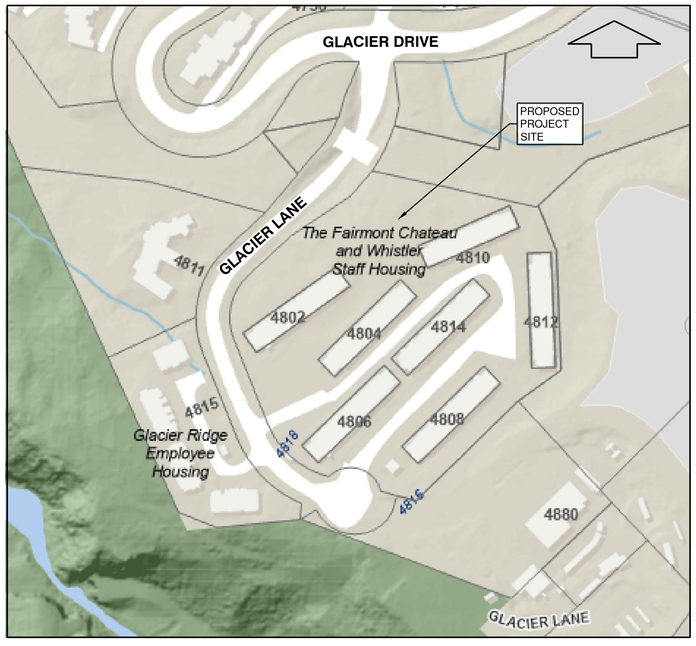
VAIL RESORTS
MANAGEMENT COMPANY

STAFF HOUSING GLACIER 8
NOT FOR CONSTRUCTION

LEGEND

EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION
IPF		IRON PROPERTY PIN	W	W	WATERMAIN
		BUILDING			WATER SERVICE CONNECTION
		EDGE OF PAVEMENT	W	W	WATER VALVE
		CURB & GUTTER	W	W	AIR VALVE
		TRUCK ROUTE	H	H	HYDRANT & VALVE ASSEMBLY
S	S	SANITARY SEWER	YH	YH	YARD HYDRANT
		SANITARY CONNECTION & INSPECTION CHAMBER	W	W	CAPPED END
D	D	STORM SEWER	M	M	WATER METER
		STORM CONNECTION & INSPECTION CHAMBER	W	W	BLOW-OFF
		CATCH BASIN / LAWN BASIN LEAD	T	T	UNDERGROUND TELEPHONE & MANHOLE
FD	FD	FRENCH DRAIN	E	E	UNDERGROUND ELECTRICAL & MANHOLE
CO D	CO D	STORM SEWER & CLEANOUT	G	G	GASMAIN
		CATCH BASIN - TOP INLET & SIDE INLET	L	L	TRAFFIC SIGNAL & STREET LIGHT U/G DUCTS
		LAWN DRAIN	H	H	HYDRO U/G DUCTS
CB		CATCH BASIN MANHOLE	CATV	CATV	CABLE TV U/G DUCTS
		SWALE			ORNAMENTAL STREET LIGHT - DAVIT
		DITCH			ORNAMENTAL STREET LIGHT - POST TOP
		SIDEWALK (ASPHALT)	UP	UP	UTILITY POLE
		SIDEWALK (CONCRETE)			UTILITY POLE W/ LIGHT
		RETAINING WALL	J	J	JUNCTION BOX
X.XX				9.270	GROUND ELEVATION
					DIRECTION OF OVERLAND FLOW



SITE PLAN
N.T.S.

DRAWING INDEX

SHEET #	DRAWING TYPE	DRAWING TITLE	DWG #	REV
1	KEY PLAN	OVERALL PLAN	19-0393-KP1	1
2	KEY PLAN	COMPOSITE UTILITY PLAN	19-0393-KP2	1
3	EARTHWORKS	SITE GRADING PLAN	19-0393-SG1	5
4	SITE SERVICING PLAN	PIPE CROSSINGS	19-0393-XC1	2
~~5~~	~~STORMWATER MANAGEMENT PLAN~~	~~PRE-DEVELOPMENT~~	~~19-0393-SWMP1~~	~~1~~
6	STORMWATER MANAGEMENT PLAN	POST-DEVELOPMENT	19-0393-SWMP2	2
7	SEWER SYSTEM	SANITARY	19-0393-S1-1	2
8	SEWER SYSTEM	STORM	19-0393-ST1-1	2
9	WATERMAIN	SHEET 1 OF 2	19-0393-W1-1	2
10	WATERMAIN	SHEET 2 OF 2	19-0393-W1-2	1
11	GENERAL	CONSTRUCTION NOTES AND DETAILS	19-0393-D1	1
~~12~~	~~GENERAL CONSTRUCTION NOTES~~	~~TYPICAL SECTIONS AND DETAILS~~	~~19-0393-D2~~	~~1~~
13	EROSION AND SEDIMENT	CONTROL PLAN	19-0393-ESC1	1
14	EROSION AND SEDIMENT CONTROL PLAN	NOTES AND DETAILS	19-0393-ESC2	1

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R.F. BINNIE & ASSOCIATES LTD.
201 - 40147 Glenalder Place,
Squamish, BC V8B 0G2
TEL 604 892 8222
BINNIE.com

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
S. HAWRYLYSHYN
47678
DECEMBER 23, 2021
ENGINEER

R.F. Binnie & Associates Ltd.
EGBC Permit to Practice
Number 1001128

19-0393 - STAFF HOUSING GLACIER 8 - NOT FOR CONSTRUCTION

ISSUED FOR DEVELOPMENT PERMIT

BENCHMARK:

ELEVATIONS ARE IN METRES AND ARE REFERRED TO GEODETIC DATUM CGVD28 USING SMARTNET WHISTLER STATION

ELEVATION = 923.642 METRES

ALL EXISTING UTILITIES ON THIS SHEET ARE BASED ON RECORD DRAWINGS AND RMOW GIS DATA. CONTRACTOR TO VERIFIY INVERT ELEVATIONS AND LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. ALL TIE-IN LOCATIONS TO BE EXPOSED PRIOR TO CONSTRUCTION TO CONFIRM ALIGNMENT AND CROSSINGS. ENGINEER TO BE NOTIFIED OF ANY DISCREPANCIES.

NEW SERVICE CONNECTIONS TO MAINS AND DECOMMISSIONING OF EXISTING SERVICE CONNECTIONS ARE TO BE WITNESSED BY A REPRESENTATIVE OF THE RMOW UTILITIES DEPARTMENT PRIOR TO BACKFILLING.

FOR GENERAL CONSTRUCTION NOTES AND DETAILS REFER TO DWG'S 19-0393-D1 AND 19-0393-D2

NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
1	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC

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Squamish, BC V8B 0G2
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BINNIE.com

CLIENT
VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION
STAFF HOUSING GLACIER 8
KEY PLAN
OVERALL PLAN

SURVEYED BY MCELHANNEY
DRAWN BY GC
DESIGNED BY PH
CHECKED BY PH

SCALES
0 1:250 10m

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA
P. S. HAWRYLYSHYN
47678
2023-01-24

R.F. Binnie & Associates Ltd.
EGBC Permit to Practice
Number 1001128

DATE 2022-03-19
DRAWING No. 19-0393-KP1
SHEET 1 OF 14
REV. 1
DESTROY ALL PRINTS BEARING PREVIOUS No.

PLOTTED: 2023-01-24 3:00:01 PM USER: LDSNOW LAYOUT: KP1
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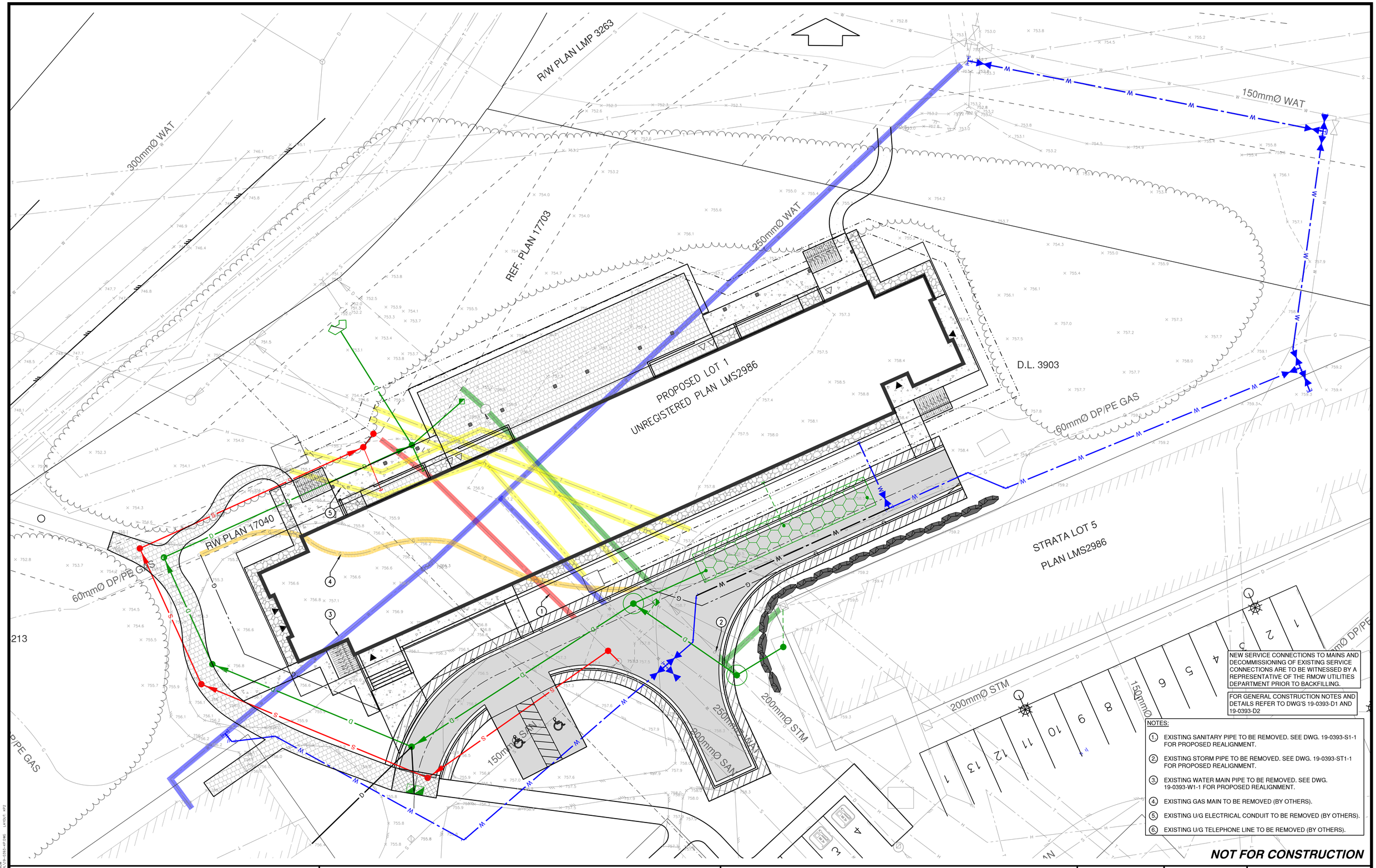
ISSUED FOR DEVELOPMENT PERMIT



No.	DATE	REVISION	BY
2	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC
1	2022-06-27	GENERAL REVISIONS	GC

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201 - 40147 Glenalder Place,
Squamish, BC V8B 0G2
TEL 604 892 8222
BINNIE.com

CLIENT VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION
STAFF HOUSING GLACIER 8
KEY PLAN
COMPOSITE UTILITY PLAN

SURVEYED BY MCELHANNEY
DRAWN BY GC
DESIGNED BY GC
CHECKED BY PH

SCALES
0 1:200 8m

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
R.S. HAWRYLYSHYN
47678
APPROVED
ENGINEER
R.F. Binnie & Associates Ltd.
EGBC Permit to Practice Number 1001128

DATE 2022-03-19
DRAWING No. 19-0393-KP2
SHEET 2 **OF** 14 **REV.** 1
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

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BY: ROSHYN.HAWRYLYSHYN
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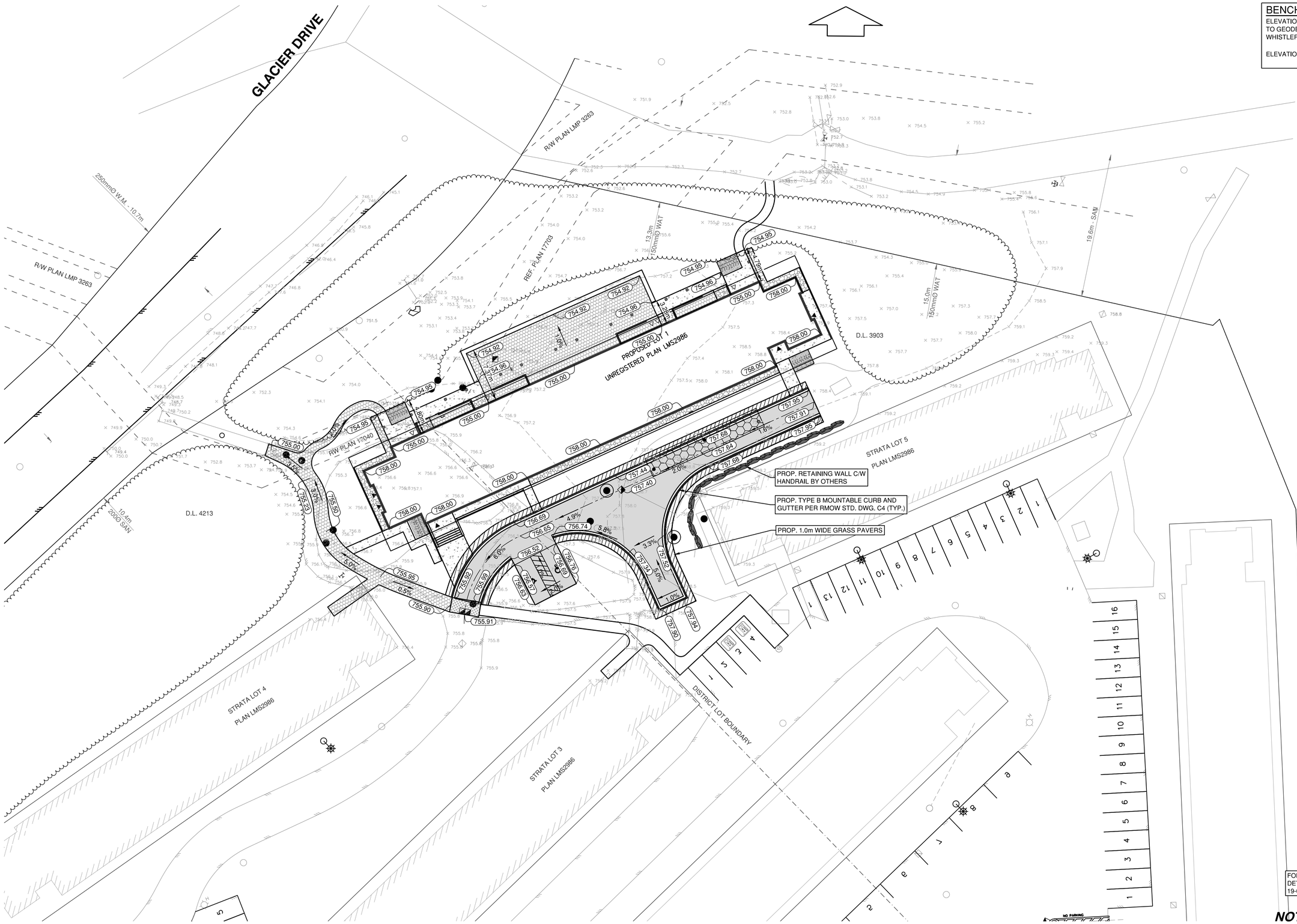
LAYOUT: KP2

BENCHMARK:

ELEVATIONS ARE IN METRES AND ARE REFERRED TO GEODETIC DATUM CGVD28 USING SMARTNET WHISTLER STATION

ELEVATION = 923.642 METRES



FOR GENERAL CONSTRUCTION NOTES AND DETAILS REFER TO DWG'S 19-0393-D1 AND 19-0393-D2

NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
5	2023-01-09	REVISED FOR ACCESSIBLE PARKING	GC
4	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC
3	2022-06-27	GENERAL REVISIONS	GC
2	2022-05-11	GENERAL REVISIONS	GC

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TEL 604 892 8222
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CLIENT VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION
STAFF HOUSING GLACIER 8
EARTHWORKS
SITE GRADING PLAN

SURVEYED BY MCELHANNEY
DRAWN BY LS
DESIGNED BY GC
CHECKED BY PH

SCALES
0 1:250 10m

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
PAUL S. HAWRYLISHYN
47678
2022-05-13
R.F. Binnie & Associates Ltd.
EGBC Permit to Practice
Number 1001128

DATE 2022-03-19
DRAWING No. 19-0393-SG1
SHEET 3 **OF** 14 **REV.** 5
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

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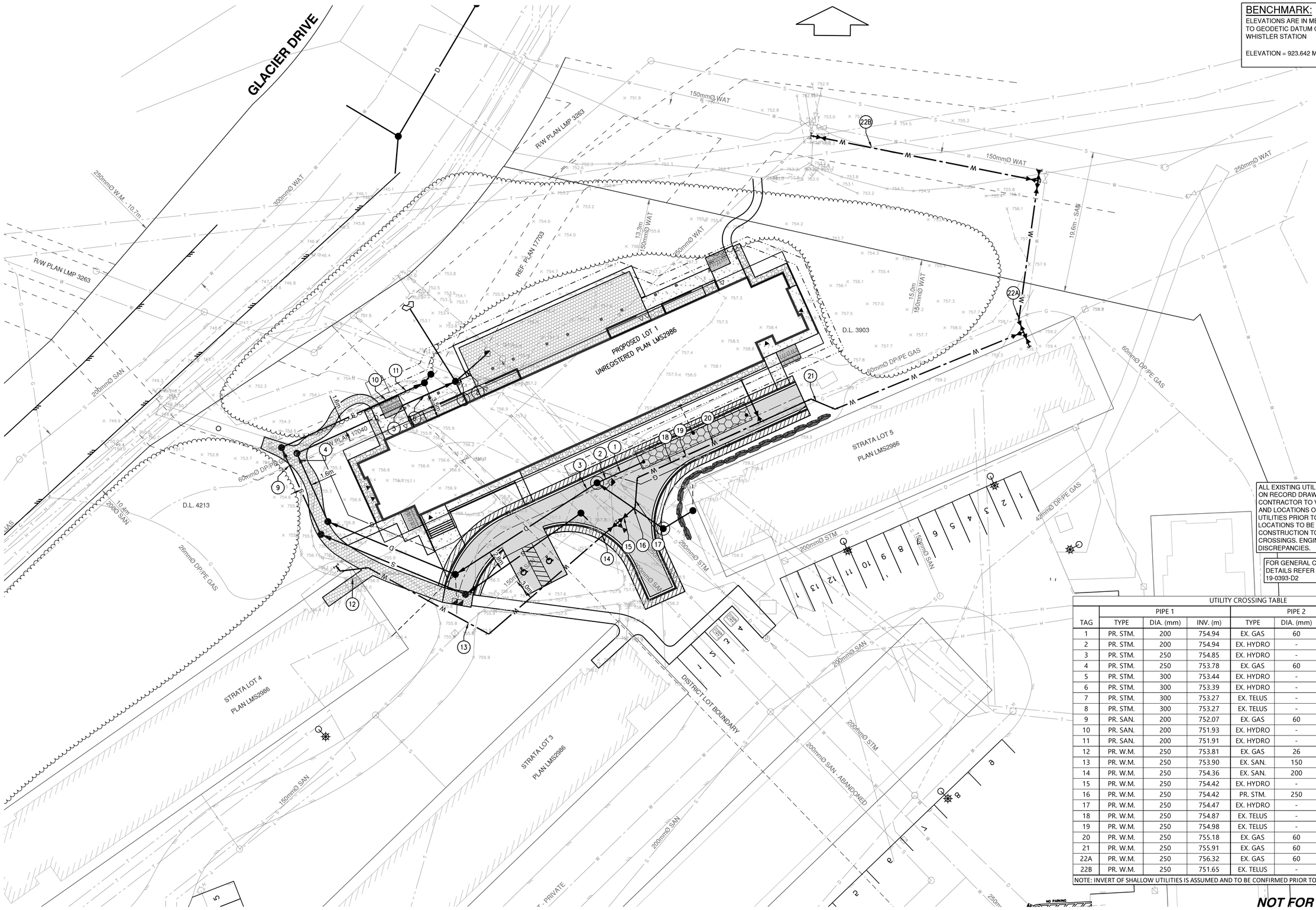

BENCHMARK:

ELEVATIONS ARE IN METRES AND ARE REFERRED TO GEODETIC DATUM CGVD28 USING SMARTNET WHISTLER STATION

ELEVATION = 923.642 METRES

ALL EXISTING UTILITIES ON THIS SHEET ARE BASED ON RECORD DRAWINGS AND RMOW GIS DATA. CONTRACTOR TO VERIFIY INVERT ELEVATIONS AND LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. ALL TIE-IN LOCATIONS TO BE EXPOSED PRIOR TO CONSTRUCTION TO CONFIRM ALIGNMENT AND CROSSINGS. ENGINEER TO BE NOTIFIED OF ANY DISCREPANCIES.

FOR GENERAL CONSTRUCTION NOTES AND DETAILS REFER TO DWG'S 19-0393-D1 AND 19-0393-D2

UTILITY CROSSING TABLE

TAG	PIPE 1 TYPE	PIPE 1 DIA. (mm)	PIPE 1 INV. (m)	PIPE 2 TYPE	PIPE 2 DIA. (mm)	PIPE 2 INV. (m)	SEPARATION (m)
1	PR. STM.	200	754.94	EX. GAS	60	757.47	2.34
2	PR. STM.	200	754.94	EX. HYDRO	-	756.99	1.86
3	PR. STM.	250	754.85	EX. HYDRO	-	756.78	1.68
4	PR. STM.	250	753.78	EX. GAS	60	754.11	0.08
5	PR. STM.	300	753.44	EX. HYDRO	-	754.57	0.83
6	PR. STM.	300	753.39	EX. HYDRO	-	754.82	1.13
7	PR. STM.	300	753.27	EX. TELUS	-	755.21	1.63
8	PR. STM.	300	753.27	EX. TELUS	-	755.12	1.56
9	PR. SAN.	200	752.07	EX. GAS	60	757.47	5.20
10	PR. SAN.	200	751.93	EX. HYDRO	-	754.34	2.21
11	PR. SAN.	200	751.91	EX. HYDRO	-	754.52	2.40
12	PR. W.M.	250	753.81	EX. GAS	26	757.51	3.45
13	PR. W.M.	250	753.90	EX. SAN.	150	753.14	0.61
14	PR. W.M.	250	754.36	EX. SAN.	200	752.60	1.56
15	PR. W.M.	250	754.42	EX. HYDRO	-	757.33	2.66
16	PR. W.M.	250	754.42	PR. STM.	250	755.19	0.52
17	PR. W.M.	250	754.47	EX. HYDRO	-	757.59	2.88
18	PR. W.M.	250	754.87	EX. TELUS	-	757.97	2.85
19	PR. W.M.	250	754.98	EX. TELUS	-	757.77	2.54
20	PR. W.M.	250	755.18	EX. GAS	60	757.71	2.28
21	PR. W.M.	250	755.91	EX. GAS	60	758.23	2.08
22A	PR. W.M.	250	756.32	EX. GAS	60	758.02	1.45
22B	PR. W.M.	250	751.65	EX. TELUS	-	752.90	1.00

NOTE: INVERT OF SHALLOW UTILITIES IS ASSUMED AND TO BE CONFIRMED PRIOR TO CONSTRUCTION.

NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
2	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC
1	2022-06-27	GENERAL REVISOINS	GC

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TEL 604 892 8222
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CLIENT: VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION:
STAFF HOUSING GLACIER 8
SITE SERVICING PLAN
PIPE CROSSINGS

SURVEYED BY MCELHANNEY
DRAWN BY GC
DESIGNED BY GC
CHECKED BY PH

SCALES
0 1:250 10m

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
PAUL HARRY
47678
2023-01-24
R.F. Binnie & Associates Ltd.
EGBC Permit to Practice
Number 1001128

DATE 2022-03-19
DRAWING No. 19-0393-XC1
SHEET 4 OF 14
REV. 2
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

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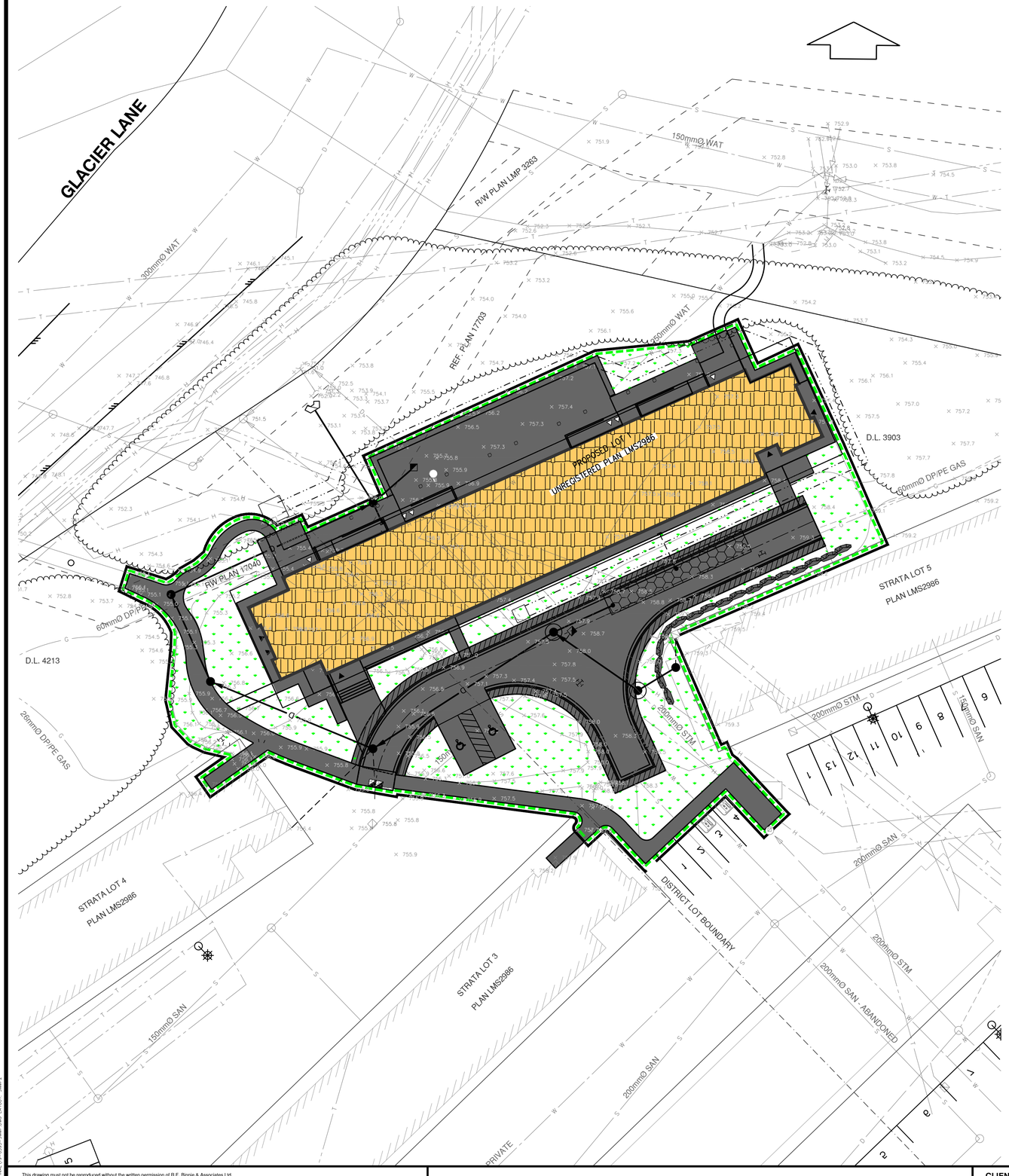

BENCHMARK:
ELEVATIONS ARE IN METRES AND ARE REFERRED TO GEODETIC DATUM CGVD28 USING SMARTNET WHISTLER STATION

ELEVATION = 923.642 METRES

Calculations

Project Name:	**WB Staff Housing**	**Project #:**	**19-0393-05**
Description:	**Detention Volume Requirements**	**Date:**	**24-May-22**

PRE-DEVELOPMENT -10 YEAR RETURN

Runoff Coefficient	R_{AVG} =	0.4	
Catchment Area	A =	1.001	ha
Time of Concentration	Tc =	10.0	minutes
Storm Frequency		10	year storm
Intensity	I =	21.8	mm/hr
Release Rate - 10 yr return	Q_{10} =	0.024	m^3/s
Maximum Release Rate (80% of Q_{10})	Q_{rel} =	0.019	m^3/s

POST DEVELOPMENT - 10 YEAR RETURN

Runoff Coefficient	R_{AVG} =	0.75	
Catchment Area	A =	1.001	ha
Time of Concentration	Tc =	8.0	minutes
Storm Frequency		10	year storm

Hyd No.	Duration, Tr (minutes)	Rainfall Intensity, I (mm/h)	Peak Flow, Q_p (m^3/s)	Inflow Runoff Volume (m^3)	Max Release Rate, Q_{rel} (m^3/s)	Required Storage Volume (m^3)
1	8	28.8	0.060	28.8	0.0194	19.49
2	10	26.1	0.055	32.7	0.0194	21.23
3	15	22.0	0.046	41.2	0.0194	24.25
4	20	19.4	0.040	48.6	0.0194	26.06
5	30	16.3	0.034	61.3	0.0194	***27.51***
6	40	14.4	0.030	72.2	0.0194	27.2
7	60	12.1	0.025	91.0	0.0194	23.3
8	120	9.0	0.019	135.2	0.0194	-
9	180	7.6	0.016	170.4	0.0194	-
10	240	6.7	0.014	200.8	0.0194	-
11	360	5.6	0.012	253.1	0.0194	-
12	720	4.2	0.009	376.0	0.0194	-
13	960	3.7	0.008	443.1	0.0194	-
14	1200	3.4	0.007	503.4	0.0194	-
15	1440	3.1	0.006	558.6	0.0194	-

LEGEND

- BUILDING AREA (C=0.9)
- IMPERMEABLE AREA (C=0.9)
- VEGETATED AREA (C=0.3)

STORMWATER CONTROL LEGEND

- 100 YEAR OVERLAND FLOW
- 100 YEAR FLOW IN PIPE
- OVERLAND FLOW
- LOT GRADING
- BASIN BOUNDARY LINE
- CATCHMENT PRE DEVELOPMENT
- SUB CATCHMENT POST DEVELOPMENT
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- FUTURE STORM SEWER
- EXISTING CONTOURS (20)
- EXISTING DITCHES
- PROPOSED SWALES
- MANHOLE, CLEANOUT OR HEADWALL NUMBER (M.H. / C.O. / H.W.)
- CATCHMENT AREA (CATCHMENT # / AREA (ha))
- EXISTING DETENTION AREA
- PROPOSED COMMUNITY DETENTION FACILITY
- CATCHMENT FLOW DIRECTION

FOR GENERAL CONSTRUCTION NOTES AND DETAILS REFER TO DWG'S 19-0393-D1 AND 19-0393-D2

NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
2	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC
1	2022-06-27	GENERAL REVISONS	GC

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201 - 40147 Glenalder Place,
Squamish, BC V8B 0G2
TEL 604 892 8222
BINNIE*.com*

CLIENT
VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION
STAFF HOUSING GLACIER 8
STORMWATER MANAGEMENT PLAN
POST-DEVELOPMENT

SURVEYED BY MCELHANNEY
DRAWN BY LS
DESIGNED BY PH
CHECKED BY PH

SCALES
0 1:250 10m

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
HARRY LYSOWN
47678
2023/01/05

R.F. Binnie & Associates Ltd.
EGBC Permit to Practice
Number 1001128

DATE 2019-12-17
DRAWING No.
19-0393-SWMP2
SHEET 6 **OF** 14 **REV.** 2
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

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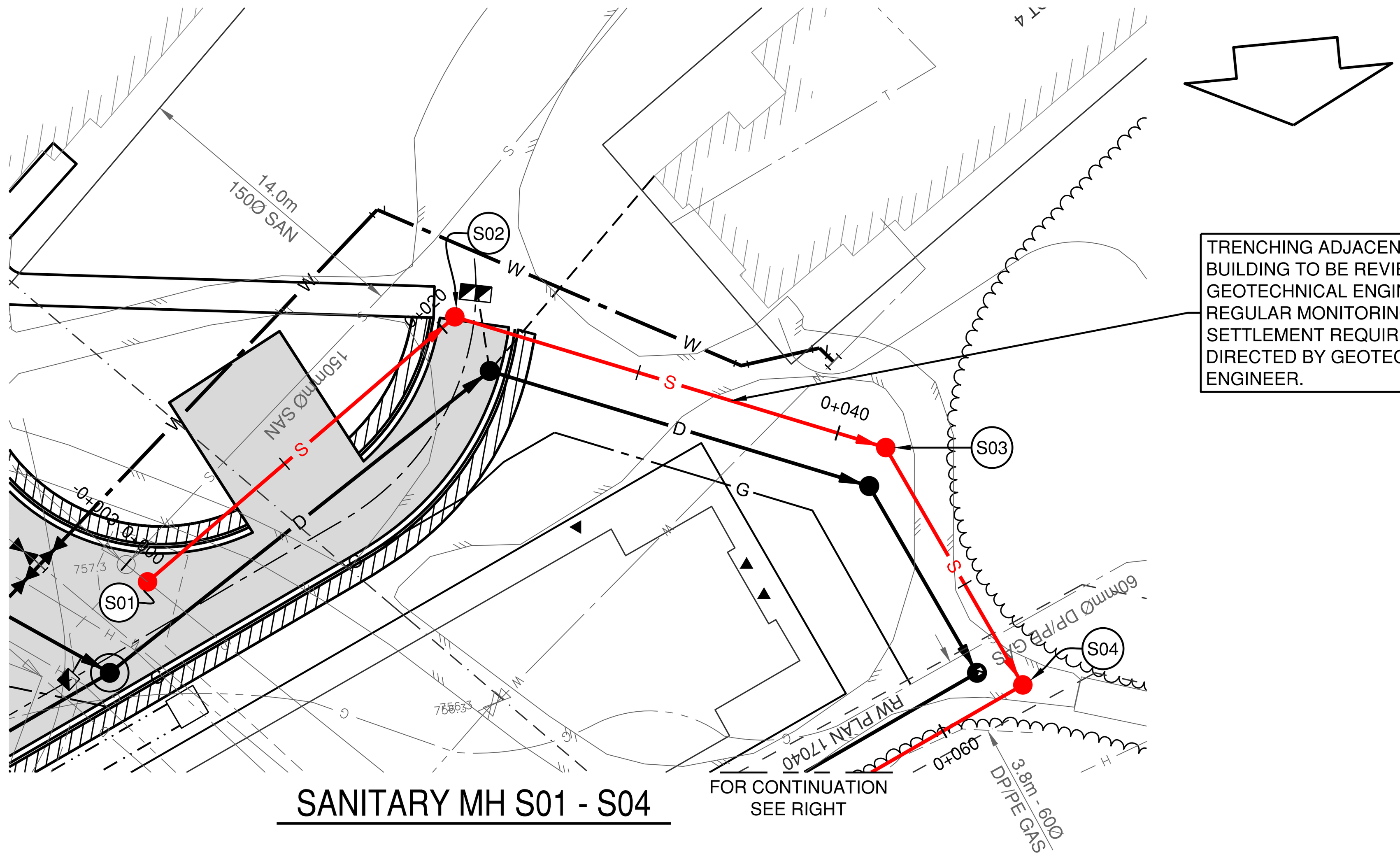
BENCHMARK:

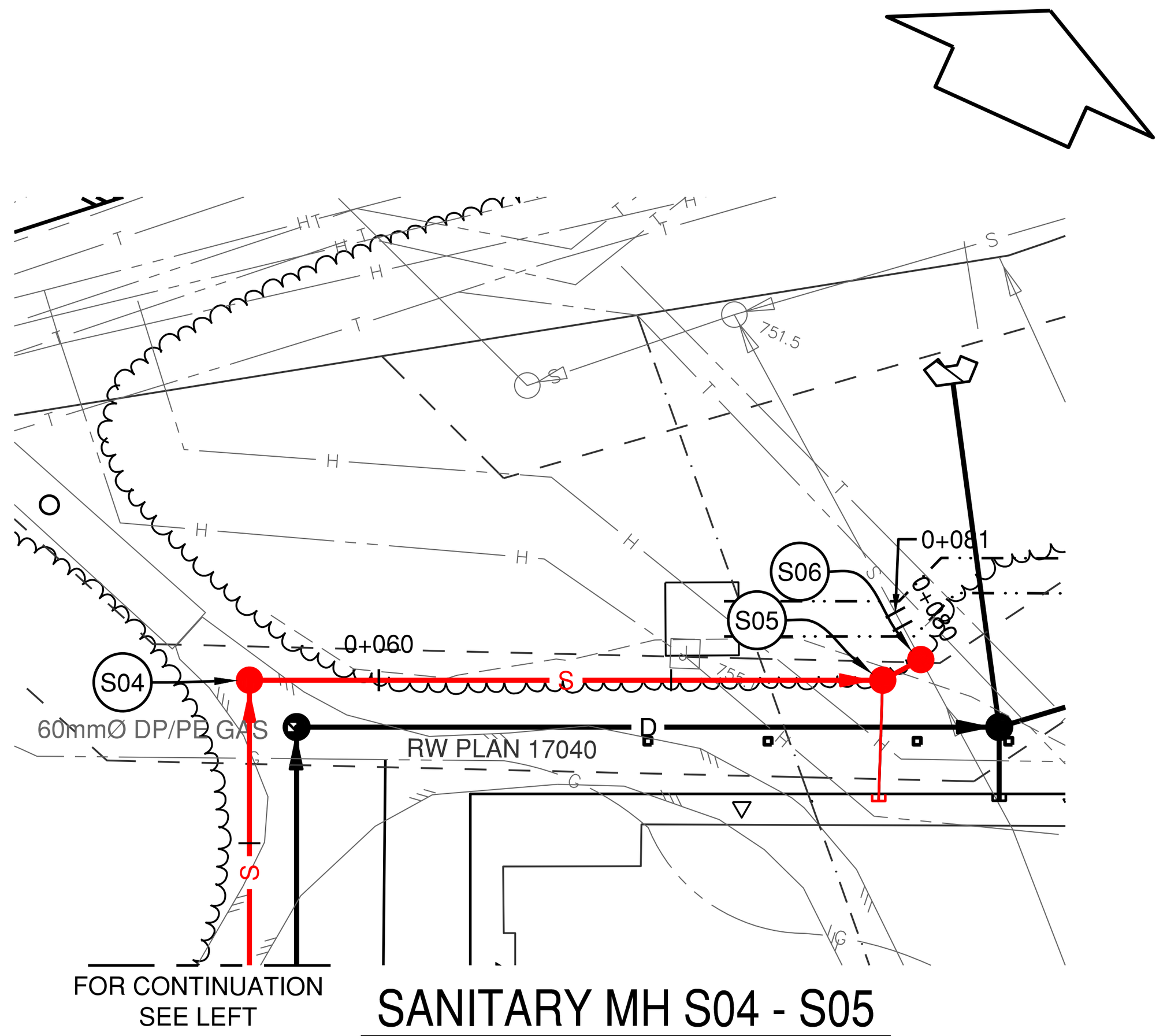
ELEVATIONS ARE IN METRES AND ARE REFERRED TO GEODETIC DATUM CGVD28 USING SMARTNET WHISTLER STATION

ELEVATION = 923.642 METRES



TRENCHING ADJACENT TO BUILDING TO BE REVIEWED BY GEOTECHNICAL ENGINEER. REGULAR MONITORING OF SETTLEMENT REQUIRED AS DIRECTED BY GEOTECHNICAL ENGINEER.

SANITARY MH S01 - S04



SANITARY MH S04 - S05

ALIGNMENT OF SEWER PIPES AND METHOD OF CONSTRUCTION MAY CHANGE DURING CONSTRUCTION. REFER TO GEOTECHNICAL REPORT BY THURBER FOR GROUND CONDITIONS. GEOTECHNICAL ENGINEER TO BE ONSITE DURING CONSTRUCTION TO ADVISE ON ALIGNMENT AND MONITOR SETTLEMENT.

FOR GENERAL CONSTRUCTION NOTES AND DETAILS REFER TO DWG'S 19-0393-D1 AND 19-0393-D2

NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
2	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC
1	2022-06-27	GENERAL REVISIONS	GC

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201 - 40147 Glenalder Place,
Squamish, BC V8B 0G2
TEL 604 892 8222
BINNIE.com

CLIENT
VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION
STAFF HOUSING GLACIER 8
SEWER SYSTEM
SANITARY

SURVEYED BY	MCELHANNEY
DRAWN BY	JW
DESIGNED BY	SB
CHECKED BY	PH

SCALES
H 1:250 (0 – 10m)
V 1:25 (0 – 1m)

PROFESSIONAL ENGINEER, PROVINCE OF BRITISH COLUMBIA, P.S. HAWRYLYSHYN # 47678, 2023-01-24

R.F. Binnie & Associates Ltd. EGBC Permit to Practice Number 1001128

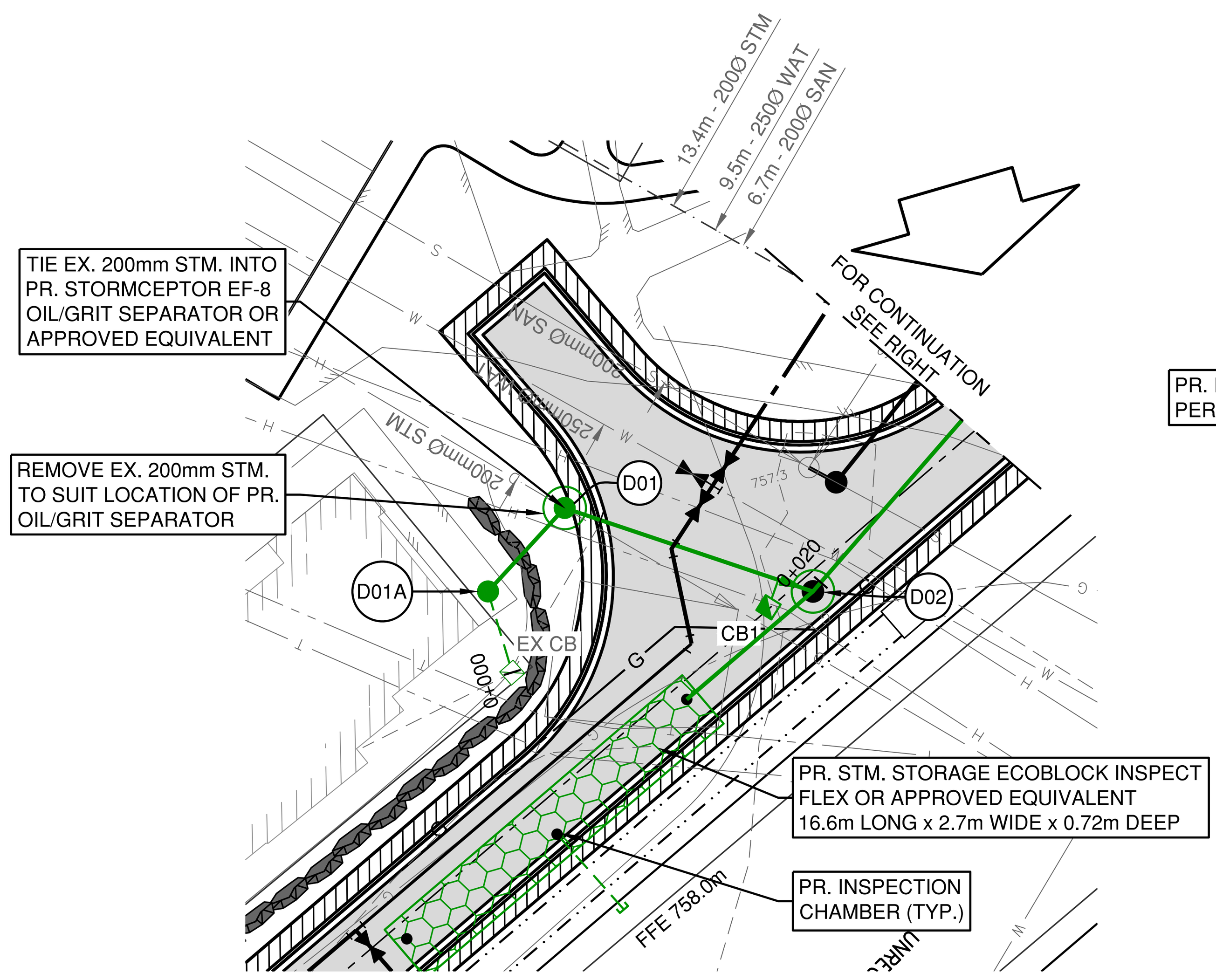
DATE 2022-03-20

DRAWING No. 19-0393-S1-1

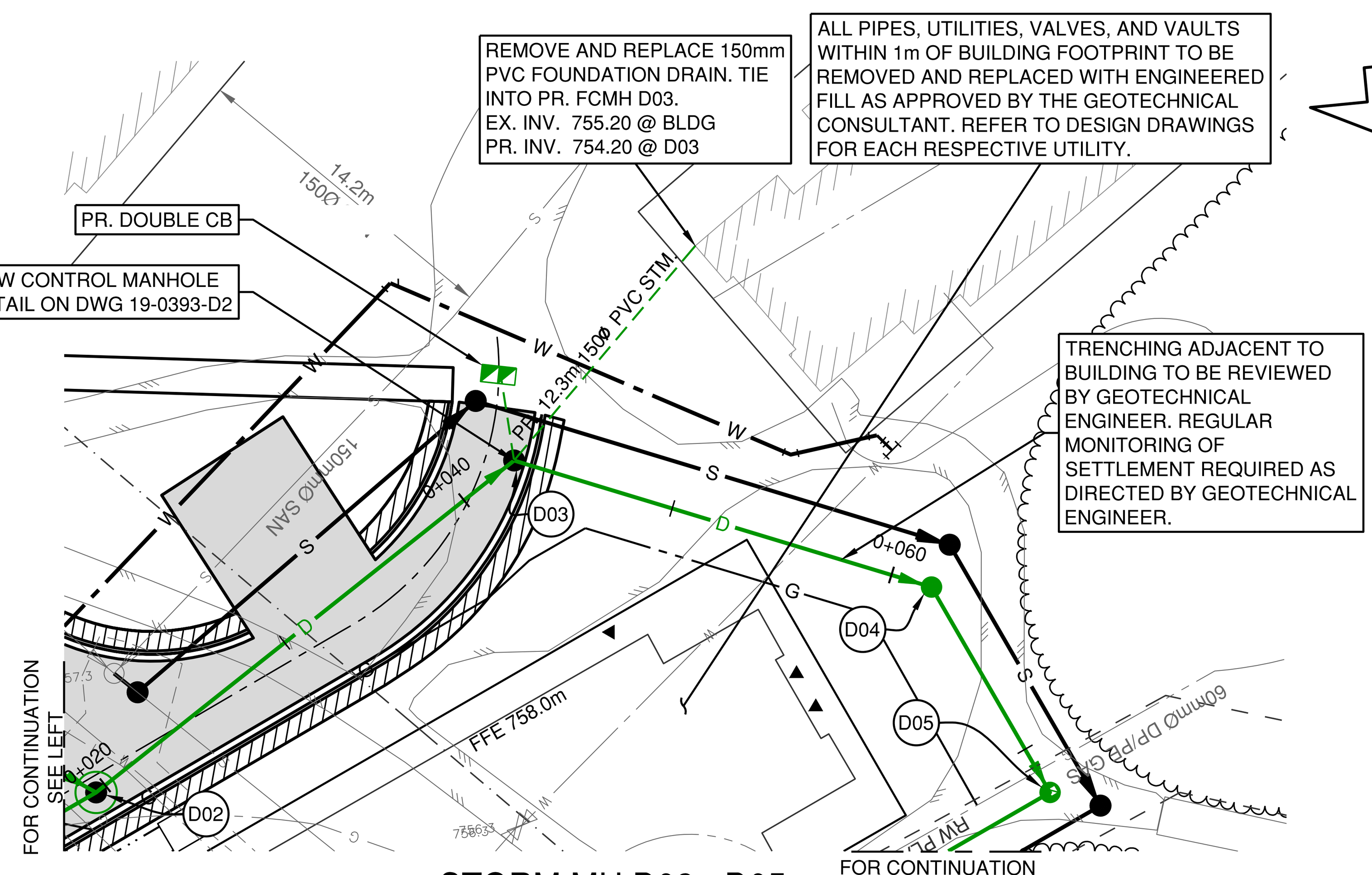
SHEET 7 OF 14 REV. 2

DESTROY ALL PRINTS BEARING PREVIOUS No.

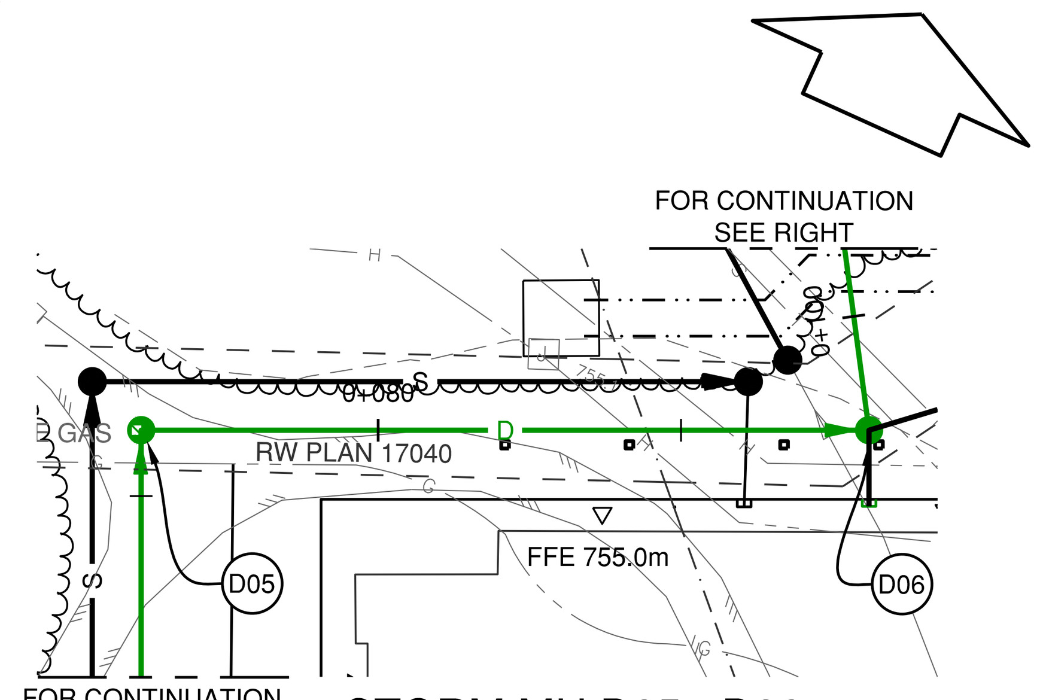
ISSUED FOR DEVELOPMENT PERMIT



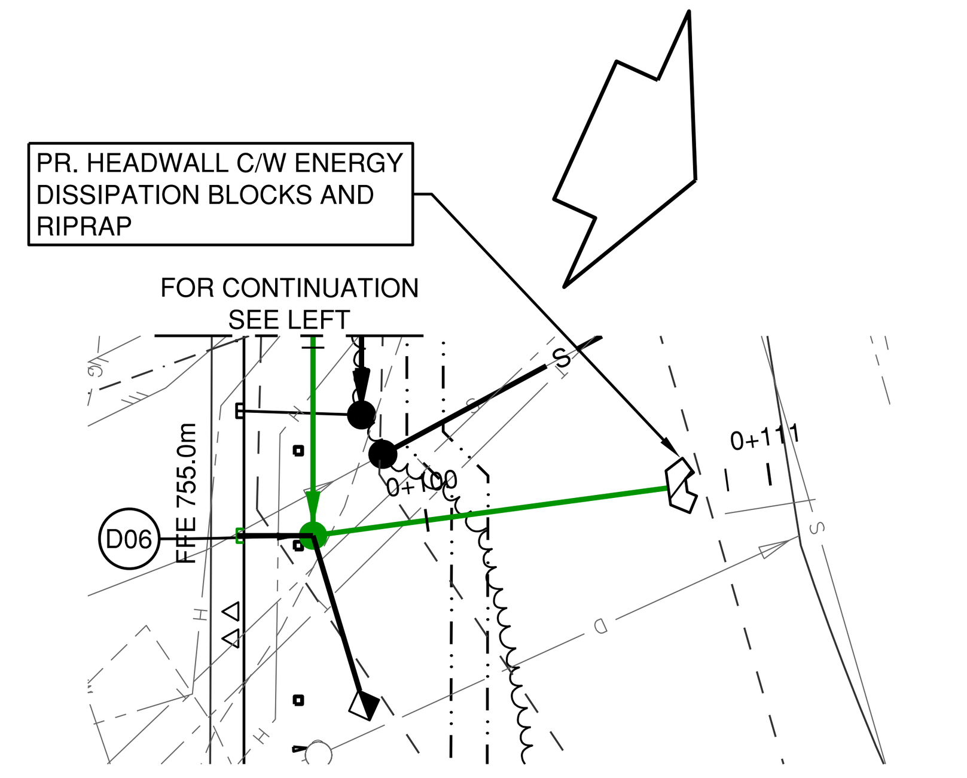
STORM MH D00 - D02



STORM MH D02 - D05



STORM MH D05 - D06



STORM MH D06 - OUTLET

BENCHMARK:

ELEVATIONS ARE IN METRES AND ARE REFERRED TO GEODETIC DATUM CGVD28 USING SMARTNET WHISTLER STATION

ELEVATION = 923.642 METRES

NEW CONNECTIONS TO SERVICE MAINS OR DECOMMISSIONING OF CONNECTIONS ARE TO BE WITNESSED BY A REPRESENTATIVE OF THE RMOW UTILITIES DEPARTMENT PRIOR TO BACKFILLING.

PROP. SERVICES TO BE CAPPED 1.0m OUTSIDE BUILDING. REFER TO MECHANICAL DRAWINGS FOR CONTINUATION INSIDE BUILDING.

FOR GENERAL CONSTRUCTION NOTES AND DETAILS REFER TO DWG'S 19-0393-D1 AND 19-0393-D2

ALIGNMENT OF SEWER PIPES AND METHOD OF CONSTRUCTION MAY CHANGE DURING CONSTRUCTION. REFER TO GEOTECHNICAL REPORT BY THURBER FOR GROUND CONDITIONS. GEOTECHNICAL ENGINEER TO BE ONSITE DURING CONSTRUCTION TO ADVISE ON ALIGNMENT AND MONITOR SETTLEMENT.

LOCATION OF ALL EXISTING UTILITIES TO BE CONFIRMED AND DAYLIGHTED TWO WEEKS PRIOR TO CONSTRUCTION TO CONFIRM DESIGN ALIGNMENTS. ENGINEER TO BE NOTIFIED OF ANY DISCREPANCIES.

NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
2	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC
1	2022-06-27	GENERAL REVISIONS	GC

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R.F. BINNIE & ASSOCIATES LTD.
201 - 40147 Glenalder Place,
Squamish, BC V8B 0G2
TEL 604 892 8222
BINNIE.com

CLIENT
VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION
STAFF HOUSING GLACIER 8
SEWER SYSTEM
STORM

SURVEYED BY MCELHANNEY
DRAWN BY JW
DESIGNED BY GC
CHECKED BY PH

SCALES
H 1:250 (0 – 10m)
V 1:25 (0 – 1m)

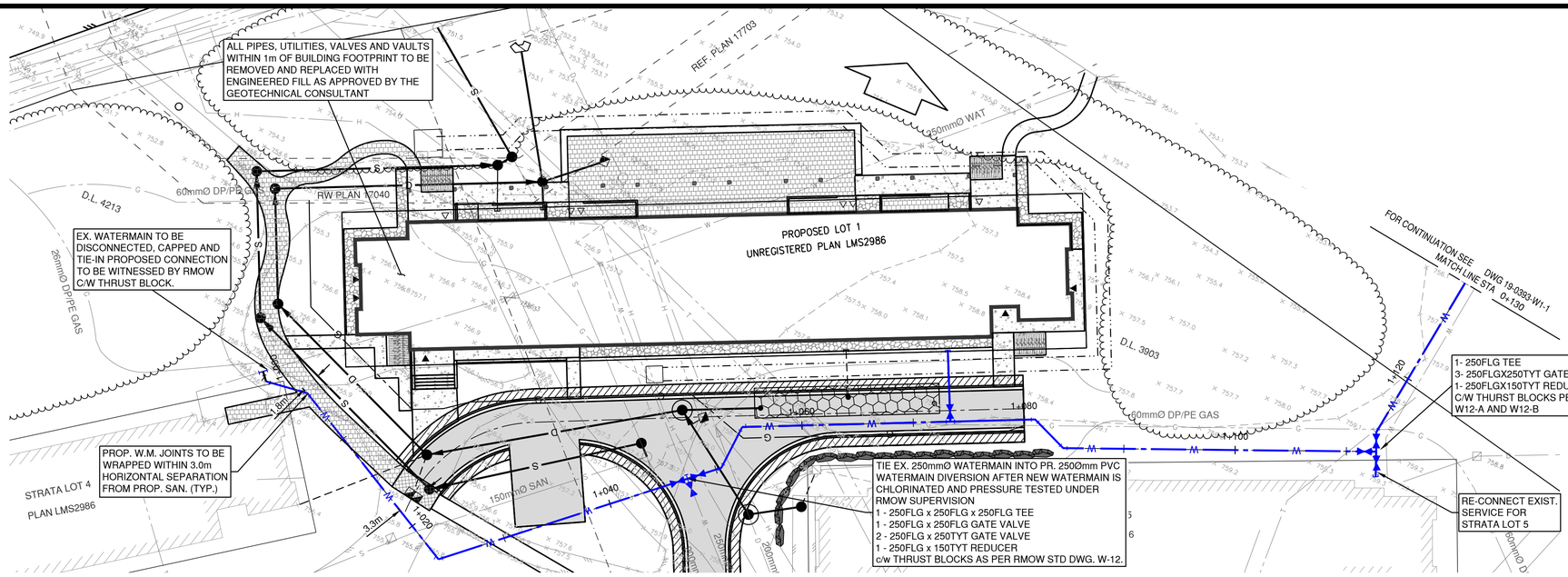
PROFESSIONAL ENGINEER, PROVINCE OF BRITISH COLUMBIA, P. S. HAWRYLYSHYN # 47678, 2023-01-24

R.F. Binnie & Associates Ltd. EGBC Permit to Practice Number 1001128

DATE 2022-03-30
DRAWING No. 19-0393-ST1-1
SHEET 8 **OF** 14
REV. 2
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

PLOTTED: 2023-01-24 3:09:29 PM USER: LDSNOW
FILE: P:\2019\19-0393\00 - CAD FILES\DWG\FINAL\19-0393-ST1-1.DWG LAYOUT: ST1-1



BENCHMARK:

ELEVATIONS ARE IN METRES AND ARE REFERRED TO GEODETIC DATUM CGVD28 USING SMARTNET WHISTLER STATION

ELEVATION = 923.642 METRES

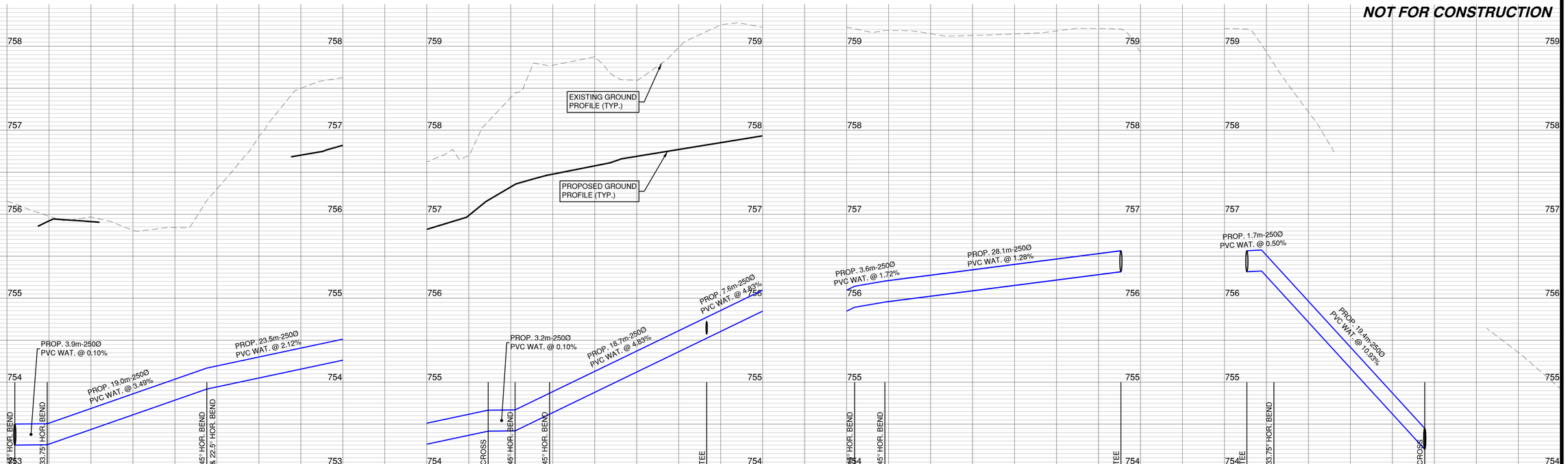
THRUST BLOCK BEARING AREAS TO BE CONFIRMED WITH ENGINEER

FOR GENERAL CONSTRUCTION NOTES AND DETAILS REFER TO DWG'S 19-0393-D1 AND 19-0393-D2

ALL BENDS TO BE INSTALLED c/w JOINT RESTRAINTS FOR PVC PIPE. USE UNIFLANGE SERIES 1390 OR APPROVED EQUIVALENT.

ALL EXISTING UTILITIES ON THIS SHEET ARE BASED ON RECORD DRAWINGS AND RMOW GIS DATA. CONTRACTOR TO VERIFIY INVERT ELEVATIONS AND LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. ALL TIE-IN LOCATIONS TO BE EXPOSED PRIOR TO CONSTRUCTION TO CONFIRM ALIGNMENT AND CROSSINGS. ENGINEER TO BE NOTIFIED OF ANY DISCREPANCIES.

NOT FOR CONSTRUCTION



No.	DATE	REVISION	BY
2	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC
1	2022-06-27	GENERAL REVISIONS	GC

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Squamish, BC V8B 0G2
TEL 604 892 8222
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CLIENT: VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION:
STAFF HOUSING GLACIER 8
WATERMAIN
SHEET 1 OF 2

SURVEYED BY MCELHANNEY
DRAWN BY JW
DESIGNED BY GC
CHECKED BY PH

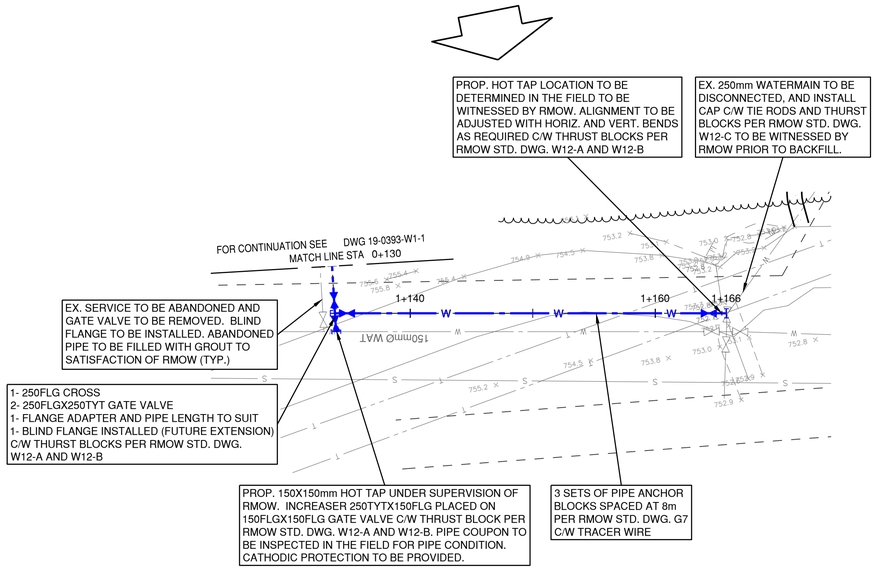
SCALES
0 H 1:250 10m
0 V 1:25 1m

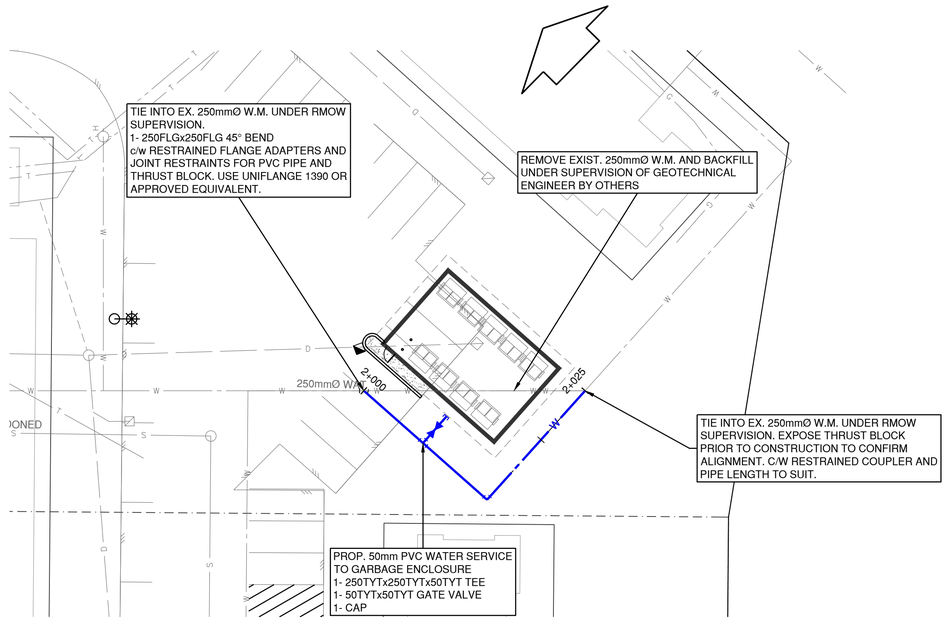
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
D. RAWLINSON
47678
2023-01-23
R.F. Binnie & Associates Ltd.
EGBC Permit to Practice Number 1001128

DATE 2022-03-20
DRAWING No. 19-0393-W1-1
SHEET 9 OF 14
REV. 2
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

PLOTTED: 2023-01-24 3:11:39 PM USER: LDSHW
PATH: J:\2019\19-0393\00 - CAD\LDT\DWG\19-0393-W1.DWG LAYOUT: W1-1





BENCHMARK:

MONUMENT XXXXXX LOCATED AT INTERSECTION OF XXXXX AVENUE AND XXXXX STREET
ELEV. = 0.000m (CVD28GVRD2018)

MONUMENT XXXXXX LOCATED AT INTERSECTION OF XXXXX AVENUE AND XXXXX STREET
ELEV. = 0.000m (CVD28GVRD2018)

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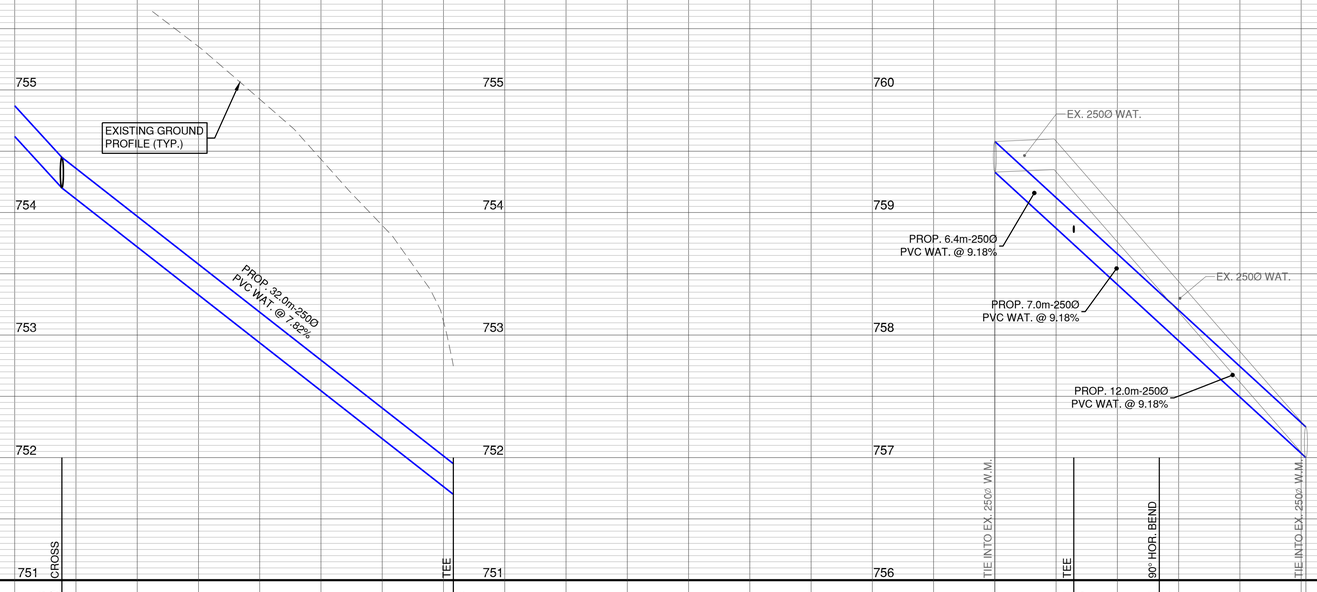
FOR GENERAL CONSTRUCTION NOTES AND DETAILS REFER TO DWG'S 19-0393-D1 AND 19-0393-D2

NOT FOR CONSTRUCTION



PROP. INVERT ELEV.	754.20 - 250S 754.20 - 250W 754.20 - 250N	751.70 - 250E	758.74 - 250N 758.74 - 250S 758.84 - 50E 758.10 - 250N 758.10 - 250E
EX. INVERT ELEV.		759.33 - 250S	757.00 - 250W
STATION	1+130 1+133.850 1+140 1+160 1+165.806 1+170	2+000	2+006.444 2+013.425 2+020 2+025.388

No.	DATE	REVISION	BY
1	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC

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CLIENT
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MANAGEMENT COMPANY

DRAWING DESCRIPTION
STAFF HOUSING GLACIER 8
WATERMAIN
SHEET 2 OF 2

SURVEYED BY	MCELHANNEY
DRAWN BY	GC
DESIGNED BY	PH
CHECKED BY	PH

SCALES
0 H 1:250 10m
0 V 1:25 1m

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
P.S. HANNA LIU-SWIN
47573
2023/01/05
R.F. Binnie & Associates Ltd.
EGBC Permit to Practice
Number 1001128

DATE 2022-03-20
DRAWING No. 19-0393-W1-2
SHEET 10 **OF** 14
REV. 1
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

PLOTTED: 2023-01-24 3:11:44 PM USER: LISNOW
FILE: S:\2021\21-0393\02-DESIGN\01-DWG\19-0393-W1-2.DWG LAYOUT: W1-2

01 GENERAL REQUIREMENTS

01.1 DOCUMENTS

01.1.1 REFERENCE SPECIFICATIONS

1. ALL WORKS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
   1.1. RESORT MUNICIPALITY SUBDIVISION AND DEVELOPMENT CONTROL BYLAW.
   1.2. WORKSAFE B.C
   1.3. LATEST EDITION OF THE MASTER MUNICIPAL CONTRACT DOCUMENTS (MMCD 2009 PLATINUM EDITION)
   1.4. LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA (MUTCDC)
   1.5. ISSUED FOR CONSTRUCTION PLANS APPROVED BY THE RESORT MUNICIPALITY
2. ON-SITE BUILDING SEWERS AND WATER SERVICE PIPES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE B.C. PLUMBING CODE (2018 EDITION).

01.1.2 PROJECT RECORD DOCUMENTS

1. MAINTAIN ON SITE COPIES OF THE ABOVE DOCUMENTS AND ENSURE THAT ALL SUB CONTRACTORS ARE THOROUGHLY FAMILIAR WITH THE APPLICABLE SECTIONS OF THE DOCUMENTS.
2. MAINTAIN A COMPLETE SET OF CIVIL DRAWINGS MARKED UP IN RED TO RECORD THE CONSTRUCTION OF ALL SITE SERVICES ON THIS PROJECT. THE REDLINES SET IS TO BE AVAILABLE FOR THE CIVIL ENGINEER TO REVIEW AT ALL TIMES. AT THE COMPLETION OF THE CIVIL WORKS, THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER ONE (1) SET OF PROJECT RECORD DOCUMENTS AS PER MMCD:
   2.1 MEASURED HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND UTILITIES AND APPURTENANCES, REFERENCED TO PERMANENT SURFACE IMPROVEMENTS.
   2.2 FIELD CHANGES OF DIMENSION AND DETAIL.
   2.3 CHANGES MADE BY ADDENDA AND CHANGE ORDERS.
   2.4 DETAILS NOT ON ORIGINAL CONTRACT DRAWINGS.
   2.5 REFERENCES TO RELATED SHOP DRAWINGS AND MODIFICATIONS.
   2.6 PRODUCT SPECIFICATIONS INCLUDING MANUFACTURER, TRADE NAME, AND CATALOGUE NUMBER.
   2.7 CERTIFICATIONS, INSPECTION CERTIFICATIONS AND FIELD TEST RECORDS REQUIRED BY INDIVIDUAL SPECIFICATIONS SECTIONS.

01.2 CONTRACTOR

01.2.1 CONTROL OF THE WORK

1. THE CONTRACTOR SHALL HAVE COMPLETE CONTROL OF THE WORK AND SHALL EFFECTIVELY DIRECT AND SUPERVISE THE WORK SO AS TO ENSURE CONFORMANCE WITH THE CONTRACT DOCUMENTS, SUBJECT TO THE OWNER'S RIGHTS AS SPECIFICALLY SET OUT IN THE CONTRACT DOCUMENTS TO GIVE DIRECTIONS REGARDING WORK, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING THE VARIOUS PARTS OF THE WORK UNDER THE CONTRACT.
2. MAINTAIN THE WORK IN A TIDY CONDITION AND FREE FROM THE ACCUMULATION OF WASTE, DEBRIS, AND WASTE PRODUCTS, OTHER THAN THAT CAUSED BY THE OWNER, OTHER CONTRACTORS, OR ITS EMPLOYEES.
3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING THE NECESSARY FIELD SURVEYS TO PERMIT THE LAYOUT, CONSTRUCTION AND MEASUREMENT OF QUANTITIES OF THE WORK FOR PAYMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS FIELD SURVEY.

01.2.2 SAFETY

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION SAFETY AT THE PLACE OF WORK AS AND TO THE EXTENT REQUIRED BY APPLICABLE CONSTRUCTION SAFETY LEGISLATION, REGULATIONS AND CODES, INCLUDING THE WORKERS COMPENSATION ACT AND APPLICABLE REGULATIONS, AND BY GOOD CONSTRUCTION PRACTICE.

01.2.3 PROTECTION OF WORK, PROPERTY AND THE PUBLIC

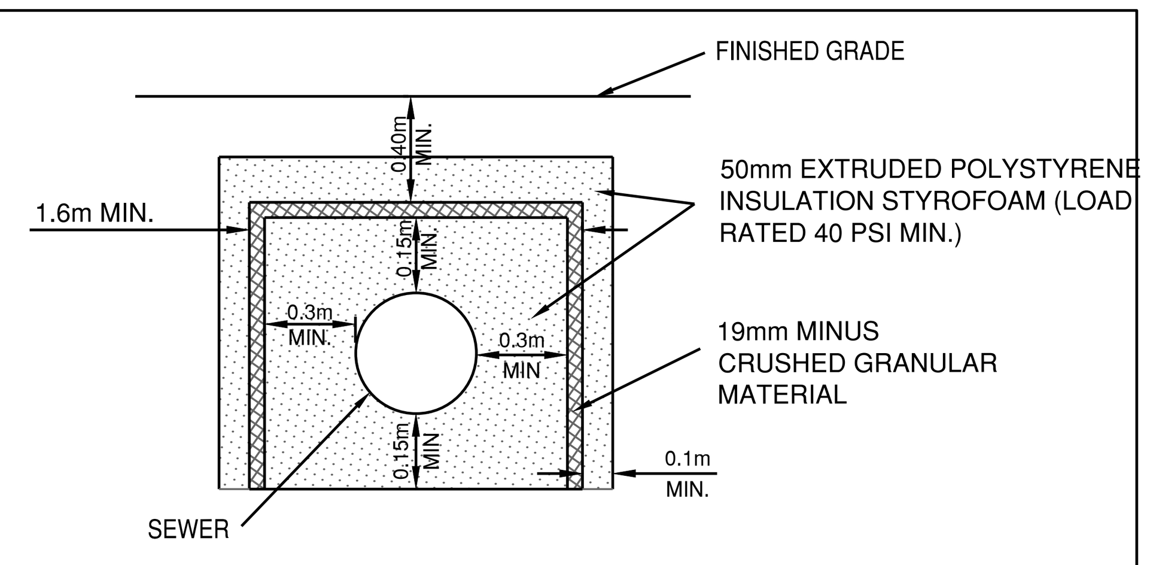
1. THE LOCATIONS OF THE EXISTING UTILITIES, AS SHOWN ON THE DESIGN DRAWINGS, ARE APPROXIMATE ONLY AND THIS INFORMATION MAY NOT BE FULLY ACCURATE OR COMPLETE. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL LOCATE AND EXPOSE ALL EXISTING UTILITIES AT ALL TIE-IN POINTS, AT ALL POINTS WHERE A CONFLICT MAY ARISE DURING THE CONSTRUCTION OF THE PROPOSED WORKS, AND TO CONFIRM DESIGN ELEVATIONS. IN THE EVENT OF A CONFLICT, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER FOR DIRECTIONS. THE CONTRACTOR SHALL ASSUME ALL COSTS AND EXPENSES THAT MAY OCCUR FOR DAMAGES, SUPPORT OF AND REPAIR TO SUCH PLANT BY REASON OF THE NEGLIGENCE OF HIS OPERATIONS. (EXISTING UTILITIES SHOWN ARE DERIVED FROM AS-BUILT INFORMATION AND ALL UTILITIES MAY NOT BE NECESSARILY SHOWN.)
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED TO EXISTING STREET OR SERVICES BY CONSTRUCTION EQUIPMENT AND/OR TRUCKS HAULING MATERIAL TO THE SITE. THIS MAY INCLUDE DAILY CLEANING OR SWEEPING EXISTING ROADS OF DIRT AND DEBRIS CAUSED BY CONSTRUCTION ACTIVITIES.
3. EXISTING UNDERGROUND UTILITY TRENCHES ADJACENT TO THE PROPOSED UNDERGROUND UTILITY INSTALLATION SHALL BE ADEQUATELY PROTECTED FROM SLOUGHING IN ORDER TO PREVENT OVER-WIDTH EXCAVATION.
4. USE EXTREME CAUTION WHEN WORKING NEAR EXISTING SERVICES AND ANY SERVICES DISTURBED ARE TO BE REPLACED TO THE SATISFACTION OF THE MUNICIPALITY OR OTHER APPROVING AGENCIES.
5. PROTECT ALL SURVEY MONUMENTS, BENCHMARKS, AND LEGAL PINS. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. EXISTING AREAS THAT ARE DISTURBED ARE TO BE RESTORED TO THE SATISFACTION OF THE MUNICIPALITY. IN SPECIAL CASES, THE MUNICIPLAITY MAY REQUIRE WRITTEN ACCEPTANCE BY THE AFFECTED PROPERTY OWNERS FOR RESTORATION WORKS PERFORMED BY THE CONTRACTOR.

01.2.4 PERMITS

1. THE CONTRACTOR SHALL ENSURE THAT ALL APPROVALS AND/OR PERMITS REQUIRED FOR THE PROPOSED WORKS HAVE BEEN OBTAINED FROM ALL AUTHORITIES AND AGENCIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. ALL CONSTRUCTION IN AND ABOUT A WATERCOURSE MUST RECEIVE PRIOR APPROVAL FROM THE PROVINCIAL MINISTRY OF ENVIRONMENT AND/OR THE FEDERAL DEPARTMENT OF FISHERIES AND OCEANS CANADA WHERE APPLICABLE.
3. PRIOR TO THE START OF CONSTRUCTION, OBTAIN WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNERS FOR A TEMPORARY ENCROACHMENT ON PRIVATE PROPERTY AND A REGISTERED DOCUMENT FOR A PERMANENT ENCROACHMENT.

01.2.5 CONSTRUCTION SCHEDULE

1. NOTIFY THE ENGINEER AT THE FOLLOWING STAGES OF THE CONSTRUCTION SCHEDULE:
   1.1. 48 HOURS PRIOR TO CONSTRUCTION
   1.2. DELIVERY OF STORM SEWER MATERIAL TO SITE.
   1.3. DELIVERY OF SANITARY SEWER MATERIALS TO SITE.
   1.4. DELIVERY OF WATER WORKS MATERIALS TO SITE.
   1.5. INITIAL INSTALLATION OF STORM SEWER, SANITARY SEWER, AND WATER WORKS CONSTRUCTION PRIOR TO BACKFILLING.
   1.6. GRADING OF ROAD SURFACES PRIOR TO PAVING.
   1.7. COMMISSIONING OF A PUMP SYSTEM.
2. NOTIFY THE MUNICIPAL ENGINEERING DEPARTMENT A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WITHIN THE ROAD ALLOWANCES AND RIGHTS-OF-WAYS. TIE-INS SHALL BE WITNESSED BY THE MUNICIPAL INSPECTOR.
3. WORKSAFE B.C. IS TO BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION.



PIPE INSULATION DETAIL

N.T.S.

01.2.6 TESTS AND INSPECTIONS

1. MATERIAL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH THE MMCD. TESTING SHALL BE CARRIED OUT BY QUALIFIED MATERIAL TESTING FIRM AND PAID FOR BY THE CONTRACTOR. PROVIDE COPIES OF ALL TEST RESULTS TO THE ENGINEER.
2. OFF-SITE WORK SHALL PASS INSPECTION BY THE RESORT MUNICIPALITY INSPECTOR AND THE SIGNING ENGINEER.
3. TESTING AND INSPECTION REQUIREMENTS ARE AS FOLLOWS:

Work	Testing and Inspection Requirement
TRENCH BACKFILLING AND COMPACTION	COMPACTION TEST EVERY 25 LINEAL METRE AND 0.5 M LIFT
	SIEVE TEST EVERY MATERIAL SOURCE AND 1,000 M3
GRANULAR BASE	COMPACTION TEST EVERY 200 M2
	SIEVE TEST EVERY MATERIAL SOURCE AND 1,000 M3
GRANULAR SUBBASE	COMPACTION TEST EVERY 500 M2 AND 0.15 M LIFT
	SIEVE TEST EVERY 1,000 M3
EMBANKMENT (SUBGRADE)	COMPACTION TEST EVERY 1000 M2 AND 0.3 M LIFT
	SIEVE TEST EVERY MATERIAL SOURCE AND 2,000 M3
CONCRETE	AIR, SLUMP AND 1 SET CYLINDER EVERY 50 M3
	MINIMUM 1 SET AND TEST PER DAY OF CONCRETE POUR
ASPHALT	MARSHALL AND SIEVE TEST EVERY 500 TONNES
	COMPACTION TEST EVERY 200 M2
LIFT STATION	AS PER COMMISSIONING PLAN
TRACER WIRE	AS PER MANUFACTURER
SEWER SYSTEMS	CCTV INSPECTION REPORT AND VIDEO OF ALL SEWERS LINES IN PDF AND MPEG VIDEO FILE FORMAT
	FLUSH ALL SEWER PIPING PRIOR TO CCTV INSPECTION
	FLUSH AND PRESSURE TEST FORCEMAINS. CONFIRM THE SANITARY FORCEMAIN WORKING PRESSURE WITH THE ENGINEER PRIOR TO PRESSURE TESTING.
	ALL TESTING TO BE WITNESSED BY THE ENGINEER AND THE RMOW INSPECTOR.
WATER SYSTEMS	PRESSURE TESTING, CHLORINATION, FLUSHING, AND BACTERIOLOGICAL TESTING SHALL BE PERFORMED TO THE MINISTRY OF HEALTH AND AWWA STANDARDS AND TO BE PAID BY THE CONTRACTOR. SUBMIT WRITTEN PROCEDURES TO THE ENGINEER AND THE RMOW ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL. ALL TESTING TO BE WITNESSED BY THE ENGINEER AND THE RMOW INSPECTOR. THE FOLLOWING NOTIFICATIONS ARE REQUIRED:
	TIE-IN PLAN SUBMITTED IN ADVANCE OF WORK (ALLOW 2 WEEKS FOR REVIEW)
	ONE WEEK NOTICE OF CONSTRUCTION SCHEDULE
	48 HOUR NOTICE TO CONFIRM DATE/TIMING OF TESTING
	CONFIRM THE WATERMAIN WORKING PRESSURE WITH THE ENGINEER PRIOR TO PRESSURE TESTING.

01.2.7 CHANGES

1. OBTAIN WRITTEN PERMISSION FROM THE ENGINEER FOR ANY MATERIAL SUBSTITUTION OR DESIGN CHANGE. THE MUNICIPLAITY SHALL BE NOTIFIED OF ANY SUBSTITUTION OR CHANGE IN DESIGN. ANY CHANGE IN DESIGN WILL REQUIRE A DRAWING REVISION.

01.2.8 ENVIRONMENTAL PROTECTION

1. TREES DESIGNATED TO BE SAVED ARE TO BE PROTECTED BY SNOW FENCING.

01.2.9 COORDINATION AND CONNECTION

1. CONFIRM WITH THE MECHANICAL CONSULTANT THE LOCATIONS, ELEVATIONS, AND SIZE OF THE SERVICE CONNECTIONS TO THE PROPOSED BUILDINGS PRIOR TO THE START OF CONSTRUCTION.
2. REVIEW THE ELECTRICAL DESIGN DRAWINGS FOR COORDINATION WITH CIVIL WORKS AND INSTALLATION OF ELECTRICAL DUCT WORK AND FACILITIES.

01.3 SHOP DRAWINGS

1. SUBMIT SHOP DRAWINGS FOR REVIEW AS PER MMCD REQUIREMENTS. ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO FABRICATION.

01.4 TEMPORARY CONTROLS

01.4.1 EROSION AND SEDIMENT CONTROL

1. CONDUCT ALL SILTATION CONTROL WORK TO THE REQUIREMENTS OF THE PROVINCIAL MINISTRY OF ENVIRONMENT AND THE FEDERAL DEPARTMENT OF FISHERIES AND OCEANS CANADA AND OTHER AGENCIES.
2. STOCKPILE ON-SITE AT VARIOUS STRATEGIC LOCATIONS, ADEQUATE SUPPLIES OF ALL MATERIALS REQUIRED TO PROTECT DOWNSTREAM WATERCOURSES FROM SILTATION.
3. REPAIR MACHINE TRACKS OR OTHER SURFACE DEFORMATIONS WHICH TEND TO ALTER DRAINAGE PATHS OR CONCENTRATE DRAINAGE IN SUCH A WAY AS TO INCREASE EROSION.
4. ASSESS AND REVIEW THE EFFECTIVENESS OF TEMPORARY SEDIMENT CONTROL MEASURES AND DETERMINE THE NEED FOR ADDITIONAL MEASURES ON A CONTINUING BASIS.
5. INSPECT AND MAINTAIN SILTATION CONTROL ON A DAILY BASIS.
6. CORRECT DEFICIENCIES IN EROSION AND SEDIMENTATION CONTROL IMMEDIATELY. IF THE CONTRACTOR FAILS TO CORRECT THE DEFICIENCIES IN EROSION AND SEDIMENT CONTROL, THIS DEFAULT MAY BE CORRECTED BY THE OWNER AT THE CONTRACTOR'S EXPENSE.
7. CONTROL ALL RUNOFF FROM SOIL STOCKPILES AND EXPOSED EARTH SLOPES.
8. ALL WORK SHALL BE UNDERTAKEN AND COMPLETED IN SUCH A MANNER AS TO PREVENT THE RELEASE OF SEDIMENT LADEN WATER INTO ANY DOWNSTREAM WATERCOURSE OR STORM SEWER.
9. ANY IRREGULARITIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

01.4.2 TRAFFIC CONTROL

1. PROVIDE TRAFFIC CONTROL, SIGNAGE, DELINEATORS, BARRICADES, AND WARNING DEVICES AS REQUIRED TO MAINTAIN VEHICLE AND PEDESTRIAN FLOW AND FOR EMERGENCY VEHICLE ACCESS. SUBMIT A TRAFFIC MANAGEMENT PLAN IN ADVANCE OF CONSTRUCTION FOR THE RMOW'S REVIEW AND APPROVAL.

03 CONCRETE

03.1 CONCRETE WALKS, DRIVEWAYS, CURBS AND GUTTERS

03.1.1 PRODUCTS

PRODUCT	PROJECT SPECIFICATIONS	STANDARD DRAWINGS	ADDITIONAL INFORMATION
DRIVEWAY CROSSINGS	150 mm CONCRETE (RESIDENTIAL)	C7 – DRIVEWAY CROSSING FOR BARRIER CURBS (MMCD)	
	200 mm CONCRETE (COMMERCIAL AND INDUSTRIAL)		

03.1.2 EXECUTION

1. LOCATIONS OF DRIVEWAYS, WHEELCHAIR RAMPS, ETC. SHALL BE CONFIRMED IN THE FIELD PRIOR TO

32 ROADS AND SITE IMPROVEMENTS

32.1 ROADWORKS

32.1.1 PRODUCTS

PRODUCT	PROJECT SPECIFICATIONS	STANDARD DRAWINGS	ADDITIONAL INFORMATION
LIGHT DUTY PAVEMENT STRUCTURE (PARKING)	65 mm THICK – ASPHALT SURFACE LAYER (UPPER COURSE 2)		ON APPROVED FILL AND SUBGRADE
	150 mm THICK – 19 mm MINUS CRUSHED GRANULAR BASE COURSE		
	300 mm THICK – 75 mm MINUS CRUSHED GRANULAR SUBBASE COURSE		
HEAVY DUTY PAVEMENT STRUCTURE (ACCESS ROADS)	40 mm THICK – ASPHALT SURFACE LAYER (UPPER COURSE 2)		ON APPROVED FILL AND SUBGRADE
	45 mm THICK – ASPHALT BASE LAYER (LOWER COURSE 2)		
	150 mm THICK – 19 mm MINUS CRUSHED GRANULAR BASE COURSE		
	300 mm THICK – 75 mm MINUS CRUSHED GRANULAR SUBBASE COURSE		

32.1.2 EXECUTION

1. FOR RECOMMENDATIONS REGARDING THE SUBSURFACE CONDITIONS, SITE PREPARATION, AND THE PROPOSED ROAD STRUCTURE, REFER TO THE GEOTECHNICAL REPORT PRIOR TO THE START OF CONSTRUCTION.
2. SUBGRADE, GRANULAR SUBBASE, AND GRANULAR BASE MATERIALS SHALL BE COMPACTED TO AT LEAST 95.0% OF THEIR MODIFIED PROCTOR DRY DENSITY UNLESS NOTED OTHERWISE.
3. ALL LOOSE AND ORGANIC MATERIAL SHALL BE EXCAVATED AND REMOVED FROM THE ROADWAY.
4. THE ROAD BASE SHALL EXTEND A MINIMUM OF 0.3 m BEYOND THE SIDEWALK AND/OR CURB AND GUTTER, WHICHEVER IS GREATER AND FILLED TO THE LEVEL OF THE SIDEWALK OR CURB FOR SUPPORT.
5. ALL VALVES BOXES, MANHOLES, JUNCTION BOXES, ETC. WITHIN THE ROAD RIGHT OF WAY SHALL BE ADJUSTED TO FINISHED GRADE UNLESS OTHERWISE NOTED.
6. CHANGES IN GRADE SHALL BE FORMED WITH SMOOTH CURVES.
7. CATCHBASIN RIM ELEVATIONS SHALL BE SET 25 mm BELOW THE FINISHED GUTTER LINE GRADES. THE GUTTER AND ROAD SURFACE AREA TO BE SHAPED TO FORM A DISH AROUND THE INLET.
8. TIE-INS TO EXISTING PAVEMENT AND PAVEMENT RESTORATIONS SHALL BE MADE BY CUTTING BACK THE EXISTING PAVEMENT TO SOUND MATERIAL AS NECESSARY TO PRODUCE A NEAT VERTICAL FACE WITH STRAIGHT EDGE PRIOR TO PLACING HOT MIX ASPHALTIC CONCRETE. EXPOSED PAVEMENT SURFACES SHALL BE PAINTED WITH LIQUID ASPHALT AND HEATED TO 65 DEGREES CELSIUS. THE FINISHED PAVEMENT SURFACE SHALL BLEND IN SMOOTHLY WITH THE EXISTING PAVEMENT. THE EDGE OF PAVEMENT SHALL BE SAWCUT AND KEYED TO FORM A MINIMUM 200 mm WIDE BY 40 mm DEEP LAP JOINT WITH THE PROPOSED PAVEMENT UNLESS NOTED OTHERWISE OR AS DIRECTED BY THE ENGINEER.
9. PAVEMENT MARKINGS, LINE PAINTING, DIRECTIONAL LINES/ARROWS ETC. SHALL BE PLACED IN ACCORDANCE WITH THE ARCHITECTURAL SITE PLAN.

33 UTILITIES

33.1 SEWER SYSTEMS

33.1.1 PRODUCTS

PRODUCT	PROJECT SPECIFICATIONS	STANDARD DRAWINGS	ADDITIONAL INFORMATION
SEWERS	ASTM C-14, CLASS III (NON-REINFORCED) OR ASTM C-76, CLASS III (REINFORCED CONCRETE)	G4 – UTILITY TRENCH (MMCD)	PIPE MATERIAL FOR SEWER TO BE INSTALLED AS SHOWN ON THE DESIGN DRAWINGS. THE MINIMUM PIPE SIZE FOR THE STORM SEWER SHALL BE 300mm DIAMETER.
	SDR35 (PVC)		
MANHOLE	1050 mm DIA. UNLESS OTHERWISE NOTED	S1 - STANDARD AND SUMP MANHOLES (MMCD)	COVER MARKED "STORM SEWER" OR "SANITARY SEWER"
	TR18 FRAME AND COVER (STANDARD MANHOLE)		
	DOBNEY C-39 GRATE (CATCH BASIN MANHOLE)		600 mm SUMP IN CATCHBASIN MANHOLES
CATCH BASIN (CURB AND GUTTER - TOP INLET)	750 mm INSIDE DIA. PRECAST CONCRETE		INSTALL LEFT AND RIGHT GRATES ACCORDING TO FLOW DIRECTION
	DOBNEY B-23 GRATE DOBNEY (LEFT AND RIGHT)		
	B-24 TYPE 'D' FRAME		
CATCH BASIN (CURB AND GUTTER - SIDE INLET)	900 mm INSIDE DIA. PRECAST CONCRETE		INSTALL LEFT AND RIGHT GRATES ACCORDING TO FLOW DIRECTION
	DOBNEY B-23 GRATE DOBNEY (LEFT AND RIGHT) FOR CURB AND GUTTER		
	DOBNEY B-24 ADJUSTABLE FRAME AND HOOD (SIDE INLET) FOR CURB AND GUTTER		
CATCH BASIN (ASPHALT SURROUND – ROUND INLET)	600 mm INSIDE DIA. PRECAST CONCRETE	S11 – TOP INLET CATCHBASIN (MMCD)	
	DOBNEY B-26B FRAME AND GRATE		
LAWN DRAINS	300 mm INSIDE DIA. PRECAST CONCRETE (TYPE 1)	S12 - LAWN DRAINS (MMCD)	
	600 mm INSIDE DIA. PRECAST CONCRETE (TYPE 2)		
	DOBNEY D2A GRATE (TYPE 1)		
	DOBNEY B-22A GRATE (TYPE 2)		
CATCH BASIN AND LAWN DRAIN LEADS	PVC (SDR28)		
	200 mm DIA. (CATCH BASIN - SINGLE)		
	250 mm DIA. (CATCH BASIN - DOUBLE)		
	100 mm DIA. (LAWN DRAIN – TYPE 1)		
	150 mm DIA. (LAWN DRAIN – TYPE 2)		
SERVICE CONNECTIONS	PVC (SDR28)	S7 - SANITARY SEWER SERVICE CONNECTION (MMCD)	
	150 mm DIA. MIN. (STORM)		
	100 mm DIA. MIN. (SANITARY)	S8 - STORM SEWER SERVICE CONNECTION (MMCD)	
	STANDARD MANUFACTURED WYE FITTINGS		
INSPECTION CHAMBERS (100 mm TO 200 mm SERVICE)	LE-RON 70A 4x8 WLP-1 INSPECTION CHAMBER C/W 200mm DIA. PVC SDR35 RISER PIPE	S9 - INSPECTION CHAMBER FOR 100 TO 200 SANITARY SEWER CONNECTION (MMCD)	ADD 300 mm X 500 mm CONCRETE PULL BOX C/W CAST IRON LID MARKED "SANITARY" OR "STORM" FOR INSTALLATION IN DRIVEWAY AND ROAD
	GREEN LID (STORM)		
	RED LID (STORM)		
INSPECTION CHAMBERS (250 mm TO 375 mm SERVICE)	600 mm PRECAST CONCRETE RISER (H20 RATED) C/W D26-B FRAME AND SOLID COVER	S10 - INSPECTION CHAMBER FOR 250 TO 375 STORM SEWER CONNECTION (MMCD)	COVER MARKED "STORM" OR "SANITARY"
CLEANOUTS (ON-SITE)	SAME DIAMETER AS CONNECTING PIPE UP TO MAX. 150 mm DIA.	S6 - SEWER CLEANOUT (MMCD)	USE MANHOLE ON SEWERS 200 mm DIA. OR LARGER.
	SPACING AND LOCATION AS PER B.C. PLUMBING CODE		

33.1.2 EXECUTION

1. FINISHED RIM ELEVATION OF MANHOLES AND CLEANOUTS SHALL MATCH THE FINISHED ROAD GRADES AND ELEVATIONS.
2. MINIMUM COVER OVER MAINS AND SERVICE CONNECTIONS SHALL BE 1.0 m UNLESS NOTED OTHERWISE.
3. MAXIMUM GRADE SHALL BE 15.0% UNLESS PROVISIONS ARE MADE TO ANCHOR THE PIPE TO THE BOTTOM OF THE TRENCH WITH CONCRETE POURED IN PLACE. PIPE ANCHORS ARE TO BE INSTALLED AS PER MMCD STANDARD DRAWING NO. G8.
4. SERVICES SHALL BE INSTALLED FROM THE MAIN TO THE PROPERTY LINE AT A MINIMUM GRADE OF 2.0% UNLESS NOTED OTHERWISE.
5. SERVICES SHALL ENTER THE MAIN AT A POINT JUST ABOVE THE SPRINGLINE. CONNECTIONS TO NEW MAINS SHALL BE MADE USING WYE FITTINGS. CONNECTIONS TO EXISTING MAINS SHALL BE MADE USING SADDLES.
6. STORM SERVICES SHALL BE ABOVE THE HYDRAULIC GRADE LINE OF THE MINOR FLOW AT THE PROPERTY LINE.
7. SERVICES SHALL ALLOW FOR 600 mm COVER UNDER THE MINIMUM BUILDING ELEVATION (MBE) PLUS 2% GRADE FROM THE REAR OF THE HOUSE TO THE SEWER MAIN UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
8. SERVICE CONNECTIONS SHALL TERMINATE 1.0 m MIN. FROM THE BUILDING FACE. CONTINUATION OF THE BUILDING DRAIN BY THE BUILDING PLUMBING CONTRACTOR SHALL INCLUDE ANY STORM SUMPS REQUIRED IMMEDIATELY OUTSIDE THE PROPOSED BUILDINGS.

33.2 WATER SYSTEMS

33.2.1 PRODUCTS

PRODUCT	PROJECT SPECIFICATIONS	STANDARD DRAWINGS	ADDITIONAL INFORMATION
WATERMAINS (DUCTILE IRON)	AWWA C151, CLASS 50 OR PRESSURE CLASS 350 UNLESS OTHERWISE NOTED	G4 -UTILITY TRENCH (MMCD)	ALL FITTINGS AND JOINTS TO BE MECHANICALLY RESTRAINED
	CEMENT-MORTAR LINING (AWWA C104)		
WATERMAINS (PVC)	AWWA C900, DR18 (PRESSURE CLASS 235)	G4 -UTILITY TRENCH (MMCD)	ALL FITTINGS AND JOINTS TO BE MECHANICALLY RESTRAINED C/W TRACER WIRE
	MAX. 300 mm		
WATERMAIN ANCHORS	AS PER STANDARD DRAWING	G8 - PIPE ANCHOR BLOCKS (RMOW)	REQUIRED WHERE SLOPE IS 10% OR GREATER
GATE VALVES	RESILIENT-SEATED (AWWA C509)		
FIRE HYDRANTS	CANADA VALVE	W4 - FIRE HYDRANT INSTALLATION (MMCD)	C/W 100 mm PUMPER OUTLET WITH B.C. STANDARD THREAD, COUNTERCLOCKWISE OPENING WITH A STORZ CONNECTION. PAINT HYDRANT RED AND STORZ CONNECTION BLACK.
WATER SERVICES (SINGLE FAMILY)	38 mm POLYETHYLENE (AWWA C901) TO PRESSURE CLASS 160 (CSA B137.1) UNLESS OTHERWISE NOTED	W2a - WATER SERVICE CONNECTION (MMCD)	
WATER METER BOX (38 mm SERVICE)	MUELLER THERMAL-COIL 450 mm DIA.		
	MUELLER FLAT LOCKING LID C/W PENTAGON NUT LOCK		
WATER METER BOX (50 mm SERVICE)	BROOKS NO.66 (425 mm X 750 mm) CONCRETE METER BOX		
	CAST IRON READING LID NON-VEHICULAR AREAS; OR,		
	STEEL TRAFFIC COVER (VEHICULAR AREAS)		

33.2.2 EXECUTION

1. DEFLECT PIPE JOINTS TO A MAXIMUM ½ OF THE ALLOWABLE MANUFACTURER S RECOMMENDATIONS.
2. THE MINIMUM COVER OF THE PROPOSED WATERMAIN SHALL BE 1.8 m WITH 0.3 m COVER OVER VALVE STEMS. VALVES LARGER THAN 400 mm DIAMETER MAY BE INSTALLED SIDEWAYS WITH A 90° STEM ADAPTER.
3. THE MINIMUM GRADE OF THE PROPOSED WATERMAIN SHALL BE 0.1%. THE MAXIMUM GRADE SHALL BE 10.0% UNLESS PROVISIONS ARE MADE TO ANCHOR THE PIPE TO THE BOTTOM OF THE TRENCH WITH CONCRETE POURED IN PLACE.
4. FIRE HYDRANT PUMPER PORT SHALL BE A MINIMUM OF 0.45 m ABOVE THE GROUND. ALL HYDRANT FLANGE ELEVATIONS TO BE INSTALLED 0.15 m ABOVE PROPOSED FINISHED GRADE AT HYDRANT.
5. ASSURANCE OF PROTECTION OF THE WATERMAIN:
   5.1. PARALLEL LINES: WATERMAIN SHOULD BE LAID AT LEAST 3 m (10 ft) HORIZONTALLY FROM ANY SANITARY OR STORM SEWER. WHERE THIS HORIZONTAL SEPARATION IS NOT POSSIBLE, THE BOTTOM OF THE WATERMAIN SHOULD BE AT LEAST 45 cm (18 in) ABOVE THE TOP OF THE SEWER AND SUFFICIENTLY TO ONE SIDE OF THE SEWER TO ALLOW REPAIRS WITHOUT DISTURBING THE WATERMAIN. IF THIS VERTICAL SEPARATION IS NOT POSSIBLE, THE SEWER SHOULD BE OF THE SAME SERVICE CAPABILITY AS THE WATERMAIN, WITH PRESSURE CLASS JOINTS DESIGNED TO REMAIN WATERTIGHT IF THE GROUNDWATER TABLE PERIODICALLY RISES ABOVE THE SEWER, AND ARE PRESSURE TESTED BEFORE BACKFILLING. OTHER PRECAUTIONS, SUCH AS A WATERMAIN WITH IMPROVED JOINTS AND HIGHER STRENGTH MAY BE NEEDED.
   5.2. CROSSINGS: WHERE A WATERMAIN CROSSES A SANITARY OR STORM SEWER, THE LINES SHOULD BE LAID WITH THE WATERMAIN CROSSING OVER THE SEWER AND WITH THE MIDDLE OF PIPE LENGTHS LOCATED AT THE CROSSING POINTS, TO MAXIMIZE THE SEPARATION BETWEEN JOINTS. WHERE A MINIMUM 3 m JOINT SEPARATION AND/OR A MINIMUM 45 cm CLEAR VERTICAL SEPARATION IS NOT POSSIBLE AT THE CROSSING, PRECAUTIONS TO IMPROVE WATER TIGHTNESS OF THE SEWER JOINTS AND STRUCTURAL IMPROVEMENTS SUCH AS HIGHER STRENGTH WATERMAIN AND/OR SEWER AT THE CROSSING AREA MAY BE NEEDED. SLEEVING, PIPE BRIDGING OR OTHER SUITABLE MEASURES MAY BE CONSIDERED. ALL JOINTS WITHIN 3 m OF THE CROSSING SHOULD BE EITHER WRAPPED WITH HEAT SHRINK OR PACKED WITH INERT PETROLEUM COMPOUND AND WRAPPED IN TAPE IN ACCORDANCE WITH ANSI/AWWA STANDARDS C209 AND C217-90.
   5.3. SERVICE CONNECTIONS: WHEREVER POSSIBLE, THE ABOVE CONSTRUCTION PRACTICES SHOULD ALSO BE APPLIED TO SERVICE CONNECTIONS.

33.3 TRACER WIRES

33.3.1 PRODUCTS

PRODUCT	PROJECT SPECIFICATIONS	STANDARD DRAWINGS	ADDITIONAL INFORMATION
TRACER WIRE	#12 AWG RWU90 SINGLE COPPER CONDUCTOR, XLPE INSULATION AS SUPLIED BY SOUTHWIRE		INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS

33.3.2 EXECUTION

1. ALL INSTALLATION REQUIREMENTS OF THE MANUFACTURER SHALL BE APPLICABLE TO THE INSTALLATION OF TRACER WIRE, TRACER BOXES, GROUNDING ANODES AND OTHER APPURTENANCES ASSOCIATED WITH THE INSTALLATION OF THIS COMPONENT.
2. TRACER WIRES SHALL BE INTERCONNECTED AT MAINLINE TEES AND CROSSES WITH LOCKABLE CONNECTORS. CONNECTORS SHALL BE FILLED WITH DIELECTRIC SILICON TO SEAL ALL UNINSULATED WIRE EXPOSURE.
3. COMPLETE TRACER WIRE SPLICES AND REPAIRS USING SPLICE KIT.
4. INSTALL TRACER WIRES AT THE 4 O'CLOCK POSITION AND SECURE TO THE PIPE AT 2.0 m INTERVALS.
5. GROUND TRACER WIRES AT ALL DEAD ENDS AND STUBS USING GROUNDING ANODE.

NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
1	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	GC

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R.F. BINNIE & ASSOCIATES LTD.
201 - 40147 Glenalder Place,
Squamish, BC V8B 0G2
TEL 604 892 8222
BINNIE.com

CLIENT: VAIL RESORTS MANAGEMENT COMPANY

DRAWING DESCRIPTION: STAFF HOUSING GLACIER 8 GENERAL CONSTRUCTION NOTES AND DETAILS

SURVEYED BY MCELHANNEY
DRAWN BY LS
DESIGNED BY PH
CHECKED BY PH

SCALES: NOT TO SCALE

PROFESSIONAL ENGINEER, PROVINCE OF BRITISH COLUMBIA, P.S. HAWRYLYSHYN # 47678, 2023-01-24

R.F. Binnie & Associates Ltd.
EGBC Permit to Practice
Number 1001128

DATE 2019-12-17
DRAWING No. 19-0393-D1
SHEET 11 OF 14
REV. 1
DESTROY ALL PRINTS BEARING PREVIOUS No.

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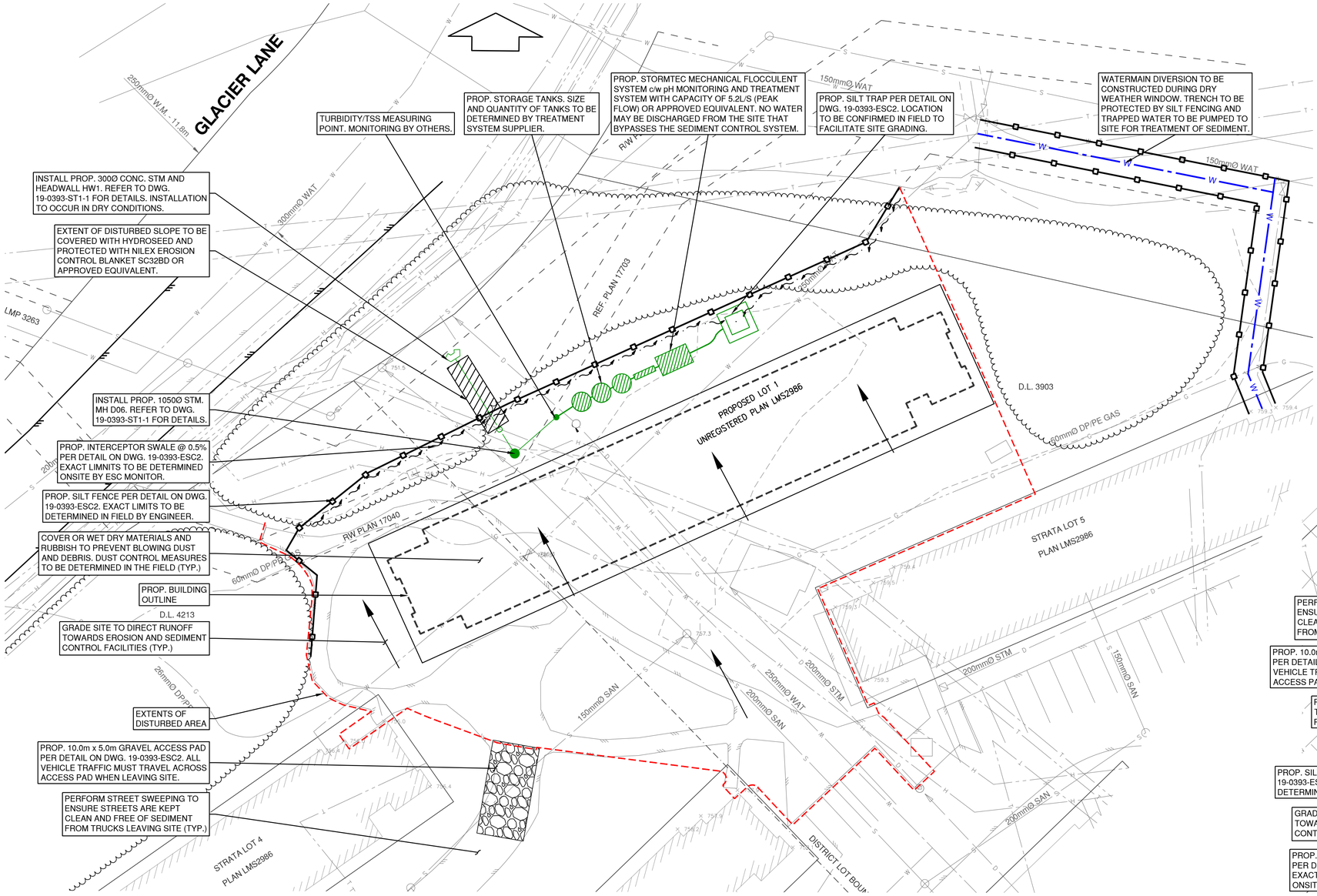
ISSUED FOR DEVELOPMENT PERMIT

BENCHMARK:

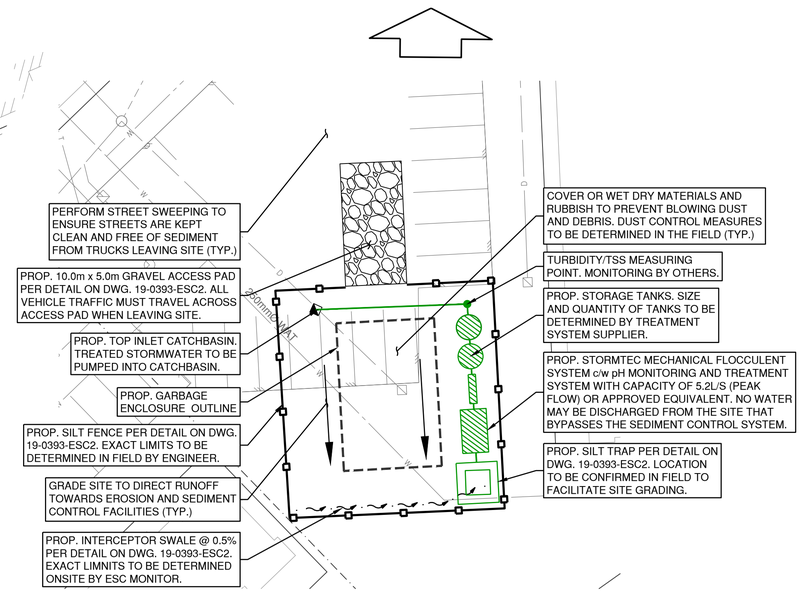
ELEVATIONS ARE IN METRES AND ARE REFERRED TO GEODETIC DATUM CGVD28 USING SMARTNET WHISTLER STATION

ELEVATION = 923.642 METRES



EROSION AND SEDIMENT CONTROL PLAN - PROPOSED BUILDING 8

SCALE: 1:250



EROSION AND SEDIMENT CONTROL PLAN - GARBAGE ENCLOSURE

SCALE: 1:250

REFER TO ENVIRONMENTAL REPORT FOR TREATMENT OF INVASIVE SPECIES

ADDITIONAL MEASURES MAY BE RECOMMENDED IN THE FIELD BY ESC SUPERVISOR AS REQUIRED TO MEET WATER QUALITY REQUIREMENTS

ESC WORKS NOT TO BE REMOVED WITHOUT APPROVAL FROM RMOW AND ESC MONITOR

THIS DRAWING IS FOR SITE PREPARATION WORKS ONLY

FOR GENERAL NOTES, TYPICAL SECTIONS AND DETAILS REFER TO DWG'S 19-0393-D1 & 19-0393-ESC2

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CLIENT VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION

STAFF HOUSING GLACIER 8
EROSION AND SEDIMENT
CONTROL PLAN

SURVEYED BY MCELHANNEY
DRAWN BY LS
DESIGNED BY PH
CHECKED BY PH

SCALES
0 1:250 10m

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
PAUL R. HENRY-LAVOIE
47678
2023-01-05
R.F. Binnie & Associates Ltd.
EGBC Permit to Practice
Number 1001128

DATE 2019-12-17
DRAWING No.
19-0393-ESC1
SHEET 13 **OF** 14
REV. 1
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

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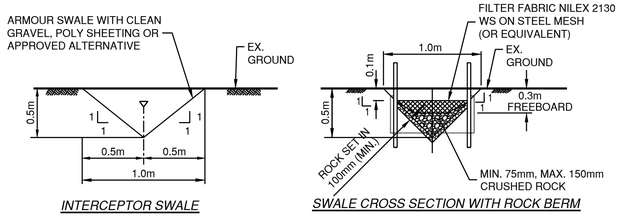
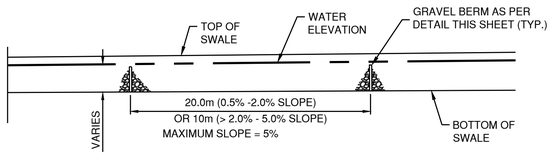


INTERCEPTOR SWALE

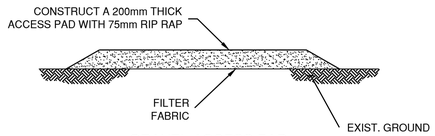
SWALE CROSS SECTION WITH ROCK BERM



SECTION - INTERCEPTOR SWALE

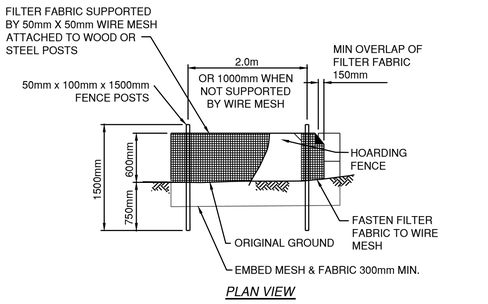
TYPICAL DETAIL OF DITCH BARRIER AND INTERCEPTOR DITCH (IF REQUIRED)

N.T.S.

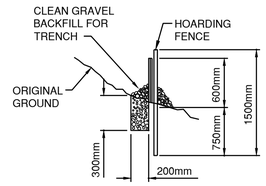


GRAVEL ACCESS PAD

N.T.S.

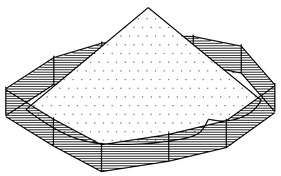


PLAN VIEW

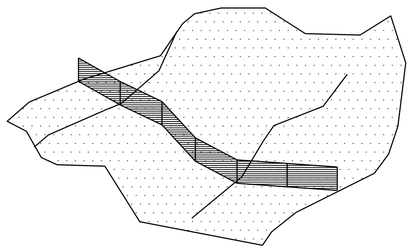


ELEVATION VIEW

NOTES:
1 - FASTEN MESH ON UPHILL SIDE PRIOR TO ATTACHING FILTER FABRIC
2 - INSPECT AFTER EVERY RAINFALL
3 - REMOVE SEDIMENT BEFORE DEPTH REACHES 1/2 FENCE HEIGHT
4 - REPAIR AS REQUIRED



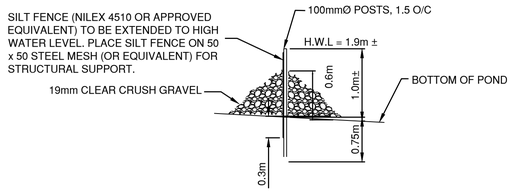
SILT FENCE AROUND SOIL STOCKPILES



SILT FENCE USED ON SLOPES

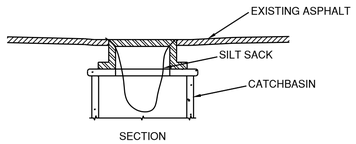
TYPICAL SILT FENCE CONSTRUCTION AND APPLICATIONS

N.T.S.



GRAVEL BERM C/W SILT FENCING DETAIL
SILTATION POND DETAIL

N.T.S.



SECTION

NOTES:

1 - SILTSACK BY NILEX TO BE MANUFACTURED FROM WOVEN POLYPROPYLENE AND SEWN BY DOUBLE NEEDLE MACHINE, USING HIGH STRENGTH NYLON THREAD.

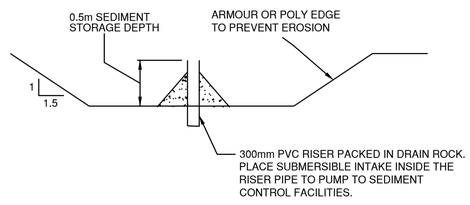
2 - SILT SACK TO BE HI-FLOW SILTSACK STYLE TO ASTM D-4884.

3 - INSPECT SILTSACK SEDIMENT TRAP TWICE A MONTH DURING DRY MONTHS (MAY-SEPT), WEEKLY DURING WET MONTHS (OCT-APR) AND AFTER SIGNIFICANT RAIN EVENTS (>50mm WITHIN 24 HOURS).

4 - SILTSACK TO BE EMPTIED AND CLEANED OUT WHEN SILTSACK IS FULL WHEN RESTRAINT CORD IS NO LONGER VISIBLE.

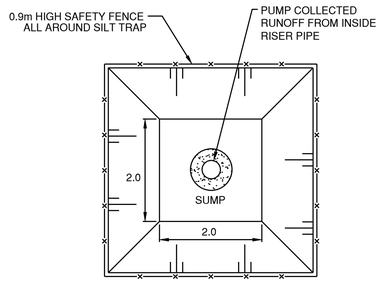
TYPICAL CATCH BASIN SEDIMENT TRAP

N.T.S.



SILT TRAP SECTION DETAIL

N.T.S.



SILT TRAP DETAIL

N.T.S.

SILTATION CONTROL

1. CONDUCT ALL SILTATION CONTROL WORK TO THE REQUIREMENTS OF THE PROVINCIAL MINISTRY OF ENVIRONMENT AND THE FEDERAL DEPARTMENT OF FISHERIES AND OCEANS CANADA AND OTHER AGENCIES.

2. STOCKPILE ON-SITE AT VARIOUS STRATEGIC LOCATIONS, ADEQUATE SUPPLIES OF ALL MATERIALS REQUIRED TO PROTECT DOWNSTREAM WATERCOURSES FROM SILTATION.

3. REPAIR MACHINE TRACKS OR OTHER SURFACE DEFORMATIONS WHICH TEND TO ALTER DRAINAGE PATHS OR CONCENTRATE DRAINAGE IN SUCH A WAY AS TO INCREASE EROSION.

4. ASSESS AND REVIEW THE EFFECTIVENESS OF TEMPORARY SEDIMENT CONTROL MEASURES AND DETERMINE THE NEED FOR ADDITIONAL MEASURES ON A CONTINUING BASIS.

5. INSPECT AND MAINTAIN SILTATION CONTROL ON A DAILY BASIS.

6. CORRECT DEFICIENCIES IN EROSION AND SEDIMENTATION CONTROL IMMEDIATELY. IF THE CONTRACTOR FAILS TO CORRECT THE DEFICIENCIES IN EROSION AND SEDIMENTATION CONTROL, THIS DEFAULT MAY BE CORRECTED BY THE OWNER AT THE CONTRACTOR'S EXPENSE.

7. LOCATION AND FREQUENCY OF INTERCEPTOR DITCHES TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

8. RUNOFF FROM SOIL STOCKPILES AND EXPOSED EARTH SLOPES SHALL BE CONTROLLED.

9. INSTALL SILT FENCES, AND DRAIN ROCK BARRIERS TO ARREST MIGRATION OF SILTS IN INTERCEPTOR DITCHES.

THE FILTER FABRIC OR GEOTEXTILE MAY BE A PERVIOUS SHEET OF SLIT FILM WOVEN POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE YARN, HAVING THE FOLLOWING PROPERTIES:

- MINIMUM FILTERING EFFICIENCY - 90%
- MINIMUM FLOW RATE - 0.012 m3/m2/minute
- MINIMUM GRAB TENSILE STRENGTH - 700 N
- MINIMUM EQUIVALENT OPENING SIZE - O.15 mm (MEDIAN 0.21mm)

10. ALL WORK SHALL BE UNDERTAKEN AND COMPLETED IN SUCH A MANNER AS TO PREVENT THE RELEASE OF SEDIMENT LADEN WATER INTO ANY DOWNSTREAM WATERCOURSE OR STORM SEWER.

11. ALL LOCATIONS AND ELEVATIONS OF EXIST. UNDERGROUND SERVICES HAVE BEEN DETERMINED FROM AS-CONSTRUCTED DRAWINGS AND THE ENGINEER CANNOT BE HELD RESPONSIBLE FOR THEIR ACCURACY. THE CONTRACTOR IS TO VERIFY THE LOCATIONS OF ALL EXISTING ON-SITE AND OFF-SITE SERVICES AND TIE-IN POINTS PRIOR TO CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES, CONFLICTS OF OMISSIONS.

SILTATION CONTROL DURING BUILDING CONSTRUCTION

1. ALL WORK SHALL BE UNDERTAKEN AND COMPLETED BY THE DEVELOPER IN SUCH A MANNER AS TO PREVENT THE RELEASE OF SEDIMENT LADEN WATER INTO ANY DOWNSTREAM WATERCOURSE OR STORM SEWER.

2. THE BUILDER SHALL CONSTRUCT THE INTERCEPTOR DITCH AS PER DETAIL PRIOR TO UNCAPPING THE STORM CONNECTION OR ALLOWING ANY WATER TO DISCHARGE FROM SITE. ALL STORM CONNECTIONS SHALL BE CAPPED UNLESS PROTECTED BY A SEDIMENT CONTROL TRAP OR BASIN.

3. THE INTERCEPTOR DITCH SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE BUILDER UNTIL THE PAVEMENT AND THE BUILDING'S PERIMETER DRAIN TILE AND DRAIN ROCK HAVE BEEN INSTALLED.

4. DURING BUILDING CONSTRUCTION, THE BUILDER SHALL INSPECT THE INTERCEPTOR DITCH AFTER EVERY RAINFALL AND REMOVE SEDIMENT FROM THE TRAP WHEN THE POND IS HALF FULL. IN ADDITION, THE BUILDER SHALL KEEP THE SITE ACCESS PAD FREE FROM SOIL, SILT OR MUD AT ALL TIMES DURING CONSTRUCTION.

5. ANY IRREGULARITIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.

DECOMMISSIONING OF SEDIMENT CONTROL FACILITIES SHALL CONSIST OF THE FOLLOWING WORKS:

1. ACCUMULATED SILT AND SEDIMENT WITHIN THE CONTROL SYSTEMS TO BE REMOVED AND DISPOSED OFF-SITE, AT AN APPROVED DISPOSAL SITE.

2. STORM SERVICE CONNECTIONS TO BE FLUSHED AND REINSTATED TO RESORT MUNICIPALITY OF WHISTLER APPROVAL.

3. EXCAVATIONS FOR SEDIMENT CONTROL TO BE BACKFILLED WITH APPROVED NATIVE MATERIAL, OR PIT RUN GRAVEL, AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.

4. DECOMMISSIONING CANNOT OCCUR WITHOUT THE RECOMMENDATION OF THE CONSULTANT AND APPROVAL FROM THE RESORT MUNICIPALITY OF WHISTLER.

WATER QUALITY TESTING TO BE PERFORMED BY QEP ACCORDING TO A SCHEDULE PROVIDED BY QEP AND AGREED TO BY RESORT MUNICIPALITY OF WHISTLER

MAINTENANCE AND MONITORING REQUIREMENTS

1. THE SYSTEM MUST BE INSPECTED BY THE DESIGN ENGINEER TO ENSURE IT IS INSTALLED/CONSTRUCTED IN ACCORDANCE WITH APPROVED DRAWINGS.

2. IT IS THE DEVELOPER AND/OR SITE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE EFFECTIVE MAINTENANCE AND OPERATION OF THE SEDIMENT CONTROL MEASURES.

3. THE DEVELOPER SHALL RETAIN AN INDEPENDENT ENVIRONMENTAL CONSULTANT PRIOR TO CONSTRUCTION, TO SAMPLE AND ANALYZE THE WATER QUALITY BEING DISCHARGED FROM THE SITE TO ENSURE COMPLIANCE WITH FISHERIES AND OCEANS CANADA GUIDELINE. THE TOTAL SUSPENDED SOLIDS (TSS) LEVEL MUST NOT BE GREATER THAN 75mg/L ABOVE THE BACKGROUND LEVEL IN WET WEATHER CONDITIONS AND 25mg/L IN DRY WEATHER CONDITIONS.

4. THERE IS TO BE WEEKLY INSPECTION OF THE SYSTEM, AND SAMPLING IS TO BE CONDUCTED IF THERE IS DISCHARGE LEAVING THE SITE. IN ADDITION, DURING WET WEATHER CONDITIONS, THE DISCHARGE LEAVING THE SITE SHALL BE SAMPLED DURING OR AFTER EACH AND EVERY STORM EVENT WITH A RAINFALL OF 12.5mm OR GREATER. RESULTS ARE TO BE PROVIDED TO THE DESIGN ENGINEER

5. NOTWITHSTANDING THE WEATHER CONDITIONS NOTED ABOVE, THE SAMPLING FREQUENCY AND ANALYSIS SHALL BE AT THE DISCRETION OF, AND TO THE SATISFACTION OF THE RMOW ENGINEERING DEPARTMENT.

6. WHERE THERE IS AN EXCEEDANCE OF THE ALLOWABLE TSS LEVELS, THE DESIGN ENGINEER IS TO BE CONSULTED AND CORRECTIVE MEASURES ARE TO BE IMPLEMENTED IMMEDIATELY.

7. THE ENVIRONMENTAL CONSULTANT SHALL ALSO MONITOR THE pH OF THE EFFLUENT TO ENSURE WATER DISCHARGED FROM THE SITE FALLS BETWEEN 6 AND 8.5. EFFLUENT OUTSIDE THIS RANGE MUST BE NEUTRALIZED PRIOR TO DISCHARGE.

RATE OF FLOW FOR MECHANICAL TREATMENT SYSTEM (BASED ON 2 YEAR RETURN PERIOD FLOW)

Tc = 13.0 min

INTENSITY CALCULATED USING RMOW BYLAW

Q=AIR
WHERE A = SITE AREA = 2950 m^2
I = INTENSITY = 15.9 mm/hr
R = RUNOFF COEFF. = 0.40

Q = 5.2 L/sec

LAND DEVELOPMENT GUIDELINES

- DUE TO EXTENT OF UNDERGROUND EXCAVATION, MECHANICAL TREATMENT SYSTEM WILL BE USED.
- DESIGN FLOW = 0.0052 m^3/sec

NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
1	2023-01-05	REVISED PER UPDATED ARCH SITE PLAN	

BINNIE
The people behind your infrastructure.

R.F. BINNIE & ASSOCIATES LTD.
201 - 40147 Glenalder Place,
Squamish, BC V8B 0G2
TEL 604 892 8222
BINNIE.com

CLIENT
VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION
STAFF HOUSING GLACIER 8
EROSION AND SEDIMENT CONTROL PLAN
NOTES AND DETAILS

SURVEYED BY MCELHANNEY
DRAWN BY LS
DESIGNED BY PH
CHECKED BY PH

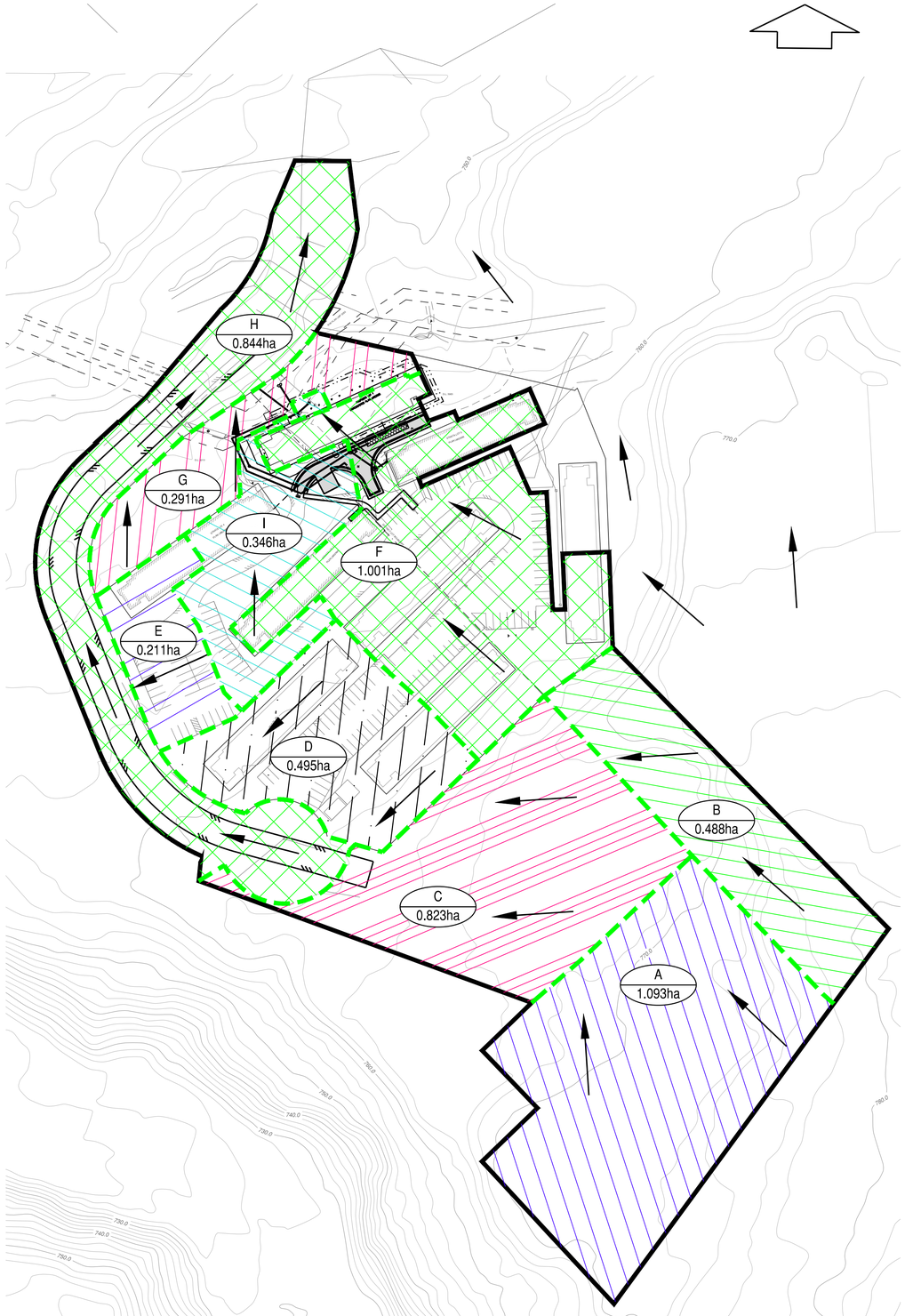
SCALES
0 1:250 10m

PROFESSIONAL ENGINEER
Province of British Columbia
P. S. TANNYE-JOHN
47678
2023-01-05
R.F. Binnie & Associates Ltd.
EGBC Permit to Practice Number 1001128

DATE 2019-12-17
DRAWING No.
19-0393-ESC2
SHEET 14 OF 14
REV. 1
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

PLOTTED: 2023-01-24 3:15:27 PM/USER: GOJUANCO
PATH: N:\2019\19-0393\00 - ENGINEERING\CAD\19-0393-ESC.DWG LAYOUT: ESC2



STORMWATER CONTROL LEGEND

- 100 YEAR OVERLAND FLOW
- 100 YEAR FLOW IN PIPE
- OVERLAND FLOW
- LOT GRADING
- BASIN BOUNDARY LINE
- CATCHMENT PRE DEVELOPMENT
- SUB CATCHMENT POST DEVELOPMENT
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- FUTURE STORM SEWER
- EXISTING CONTOURS — 20
- EXISTING DITCHES
- PROPOSED SWALES
- MANHOLE, CLEANOUT OR HEADWALL NUMBER — M.H. # / C.O. # / H.W. #
- CATCHMENT AREA — CATCHMENT # / AREA (ha)
- EXISTING DETENTION AREA
- PROPOSED COMMUNITY DETENTION FACILITY
- CATCHMENT FLOW DIRECTION

NOTES:

1. CONTOURS FROM RMOW OPEN DATA 2M LIDAR CONTOURS
2. DRAINAGE PATHS APPROXIMATE

NOT FOR CONSTRUCTION

No.	DATE	REVISION	BY
1	2022-06-27	GENERAL REVISIONS	GC

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201 - 40147 Glenalder Place,
Squamish, BC V8B 0G2
TEL 604 892 8222
BINNIE.com

CLIENT VAIL RESORTS
MANAGEMENT COMPANY

DRAWING DESCRIPTION
STAFF HOUSING GLACIER 8
STORMWATER CATCHMENT
POST-DEVELOPMENT PLAN

SURVEYED BY MCELHANNEY
DRAWN BY GC
DESIGNED BY GC
CHECKED BY PH

SCALES
0 1:1000 40m

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — P.S. HAWRYSHYN — # 47678 — 2022-06-27

R.F. Binnie & Associates Ltd.
EGBC Permit to Practice
Number 1001128

DATE 2019-12-17
DRAWING No. 19-0393-SWCP1
SHEET ---- **OF** 14
REV. 1
DESTROY ALL PRINTS BEARING PREVIOUS No.

ISSUED FOR DEVELOPMENT PERMIT

PLOTTED: 2022-06-24, 3:19:48 PM USER: USNOW
FILE: J:\2019\19-0393\00 - CAD FILES\SWCP\[19-0393-SWCP.DWG]LAYOUT: SWCP1