RESORT MUNICIPALITY OF WHISTLER
RIVER OF GOLDEN DREAMS WEIR AND FISHWAY

DRAWING LIST	
Sheet Number	**Sheet Title**
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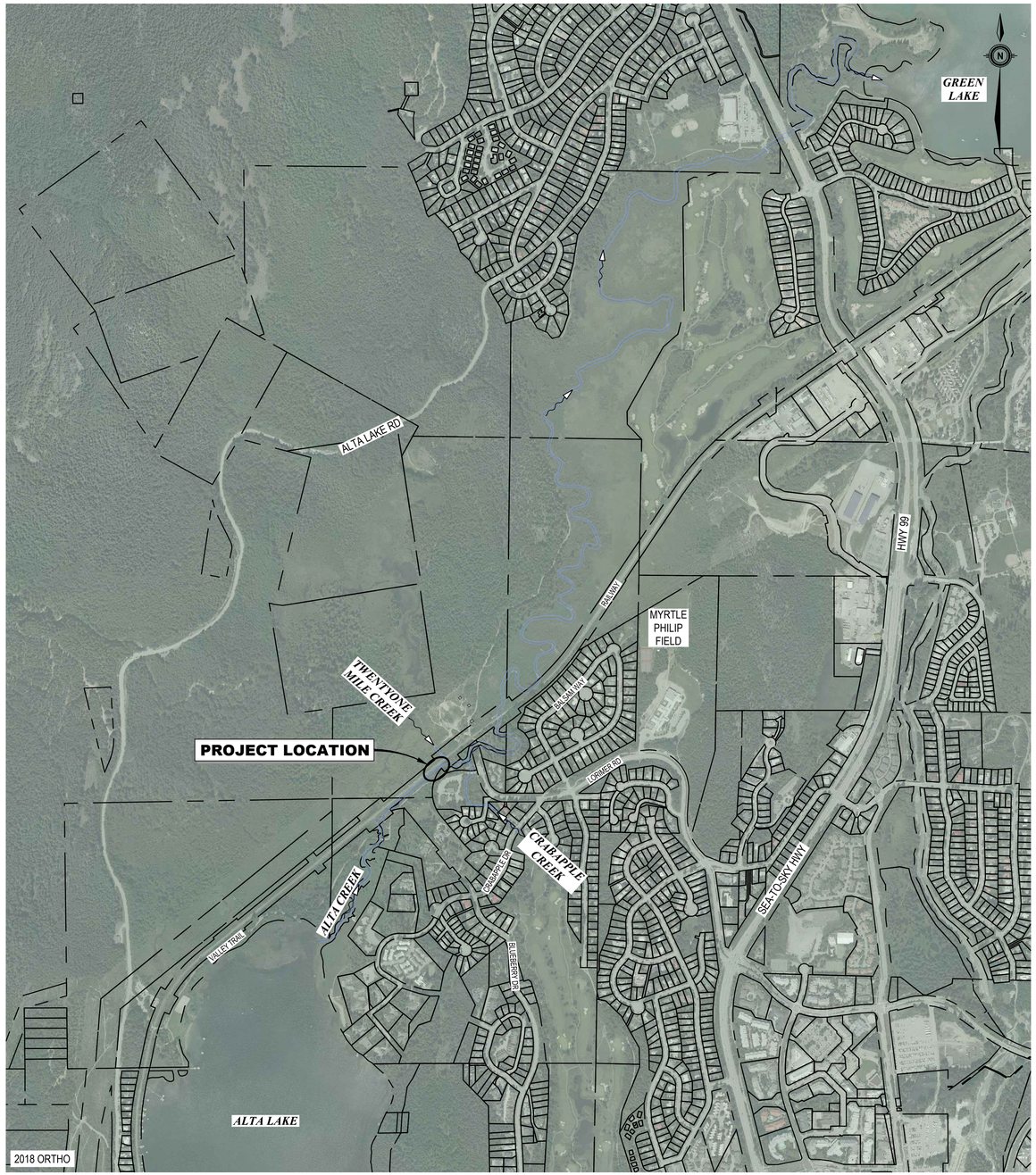

LOCATION PLAN
Scale 1:8,000

KERR WOOD LEIDAL
consulting engineers

Info:
NOT FOR CONSTRUCTION
2024-03-26

Seal:
PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA M. S. J. STEVENSON # 55098
Permit to Practice #1000696 2024-03-26

Rev	Date	Des	Dwn	Chk	Description
0	2024-03-26	MSJS	PAC	AGC	ISSUED FOR QUOTATION

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RESORT MUNICIPALITY OF WHISTLER
RIVER OF GOLDEN DREAMS WEIR AND FISHWAY

LOCATION PLAN & DRAWING LIST

Project No. 0029-364
Group GENERAL
Drawing No. G-001
Rev. 0

1. GENERAL
1.1. DRAWINGS ARE INTENDED TO COMMUNICATE OVERALL COMPONENTS OF THE DESIGN. DUE TO THE NATURE OF IN-STREAM WORK, IT WILL BE NECESSARY TO ADJUST SOME LOCATIONS, QUANTITIES, AND GEOMETRY OF WORKS TO BETTER FIT SITE CONDITIONS. FINAL LOCATIONS AND GEOMETRY OF WORKS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
1.2. SITE ACCESS WILL BE CONSTRUCTED BY THE RESORT MUNICIPALITY OF WHISTLER (RMOW) PRIOR TO CONSTRUCTION.
1.3. RMOW SUPPLIED MATERIALS WILL BE AVAILABLE TO THE CONTRACTOR AT THE START OF CONSTRUCTION.
1.4. ENVIRONMENTAL MONITORING AND MANAGEMENT WILL BE PROVIDED BY RMOW DURING CONSTRUCTION.
1.5. ENVIRONMENTAL MANAGEMENT PLAN TO BE PROVIDED TO CONTRACTOR PRIOR TO CONSTRUCTION.
1.6. ALL DIMENSIONS ARE IN MILLIMETRE UNLESS NOTED OTHERWISE.

2. SITE LAYOUT AND SURVEY
2.1. TERRAIN SURVEY BY DOUG BUSH SURVEY SERVICES LTD. ON FEBRUARY 16, 2023.
2.2. ELEVATIONS ARE GEODETIC CVGD28 DERIVED FROM MONUMENT NO. 95HA141 LOCATED AT NW HIGHWAY BRIDGE ABUTMENT OVER THE RIVER OF GOLDEN DREAMS.
2.2.1. ELEVATION USED = 636.339 METRES (2087.73 FEET).
2.3. COORDINATES ARE NAD83 UTM ZONE 10.
2.4. PROPERTY DIMENSIONS ARE FROM LAND TITLE OFFICE (L.T.O.) RECORDS.
2.5. SURVEY CONTROL POINTS ARE PRESENTED BELOW IN TABLE 1 AND DEPICTED ON THE SITE LAYOUT.

TABLE 1: SURVEY CONTROL

NORTHING	EASTING	ELEVATION	DESCRIPTION
5,552,718.576	501,935.497	638.869	SET PK 10309
5,552,734.116	501,906.938	639.539	SET REBAR 10104
5,552,720.600	501,930.367	638.455	IPF SB 8473
5,552,736.523	501,958.238	638.774	IPF SB 8471
5,552,744.158	501,957.792	638.773	IPF SB 8450
5,552,687.870	501,882.641	638.934	TIE PK 9751
5,552,775.993	501,953.822	639.714	SET REBAR 10253
5,552,748.363	501,974.555	638.896	TIE PK 9637
5,552,736.514	501,958.244	638.769	IPF TIE

2.6. THE CONTRACTOR SHALL MAINTAIN SURVEY CONTROL THROUGHOUT CONSTRUCTION AS REQUIRED TO CONSTRUCT THE WORK TO THE LINES, GRADES, AND LIMITS SHOWN ON THE DESIGN DRAWINGS.

3. MATERIALS
3.1. THE PRIMARY MATERIALS REQUIRED FOR CONSTRUCTION ARE LISTED IN TABLE 2 AND DESCRIBED IN THE FOLLOWING SECTIONS.
3.2. SUPPLY MATERIALS THAT MEET OR CLOSELY MEETS THE REQUIREMENTS LISTED IN THESE SPECIFICATIONS. WHERE NECESSARY, THE CONTRACTOR SHALL WORK THE FILL MATERIAL(S) BY MEANS SUCH AS SEGREGATING PARTICLE SIZES, BLENDING MATERIALS TO ACHIEVE A CONSISTENT GRADATION, AND REMOVING OVERSIZED MATERIALS TO ACHIEVE SUCH MATERIAL SPECIFICATIONS.

TABLE 2: PRIMARY MATERIALS

MATERIAL	GENERAL DESCRIPTION	SPECIFICATION CLAUSE	CONTRACTOR ACTION
ENGINEERED FILL	75 mm MINUS CRUSHED ROCK PLACED BENEATH PRECAST CONCRETE STRUCTURES, RIPRAP AND AS BACKFILL.	3.3	SUPPLY AND INSTALL
CLASS 10 kg ANGULAR RIPRAP	CLASS 10 kg ANGULAR RIPRAP PLACED ALONG CREEK BANKS FOR EROSION PROTECTION.	3.4	SUPPLY AND INSTALL
CLASS 10 kg ROUNDED ROCK	CLASS 10 kg ROUNDED ROCK PLACED ON CREEK BED FOR SCOUR PROTECTION.	3.5	SUPPLY AND INSTALL
FISHWAY RIVER ROCK	200 mm WELL GRADED ROUNDED RIVER STONE PLACED WITHIN FISHWAY BAFFLES AS FISHWAY BED SURFACE MATERIAL.	3.6	SUPPLY AND INSTALL
ANGULAR BAFFLE CREST ROCK	ANGULAR 300 TO 500 mm ROCK PLACED AT FISHWAY BAFFLES TO CREATE HYDRAULIC COMPLEXITY AT THE BAFFLE CRESTS.	3.7	SUPPLY AND INSTALL
NON-WOVEN GEOTEXTILE	NON-WOVEN GEOTEXTILE TO PREVENT MIGRATION OF FINES FROM BEHIND THE CONCRETE BLOCK WALL.	3.8	SUPPLY AND INSTALL
SEEPAGE CUTOFF WALL	IMPERMEABLE MATERIAL TO PREVENT SEEPAGE BENEATH AND AROUND WEIR AND FISHWAY STRUCTURES.	3.9	SUPPLY AND INSTALL
STACKED ROCK	LARGE APPROXIMATELY RECTANGULAR, TABULAR, OR CUBICAL SHAPED ROCK 500 TO 750 mm IN DIAMETER USED WHERE LOCALIZED BANK STEEPENING IS REQUIRED TO TRANSITION TO EXISTING GRADE.	3.10	SUPPLY AND INSTALL

3.3. ENGINEERED FILL
3.3.1. ENGINEERED FILL SHALL BE 75 mm MINUS CRUSHED ROCK THAT MEETS THE FOLLOWING REQUIREMENTS:
CONTAINING LESS THAN 5% FINES.
HAS A PARTICLE SIZE DISTRIBUTION THAT MEETS THE FOLLOWING GRADATION LIMITS.

TABLE 3: ENGINEERED FILL GRADATION

SIEVE SIZE	% PASSING BY WEIGHT
3 in (75 mm)	100
1 ½ in (38 mm)	60 TO 100
¾ in (19 mm)	38 TO 80
3/8 in (9.5 mm)	30 TO 60
#4 (4.75 mm)	24 TO 45
#8 (2.36 mm)	18 TO 35
#16 (1.18 mm)	12 TO 24
#30 (0.600 mm)	8 TO 19
#50 (0.300 mm)	4 TO 13
#200 (0.075 mm)	0 TO 5

3.4. CLASS 10 kg ANGULAR RIPRAP
3.4.1. CLASS 10 kg ANGULAR RIPRAP SHALL BE AS SPECIFIED IN THE BC MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE (MOTI) 2020 STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION - SECTION 205 RIPRAP AND MEET THE FOLLOWING REQUIREMENTS:
3.4.2. HAVE A PARTICLE SIZE DISTRIBUTION THAT CLOSELY MEETS THE FOLLOWING GRADATION REQUIREMENTS LISTED IN TABLE 4.

TABLE 4: CLASS 10 kg ANGULAR RIPRAP GRADATION

ROCK DIMENSION (mm)	ROCK MASS (kg)	% PASSING BY WEIGHT
350	50	100
285	30	85
200	10	50
90	1	10

3.4.3. IS CLEAN, SOUND, DENSE, DURABLE ROCK FREE OF CRACKS, SEAMS, JOINTS, AND OTHER STRUCTURAL DEFECTS.
3.4.4. IS SUB-ANGULAR TO ANGULAR IN SHAPE.
3.4.5. IS ROUGHLY EQUIDIMENSIONAL WITH NO SINGLE DIMENSION ALONG ANY OF THE THREE PRIMARY AXES EXCEEDING 3 TIMES THE LENGTH OF THE MINIMUM DIMENSION.
3.4.6. HAS LOW POTENTIAL FOR ACID ROCK DRAINAGE (ARD) AND METAL LEACHING (ML) AS CERTIFIED BY A QUALIFIED PROFESSIONAL IN ACCORDANCE WITH THE MOTI TECHNICAL CIRCULAR T-04/13.
3.4.7. MEETS THE MINIMUM PHYSICAL REQUIREMENTS FOR ROCK AS LISTED IN TABLE 5.

TABLE 5: MINIMUM PHYSICAL REQUIREMENTS FOR ROCK

TEST/PROPERTY	STANDARD	SELECTION CRITERION
SPECIFIC GRAVITY	ASTM D6473	> 2.50
ABSORPTION	ASTM D6473	< 2%
SOUNDNESS OF USE OF MAGNESIUM SULPHATE	ASTM D5240	< 10% (FOLLOWING 5 CYCLES)
MICRO-DEVAL ABRASION LOSS FACTOR	ASTM D6928	< 20%

3.5. CLASS 10 kg ROUNDED ROCK
3.5.1. SAME AS CLASS 10 kg ANGULAR RIPRAP STATED ABOVE IN CLAUSE 3.3 BUT SUB-ROUNDED TO ROUNDED IN SHAPE.
3.6. FISHWAY RIVER ROCK
3.6.1. FISHWAY RIVER ROCK SHALL BE 200 mm MINUS WELL GRADED RIVER ROCK CONTAINING 8 TO 12% COARSE SAND.
3.6.2. INDIVIDUAL PARTICLES MUST BE SUB-ROUND TO ROUND IN SHAPE.
3.7. ANGULAR BAFFLE STONE
3.7.1. ANGULAR BAFFLE STONE SHALL MEET THE FOLLOWING REQUIREMENTS:
3.7.2. HAVE A PARTICLE SIZE BETWEEN 300 AND 500 mm.
3.7.3. IS SUB-ANGULAR TO ANGULAR IN SHAPE.
3.7.4. IS CLEAN, SOUND, DENSE, DURABLE ROCK FREE OF CRACKS, SEAMS, JOINTS, AND OTHER STRUCTURAL DEFECTS.
3.7.5. HAS LOW POTENTIAL FOR ACID ROCK DRAINAGE (ARD) AND METAL LEACHING (ML) AS CERTIFIED BY A QUALIFIED PROFESSIONAL IN ACCORDANCE WITH THE MOTI TECHNICAL CIRCULAR T-04/13.
3.7.6. MEETS THE MINIMUM PHYSICAL REQUIREMENTS FOR ROCK AS LISTED IN TABLE 5.
3.8. NON-WOVEN GEOTEXTILE
3.8.1. THE NON-WOVEN GEOTEXTILE SHALL HAVE AT A MINIMUM THE FOLLOWING MECHANICAL, HYDRAULIC, AND CHEMICAL PROPERTIES LISTED IN TABLE 6.

TABLE 6: NON-WOVEN GEOTEXTILE PHYSICAL PROPERTIES

PROPERTIES	STANDARD	MINIMUM AVERAGE ROLL VALUE (MARV)	VALUE UNIT
GRAB TENSILE STRENGTH	ASTM D4632	700	N
GRAB ELONGATION	ASTM D4632	50	%
CBR PUNCTURE STRENGTH	ASTM D6241	1375	N
TRAPEZOIDAL TEAR STRENGTH	ASTM D4533	250	N
APPARENT OPENING SIZE	ASTM D4751	0.22(1)	mm
PERMITTIVITY	ASTM D4491	1.0	Sec^{-1}
UV RESISTANCE	ASTM D4355	70	% STRENGTH AT 500 HOURS

NOTES:
1. THE APPARENT OPENING SIZE REQUIREMENT IS BASED ON MAXIMUM AVERAGE ROLL VALUES.

3.9. SEEPAGE CUTOFF WALL
3.9.1. SEEPAGE CUTOFF WALL MATERIAL SHALL CONSIST OF BENTONITE, ENGINEERED FILL AND BENTONITE MIXTURE, OR AQUABLOK (OR APPROVED EQUIVALENT) TO CREATE AN IMPERMEABLE BARRIER TO SUBSURFACE FLOW THROUGH ENGINEERED FILL BENEATH PRECAST CONCRETE STRUCTURES.
3.9.2. IMPERMEABLE MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO PLACEMENT.
3.9.3. IMPERMEABLE MATERIAL TO BE INSTALLED TO MANUFACTURER SPECIFICATIONS.
3.10. STACKED ROCK
3.10.1. STACKED ROCK SHALL MEET THE FOLLOWING REQUIREMENTS:
- HAVE A PARTICLE SIZE BETWEEN 500 mm AND 750 mm.
- IS APPROXIMATELY RECTANGULAR, TABULAR, OR CUBICAL.
- IS ROUGHLY EQUIDIMENSIONAL WITH NO SINGLE DIMENSION ALONG ANY OF THE THREE PRIMARY AXES EXCEEDING 3 TIMES THE LENGTH OF THE MINIMUM DIMENSION.
- IS CLEAN, SOUND, DENSE, DURABLE ROCK FREE OF CRACKS, SEAMS, JOINTS, AND OTHER STRUCTURAL DEFECTS.
- HAS LOW POTENTIAL FOR ACID ROCK DRAINAGE (ARD) AND METAL LEACHING (ML) AS CERTIFIED BY A QUALIFIED PROFESSIONAL IN ACCORDANCE WITH THE MOTI TECHNICAL CIRCULAR T-04/13.
- MEETS THE MINIMUM PHYSICAL REQUIREMENTS FOR ROCK AS LISTED IN TABLE 5.

4. EXECUTION OF WORKS
4.1. STRIPPING
4.1.1. SITE STRIPPING SHOULD BE COMPLETE BENEATH THE FOOTPRINT OF THE WEIR AND FISHWAY TO REMOVE ALL ORGANICS, TOPSOIL, LOOSE, SATURATED, SOFT, VARIABLE FILL AND SOFT SILT AND ANY OTHER MATERIAL CONSIDERED UNSUITABLE BY THE GEOTECHNICAL ENGINEER.
4.1.2. STRIPPING SHOULD BE COMPLETED TO A DEPTH THAT EXPOSES COMPETENT NATIVE SUBGRADE.
4.1.3. SOFT SILT DEPOSITS SHOULD BE STRIPPED AND REPLACED WITH ENGINEERED FILL BENEATH THE WEIR AND FISHWAY.
4.1.4. THE LATERAL EXTENT OF STRIPPING SHOULD EXTENT BEYOND THE EDGE OF ANY FOUNDATION OR STRUCTURE TO A DISTANCE EQUAL TO THE THICKNESS OF THE ENGINEERED FILL THAT IS TO BE PLACED.
4.1.5. THE NATIVE SUBGRADE IS EXPECTED TO BE SENSITIVE AND SUITABLE SHORING, TEMPORARY WATER DIVERSION AND DEWATERING SHALL BE IN PLACE PRIOR TO EXCAVATION TO PREVENT DAMAGING THE EXPOSED SUBGRADE.
4.1.6. STRIPPING TO BE COMPLETED UNDER REVIEW AND DIRECTION OF GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER TO APPROVE SUBGRADE PRIOR TO PLACEMENT OF ANY ENGINEERED FILL.
4.2. TEMPORARY EXCAVATIONS
4.2.1. TEMPORARY EXCAVATIONS MAY BE UP TO 2.5 m DEEP IN SOME AREAS TO EXPOSE SUITABLE SUBGRADE.
4.2.2. TEMPORARY CUT SLOPES ARE EXPECTED TO BE STABLE AT 1.5H:1V, ALTHOUGH FLATTER SLOPES MAY BE REQUIRED DEPENDING ON THE PERFORMANCE OF THE SOFT SILT WHEN EXCAVATED.
4.2.3. CUTS LESS THAN 1.2 m DEEP, AND WITHIN EMBANKMENT FILLS SUPPORTING THE CN RAIL LINE CAN LIKELY BE TEMPORARILY CUT AT 1H:1V.
4.2.4. TEMPORARY SHORING, SUCH AS SHEET PILE, OR SLIDE-RAIL, ARE CONSIDERED FEASIBLE DURING THE OVER-EXCAVATION AND REPLACEMENT OF UNSUITABLE SOILS BENEATH THE PROPOSED STRUCTURES. TEMPORARY SHORING DETAILS SHOULD BE REVIEWED AND APPROVED WITH THE GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION.
4.2.5. ALL EXCAVATIONS MUST CONFORM TO WORKSAFEBC REQUIREMENTS. A PROFESSIONAL ENGINEERING MUST REVIEW ANY EXCAVATIONS EXCEEDING 1.2 m IN DEPTH THAT REQUIRE WORKER ENTRY.
4.2.6. TEMPORARY DEWATERING WILL BE REQUIRED TO KEEP EXCAVATION DRY DURING PLACEMENT OF ENGINEERED FILL.
4.3. PLACEMENT OF PRECAST CONCRETE STRUCTURES
4.3.1. PRECAST CONCRETE STRUCTURES TO BE SUPPLIED BY RMOW AND INSTALLED BY CONTRACTOR.
4.3.2. EXPECTED TOTAL OF 4 PRECAST CONCRETE FISHWAY COMPONENTS, 2 PRECAST CONCRETE WEIR COMPONENTS, AND 17 CONCRETE BLOCKS.
4.3.3. PRECAST CONCRETE STRUCTURE MAXIMUM WEIGHT ANTICIPATED AT 6,800 kg.
4.3.4. WEIR AND FISHWAY STRUCTURES SUPPLIED WITH STARCON STYLE LIFTING INSERTS.
4.3.5. CONCRETE BLOCKS SUPPLIED WITH ENGINEERED LIFTING EYE OR STRAND CABLE.
4.3.6. WEIR AND FISHWAY STRUCTURES SHALL BE ANCHORED TOGETHER USING SUPPLIED ANCHOR BOLTS AND HARDWARE.
4.4. GENERAL PLACEMENT OF FILL MATERIALS
4.4.1. USE ONLY MATERIALS THAT MEET THE REQUIREMENTS OUTLINED IN THE SPECIFICATIONS.
4.4.2. PLACE MATERIAL TO THE LINES AND GRADES SHOWN IN THE DESIGN DRAWINGS. EXCESS MATERIAL SHALL BE TRIMMED BACK TO DESIGN LINES AND GRADES BY THE CONTRACTOR AT THEIR EXPENSE.
4.5. ENGINEERED FILL
4.5.1. FOLLOWING SITE STRIPPING, ANY GRADE REINSTATEMENT BENEATH FOUNDATIONS OR ENGINEERED SLOPES SHOULD BE COMPLETED USING ENGINEERED FILL.
4.5.2. ENGINEERED FILL TO BE COMPACTED IN LOOSE LIFTS NOT EXCEEDING 300 mm TO A MINIMUM STANDARD OF 95% OF ITS MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) WHILE AT A MOISTURE CONTENT THAT IS WITHIN 2% OF ITS OPTIMUM FOR COMPACTION.
4.5.3. GEOTECHNICAL ENGINEER TO REVIEW PLACEMENT AND COMPACTION OF ENGINEERED FILL.
4.6. CLASS 10 kg ANGULAR RIPRAP
4.6.1. PLACE RIPRAP AS A MATRIX OF UNIFORMLY DISTRIBUTED LARGER ROCKS INFILLED WITH SMALLER ROCKS. PROVIDE COMPACTION WITH THE EXCAVATOR BUCKET ONLY AS REQUIRED TO ACHIEVE INTERLOCKING BETWEEN ROCKS.
4.6.2. MINIMIZE OCCURRENCES OF LARGE VOIDS OR PROTRUSIONS ALONG THE RIPRAP SURFACE THAT INCREASE THE RISK OF DISLODGING AND FAILURE OF THE RIPRAP.
4.6.3. PLACE RIPRAP FROM A HEIGHT NO GREATER THAN 1.0 m FROM THE GROUND TO AVOID DAMAGE.
4.6.4. RIPRAP SHALL BE PLACED WITH THE USE OF AN EXCAVATOR EQUIPPED WITH A HYDRAULIC THUMB. THE OPERATOR OF THE EXCAVATOR SHALL BE EXPERIENCED IN THE PLACEMENT OF RIPRAP USING A HYDRAULIC THUMB.
4.7. CLASS 10 kg ROUNDED ROCK
4.7.1. PLACE ROUNDED ROCK AS A MATRIX OF UNIFORMLY DISTRIBUTED LARGER ROCKS INFILLED WITH SMALLER ROCKS. PROVIDE COMPACTION WITH THE EXCAVATOR BUCKET ONLY AS REQUIRED TO ACHIEVE INTERLOCKING BETWEEN ROCKS.
4.7.2. MINIMIZE OCCURRENCES OF LARGE VOIDS OR PROTRUSIONS ALONG THE SURFACE THAT INCREASE THE RISK OF DISLODGING AND FAILURE OF THE ROCK.
4.7.3. PLACE ROCK FROM A HEIGHT NO GREATER THAN 1.0 m FROM THE GROUND TO AVOID DAMAGE.
4.7.4. ROUNDED ROCK SHALL BE PLACED WITH THE USE OF AN EXCAVATOR EQUIPPED WITH A HYDRAULIC THUMB. THE OPERATOR OF THE EXCAVATOR SHALL BE EXPERIENCED IN THE PLACEMENT OF ROCK USING A HYDRAULIC THUMB.
4.8. NON-WOVEN GEOTEXTILE
4.8.1. NON-WOVEN GEOTEXTILE SHALL BE INSTALLED ON THE LANDSIDE FACE OF THE CONCRETE BLOCK WALL TO PROVIDE A PHYSICAL SEPARATION OF THE CONCRETE BLOCKS AND THE ENGINEERED FILL. NON-WOVEN GEOTEXTILE IS INTENDED TO PREVENT EROSION OF ENGINEERED FILL THROUGH SEAMS IN THE CONCRETE BLOCK WALL.
4.8.2. USE EQUIPMENT AND LABOUR THAT MINIMIZE DAMAGE TO THE GEOTEXTILE FABRIC DURING UNROLLING, CUTTING, AND PLACING.
4.8.3. OVERLAP INDIVIDUAL GEOTEXTILE STRIPS BY AT LEAST 0.6 m WIDTH WITH THE UPSTREAM STRIP PLACED OVER THE DOWNSTREAM STRIP.
4.8.4. MAINTAIN GEOTEXTILE WITH SOME SLACK PRIOR TO BACKFILLING.
4.8.5. REPAIR DAMAGES TO GEOTEXTILE SUCH AS TEARS AND PUNCTURES IMMEDIATELY.
4.8.6. DAMAGES MEASURING LESS THAN 500 mm SHALL BE REPAIRED BY PLACING A GEOTEXTILE PATCH OVER THE DAMAGED AREA THAT IS 300 mm WIDER ON ALL SIDES.
4.8.7. GEOTEXTILE DAMAGE MEASURING GREATER THAN 500 mm SHALL BE REPLACED ENTIRELY WITH A NEW GEOTEXTILE PIECE.
4.9. SEEPAGE CUTOFF WALL
4.9.1. CUT TRENCH 300 mm WIDE INTO ENGINEERED FILL SUBGRADE TO BASE OF EXCAVATION AS INDICATED ON DESIGN DRAWINGS.
4.9.2. FILL WITH BENTONITE, ENGINEERED FILL AND BENTONITE MIXTURE, OR AQUABLOK (OR APPROVED EQUIVALENT) TO MANUFACTURER'S SPECIFICATIONS.
4.9.3. PROVIDE COMPACTION AS NECESSARY TO ENSURE NO VOIDS IN THE SEEPAGE CUTOFF WALL.
4.9.4. THE SEEPAGE CUTOFF WALL SHALL BE A CONTINUOUS SECTION PERPENDICULAR TO THE CHANNEL FLOW DIRECTION SPANNING THE ENTIRE WIDTH FROM LEFT BANK CUT SLOPE TO RIGHT BANK CUT SLOPE. THE SEEPAGE CUTOFF WALL SHALL HAVE A MINIMUM EMBEDMENT OF 300 mm INTO THE EXISTING SUBGRADE AND EXTEND TO AN ELEVATION OF 637.5 m
4.10. STACKED ROCK
4.10.1. WHERE NECESSARY - PLACE STACKED ROCK TO AVOID OVERSTEEPENING 10 kg RIPRAP BANKS.
4.10.2. ALL ROCKS SHALL BE PLACED WITH THE LONGEST ROCK DIMENSION PERPENDICULAR TO THE SLOPE, THE SECOND LARGEST DIMENSION PARALLEL TO THE SLOPE, AND THE SMALLEST DIMENSION SHOULD BE ITS VERTICAL DIMENSION.
4.10.3. BASE ROCKS SHOULD HAVE A MINIMUM EMBEDMENT OF 50% OF THEIR HEIGHT.
4.10.4. VOIDS SHOULD NOT EXCEED 300 mm. VOIDS EXCEEDING 150 mm SHALL BE FILLED WITH CHINKING ROCKS.

5. MATERIAL QUANTITIES
5.1. QUANTITIES OF EXCAVATED AND FILL MATERIALS ARE PROVIDED AS ESTIMATES ONLY IN TABLE 7. ACTUAL VOLUMES DURING CONSTRUCTION WILL VARY BASED ON SITE CONDITIONS AT THE TIME OF CONSTRUCTION.
5.2. THE QUANTITIES PROVIDED HEREIN DO NOT INCLUDE STRIPPING, GRUBBING, OR SITE ACCESS MATERIALS TO BE COMPLETED BY RMOW.
5.3. EXCAVATED VOLUME ESTIMATES ARE BASED ON IN-SITU VOLUME AND DO NOT CONSIDER BULKING FACTORS.
5.4. EXCAVATED AND FILL MATERIAL QUANTITIES ARE BASED ON 300 mm CUT DEPTH BELOW PRECAST CONCRETE STRUCTURES FOR PLACEMENT OF MINIMUM THICKNESS ENGINEERED FILL SUBGRADE. ACTUAL CUT DEPTH BELOW PRECAST CONCRETE STRUCTURES WILL BE DEPENDANT ON SITE CONDITIONS AT THE TIME OF CONSTRUCTION AND SUBGRADE APPROVAL FROM THE GEOTECHNICAL ENGINEER. ANY CUT DEPTH IN EXCESS OF 300 mm WILL INCREASE QUANTITIES OF MATERIALS, SPECIFICALLY ENGINEERED FILL AND POTENTIALLY 10 kg ROUNDED ROCK.

TABLE 7: MATERIAL QUANTITIES

MATERIAL	ESTIMATED QUANTITY
ENGINEERED FILL	71 m³
CLASS 10 kg ANGULAR RIPRAP	24 m³
CLASS 10 kg ROUNDED ROCK	24 m³
FISHWAY RIVER ROCK	7 m³
ANGULAR BAFFLE CREST ROCK	14 m³
NON-WOVEN GEOTEXTILE	25 m²
SEEPAGE CUTOFF WALL	3 m³
STACKED ROCK	5 m³

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consulting engineers

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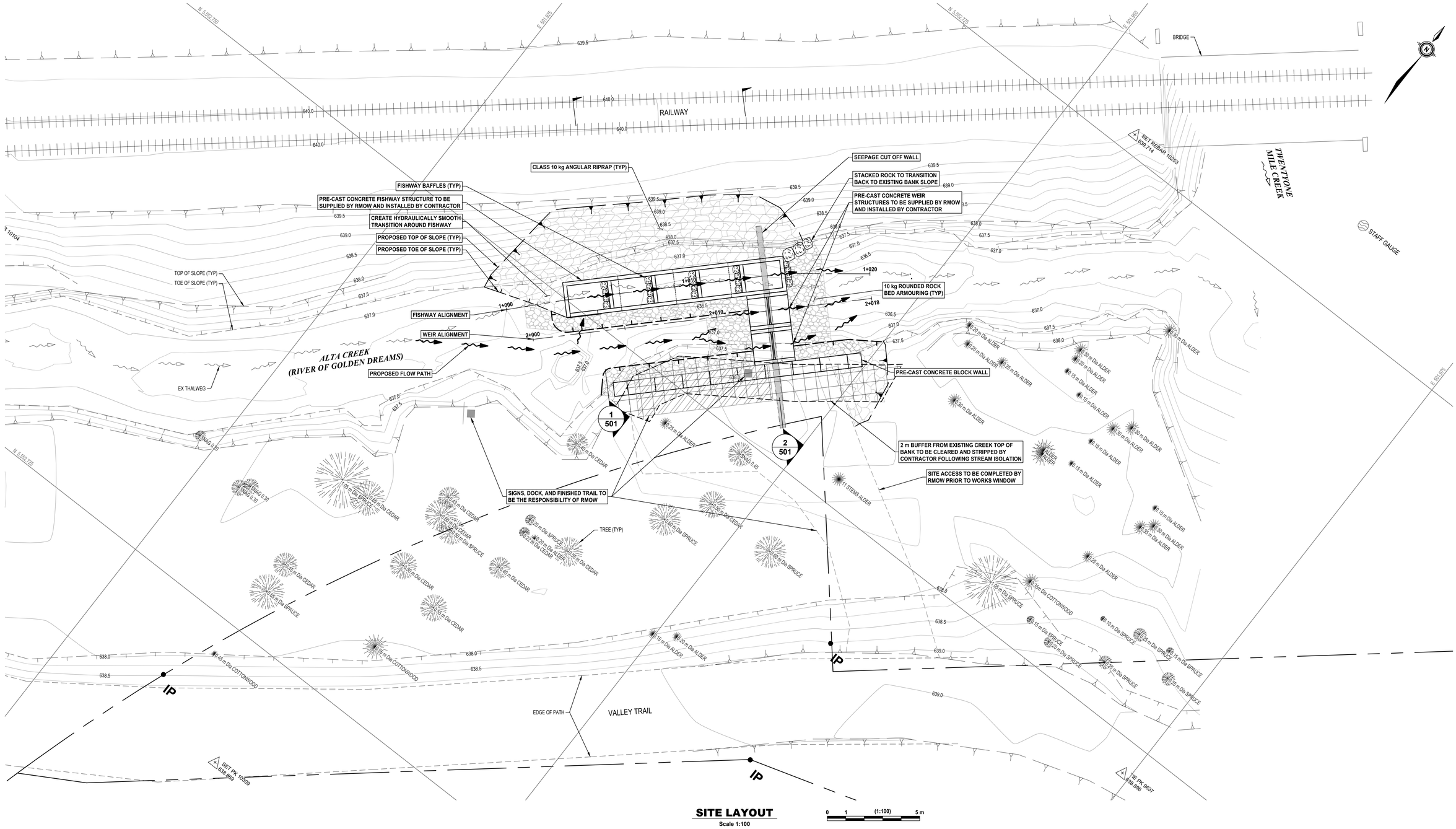
GENERAL NOTES & SPECIFICATIONS

Project No. 0029-364
Group GENERAL
Drawing No. G-002
Rev. 0



SITE LAYOUT
Scale 1:100

0 1 (1:100) 5 m

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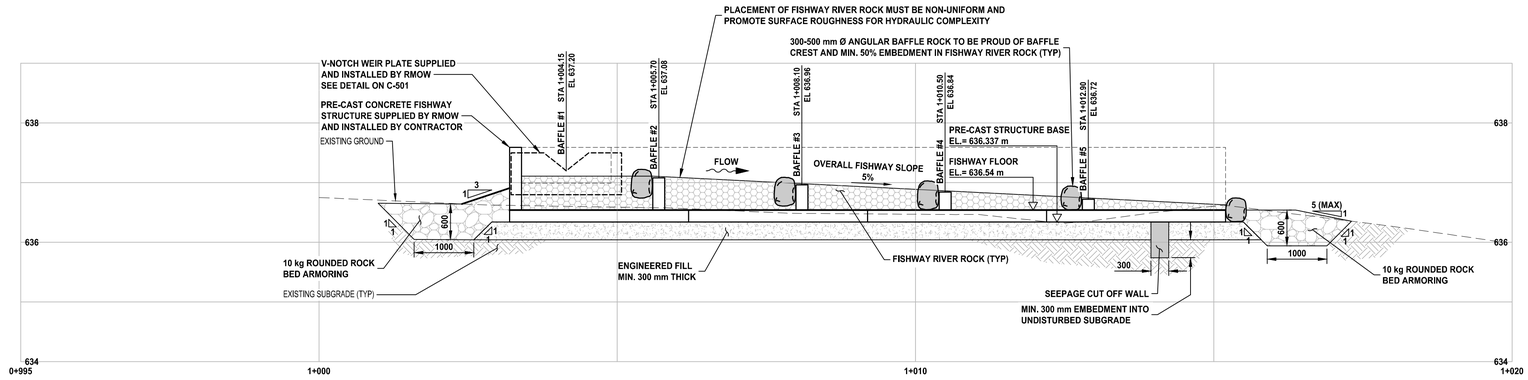
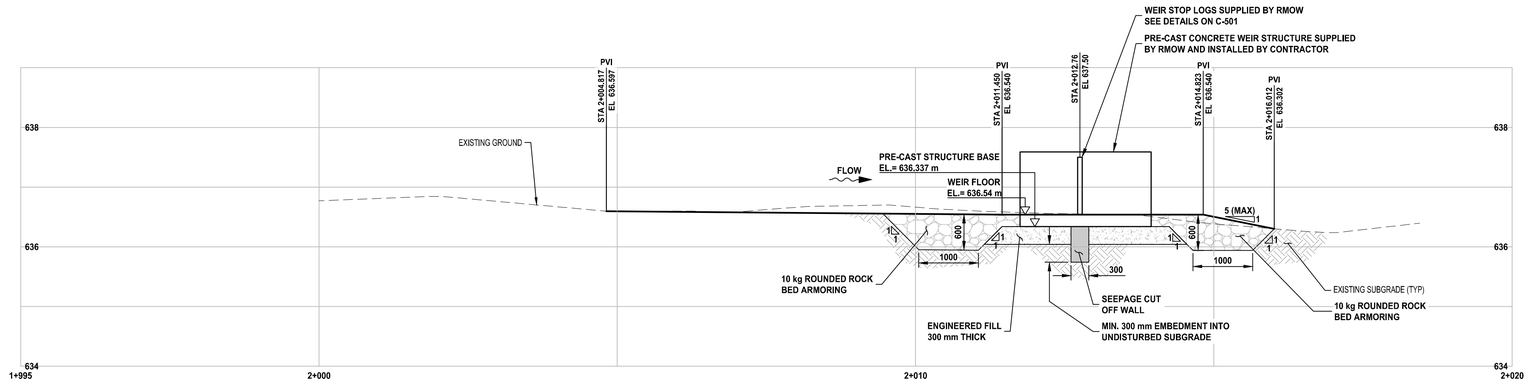
SITE LAYOUT

Project No.	Drawing No.	Rev.
0029-364	C-101	0
Group: CIVIL		



FISHWAY PROFILE

Scale 1:50



WEIR PROFILE

Scale 1:50

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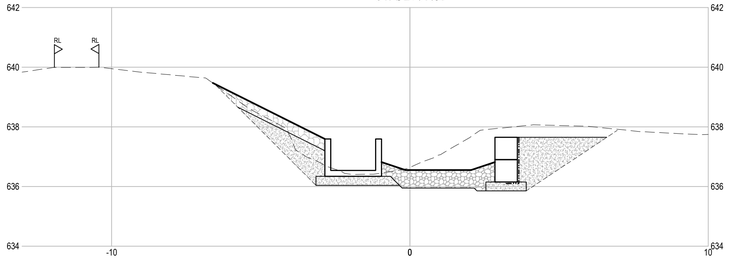
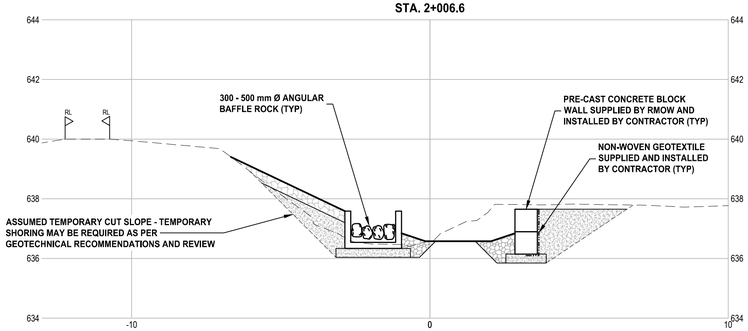
PROFILES

Project No. 0029-364
Group CIVIL
Drawing No. C-102
Rev. 0

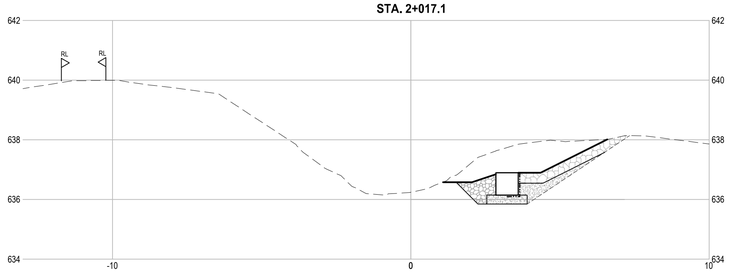
STA. 2+010.4



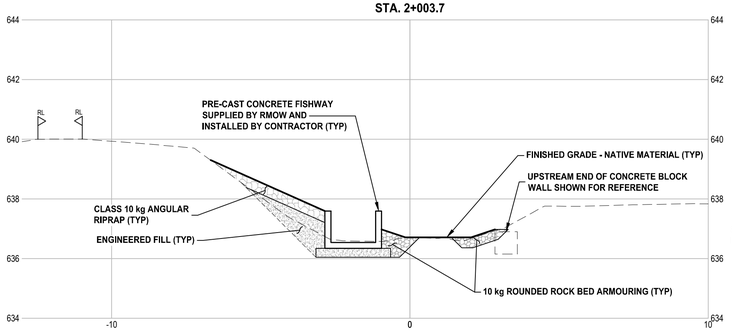
STA. 2+006.6



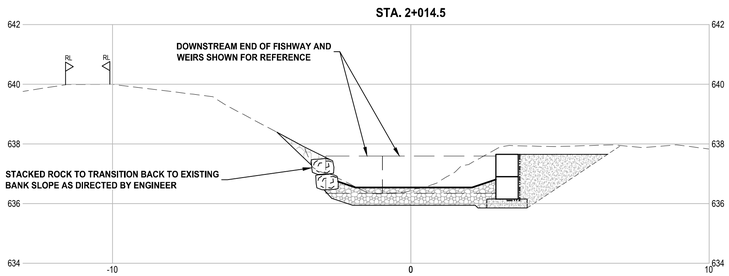
STA. 2+017.1



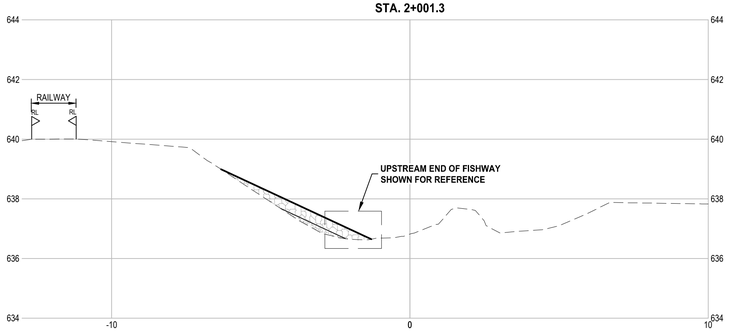
STA. 2+003.7



STA. 2+014.5



STA. 2+001.3



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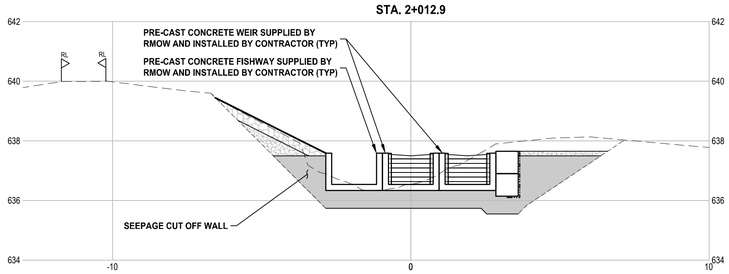


NOTES:
- FOR MORE DETAILS SEE TYPICAL SECTIONS ON C-501.
- TEMPORARY CUT SLOPES ARE RECOMMENDED AT 1.5H:1V BUT CUTS LESS THAN 1.2 m DEEP CAN BE 1H:1V, OR AS APPROVED BY GEOTECHNICAL ENGINEER.

CROSS SECTIONS

Scale 1:100

KERR WOOD LEIDAL
consulting engineers

Info:

NOT FOR CONSTRUCTION
2024-03-26

Seal

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA
M. S. J. STEVENSON
55799
Permit to Practice #1000696 2024-03-26

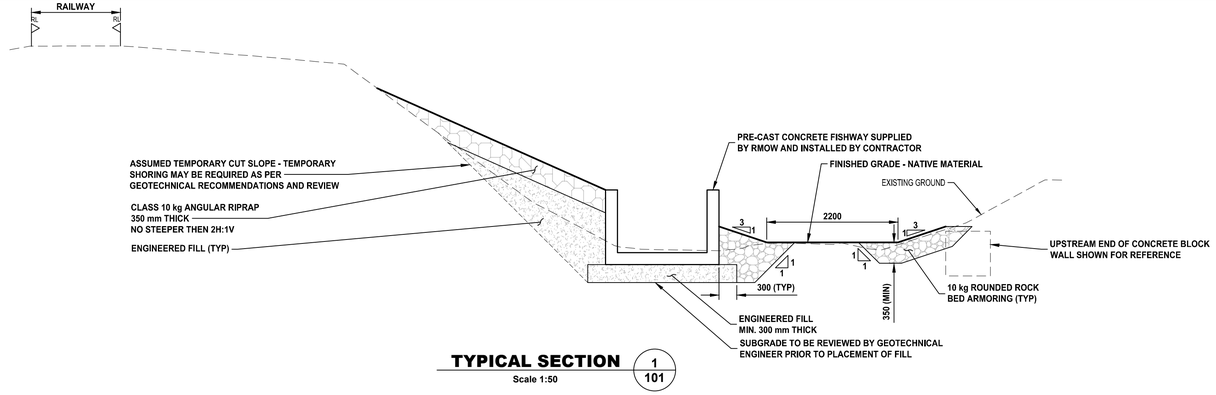
Rev	Date	Des	Dwn	Chk	Description
0	2024-03-26	MSJS	PAC	AGC	ISSUED FOR QUOTATION

Rev	Date	Des	Dwn	Chk	Description

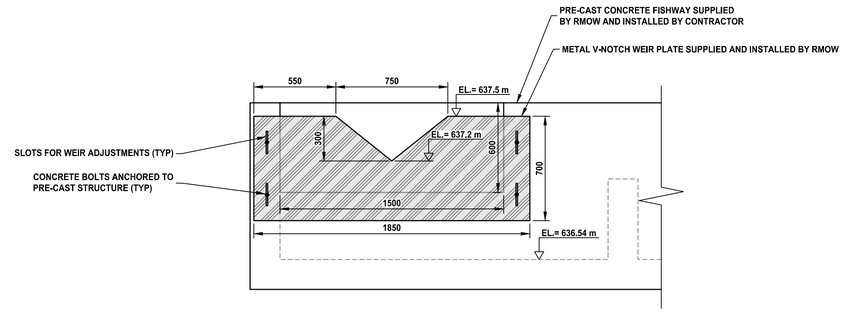
RESORT MUNICIPALITY OF WHISTLER
RIVER OF GOLDEN DREAMS WEIR AND FISHWAY

CROSS SECTIONS

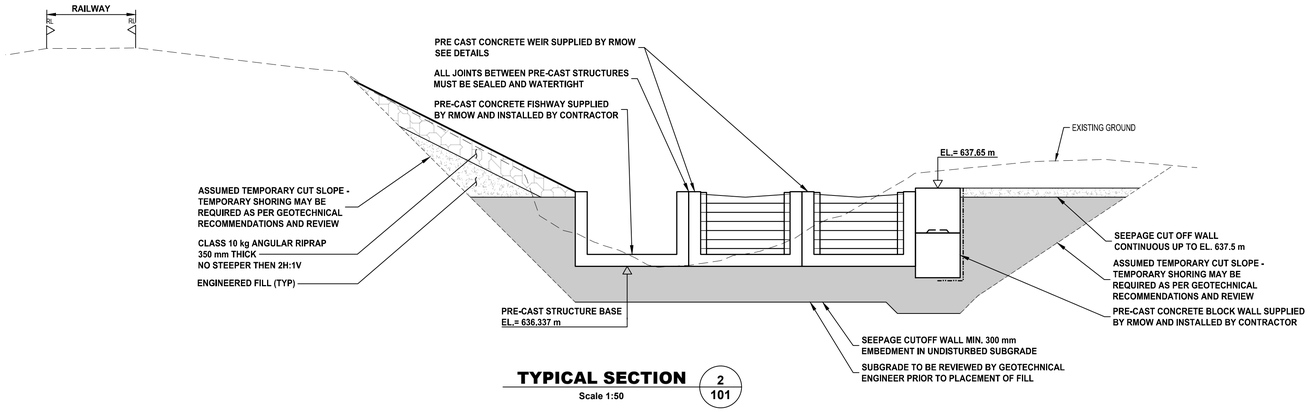
Project No.	Drawing No.	Rev.
0029-364	C-201	0
Group: CIVIL		



TYPICAL SECTION 1/101
Scale 1:50



FISHWAY V-NOTCH WEIR PLATE
Scale 1:20



TYPICAL SECTION 2/101
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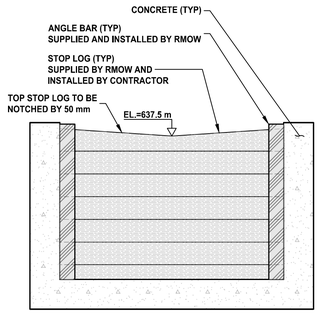
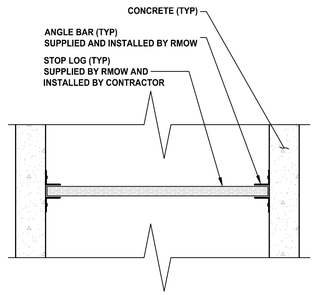
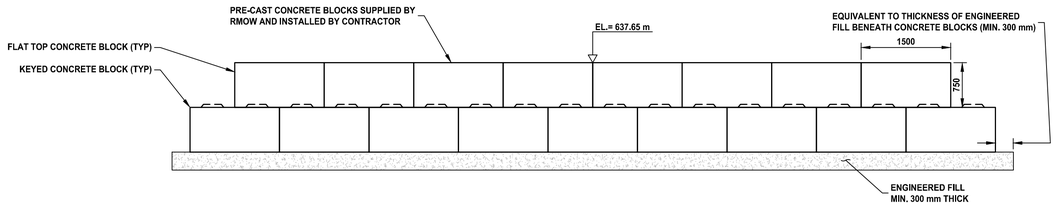


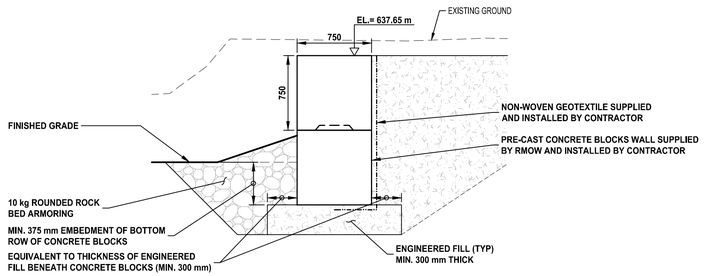
WEIR DETAIL - SECTION
Scale 1:20



WEIR DETAIL - PLAN
Scale 1:20



PRE-CAST CONCRETE BLOCK WALL - ELEVATION VIEW
Scale 1:50



PRE-CAST CONCRETE BLOCK WALL - SECTION
Scale 1:30

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PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA M. S. J. STEVENSON # 50786

Permit to Practice #1000696 2024-03-26

Rev	Date	Des	Dwn	Chk	Description
0	2024-03-26	MSJS	PAC	AGC	ISSUED FOR QUOTATION

Rev	Date	Des	Dwn	Chk	Description

RESORT MUNICIPALITY OF WHISTLER
RIVER OF GOLDEN DREAMS WEIR AND FISHWAY

TYPICAL SECTIONS & DETAILS

Project No. 0029-364
Group CIVIL
Drawing No. C-501
Rev. 0