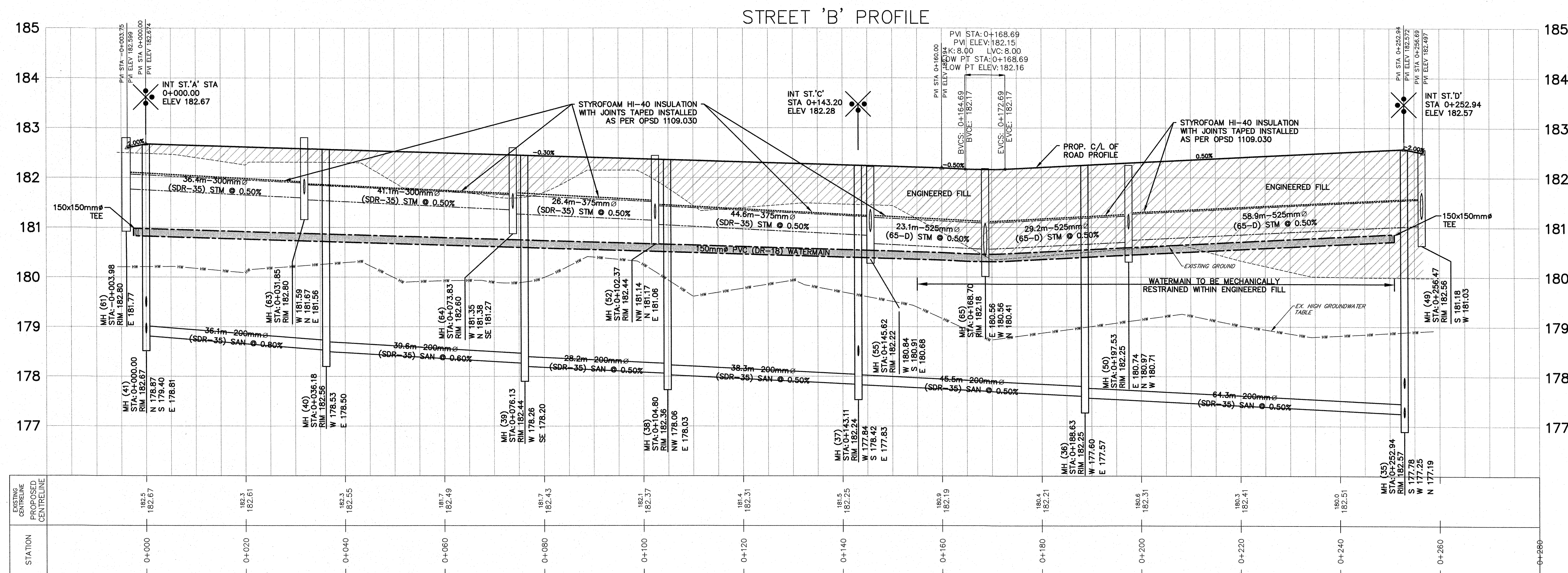
1	FSR SUBMISSION	SEP 2020	DR
NO.	REVISIONS	DATE	INITIAL

BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH

GRADING PLAN

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

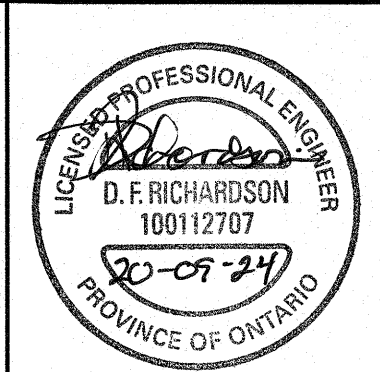
229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1058



PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

BENCHMARK:
BENCHMARK NO. 001971U190 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SHOGUE ROAD NO. 7, IN LAMB, 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SHOGUE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 5.8 M NORTH OF A PINE TREE. N4924007.000 E571589.000 ELEV 180.020
BENCHMARK NO. 00819880756 MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.8 KM EAST FROM MARLIN LANE. N4924207.508 E569777.320 ELEV 184
BENCHMARK NO. 001971U183 COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHWEST OF JUNCTION OF HIGHWAY NO. 26 AND SHOGUE ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.000 E568778.000 ELEV 183.595

1	FSR SUBMISSION	SEP 2020	DR
NO.	REVISIONS	DATE	INITIAL

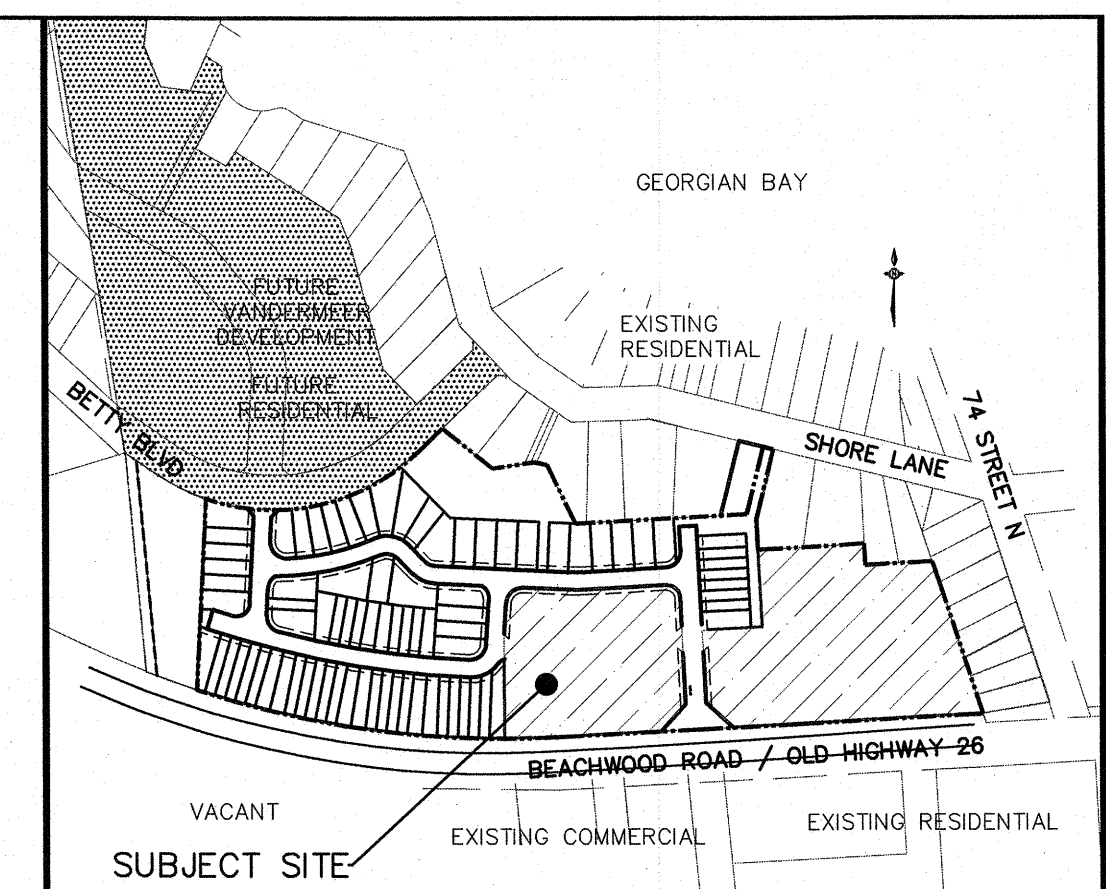


BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH

PROFILE
STREETS 'B' & 'C'

JONES CONSULTING GROUP LTD. PLANNERS & ENGINEERS	DESIGN	VS	SCALE: H 1:500 V 1:50	DATE	JULY 2020
	DRAWN	VS	PROJECT	DWG. NO	
	CHECKED	JB	ROM-17026	PP-2	

G:\Eng-3D\ROM-17026\Source Data\Pipe Networks\ROM-17026 - Pipes option 2.dwg Layout PP-2 Plotted Sep 17, 2020 @ 4:04pm by user:rom The Jones Consulting Group Ltd.



LEGEND

-
- The diagram illustrates a Sanitary Catchment Area with the following components:
- MHB9A**: A point marker at the top left.
 - SANITARY MAINTENANCE HOLE**: Indicated by a solid line with a dot at the top.
 - SANITARY SEWER & DIRECTION OF FLOW**: Indicated by a solid line with an arrow pointing right.
 - SANITARY SERVICE**: Indicated by a dashed line below the sewer line.
 - SUB CATCHMENT BOUNDARY**: Indicated by a thick dashed line.
 - DIRECTION OF FLOW**: Indicated by a large grey arrow pointing right.
 - AREA (ha.)**: A label pointing to a circle divided into four quadrants.
 - PERSONS PER UNIT**: A label pointing to the same circle.
 - No. OF UNITS**: A label pointing to the bottom-left quadrant of the circle.
 - CATCHMENT AREA ID NUMBER**: A label pointing to the bottom-right quadrant of the circle.
 - PROPERTY LIMITS**: Indicated by a thick dashed line at the bottom.
- The circle is divided into four quadrants with the following values:
- | | |
|------|------|
| 0.42 | 3.13 |
| 10 | 13 |



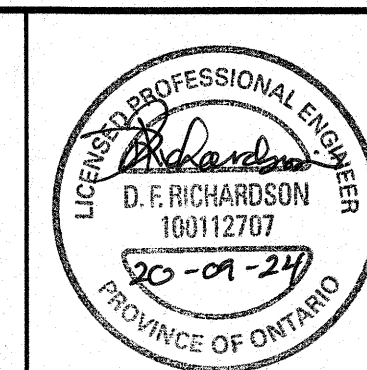
BENCHMARK:

BENCHMARK NO. 0011971U190 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN
MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF
JUNCTION OF HIGHWAY NO. 28 AND SIMCOE ROAD NO. 7, IN LAWN, 28.3 M NORTHEAST
OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SIMCOE ROAD
NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 5.8 M NORTH OF A PINE TREE.
N4924007.xxx E571589.xxx ELEV 180.020

BENCHMARK NO. 00819880756. MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.8 KM EAST FROM MARILYN LANE. N4924207.508 E569777.320 ELEV 184

BENCHMARK NO. 0011971U183. COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHWEST OF JUNCTION OF HIGHWAY NO. 26 AND SIMCOE ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL.
N4923771.000 E589779.000 ELEV. 183.592

1	FSR SUBMISSION	SEP 2020	DR
NO.	REVISIONS	DATE	INITIAL



BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH

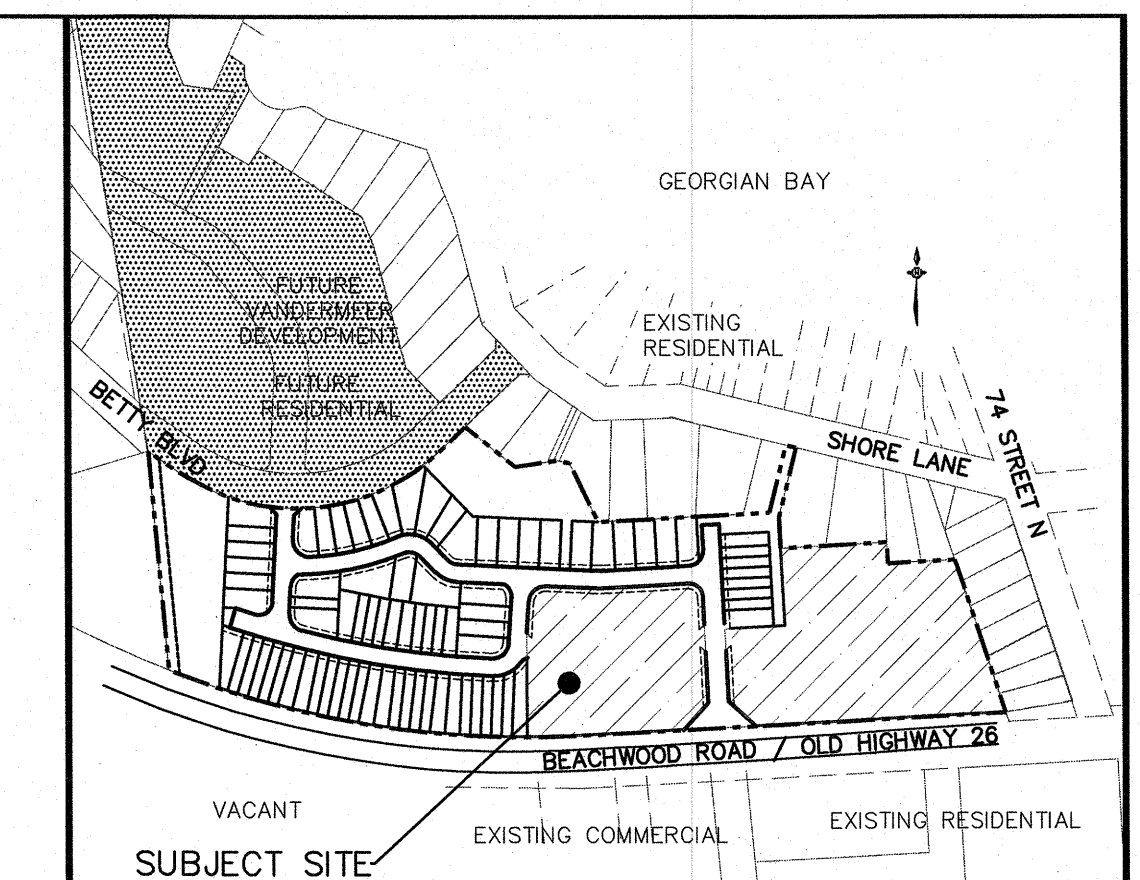
SANITARY DRAINAGE
SUB-CATCHMENT AREAS



229 Maplevue Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

DESIGN VS	SCALE: 1:1000	DATE APRIL 2020
DRAWN KC/VS	PROJECT ROM-17026	DWG. NO SAN-1
CHECKED JB		

C:\Users\jv\Documents\DWG\ROM-17026-STM-1.dwg Layout-STM-1-Plotted Sep. 17, 2020 @ 4:06am by vandercauld The Jones Consulting Group Ltd.



LEGEND

PROPERTY LIMITS
EXISTING DITCH LINE
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR

POST-DEVELOPMENT STORM SUB-CATCHMENT BOUNDARY
STORM SEWER, MAINTENANCE HOLE AND DIRECTION OF FLOW
STM SINGLE CATCHBASIN
STORM DOUBLE CATCHBASIN
RUN-OFF COEFFICIENT
STORM CATCHMENT NUMBER
AREA (HECTARES)
DIRECTION OF STORM DRAINAGE

**PRELIMINARY DESIGN
NOT FOR CONSTRUCTION**

BENCHMARK: BENCHMARK NO. 001971190 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SMOKE ROAD NO. 7, IN LANE, 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SMOKE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 0.8 M NORTH OF A FINE TREE. N4924007.000 E571589.000 ELEV 180.020 BENCHMARK NO. 0081985756 MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.6 KM EAST FROM MARLIN LANE. N4924007.508 E568777.320 ELEV 184 BENCHMARK NO. 001971191 SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHWEST OF JUNCTION OF HIGHWAY NO. 26 AND SMOKE ROAD NO. 7, TABLE IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.000 E568779.000 ELEV. 183.592				1 FSR SUBMISSION SEP 2020 DR				NO. REVISIONS DATE INITIAL				PROFESSIONAL ENGINEER D.F. RICHARDSON 180112707 SEP 24 PROVINCE OF ONTARIO				BEACHWOOD DEVELOPMENT INC. BEACHWOOD DEVELOPMENT TOWN OF WASAGA BEACH STORMWATER SUB-CATCHMENT PLAN				JONES CONSULTING GROUP LTD. PLANNERS & ENGINEERS 229 Mapleview Dr. E. Unit 1 Barrie, ON L4N 0W5 P. 705.734.2538 F. 705.734.1050			
DESIGN JB				SCALE: 1:1000				DATE APR 2020				DRAWN KC/VS				PROJECT ROM-17026				DWG. N^o STM-1			
CHECKED JB				PROJECT ROM-17026				DWG. N^o STM-1															

G:\Eng_3D\ROM-17026\Production\DWG\ROM-17026-STM_DRAINAGE_PLAN-STM-1.dwg Layout:DS-1 Plotted Sep 17, 2020 @ 4:06pm by vspandrum The Jones Consulting Group Ltd.

5 Year Storm Sewer Sizing																	
STREET	AREAS	MANHOLE		LENGTH (m)	INCREMENT			TOTAL CA	FLOW TIME (min)		I (mm/h)	TOTAL Q (cms)	S (%)	D (mm)	Q FULL (cms)	V FULL (m/s)	% FULL
		FROM	TO		C	A	CA		TO	IN							
St. 'C'	201	STM 59	STM 58	81.6	0.59	0.26	0.15	0.15	15.00	1.41	74	0.031	0.50	300	0.068	1.0	45.9
St. 'C'	202	STM 58	STM 57	43.3	0.69	0.23	0.16	0.31	16.41	0.75	69	0.060	0.50	300	0.068	1.0	87.6
St. 'C'	203	STM 57	STM 56	16.1	0.69	0.24	0.17	0.48	17.15	0.24	67	0.089	0.50	375	0.124	1.1	71.7
St. 'C'	204	STM 56	STM 55	45.3	0.70	0.32	0.22	0.70	17.39	0.60	66	0.129	0.50	450	0.202	1.3	64.2
St. 'B'	205	DCB	STM 63	36.4	0.72	0.11	0.08	0.08	15.00	0.63	74	0.016	0.50	300	0.068	1.0	23.7
St. 'B'	206	STM 63	STM 64	41.1	0.72	0.16	0.12	0.19	15.63	0.71	72	0.039	0.50	300	0.068	1.0	56.5
St. 'B'	207	STM 64	STM 52	26.4	0.69	0.22	0.15	0.35	16.34	0.39	69	0.067	0.50	375	0.124	1.1	53.8
St. 'B'	208	STM 52	STM 55	44.6	0.69	0.14	0.10	0.44	16.73	0.66	68	0.084	0.50	375	0.124	1.1	67.7
St. 'B'		STM 55	STM 65	23.1				1.14	17.99	0.27	65	0.206	0.50	525	0.304	1.4	67.8
St. 'D'	209	DCB	STM 73	9.0	0.76	0.04	0.03	0.03	15.00	0.16	74	0.006	0.50	300	0.068	1.0	9.1
St. 'D'	210	HD UNIT 82	STM 73	30.4	0.76	0.62	0.47	0.47	15.00	0.45	74	0.096	0.50	375	0.124	1.1	77.7
St. 'D'	211	HD UNIT 83	STM 73	38.4	0.80	0.64	0.51	0.51	15.00	0.57	74	0.105	0.50	375	0.124	1.1	84.4
St. 'D'		STM 73	STM 49	36.3				1.01	15.57	0.43	72	0.202	0.50	525	0.304	1.4	66.4
St. 'B'	212	STM 49	STM 50	58.9	0.69	0.23	0.16	1.17	16.00	0.70	70	0.229	0.50	525	0.304	1.4	75.3
St. 'B'	213	STM 50	STM 65	29.2	0.70	0.11	0.08	1.25	16.70	0.35	68	0.237	0.50	525	0.304	1.4	77.9
	214	STM 65	STM 54	40.5	0.72	0.18	0.13	2.52	18.26	0.41	64	0.450	0.50	675	0.594	1.7	75.6
		STM 54	HEADWALL	6.5				2.52	18.67	0.07	63	0.443	0.50	675	0.594	1.7	74.5
	Total					3.50	2.52										
Q= 0.0028*C*I*A (cms);		C=RUNOFF COEFFICIENT;						I=RAINFALL INTENSITY (5 Year) =493.013/(T.C.+0.081)*0.701						A=AREA (ha)			

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

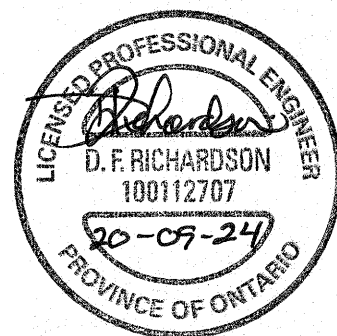
BENCHMARK:

BENCHMARK NO. 001971U180 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SIMCOE ROAD NO. 7, IN LAWN, 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SIMCOE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 5.8 M NORTH OF A PINE TREE. N4924057.500 E569777.320 ELEV 184

BENCHMARK NO. 0081988704, MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.8 KM EAST FROM MARILYN LANE. N4924057.500 E569777.320 ELEV 184

BENCHMARK NO. 001971U183, COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHWEST OF JUNCTION OF HIGHWAY NO. 26 AND SIMCOE ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 19 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.000 E569779.000 ELEV. 183.992

1	FSR SUBMISSION	SEP 2020	DR	
NO.	REVISIONS	DATE	INITIAL	



BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH

STORM SEWER DESIGN SHEET



JONES
CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W6
P. 705.734.2538
F. 705.734.1056

DESIGN	VS	SCALE:	DATE	APR 2020
DRAWN	KC/VS	PROJECT	DWG. NO	DS-1
CHECKED	JB	ROM-17026		

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SANITARY SEWER DESIGN SHEET - BEACHWOOD DEVELOPMENT LTD																								
RESIDENTIAL POPULATION DENSITIES LOW DENSITY (SINGLE FAMILY/SEMI-DETACHED) = 2.6 PEOPLE/UNIT MEDIUM DENSITY (TOWNHOUSES) = 2.6 PEOPLE/UNIT HIGH DENSITY (APARTMENTS) = 2.6 PEOPLE/UNIT @65uph FIRE/AMBULANCE = 35 m3/ha/d = 100 PEOPLE/HA COMMERCIAL / INSTITUTIONAL = 35 m3/ha/d = 100 PEOPLE/HA ELEMENTARY SCHOOL = 400 PEOPLE SECONDARY SCHOOL = 1000 PEOPLE SEWAGE = 350 L/DAY/CAP INFILTRATION = 0.28l/s/ha PEAKING FACTOR = HARMON FORMULA DESIGN VELOCITY (MIN.) = 0.4 m/s (TOWN OF WASAGA BEACH ENGINEERING STANDARDS, MARCH 2015)													TOWN OF WASAGA BEACH					DATE : August 2020 DESIGNED BY : VS CHECKED BY : JB FILE No : ROM-17026						
													$M = 1 + \frac{14}{4 + P^{0.5}}$ $V_{acr} > 0.4m/s$ P= Population in thousands					PROJECT NAME: BEACHWOOD DEVELOPMENT						
LOCATION				AREA (HECTARES)			POPULATION							SEWAGE FLOW				PIPE DATA						
STREET	AREA	FROM	TO	NET OR	DIMENSIONS	DELTA	TOTAL	PER	PER	DELTA	DELTA	OTHER	TOTAL	M	SEWAGE	INFILT	TOTAL	D	S	Q Full	V Full	V Design	Qfull check	V check
	No.	M.H.	M.H.	GROSS		AREA ha	AREA ha	ha	LOT	LOTS	POP.	POP.	POP.	2 -> 4	l/s	l/s	l/s	(mm)	(%)	(L/S)	(m/s)	(m/s)		
St. 'A'	16	SAN MH 42	SAN MH 41			0.12	0.12		2.6	3	8	0	8	4.42	0.14	0.03	0.17	200	3.00	56.81	1.81	0.402	OKAY	OKAY
St. 'C'	14	SAN MH 43	SAN MH 44			0.13	0.13		2.6	4	10	0	10	4.41	0.19	0.04	0.22	200	2.50	51.86	1.65	0.407	OKAY	OKAY
St. 'A'	15	SAN MH 44	SAN MH 41			0.22	0.35		2.6	6	16	0	26	4.36	0.46	0.10	0.56	200	3.70	63.09	2.01	0.618	OKAY	OKAY
St. 'B'	11	SAN MH 41	SAN MH 40			0.10	0.57		2.6	2	5	0	39	4.34	0.69	0.16	0.85	200	0.80	29.34	0.93	0.411	OKAY	OKAY
St. 'B'	10	SAN MH 40	SAN MH 39			0.28	0.85		2.6	7	18	0	57	4.3	1.00	0.24	1.23	200	0.60	25.41	0.81	0.416	OKAY	OKAY
St. 'B'	9	SAN MH 39	SAN MH 38			0.20	1.05		2.6	3	8	0	65	4.29	1.13	0.29	1.42	200	0.50	23.19	0.74	0.409	OKAY	OKAY
St. 'B'	8	SAN MH 38	SAN MH 37			0.10	1.15		2.6	3	8	0	73	4.28	1.26	0.32	1.58	200	0.50	23.19	0.74	0.422	OKAY	OKAY
St. 'C'	13	SAN MH 44	SAN MH 47			0.37	0.37		2.6	14	36	0	36	4.34	0.64	0.10	0.74	200	1.20	35.93	1.14	0.456	OKAY	OKAY
St. 'C'	12	SAN MH 47	SAN MH 46			0.41	0.78		2.6	16	42	0	78	4.27	1.35	0.22	1.57	200	0.90	31.12	0.99	0.516	OKAY	OKAY
St. 'C'	17	SAN MH 46	SAN MH 45			0.09	0.87		2.6	3	8	0	86	4.26	1.48	0.24	1.72	200	0.50	23.19	0.74	0.432	OKAY	OKAY
St. 'C'	7	SAN MH 45	SAN MH 37			0.19	1.06		2.6	4	10	0	96	4.25	1.66	0.30	1.95	200	2.60	52.89	1.68	0.800	OKAY	OKAY
St. 'B'	6	SAN MH 37	SAN MH 36			0.18	2.39		2.6	3	8	0	177	4.17	2.99	0.67	3.66	200	0.50	23.19	0.74	0.538	OKAY	OKAY
St. 'B'	5	SAN MH 36	SAN MH 35			0.25	2.64		2.6	5	13	0	190	4.16	3.20	0.74	3.94	200	0.50	23.19	0.74	0.549	OKAY	OKAY
St. 'D'	1	HD UNIT 82	SAN MH 34			0.82	0.82		2.6	67	174	0	174	4.17	2.94	0.23	3.17	200	0.50	23.19	0.74	0.516	OKAY	OKAY
St. 'D'	2	HD UNIT 83	SAN MH 34			1.29	1.29		2.6	67	174	0	174	4.17	2.94	0.36	3.30	200	0.50	23.19	0.74	0.522	OKAY	OKAY
St. 'D'	3	SAN MH 34	SAN MH 35			0.15	2.26		2.6	4	10	0	359	4.04	5.87	0.63	6.50	200	5.00	73.34	2.33	1.440	OKAY	OKAY
St. 'D'	4	SAN MH 35	SAN MH 76			0.19	5.09		2.6	4	10	0	559	3.95	8.94	1.43	10.37	200	0.50	23.19	0.74	0.717	OKAY	OKAY
		SAN MH 76	SAN MH 84				5.09						559	3.95	8.94	1.43	10.37	200	0.50	23.19	0.74	0.717	OKAY	OKAY
		SAN MH 84	SAN MH 102				5.09						559	3.95	8.94	1.43	10.37	200	0.50	23.19	0.74	0.717	OKAY	OKAY
Drains to Shore Lane		SAN MH 102	SAN MH 407				5.09						559	3.95	8.94	1.43	10.37	200	0.50	23.19	0.74	0.717	OKAY	OKAY
							Total	Equivalent Units			215		215											

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

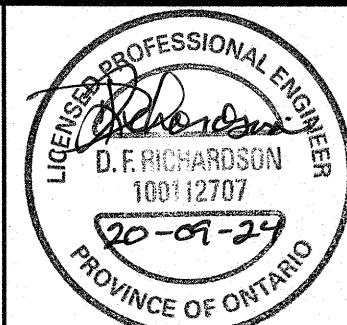
BENCHMARK:

BENCHMARK NO. 001971U190 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SMOKE ROAD NO. 7, IN LAMB, 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SMOKE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 5.8 M NORTH OF A PINE TREE. N4924007.000 E571589.000 ELEV 180.020

BENCHMARK NO. 00819890756 MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.8 KM EAST FROM MARLIN LANE. N4924027.508 E589777.320 ELEV 184

BENCHMARK NO. 001971U183 COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHWEST OF JUNCTION OF HIGHWAY NO. 26 AND SMOKE ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.000 E568778.000 ELEV 183.562

1	FSR SUBMISSION	SEP 2020	DR
NO.	REVISIONS	DATE	INITIAL



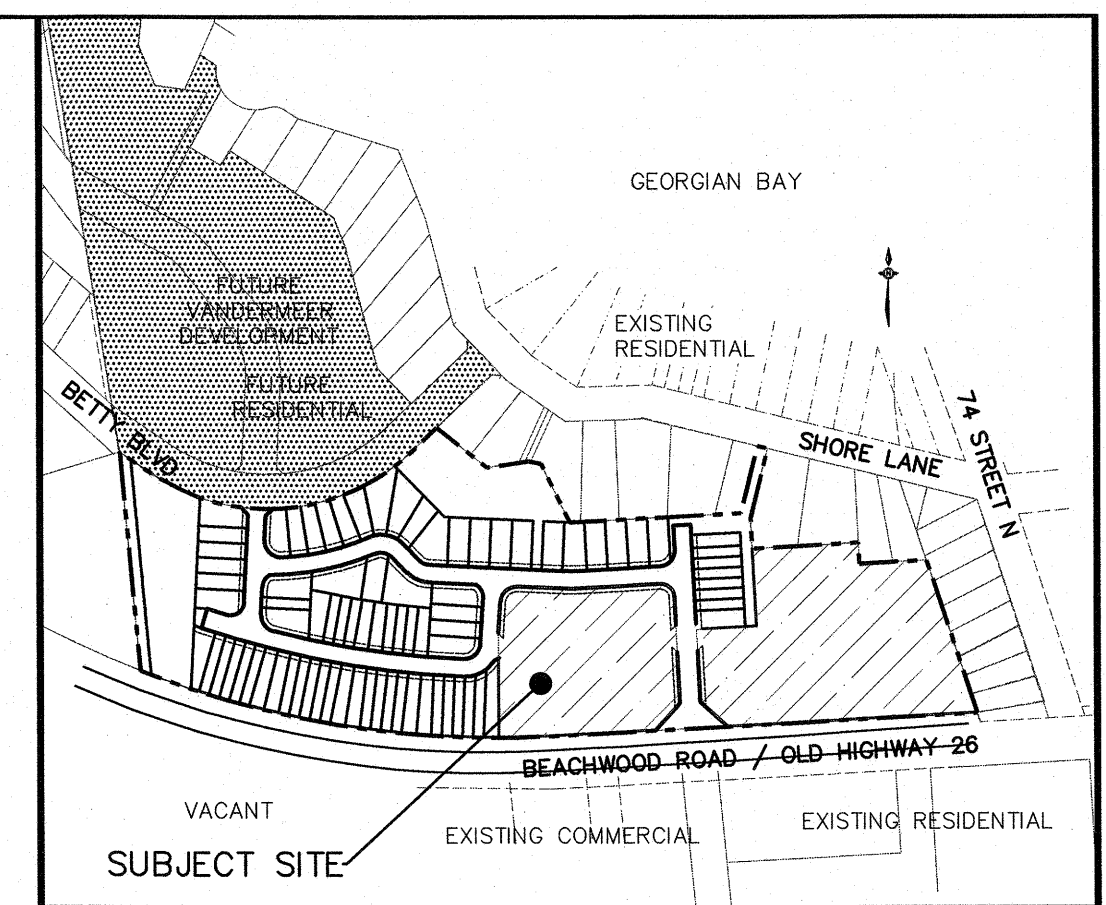
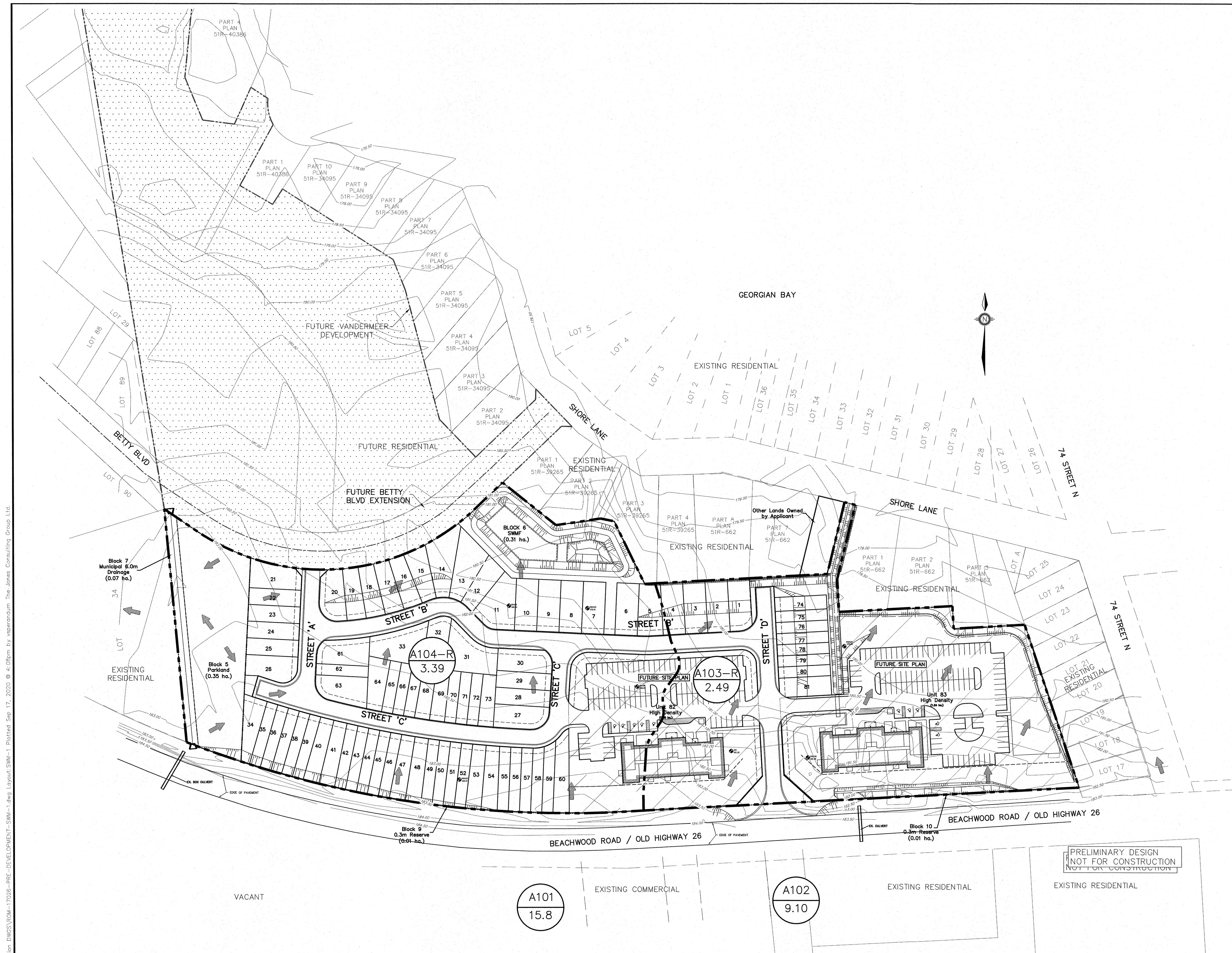
BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH

SANITARY SEWER DESIGN SHEET



229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

DESIGN	VS	SCALE: 1:1000	DATE	APRIL 2020
DRAWN	KC/VS	PROJECT	DWG. N ^o	
CHECKED	JB	ROM-17026	DS-2	



LEGEND

- PROPERTY LIMITS
- EXISTING DITCH LINE
- INTERNAL PRE-DEVELOPMENT STORM CATCHMENT BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXTERNAL STORM CATCHMENT NUMBER
- AREA (HECTARES)
- DIRECTION OF EXISTING STORM DRAINAGE

LEGEND

- PROPERTY LIMITS
- EXISTING DITCH LINE
- INTERNAL PRE-DEVELOPMENT STORM CATCHMENT BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXTERNAL STORM CATCHMENT NUMBER
- AREA (HECTARES)
- DIRECTION OF EXISTING STORM DRAINAGE

LEGEND

- PROPERTY LIMITS
- EXISTING DITCH LINE
- INTERNAL PRE-DEVELOPMENT STORM CATCHMENT BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXTERNAL STORM CATCHMENT NUMBER
- AREA (HECTARES)
- DIRECTION OF EXISTING STORM DRAINAGE

BENCHMARK: BENCHMARK NO. 001971U190 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SMUCK ROAD NO. 7, IN L.A.M., 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SMUCK ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 0.8 M NORTH OF A PINE TREE. N4924007.000 E571588.000 ELEV 180.020 BENCHMARK NO. 0019880706, MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.8 KM EAST FROM MARLIN LANE. N4924207.508 E569777.320 ELEV 164 BENCHMARK NO. 001971U183, COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHWEST OF JUNCTION OF HIGHWAY NO. 26 AND SMUCK ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST END OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.000 E569779.000 ELEV 163.560				1 FSR SUBMISSION SEP 2020 DR				NO. REVISIONS DATE INITIAL			

PROFESSIONAL ENGINEER

D.F. RICHARDSON

100112707

20-07-24

PROVINCE OF ONTARIO

BEACHWOOD DEVELOPMENT INC.

BEACHWOOD DEVELOPMENT

TOWN OF WASAGA BEACH

STORMWATER MANAGEMENT

PRE-DEVELOPMENT AREAS

JONES

CONSULTING GROUP LTD.

PLANNERS & ENGINEERS

229 Mapleview Dr. E, Unit 1

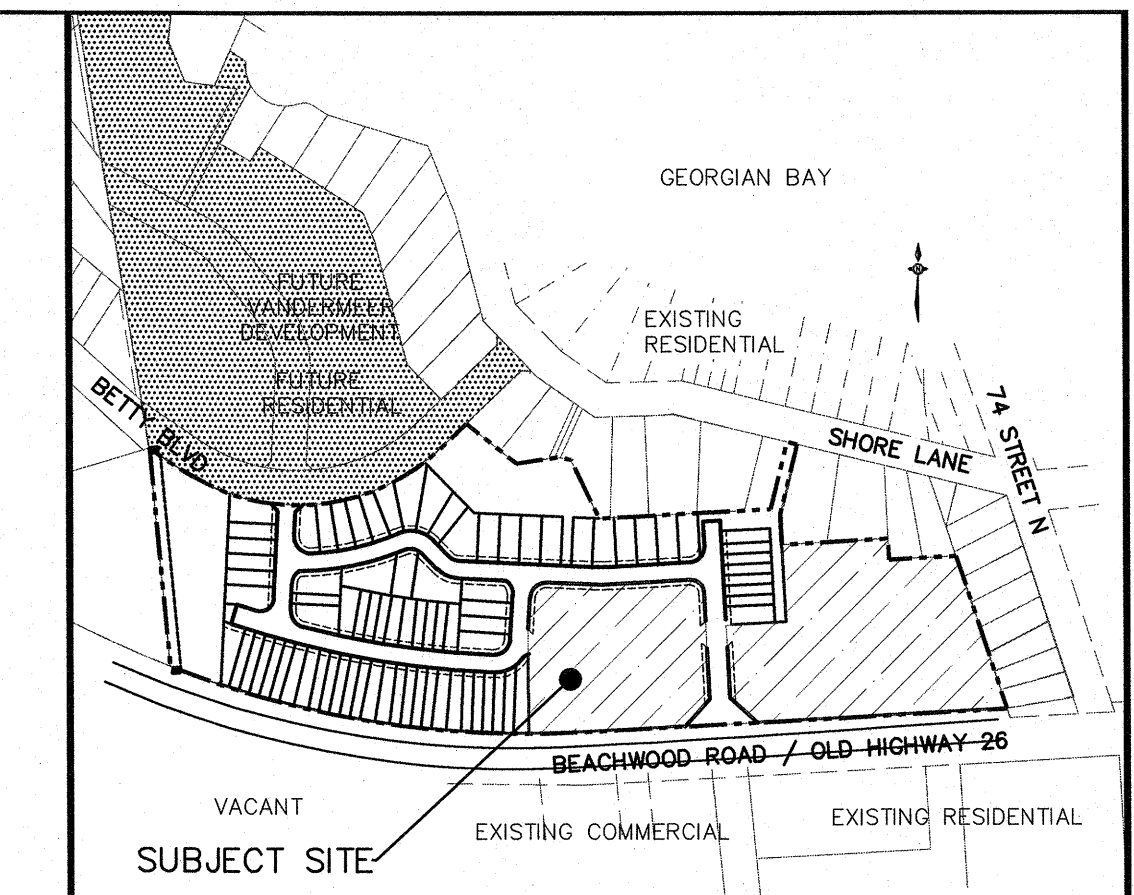
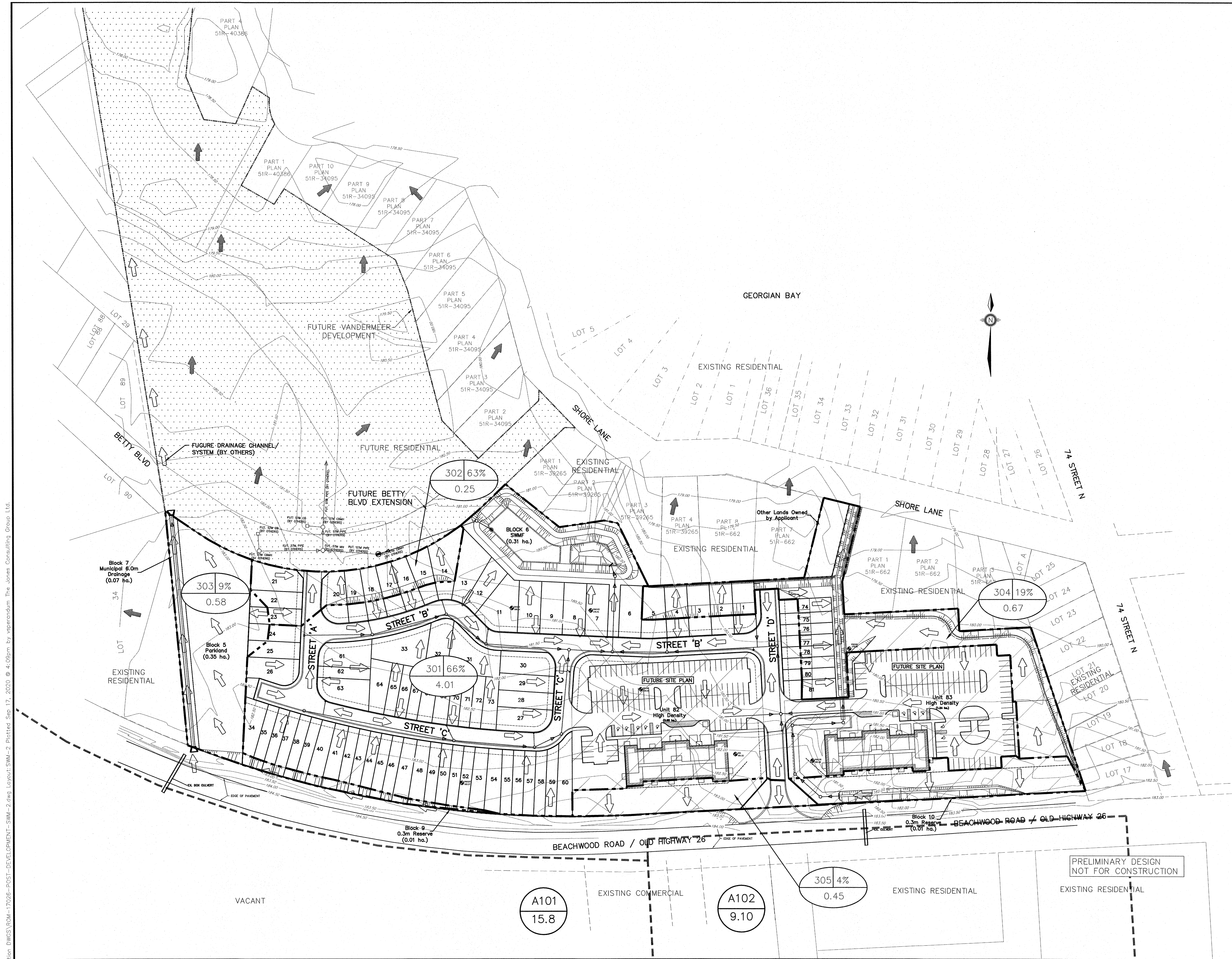
Barrie, ON L4N 0W5

P. 705.734.2538

F. 705.734.1058

DESIGN	JB	SCALE: 1:1000	DATE	APR 2020
DRAWN	KC/VS	PROJECT	DWG. NO	
CHECKED	JB	ROM-17026	SWM-1	

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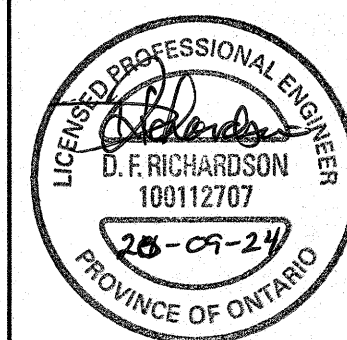
KEYPLAN N.T.S.

LEGEND	
PROPERTY LIMITS	---
POST-DEVELOPMENT STORM CATCHMENT BOUNDARY	---
EXISTING DITCH LINE	---
STORM SEWER, MAINTENANCE HOLE AND DIRECTION OF FLOW	○
STM SINGLE CATCHBASIN	□
STORM DOUBLE CATCHBASIN	□
EXISTING MAJOR CONTOUR	200.00
EXISTING MINOR CONTOUR	201.00
% IMPERVIOUSNESS	---
STORM CATCHMENT NUMBER	---
AREA (HECTARES)	---
DIRECTION OF EXTERNAL STORM DRAINAGE	→
DIRECTION OF STORM DRAINAGE	→
PRE-DEVELOPMENT STORM CATCHMENT BOUNDARY	---

G:\Eng-3\1\ROM-17026-POST-DEVELOPMENT-SWM-2.dwg Layout-SWM-2 Plotted Sep 17, 2020 @ 4:09pm by user:adam The Jones Consulting Group Ltd.

BENCHMARK:
BENCHMARK NO. 0011971U180 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SHORE ROAD NO. 7, IN LANE, 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SHORE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 5.8 M NORTH OF A PINE TREE. N4924007.500 E571588.500 ELEV 180.020
BENCHMARK NO. 0011971U183 COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SHORE ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.500 E569778.500 ELEV 183.292

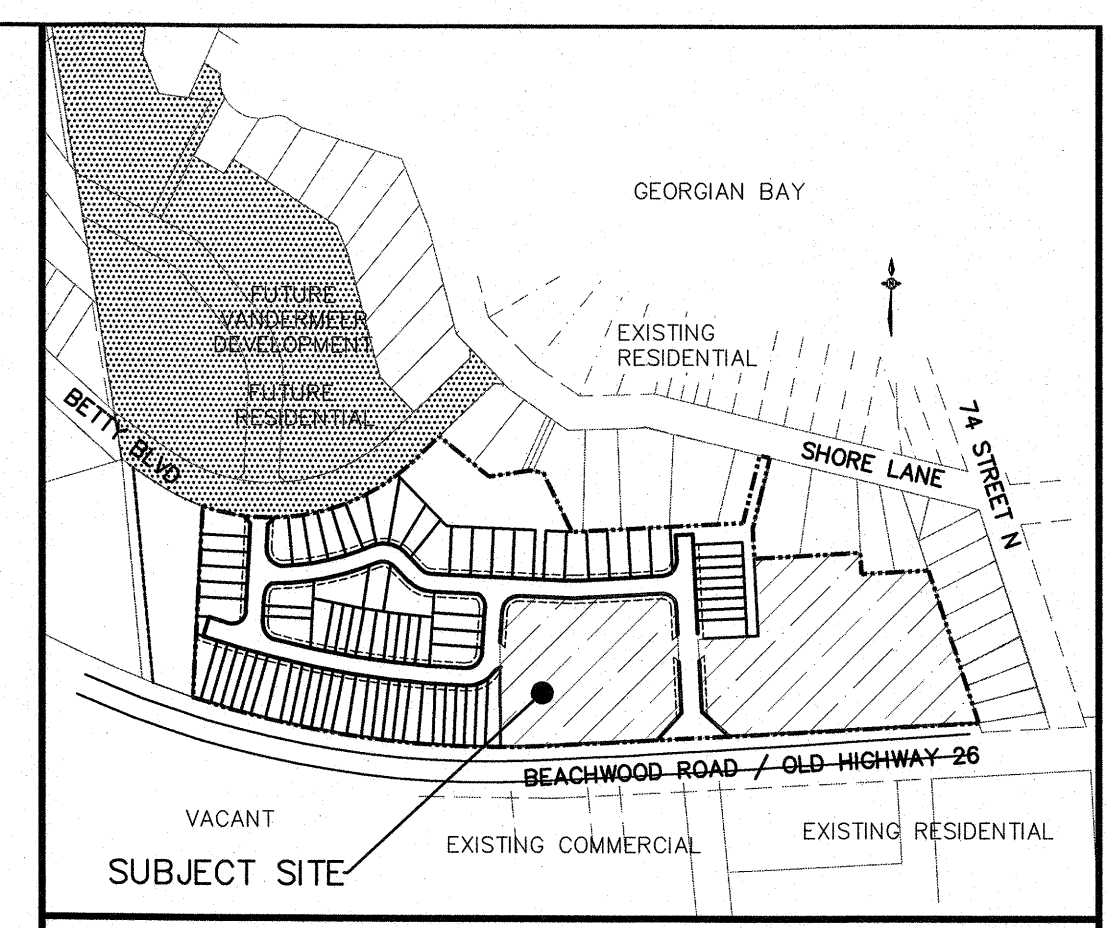
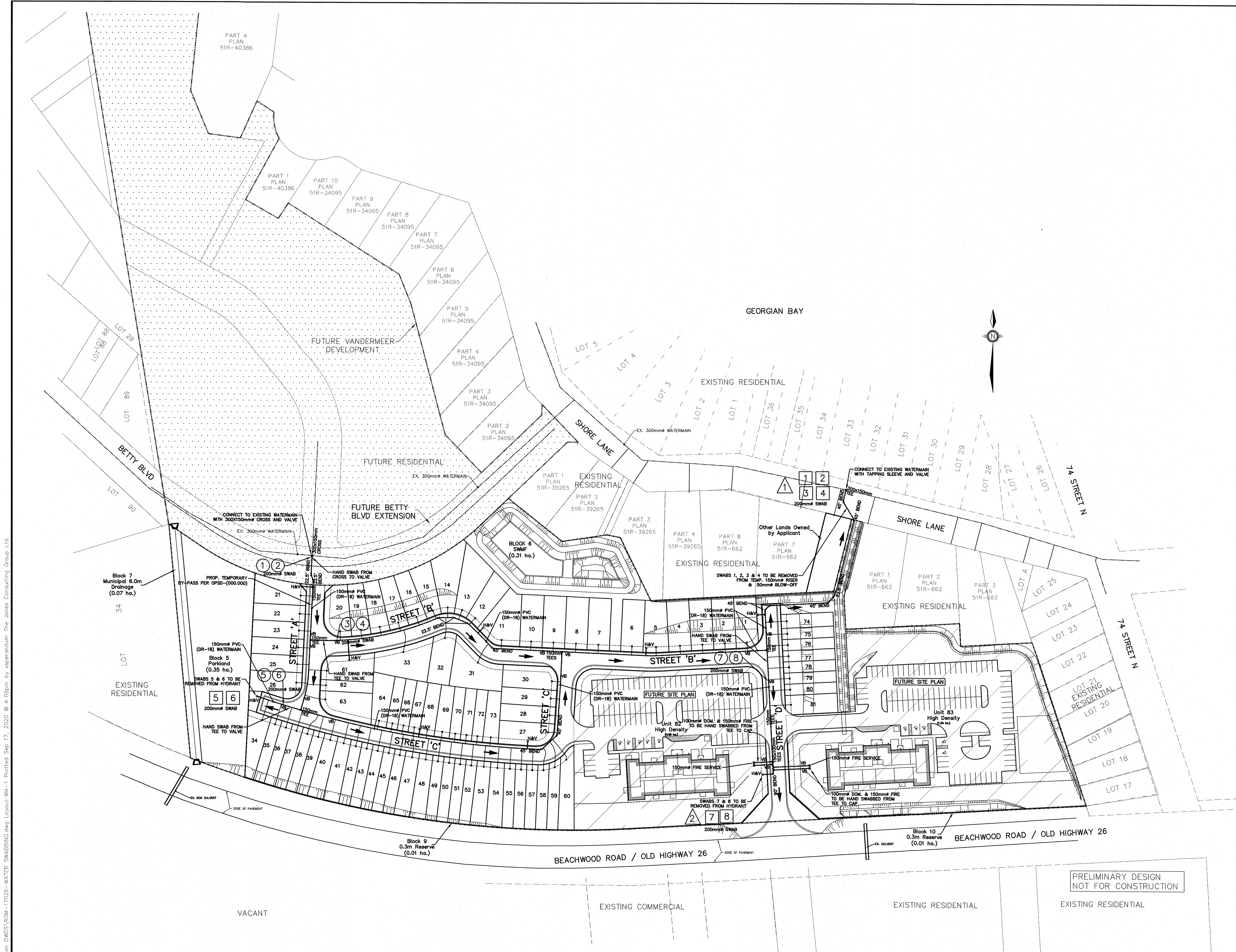
NO.	REVISIONS	DATE	INITIAL
1	FSR SUBMISSION	SEP 2020	DR



BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH
OVERALL STORMWATER MANAGEMENT
POST-DEVELOPMENT AREAS



DESIGN	JB	SCALE: 1:1000	DATE	APR 2020
DRAWN	KC/VS	PROJECT	DWG. NO.	
CHECKED	JB	ROM-17026	SWM-2	



LEGEND

- EX. VALVE & BOX
- EX. HYDRANT & VALVE
- EX. WATERMAIN
- PROP. HYDRANT AND VALVE
- PROP. VALVE
- PROP. WATERMAIN
- SWAB NUMBER, INSERTION LOCATION & SIZE
- SWAB NUMBER, REMOVAL LOCATION & SIZE
- WATER SAMPLE LOCATION AND NUMBER
- SWAB TRAVEL DIRECTION
- LIMIT OF SUBDIVISION

BENCHMARK:
BENCHMARK NO. 001971180 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BURNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SINCE ROAD NO. 7, IN LAWN, 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.3M SOUTH OF CENTRE LINE OF SINCE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 5.8 M NORTH OF A PINE TREE. N492407.000 E571588.000 ELEV 180.020
BENCHMARK NO. 0019880798 MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.6 KM EAST FROM MARLIN LANE. N4924207.508 E569777.320 ELEV 184
BENCHMARK NO. 001971183 COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHWEST OF JUNCTION OF HIGHWAY NO. 26 AND SINCE ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.000 E569778.000 ELEV. 183.592

NO.	REVISIONS	DATE	INITIAL
1	FSR SUBMISSION	SEP 2020	DR

PROFESSIONAL ENGINEER
D.F. RICHARDSON
100112707
20-09-24
PROVINCE OF ONTARIO

BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH

WATER SWABBING PLAN

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1058

DESIGN	VS	SCALE: 1:1000	DATE	JULY 2020
DRAWN	VS	PROJECT	DWG. NO.	
CHECKED	JB	ROM-17026	WM-1	

G:\Enr_30\ROM-17026\Production\DWG\ROM-17026-WATER SWABBING.dwg Layout: WM-1 Plotted: Sep 17, 2020 @ 4:09pm by aspercardium The Jones Consulting Group Ltd.

GEORGIAN BAY

FUTURE WANDERWEED DEVELOPMENT

FUTURE RESIDENTIAL

BETTY BLVD

EXISTING RESIDENTIAL

SHORE LANE

14 STREET N

VACANT

SUBJECT SITE

EXISTING COMMERCIAL

EXISTING RESIDENTIAL

BEACHWOOD ROAD / OLD-HIGHWAY-26

Diagram illustrating a storm sewer system layout:

- STORM SEWER, MAINTENANCE HOLE AND DIRECTION OF FLOW:** A horizontal line represents the sewer pipe. A dashed line indicates the direction of flow. A triangle symbol on the line represents a maintenance hole (MH).
- CATCHBASIN:** A square symbol labeled "CB" is shown above the sewer line.
- DOUBLE CATCHBASIN:** A square symbol labeled "DCB" is shown below the sewer line.
- DOUBLE DITCH INLET CATCHBASIN MAINTENANCE HOLE:** A circular symbol with a cross inside is shown below the sewer line.
- SLOPE (3:1 MAX.):** A cross-section diagram of a ditch with a 3:1 slope.
- FINISHED GROUND ELEVATION:** A point labeled "X" with an elevation of 183.53.
- EXISTING GROUND ELEVATION:** A point labeled "X" with an elevation of 182.48.
- HYDRANT AND VALVE:** A circular symbol with a cross inside is shown below the sewer line.
- H&V:** A label indicating the horizontal and vertical alignment.



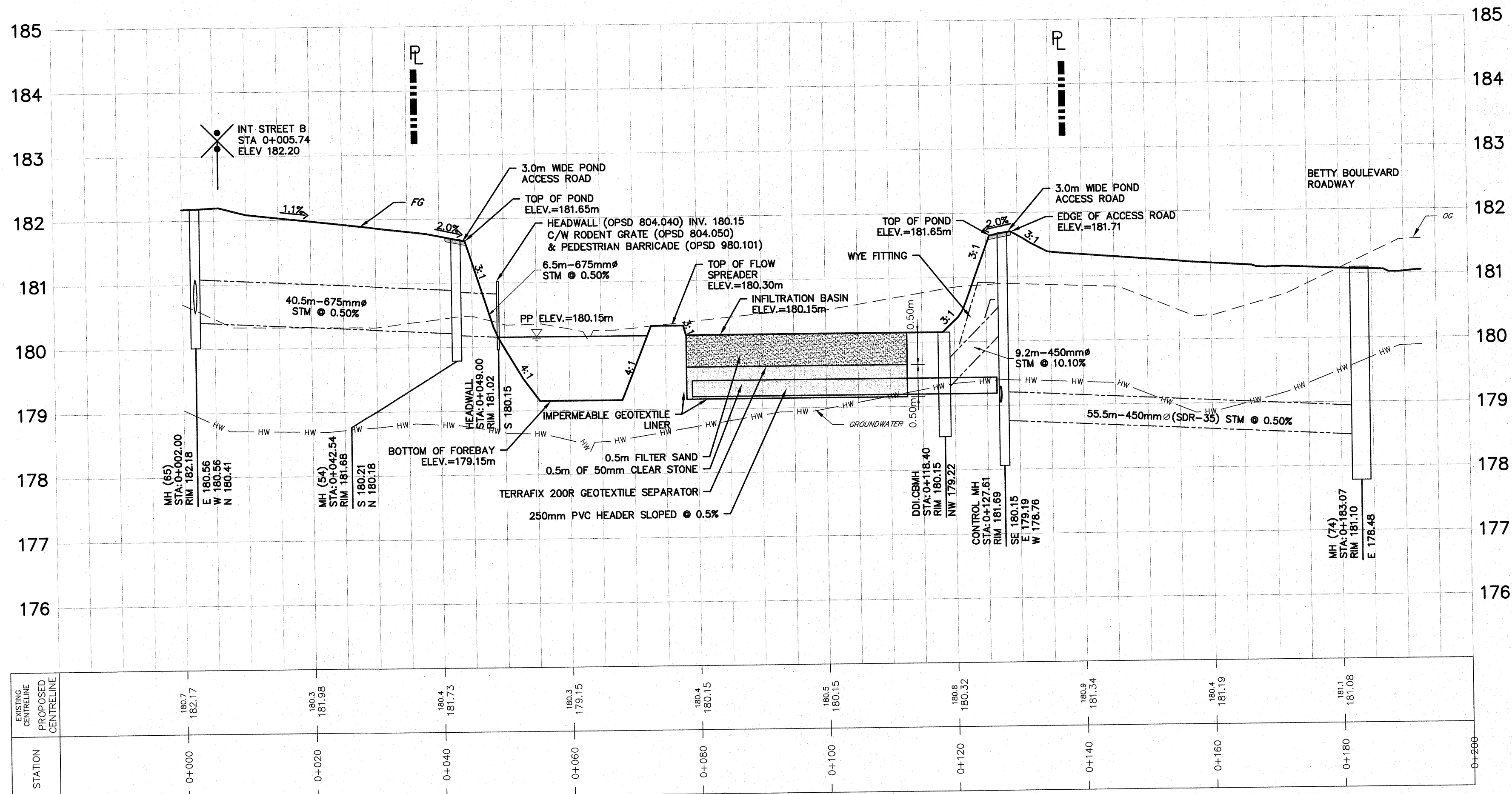
A circular professional engineer seal for the Province of Ontario. The outer ring contains the text "LICENSED PROFESSIONAL ENGINEER" at the top and "PROVINCE OF ONTARIO" at the bottom. In the center, there is a signature, the name "D.F. RICHARDSON", the license number "100112707", and an expiration date "20-09-24" inside a small oval.



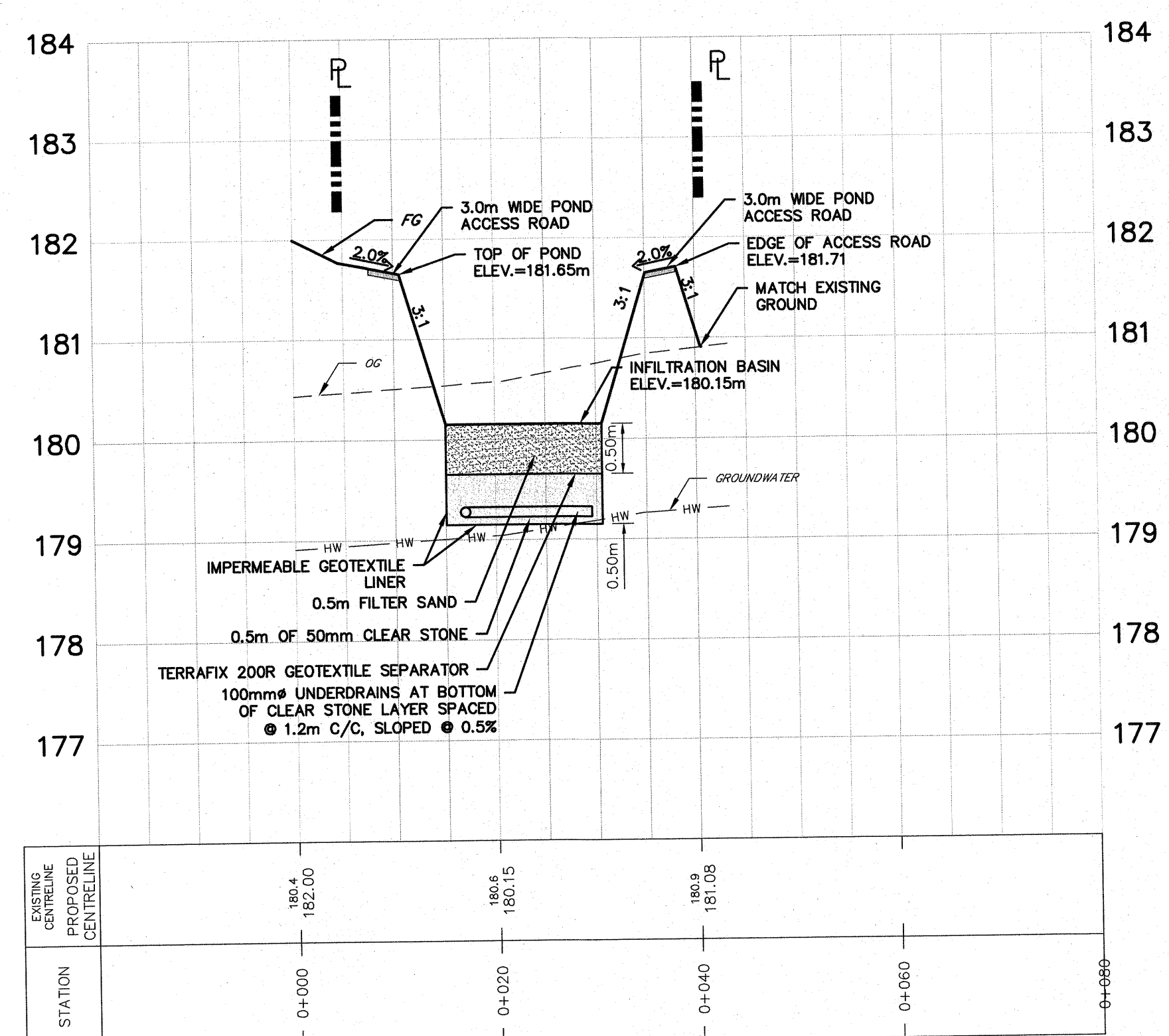
JONES
CONSULTING GROUP LTD.
PLANNERS & ENGINEERS

229 Mapleview Dr. E, Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
F. 705.734.1056

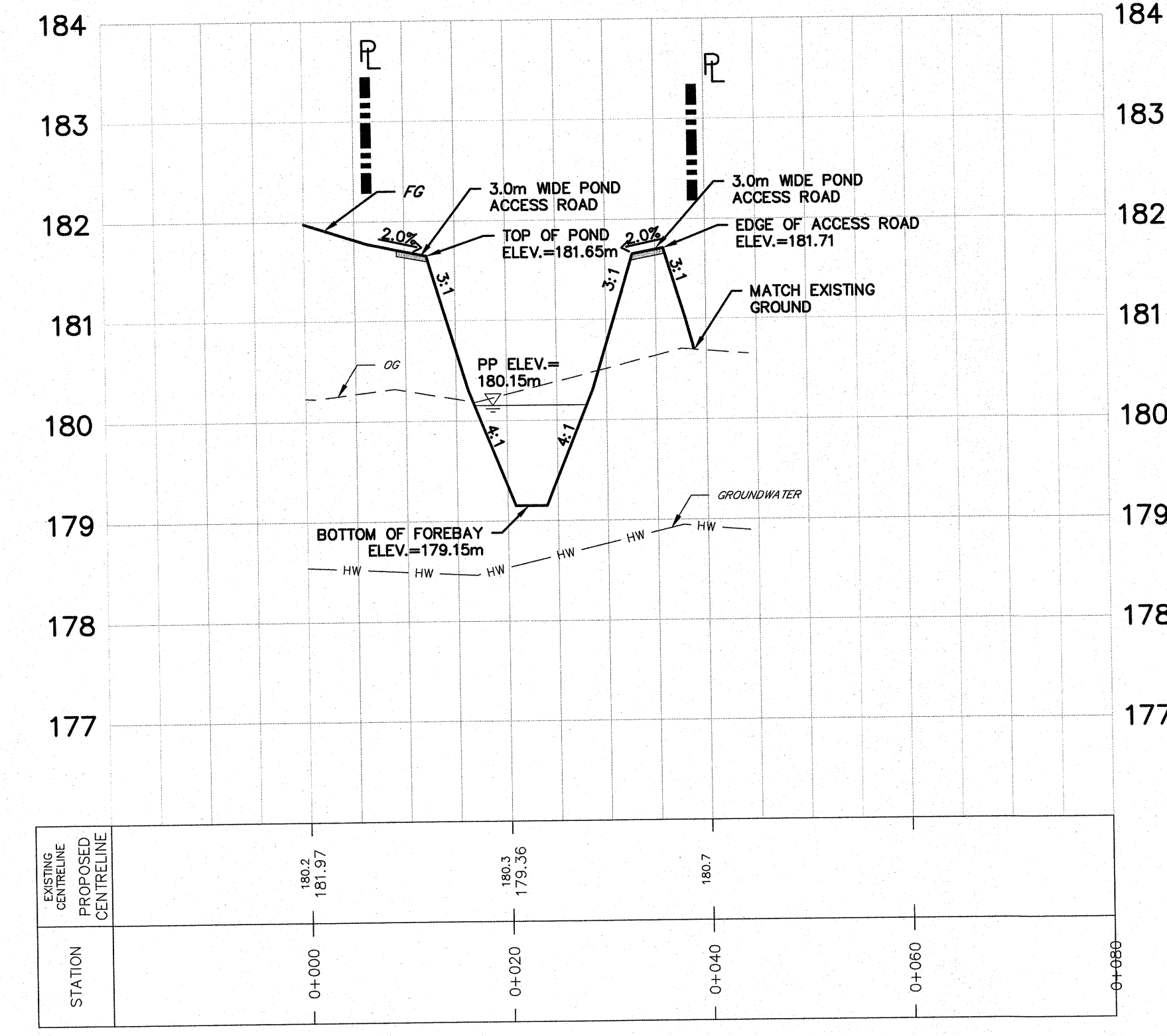
DESIGN JB	SCALE: 1:250	DATE JUL 2020
DRAWN VS	PROJECT ROM-17026	DWG. NO PND-1
CHECKED JB		



SECTION A-A
HOR. 1:500
VERT. 1:50

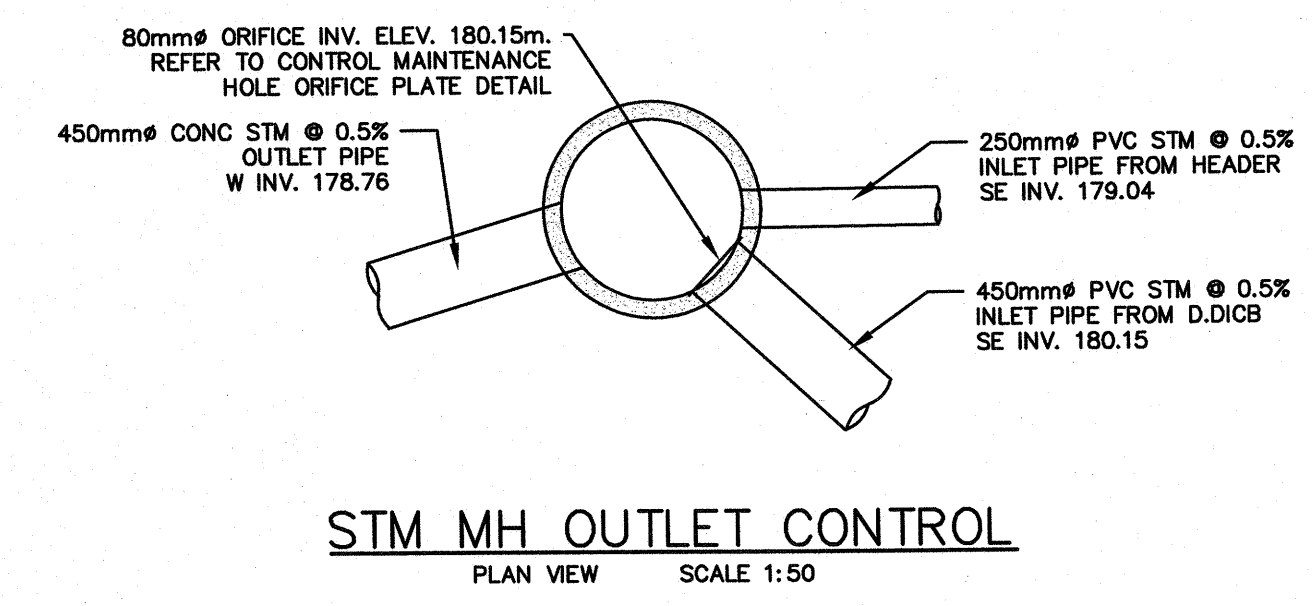
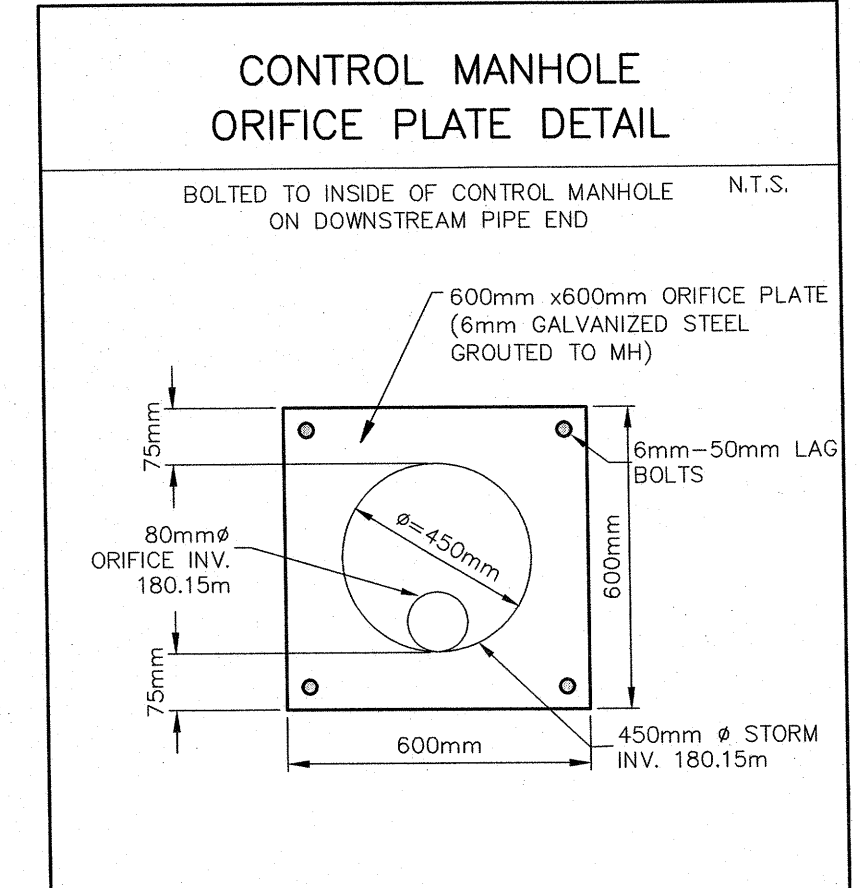
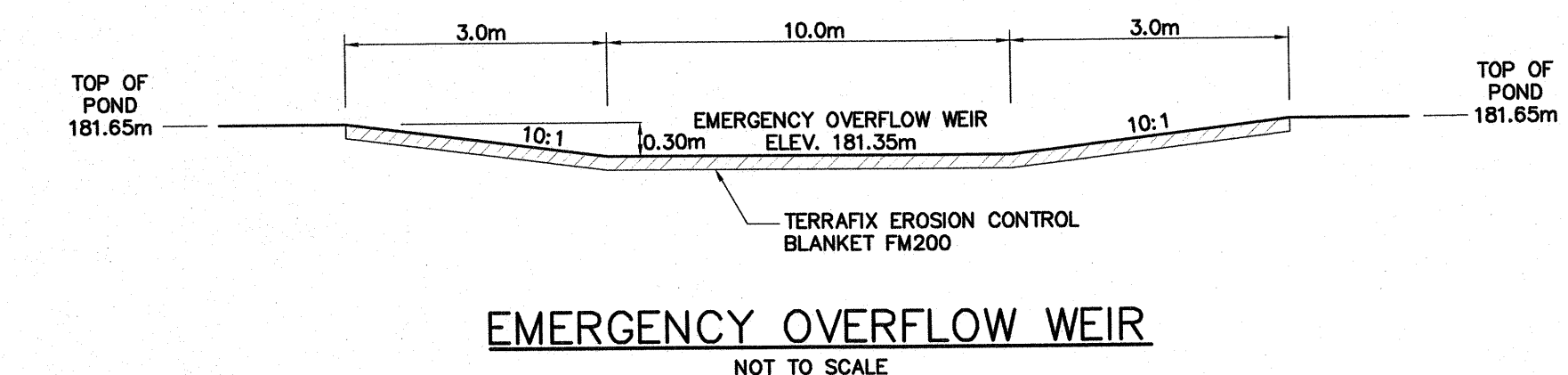
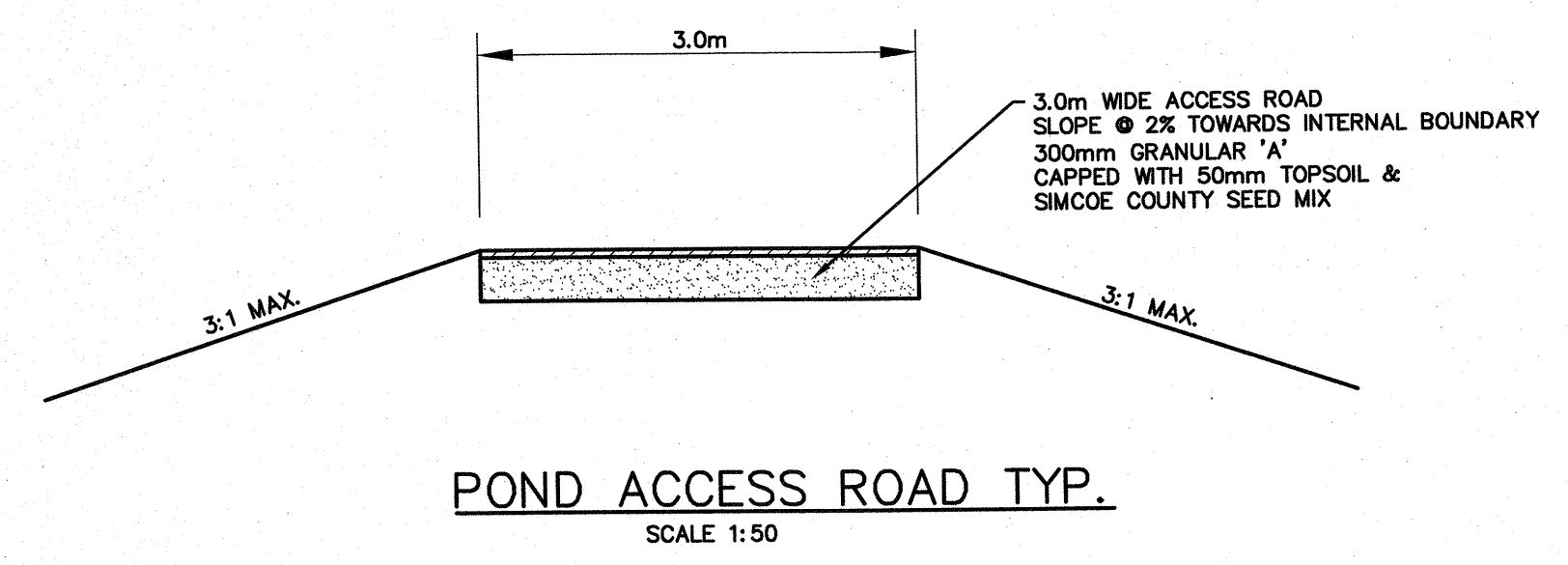


SECTION B-B
HOR. 1:500
VERT. 1:50



SECTION C-C
HOR. 1:500
VERT. 1:50

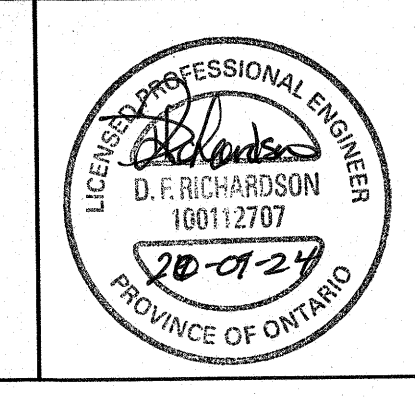
24 HR SCS TYPE II STORM WATER ELEVATION	
Storm Event	Elevation (m)
25mm 4Hr. Chicago	180.14
2yr. 24Hr. SCS	180.69
5yr. 24Hr. SCS	180.88
10yr. 24Hr. SCS	180.99
25yr. 24Hr. SCS	181.13
50yr. 24Hr. SCS	181.24
100yr. 24Hr. SCS	181.35
Timmins	181.31



PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

BENCHMARK:
BENCHMARK NO. 0019710100 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BIRCH AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 28 AND SIMCOE ROAD NO. 7, IN LAWN, 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.5M SOUTH OF CENTRE LINE OF SIMCOE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 5.8 M NORTH OF A PINE TREE. N4924007.000 E571500.000 ELEV 180.020
BENCHMARK NO. 0001080700 MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY NO. 28, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.8 KM EAST FROM MARLIN LANE. N4924207.508 E569777.320 ELEV 181.161
BENCHMARK NO. 0019710100 LOCATED AT JUNCTION OF HIGHWAY NO. 28 AND SIMCOE ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL. N4923771.000 E569779.000 ELEV. 183.592

NO.	REVISIONS	DATE	INITIAL
1	FSR SUBMISSION	SEP 2020	DR



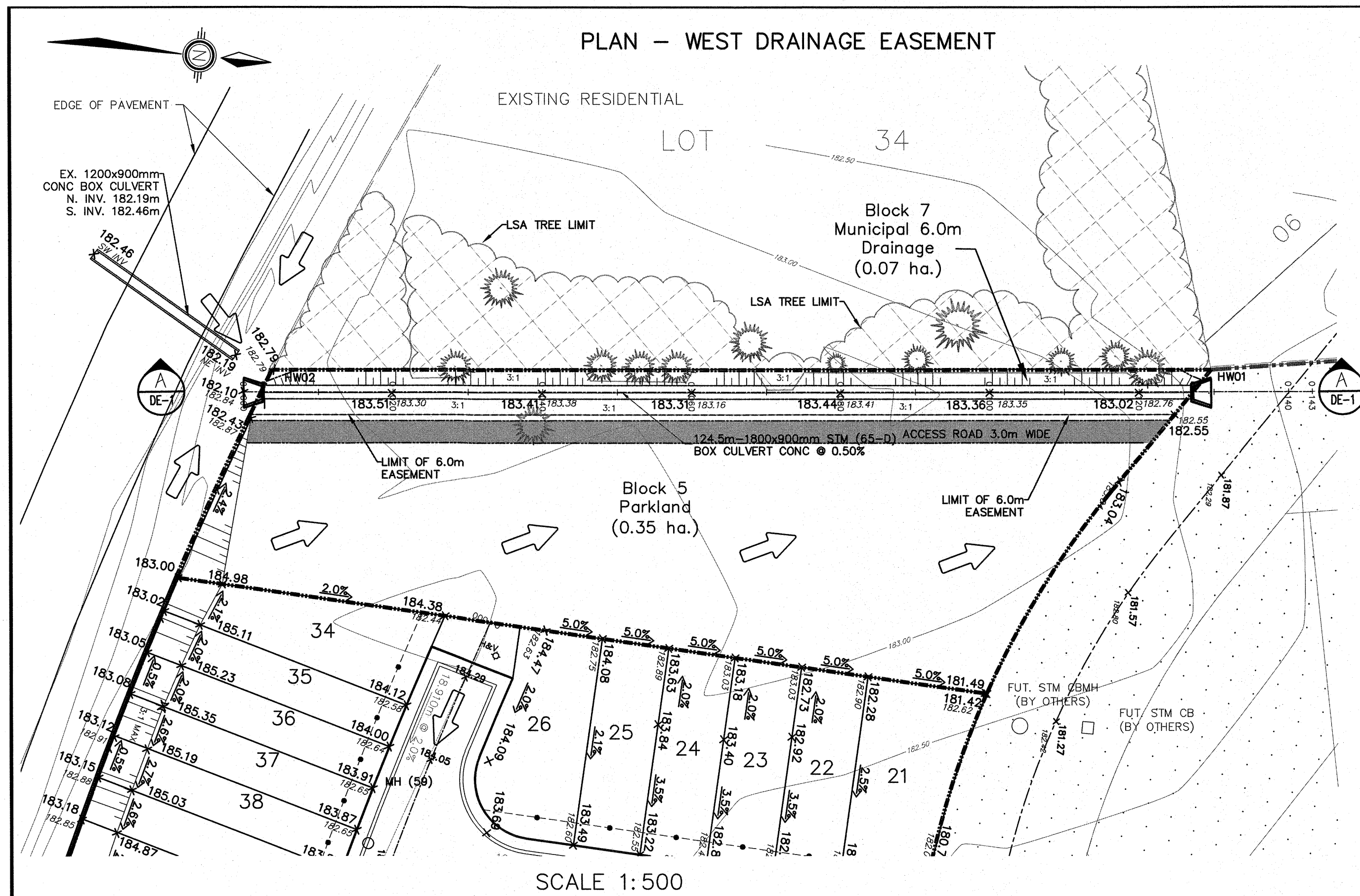
BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH

SWM FACILITY
SECTIONS & DETAILS

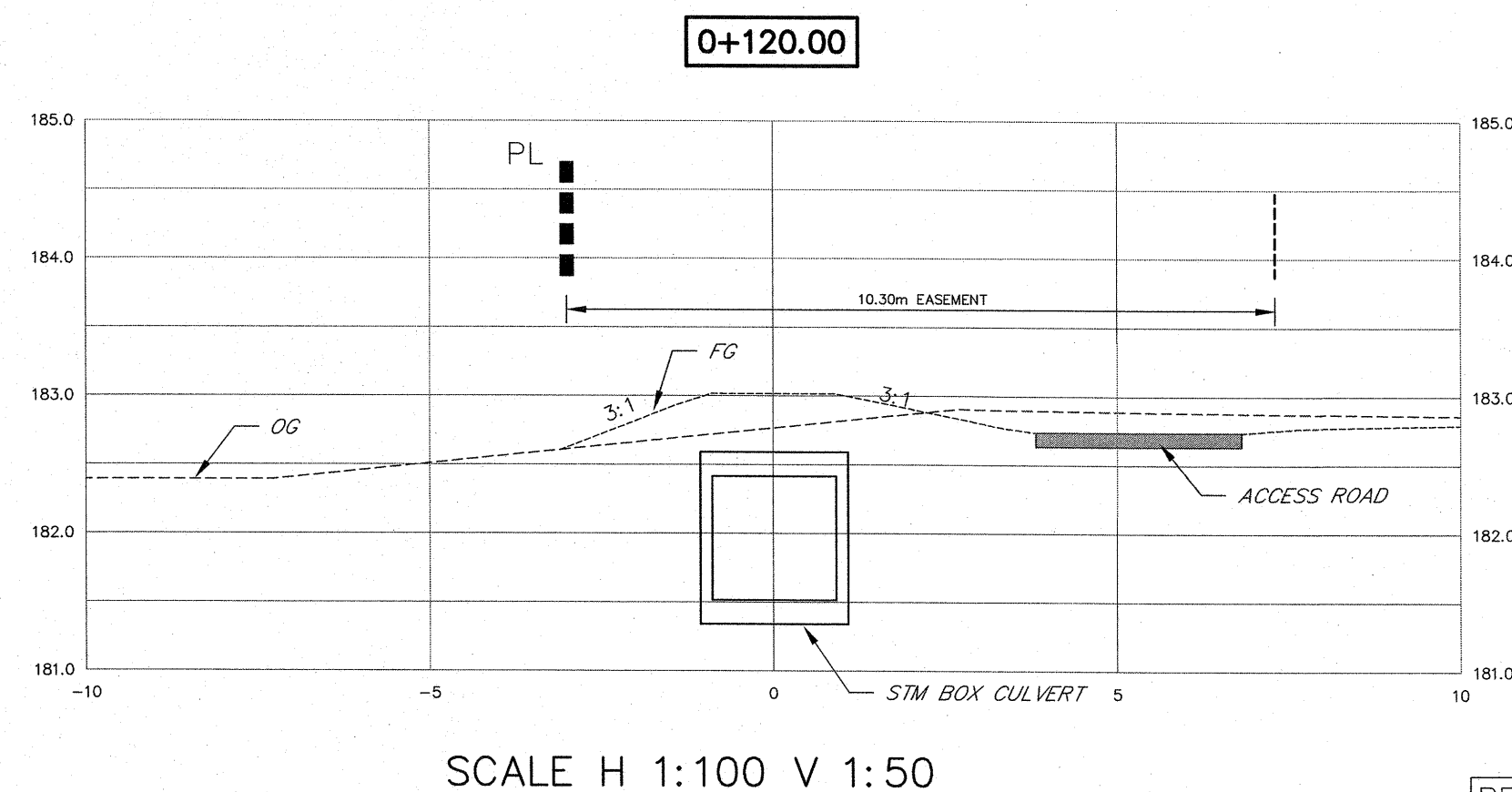
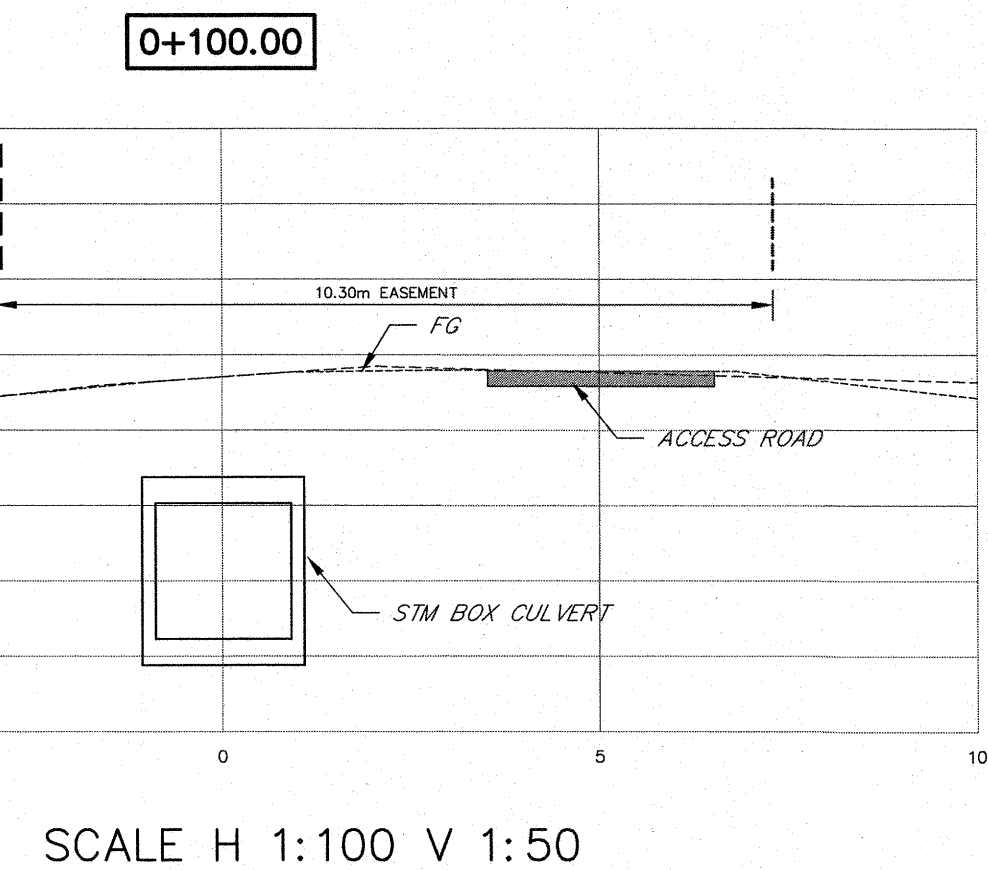
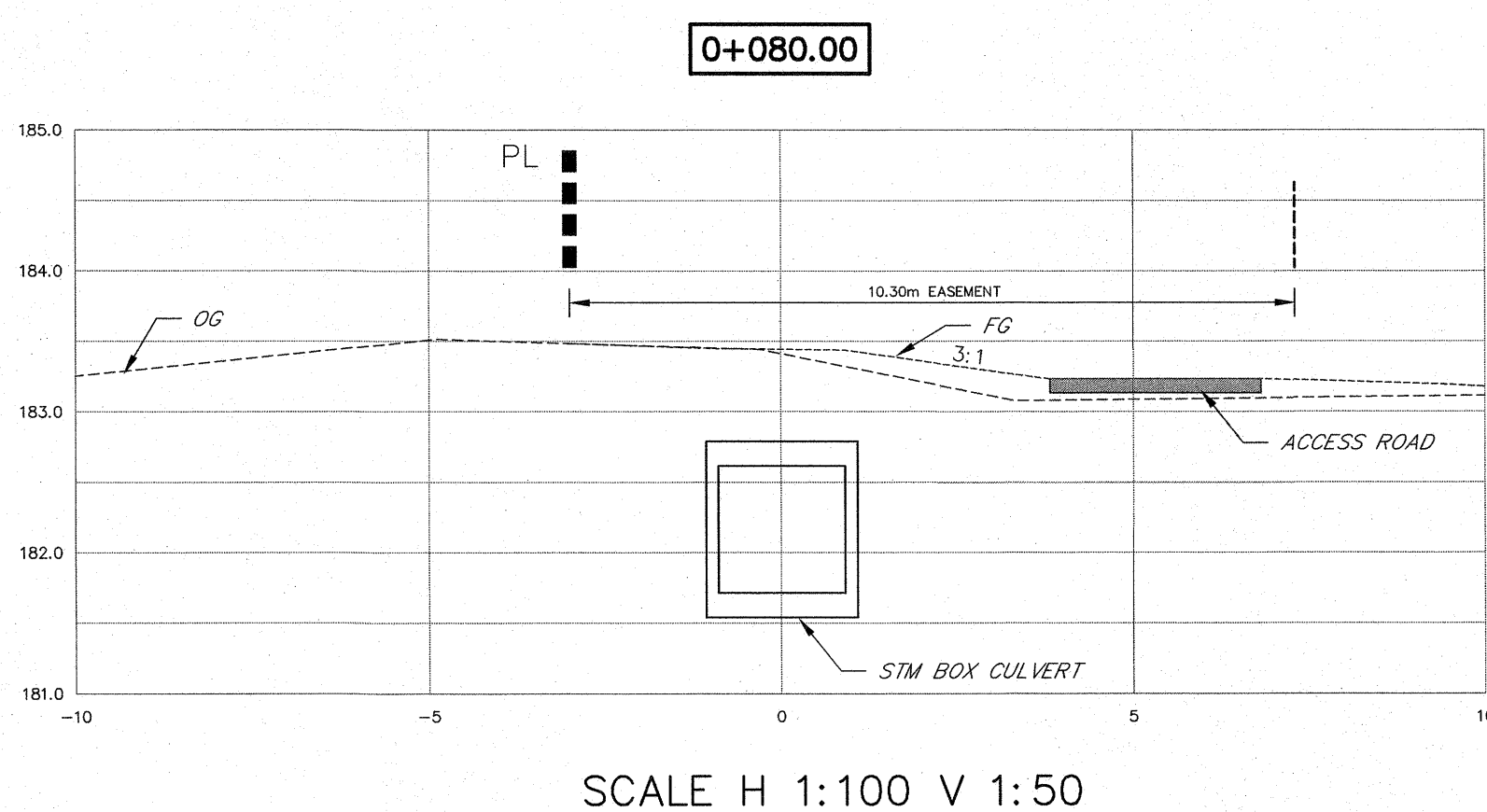
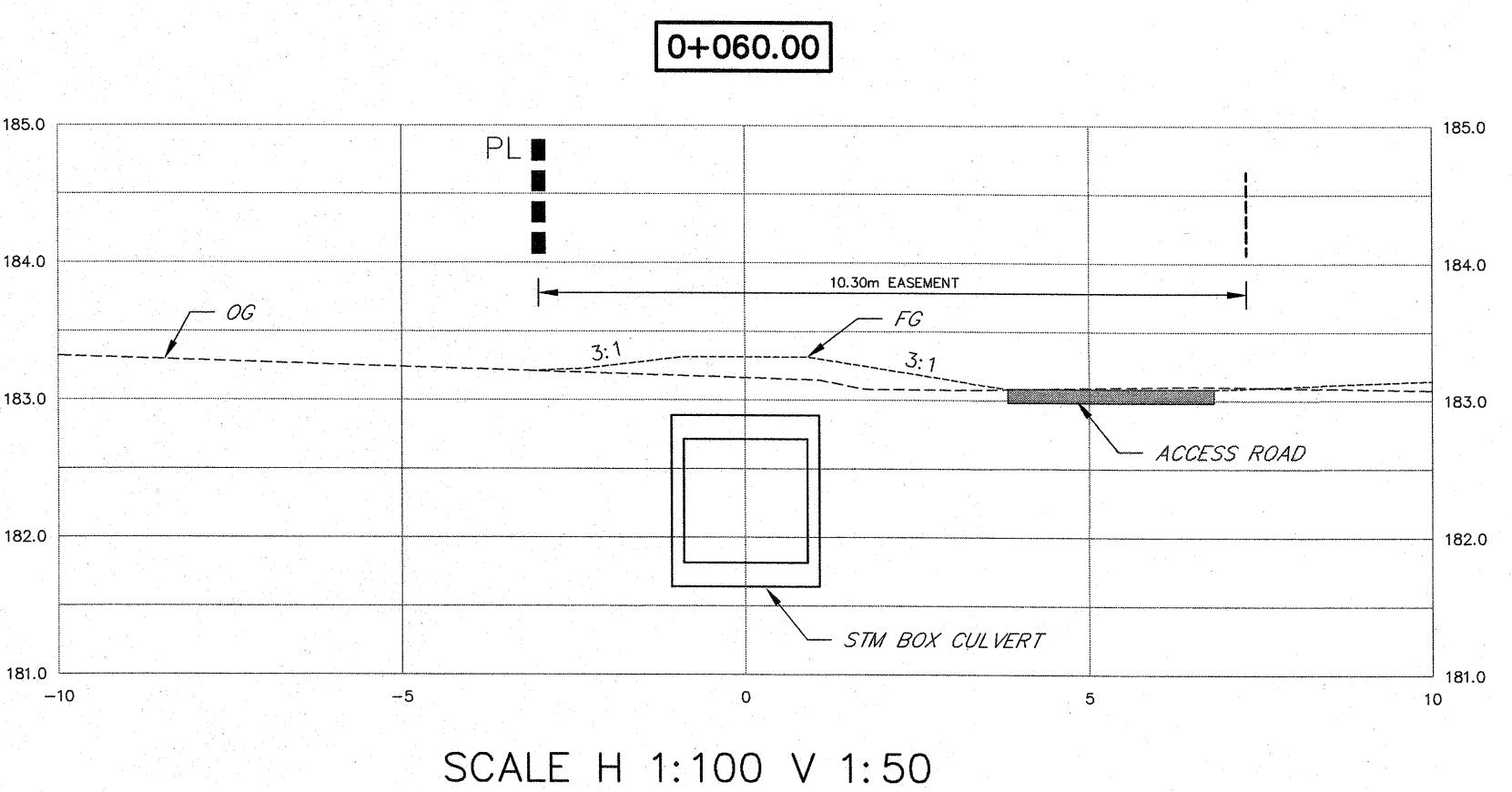
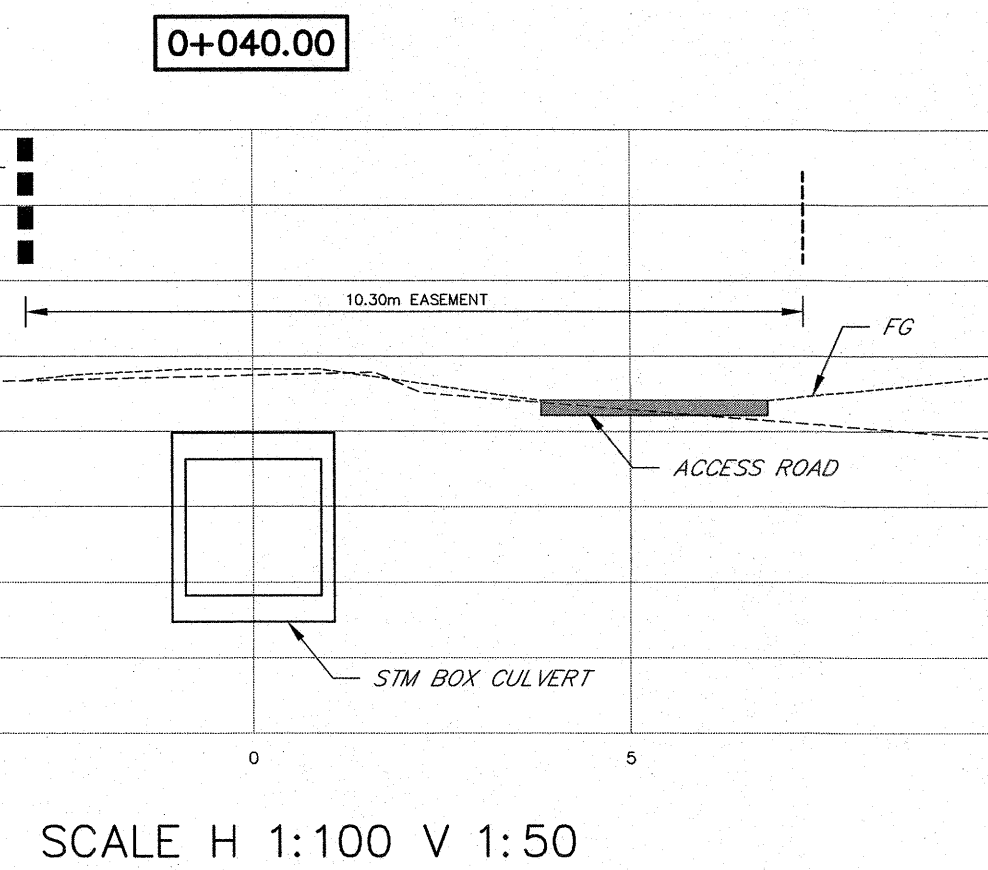
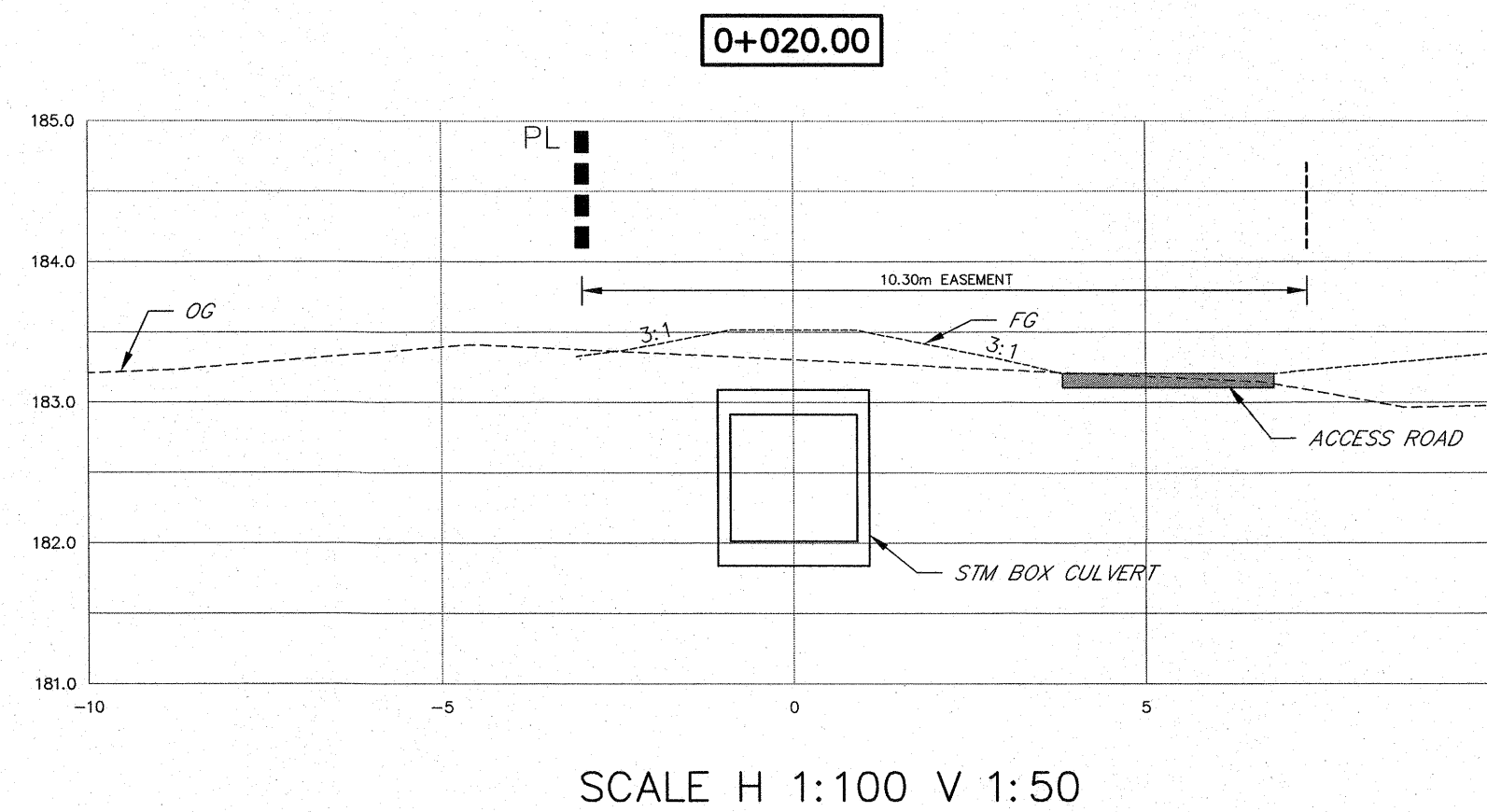
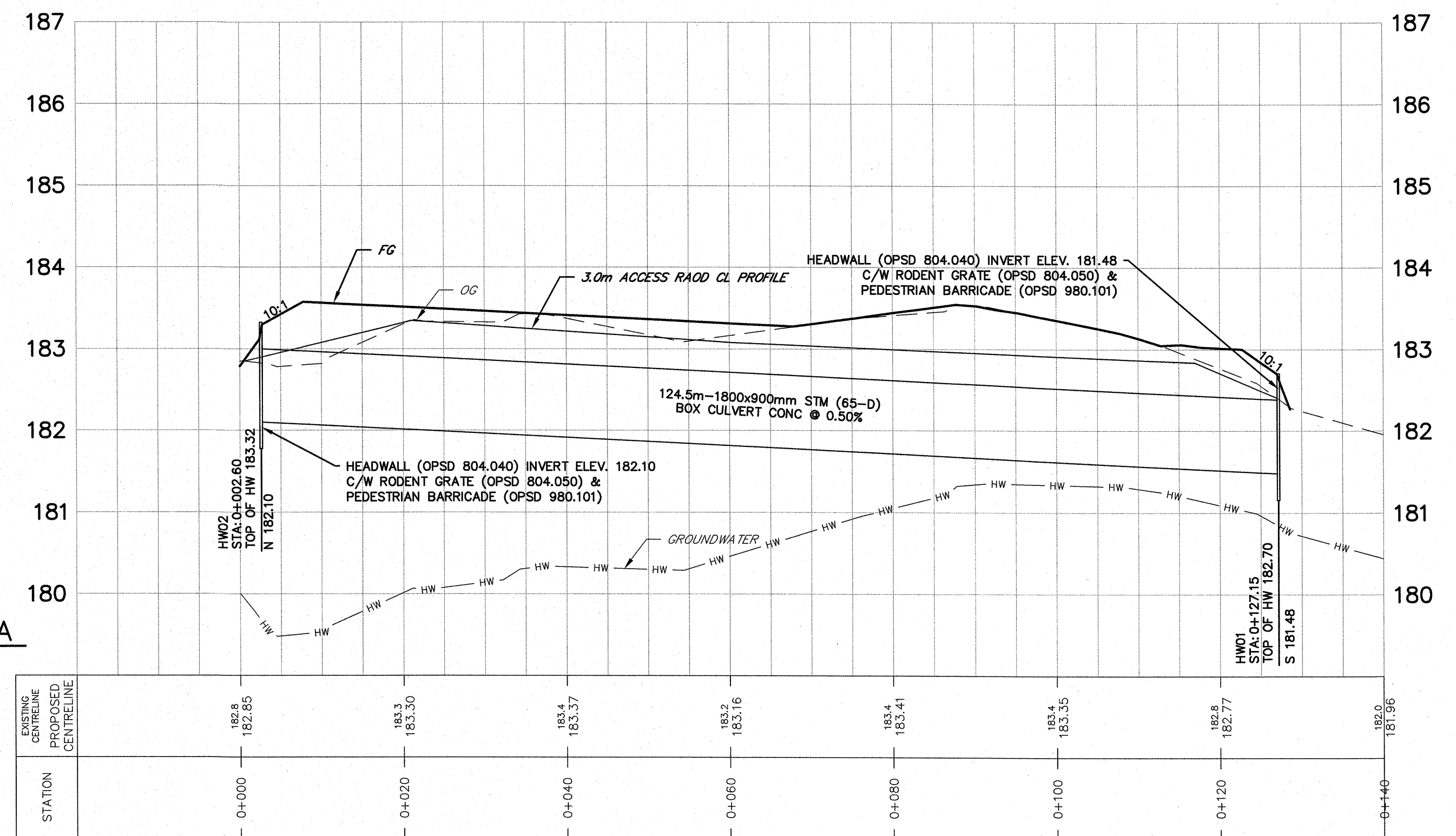


229 Mapleview Dr. E. Unit 1
Barrie, ON L4N 0W5
P. 705.734.2538
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DESIGN	JB	SCALE	1:250	DATE	JUL 2020
DRAWN	VS	PROJECT	ROM-17026	DWG. NO.	PND-2
CHECKED	JB				



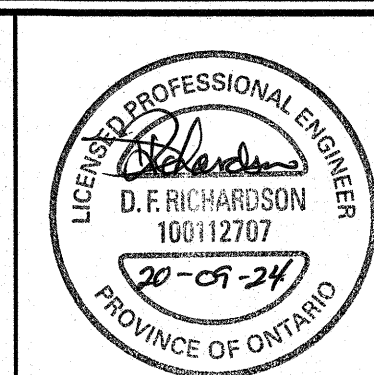
SECTION A-A
HOR. 1:500
VERT. 1:50



PRELIMINARY DESIGN
NOT FOR CONSTRUCTION

BENCHMARK:
BENCHMARK NO. 0019711190 LOCATED AT WASAGA BEACH DEEP BENCH MARK IN MANHOLE IN GROUND OF BYRNES AVENUE PUBLIC SCHOOL, 0.7 KM NORTHEAST OF JUNCTION OF HIGHWAY NO. 26 AND SMOKE ROAD NO. 7, IN L.A.M., 28.3 M NORTHEAST OF NORTHEAST CORNER OF SCHOOL, 22.2M SOUTH OF CENTRE LINE OF SMOKE ROAD NO. 7, 10.4 M EAST OF EAST LANEWAY TO SCHOOL, 5.8 M NORTH OF A PINE TREE.
N4924007.000 E571589.000 ELEV 180.020
BENCHMARK NO. 0001880756 MONUMENT LOCATED ON THE SOUTH SIDE OF HIGHWAY 26, 0.5 KM WEST FROM 74TH STREET NORTH ALSO 0.6 KM EAST FROM MARILYN LANE.
N4924207.508 E568777.320 ELEV 184
BENCHMARK NO. 0019711183 COLLINGWOOD SMALL CONCRETE CULVERT UNDER HIGHWAY NO. 26, 1.3 KM NORTHWEST OF JUNCTION OF HIGHWAY NO. 26 AND SMOKE ROAD NO. 7, TABLET IN TOP OF CULVERT, 24 CM FROM SOUTHWEST END AND 18 CM FROM SOUTHEAST EDGE OF CULVERT, 2 M BELOW ROAD LEVEL.
N4923771.000 E568779.000 ELEV. 183.592

1	FSR SUBMISSION	SEP 2020	DR
NO.	REVISIONS	DATE	INITIAL



BEACHWOOD DEVELOPMENT INC.
BEACHWOOD DEVELOPMENT
TOWN OF WASAGA BEACH

WESTERN DRAINAGE EASEMENT



DESIGN	JT/VS	SCALE: AS NOTED	DATE	JULY 2020
DRAWN	JT/VS	PROJECT	ROM-17026	DWG. NO
CHECKED	JB			DE-1

229 Mapleview Dr. E, Unit 1
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