

Notes

- The contractor is responsible for obtaining and complying with all permits and easements. This includes all federal, state and local permits.
- The contractor is responsible for checking and complying with all local ordinances that may affect the project.
- MISS UTILITY (Virginia telephone number 811) must be contacted at least 3 working days before construction begins. The contractor is responsible for contacting MISS UTILITY. The contractor must be able to provide the MISS UTILITY ticket number within 24 hours upon request by the SWCD representative. The contractor is responsible for locating any buried utilities (water lines, electric lines, telephone lines, gas lines, sewer lines, etc.) in the work area that are not covered by the MISS UTILITY program.
- SWCD makes no representation of the existence or nonexistence of utilities. The presence or absence of utilities on the construction drawings does not assure that there are or are not utilities in the work area.
- The contractor is responsible for knowing and following the appropriate safety standards required by the Virginia Safety and Health Codes Board.
- The contractor shall notify the local SWCD representative at least one week prior to beginning construction, and at all other times specified by this construction plan or within the affiliated specifications.
- These Drawings and Specifications shall not be modified or deviated from unless approved in writing by the Engineer who has sealed these Drawings and a SWCD Representative.
- Prior to beginning construction, the cover sheet must be signed by the contractor, and the SWCD representative. The contractor must sign the cover sheet acknowledging that these responsibilities are understood and the contractor must return the signed cover sheet to the SWCD Representative. If requested by SWCD, the contractor shall arrange for a meeting with SWCD to review the construction drawings and specifications prior to construction.

The SWCD Representative for this project is:

The SWCD office telephone number is:

Benchmark Descriptions

BM #	Actual Elev.	E
101	495.69	6801435.77
Description: Iron pipe with cap at eastern end of dam.		
100	495.13	6801290.89
Description: Iron pipe with cap at western end of dam.		

Acknowledgment Signatures

These construction drawings and attached specifications have been reviewed I understand what is required. (Sign and date below)

Contractor _____

Contractor _____

SWCD Representative _____

Engineering Job Class:



Know what's below. Call before you dig.

Site Location Map

Scale 1 inch = feet

Table of Estimated Quantities

Item	Quantity	Unit
Structure Removal	1	LS
Pollution Control	1	LS
Permanent Turf Establishment	2.0	AC
Erosion Control Matting	5900	SY
Construction Surveys	1	LS
Mobilization & Demobilization	1	LS
Removal of Water	1	LS
Excavation, Common	1100	CY
Earthfill, On-site Use	300	CY
Earthfill, Off-site Disposal	300	CY
Topsoiling	1300	CY
Water Control Gate	1	LS
Metalwork	1	LS
Contractor Quality Control	1	LS

Sheet No.	Title
01	COVER SHEET
02	GENERAL NOTES
03	OVERALL ACCESS PLAN
04	EXISTING SITE PLAN
06	PROPOSED EMBANKMENT SITE PLAN
05	PROPOSED SITE PLAN
07	PRINCIPAL SPILLWAY PLAN AND PROFILE
08	EMBANKMENT CROSS-SECTIONS (1 OF 3)
09	EMBANKMENT CROSS-SECTIONS (2 OF 3)
10	EMBANKMENT CROSS-SECTIONS (3 OF 3)
11	BORROW AREA DETAILS
12	DRAWDOWN GATE DETAILS

No.	Title
CS-2	CLEARING & GRUBBING
CS-3	STRUCTURE REMOVAL
CS-5	POLLUTION CONTROL
CS-6	SEEDING, SPRIGGING, AND MULCHING
CS-7	CONSTRUCTION SURVEY
CS-8	MOBILIZATION AND DEMOBILIZATION
CS-10	WATER FOR CONSTRUCTION
CS-11	REMOVAL OF WATER
CS-21	EXCAVATION
CS-23	EARTHFILL
CS-26	TOPSOILING
CS-71	WATER CONTROL GATES
CS-81	METAL FABRICATION & INSTALLATION
CS-94	CONTRACTOR QUALITY CONTROL
CS-447	WAVE BERM RECONSTRUCTION

REV	DESCRIPTION	DATE

DESIGNED BY: MCG
 DRAWN BY: SEP
 CHECKED BY: JTC
J. TYLER COATS, P.E.
 DATE: 09-08-2023
 VIRGINIA PROFESSIONAL ENGINEER NO. 064857



BEAUTIFUL RUN DAM #1B
 DAM AND SPILLWAY IMPROVEMENTS
 MADISON COUNTY, VIRGINIA
COVER SHEET

G:\2022\ALPHARETTA\22170074_010 BEAUTIFUL RUN DAM_1B_ENGINEERING_SERVICES\03_SEPRODUCTION\CONTRACT_DWG\10274 - BR1B - COVER.DWG

GENERAL NOTES:

- SCHNABEL ENGINEERING, LLC IS SOLELY RESPONSIBLE FOR THE PREPARATION OF THE MAINTENANCE PLANS FOR THE SUBJECT DAM AND ASSOCIATED SPILLWAY. ADHERENCE TO THESE PLANS, AS WELL AS ADHERENCE TO GOVERNMENT AND COUNTY REGULATIONS, ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE DAILY ON-SITE PRESENCE OF SCHNABEL ENGINEERING, LLC REPRESENTATIVES WILL BE REQUIRED TO CONFIRM THAT SITE CONDITIONS ARE AS ANTICIPATED DURING THE DESIGN AND TO CONFIRM THAT CONTRACTOR'S MEANS AND METHODS DO NOT COMPROMISE DESIGN INTENT.
- CONTRACTOR TO VERIFY ALL CONDITIONS, ELEVATIONS AND DIMENSIONS BEFORE BEGINNING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER FOR JUSTIFICATION AND/OR CORRECTION BEFORE PROCEEDING WITH THE WORK. CONTRACTOR TO ASSUME RESPONSIBILITY FOR DISCREPANCIES THAT ARE NOT REPORTED. ALL DIMENSIONS SHOULD BE READ OR CALCULATED.
- CONTRACTOR TO HAVE ALL UTILITIES FIELD LOCATED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
- THE CONTRACTOR SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS. PROPER SAFETY PROCEDURES ARE OF SPECIAL CONCERN ON THE PROJECT CONSIDERING THAT WORKERS MAY BE WORKING IN OR NEAR EXCAVATIONS.
- ALL MATERIALS AND WORK PERFORMED SHALL COMPLY WITH THE TECHNICAL SPECIFICATIONS OF THE PROJECT.

WATER CONTROL NOTES:

- CONTRACTOR SHALL BUILD, MAINTAIN AND OPERATE ANY TEMPORARY DIKES, COFFERDAMS, CHANNELS, FLUMES, SUMPS AND OTHER TEMPORARY DIVERSION AND PROTECTIVE WORKS NEEDED TO DIVERT SURFACE WATER FROM THE CONSTRUCTION WORK WHILE CONSTRUCTION IS IN PROGRESS. DIVERSION OR RETENTION OF SURFACE WATERS WILL BE CONTINUED UNTIL SUCH TIME AS DETERMINED BY THE ENGINEER.
- FOUNDATIONS FOR THE CONSTRUCTION SITE, SHALL BE DEWATERED AND KEPT FREE OF STANDING WATER OR MUDDY OR SOFT CONDITIONS THAT IN THE OPINION OF THE ENGINEER, IMPEDE THE PROPER EXECUTION OF THE CONSTRUCTION WORK.
- DEWATERING METHODS FOR FOUNDATION CONSTRUCTION OR SUBGRADE PREPARATION THAT CAUSE A LOSS OF FINES FROM FOUNDATION OR SUBGRADE AREAS WILL NOT BE PERMITTED.
- CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES INCURRED AS A RESULT OF THE LACK OF ADEQUATE SURFACE OR SUBSURFACE WATER CONTROL.
- CONTRACTOR IS TO PROVIDE THE ENGINEER WITH A WATER CONTROL PLAN FOR REVIEW AND ACCEPTANCE PRIOR TO THE START OF CONSTRUCTION.
- AT LEAST TWO WEEKS PRIOR TO PROJECT MOBILIZATION, THE CONTRACTOR AND SWCD TO COORDINATE THE LOWERING AND MAINTENANCE OF THE LAKE WATER SURFACE ELEVATION TO ELEV. 472 OR LOWER. CONTRACTOR SHALL MAINTAIN THE LAKE AT THIS ELEVATION OR LOWER UNTIL A PERMANENT STAND OF GRASS ON THE BERM IS ACHIEVED.
- CONTRACTOR SHALL COORDINATE WITH CULPEPER SWCD REGARDING THE PREFERRED HANDLING OF FISH IN THE LAKE IN CONJUNCTION WITH THE CONTROL OF WATER PLAN FOR THE PROJECT.

SOIL COMPACTION NOTES:

- ALL AREAS TO RECEIVE STRUCTURAL FILL SHALL BE CLEARED AND STRIPPED FREE OF TOPSOIL, ROOTS, STUMPS, ORGANICS AND ALL OTHER DELETERIOUS MATERIAL.
- SUBGRADE AREAS WHICH ARE WET, SOFT, OR DEEMED OTHERWISE UNSUITABLE BY THE GEOTECHNICAL ENGINEER, SHALL BE UNDERCUT AND REPLACED WITH FILL MATERIALS AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND COMPACTED IN ACCORDANCE WITH NOTE (4) OF THIS SECTION. SUBGRADE SHALL BE CAPABLE OF SUPPORTING 3,000 PSF WITH LESS THAN 1/2 INCH OF TOTAL SETTLEMENT.
- AREAS TO RECEIVE STRUCTURAL FILL SHALL BE BENCHED INTO EXISTING SLOPES, DENSIFIED, AND SHALL BE AT SUCH MOISTURE CONTENT THAT THE FILL SOILS CAN BE COMPACTED AGAINST THE SLOPE TO EFFECT A GOOD BOND BETWEEN THE FILL SOILS AND THE EXISTING SOILS.
- STRUCTURAL FILL TO BE PLACED IN MAXIMUM 9-INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM STANDARD PROCTOR DRY DENSITY AND BETWEEN OPTIMUM AND 4% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE STANDARD PROCTOR TEST (ASTM D-698). HAND COMPACTED FILL, INCLUDING FILL COMPACTED BY MANUALLY DIRECTED POWER TAMPERS TO BE PLACED IN MAXIMUM 6-INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM STANDARD PROCTOR DRY DENSITY AND BETWEEN OPTIMUM AND 4% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE STANDARD PROCTOR TEST (ASTM D-698). THESE COMPACTION REQUIREMENTS ARE TO APPLY TO ALL EARTH/FILL UNLESS OTHERWISE NOTED.
- ALL FILL SOILS TO BE PLACED UNDER THE OBSERVATION OF THE ENGINEER OR HIS REPRESENTATIVE.
- CONTRACTOR SHALL OBTAIN BORROW FROM BORROW AREA AS IDENTIFIED HEREIN. SHOULD THE ONSITE MATERIAL NOT MEET PROJECT REQUIREMENTS OR BE OF INSUFFICIENT QUANTITY, CONTRACTOR, IN COORDINATION WITH SWCD, SHALL IDENTIFY AN OFFSITE BORROW SOURCE THAT MEETS PROJECT REQUIREMENTS.
- UTILIZE SHEEPSFOOT ROLLER TO COMPACT SOILS IN MASS GRADING/FILLING ACTIVITIES. MECHANICAL HAND TAMPERS WILL BE USED TO COMPACT SOIL AROUND, ABOVE OR ADJACENT TO STRUCTURES AND/OR CONDUITS WHERE THE USE OF LARGE SHEEPSFOOT ROLLERS MAY DAMAGE STRUCTURES. MECHANICAL HAND TAMPERS WILL BE USED WITHIN 3 FEET OF ALL STRUCTURES.

PROPOSED SITE PLAN NOTES:

- STRIP AND STOCKPILE ALL TOPSOIL WITHIN LIMITS OF PROPOSED WORK ABOVE NORMAL POOL ELEVATION. ALL AREAS TO RECEIVE COMPACTED STRUCTURAL FILL SHALL BE COMPLETELY STRIPPED OF VEGETATION.
- TWELVE (12) INCHES OF TOPSOIL SHALL BE PLACED ON ALL DISTURBED AREAS.
- ALL DISTURBED AREAS SHALL BE FERTILIZED, LIMED, AND SEEDED ACCORDING TO THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN PROVIDED BY THE SWCD.
- DISTURBED AREAS SHALL HAVE MACHINE BLOWN, CLEAN STRAW MULCH APPLIED AT 2 TONS PER ACRE AND MACHINE TRACKED PER SPECIFICATION VESCP 3.2 "SURFACE ROUGHENING".
- UTILIZE COCONUT FIBER EROSION CONTROL MATTING (TO BE APPROVED BY THE SWCD), ON THE UPSTREAM SLOPE OF THE PROPOSED BERM, THE EMBANKMENT SLOPES AND CREST, AND THE BORROW AREA. AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED.
- CONTRACTOR SHALL COORDINATE WITH SWCD PRIOR TO DISPOSING OF UNSUITABLE OR EXCESS MATERIALS GENERATED FROM CONSTRUCTION ACTIVITIES IN THE LOCATIONS INDICATED ON THE OVERALL SITE PLAN.
- CONTRACTOR SHALL RETURN ALL DISTURBED AREAS AND AREAS IMPACTED BY INGRESS/EGRESS TRAFFIC TO ORIGINAL CONDITION AND GRADE.
- CONTRACTOR SHALL PERFORM "AS-BUILT" SURVEY OF THE PROJECT PRIOR TO THE RE-FILLING OF THE LAKE FOR THE PURPOSES OF DEVELOPING RECORD DRAWINGS FOR THE PROJECT. AS-BUILT SURVEY SHALL BE PROVIDED TO THE SWCD IN AN ACCEPTABLE CADD FORMAT.
- EXCAVATION IS REQUIRED TO PREPARE THE EMBANKMENT TO RECEIVE COMPACTED STRUCTURAL FILL ASSOCIATED WITH THE PROPOSED WAVE BERM, AS SHOWN. DEPENDING ON SITE CONDITIONS, THE AMOUNT OF EXCAVATION SHOWN MAY BE REDUCED IF THE CONTRACTOR IS ABLE TO SUFFICIENTLY DRY THE AREAS TO RECEIVE COMPACTED STRUCTURAL FILL TO THE SATISFACTION OF THE DESIGN ENGINEER AND SWCD. SUBGRADES FOR STRUCTURAL FILL WILL BE CONSIDERED ACCEPTABLE IF THE SUBGRADE IS ABLE TO SUPPORT A TAMPING SHEEPSFOOT ROLLER WITHOUT CAUSING PUMPING OF THE SOILS (I.E. MOISTURE CONTENT OF SUBGRADE SOILS LESS THAN 4% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED BY STANDARD PROCTOR TESTING) WHILE ALLOWING THE STRUCTURAL FILL TO MEET SPECIFIED COMPACTION REQUIREMENTS. IF DRYING THE IN-PLACE MATERIAL SUFFICES, IN-PLACE SOILS SHALL BE MACHINE SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES PRIOR TO THE PLACEMENT OF COMPACTED STRUCTURAL FILL.
- CONSTRUCTION ACTIVITIES WILL OCCUR OVER AND IN THE VICINITY OF THE EXISTING PRINCIPAL SPILLWAY CONDUIT. CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PREVENT DAMAGE TO ANY EXISTING STRUCTURES AND/OR CONDUITS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING STRUCTURES AND/OR CONDUITS.



Know what's below.
Call before you dig.

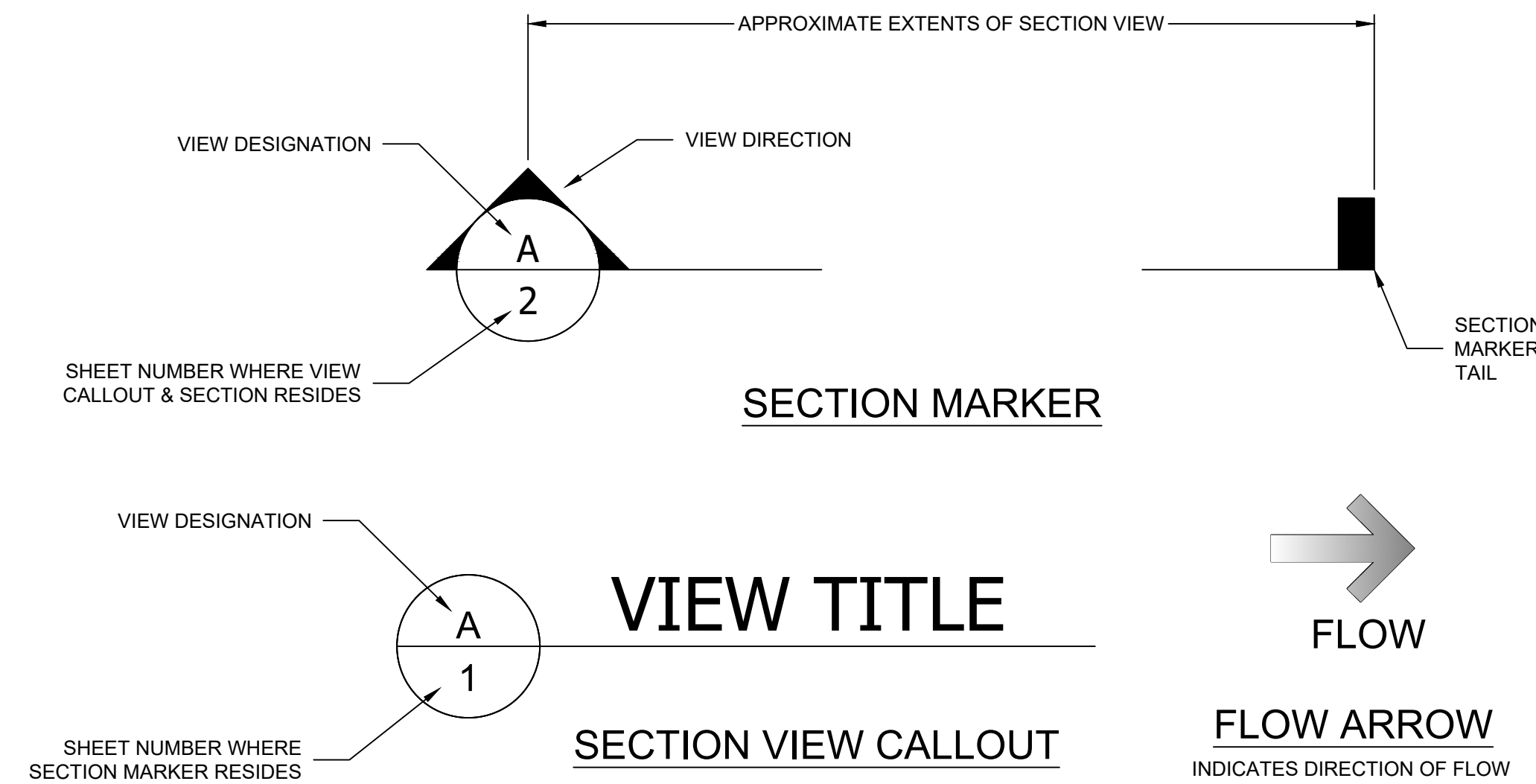
VIRGINIA 811
CALL BEFORE YOU DIG
DIAL 811 OR CALL 1-800-552-7001
UTILITIES PROTECTION CENTER
IT'S THE LAW



TOPOGRAPHIC INFORMATION
PROVIDED BY:
CHRISTOPHER CONSULTANTS
MANASSAS, VIRGINIA
SURVEY DATED: 05/30/2023

NOTE: CONTRACTOR MUST COORDINATE
WORK WITH UTILITY PROVIDERS TO
MAINTAIN UTILITY SERVICE AND A SAFE
WORK SITE.

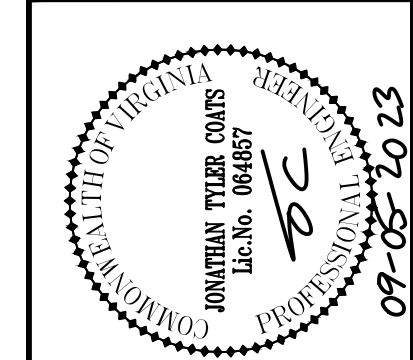
COORDINATES ARE BASED OFF
THE VIRGINIA NORTH STATE
PLANE COORDINATE SYSTEM AND
ELEVATIONS ON NAVD 88.



ABBREVIATIONS			
B.F.	BOTH FACES	NTS, N.T.S.	NOT TO SCALE
B.I.G.	BREAK-IN-GRADE	N.P.	NORMAL POOL
BP, B.P.	BEGINNING POINT	O.P.	OUTSIDE DIAMETER
C.J, C.J.	CONSTRUCTION JOINT	O.F.	OUTSIDE FACE (BACKFILL SIDE)
C/L, CL, &	CENTER LINE	O/S	OFFSET FROM CENTERLINE
CMP, C.M.P.	CORRUGATED METAL PIPE	P-1	PIEZOMETERS (TYP.)
D.F.	DOWNSTREAM FACE	P.C.	POINT OF CURVATURE
DI, D.I.	DROP INLET	PI, P.I.	POINT OF INTERSECTION
DIA.	DIAMETER	PROP.	PROPOSED
DIP, D.I.P.	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE PIPE
D/S	DOWNSTREAM	R	RADIUS
E.F.	EACH FACE	RCP, R.C.P.	REINFORCED CONCRETE PIPE
ELEV., EL.	ELEVATION	REF.	REFERENCE
E/P	EDGE OF PAVEMENT	STA.	STATION
EP, E.P.	END POINT	SS, S.S.	SANITARY SEWER
EXIST.	EXISTING	SSMH, S.S.M.H.	SANITARY SEWER MANHOLE
FT	FEET	TCJ, T.C.J.	TRANSVERSE CONTRACTION JOINT
HW, H.W.	HEADWALL	TP	TEST PIT
I.D.	INSIDE DIAMETER	TYP.	TYPICAL DETAIL
IE, I.E.	INVERT ELEVATION	U.F.	UPSTREAM FACE
I.F.	INSIDE FACE (FLOW SIDE)	U/S	UPSTREAM
INV.	INVERT	VC	VERTICAL CURVE
LF, L.F.	LINEAR FOOT	W.E.	WATER ELEVATION
M.S.L.	MEAN SEA LEVEL	WO	WITHOUT

NO.	DATE	DESCRIPTION

CHECKED BY: JTC	DESIGNED BY: MCG	DRAWN BY: SEP	J. TYLER COATS, P.E.	DATE: 09-08-2023
VIRGINIA PROFESSIONAL ENGINEER NO. 064857				



Schnabel ENGINEERING
6445 Shiloh Road, Suite A / Alpharetta, GA 30005 /
Phone: 770-781-8008 / Fax: 770-781-8003 /
schnabel-eng.com


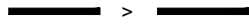


BEAUTIFUL RUN DAM #1B
DAM AND SPILLWAY IMPROVEMENTS
MADISON COUNTY, VIRGINIA

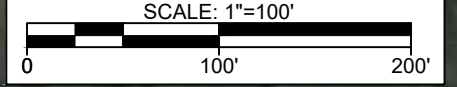
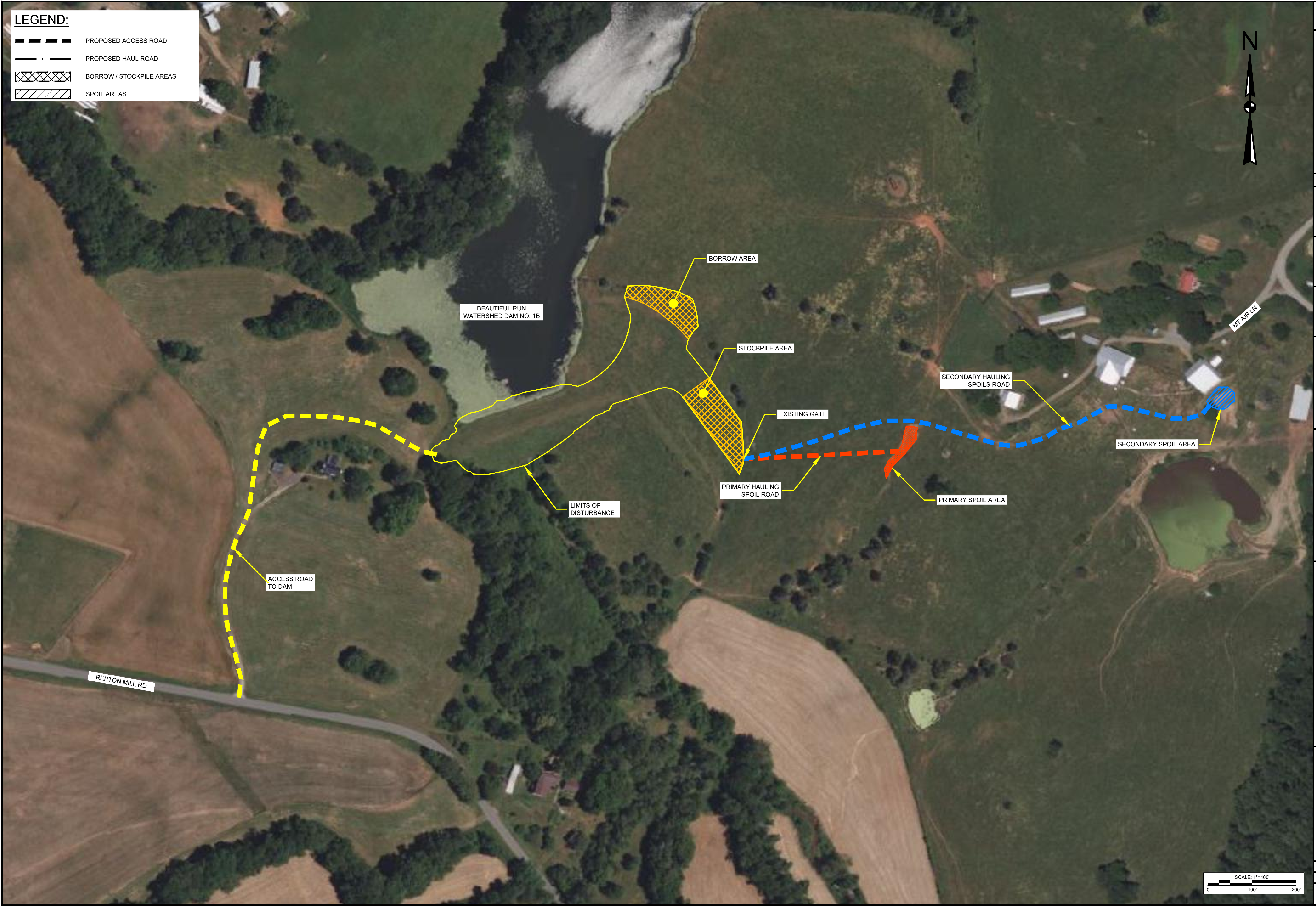
GENERAL NOTES

PROJECT: 22170074.010
DATE: JULY 2023
SHEET 02 OF 12

G:\2022\ALPHARETTA\2170074_010 BEAUTIFUL RUN DAM_1B_ENGINEERING_SERVICES\03_SEPRODUCTION\04-CONTRACT_DWG\109274_CULPEPPER_DAM_1B.DWG

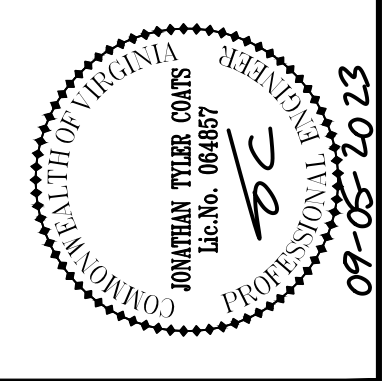
LEGEND:

-  PROPOSED ACCESS ROAD
-  PROPOSED HAUL ROAD
-  BORROW / STOCKPILE AREAS
-  SPOIL AREAS



REV	DESCRIPTION	DATE

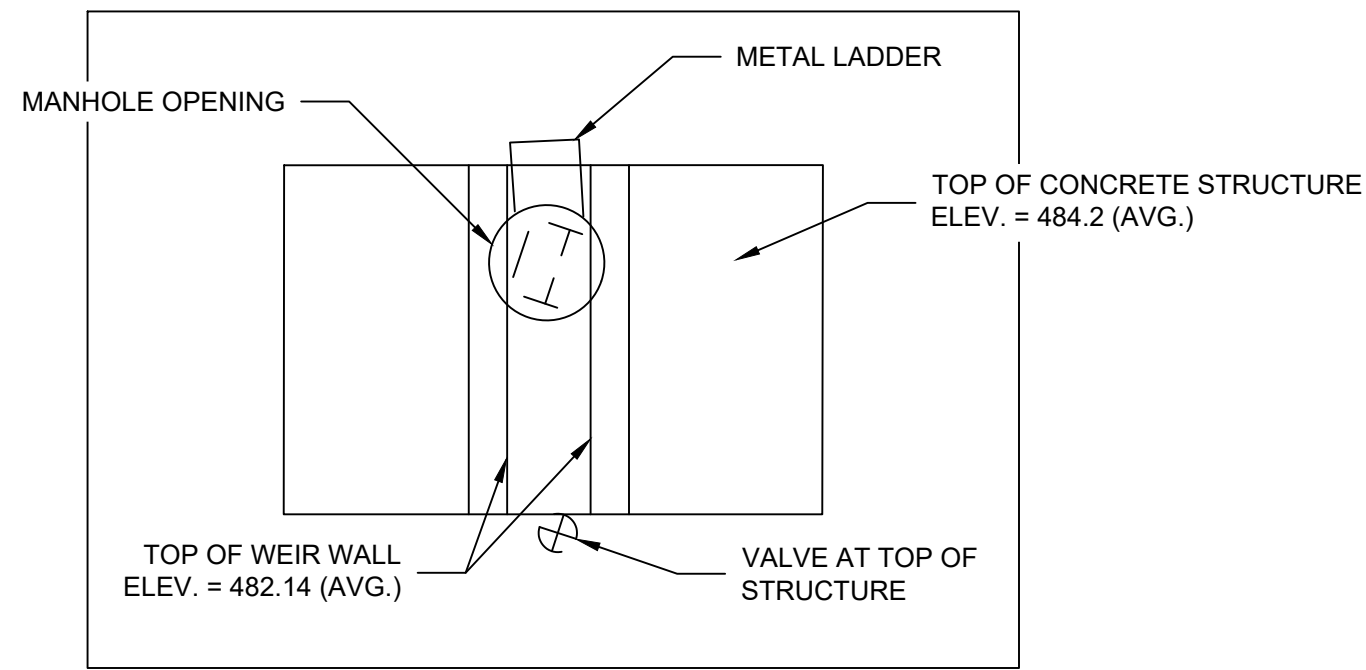
DESIGNED BY: MCG
 DRAWN BY: SEP
 CHECKED BY: JTC
J. TYLER COATS, P.E.
 DATE: 07-08-2023
 VIRGINIA PROFESSIONAL ENGINEER NO. 064857



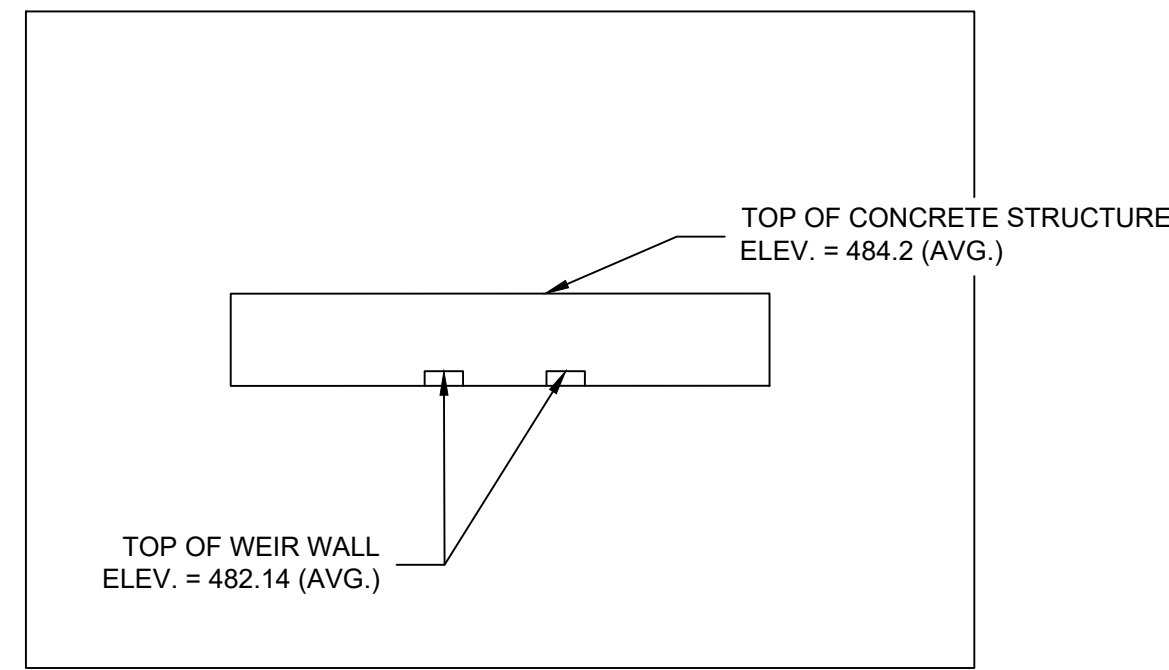
Schnabel
ENGINEERING
 6445 Shiloh Road, Suite A / Alpharetta, GA 30005 /
 Phone: 770-781-8008 / Fax: 770-781-8003 /
schnabel-eng.com

BEAUTIFUL RUN DAM #1B
 DAM AND SPILLWAY IMPROVEMENTS
 MADISON COUNTY, VIRGINIA
OVERALL ACCESS PLAN

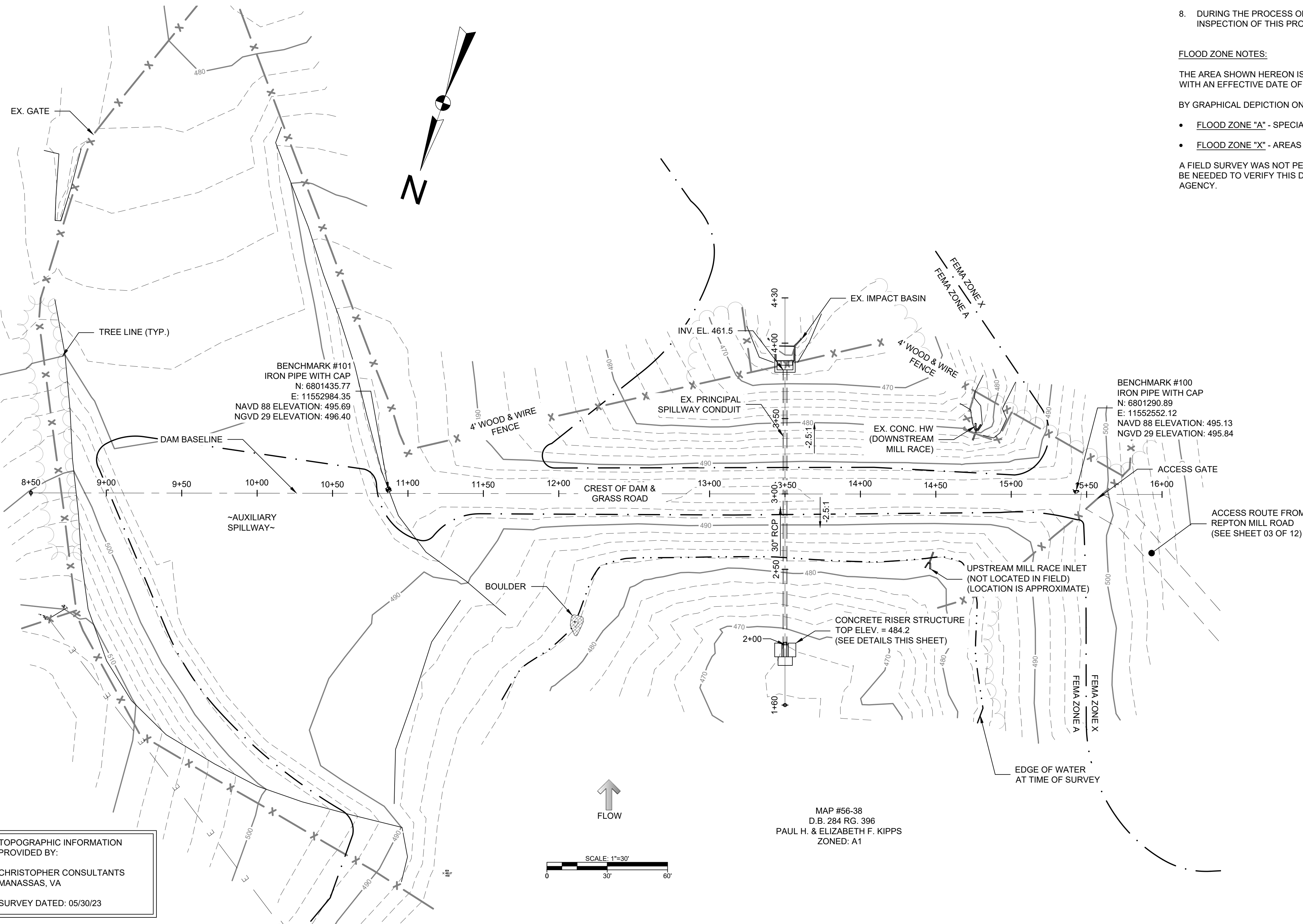
PROJECT: 22170074.010
 DATE: JULY 2023
 SHEET
 03 OF 12



DETAIL A
CONCRETE POND STRUCTURE (TOP VIEW)
SCALE: 1"=5'



DETAIL B
CONCRETE POND STRUCTURE (PROFILE VIEW)
SCALE: 1"=5'



EXISTING SITE PLAN NOTES:

1. THE PORTION OF THE PROPERTY SHOWN HEREON IS IDENTIFIED ON THE MADISON COUNTY, VIRGINIA GEOGRAPHIC INFORMATION SYSTEM AS MAP NUMBER 56-38 AND IS ZONED A1.
2. THE PROPERTY SHOWN HEREON IS NOW IN THE NAME OF ELIZABETH F. KIPPS, RECORDED IN INSTRUMENT #210004268, AMONG THE LAND RECORDS OF MADISON COUNTY, VIRGINIA.
3. NO TITLE REPORT FURNISHED. ALL UNDERLYING TITLE LINES, EASEMENTS, SERVITUDES AND OTHER MATTERS OF TITLE MAY NOT BE SHOWN HEREON.
THIS DOCUMENT DOES NOT REPRESENT A CURRENT BOUNDARY SURVEY.
4. THE CURRENT SURVEY (PERFORMED IN THE FIELD ON MAY 15, 2023) IS INTENDED TO SUPPLEMENT A FIELD SURVEY PERFORMED IN JUNE, 2019.
5. A.) THE COORDINATES SHOWN HEREON ARE REFERENCED TO THE VIRGINIA COORDINATE SYSTEM (VCS) 1983 - NORTH, AS ESTABLISHED BY A 2019 GPS SURVEY.
B.) THE ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), AS ESTABLISHED BY A 2019 GPS SURVEY.
6. NO GEOTECHNICAL, SUBSURFACE, FIELD REVIEWS, RESEARCH, AGENCY OR GOVERNMENTAL RECORD REVIEWS, OR OTHER INVESTIGATIONS HAVE BEEN MADE FOR THE PURPOSE OF LOCATING, OR DETERMINING THE EXISTENCE OF HAZARDOUS MATERIALS, OR OTHER ENVIRONMENTAL CONCERNS ON SITE IN THE PERFORMANCE OF CHRISTOPHER CONSULTANTS, LTD SERVICES FOR THE PROJECT AS SHOWN HEREON.
7. NO CERTIFICATION HAS BEEN MADE AS TO THE LOCATIONS OF UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO ELECTRIC, GAS, TELEPHONE, CATV, WATER, SANITARY AND STORM SEWERS.
8. DURING THE PROCESS OF OUR PHYSICAL SURVEY NO INDICATIONS OF A CEMETERY WERE FOUND. NO FURTHER INSPECTION OF THIS PROPERTY HAS BEEN MADE FOR POSSIBLE CEMETERIES.

FLOOD ZONE NOTES:

THE AREA SHOWN HEREON IS LOCATED ON THE FLOOD INSURANCE RATE MAPS (FIRM), COMMUNITY PANEL NO. 51113C0235D, WITH AN EFFECTIVE DATE OF SEPTEMBER 18TH, 2020.

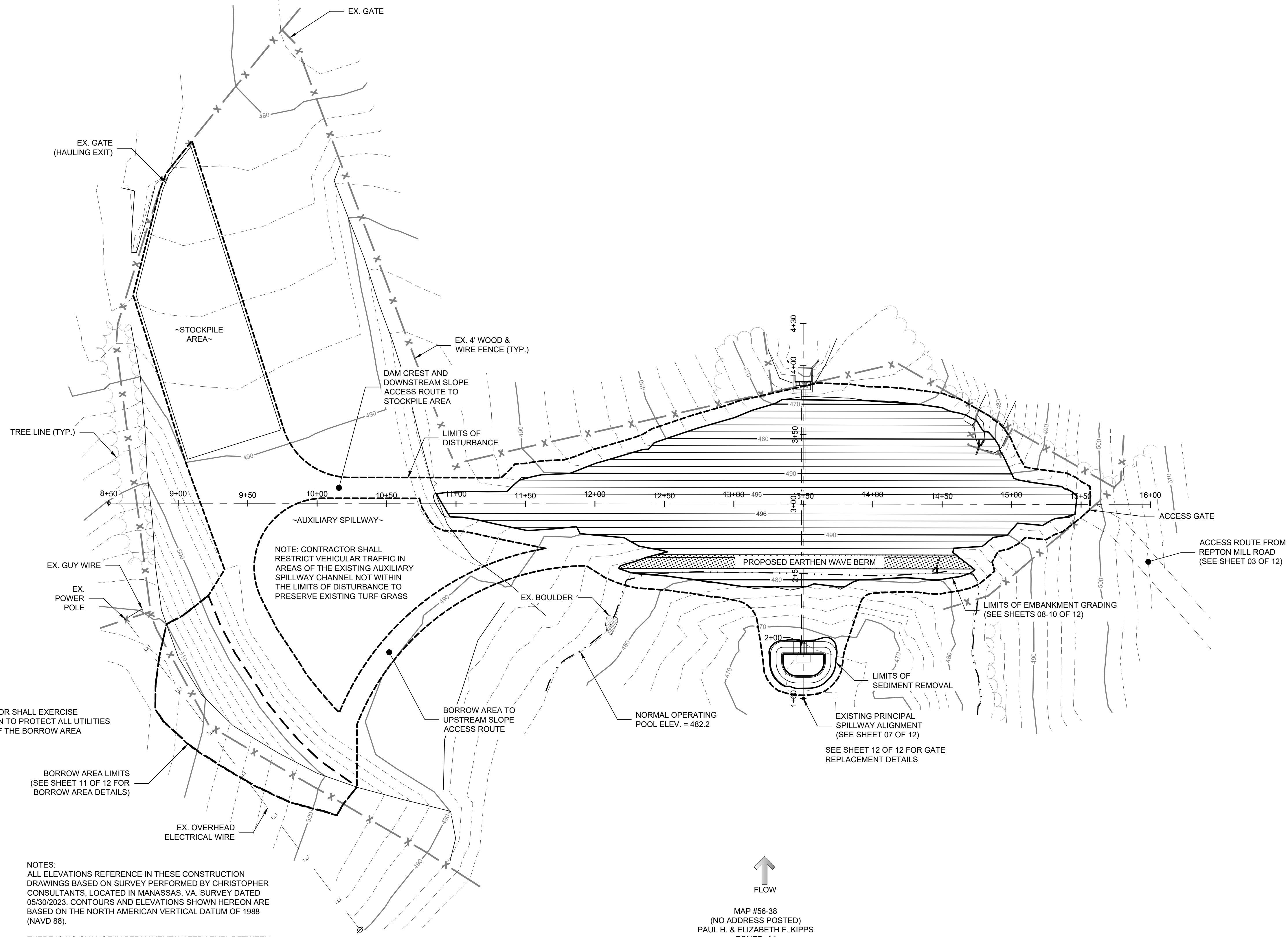
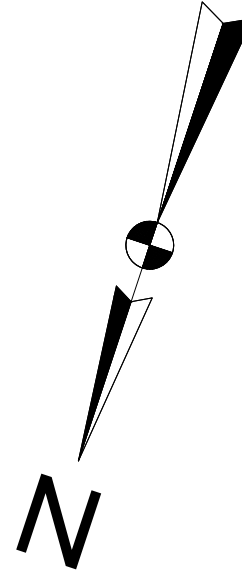
BY GRAPHICAL DEPICTION ONLY, THE PROPERTY SHOWN HEREON IS SHOWN IN:

- FLOOD ZONE "A" - SPECIAL FLOOD HAZARD AREAS WITHOUT BASE FLOOD ELEVATION.
- FLOOD ZONE "X" - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

A FIELD SURVEY WAS NOT PERFORMED TO DETERMINE THE FLOOD ZONES LISTED HEREON. AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR APPLY FOR A VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

DATE	
DESCRIPTION	
REV	
DESIGNED BY:	MCG
DRAWN BY:	SEP
CHECKED BY:	JTC
DATE:	09-08-2023
VIRGINIA PROFESSIONAL ENGINEER NO. 064857	
J. TYLER COATS, P.E. VIRGINIA PROFESSIONAL ENGINEER NO. 064857 DATE: 09-08-2023	
6445 Shiloh Road, Suite A / Alpharetta, GA 30005 / Phone: 770-781-8008 / Fax: 770-781-8003 / schnabel-eng.com	
EXISTING SITE PLAN	
PROJECT: 22170074.010 DATE: JULY 2023 SHEET 04 OF 12	

G:\2022\ALPHARETTA\22170074_010_BEAUTIFUL_RUN_DAM_1B_ENGINEERING_SERVICES\03_SEPRODUCT\S08-CAD\04-CONTRACT_DWG\109274-CULPEPPER_DAM_1B.DWG



NOTE: CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PROTECT ALL UTILITIES IN THE VICINITY OF THE BORROW AREA

NOTES:
 ALL ELEVATIONS REFERENCE IN THESE CONSTRUCTION DRAWINGS BASED ON SURVEY PERFORMED BY CHRISTOPHER CONSULTANTS, LOCATED IN MANASSAS, VA. SURVEY DATED 05/30/2023. CONTOURS AND ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

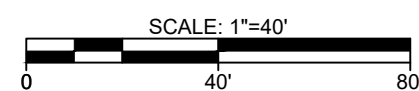
THERE IS NO CHANGE IN PERMANENT WATER LEVEL BETWEEN THESE CONSTRUCTION DRAWINGS AND THE EXISTING SITE AS CONSTRUCTED.

A MINIMUM OF 1/2 THE WIDTH OF THE AUXILIARY SPILLWAY IS TO REMAIN CLEAR/OPEN AT ALL TIMES

ELEVATION, WIDTH, ETC. OF AUXILIARY SPILLWAY SHALL BE RETURNED TO PRE-CONSTRUCTION CONDITIONS EXCEPT FOR BORROW AREA, WHICH IS ABOVE THE CREST OF DAM.

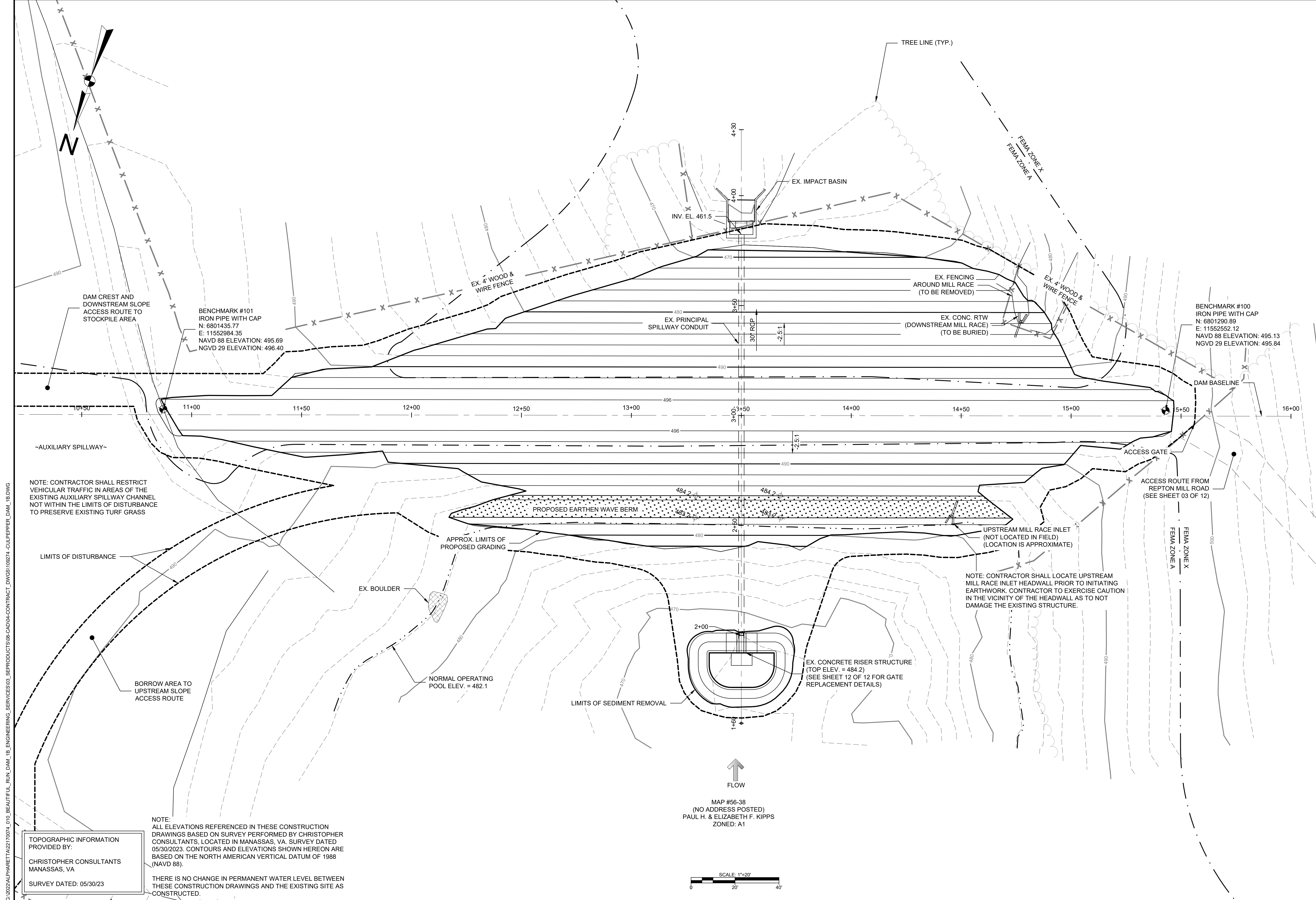
TOPOGRAPHIC INFORMATION PROVIDED BY:
 CHRISTOPHER CONSULTANTS
 MANASSAS, VA
 SURVEY DATED: 05/30/23

MAP #56-38
 (NO ADDRESS POSTED)
 PAUL H. & ELIZABETH F. KIPPS
 ZONED: A1



G:\2022\ALPHARETTA\22170074_010_BEAUTIFUL_RUN_DAM_1B_ENGINEERING_SERVICES\03_SEPRODUCTION\CONTRACT_DWG\10274_CULPEPPER_DAM_1B.DWG

PROJECT: 22170074.010	DESIGNED BY: MCG	CHECKED BY: JTC	DATE: 09-08-2023
DATE: JULY 2023	DRAWN BY: SEP	J. TYLER COATS, P.E.	DATE: 09-08-2023
SHEET 05 OF 12			VIRGINIA PROFESSIONAL ENGINEER NO. 064857 DATE: 09-08-2023
DESCRIPTION	REV.	REV.	DATE
BEAUTIFUL RUN DAM #1B DAM AND SPILLWAY IMPROVEMENTS MADISON COUNTY, VIRGINIA			
PROPOSED SITE PLAN			
		6445 Shiloh Road, Suite A / Alpharetta, GA 30005 / Phone: 770-781-8008 / Fax: 770-781-8003 / schnabel-eng.com	
© Schnabel Engineering 2023 All Rights Reserved			



G:\2022\ALPHARETTA\2170074_010 BEAUTIFUL RUN DAM_1B_ENGINEERING_SERVICES\03_SEPRODUCTS\08-CADD\04-CONTRACT_DWG\02\0274 -CULPEPPER_DAM_1B.DWG

TOPOGRAPHIC INFORMATION PROVIDED BY:
CHRISTOPHER CONSULTANTS
MANASSAS, VA
SURVEY DATED: 05/30/23

NOTE:
ALL ELEVATIONS REFERENCED IN THESE CONSTRUCTION DRAWINGS BASED ON SURVEY PERFORMED BY CHRISTOPHER CONSULTANTS, LOCATED IN MANASSAS, VA. SURVEY DATED 05/30/2023. CONTOURS AND ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
THERE IS NO CHANGE IN PERMANENT WATER LEVEL BETWEEN THESE CONSTRUCTION DRAWINGS AND THE EXISTING SITE AS CONSTRUCTED.

MAP #56-38
(NO ADDRESS POSTED)
PAUL H. & ELIZABETH F. KIPPS
ZONED: A1

SCALE: 1"=20'
0 20 40

REV.	DESCRIPTION	DATE

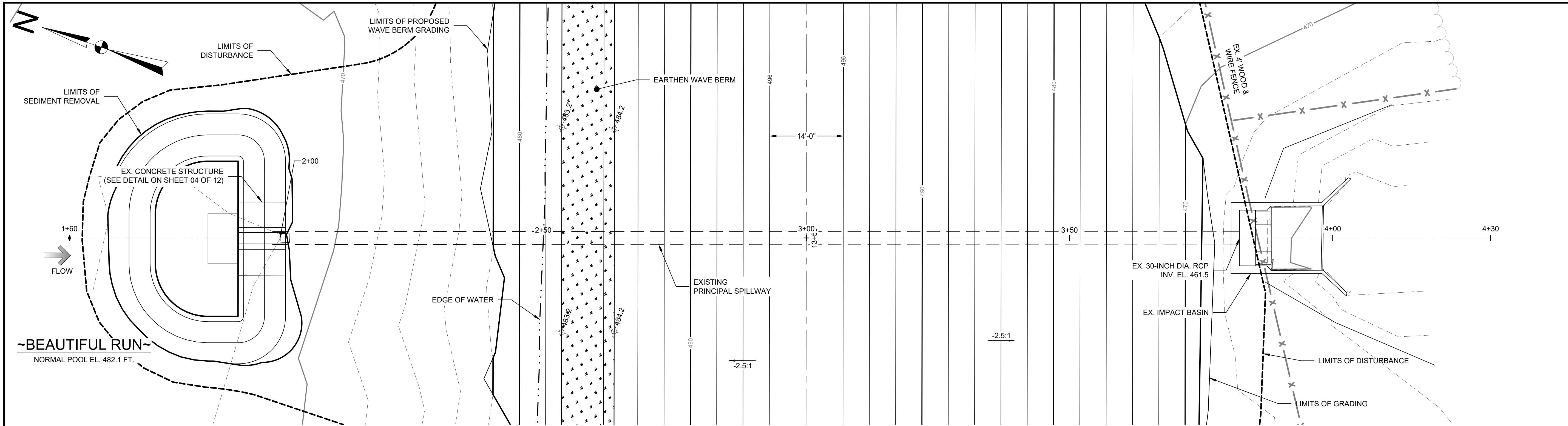
CHECKED BY: JTC
DRAWN BY: SEP
DESIGNED BY: MCG
J. TYLER COATS, P.E.
DATE: 09-08-2023
VIRGINIA PROFESSIONAL ENGINEER NO. 064857



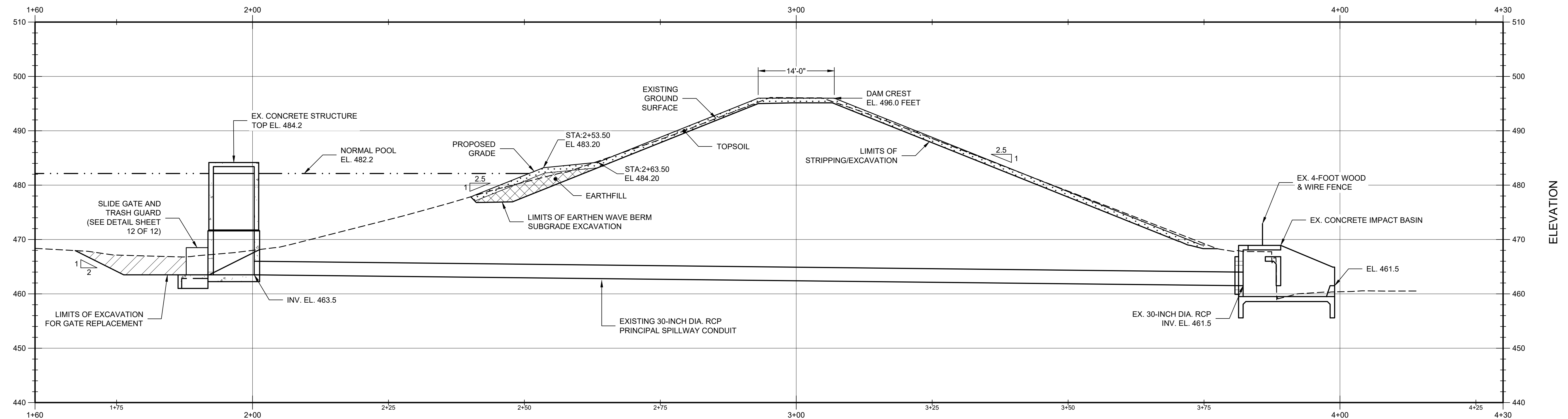
Schnabel
ENGINEERING
6445 Shiloh Road, Suite A / Alpharetta, GA 30005 /
Phone: 770-781-8008 / Fax: 770-781-8003 /
schnabel-eng.com

BEAUTIFUL RUN DAM #1B
DAM AND SPILLWAY IMPROVEMENTS
MADISON COUNTY, VIRGINIA
**PROPOSED EMBANKMENT
SITE PLAN**

PROJECT: 22170074.010
DATE: JULY 2023
SHEET 06 OF 12



1 PRINCIPAL SPILLWAY PLAN
SCALE: 1"=10'



2 PROFILE ALONG CENTERLINE OF PRINCIPAL SPILLWAY (DAM BASELINE STATION 13+50)
SCALE: 1"=10'

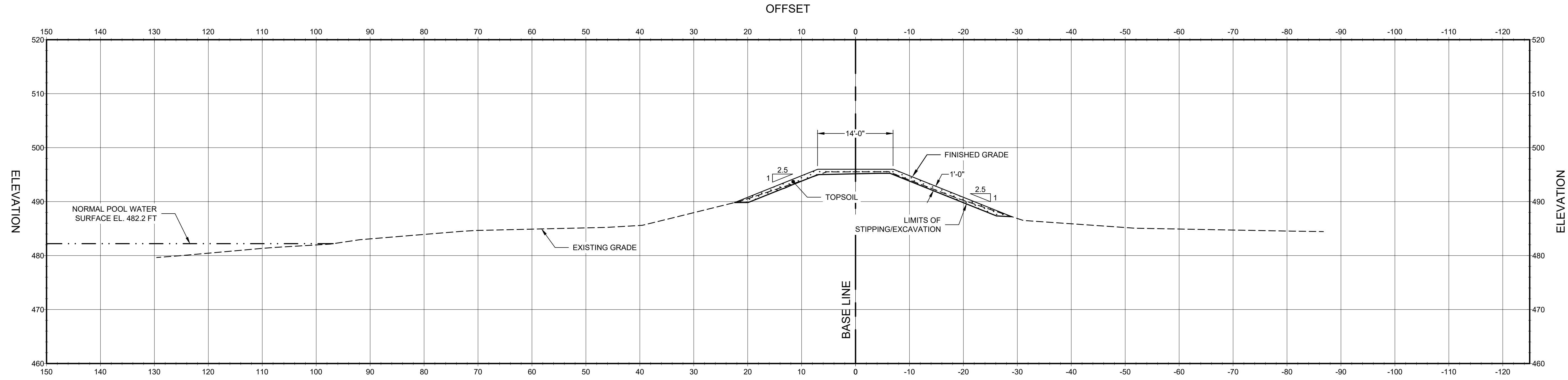
TOPOGRAPHIC INFORMATION PROVIDED BY:
CHRISTOPHER CONSULTANTS
MANASSAS, VA
SURVEY DATED: 05/30/23

NOTE:
ALL ELEVATIONS REFERENCE IN THESE CONSTRUCTION DRAWINGS BASED ON SURVEY PERFORMED BY CHRISTOPHER CONSULTANTS, LOCATED IN MANASSAS, VA. SURVEY DATED 05/30/2023. CONTOURS AND ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
THERE IS NO CHANGE IN PERMANENT WATER LEVEL BETWEEN THESE CONSTRUCTION DRAWINGS AND THE EXISTING SITE AS CONSTRUCTED.

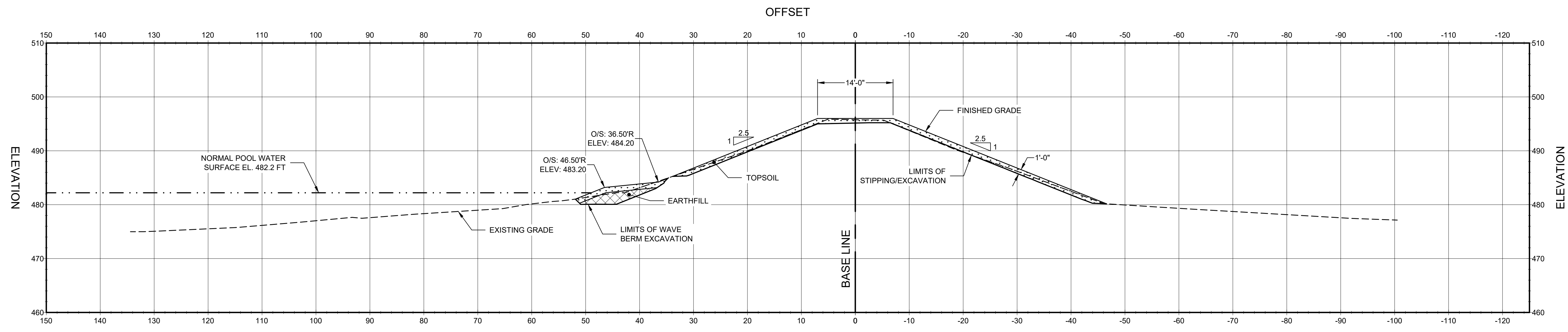
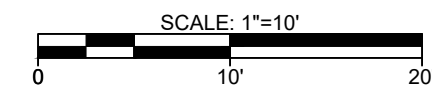
DATE	
DESCRIPTION	
REV	
CHECKED BY:	JTC
DRAWN BY:	SEP
DESIGNED BY:	MCG
DATE:	09-08-2023
VIRGINIA PROFESSIONAL ENGINEER NO. 064857	
Schnabel ENGINEERING 6445 Shiloh Road, Suite A / Alpharetta, GA 30005 / Phone: 770-781-8008 / Fax: 770-781-8003 / schnabel-eng.com	
PRINCIPAL SPILLWAY PLAN AND PROFILE	
BEAUTIFUL RUN DAM #1B DAM AND SPILLWAY IMPROVEMENTS MADISON COUNTY, VIRGINIA	
PROJECT:	22170074.010
DATE:	JULY 2023
SHEET:	07 OF 12

G:\2022\ALPHARETTA\22170074_010 BEAUTIFUL RUN DAM_1B_ENGINEERING_SERVICES\03_SEPRODUCT\SUB-CAD\04-CONTRACT_DWG\10274_CULPIEPFER_DAM_1B.DWG

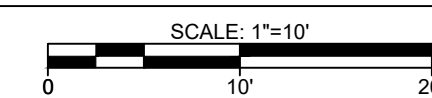
G:\2022\ALPHARETTA\2170074_010 BEAUTIFUL RUN DAM_1B_ENGINEERING_SERVICES\3_SEPRODUCT\SUB-CAD\04-CONTRACT_DWG\10274 - BR1B - X-SECTIONS.DWG



OFFSET
DAM BASELINE STATION 12+00



OFFSET
DAM BASELINE STATION 12+50



NOTE:
ALL ELEVATIONS REFERENCED IN THESE CONSTRUCTION DRAWINGS BASED ON SURVEY PERFORMED BY CHRISTOPHER CONSULTANTS, LOCATED IN MANASSAS, VA. SURVEY DATED 06/17/2019. CONTOURS AND ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

DESIGNED BY: MCG	CHECKED BY: JTC	DATE: 09-08-2023
DRAWN BY: SEP		
DESIGNED BY: MCG		
J. TYLER COATS, P.E.		
DATE: 09-08-2023		
VIRGINIA PROFESSIONAL ENGINEER NO. 064857		



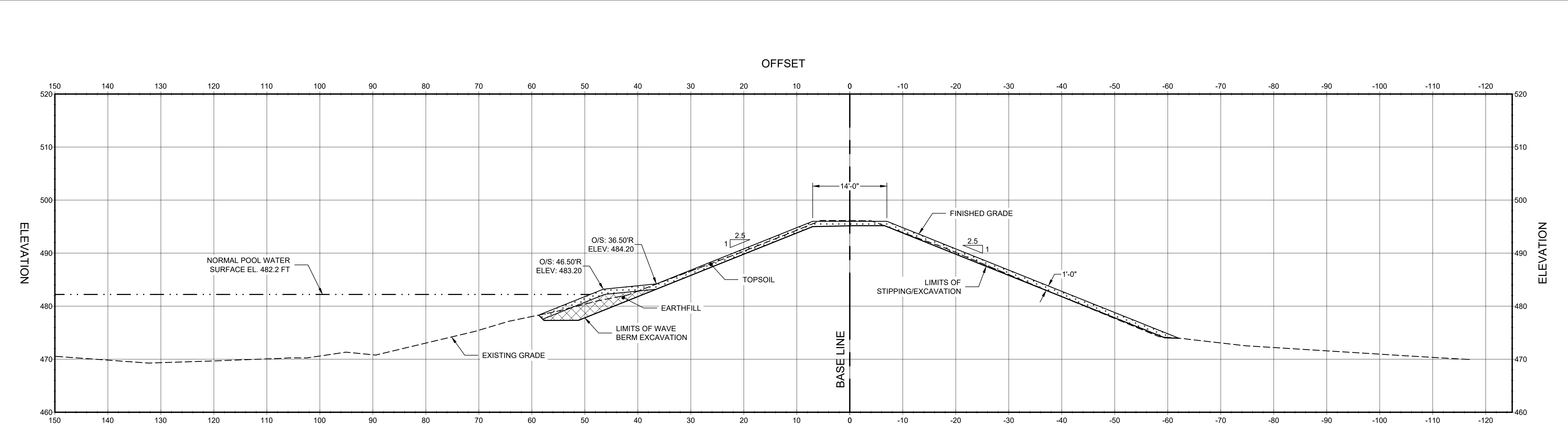
Schnabel ENGINEERING
 6445 Shiloh Road, Suite A / Alpharetta, GA 30005 /
 Phone: 770-781-8008 / Fax: 770-781-8003 /
 schnabel-eng.com

BEAUTIFUL RUN DAM #1B
 DAM AND SPILLWAY IMPROVEMENTS
 MADISON COUNTY, VIRGINIA

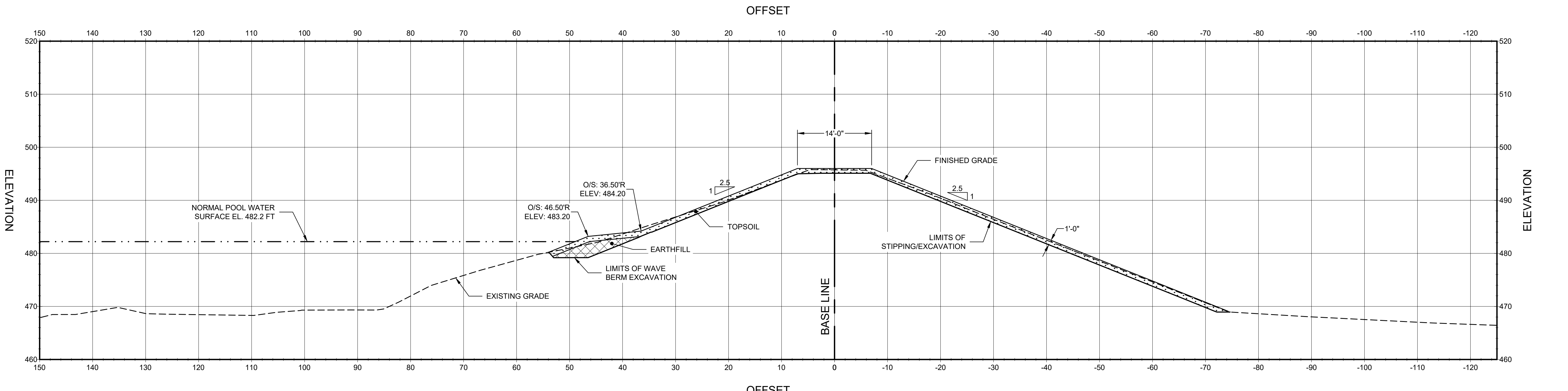
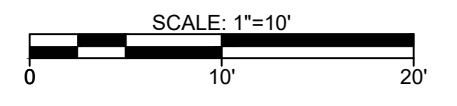
**EMBANKMENT
 CROSS-SECTIONS (1 OF 3)**

PROJECT: 22170074.010
DATE: JULY 2023
SHEET 08 OF 12

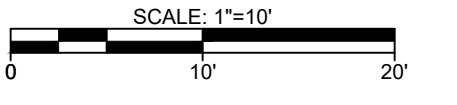
G:\2022\ALPHARETTA\2170074_010_BEAUTIFUL_RUN_DAM_1B_ENGINEERING_SERVICES\03_SEPRODUCT\S08-CAD\04-CONTRACT_DWG\S10274 - BR1B - X-SECTIONS.DWG



DAM BASELINE STATION 13+00




DAM BASELINE STATION 14+00



NOTE:
 ALL ELEVATIONS REFERENCED IN THESE CONSTRUCTION DRAWINGS BASED ON SURVEY PERFORMED BY CHRISTOPHER CONSULTANTS, LOCATED IN MANASSAS, VA. SURVEY DATED 06/17/2019. CONTOURS AND ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

NO.	DATE	DESCRIPTION

DESIGNED BY: MCG	CHECKED BY: JTC	DATE: 09-08-2023
DRAWN BY: SEP	J. TYLER COATS, P.E.	
 VIRGINIA PROFESSIONAL ENGINEER NO. 064857		



Schnabel
ENGINEERING

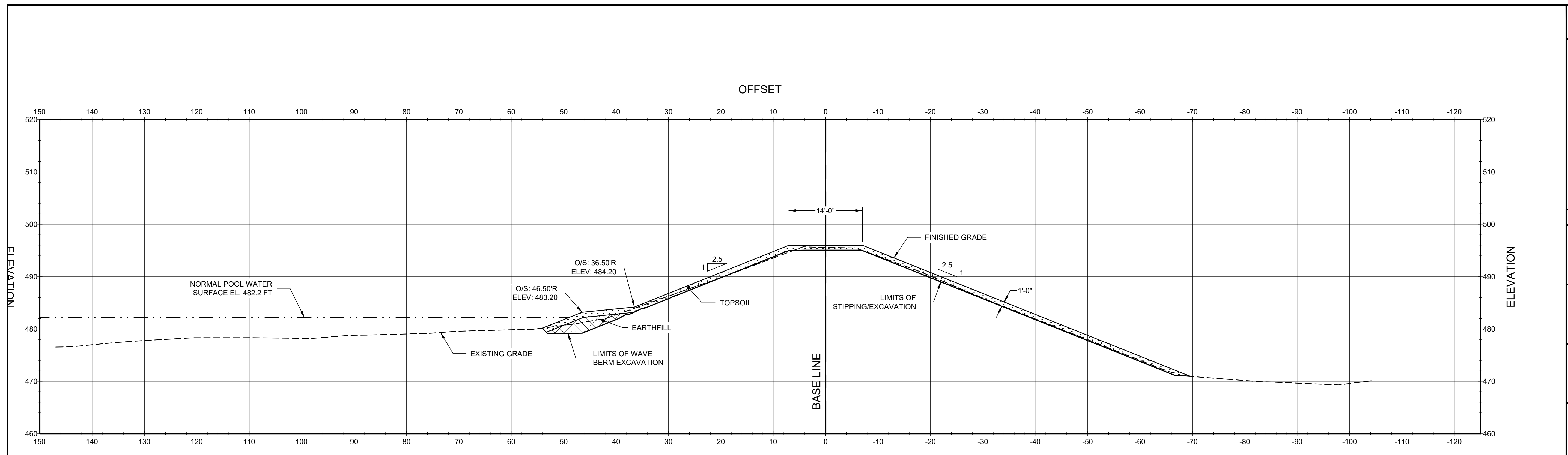
6445 Shiloh Road, Suite A / Alpharetta, GA 30005 /
 Phone: 770-781-8008 / Fax: 770-781-8003 /
 schnabel-eng.com

BEAUTIFUL RUN DAM #1B
 DAM AND SPILLWAY IMPROVEMENTS
 MADISON COUNTY, VIRGINIA

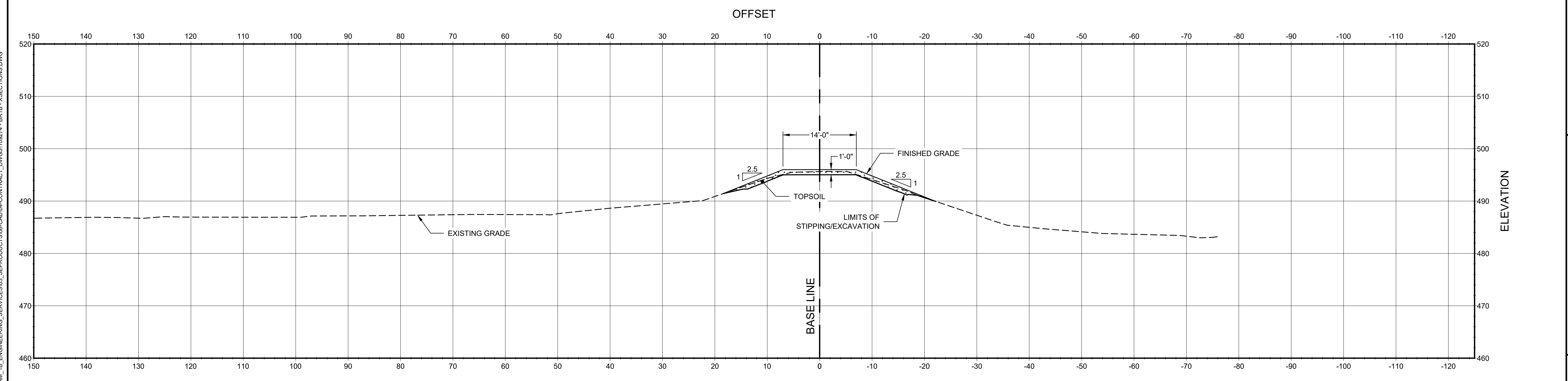
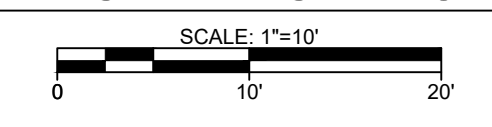
EMBANKMENT
 CROSS-SECTIONS (2 OF 3)

PROJECT: 22170074.010
DATE: JULY 2023
SHEET 09 OF 12

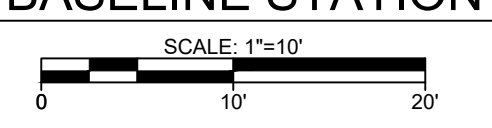
G:\2022\ALPHARETTA\2170074_010_BEAUTIFUL_RUN_DAM_1B_ENGINEERING_SERVICES\03_SEPRODUCTS\08-CAD\04-CONTRACT_DWG\10274 - BR1B - X-SECTIONS.DWG



OFFSET
DAM BASELINE STATION 14+50



OFFSET
DAM BASELINE STATION 15+00



NOTE:
ALL ELEVATIONS REFERENCED IN THESE CONSTRUCTION DRAWINGS BASED ON SURVEY PERFORMED BY CHRISTOPHER CONSULTANTS, LOCATED IN MANASSAS, VA, SURVEY DATED 06/17/2019. CONTOURS AND ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

REV.	DESCRIPTION

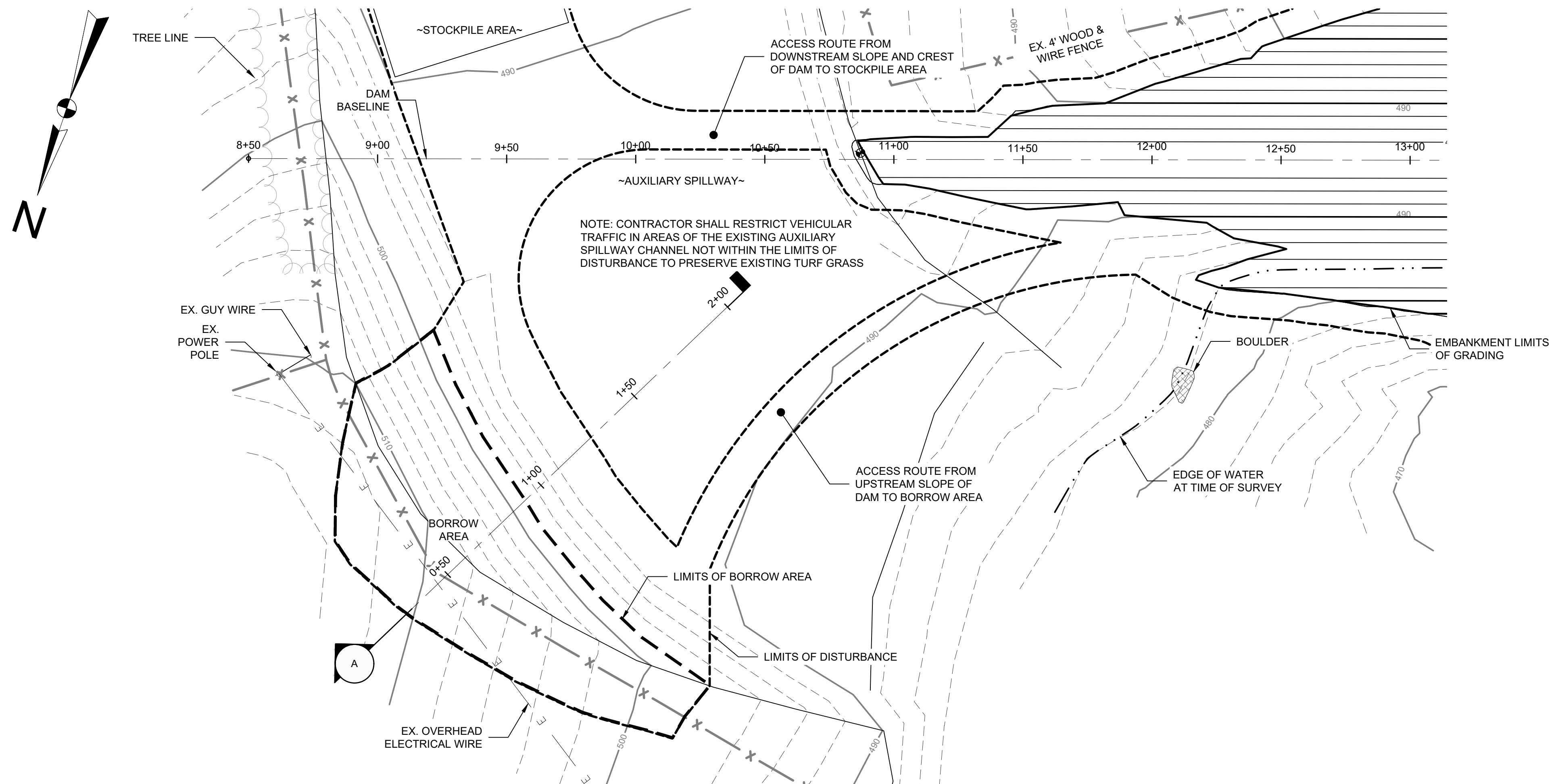
DESIGNED BY: MCG	DRAWN BY: SEP	CHECKED BY: JTC
J. TYLER COATS, P.E.		
		DATE: 09-08-2023
<small>VIRGINIA PROFESSIONAL ENGINEER NO. 064857</small>		



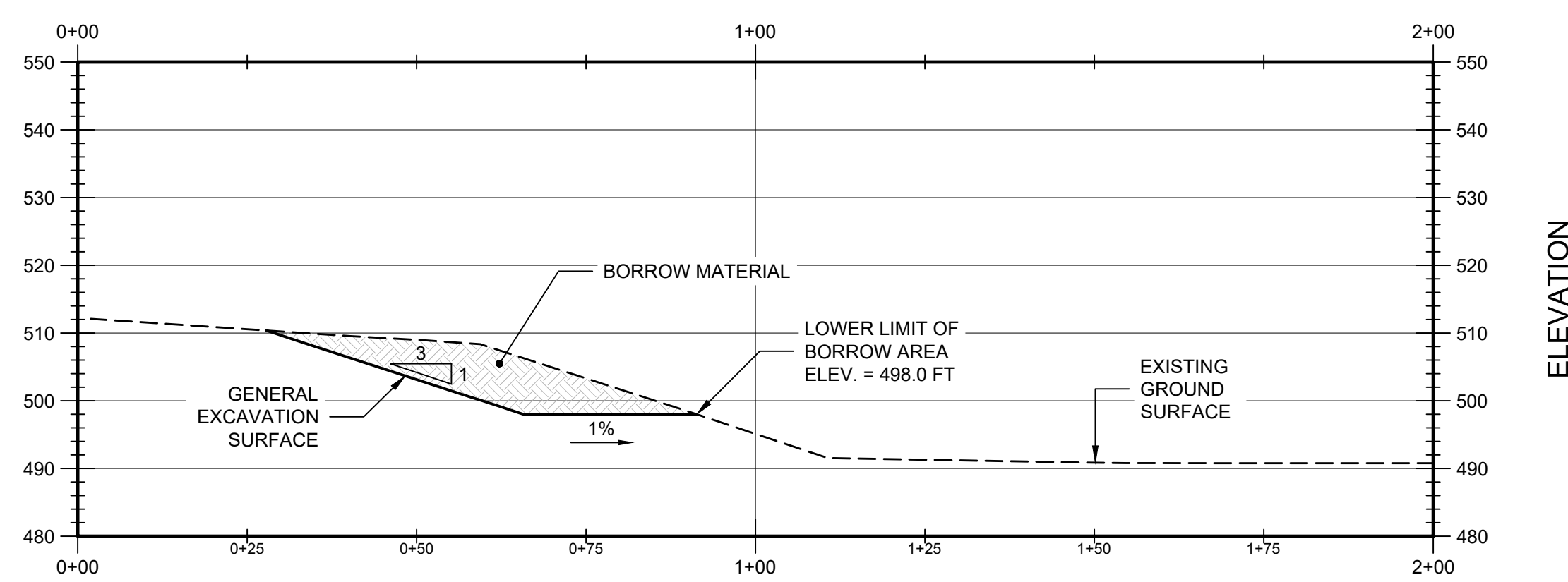
Schnabel
ENGINEERING
6445 Shiloh Road, Suite A / Alpharetta, GA 30005 /
Phone: 770-781-8008 / Fax: 770-781-8003 /
schnabel-eng.com

BEAUTIFUL RUN DAM #1B
DAM AND SPILLWAY IMPROVEMENTS
 MADISON COUNTY, VIRGINIA
EMBANKMENT
CROSS-SECTIONS (3 OF 3)

PROJECT: 22170074.010
DATE: JULY 2023
SHEET 10 OF 12



1 BORROW AREA PLAN
 SCALE: 1"=30'
 0 30' 60'



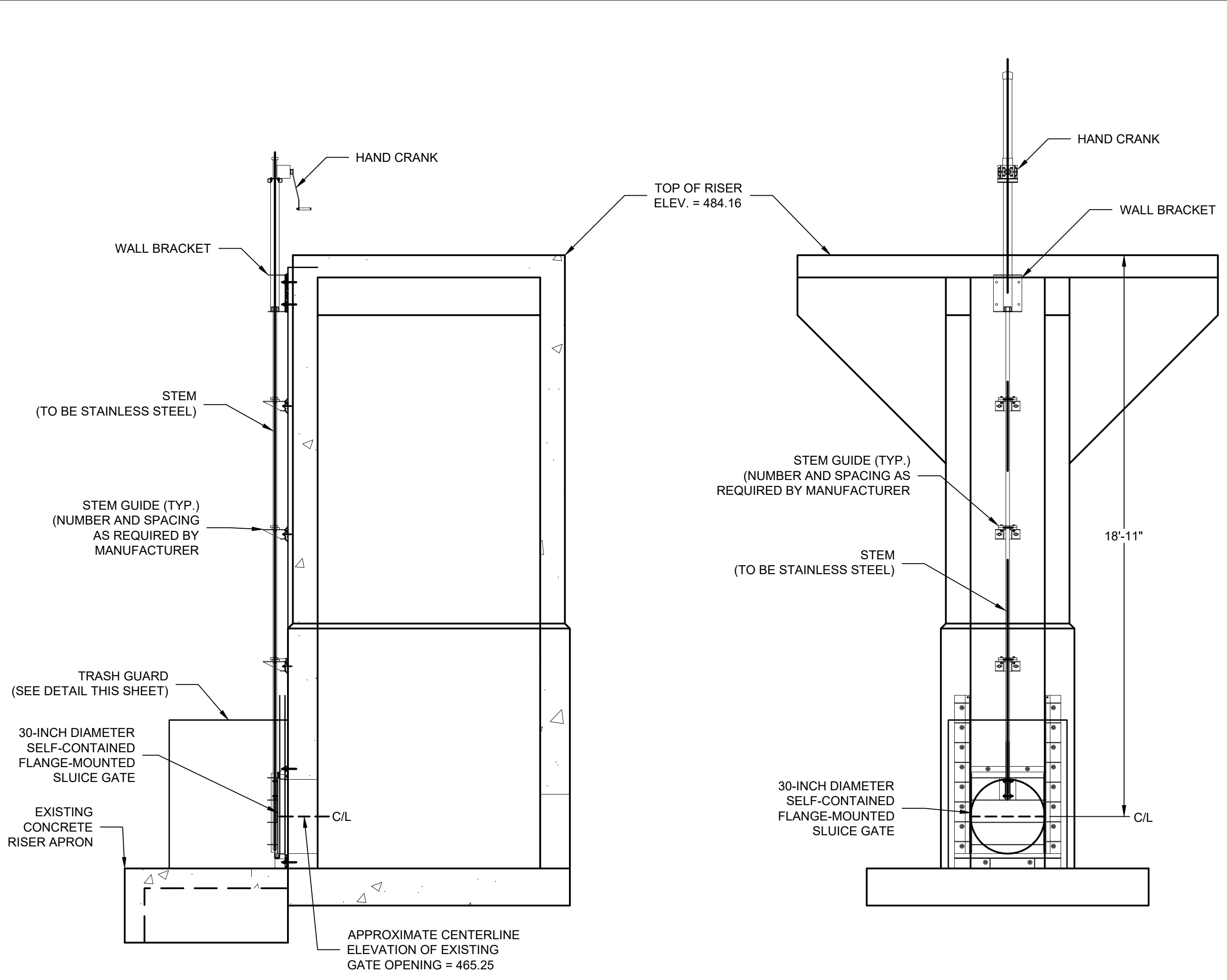
A BORROW AREA PROFILE
 SCALE: 1"=30'
 0 30' 60'

BORROW AREA NOTES:

- EARTHFILL NECESSARY TO COMPLETE THE EARTHWORK FOR THE DAM EMBANKMENT AND EARTHEN WAVE BERM MAY BE GENERATED FROM THE BORROW AREA INDICATED HEREON.
- CONTRACTOR SHALL ONLY EXPAND THE BORROW TO THE EXTENT TO GENERATE THE NECESSARY AMOUNT OF EARTHFILL MATERIAL.
- BORROW FOR THE PROJECT MAY NOT BE OBTAINED FROM SOURCES OR LOCATIONS OUTSIDE THE LIMITS OF THE BORROW AREA INDICATED ON THE CONSTRUCTION PLANS WITHOUT WRITTEN CONSENT BY THE SWCD.
- EXCAVATION OF THE BORROW AREA MAY NOT OCCUR BELOW ELEVATION 498.0 FEET.
- ALL BORROW AREA EXCAVATION SHALL BE NO STEEPER THAN 3H:1V.
- TOPSOIL WITHIN THE BORROW AREA LIMITS SHALL BE STRIPPED AND STOCKPILED FOR FUTURE USE PRIOR TO THE BEGINNING OF BORROW MATERIAL EXCAVATION.
- UPON COMPLETION OF BORROW MATERIAL EXCAVATION THE BORROW AREA SHALL BE UNIFORMLY GRADED/SMOOTHED, TOPSOILED, COVERED WITH EROSION CONTROL MATTING, AND SEEDED WITH PERMANENT GRASS IN ACCORDANCE WITH THE SWCD EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

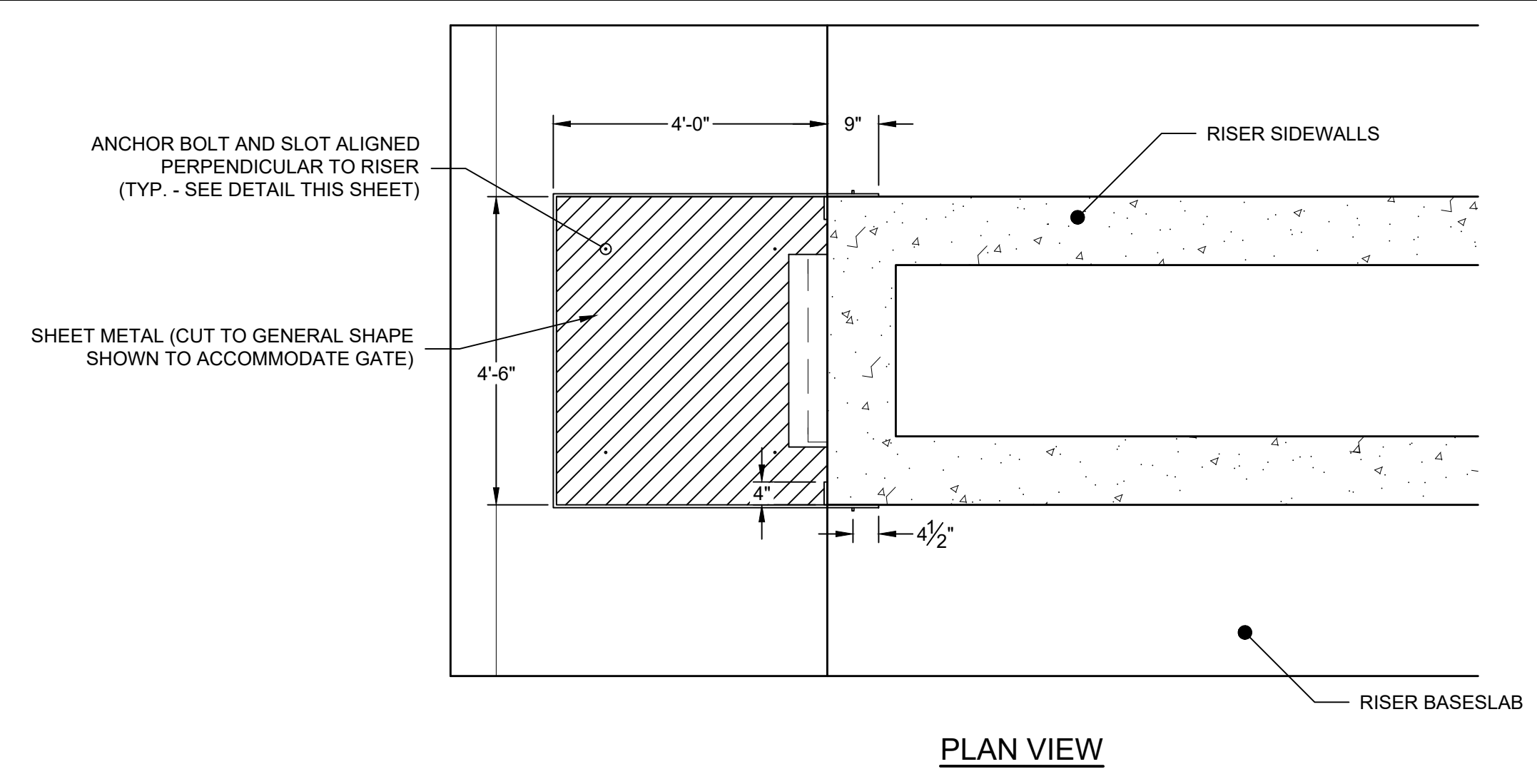
PROJECT: 22170074.010		DATE: JULY 2023	
SHEET 11 OF 12		REVISIONS	
DESIGNED BY: MCG	DRAWN BY: SEP	CHECKED BY: JTC	DATE: 09-08-2023
J. TYLER COATS, P.E.		VIRGINIA PROFESSIONAL ENGINEER NO. 064857	
		6445 Shiloh Road, Suite A / Alpharetta, GA 30005 / Phone: 770-781-8008 / Fax: 770-781-8003 / schnabel-eng.com	
BEAUTIFUL RUN DAM #1B DAM AND SPILLWAY IMPROVEMENTS MADISON COUNTY, VIRGINIA		BORROW AREA DETAILS	

G:\2022\ALPHARETTA\22170074_010_BEAUTIFUL_RUN_DAM_1B_ENGINEERING_SERVICES\03_SEPRODUCTION\08-CAD\04-CONTRACT_DWG\109274_CULPEPPER_DAM_1B.DWG

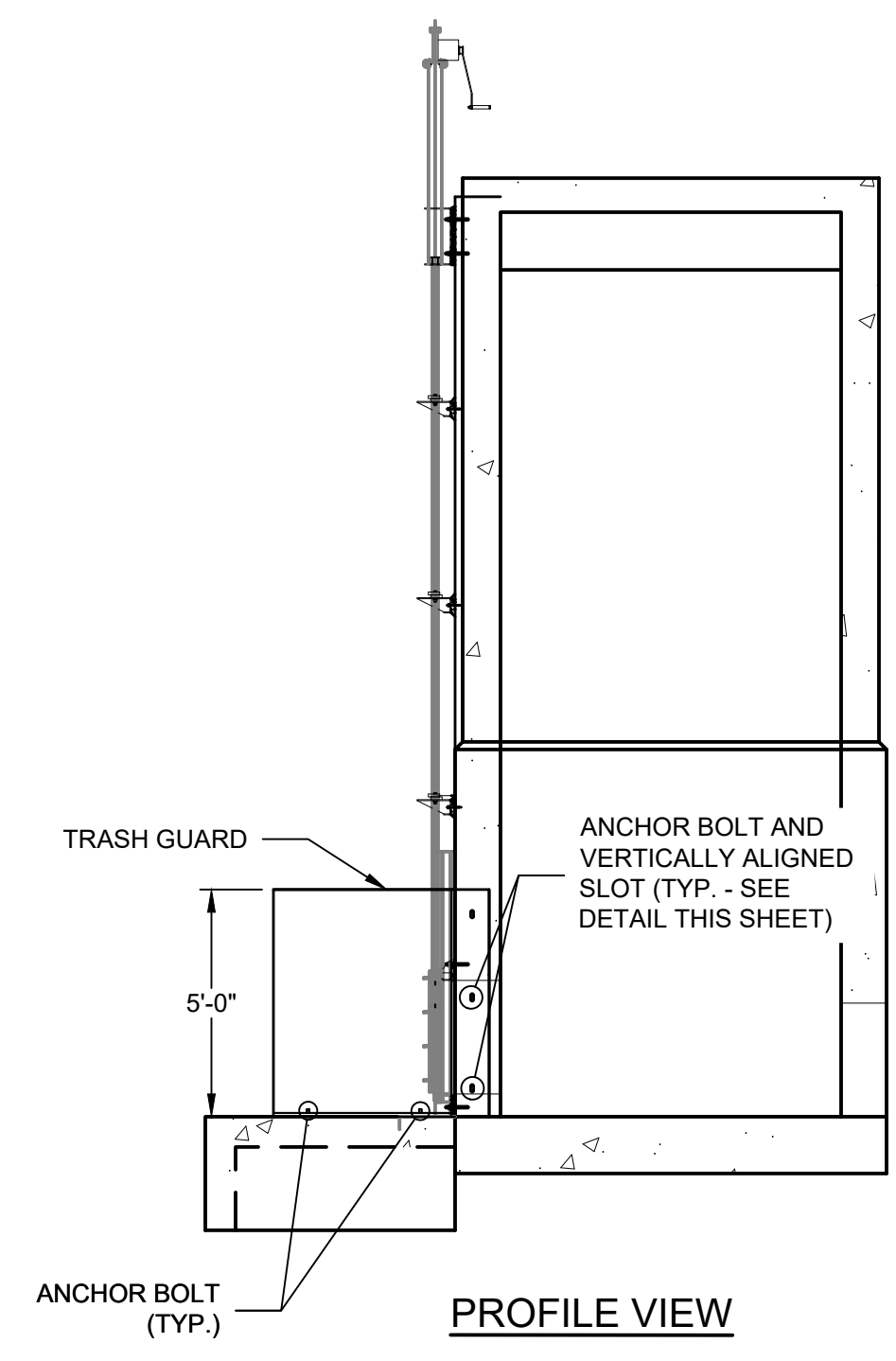


SLIDE GATE DETAILS

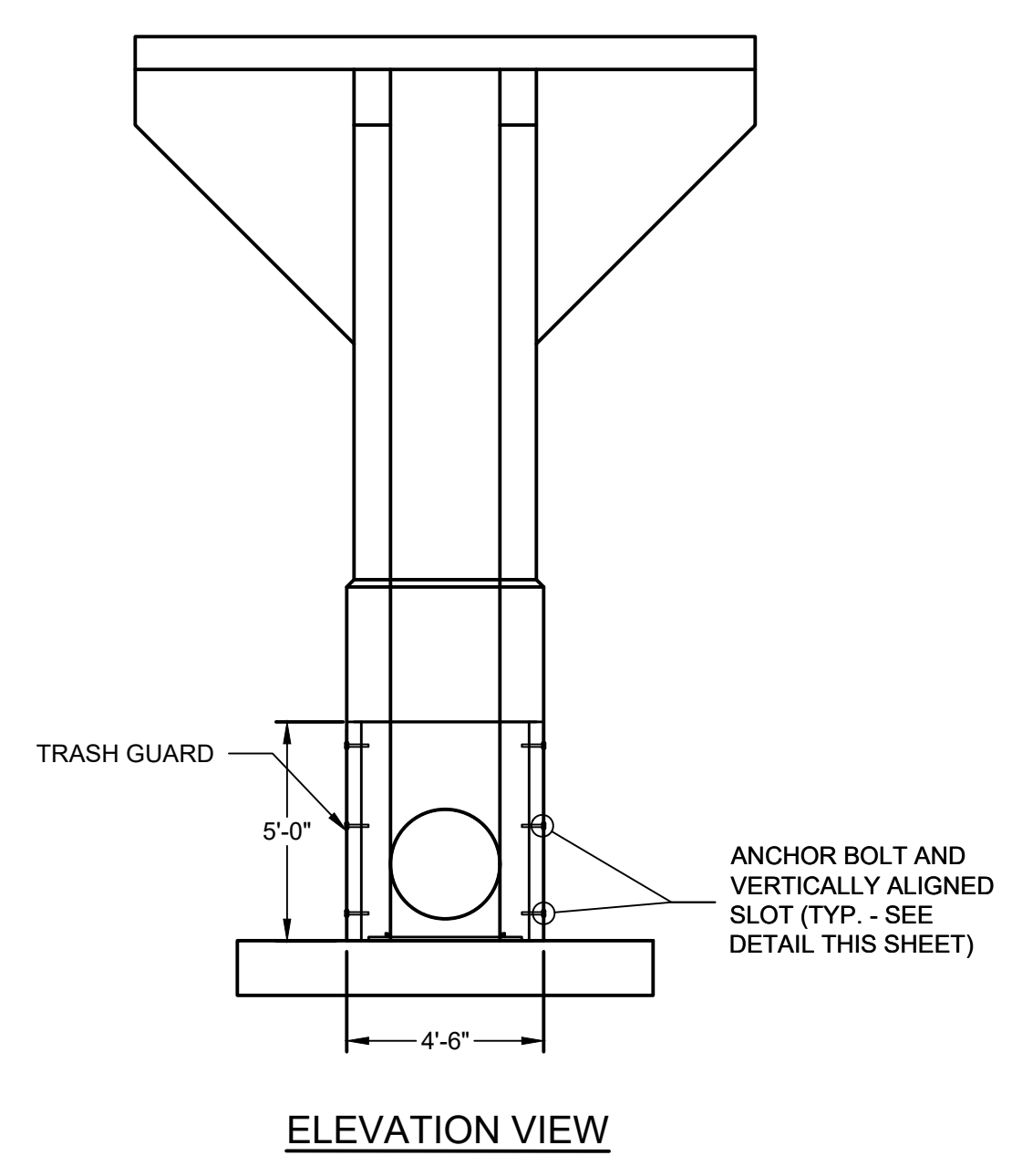
- NOTES:**
1. THE SLIDE GATE SHALL BE INSTALLED IN THE SAME LOCATION AS THE EXISTING SLIDE GATE TO BE REMOVED. WALL BRACKET AND STEM GUIDES SHALL HAVE SUFFICIENT ADJUSTMENT TO INSURE A VERTICAL MOUNTING FOR THE GATE STEM.
 2. GUIDES SHALL BE SPACED BASED ON THE MANUFACTURER'S MINIMUM SPACING REQUIREMENTS. FINAL PLACEMENT OF THE GUIDES SHALL ENSURE THAT MOUNTING HOLES SHALL NOT BE PLACED CLOSER THAN 6" FROM A CONSTRUCTION JOINT.
 3. SEE MANUFACTURER'S DATA FOR DETAILS OF GATE FRAME, STEM SPLICES, GUIDE SPACING, RECOMMENDED ANCHOR BOLT TYPE, AND LAYOUT. *SEE CONSTRUCTION SPECIFICATION 71 FOR DETAILS)



PLAN VIEW



PROFILE VIEW

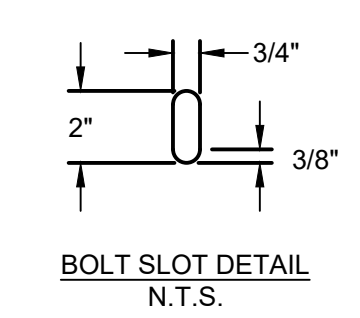


ELEVATION VIEW

TRASH GUARD RISER STRUCTURE ATTACHMENT DETAILS

N.T.S.

- NOTES:**
1. ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE A709 Gr 36. STEEL HARDWARE SHALL BE ELECTROCHEMICALLY COMPATIBLE WITH SPECIFIED STEEL PLATE AND BRACING MATERIAL.
 2. WELDING PROCEDURES AND TESTING SHALL BE PER AWS D1.5 REQUIREMENTS. WELD FILLER METAL STRENGTH SHALL BE 70 KSI (MIN.)
 3. ALL WELDS SHALL BE CONTINUOUS $\frac{3}{16}$ " FILLET WELDS UNLESS NOTED OTHERWISE.
 4. ANCHOR BOLTS TO BE $\frac{5}{8}$ "x6" LONG QUICK BOLTS BY HILTI.
 5. ANCHOR BOLT HOLES TO BE $\frac{3}{4}$ " DIA.
 6. SHEET METAL TO BE $\frac{3}{8}$ " THICK.
 7. NEOPRENE SEAL SHALL BE SHORE TYPE A WITH DUROMETER HARDNESS OF 50. WIDTH OF NEOPRENE SEAL SHALL BE 3 1/2" OR 5" TO MATCH EXISTING CONCRETE BEARING SURFACE.
 8. MODIFICATIONS TO THIS ASSEMBLY MAY BE REQUIRED BASED ON FIELD CONDITIONS ENCOUNTERED DURING CONSTRUCTION. ANY MODIFICATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO FABRICATION AND INSTALLATION.



NOTE: BOLT SLOTS UTILIZED TO ALLOW MOVEMENT AND ADJUSTMENT OF HALF-ROUND SO HALF-ROUND CAN SNUGLY COMPRESS NEOPRENE AGAINST RISER SIDEWALL AND THE TOP OF THE RISER APRON TO PROVIDE AS MUCH "WATER TIGHTNESS" AS POSSIBLE.

PROJECT: 22170074.010	DATE: JULY 2023	SHEET: 12 OF 12
<p>BEAUTIFUL RUN DAM #1B DAM AND SPILLWAY IMPROVEMENTS MADISON COUNTY, VIRGINIA</p> <p>DRAWDOWN GATE DETAILS</p>		
<p>Schnabel ENGINEERING 6445 Shiloh Road, Suite A / Alpharetta, GA 30005 / Phone: 770-781-8008 / Fax: 770-781-8003 / schnabel-eng.com</p>		
<p>DESIGNED BY: MCG DRAWN BY: SEP CHECKED BY: JTC</p> <p>J. TYLER COATS, P.E. DATE: 07-08-2023 VIRGINIA PROFESSIONAL ENGINEER NO. 064857</p>		
REV.	DESCRIPTION	DATE