TOWNSHIP OF MUSKOKA LAKES

LITTLE BURGESS GENERATING STATION

1 BAILEY STREET

PORT CARLING, ONTARIO

KEY PLAN
SCALE=1:1000

LIST OF DRAWINGS

No.	Rev.	DRAWING DESCRIPTION
C1	7	Existing Conditions & Removals
C2	7	Spillway Plan
C3	7	Spillway Sections & Details
C4	7	Spillway, Dam Raise & Dam Extension Plan
C5	7	Spillway, Dam Raise & Dam Extension Section & Details
C6	7	Concrete Embankment Wall
C7	7	Laneway Grading & Details
C8	7	River Street Road Reconstruction Plan & Profile Sta. 0+940 to 1+091
E1	7	Sediment & Erosion Control Plan
S1	3	General Arrangement, Elevations & Retaining Wall Detail
S2	3	Retaining Wall Sections
S3	3	Foundation Upgrades & Roof Framing Plans
S4	3	Foundation Upgrades & Roof Framing Details
S5	3	Removal Photos
G1	7	General Notes

TOWNSHIP OF MUSKOKA Lakes

TULLOCH

PROJECT No. 23-1236

EXISTING WATERMIAN AND SANITARY SEWER DEPTH AND LOCATION TO BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION

MILL STREET

RIVER STREET

EXIST. WATERMAIN

RIVER STREET C/L

REMOVE 106m OF EXISTING GUARDRAIL

EXISTING GUIDERAIL

EDGE OF ASPHALT
EDGE OF SHOULDER

REMOVE EXISTING FENCE

EXIST. 300mm STORM SEWER
INV. 225.01

EXIST. GUARD RAIL

EDGE OF ASPHALT
EDGE OF SHOULDER

PROPERTY LINE

SIGN

REMOVE EXIST. CONC. RETAINING WALL

EXISTING FENCE TO BE REMOVED

EXIST. GABION WALL

EXISTING DRY STACK ROCKS TO BE REMOVED

EXISTING LOWER GABION WALL TO BE REMOVED

EXISTING UPPER GABION WALL TO BE REMOVED

EXISTING BOULDERS

REMOVE EXISTING FENCE AND GATE

EXIST. FENCE

EXIST. POWER GENERATION BUILDING

EXIST. INTAKE STRUCTURE

FLOW

LAKE MUSKOKA

REMOVE EXISTING FENCE AND GATE

REMOVE EXISTING UPPER STAIRS AND LANDING

EXIST. BEDROCK

EXIST. CONCRETE DAM STRUCTURE
(APPROX. ELEV. 225.93)

EDGE OF WATER
(APR. 23, 2020)

EXIST. STONE RET. WALL

EXIST. BOULDERS

EXIST. LANEWAY

REMOVE EXISTING FENCE

REMOVE EXISTING GATE

EXIST. GATE

EXIST. FENCE

ALL TREES AND VEGETATION TO BE REMOVED

PROPERTY LINE

REMOVE EXISTING FENCE

EXIST. PLANTER

EXIST. ROCK GARDEN

EXIST. PLANTERS TO BE MOVED AND REPLACED AFTER COMPLETION OF CONSTRUCTION

EXIST. SHED

EXIST. DECK

EXIST. COTTAGE

EXIST. STAIRS

EXIST. DOCK

EXIST. ROCK GARDEN

EXIST. STONE RET. WALL

EXIST. SHED

LOT 269

LOT 275

LOT 274

LOT 273

LOT 272

P:\2023\231236 – Burgess Dam Detailed Design\03 Drawings\CIVIL DRAWINGS\02-PDFs and Milestone Dwgs\23-ISSUED FOR CONSTRUCTION (JUNE 25-25)\ACAD\231236 – Burgess Dam – Retaining Wall – 2025-06-25.dwg

N

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
E. K. GILES
100206670
JUNE 25, 2025
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
Y. LIANG
100145939
2025-06-25
PROVINCE OF ONTARIO

DATE (DAY/MM/YR.)	REV.	REVISION	BY	APP'D
25/06/2025	7	ISSUED FOR CONSTRUCTION	HD	EG
16/05/2025	6	ISSUED FOR TENDER	HD	EG
06/26/2024	0	ISSUED FOR FINAL REVIEW	HD	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

DRAWING TITLE:

EXISTING CONDITIONS & REMOVALS

DRAWN	DESIGNED	CHECKED	APPROVED
HD	FP	FP	FP

SCALE	DATE
1:150	JUNE 25, 2025

PROJECT No.	REVISION	DRAWING
23-1236	7	C1

RIVER STREET

EXIST. SAN MH1

WV

REMOVE & REPLACE EXIST. STEEL BEAM GUIDE RAIL (SEE DWG C8 FOR GUIDE RAIL DETAILS)

PROP. STORM SEWER

EXIST. SAN MH2

PROP. ASPHALT GUTTER

EXIST. SAN. SWR.

PROP. EDGE OF ROAD

PROP. EDGE OF SHOULDER

PROP. 300mm STORM SEWER

PROP. GUIDE RAIL

PROPERTY LINE

HP

EXIST. CONC. RETAINING WALL

EXIST. FENCE

EDGE OF WATER (APR. 23, 2020)

PROP. CONC. EMBANKMENT WALL (SEE DWG C6)

EXIST. GABION WALL

PROP. R-10 RIP RAP SWALE (AS PER OPSS 1004)

EXIST. POWER GENERATION BUILIDNG

FLOW

EXIST. INTAKE STRUCTURE

PROP. CONC. RETAINING WALL

PROP. SWALE

RAISE EXIST. CONC. DAM TO ELEV. 226.50

EXIST. CONCRETE DAM STRUCTURE

LAKE MUSKOKA

PROP. 750mm THICK SPILLWAY RIP RAP (NOMINAL DIA. OF 500mm) C/W HIGH DENSITY NON-WOVEN GEOTEXTILE (TERRAFIX 800R OR APPROVED EQUIVALENT)

PROP. 150mm PERFORATED SUBDRAIN C/W FILTER SOCK TO BE PLACED AT LOW POINTS AS REQUIRED TO DRAIN SUBGRADE

SEE SPILLWAY WALL DETAIL – SECTION D2-D2 (DWG C3)

EXIST. BEDROCK

MH

EXIST. BOULDERS TO REMAIN

EXIST. STONE RET. WALL TO REMAIN

IF NO GROUNDING GRID – STRIP DOWN TO BEDROCK IF GROUNDING GRID IS FOUND – NATIVE OVERBURDEN TO REMAIN

PROP. SPILLWAY RIP RAP (750mm THICK MIN.)

EXIST. LANEWAY

4.5m PROP. LANEWAY

10.4m MIN.

EXIST. OVERBURDEN

PROP. SPILLWAY RIP RAP PROTECTION (SEE SPILLWAY RIP RAP NOTES ON DWG G1)

TOP OF EXIST. CONC. DAM TO REMAIN (APPROX. ELEV. 225.93)

EDGE OF WATER (APR. 23, 2020)

16.14m

SEE SPILLWAY WALL DETAIL – SECTION D1-D1 (DWG C3)

EXIST. GATE

PROP. 300mm NATIVE OVERBURDEN AND GROUNDING GRID TO REMAIN

ALL TREES AND VEGETATION TO BE REMOVED

EXIST. FENCE

RAISE EXIST. CONC. DAM TO ELEV. 226.50

REMOVE AND REPLACE GATE (DOUBLE SWING) (OPSD 972.102)

REMOVE AND REPLACE EXIST. CHAIN LINK FENCE (27m) (OPSD 972.131)

PROPERTY LINE

EXIST. PLANTER

EXIST. ROCK GARDEN

EXIST. SHED

LOT 275

LOT 274

P:\2023\23-1236 - Burgess Dam Detailed Design\03 Drawings\#CIVIL DRAWINGS\23-1236-Burgess Dam Design-IFC (June 25-25).dwg

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
E.K. GILES
100206670
JUNE 25, 2025
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
Y. LIANG
100145939
2025-06-25
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
25/06/2025	7	ISSUED FOR CONSTRUCTION	DR	EG
16/05/2025	6	ISSUED FOR TENDER	DR	EG
18/07/2024	5	ISSUED FOR APPROVALS	DR	EG
05\06\2024	4	ISSUED FOR FINAL REVIEW	DR	EG
08/05/2024	3	ISSUED FOR CLIENT REVIEW	DR	EG
05/04/2024	2	ISSUED FOR CLIENT REVIEW	DR	EG
28/03/2024	1	ISSUED FOR CLIENT REVIEW	DR	EG/FP
30/09/2022	0	ISSUED FOR CLIENT REVIEW	BWJ	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

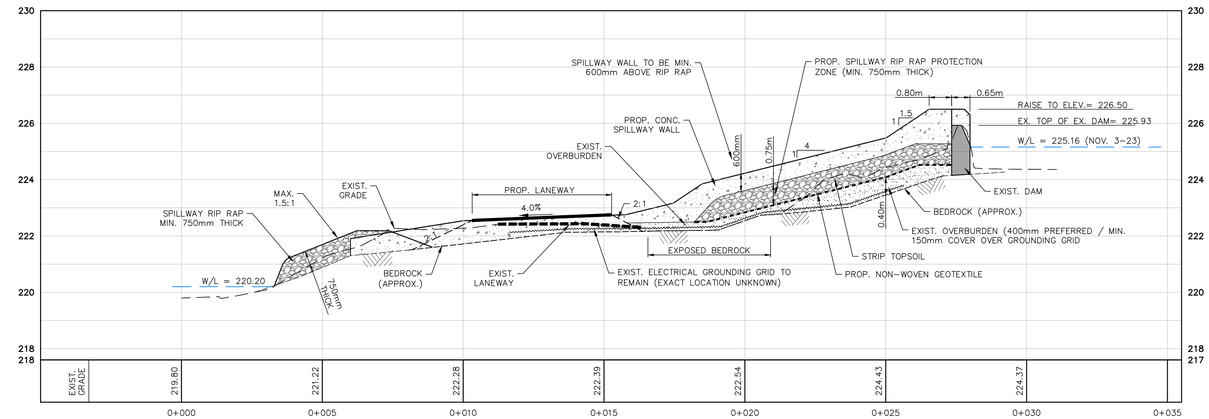
LITTLE BURGESS GENERATING STATION REHAB

DRAWING TITLE:

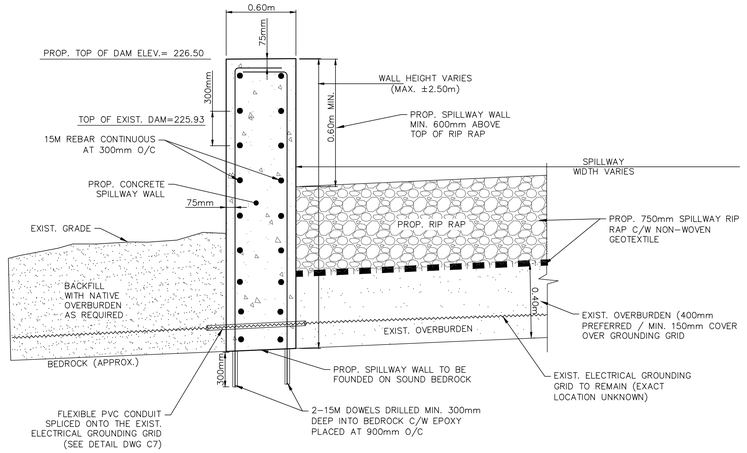
SPILLWAY PLAN

DR	EG	EG	EG
DRAWN	DESIGNED	CHECKED	APPROVED
1 : 100		JUNE 25, 2025	
SCALE		DATE	

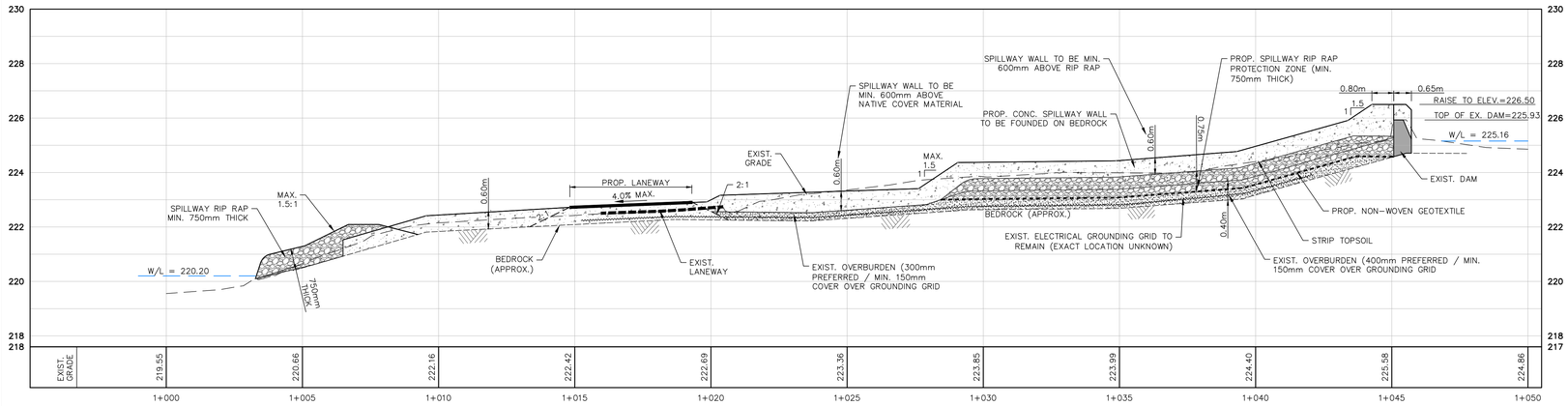
23-1236	7	C2
PROJECT No.	REVISION	DRAWING



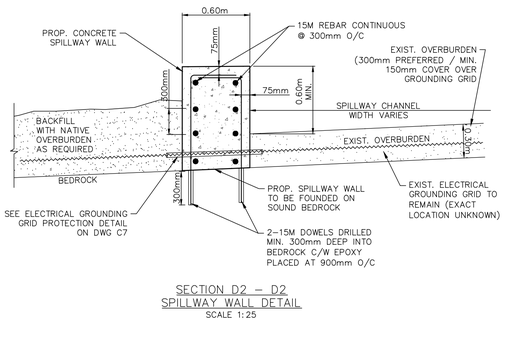
SECTION A1 – A1
SCALE 1:100



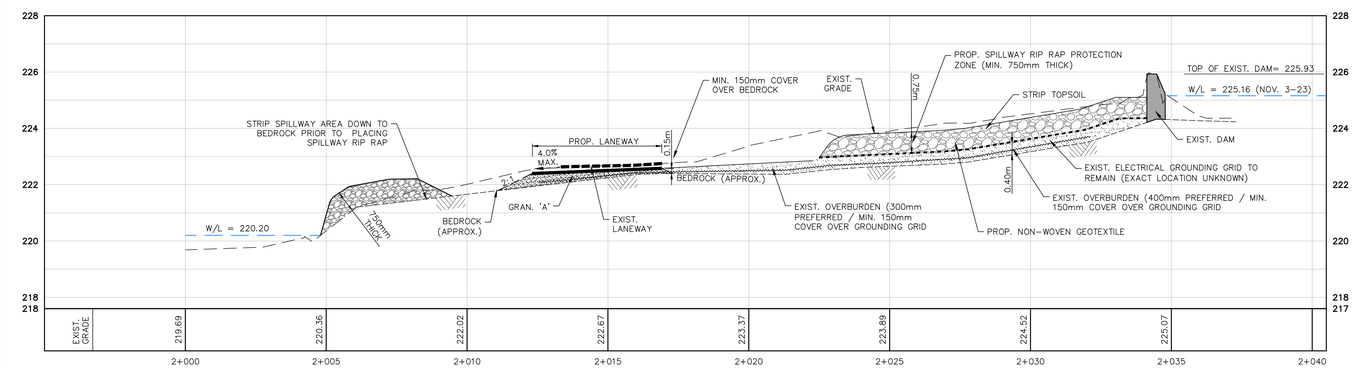
SECTION D1 – D1
SPILLWAY WALL DETAIL
SCALE 1:25



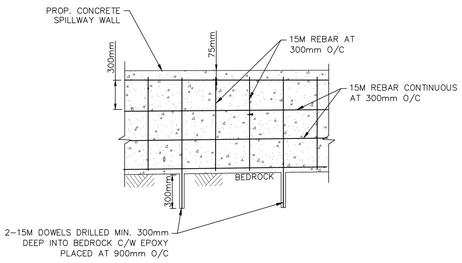
SECTION A2 – A2
SCALE 1:100



SECTION D2 – D2
SPILLWAY WALL DETAIL
SCALE 1:25



SECTION A3 – A3
SCALE 1:100



SPILLWAY WALL LONGITUDINAL VIEW
SCALE 1:25

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
E.K. GILES
100206670
JUNE 25, 2025
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
Y. LIANG
100145939
2025-06-25
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
25/06/2025	7	ISSUED FOR CONSTRUCTION	DR	EG
16/05/2025	6	ISSUED FOR TENDER	DR	EG
18/07/2024	5	ISSUED FOR APPROVALS	DR	EG
05\06\2024	4	ISSUED FOR FINAL REVIEW	DR	EG
08/05/2024	3	ISSUED FOR CLIENT REVIEW	DR	EG
05/04/2024	2	ISSUED FOR CLIENT REVIEW	DR	EG
28/03/2024	1	ISSUED FOR CLIENT REVIEW	DR	EG/FP
30/09/2022	0	ISSUED FOR CLIENT REVIEW	BWJ	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

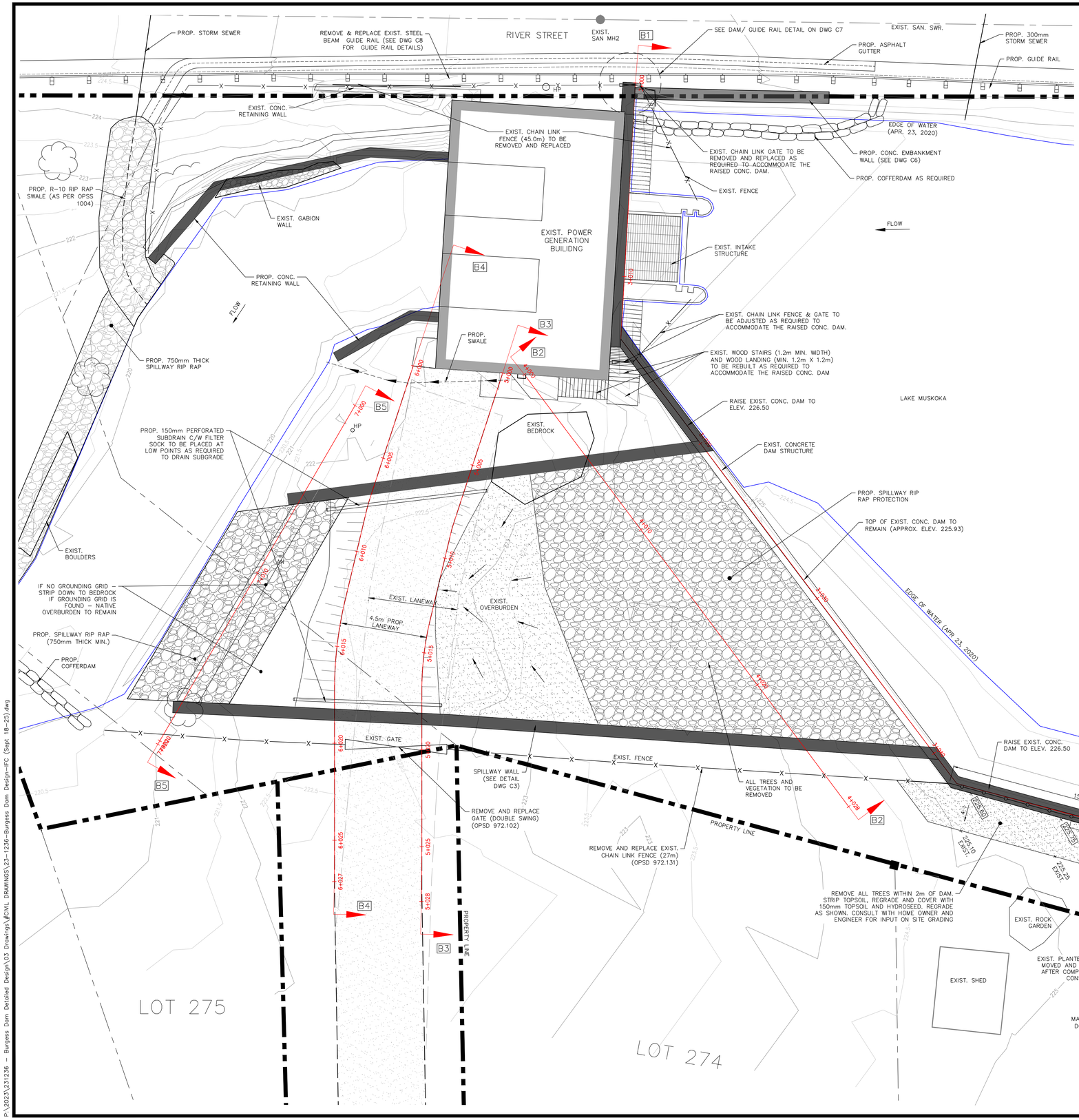
DRAWING TITLE:

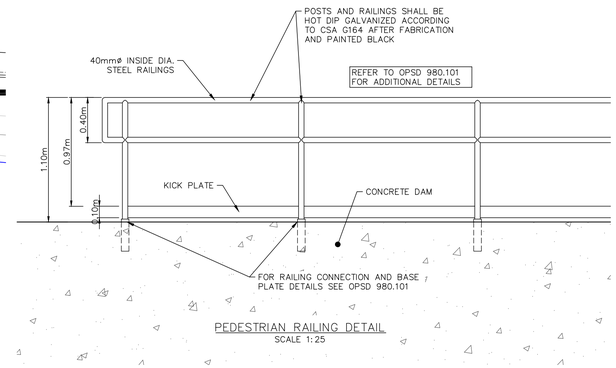
SPILLWAY SECTIONS AND DETAILS

DR	EG	EG	EG
DRAWN	DESIGNED	CHECKED	APPROVED
1 : 100		JUNE 25, 2025	
SCALE		DATE	

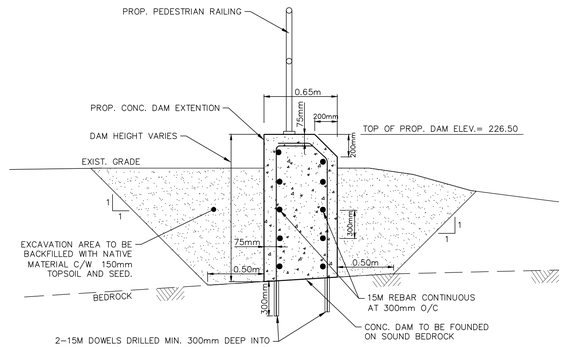
23-1236	7	C3
PROJECT No.	REVISION	DRAWING

P:\2023\23-1236 - Burgess Dam Detailed Design\03 Drawings\PDWL DRAWINGS\23-1236-Burgess Dam Design-IFC (June 25-25).dwg





PEDESTRIAN RAILING DETAIL
SCALE 1:25



SECTION C1 – C1
DAM EXTENTION DETAIL
SCALE 1:25

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
E.K. GILES
100206670
SEPT. 18, 2025
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
Y. LIANG
100145939
2025-09-25
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
18/09/2025	7	ISSUED FOR CONSTRUCTION	DR	EG
16/05/2025	6	ISSUED FOR TENDER	DR	EG
18/07/2024	5	ISSUED FOR APPROVALS	DR	EG
05\06\2024	4	ISSUED FOR FINAL REVIEW	DR	EG
08/05/2024	3	ISSUED FOR CLIENT REVIEW	DR	EG
05/04/2024	2	ISSUED FOR CLIENT REVIEW	DR	EG
28/03/2024	1	ISSUED FOR CLIENT REVIEW	DR	EG/FP
30/09/2022	0	ISSUED FOR CLIENT REVIEW	BWJ	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

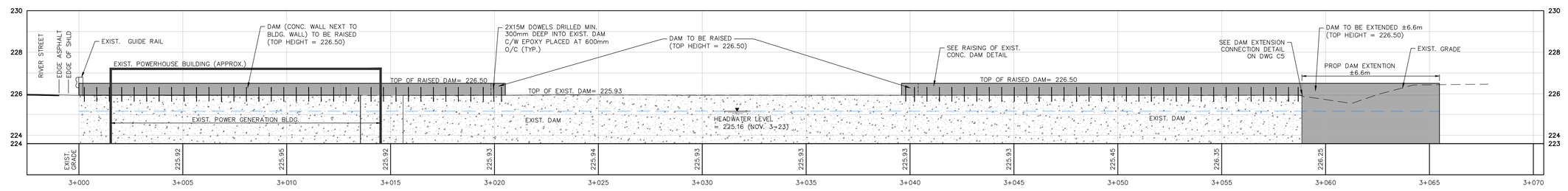
DRAWING TITLE:

SPILLWAY, DAM RAISE AND DAM EXTENSION PLAN

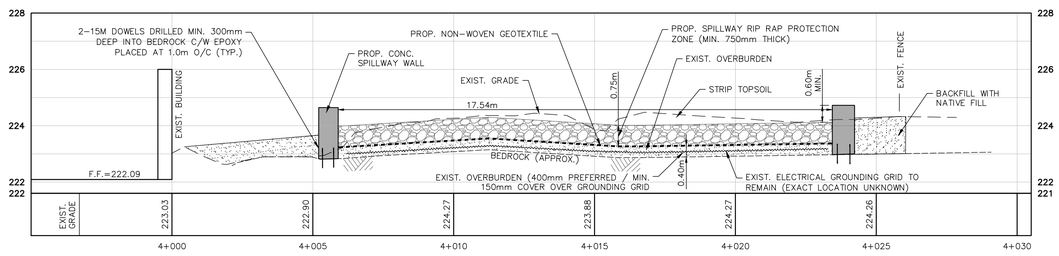
DR	EG	EG	EG
DRAWN	DESIGNED	CHECKED	APPROVED
1 : 100		SEPT. 18, 2025	
SCALE		DATE	

23-1236	7	C4
PROJECT No.	REVISION	DRAWING

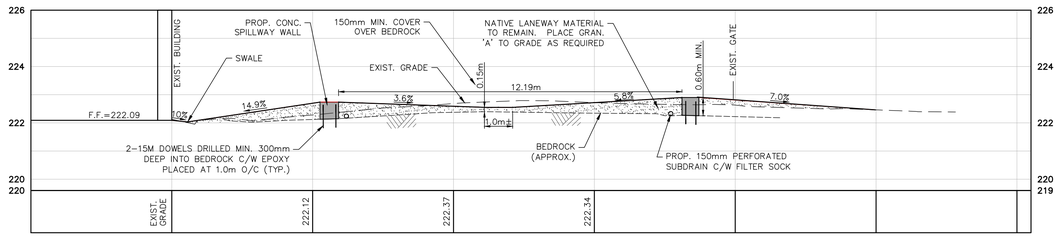
P:\2023\231236 – Burgess Dam Detailed Design\03 Drawings\CIVIL DRAWINGS\23-1236-Burgess Dam Design-IFC (Sept 18-25).dwg



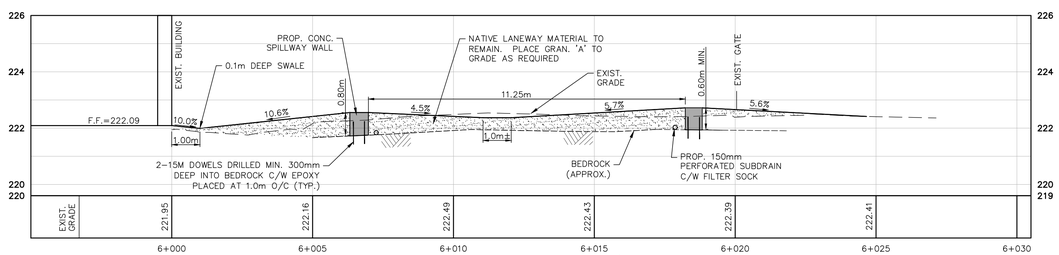
SECTION B1 – B1
SCALE 1:100



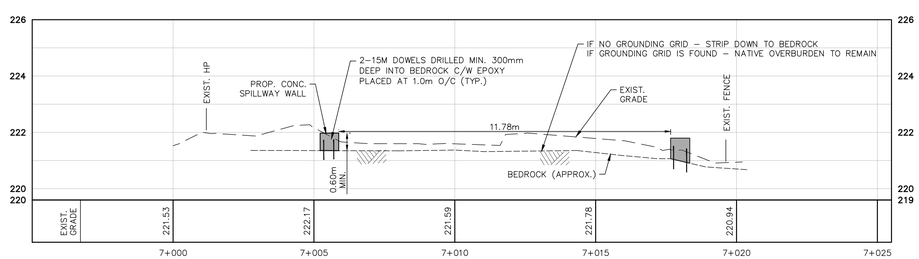
SECTION B2 – B2
SCALE 1:100



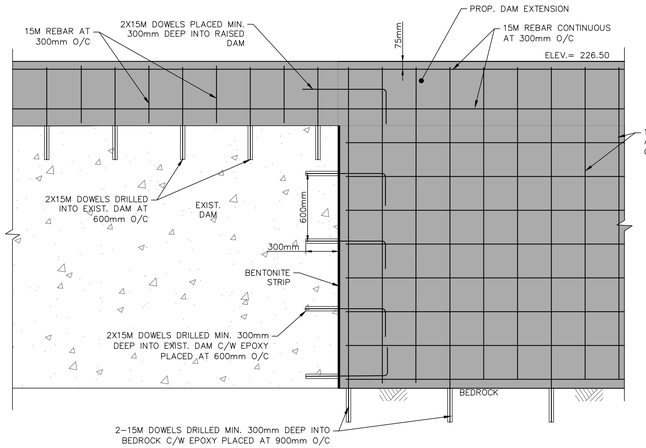
SECTION B3 – B3 (EAST EDGE OF LANEWAY)
SCALE 1:100



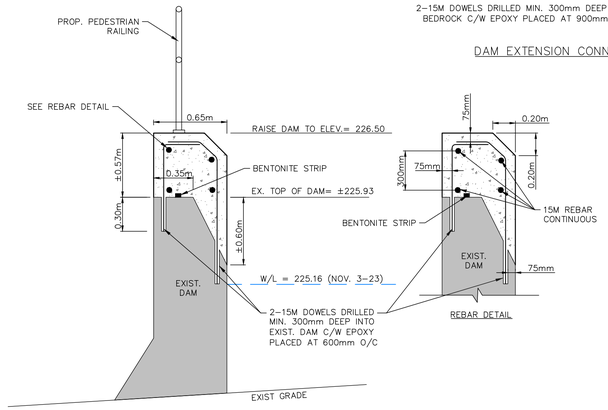
SECTION B4 – B4 (WEST EDGE OF LANEWAY)
SCALE 1:100



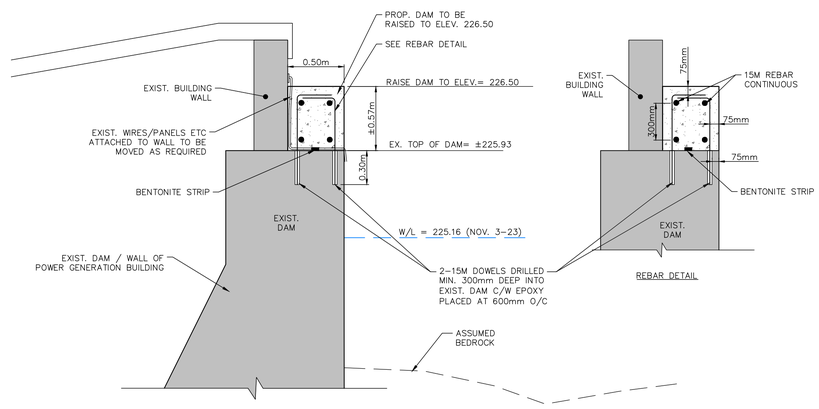
SECTION B5 – B5
SCALE 1:100



DAM EXTENSION CONNECTION TO EXIST. DAM DETAIL
SCALE 1:25



RAISING OF EXIST. CONC. DAM DETAIL
SCALE 1:25



RAISING OF EXIST. CONC. DAM AT BUILDING DETAIL
SCALE 1:25

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
E.K. GILES
100206670
SEPT. 18, 2025
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
Y. LIANG
100145939
2025-09-25
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
18/09/2025	7	ISSUED FOR CONSTRUCTION	DR	EG
16/05/2025	6	ISSUED FOR TENDER	DR	EG
18/07/2024	5	ISSUED FOR APPROVALS	DR	EG
05\06\2024	4	ISSUED FOR FINAL REVIEW	DR	EG
08/05/2024	3	ISSUED FOR CLIENT REVIEW	DR	EG
05/04/2024	2	ISSUED FOR CLIENT REVIEW	DR	EG
28/03/2024	1	ISSUED FOR CLIENT REVIEW	DR	EG/FP
30/09/2022	0	ISSUED FOR CLIENT REVIEW	BWJ	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

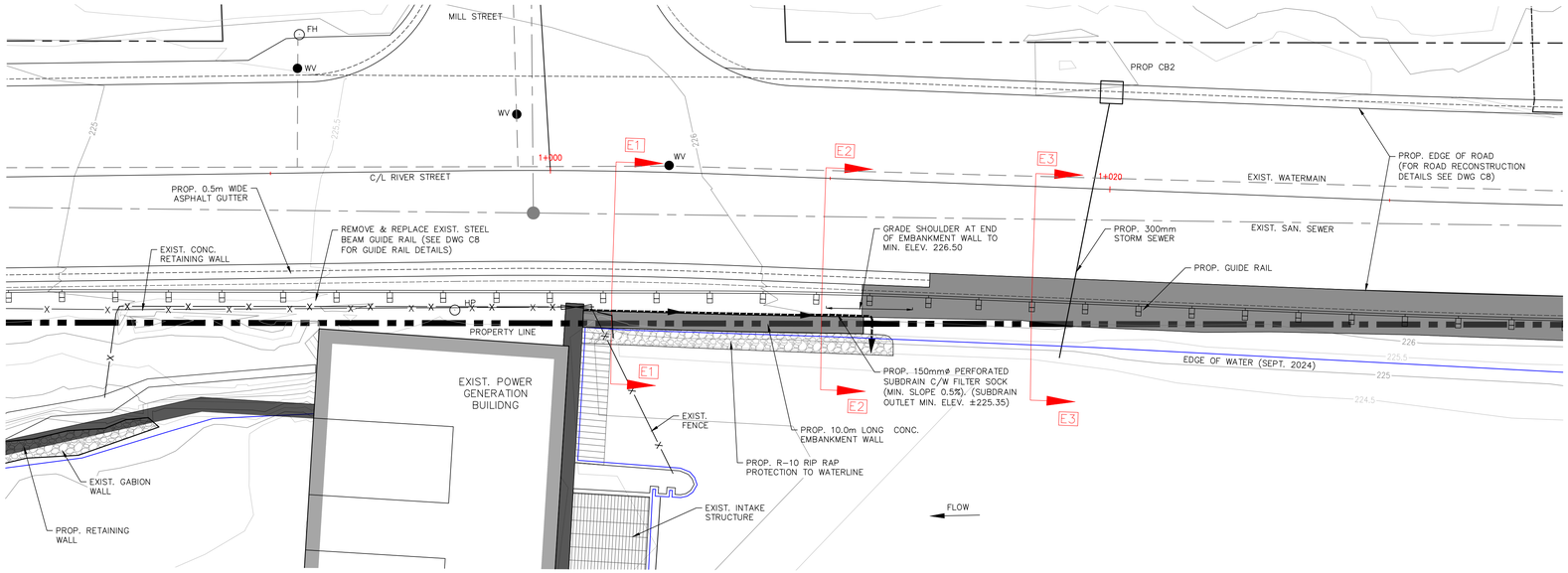
DRAWING TITLE:

SPILLWAY, DAM RAISE AND DAM EXTENSION SECTIONS AND DETAILS

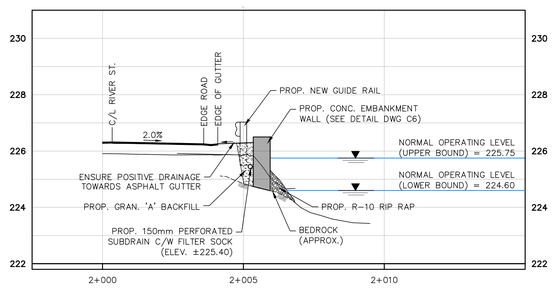
DR	EG	EG	EG
DRAWN	DESIGNED	CHECKED	APPROVED
1 : 100		SEPT. 18, 2025	
SCALE		DATE	

23-1236	7	C5
PROJECT No.	REVISION	DRAWING

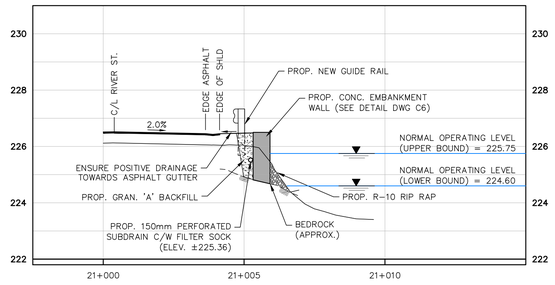
P:\2023\23123 6 - Burgess Dam Detailed Design\03 Drawings\#CIVIL DRAWINGS\23-1236-Burgess Dam Design-IFC (Sept 18-25).dwg



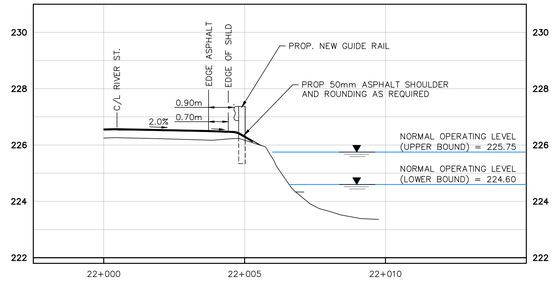
PLAN VIEW
SCALE 1:100



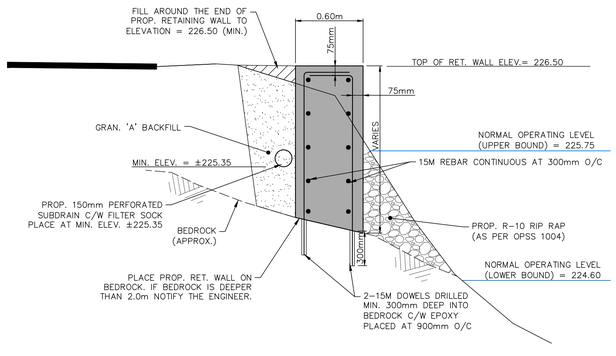
SECTION E1 – E1
SCALE 1:100



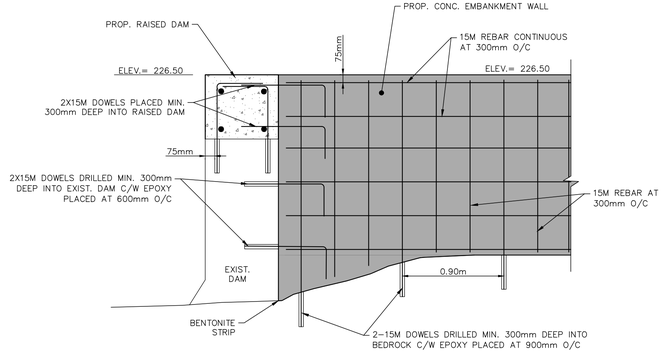
SECTION E2 – E2
SCALE 1:100



SECTION E3 – E3
SCALE 1:100



PROP. CONCRETE EMBANKMENT WALL ON NATIVE GROUND
SCALE 1:25



PROP. CONCRETE EMBANKMENT WALL CONNECTION TO EXIST. DAM
SCALE 1:25

P:\2023\23-1236 – Burgess Dam Detailed Design\03 Drawings\#CIVIL DRAWINGS\23-1236-Burgess Dam Design-IFC (June 25-25).dwg

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
E.K. GILES
100210670
JUNE 25, 2025
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
Y. LIANG
100145939
2025-06-25
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
25/06/2025	7	ISSUED FOR CONSTRUCTION	DR	EG
16/05/2025	6	ISSUED FOR TENDER	DR	EG
18/07/2024	5	ISSUED FOR APPROVALS	DR	EG
05\06\2024	4	ISSUED FOR FINAL REVIEW	DR	EG
08/05/2024	3	ISSUED FOR CLIENT REVIEW	DR	EG
05/04/2024	2	ISSUED FOR CLIENT REVIEW	DR	EG
28/03/2024	1	ISSUED FOR CLIENT REVIEW	DR	EG/FP
30/09/2022	0	ISSUED FOR CLIENT REVIEW	BWJ	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

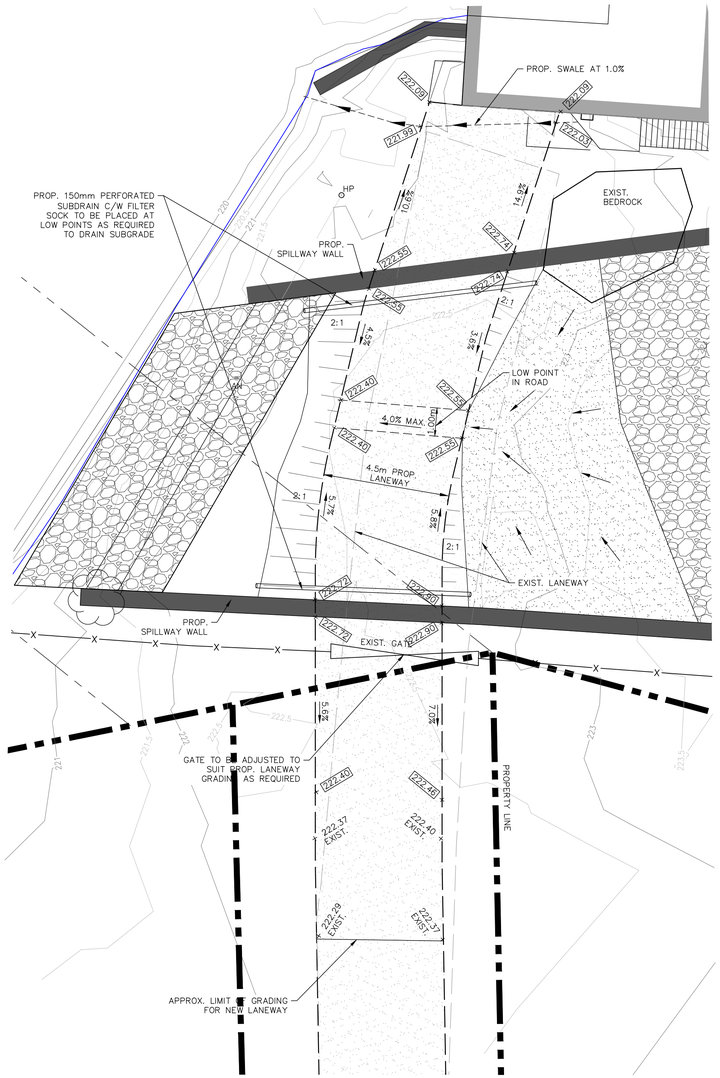
LITTLE BURGESS GENERATING STATION REHAB

DRAWING TITLE:

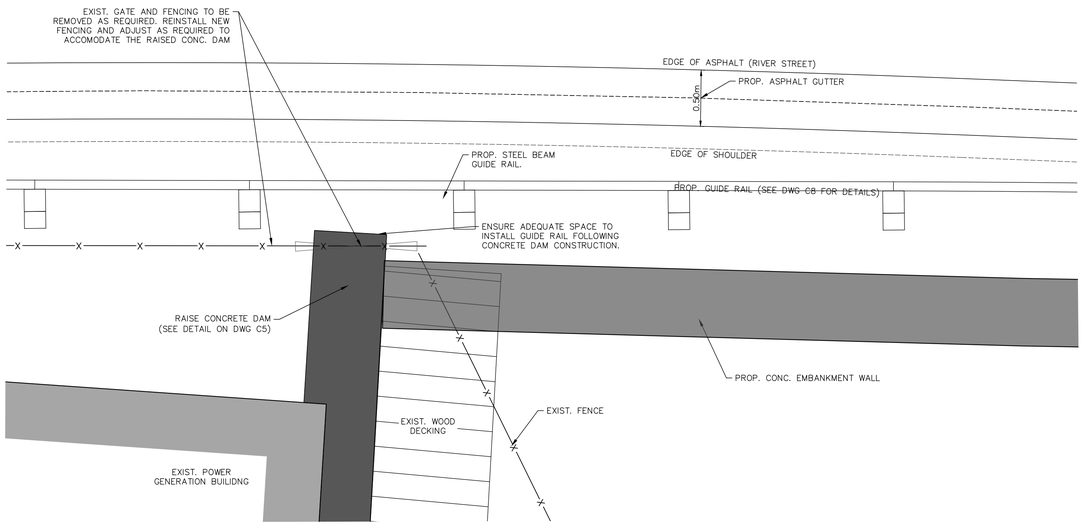
CONCRETE EMBANKMENT WALL

DR	EG	EG	EG
DRAWN	DESIGNED	CHECKED	APPROVED
1 : 100		JUNE 25, 2025	
SCALE		DATE	

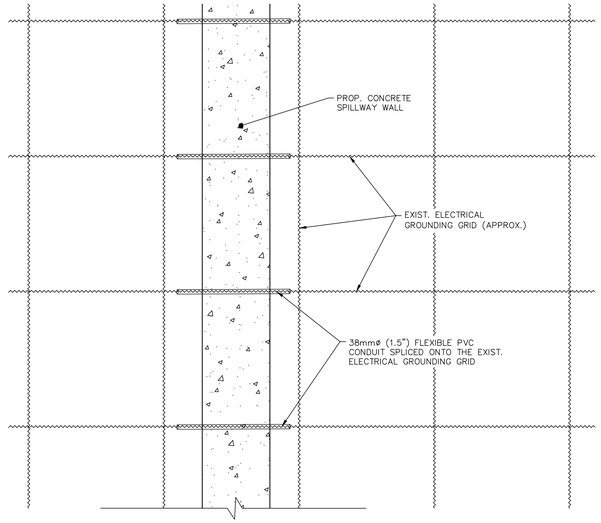
23-1236	7	C6
PROJECT No.	REVISION	DRAWING



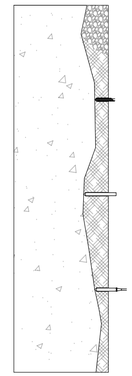
LANEWAY GRADING AND DRAINAGE PLAN
SCALE 1:100



DAM/ GUIDE RAIL DETAIL
SCALE 1:25



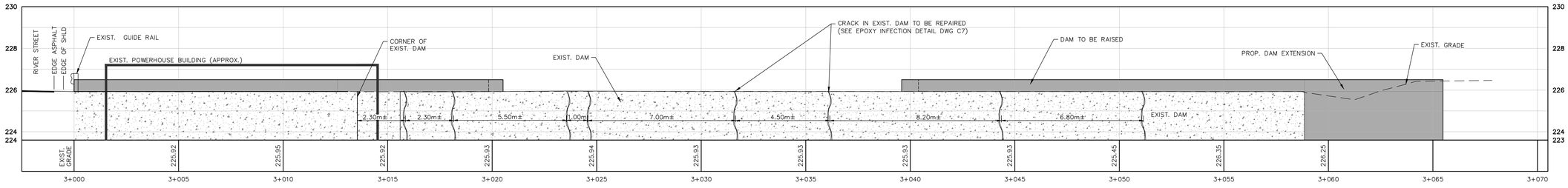
ELECTRICAL GROUNDING GRID PROTECTION
SCALE 1:25



SIDE VIEW

FRONT VIEW

EPOXY INJECTION: CONCRETE CRACK REPAIR
N.T.S.



CRACK REPAIR LOCATIONS ON EXISTING DAM
SCALE 1:100

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
E.K. GILES
100206670
MAY 16, 2025
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
Y. LIANG
100145939
2025-05-16
PROVINCE OF ONTARIO

25/06/2025	7	ISSUED FOR CONSTRUCTION	DR	EG
16/05/2025	6	ISSUED FOR TENDER	DR	EG
18/07/2024	5	ISSUED FOR APPROVALS	DR	EG
05\06\2024	4	ISSUED FOR FINAL REVIEW	DR	EG
08/05/2024	3	ISSUED FOR CLIENT REVIEW	DR	EG
05/04/2024	2	ISSUED FOR CLIENT REVIEW	DR	EG
28/03/2024	1	ISSUED FOR CLIENT REVIEW	DR	EG/FP
30/09/2022	0	ISSUED FOR CLIENT REVIEW	BWJ	FP
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

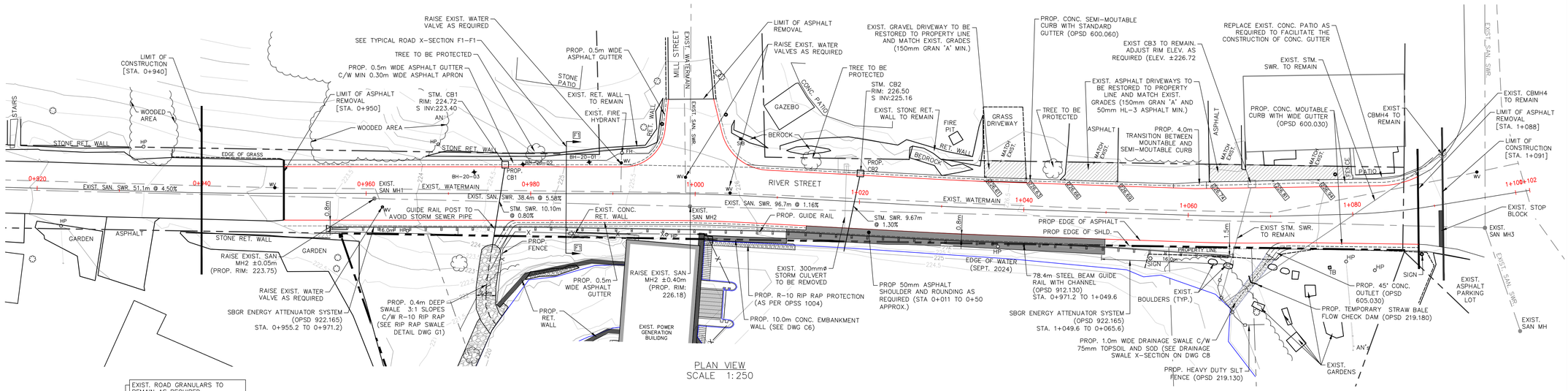
DRAWING TITLE:

LANEWAY GRADING AND DETAILS

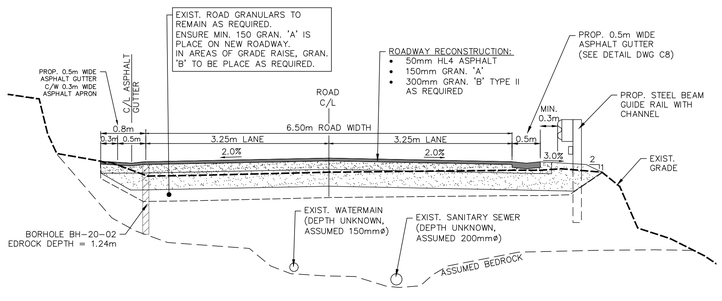
DR	EG	EG	EG
DRAWN	DESIGNED	CHECKED	APPROVED
AS SHOWN		JUNE 25, 2025	
SCALE		DATE	

23-1236	7	C7
PROJECT No.	REVISION	DRAWING

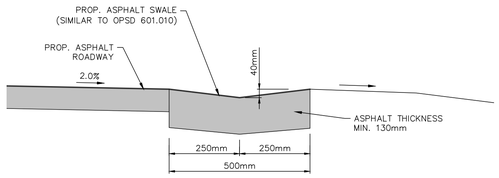
P:\2023\31236 - Burgess Dam Detailed Design\03 Drawings\CIVIL DRAWINGS\23-1236-Burgess Dam Design-IFC (June 25-25).dwg



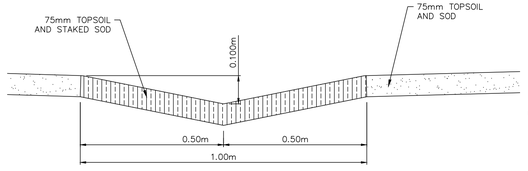
PLAN VIEW
SCALE 1:250



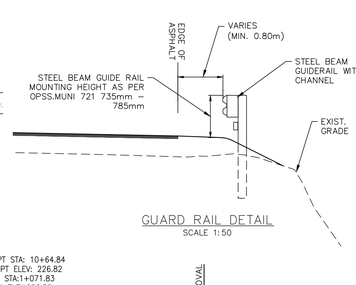
TYPICAL ROAD X-SECTION F1 – F1
SCALE 1:50



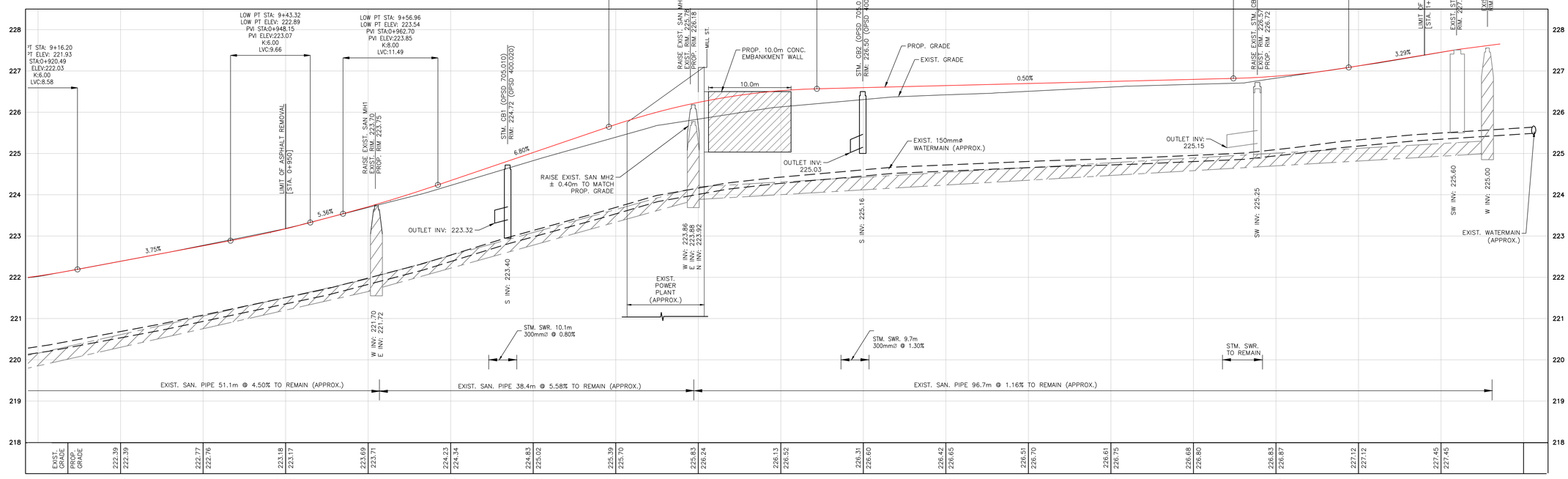
0.5m WIDE ASPHALT GUTTER X-SECTION
SCALE 1:10



DRAINAGE SWALE X-SECTION
SCALE 1:10



GUARD RAIL DETAIL
SCALE 1:50



PROFILE – RIVER STREET
SCALE HORZ. 1:250
VERT. 1:50

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
JUNE 25, 2025
C. J. STILWELL
90398063
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
25/06/2025	7	ISSUED FOR CONSTRUCTION	DR	EG
16/05/2025	6	ISSUED FOR TENDER	DR	EG
18/07/2024	5	ISSUED FOR APPROVALS	DR	EG
05\06\2024	4	ISSUED FOR FINAL REVIEW	DR	EG
08/05/2024	3	ISSUED FOR CLIENT REVIEW	DR	EG
05/04/2024	2	ISSUED FOR CLIENT REVIEW	DR	EG
28/03/2024	1	ISSUED FOR CLIENT REVIEW	DR	EG/FP
30/09/2022	0	ISSUED FOR CLIENT REVIEW	BWJ	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

DRAWING TITLE:

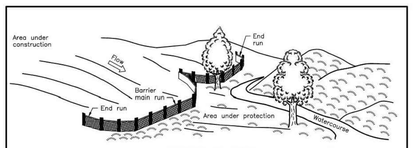
RIVER STREET ROAD RECONSTRUCTION PLAN & PROFILE STA. 0+940 TO 1+091

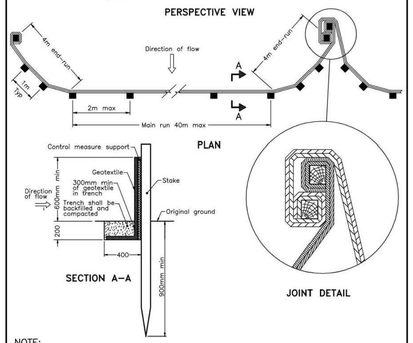
DR	DR	CS	EG
DRAWN	DESIGNED	CHECKED	APPROVED

AS SHOWN	JUNE 25, 2025
SCALE	DATE

23-1236	7	C8
PROJECT No.	REVISION	DRAWING

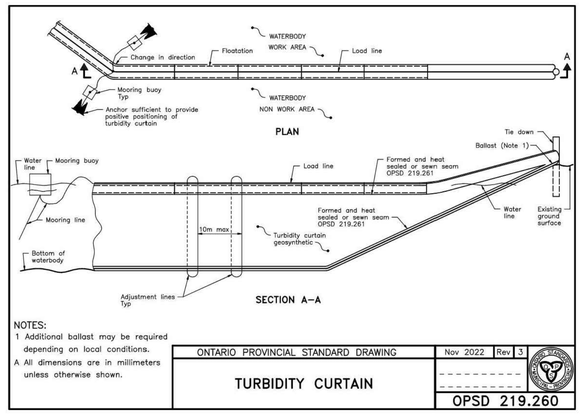
P:\2023\23123 6 – Burgess Dam Detailed Design\03 Drawings\CIVIL DRAWINGS\23-1236-Burgess Dam Design-IFC (June 25-25).dwg





NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2021	Rev 3
HEAVY–DUTY SILT FENCE BARRIER		
		OPSD 219.130



NOTES:
1 Additional ballast may be required depending on local conditions.
A All dimensions are in millimeters unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2022	Rev 3
TURBIDITY CURTAIN		
		OPSD 219.260

CONSTRUCTION MITIGATION:

1. EROSION CONTROL STRUCTURES ARE TO BE MONITORED REGULARLY AND ANY DAMAGE REPAIRED IMMEDIATELY. SEDIMENT IS TO BE REMOVED WHEN ACCUMULATIONS BUILD UP INSIDE THE CONTROL FENCE.
2. ALL EROSION CONTROL STRUCTURES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND HAS BEEN RESTABILIZED EITHER BY GRAVEL OR RESTORATION OF VEGETATIVE GROUND COVER.
3. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE ENGINEER AND THE TOWNSHIP OF MUSKOKA LAKES.
4. THE CONTRACTOR IS RESPONSIBLE FOR MUNICIPAL ROADWAY TO BE CLEARED OF ALL SEDIMENT TRACKED BY VEHICLES AT THE END OF EACH DAY.
5. THE CONTRACTOR IS RESPONSIBLE TO REMOVE ANY SEDIMENT THAT HAS TRACKED OFF SITE ONTO ADJACENT PROPERTY OWNED BY OTHERS. RESTORATION AND/OR MAINTENANCE TO ADJACENT PROPERTY MUST BE COMPLETED TO EQUAL OR BETTER CONDITION.
10. THE CONTRACTOR SHALL ISOLATE THE WORK AREA FROM THE WATER AND COMPLETE ALL WORK IN THE DRY.
11. ALL SEDIMENT CONTROL AND EROSION PROTECTION DEVICES ARE TO BE IN PLACE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL CONSTRUCTION IS COMPLETE, SUBJECT TO APPROVAL BY THE CONTRACT ADMINISTRATOR.

SEDIMENT CONTROL AND ENVIRONMENTAL MANAGEMENT:

GENERAL:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR THE SEDIMENT CONTROL PLAN DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE FOR APPROVAL A CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP) FOR THE MANAGEMENT AND MITIGATION OF CONSTRUCTION IMPACTS, COMPLYING WITH THE REGULATORY REQUIREMENTS OUTLINED IN ALL PERMITS AND LICENSES PERTINENT TO THIS CONTRACT.
2. THE CONTRACTOR SHALL USE MATERIALS, CONSTRUCTION PRACTICES, MITIGATION TECHNIQUES AND MONITORING OF OPERATION AT MUSKOKA LAKE AND ADJACENT WATER CROSSING AT THE DAM SITE IN ORDER TO PREVENT HARMFUL ALTERATION, DISRUPTION OR DISTRACTION OF FISH HABITAT OR THE IMPAIRMENT OF WATER QUALITY.

SEDIMENT CONTROL:

1. THE CONTRACTOR SHALL PHASE THE CONSTRUCTION ACTIVITIES TO MINIMIZE THE SIZE OF THE DISTURBED AREA AND THE DURATION OF SOIL EXPOSURE. SEDIMENTATION CONTROL PLAN (SCP) BY CONTRACTOR MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. THE SCP SHALL COVER THE ENTIRE CONSTRUCTION ACTIVITIES.
2. ALL EXCAVATIONS SHALL HAVE STABLE SIDE SLOPES TO PREVENT SLOPE FAILURE AND MINIMIZE EROSION. RUNOFF THROUGH THE WORKS AREA SHALL BE MINIMIZED BY PROVIDING BERMS, DITCHES AND OTHER DIVERSION MEASURES.
3. RUNOFF FROM THE WORK AREA INCLUDING ACCESS ROAD, LAYDOWN AREA, TEMPORARY EXCAVATION WASTE DISPOSAL AREA AT THE SITE SHALL BE CHANNELIZED AND CONTROLLED BY A VARIETY OF TECHNIQUES INCLUDING SILT TRAP, STRAW BALES, SILT FENCE, SEDIMENTATION POND, AND EARTH–FILL BERMS WITH GEOSYNTHETIC FILTER BEFORE DISCHARGING TO THE RECEIVING WATER COURSE.
4. IF DEWATERING IS REQUIRED, CONTRACTOR TO UTILIZE SEDIMENT CONTROL BAGS TO PREVENT SEDIMENT FROM ENTERING THE WATERWAY.

FUEL AND OIL SPILLS:

1. THE CONTRACTOR SHALL WORK IN ACCORDANCE WITH ALL ENVIRONMENT REGULATIONS AND THE TOWNSHIP POLICIES REGARDING SPILLS OF FUELS AND OILS DURING CONSTRUCTION.
2. CORROSIVE, TOXIC, FLAMMABLE OR OTHERWISE POLLUTING FLUIDS SHALL NOT BE DISCHARGED. SPILLS OF SUCH FLUIDS SHALL BE CONTAINED AND CLEANED UP IN ACCORDANCE WITH THE SPILL RESPONSE AND REPORTING PROCEDURES.
3. THE AREA AROUND FUEL STORAGE LOCATIONS THAT ARE SET UP ON SITE SHALL BE CONTAINED IN SUCH A WAY THAT THE CONTAINMENT WALLS (BERMS OR OTHERWISE) AND THE AREA CONTAINED WITHIN THE WALLS ARE IMPERMEABLE TO FUEL. THE STORAGE AREA WITHIN THE CONTAINMENT ZONE SHALL PROVIDE ADEQUATE STORAGE FOR THE MAXIMUM VOLUME OF FUEL TO BE STORED AT THAT LOCATION.
4. PORTABLE FUEL TANKS AND FUEL CANS SHALL NOT BE LEFT AT LOCATIONS NEAR A WATERCOURSE OF ANY KIND. ALL FUEL TANKS MUST BE DOUBLE WALLED, EQUIPPED WITH 360° VEHICLE PROTECTION, A SPILL KIT AND AN EMPTY 45–GAL DRUM FOR SPILL CONTAMINANTS MUST BE PROVIDED AT EACH TANK. A LIST OF EMERGENCY CONTACT NUMBERS FOR KEY PERSONNEL MUST BE PROVIDED TO THE SITE.

SEDIMENT & EROSION CONTROL STRATEGIES:

PRECONSTRUCTION SITE ACTIVITIES:

1. ALL MATERIALS AND EQUIPMENT USED FOR THE PURPOSE OF SITE PREPARATION AND PROJECT COMPLETION SHOULD BE OPERATED AND STORED IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE (e.g. PETROLEUM PRODUCTS, SILT, etc.) FROM ENTERING THE WATER. THE EQUIPMENT SHALL BE CLEANED OF ALL CONTAMINATES PRIOR TO BEING BROUGHT ON SITE.

ADMINISTRATIVE MEASURES

1. THE CONTRACTOR WILL BE IN CHARGE OF ON–SITE WORK AND IS RESPONSIBLE FOR THE IMPLEMENTATION OF THE ENVIRONMENT PROTECTION PLAN. MITIGATION MEASURES ARE TO BE INSTALLED IN ACCORDANCE WITH THE PROJECT DRAWINGS.
2. THE SITE SUPERVISOR WILL HOLD A MEETING OF ALL EQUIPMENT OPERATORS WORKING AT THE SITE TO MAKE THEM AWARE OF THE ENVIRONMENTAL CONCERNS AND MEASURES SET OUT IN THIS PLAN TO CONTROL SEDIMENT. EXISTING VEGETATION IS TO BE PROTECTED TO THE MAXIMUM EXTENT POSSIBLE.
3. TO THE MAXIMUM EXTENT POSSIBLE, NO SEDIMENTS SHALL ENTER THE WATER DURING ANY ASPECT OF THE WORK. SHORT TERM INTRODUCTION OF SEDIMENTS SHALL BE KEPT TO THE LOWEST PRACTICAL LEVEL AND THERE SHOULD BE NO LONG TERM SOURCES OF SEDIMENT FROM THE COMPLETED PROJECT.

SEDIMENT CONTROL MEASURES:

1. THE CONTRACTOR SHALL INSTALL SEDIMENT AND EROSION MEASURES PRIOR TO CONSTRUCTION AND MAINTAIN UNTIL THE WORK SITE IS STABILIZED TO PREVENT ENTRY OF SEDIMENT INTO THE WATER.

INSPECTION & MAINTENANCE:

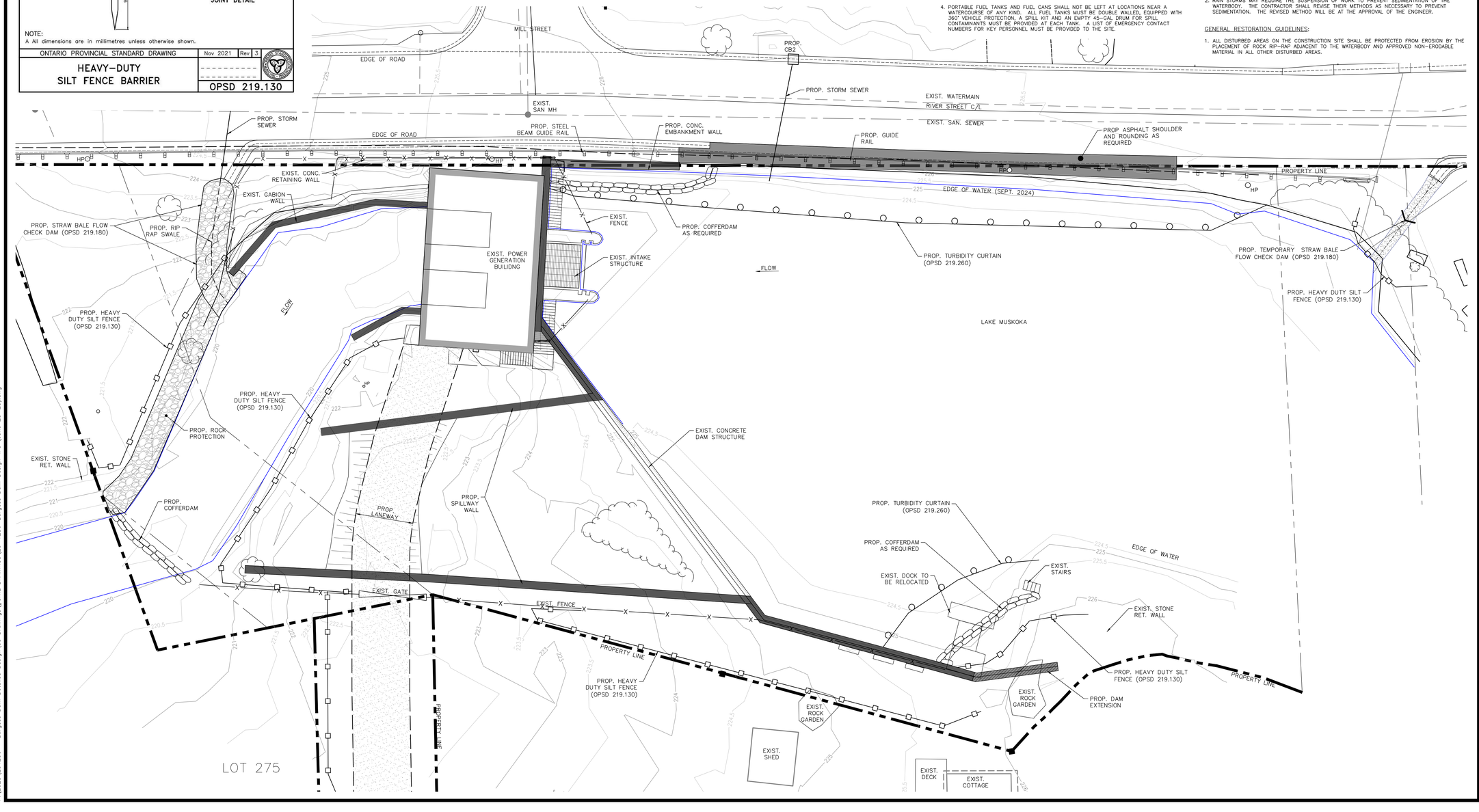
2. CONSTRUCTION OPERATIONS WILL BE UNDER THE DIRECTION OF THE SITE SUPERVISOR FOR THE CONTRACTOR AND INSPECTED BY THE SITE INSPECTOR FOR THE OWNER. ANY PROBLEMS OR CONCERNS WILL BE RESOLVED ON SITE WITH THE ENGINEER.
3. DOWNSTREAM AREA SHALL BE REGULARLY INSPECTED. IF SUSPENDED SEDIMENTS ARE NOTED WORK IS TO STOP IMMEDIATELY, ESC MEASURES AND CONDITIONS TO BE INSPECTED BY A QUALIFIED PROFESSIONAL. ADDITIONAL MEASURES AND ISOLATION SHALL BE INSTALLED PER INSPECTION RECOMMENDATIONS. IF A SEDIMENT RELEASE IS IDENTIFIED THE CONTRACTOR WILL TAKE IMMEDIATE ACTION TO CONTAIN AND/OR CLEAN THE SPILL. THE MECP SPILLS ACTION CENTRE SHALL BE CONTACTED IMMEDIATELY AT 1–800–268–6060.

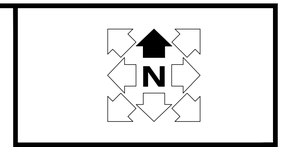
CONTINGENCY PLANS:

1. THE CONTINGENCY PLANS WILL BE INITIATED AS CONDITIONS IN THE FIELD DICTATE.
2. RAIN STORMS MAY REQUIRE THE SUSPENSION OF WORK TO PREVENT SEDIMENTATION OF THE WATERBODY. THE CONTRACTOR SHALL REVISE THEIR METHODS AS NECESSARY TO PREVENT SEDIMENTATION. THE REVISED METHOD WILL BE AT THE APPROVAL OF THE ENGINEER.

GENERAL RESTORATION GUIDELINES:

1. ALL DISTURBED AREAS ON THE CONSTRUCTION SITE SHALL BE PROTECTED FROM EROSION BY THE PLACEMENT OF ROCK RIP–RAP ADJACENT TO THE WATERBODY AND APPROVED NON–ERODABLE MATERIAL IN ALL OTHER DISTURBED AREAS.





KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
E.K. GILES
100206670
JUNE 25, 2025
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
V. LIANG
100145939
2025-06-25
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
25/06/2025	7	ISSUED FOR CONSTRUCTION	DR	EG
16/05/2025	6	ISSUED FOR TENDER	DR	EG
18/07/2024	5	ISSUED FOR APPROVALS	DR	EG
05\06\2024	4	ISSUED FOR FINAL REVIEW	DR	EG
08/05/2024	3	ISSUED FOR CLIENT REVIEW	DR	EG
05/04/2024	2	ISSUED FOR CLIENT REVIEW	DR	EG
28/03/2024	1	ISSUED FOR CLIENT REVIEW	DR	EG/FP
30/09/2022	0	ISSUED FOR CLIENT REVIEW	BWJ	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

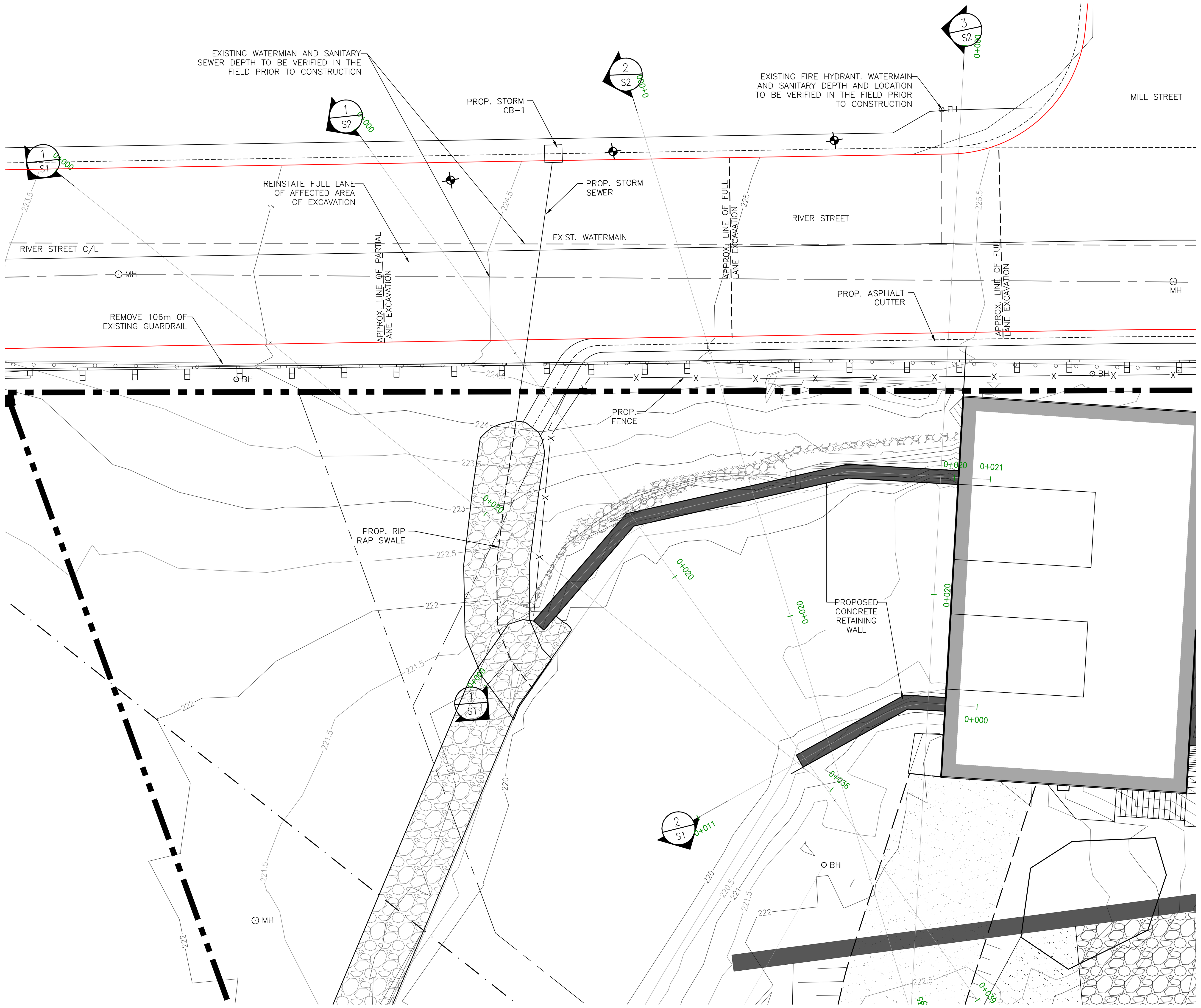
DRAWING TITLE:

SEDIMENT & EROSION CONTROL PLAN

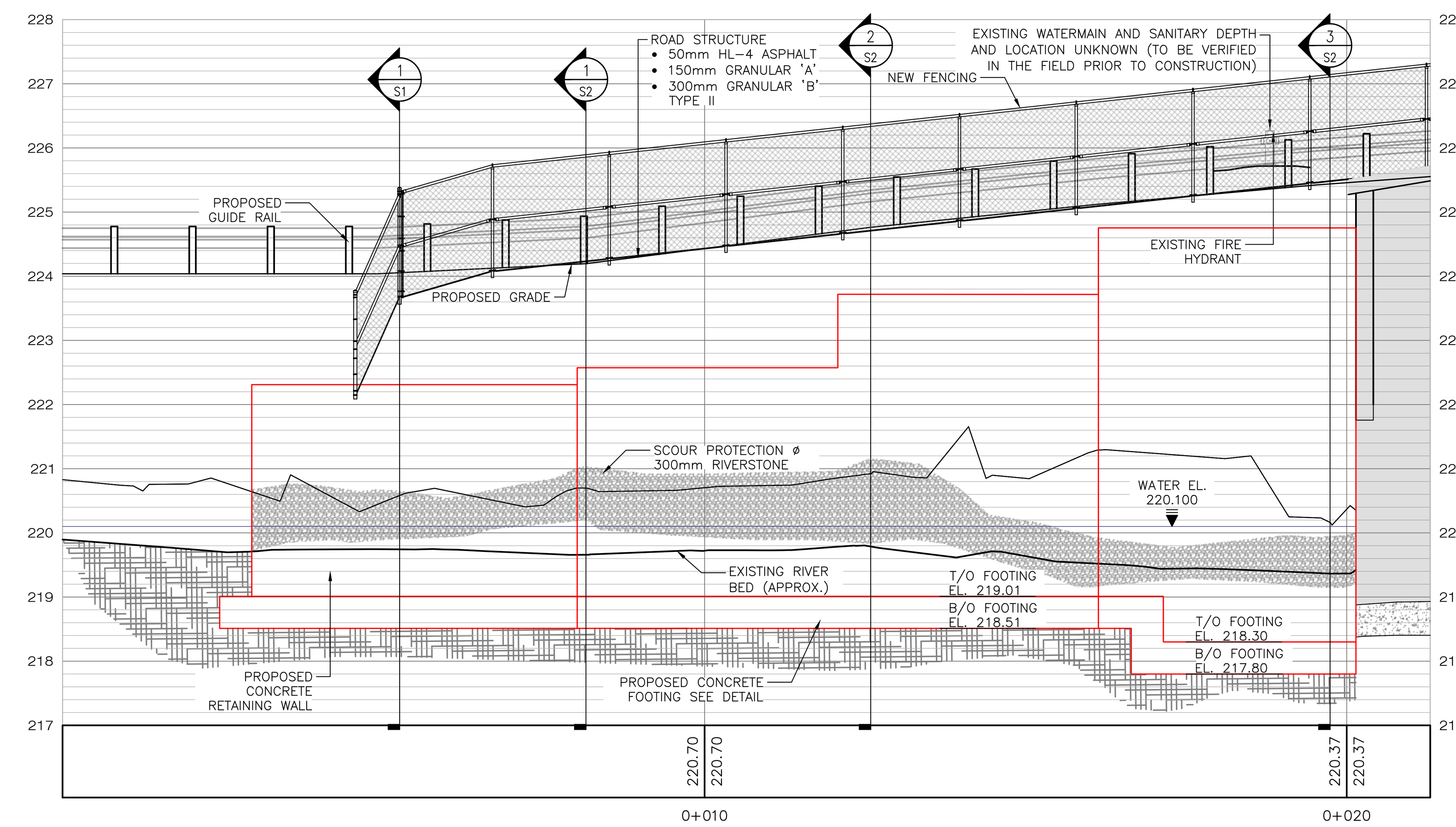
DR	EG	EG	EG
DRAWN	DESIGNED	CHECKED	APPROVED
1 : 150		JUNE 25, 2025	
SCALE		DATE	

23-1236	7	E1
PROJECT No.	REVISION	DRAWING

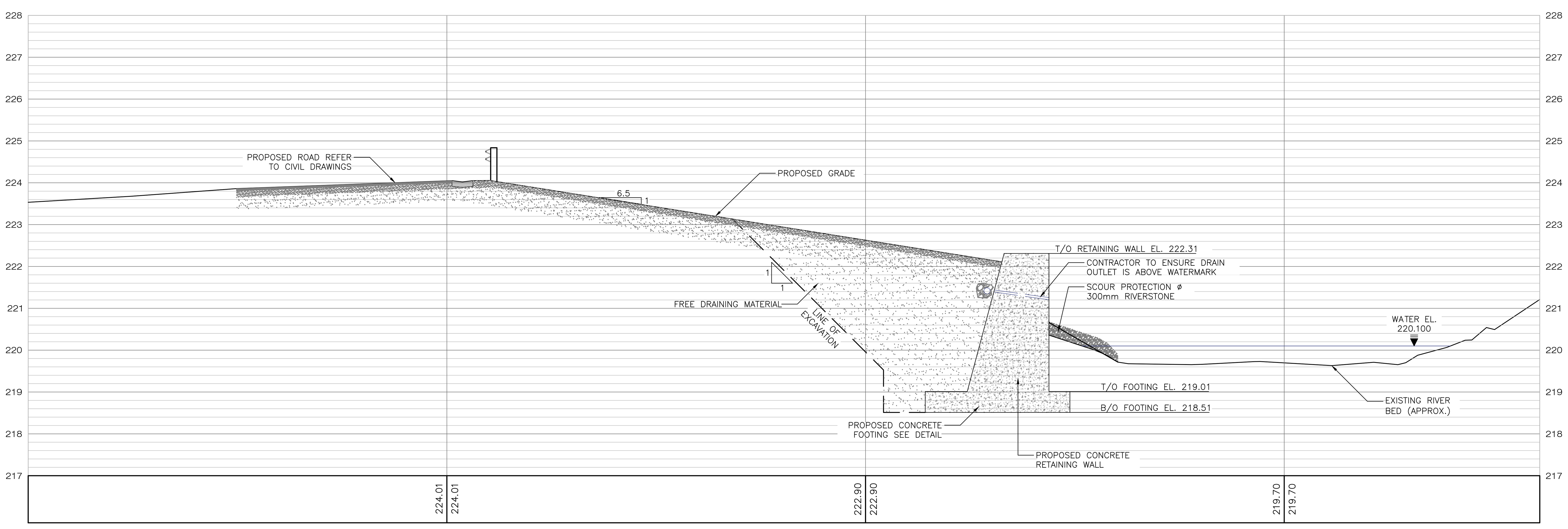
P:\2023\231236 — Burgess Dam Detailed Design\03 Drawings\CIVIL DRAWINGS\23–1236–Burgess Dam Design–IFC (June 25–25).dwg



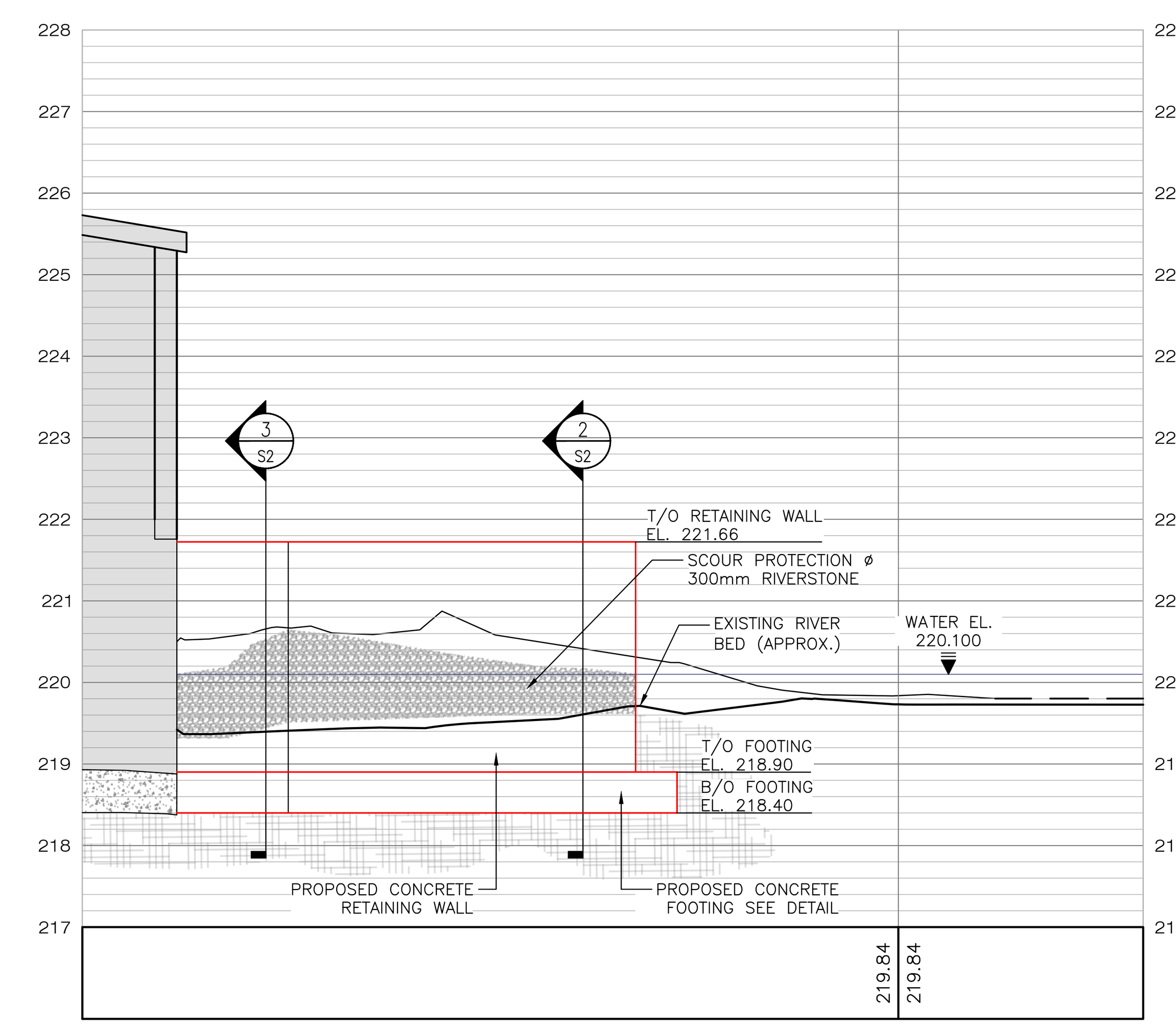
GENERAL ARRANGEMENT: PLAN
SCALE: 1:100



GENERAL ARRANGEMENT: NORTH WALL ELEVATION
SCALE: 1:75

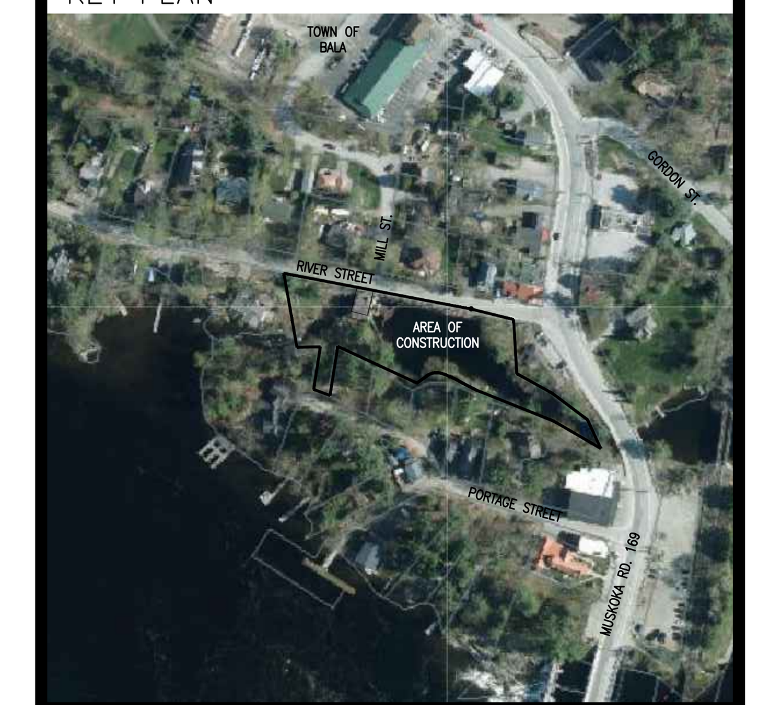


1/S1 GENERAL ARRANGEMENT: EAST SIDE SECTION OF NORTH RETAINING WALL
SCALE 1:75



GENERAL ARRANGEMENT: SOUTH WALL ELEVATION
SCALE: 1:75

KEY PLAN



ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
F. R. PALMAY
100162809
2025-Jun-27
PROVINCE OF ONTARIO

DATE (DAY/MTH/YR.)	REV.	REVISION	BY	APP'D
26/06/2025	3	ISSUED FOR CONSTRUCTION	HD	FP
13/05/2025	2	ISSUED FOR TENDER	HD	FP
26/06/2024	1	ISSUED FOR FINAL REVIEW	HD	FP
09/05/2024	0	ISSUED FOR REVIEW	HD	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

DRAWING TITLE:

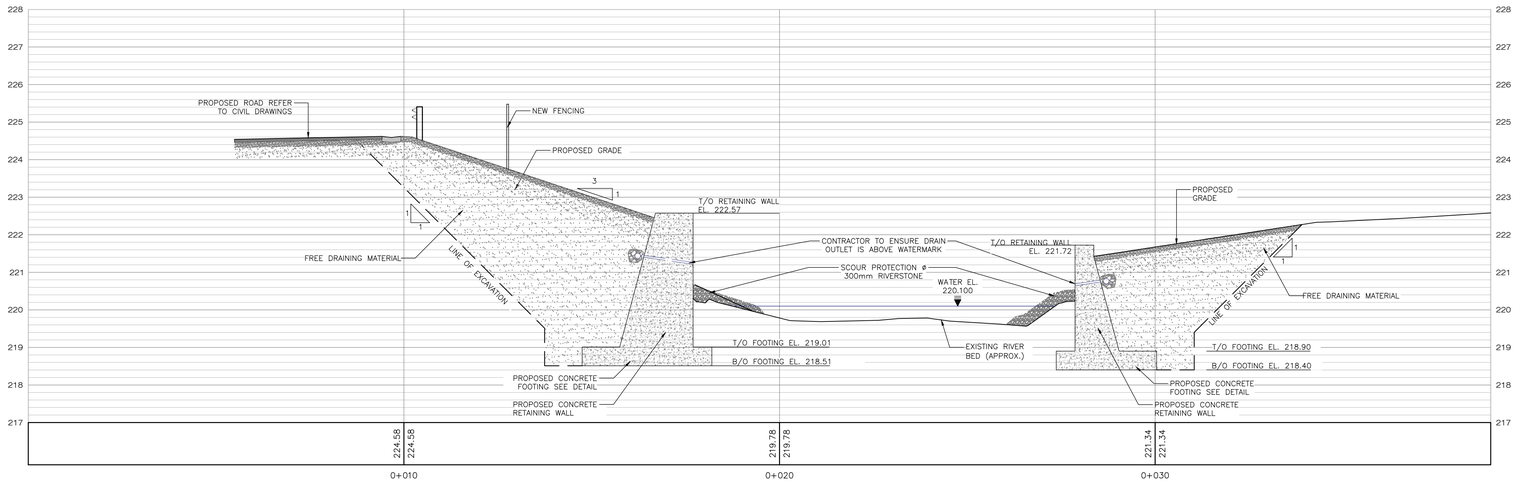
GENERAL ARRANGEMENT, ELEVATIONS & RETAINING WALL DETAIL

DRAWN	DESIGNED	CHECKED	APPROVED
HD	FP	FP	FP

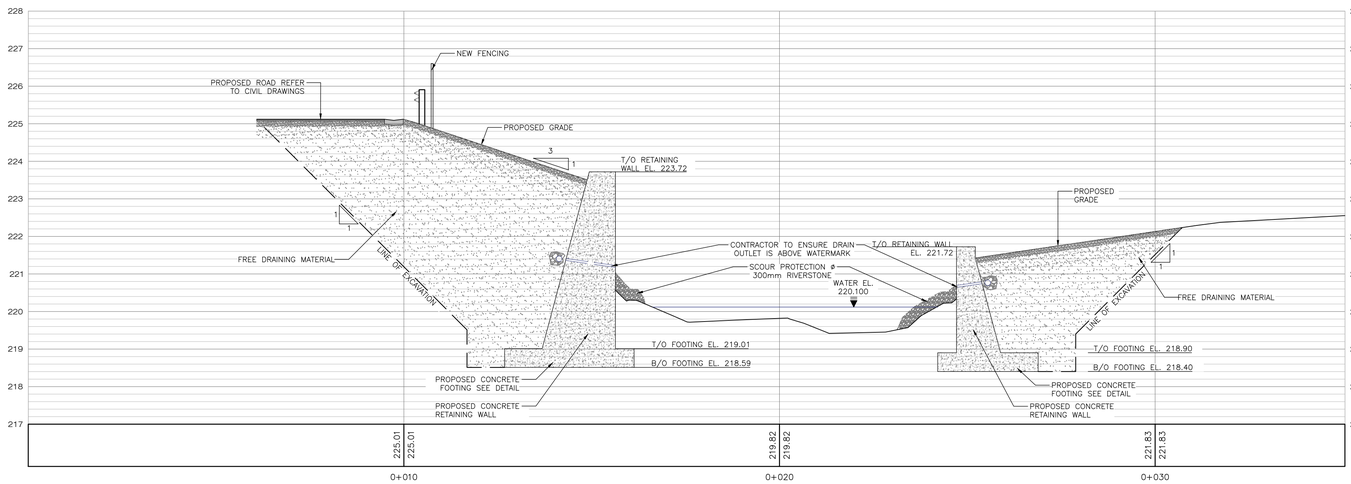
SCALE	DATE
AS NOTED	JUNE 26, 2025

PROJECT No.	REVISION	DRAWING
23-1236	3	S1

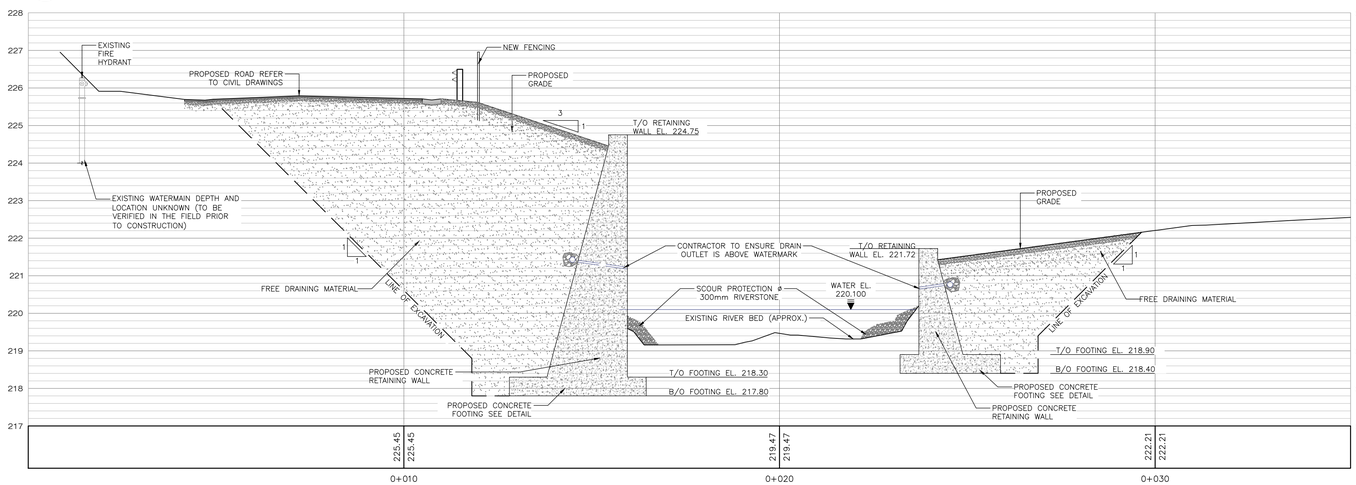
P:\2023\231236 - Burgess Dam Detailed Design\03 Drawings\03.02 Current\231236 - Burgess Dam - Retaining Wall - 2025-06-26.dwg



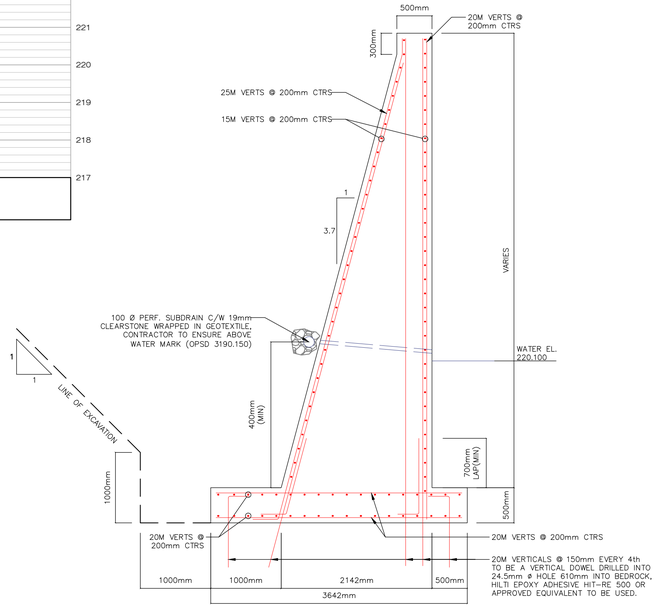
1 S2 GENERAL ARRANGEMENT: MIDDLE SECTION OF NORTH WALL AND EAST SECTION OF SOUTH RETAINING WALL
SCALE 1:75



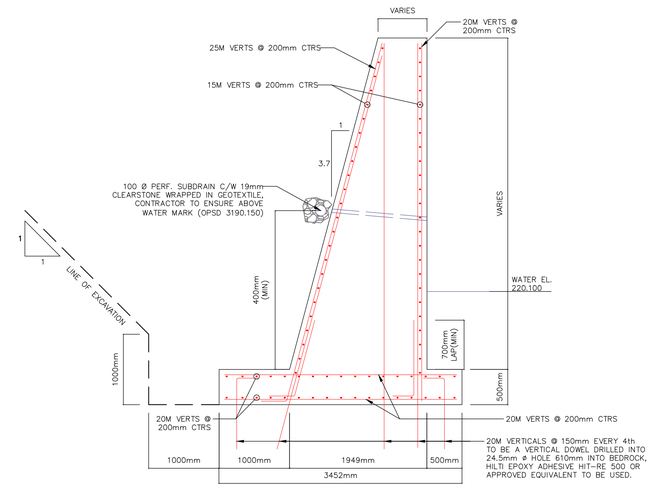
2 S2 GENERAL ARRANGEMENT: MIDDLE SECTION OF NORTH AND SOUTH RETAINING WALL
SCALE 1:75



3 S2 GENERAL ARRANGEMENT: WEST SECTION OF NORTH AND SOUTH RETAINING WALL
SCALE 1:75



TYPICAL SECTION OF NORTH RETAINING WALL
SCALE: 1:40



TYPICAL MIDDLE SECTION OF NORTH RETAINING WALL
SCALE: 1:40

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
F. R. PALMAY
100162809
2025-Jun-27
PROVINCE OF ONTARIO

DATE (DAY/MTH/YR.)	REV.	REVISION	BY	APP'D
26/06/2025	3	ISSUED FOR CONSTRUCTION	HD	FP
13/05/2025	2	ISSUED FOR TENDER	HD	FP
26/06/2024	1	ISSUED FOR FINAL REVIEW	HD	FP
09/05/2024	0	ISSUED FOR CLIENT REVIEW	HD	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

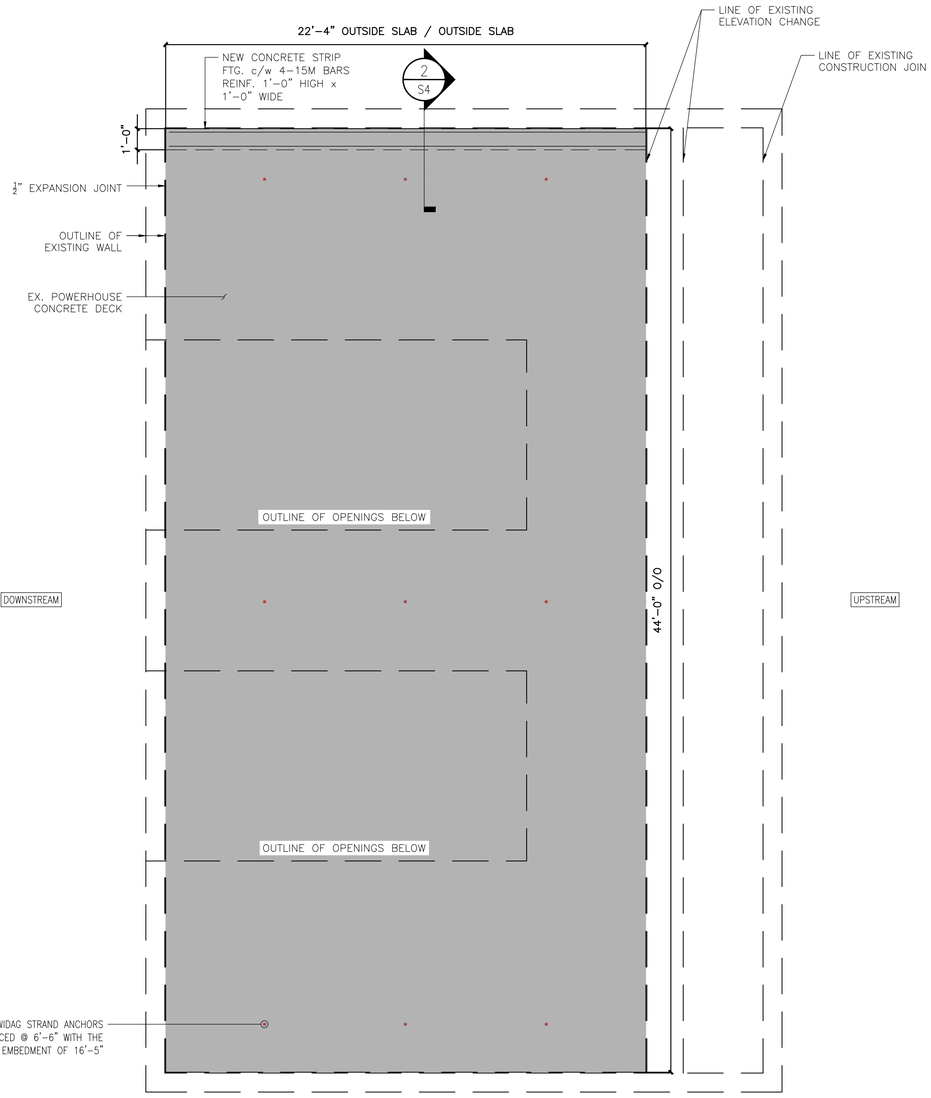
DRAWING TITLE:

RETAINING WALL SECTIONS

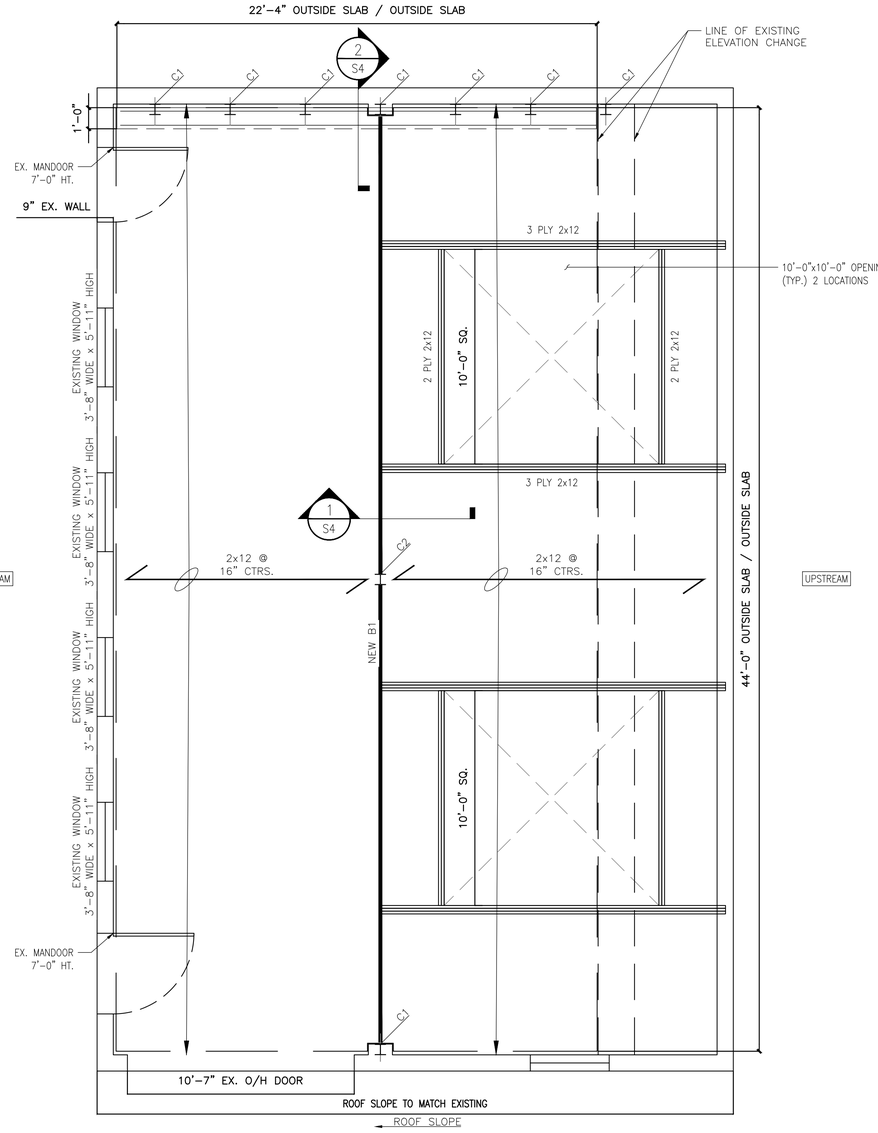
HD	FP	FP	FP
DRAWN	DESIGNED	CHECKED	APPROVED
AS NOTED		**JUNE 26, 2025**	
SCALE		DATE	

23-1236	3	S2
PROJECT No.	REVISION	DRAWING

P:\2023\231236 - Burgess Dam Detailed Design\03 Drawings\03.02 Current\231236 - Burgess Dam - Retaining Wall - 2025-05-13.dwg



FOUNDATION PLAN: PROPOSED POWER HOUSE CONCRETE DECK UPGRADES
SCALE: 1:50



PROPOSED ROOF FRAMING PLAN
SCALE: 1:50

BEAM SCHEDULE	
	B1 = NEW W8x40 WITH CONTINUOUS NAILER PLATE
COLUMN SCHEDULE	
	C1 = NEW W6x15 WITH 10"x10"x 3/8" BASE PLATE TO BE ANCHORED TO EXISTING WALL.
	C2 = NEW W6x15 WITH 10"x10"x 3/8" BASE PLATE.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
F. R. PALMAY
100162809
2025-Jun-27
PROVINCE OF ONTARIO

DATE (dd/mm/yy)	REV.	REVISION	BY	APP'D
26/06/2025	3	ISSUED FOR CONSTRUCTION	HD	FP
13/05/2025	2	ISSUED FOR TENDER	HD	FP
20/06/2024	1	ISSUED FOR REVIEW	HD	FP
09/05/2024	0	ISSUED FOR REVIEW	HD	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

DRAWING TITLE:

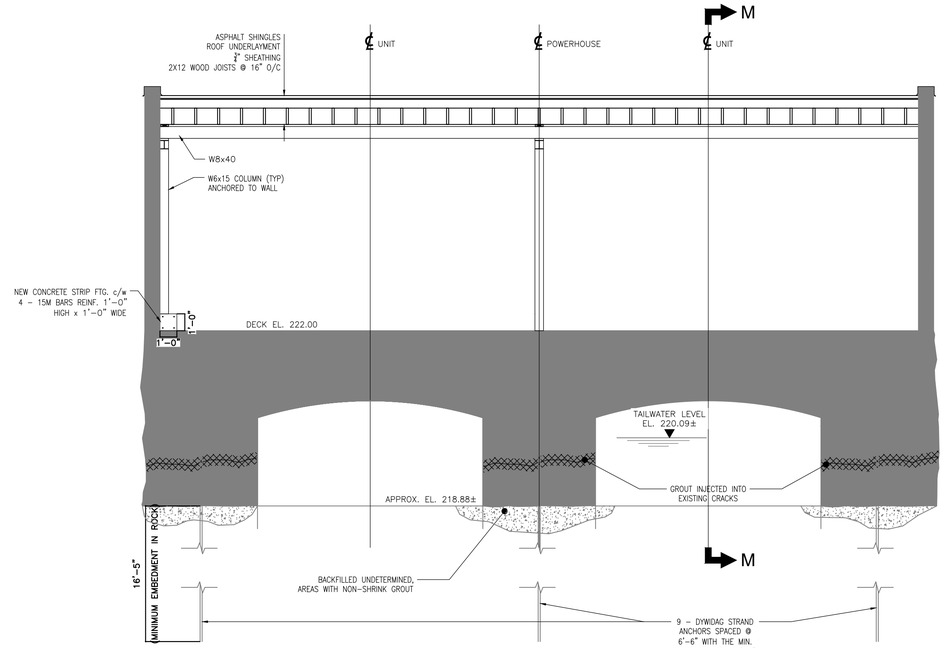
FOUNDATION UPGRADES & ROOF FRAMING PLANS

HD	FP	FP	FP
DRAWN	DESIGNED	CHECKED	APPROVED

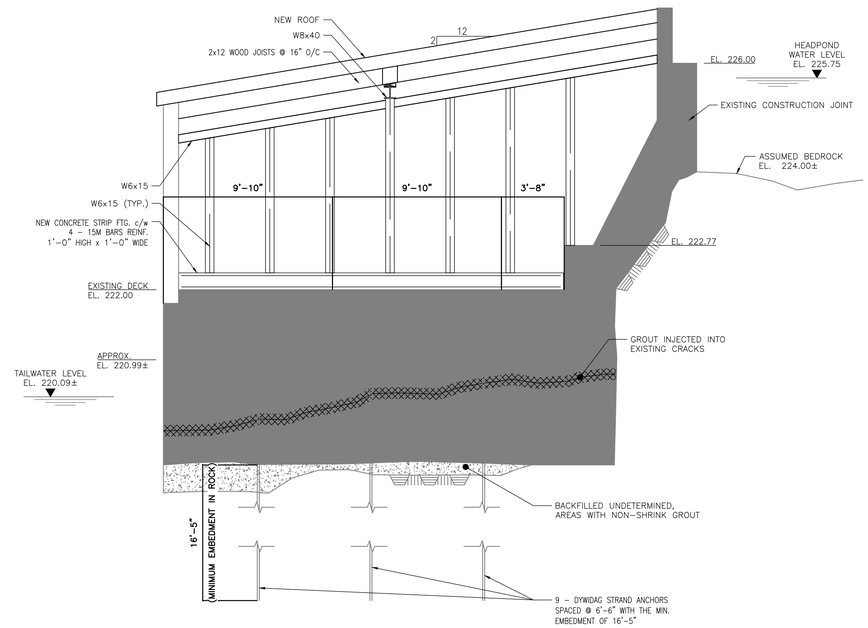
AS NOTED	JUNE 26, 2025
SCALE	DATE

23-1236	3	S3
PROJECT No.	REVISION	DRAWING

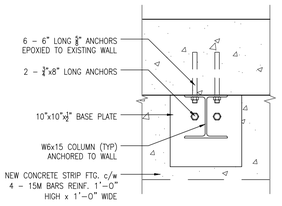
P:\2023\231236 - Burgess Dam Detailed Design\03 Drawings\03.02 Current\231236 - Burgess Dam - Power House - 2025-05-13.dwg



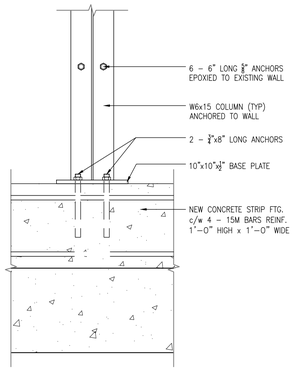
DOWNSTREAM FACE SECTION OF PROPOSED POWER HOUSE STRUCTURE ASSEMBLY
SCALE: 1:50



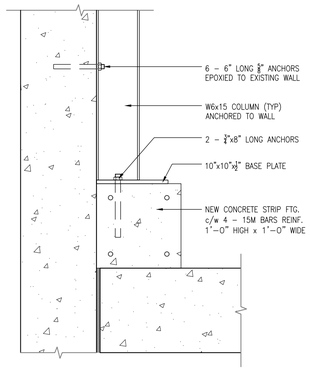
SECTION M–M: SIDE SECTION OF PROPOSED ROOF ASSEMBLY AND NEW WALL ASSEMBLY
SCALE: 1:50



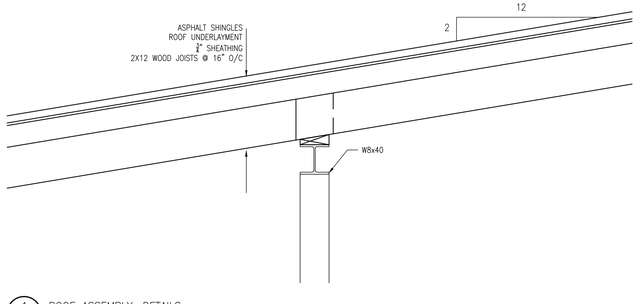
BASE PLATE AND ANCHOR DETAILS : DETAIL A1
SCALE: 1:10



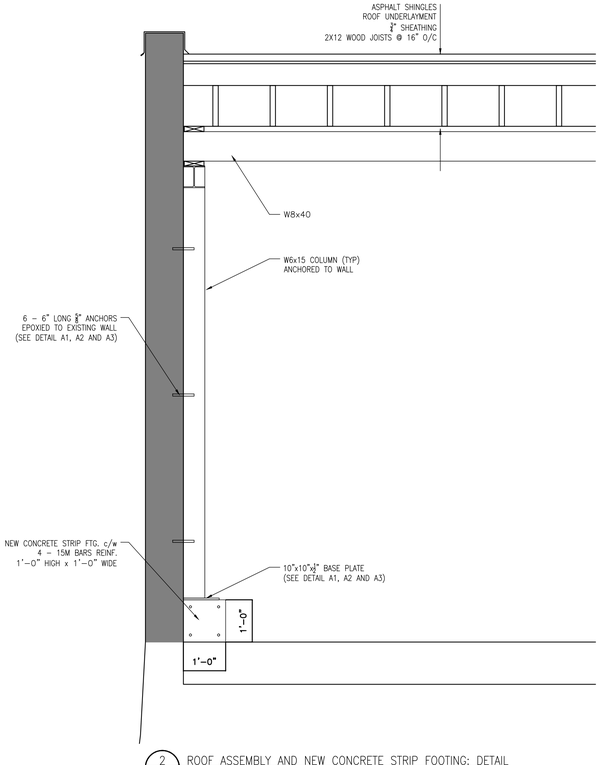
BASE PLATE AND ANCHOR DETAILS : DETAIL A2
SCALE: 1:10



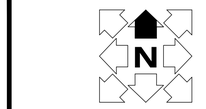
BASE PLATE AND ANCHOR DETAILS : DETAIL A3
SCALE: 1:10



1 S4 ROOF ASSEMBLY: DETAILS
SCALE 1:20



2 S4 ROOF ASSEMBLY AND NEW CONCRETE STRIP FOOTING: DETAIL
SCALE 1:20



KEY PLAN

ENGINEER'S SEAL:

DATE (DAY/MTH/YR)	REV.	REVISION	BY	APP'D
26/06/2025	3	ISSUED FOR CONSTRUCTION	HD	FP
13/05/2025	2	ISSUED FOR TENDER	HD	FP
20/06/2024	1	ISSUED FOR REVIEW	HD	FP
09/05/2024	0	ISSUED FOR REVIEW	HD	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

DRAWING TITLE:

FOUNDATION UPGRADES AND ROOF FRAMING DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED
HD	FP	FP	FP

SCALE	DATE
AS NOTED	JUNE 26, 2025

PROJECT No.	REVISION	DRAWING
23-1236	3	S4

P:\2023\231236 – Burgess Dam Detailed Design\05 Drawings\03.02 Current\231236 – Burgess Dam – Power House – 2025-05-13.dwg

PHOTO 1
DOWNSTREAM SIDE
WEST ELEVATION LOOKING EAST

PHOTO 2
EXISTING BEAM AND ROOF STRUCTURE

PHOTO 3
EXISTING BEAM AND ROOF STRUCTURE

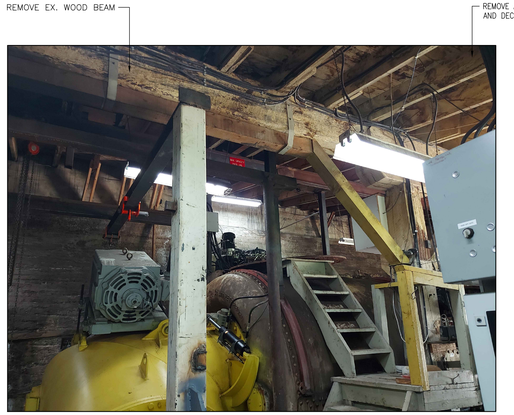


PHOTO 4
EXISTING BEAM AND ROOF STRUCTURE

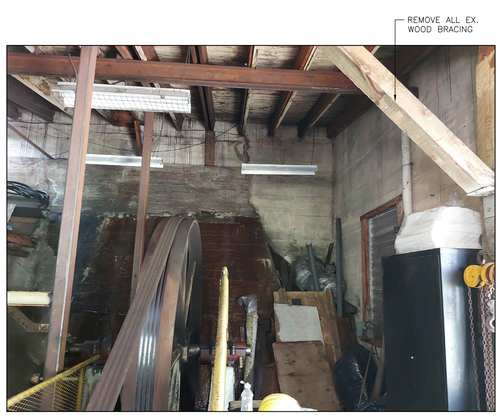


PHOTO 5
EXISTING BEAM AND ROOF STRUCTURE

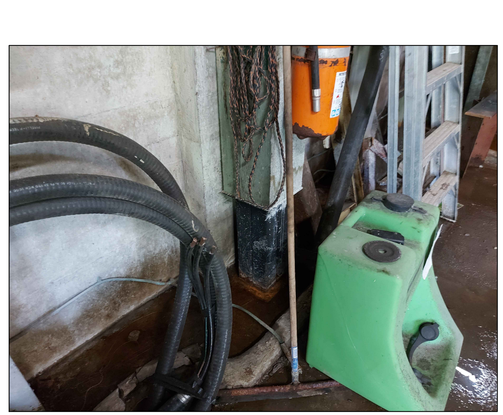


PHOTO 6
EXISTING STEEL COLUMN BASE – NORTH WALL

PHOTO 7
EXISTING STEELWORK – NORTH WALL

PHOTO 8
EXISTING STEELWORK – NORTH WALL

REMOVAL NOTES

1. REMOVE EXISTING WOOD FRAMED ROOF STRUCTURE AND REPLACE WITH NEW.
2. REMOVE EXISTING WOOD TIMBER CENTRE BEAM AND EX. WOOD COLUMNS AND REPLACE WITH NEW STEEL.
3. REMOVE ALL EXISTING STEEL COLUMNS ON NORTH WALL AND REPLACE WITH NEW.

N

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
F. R. PALMAY
100162809
2025-Jun-27
PROVINCE OF ONTARIO

DATE (DAY/MTH/YR)	REV.	REVISION	BY	APP'D
26/06/2025	3	ISSUED FOR CONSTRUCTION	HD	FP
13/05/2025	2	ISSUED FOR TENDER	HD	FP
20/06/2024	1	ISSUED FOR REVIEW	HD	FP
09/05/2024	0	ISSUED FOR REVIEW	HD	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

DRAWING TITLE:

REMOVAL PHOTOS

DRAWN	DESIGNED	CHECKED	APPROVED
HD	FP	FP	FP

SCALE	DATE
AS NOTED	JUNE 26, 2025

PROJECT No.	REVISION	DRAWING
23-1236	3	S5

P:\2023\231236 – Burgess Dam Detailed Design\03 Drawings\03.02 Current\231236 – Burgess Dam – Power House – 2025-05-13.dwg

GENERAL NOTES (CIVIL):

1. DO NOT SCALE DRAWINGS.
2. ALL STANDARDS ARE TO BE IN ACCORDANCE WITH CURRENT ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) AND ONTARIO BUILDING CODE (LATEST EDITION), UNLESS OTHERWISE NOTED.
3. NOTIFY ALL UTILITIES AND MUNICIPAL AUTHORITIES 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. UTILITY PERSONNEL TO BE ON SITE WHEN EXCAVATING ADJACENT TO UNDERGROUND UTILITIES. SUPPORT UTILITIES IN ACCORDANCE WITH THE DIRECTIONS AND GUIDELINES OF THE IMPACTED UTILITY.
4. THE LOCATION OF UTILITIES AND SERVICES SHOWN ON DRAWINGS IS APPROXIMATE AND MAY BE INCOMPLETE. CONFIRM EXACT LOCATION OF UTILITIES WITH MINISTRY, MUNICIPALITY OR UTILITIES. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION AND WILL BE RESPONSIBLE FOR PROTECTING AGAINST DAMAGE. THE CONTRACTOR ASSUMES ALL LIABILITY FOR DAMAGE TO UTILITY AND ROAD WORKS.
5. COMPLY WITH THE REQUIREMENTS OF THE DISTRICT MUNICIPALITY OF MUSKOKA IN REGARD TO TRAFFIC FLOW ON MUNICIPAL STREETS. ALL NECESSARY TRAFFIC CONTROL AND SIGNAGE IS TO BE IN ACCORDANCE WITH MTO BOOK 7 REQUIREMENTS.
6. DESIGN DRAWINGS ARE TO BE READ IN CONJUNCTION WITH SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.
7. ALL DIMENSIONS ARE IN METERS, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETERS, UNLESS SPECIFIED OTHERWISE.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL DETAILED LAYOUT WORK.
9. ALL SILTATION AND EROSION CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREAS ARE REINSTALLED TO THE EXISTING CONDITION IS BETTER.
10. THE CONTRACTOR IS RESPONSIBLE FOR ALL DE-WATERING AND WATER MANAGEMENT DURING CONSTRUCTION.
11. LATEST APPROVED DRAWINGS TO BE USED FOR CONSTRUCTION AND ALL DISCREPANCIES REPORTED TO THE ENGINEER.
12. TYPICAL DESIGN DETAILS SHOWN ON THE DRAWINGS SHALL GOVERN THE WORK. IF DETAILS ON OTHER DRAWINGS CONFLICT THE MOST STRINGENT SHALL GOVERN.
13. ALL INSTALLATIONS AND CONSTRUCTION TO BE COMPLETED TO THE SATISFACTION OF THE ENGINEER AND THE TOWNSHIP OF MUSKOKA LAKES IN ACCORDANCE WITH THE CONTRACT DOCUMETNS
14. COMPLETE ALL EXCAVATIONS AND FOUNDATION WORK IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH & SAFETY ACT (LATEST EDITION).
15. RESTORATION OF ALL DISTURBED AREAS SHALL BE 75mm TOPSOIL AND SEED MIX UNLESS NOTED OTHERWISE.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DETAILS, AND ELEVATIONS OF THE EXISTING STRUCTURE THAT ARE RELEVANT TO THE WORK SHOWN ON THE DRAWING PRIOR TO THE COMMENCEMENT OF THE WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE CONTRACT ADMINISTRATOR AND THE PROPOSED ADJUSTMENT OF THE WORK REQUIRED TO MATCH THE EXISTING STRUCTURE SHALL BE SUBMITTED FOR APPROVAL.
17. CONTRACTOR ASSUMES ALL RESPONSIBILITY OF DESIGN, ERECTION AND REMOVAL OF TEMPORARY WORKS.
18. FORMWORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF CSA A23.1.
19. DESIGN OF FORMWORK IS THE CONTRACTOR'S RESPONSIBILITY.
20. CONTRACTOR TO PROVIDE TEMPORARY BRACING, SUPPORTS AND/OR OTHER INSTALLATIONS NECESSARY TO MAINTAIN PLUMBNESS, TRUE, ALIGNMENT AND STABILITY OF THE STRUCTURE AND ALL OF ITS PARTS THROUGHOUT ALL ERECTION STAGES.
21. IT IS THE ULTIMATE RESPONSIBILITY OF THE CONTRACTOR/OWNER TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS ARE OBTAINED & POSTED PRIOR TO PROCEEDING WITH CONSTRUCTION. THESE PERMITS/APPROVALS MAY INCLUDE (BUT ARE NOT NECESSARILY LIMITED TO):
    - MUNICIPAL BUILDING DEPARTMENT PERMIT TO CONSTRUCT (MULTIPLE PERMITS MAY BE REQUIRED)
    - GOVERNMENTAL REGULATORS (CDA/MNRF)
    - ELECTRICAL SAFETY AUTHORITY (ESA) PERMIT

FOUNDATION PREPARATION:

GENERAL:

1. THIS SPECIFICATION COVERS WORK ITEMS REQUIRED FOR CLEARING/ GRUBBING, STRIPPING, EXCAVATION AND FOUNDATION PREPARATION PRIOR TO PLACEMENT OF EMBANKMENT FILL MATERIALS AND CONSTRUCTION OF THE RELATED APPURTENANT STRUCTURES INCLUDING SPILLWAY, ACCESS ROADS, LAYDOWN AREA AND TEMPORARY DISPOSAL AREA ETC.

WATER MANAGEMENT:

1. THE EXISTING DAM CAN BE THE UPSTREAM COFFERDAM DURING REHABILITATION CONSTRUCTION. THE FOUNDATION PREPARATION FOR THE DOWNSTREAM WORK AREA WILL RESULT IN SOME SEEPAGE FROM UPSTREAM (THE EXISTING DAM FOUNDATION). THE SEEPAGE RATE IS CONSIDERED TO BE MANAGEABLE BY SUMPS AND PUMPS DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR WATER MANAGEMENT DURING CONSTRUCTION.
2. SOME SEEPAGE AND /OR RUN-OFF WATER MAYBE ENCOUNTERED FROM SURROUND AREAS AT THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL OF RUN-OFF STORM EVENT DURING CONSTRUCTION.
3. THE CONTRACTOR'S PROPOSED WATER MANAGEMENT PLAN SHALL BE SUBMITTED TO THE CLIENT'S APPROVAL.

FOUNDATION PREPARATION:

CLEARING AND GRUBBING:

1. THE WORK TO BE DONE UNDER THIS ITEM COMPRISES THE SUPPLY OF ALL LABOUR, PLANT AND MATERIAL, AND THE PERFORMANCE OF ALL WORK NECESSARY FOR CLEARING AND GRUBBING THE CONSTRUCTION AREA, AS SHOWN ON THE DESIGN DRAWINGS.
2. CLEARING AND GRUBBING SHALL CONSIST OF CUTTING AND DISPOSING OF ALL TREES, HEDGES, SHRUBS ALIVE OR DEAD, DEBRIS AND ALL OTHER PERISHABLE MATERIALS, INCLUDING FALLEN TREES AND LOGS WHICH MAY BE VISIBLE ON THE SURFACE OF THE GROUND WITHIN THE CONSTRUCTION AREA. ALL TREES, HEDGES, AND SHRUBS SHALL BE CUT OFF AT THE NATURAL GROUND SURFACE IN ALL AREAS OF THE CONSTRUCTION AS SHOWN ON THE DESIGN DRAWINGS.
3. THE CONTRACTOR SHALL GIVE THE CLIENT OR ITS REPRESENTATIVE AT LEAST THREE (3) DAYS NOTICE OF INTENT TO CLEAR AREAS. THE LIMITS OF CLEARING AS APPROVED BY THE CLIENT OR ITS REPRESENTATIVE AND AS SPECIFIED HEREIN SHALL BE STRICTLY ADHERED TO.
4. REMOVE ALL CLEARED MATERIAL FROM THE SITE AND DISPOSED OF IN A MANNER ACCEPTABLE TO THE CLIENT OR ITS REPRESENTATIVE.
5. THE WORK SHALL BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE ENVIRONMENTAL ASSESSMENT PERMIT ISSUED FOR THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ANY AND ALL PERMITS ASSOCIATE WITH CLEARING, GRUBBING AND PERMANENT DISPOSAL OF MATERIALS.
6. CLEARING, GRUBBING AND STRIPPING SHALL BE COMPLETED PRIOR TO THE START OF EARTHWORKS AND SHALL BE AT A MINIMUM DISTANCE OF FIVE (5) METERS FROM FILL PLACEMENT. CONTRACTOR CAN ONLY PROCEED WITH FILL PLACEMENT AFTER RECEIVING WRITTEN APPROVAL FROM THE CLIENT OR ITS REPRESENTATIVE.

STRIPPING, EXCAVATION AND STOCKPILING:

1. THE WORK SHALL COMPRISE THE SUPPLY OF ALL LABOUR AND PLANT, AND THE PERFORMANCE OF ALL WORK NECESSARY FOR THE STRIPPING, EXCAVATION AND STOCKPILING FOR SUBSEQUENT REUSE OR DISPOSING OF STRIPPED AND EXCAVATED MATERIALS FROM THE CONSTRUCTION AREA OF THE DAM, ACCESS ROAD AND LAYDOWN AREA ETC.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE CLIENT FOR CLEARANCE OF ANY BURIED UTILITIES, EXITING GROUND GRID AND INSTRUMENTATION AT THE DAM SITE. BURIED UTILITIES, GROUNDING GRID AND INSTRUMENTATION SHALL BE PROTECTED OR REMOVED WITHOUT DAMAGE BEFORE STRIPPING AND EXCAVATION ACTIVITY. NO STRIPPING OF ANY AREA SHALL START WITHOUT PRIOR WRITTEN APPROVAL FROM THE CLIENT OR ITS REPRESENTATIVE.
3. THE STRIPPING AND EXCAVATED MATERIALS AT THE EXISTING DAM SITE SHALL NOT BE REUSED FOR ENGINEERED DAM FILL MATERIALS. THE MATERIAL MAY NEED TO BE DISCARDED AT THE CLIENT OR ITS REPRESENTATIVE'S DISCRETION. THE STRIPPED MATERIAL NOT SUITABLE FOR RE-USE SHALL BE DISPOSED OF BY THE CONTRACTOR OFF SITE AND DISPOSED OF IN A MANNER ACCEPTABLE TO THE CLIENT OR ITS REPRESENTATIVE.
4. THE EXCAVATED MATERIALS FROM THE EXISTING DAM SITE AS PER DESIGN SHALL BE TEMPORARILY STOCKPILED AT THE DAM SITE APPROVED BY THE CLIENT OR ITS REPRESENTATIVE. STOCKPILES SHALL BE SLOPED SUFFICIENTLY FOR STABILITY. STOCKPILED MATERIALS SHALL BE PROTECTED WITHOUT CONTAMINATION AND EROSION.

GRANULAR FILL PLACEMENT AND COMPACTION:

GENERAL:

1. THIS SPECIFICATION DESCRIBES THE REQUIREMENTS FOR PLACEMENT AND COMPACTION OF GRANULAR FILL MATERIALS INCLUDING ROCKFILL/RIP RAP FOR EMBANKMENT DAM BUTTRESS, SPILLWAY, AND CREEK BANK EROSION PROTECTION CONSTRUCTION AS PER DESIGN DRAWINGS.

MATERIAL CODES AND TEST STANDARDS:

2. THE GRANULAR FILL MATERIALS SHALL FOLLOW THE ASTM STANDARDS INCLUDING:

ASTM	DESCRIPTION
ASTM D75	METHODS FOR SAMPLING AGGREGATES
ASTM D422	METHOD FOR PARTICLE SIZE ANALYSIS
ASTM D698	TEST METHOD FOR MOISTURE-DENSITY RELATIONS OF SOILS AND SOIL AGGREGATE MIXTURES USING 4.4LB. (2.5 KG) RAMMER AND 305mm (12") DROP
ASTM D854	TEST METHOD FOR SPECIFIC GRAVITY OF SOILS
ASTM D1140	TEST METHOD FOR AMOUNT OF MATERIALS IN SOILS FINER THAN THE NO. 200 SIEVE
ASTM D2216	METHOD FOR LABORATORY DETERMINATION OF WATER (MOISTURE) OF SOIL, ROCK AND SOIL-AGGREGATE MIXTURES
ASTM D2922	TEST METHODS FOR DENSITY OF SOIL AND SOIL-AGGREGATE IN PLACE BY NUCLEAR METHODS (SHALLOW DEPTH)
ASTM D3017	TEST METHODS FOR MOISTURE CONTENT OF SOIL AND SOIL-AGGREGATE IN PLACE BY NUCLEAR METHODS (SHALLOW DEPTH)
ASTM D5519	STANDARD TEST METHOD FOR PARTICLE SIZE ANALYSIS OF NATURAL AND MAN-MADE RIP RAP MATERIALS
ASTM D7263	STANDARD TEST METHODS FOR LABORATORY DETERMINATION OF DENSITY (UNIT WEIGHT) OF SOIL SPECIMENS

DIMENSIONAL TOLERANCES:

1. DIMENSIONS SHALL NOT BE LESS THAN THOSE SPECIFIED AND FINAL SLOPES SHALL NOT BE STEEPER THAN THOSE INDICATED ON THE DESIGN DRAWINGS. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE ACCEPTABLE DIMENSIONAL TOLERANCES FOR THE FILL PLACEMENT SHALL BE THE FOLLOWING:
    - LEVEL TOLERANCE: +/- 0.1m
    - HORIZONTAL TOLERANCE +/- 0.3m
2. SHOULD ANY ERRORS IN SETTING OUT THE WORKS OCCUR, SUCH ERRORS SHALL BE CORRECTED AND ANY NECESSARY ADJUSTMENT TO PREVIOUSLY PLACED FILL MATERIALS RESULTING FROM SUCH ERRORS SHALL BE MADE GOOD TO THE SATISFACTION OF THE ENGINEER AT THE SITE PRIOR TO FURTHER PLACEMENT OF FILL MATERIALS AT NO COST TO THE CLIENT.

GRANULAR FILL MATERIALS:

1. THE GRANULAR FILL MATERIALS FOR THE WORK AS PER DESIGN DRAWING SHALL BE:
    - ROCKFILL
    - RIP RAP
    - FREE DRAINING GRANULAR FILL AS NOTED ON DESIGN DRAWINGS
2. THE GRANULAR FILL MATERIALS SHALL CONSIST OF NATURALLY OCCURRING (AS SPECIFIED HERE), OR CRUSHED, CLEAN, SOUND, MINERAL PARTICLES, NON-PLASTIC, FREE FROM ROOTS AND TOPSOIL OR OTHER DEBRIS. MATERIALS CONTAINING QUANTITIES OF ORGANIC MATTER, FLAT OR ELONGATED PARTICLES, DELETERIOUS MATERIAL SHALL NOT BE USED FOR GRANULAR FILL MATERIALS.
3. MATERIAL PLACED WHICH DOES NOT MEET THE SPECIFIED GRADATION REQUIREMENTS SHALL BE REMOVED, BLENDED OR OTHERWISE REWORKED TO PRODUCE A MATERIAL WHICH DOES.
4. OVERSIZED PARTICLES SHALL BE REMOVED, EITHER AT THE SOURCE OR DURING PLACEMENT OR BOTH. WHERE REDUCED LIFT THICKNESSES ARE REQUIRED, PARTICLES LARGER THAN 2/3 OF THE REDUCED LIFT THICKNESS SHALL BE REMOVED PRIOR TO COMPACTION.
5. THE GRANULAR FILL MATERIALS SHOULD BE NON-METAL LEACHING AND ARD POTENTIAL MATERIALS.

- ROCKFILL

ROCKFILL MATERIAL FOR EMBANKMENT FILL SHALL BE FROM CRUSHED ROCK SPALLS IN ACCORDANCE WITH THE FOLLOWING GRADATIONS:

SIEVE SIZES (US STANDARD SIZE)	GRAIN SIZE (mm)	% PASSING
12"	300	100
6"	240	85
3"	150	50
1-1/2"	80	15

- SPILLWAY RIP RAP

RIP RAP MATERIAL FOR EMBANKMENT AND SPILLWAY EROSION PROTECTION SHALL BE WELL GRADED SIZES OF HARD STRONG DURABLE, DENSE, AND HIGH-QUALITY ROCK FRAGMENTS. THE FRAGMENTS SHALL BE GENERALLY CUBIC IN SHAPE WITH THE LARGEST DIMENSION NOT MORE THAN TWICE THE SMALLEST. THE RIP RAP SHALL MEET THE FOLLOWING CRITERIA:

- MAXIMUM SIZE (D_{MAX}): 750 mm (±50mm)
- MEDIAN SIZE (D_{50}): 370 mm
- MINIMUM SIZE (D_{MIN}): 180 mm (±50mm)

GRANULAR FILL PLACEMENT AND COMPACTION:

- GENERAL

1. THE WORK TO BE DONE SHALL COMPRISE THE SUPPLY OF ALL LABOUR, PLANT AND MATERIAL, AND THE PERFORMANCE OF ALL WORK NECESSARY FOR SUPPLYING, PLACING AND COMPACTING GRANULAR FILL MATERIALS, AS SHOWN ON THE DESIGN DRAWINGS.
2. GRANULAR FILL MATERIALS SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS AND AS REQUIRED BY THE ENGINEER BASED ON SPECIFIC SITE CONDITIONS.
3. PLACING AND SPREADING OF GRANULAR FILL MATERIAL IN ACCORDANCE WITH THESE SPECIFICATIONS SHALL BE PERFORMED IN SUCH A MANNER AS TO AVOID SEGREGATION OF SIZES AND TO OBTAIN A HOMOGENEOUS MASS.
4. THE SELECTION OF COMPACTION EQUIPMENT SHALL BE SUBJECT TO THE APPROVAL OF ENGINEER AND TO CONTINUING SATISFACTORY PERFORMANCE.
5. NATIVE MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
6. GRANULAR MATERIAL, USED FOR BACKFILL, AND EMBEDMENT SHALL BE PLACED IN LAYERS 200mm IN DEPTH MAXIMUM AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY UNLESS OTHERWISE NOTED.
7. WHERE NECESSARY TO ACHIEVE THE SPECIFIED COMPACTION, WATER SHALL BE APPLIED BY CONTROLLED SPRINKLING TO THE GRANULAR FILL MATERIALS IN AMOUNTS AS APPROVED BY THE ENGINEER.
8. THE STOCKPILING OF GRANULAR FILL MATERIAL WILL BE INSPECTED AND APPROVED BY ENGINEER, AT APPROVED LOCATIONS, PROVIDED THAT CONTRACTOR EXERCISES EVERY PRECAUTION NECESSARY AND BEST PRACTICES TO PREVENT SEGREGATION OF PARTICLE SIZES. THE STOCKPILED MATERIAL SHALL MEET THE GRADATION REQUIREMENTS SPECIFIED ABOVE.
9. GRANULAR FILL MATERIAL SHALL NOT BE CONTAMINATED BY MIXING WITH OTHER MATERIALS. FILL MATERIALS WHICH HAVE BECOME CONTAMINATED SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE CLIENT.
10. GRANULAR FILL MATERIALS SHALL BE PLACED, SPREAD AND COMPACTED IN A DIRECTION PARALLEL TO THE AXIS OF THE DAM EXCEPT AS OTHERWISE PERMITTED BY ENGINEER BASED ON THE SPECIFIC SITE CONDITION.
11. THE CONTRACTOR MAY USE AN ALTERNATIVE TYPE OF ROLLER OR EQUIPMENT FOR COMPACTION PROVIDED THAT THE PERFORMANCE OF SUCH EQUIPMENT IS DEMONSTRATED TO PRODUCE THE COMPACTION SPECIFIED TO MEET THE REQUIREMENT OF THE SPECIFICATION.
12. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE QUALITY OF WORK IN ACCORDANCE WITH THESE SPECIFICATIONS. ENGINEER WILL CARRY OUT QUALITY CONTROL TESTING OF CONTRACTOR'S OPERATIONS, AND CONTRACTOR SHALL COOPERATE IN EVERY WAY TO ENSURE THAT TESTS CAN BE PERFORMED AT ALL LOCATIONS AND TIMES AS REQUIRED BY THE ENGINEER. THE CONTRACTOR SHALL VARY THE METHOD OF PLACING AND COMPACTION IN ORDER TO MEET THE REQUIREMENTS OF THESE SPECIFICATIONS AS DETERMINED BY TESTING AND AS ACCEPTED BY THE ENGINEER.
13. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE SOURCE OF ALL THE REQUIRED GRANULAR FILL MATERIALS SPECIFIED IN THE DESIGN DRAWING AND ASSOCIATE TESTING DATA RESULTS WITHIN 7 DAYS OF AWARD OF CONTRACT. ADDITIONAL TESTING OF THE MATERIAL MAY BE REQUIRED BY THE ENGINEER DURING THE WORK TO DEMONSTRATE CONFORMANCE TO THE SPECIFIED GRADATIONS.

- ROCKFILL

1. EACH LAYER OF ROCKFILL MATERIAL SHALL BE COMPACTED BY NOT LESS THAN FOUR COMPLETE PASSES OF THE VIBRATORY ROLLER EQUIPMENT. VIBRATORY ROLLER SHALL HAVE A SMOOTH STEEL DRUM, EQUIPPED WITH CLEANING DEVICES, EITHER PULLED OR SELF-PROPELLED. COMPACTOR SHALL HAVE A STATIC WEIGHT OF 10 TONNES ON THE AXIS OF THE DRUM. THE VIBRATION FREQUENCY OF THE VIBRATORY ROLLER DURING OPERATION SHALL BE BETWEEN 20HZ AND 35HZ AND THE COMPACTION (CENTRIFUGAL) FORCE DEVELOPED BY THE ROLLER AT 30 HZ SHALL NOT BE LESS THAN 19 T. THE POWER OF THE ENGINE DRIVING THE VIBRATORY ROLLER SHALL BE SUFFICIENT TO MAINTAIN THE SPECIFIED FREQUENCY AND CENTRIFUGAL FORCE UNDER THE MOST ADVERSE CONDITIONS WHICH MAY BE ENCOUNTERED DURING COMPACTION OF THE FILL.
2. THE VIBRATORY ROLLER SHALL MAINTAIN A MINIMUM DISTANCE OF 1.5m FROM THE EXISTING CONCRETE DAM FOR COMPACTION. ROCKFILL MATERIAL AROUND THE EXISTING CONCRETE DAM SHALL BE LAID IN 300mm LAYERS AND SHALL BE COMPACTED WITH HAND COMPACTORS TO 98% SPMDD.
3. ROCKFILL MATERIAL UNDER WATER SHALL BE PLACED WITH MECHANICAL EQUIPMENT AND COMPACTED UNDER WATER WITH THE BACK OF EXCAVATOR BUCKET SO THAT NO DEFORMATION CAN BE OBSERVED. EACH LAYER OF ROCKFILL MATERIAL UNDER WATER SHALL NOT BE MORE THAN 250mm THICK BEFORE COMPACTION.
4. IF REQUIRED BY THE ENGINEER, CONTRACTOR SHALL VARY THE NUMBER OF PASSES OF COMPACTION EQUIPMENT FROM THE MINIMUM FOUR COMPLETE PASSES SPECIFIED, IN ORDER TO ACHIEVE THE SPECIFIED DENSITY.

- RIP RAP

1. RIP RAP SHALL BE PLACED BY SUITABLE MECHANICAL EQUIPMENT SO THAT INTERMIXING OF ADJOINING ROCKFILL AND RIP RAP DOES NOT OCCUR DURING PLACING AND SO THAT MINIMUM BREAKAGE OF ROCK FRAGMENTS OCCURS.
2. RIP RAP NEED NOT BE COMPACTED BUT PLACED CAREFULLY IN SUCH A MANNER THAT LARGER ROCK FRAGMENTS ARE UNIFORMLY DISTRIBUTED AND SMALLER ROCK FRAGMENTS FILL VOIDS BETWEEN LARGER PIECES. HAND PLACING SHALL BE REQUIRED TO THE EXTENT NECESSARY TO SECURE RESULTS SPECIFIED ABOVE. THE SPECIFIED ROCK SIZES AND GRADING APPLY TO RIP RAP IN-PLACE.

CONCRETE CAST-IN-PLACE AND REPAIR:

GENERAL:

THE CONCRETE CAST-IN-PLACE AND REPAIR WORK FOR THIS PROJECT MAINLY CONSISTS OF:

1. REMOVING THE CONCRETE STRUCTURE AS SHOWN AND DESCRIBED ON THE DRAWINGS AND IN THIS SPECIFICATION.
2. PREPARING THE SURFACE FOR THE CONCRETE CAST-IN-PLACE AS SHOWN ON THE DRAWINGS, INCLUDING ABRASIVE CLEANING, CLEANING OF EXISTING REINFORCEMENT, AND APPLYING BONDING AGENT TO THE SURFACE.
3. SUPPLYING MATERIALS AND THE MIXING AND PLACING OF CONCRETE AS SHOWN AND DESCRIBED ON THE DRAWINGS AND IN THIS SPECIFICATION INCLUDING VIBRATING, FINISHING, AND CURING.
4. SUPPLYING, FABRICATING, CONSTRUCTING, MAINTAINING AND REMOVING TEMPORARY WORKS, INCLUDING FALSEWORK AND FORMWORK.
5. THE QUALITY CONTROL (QC) TESTING OF ALL CONCRETE MIX MATERIALS.

REFERENCES AND STANDARDS:

1. CSA A23.1/A23.2, CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION/METHODS OF TEST AND STANDARD PRACTICES FOR CONCRETE.
2. CAN/CSA A3001, CEMENTITIOUS MATERIALS FOR USE IN CONCRETE.
3. INTERNATIONAL CONCRETE REPAIR INSTITUTE (ICRI) TECHNICAL GUIDELINE NO. 310.1R, GUIDE FOR SURFACE.
4. PREPARATION FOR THE REPAIR OF DETERIORATED CONCRETE RESULTING FROM REINFORCING STEEL CORROSION.
5. CAN/CSA G30.18, BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT.
6. ACI 117, STANDARD TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS.
7. REINFORCING STEEL INSTITUTE OF CANADA, (RSIC), MANUAL OF STANDARD PRACTICE.
8. GUIDE TO CONCRETE REPAIR (2ND EDITION). U.S. DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION. AUGUST 2015.

CONCRETE REMOVAL:

1. ALL AREAS OF THE EXISTING CONCRETE TO BE REMOVED WILL BE MARKED BY THE CONTRACTOR AS SHOWN ON DRAWINGS. THE CONCRETE REMOVAL AREAS SHALL BE CONFIRMED AND APPROVED BY THE ENGINEER BEFORE PROCESSING.
2. THE CONTRACTOR SHALL REMOVE THE EXISTING CONCRETE AS THE DIMENSIONS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER. ANY DAMAGE CAUSED BY THE CONTRACTOR TO ANY PORTION OF THE STRUCTURE NOT INTENDED FOR THE REMOVAL SHALL BE REPAIRED/RECOVERED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.
3. THE CONTRACTOR SHALL EXERCISE CAUTION AND TAKE CARE NOT TO DAMAGE ANY EXISTING DAM, POWERHOUSE, ROAD, AND EARTH RETAINING STRUCTURE, INTENDED TO REMAIN IN PLACE.

CONCRETE CAST-IN-PLACE:

1. CONCRETE MIX DESIGN SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

- MINIMUM 28-DAY COMPRESSIVE STRENGTH – 30 MPA, CLASS F1.
- CEMENTITIOUS MATERIAL: TYPE GU WITH UP TO 30% FLY ASH.
- MAXIMUM WATER/CEMENT RATIO BY WEIGHT: 0.45
- SLUMP: 75mm +- 25mm (BEFORE ADDITION OF SUPERPLASTICIZER).
- AGGREGATE: 20mm MAX. NOMINAL SIZE.
- AIR CONTENT AS PER CSA A23.1
- EXECUTION ACCORDING TO CSA A23.1, LATEST EDITION.
- CURING ACCORDING TO CSA A23.1, LATEST EDITION.

2. ALL CONCRETE SHALL MEET THE REQUIREMENTS OF CSA A23.1 AND A23.2 STANDARDS, LATEST EDITION.
3. AGGREGATES SHALL BE TESTED FOR ALKALI REACTIVITY AS PER CSA A23.1 AND A23.2 AND APPROVED BY THE ENGINEER.
4. BACK-FILLING AGAINST CAST-IN-PLACE CONCRETE WALLS SHALL NOT COMMENCE UNTIL CONCRETE IN THE WALL HAS ACHIEVED DESIGN STRENGTH.

GEOTEXTILE:

GENERAL:

GEOTEXTILE WILL BE USED TO:

- PROVIDE EROSION CONTROL FOR OVERFLOW ROCKFILL/RIP RAP FILL OF DOWNSTREAM SPILLWAY CHANNEL AND/OR THE AREA SUBJECT TO FLOW/RUN OFF EROSION AND OR SCOUR DURING DAM OPERATION.
- INTERFACE BETWEEN THE ROCKFILL/RIP RAP AND EXCAVATED NATIVE SOIL FOR THE CREEK BANK EROSION PROTECTION.
- SEPARATE AND PREVENT MIXING OF MATERIALS OF DIFFERENT GRADING AS REQUIRED IN THE DESIGN DRAWING

APPLICABLE CODES AND STANDARDS:

THE FOLLOWING CODES AND STANDARDS APPLY FOR THE USE OF GEOTEXTILES:

1. ASTM D 4354 PRACTICE FOR SAMPLING OF GEOSYNTHETICS FOR TESTING.
2. ASTM D 4355 TEST METHOD FOR DETERIORATION OF GEOTEXTILES FROM EXPOSURE TO ULTRAVIOLET LIGHT AND WATER (XENON-ARC TYPE APPARATUS).
3. ASTM D 4491-99A, STANDARD TEST METHODS FOR WATER PERMEABILITY FOR GEOTEXTILES BY PERMITTIVITY.
4. ASTM D 4595-86 (2001), STANDARD TEST METHOD FOR TENSILE PROPERTIES OF GEOTEXTILES BY THE WIDE-WIDTH STRIP METHOD.
5. ASTM D 4632 TEST METHOD FOR GRAB BREAKING LOAD AND ELONGATION OF GEOTEXTILES.
6. ASTM 4716-01, TEST METHOD FOR DETERMINING THE (IN-PLANE) FLOW RATE PER UNIT WIDTH AND HYDRAULIC TRANSMISSIVITY OF A GEOSYNTHETIC USING A CONSTANT HEAD.
7. ASTM D 4751-99A, STANDARD TEST METHOD FOR DETERMINING APPARENT OPENING SIZE OF A GEOTEXTILE.
8. ASTM D4759, PRACTICE FOR DETERMINING THE SPECIFICATION CONFORMANCE OF GEOSYNTHETICS.
9. ASTM D4833, TEST METHOD FOR INDEX PUNCTURE RESISTANCE OF GEOTEXTILES, GEOMEMBRANES AND RELATED PRODUCTS.
10. ASTM D4873, GUIDE FOR IDENTIFICATION, STORAGE, AND HANDLING OF GEOTEXTILES.
11. ASTM D4884, STANDARD TEST METHOD FOR STRENGTH OF SEWN OR THERMALLY BONDED SEAMS OF GEOTEXTILES.
12. ASTM D5261, TEST METHOD FOR MEASURING MASS PER UNIT AREA OF GEOTEXTILES.
13. ASTM D5321, STANDARD TEST METHOD FOR DETERMINING THE COEFFICIENT OF SOIL AND GEOSYNTHETIC OR GEOSYNTHETIC AND GEOSYNTHETIC FRICTION BY THE DIRECT SHEAR METHOD.
14. GRI STANDARD GT12(A) (EDITORIAL CHANGES), GEOSYNTHETIC RESEARCH INSTITUTE. DECEMBER 19, 2012.

SHIPPING, STORAGE, AND HANDLING:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING, STORAGE, AND HANDLING OF GEOTEXTILE, AS PER THE ASTM, AND AS WELL AS ANY RELATED COSTS, INCIDENTAL OR OTHERWISE, INCLUDED IN THE INSTALLATION PRICE.
2. THE GEOTEXTILE SHALL ADHERE TO THE LABELLING REQUIREMENTS OF ASTM D 4873 AND SHIPPING, HANDLING AND STORAGE SHALL ADHERE TO ASTM D 4873.

MATERIAL TYPE:

1. THE GEOTEXTILE SHALL BE OF NON-WOVEN SYNTHETIC FIBER, SUPPLIED IN ROLLS:

- MINIMUM WIDTH OF 4.6m;
- MINIMUM LENGTH OF 91m; AND
- COMPOSED OF MINIMUM 85% BY MASS OF POLYPROPYLENE WITH INHIBITORS ADDED TO BASE PLASTIC TO RESIST DETERIORATION BY ULTRA-VIOLET AND HEAT EXPOSURE FOR 60 DAYS.

2. PHYSICAL PROPERTIES OF THE GEOTEXTILE SHALL INCLUDE:

PHYSICAL PROPERTY	VALUE	UNIT	ASTM
NOMINAL THICKNESS	4.1	mm	ASTM D 5199
MASS PER UNIT AREA	540	G/m2	ASTM D 5261
TENSILE STRENGTH	1.64	KN	ASTM D 4632
ELONGATION AT BREAK	50%	–	ASTM D 4632
TRAPEZOIDAL TEAR STRENGTH	0.64	KN	ASTM D 4533
PUNCTURE STRENGTH	1.0	KN	ASTM D 4833
MINIMUM MULLEN BURST	5170	KPA	–
UV RESISTANCE	MINIMUM 70%	–	ASTM D4355
APPARENT OPENING SIZE	0.2	mm	ASTM D 4751
MINIMUM WATER FLOW RATE	2,000	$L/MIN/m^2$	ASTM D 4491
PERMITTIVITY	0.7	S^{-1}	ASTM D 4491

3. MATERIAL ACCEPTANCE SHALL ADHERE TO ASTM D 4759.

GEOTEXTILE PLACEMENT:

1. PLACE GEOTEXTILE ON APPROVED SUBGRADE, FOLLOWING THE REQUIRED EXCAVATION AND STRIPPING, SITE PREPARATION FOR GEOTEXTILE INSTALLATION AND SMOOTH-ROLLING THE PREPARED SUBGRADE SURFACE.
2. PLACE GEOTEXTILE SMOOTH AND FREE OF TENSION STRESS, FOLDS, WRINKLES AND CREASES.
3. GEOTEXTILE PLACED ON SLOPES SHALL BE STARTED FROM THE TOE TO THE UPPER EXTENT OF THE SLOPE.
4. THE GEOTEXTILE SHALL BE JOINED BY OVERLAPS, THE MINIMUM OVERLAP BEING 500mm.
5. ANY DAMAGED GEOTEXTILE SHALL BE PROMPTLY REPAIRED OR REPLACED TO THE APPROVAL OF THE ENGINEER AT THE SITE.
6. PROTECT PLACED GEOTEXTILE FROM DISPLACEMENT, DAMAGE OR DETERIORATION BEFORE, DURING AND AFTER PLACEMENT OF MATERIAL LAYERS.

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL CONFORM TO CAN/CSA-S19.
2. STRUCTURAL STEEL SHALL BE NEW G40.21 350W MATERIAL UNLESS NOTED OTHERWISE.
3. HOLLOW STRUCTURAL SECTIONS SHALL BE ASTM A500 GRADE C OR G40.21 350W MATERIAL UNLESS NOTED OTHERWISE
4. ANGLES CHANNELS AND PLATES TO BE G40-.21-300W MATERIAL UNLESS NOTED OTHERWISE.
5. WELDING TO CSA W59 WELDED STEEL CONSTRUCTION, LATEST EDITION.
6. FABRICATOR SHALL BE CERTIFIED ACCORDING TO CSA STANDARD W47.1 DIVISION 1 OR 2, LATEST EDITION.
7. ALL BOLTED CONNECTIONS TO BE BEARING TYPE. THE BOLTS SHALL BE BROUGHT TO TO A SNUG TIGHT CONDITION AS DEFINED BY CAN/CSA S16.1.
8. MEMBERS SHALL BE CONNECTED FOR THE FORCES INDICATED. WHERE THESE FORCES ARE NOT SHOWN, COMPRESSION AND TENSION SHOULD BE CONNECTED FOR 50% OF THE EFFECTIVE STRENGTH OF THAT MEMBER AND BEAMS CONNECTED FOR THE FULL UNIFORM CAPACITY FOR THAT SPAN.
9. SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CAPACITY OF THAT MEMBER AT THE POINT OF SPLICE. MEMBERS SHALL NOT BE SPLICED AT THE MAXIMUM STRESS POINTS. NO SPLICE IS TO BE MADE UNLESS SHOWN ON THE DRAWINGS OR REVIEWED AND APPROVED BY THE CONSULTANT.
10. PROVIDE WELDED STIFFENERS PLATES ON BOTH SIDES OF BEAMS AT POINTS OF CONCENTRATED LOADS INCLUDING BEAMS SUPPORTING COLUMNS OR RUNNING OVER THE TOP OF COLUMNS.
11. ANCHOR BOLTS TO ASTM A307, UNLESS NOTED OTHERWISE.
12. GROUT (NON-SHRINK) UNDER BEARING PLATES SHALL BE M-BED BY STERNSON LTD. OR APPROVED EQUAL.
13. NO DRILLING OR CUTTING AFTER FABRICATION OF STRUCTURAL STEEL UNLESS APPROVED BY THE ENGINEER.
14. ALL FIELD WELDED CONNECTIONS TO BE INSPECTED BY FABRICATION CONTRACTOR.
15. PROVIDE WEEP HOLES IN ALL HSS STRUCTURAL.

MATERIAL TESTING AND INSPECTIONS:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENGAGING THE SERVICES OF A CERTIFIED TESTING AND INSPECTION COMPANY TO COMPLETE:
    - COMPACTION TESTING ON ALL INSTALLED GRANULAR MATERIAL.
    - TESTING OF ALL PLACED CONCRETE/CEMENTITIOUS GROUT
    - IN ACCORDANCE WITH CAN/CSA-A23.2-14.
    - ROCK ANCHOR PULL TEST.
    - ALL OTHER QUALITY CONTROL REQUIREMENTS AS OUTLINED IN OPS SPECIFICATIONS.

POSTED TENSIONED ANCHOR DOWEL:

GENERAL:

1. THE WORK TO BE DONE SHALL COMPRISE THE SUPPLY OF ALL LABOUR, PLANT AND MATERIAL, AND THE PERFORMANCE OF ALL WORK NECESSARY FOR SUPPLYING, DRILLING, INSTALLATION, AND GROUTING, POST-TENSIONING TO THE DESIGN LOAD FOR THE ANCHOR DOWELS, AS SHOWN ON THE DESIGN DRAWINGS.

ROCK DOWEL INSTALLATION:

1. ALL ROCK DOWEL LOCATIONS AND ORIENTATIONS SHALL BE COORDINATED WITH THE ENGINEER PRIOR TO DRILLING. BORE HOLES DRILLED WITHOUT PRIOR APPROVAL FROM THE ENGINEER MAY BE REJECTED AT THE DISCRETION OF THE ENGINEER. REJECTED BORE HOLES SHALL BE FILLED WITH GROUT AND NEW HOLES SHALL BE DRILLED AT THE CONTRACTOR'S EXPENSE.
2. THE LOCATES FOR DRILLING SHALL BE CLEAR OF BURIED UTILITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO THE CLEARANCE OF THE DRILLING AREA.
3. UNLESS OTHERWISE SPECIFIED AND APPROVED IN WRITING BY THE ENGINEER, ALL BORE HOLES SHALL BE DRILLED USING A LOW IMPACT ROTARY DRILL TO PREVENT DAMAGE TO THE EXISTING DAM CONCRETE STRUCTURE. AIR POWERED DRILLS ARE NOT ALLOWED TO PREVENT DAMAGE TO THE EXISTING CONCRETE STRUCTURE. ANY DAMAGE SHALL BE REPORTED TO THE ENGINEER FOR CORRECTIVE. CORRECTIVE ACTION AS SPECIFIED BY THE ENGINEER WILL BE COMPLETED AT THE CONTRACTOR'S EXPENSE.
4. ALL BORE HOLES SHALL BE CLEANED OUT USING COMPRESSED AIR PRIOR TO INSERTING THE REINFORCING DOWEL. THE ENGINEER RESERVES THE RIGHT TO WITNESS THE CLEANING PROCESS AND INSERTION OF DOWELS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN ADVANCE OF CLEANING AND INSERTION OF DOWELS SO THAT DEPTH AND CLEANLINESS OF THE DRILLED HOLES CAN BE CONFIRMED. DOWELS GROUTED WITHOUT INSPECTION SHALL BE REJECTED AND REPLACED AT NO ADDITIONAL COST TO THE CLIENT.
5. ALL ROCK DOWELS SHALL BE GROUTED IN THE PRESENCE OF THE ENGINEER. GROUTING PERFORMED WITHOUT THE ENGINEER PRESENT SHALL BE REJECTED AND THE ROCK DOWELS REPLACED AT THE CONTRACTOR'S EXPENSE.
6. ALL ROCK DOWELS SHALL BE CENTERED IN THE DRILLED HOLE USING CENTRALIZERS. CONTRACTOR SHALL ADJUST CENTRALIZER SIZE ACCORDING TO DRILLED HOLE DIAMETER IF NECESSARY. ANY ROCK DOWEL NOT CENTERED SHALL BE REJECTED AND REPLACED AT THE CONTRACTOR'S EXPENSE. ANCHORS OR DOWELS SHALL NOT DEVIATE MORE THAN 8% OF THE DRILLED DIAMETER FROM THE CENTER OF THE HOLE. ALL DOWELS SHALL BE APPROVED PRIOR TO INSERTION OF CEMENT GROUT PLUG.
7. THE CONTRACTOR SHALL KEEP THE AREA CLEAN DURING GROUTING. ANY SPILLED GROUT SHALL BE CLEANED IMMEDIATELY AT NO ADDITIONAL COST TO THE CLIENT.
8. SURFACE GROUT SHALL BE SCULPTED AND STAINED TO MATCH EXISTING SURROUNDING COLOR, TEXTURE, AND SHAPE CONDITIONS.
9. ROCK DOWEL MATERIAL, DIAMETER AND EMBEDMENT SHALL BE AS SPECIFIED ON THE DESIGN DRAWING. EMBEDMENT LENGTH SHALL BE THE ACTUAL LENGTH OF BAR SET BENEATH THE EXISTING CONCRETE SURFACE AND ENCASED INTO GROUT. THE CONTRACTOR SHALL ADJUST THE DRILL DEPTH TO MEET THE REQUIRED MINIMUM EMBEDMENT LENGTHS AND ACCOUNT FOR TOP/BOTTOM CLEARANCE AND/OR GROUT PLUG.

CONCRETE NOTES:

1. CONCRETE IS SPECIFIED USING ALTERNATIVE NUMBER OF CSA A23.1 TABLE 2 AS FOLLOWS:

TABLE 1:

PARAMETER	EXTERIOR SLAB
EXPOSED CLASS (TABLE 1)	C-2
AIR CONTENT CATEGORY (TABLE 4)	1
MAX. W/C RATION (TABLE 2)	0.5
CURING TYPE (TABLE 2)	2
MIN. COMPRESSIVE STRENGTH	32MPa

2. AT LEAST TWO (2) WEEKS PRIOR TO THE PLACEMENT OF CONCRETE THE CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE ENGINEER FOR REVIEW:
    - A VALID 'CERTIFICATE OF READY MIXED CONCRETE PRODUCTION FACILITIES' OR A VALID 'CERTIFICATE OF MOBILE MIX CONCRETE PRODUCTION FACILITIES' AS ISSUED BY THE 'READY MIXED CONCRETE ASSOCIATION OF ONTARIO' TO THE PLANT BEING USED.
    - A COMPLETED 'CONCRETE MIXED DESIGN SUBMISSION FORM'
    - A QUALITY PLAN THAT DESIGNATES A SPECIFIED SLUMP OR SOME OTHER MEASURE OF WORKMANSHIP.
    - TEST RESULTS TO SHOW COMPLIANCE WITH CSA A23.1.
    - AIR VOID SYSTEM OF HARDENED CONCRETE.
    - STATISTICAL STRENGTH TEST ANALYSIS TO CONFIRM THE STRENGTH LEVEL FOR EACH CLASS OF CONCRETE INCLUDING THE EXPECTED 7/28 DAY STRENGTH RATIO
3. FABRICATION AND PLACEMENT OF REINFORCING STEEL TO BE IN ACCORDANCE WITH CSA A23.1 AND THE REINFORCING STEEL INSTITUTE OF CANADA'S 'REINFORCING STEEL MANUAL OF STANDARD PRACTICE'.
4. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO CSA G30.18 M92, Fy=400 MPa (GRADE 400)
5. CONCRETE SHALL NOT BE POURED UNTIL REBAR HAS BEEN INSPECTED BY THE ENGINEER.
6. WHERE REBARS JOIN AT CORNERS PROVIDE CORNER BARS FOR LAPS.
7. CONCRETE COVER FOR REINFORCING STEEL AS PER TABLE 17 OF CSA A23.1
    - ALL CONCRETE CAST AGAINST EARTH 75mm (3")
    - ALL CONCRETE CAST IN FORMS BUT EXPOSED TO EARTH OR WEATHER 50mm (2")
    - BARS 20M AND SMALLER IN WALLS AND SLABS 32mm (1 1/4")
    - CONCRETE NOT EXPOSED TO EARTH AND WEATHER 25mm (1") OR 1.5 NOMINAL BAR DIAMETER
8. ALL REINFORCING BARS SHALL BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED BY PRECAST CONCRETE, ADDITIONAL BARS, STIRRUPS, TIES OR APPROVED CHAIRS AGAINST DISPLACEMENT.
9. CONTINUOUS AND TEMPERATURE REINFORCING BARS SPLICES TO BE LAPPED 40 BAR DIAMETERS OR A MINIMUM OF 300mm (12") AT SPLICES AND CORNERS, UNLESS OTHERWISE SHOWN ON SECTION OR TYPICAL DETAILS. LAP CONTINUOUS TOP BARS AT CENTRE BETWEEN SUPPORTS AND CONTINUOUS BOTTOM BARS AT SUPPORTS. AS REQUIRED, TERMINATE CONTINUOUS BARS AT NON CONTINUOUS ENDS WITH STANDARD HOOKS.
10. CONSTRUCTION JOINTS: SLAB CONSTRUCTION JOINTS MAY BE MADE ONLY AT APPROVED LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER.

CONCRETE ANCHORS:

1. ALL CONCRETE ANCHORS TO BE HILTI HAS ROD HOT DIPPED GALVANIZED (DIAMETER AS NOTED ON DRAWINGS).
2. ALL CONCRETE ANCHORS TO BE COMPLETE WITH HOT DIPPED GALVANIZED FLAT WASHERS, NUTS, LOCK NUTS, ETC. AS SPECIFIED ON THE DRAWINGS.
3. ALL EPOXY ADHESIVE SHALL BE HILTI HIT-HY 200/HIT ICE.
4. INSTALL AS PER MANUFACTURER'S SPECIFICATIONS.

CEMENTITIOUS GROUT:

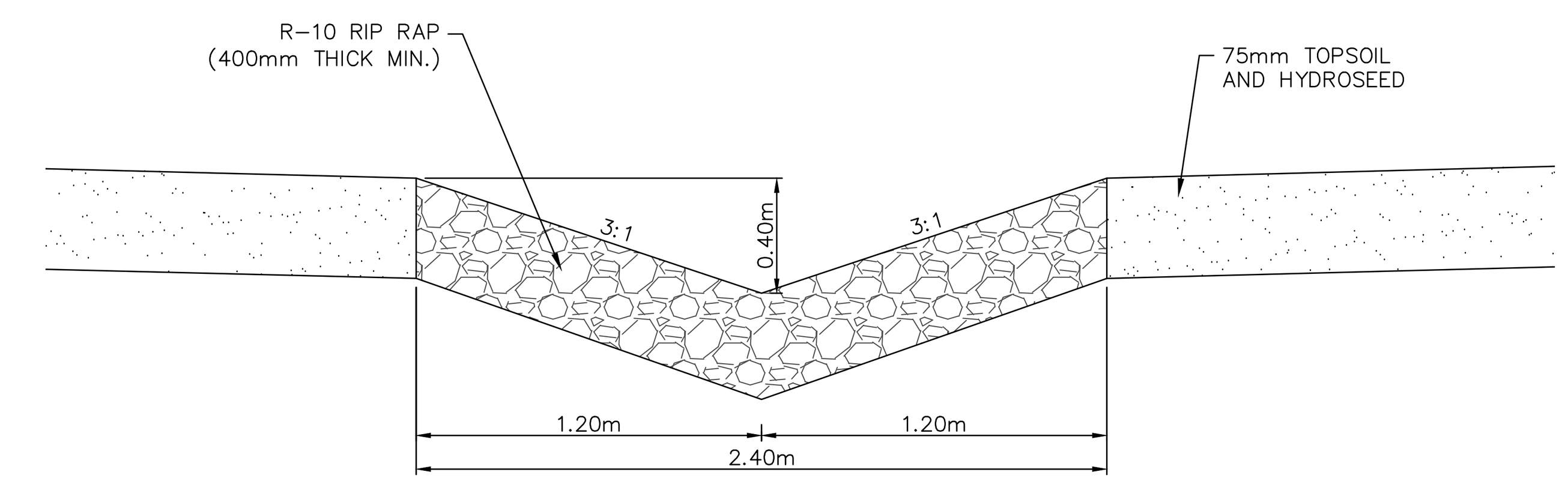
1. CEMENTITIOUS GROUT FOR ROCK DOWELS TO BE SIKAGROUT 212.
2. CEMENTITIOUS GROUT UNDER BASE PLATES TO BE SIKAGROUT 212.

ROCK DOWELS:

1. ROCK DOWELS TO BE:
    - 25M – POWER HOUSE STABILIZATION
    - 20M – RETAINING WALL
    - 15M – SPILLWAY WALL, DAM RAISING, DAN EXTENSION AND RETAINING WALL #2

ALL DOWELS TO CONFORM TO CSA G30.18 M92, Fy=400 MPa (GRADE 400)

2. ALL DRILLED HOLES FOR ROCK DOWELS SHALL BE 25mm GREATER THAN THE DOWEL DIAMETER.



RIP RAP DRAINAGE SWALE X-SECTION
SCALE 1:50

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
25/06/2025	7	ISSUED FOR CONSTRUCTION	DR	EG
16/05/2025	6	ISSUED FOR TENDER	DR	EG
18/07/2024	5	ISSUED FOR APPROVALS	DR	EG
05\06\2024	4	ISSUED FOR FINAL REVIEW	DR	EG
08/05/2024	3	ISSUED FOR CLIENT REVIEW	DR	EG
05/04/2024	2	ISSUED FOR CLIENT REVIEW	DR	EG
28/03/2024	1	ISSUED FOR CLIENT REVIEW	DR	EG/FP
30/09/2022	0	ISSUED FOR CLIENT REVIEW	BWJ	FP

CLIENT:

Township of Muskoka Lakes
1 Bailey Street, P.O. Box 129
Port Carling, Ontario

CONSULTANT:

TULLOCH

PROJECT TITLE:

LITTLE BURGESS GENERATING STATION REHAB

DRAWING TITLE:

GENERAL NOTES

DRAWN	DESIGNED	CHECKED	APPROVED
DR	EG	EG	EG

SCALE	DATE
AS SHOWN	JUNE 25, 2025

PROJECT No.	REVISION	DRAWING
23-1236	7	G1

P:\2023\231236 – Burgess Dam Detailed Design\03 Drawings\#CIVIL DRAWINGS\23-1236-Burgess Dam Design-IFC (June 25-25).dwg