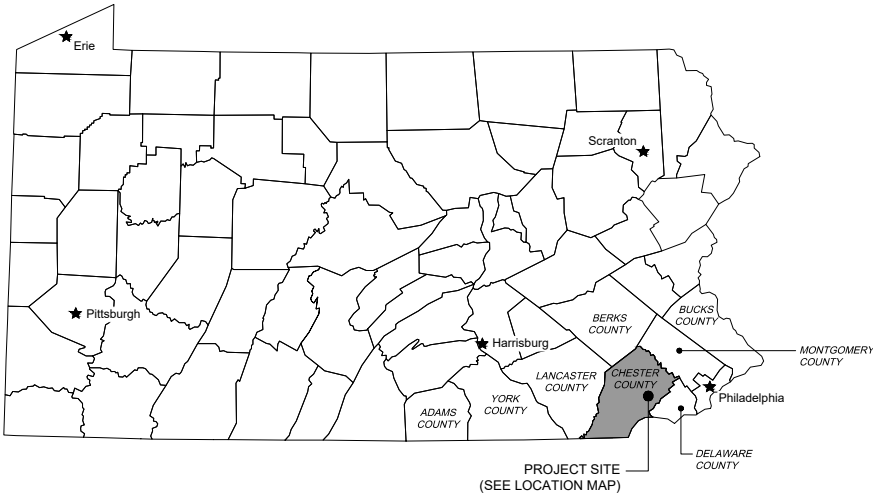




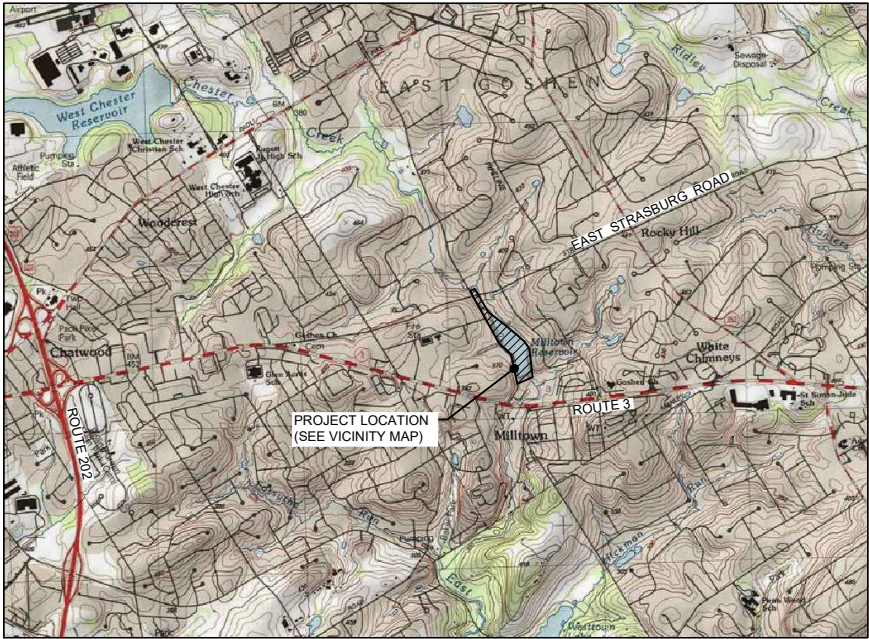
EAST GOSHEN TOWNSHIP
1580 PAOLI PIKE
WEST CHESTER, PENNSYLVANIA

MILLTOWN DAM (DEP ID NO. D15-146)
HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS
EAST GOSHEN TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

PERMIT DRAWINGS
GANNETT FLEMING PROJECT NO. 060466
FEB. 2020



PENNSYLVANIA STATE MAP
NOT TO SCALE



LOCATION MAP



VICINITY MAP



PUBLIC UTILITIES AND ADDRESSES

EAST GOSHEN TOWNSHIP
1580 PAOLI PIKE
WEST CHESTER, PA 19380
CONTACT: MARK MILLER
EMAIL: MMILLER@EASTGOSHEN.ORG

COMCAST CABLE
1004 CORNERSTONE BLVD
DOWNTOWN, PA 19335
CONTACT: TOM RUSSO
EMAIL: TOM_RUSSO@CABLE.COMCAST.COM

AQUA PENNSYLVANIA INC.
762 WEST LANCASTER AVENUE
BRYN MAWR, PA 19010
CONTACT: STEVE PIZZI
EMAIL: SBPIZZI@AQUAAMERICA.COM

PECO ENERGY C/O USIC
450 SOUTH HENDERSON ROAD, SUITE B
KING OF PRUSSIA, PA 19406
CONTACT: NIKKIA SIMPKINS
EMAIL: NIKKIASIMPKINS@USICLLC.COM

VERIZON PENNSYLVANIA LLC
1050 VIRGINIA DRIVE
FORT WASHINGTON, PA 19034
CONTACT: LAURA LIPPINCOTT
EMAIL: LAURA.M.LIPPINCOTT@ONE.VERIZON.COM

CONTACT INFORMATION

EAST GOSHEN TOWNSHIP (ATTN: RICK SMITH, TOWNSHIP MANAGER) 610-692-7171
GANNETT FLEMING, INC. (ATTN: ERIC NEAST, PROJECT MANAGER) 717-783-7212
PA DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF DAM SAFETY 717-772-5957
PA DEPARTMENT OF ENVIRONMENTAL PROTECTION, SE REGIONAL OFFICE 484-250-5900
CHESTER COUNTY CONSERVATION DISTRICT 610-925-4920
PA FISH AND BOAT COMMISSION, SE REGIONAL OFFICE 215-968-3631
PENNSYLVANIA ONE CALL SYSTEM FOR UNDERGROUND UTILITIES 800-242-1776

PENNSYLVANIA ONE CALL SYSTEM

CALL BEFORE YOU DIG
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE STOP CALL



POCS SERIAL NUMBER: _____
POCS CALL DATE: _____

PA ONE CALL NOTE:
GANNETT FLEMING, INC. (GANNETT FLEMING) ADVISES THAT IT HAS COMPLIED WITH THE PROVISIONS OF THE PENNSYLVANIA UNDERGROUND UTILITY LINE PROTECTION LAW, ACT 287 OF 1974 AS AMENDED, IN PREPARING THESE PLANS. ALTHOUGH GANNETT FLEMING MADE THE TELEPHONE CALL(S) LISTED ON THESE PLANS ON THE DATE(S) SHOWN, THE INFORMATION SHOWN MAY BE PRELIMINARY AS OF THE DATE OF BIDDING. THE DATA PERTAINING TO UTILITIES SHOWN ON THE PLANS IS FOR GENERAL INFORMATION AND GUIDANCE ONLY AND GANNETT FLEMING MAKES NO REPRESENTATIONS, WARRANTY, GUARANTY OR ASSURANCES THAT THE INFORMATION RECEIVED PURSUANT TO SAID CALL(S) AND REFLECTED ON THE PLANS IS COMPLETE, CORRECT OR ACCURATE, BUT IS REFLECTING SAID INFORMATION IN ACCORDANCE WITH THE REQUIREMENTS OF SUCH ACT AS OF THE DATE OF SAID CALL(S). THE AREAS IN WHICH NEW UNDERGROUND FACILITIES AND APPURTENANCES ARE TO BE CONSTRUCTED UNDER THIS CONTRACT MAY CONTAIN EXISTING UNDERGROUND UTILITIES AND STRUCTURES THAT ARE NOT SHOWN ON THE PLANS OR ARE IN LOCATIONS OTHER THAN AS SHOWN. CONTRACTORS ARE ADVISED OF THEIR OBLIGATIONS TO NOTIFY ALL FACILITY OWNERS, NOT LESS THAN 3 OR MORE THAN 10 DAYS PRIOR TO EXCAVATION, VIA ONE CALL(S) IN ACCORDANCE WITH THE REQUIREMENTS OF THE ACT [1-800-242-1776 OR 412-464-7100 (PITTSBURGH)], AND TO PRECISELY IDENTIFY THE LOCATION OF, AVOID DAMAGE TO AND REPAIR DAMAGED UNDERGROUND UTILITIES.

LIST OF DRAWINGS

SHEET NO.	DESCRIPTION
G1	COVER SHEET
G2	GENERAL NOTES, LEGEND AND ABBREVIATIONS
C1	EXISTING CONDITIONS OVERALL SITE PLAN, SHEET INDEX
C2	EXISTING RESERVOIR PLAN, SHEET 1 OF 3
C3	EXISTING RESERVOIR PLAN, SHEET 2 OF 3
C4	EXISTING RESERVOIR PLAN, SHEET 3 OF 3
C5	EXISTING CONDITIONS, ENLARGED PLAN OF DAM
C6	EXISTING CONDITIONS, DAM CROSS SECTIONS
C7	SURVEY CONTROL PLAN, SHEET 1 OF 3
C8	SURVEY CONTROL PLAN, SHEET 2 OF 3
C9	SURVEY CONTROL PLAN, SHEET 3 OF 3
C10	DEMOLITION PLAN, SHEET 1 OF 3
C11	DEMOLITION PLAN, SHEET 2 OF 3
C12	DEMOLITION PLAN, SHEET 3 OF 3
C13	DEMOLITION DETAILS, VALVE HOUSE
C14	RESERVOIR GRADING PLAN, SHEET 1 OF 3
C15	RESERVOIR GRADING PLAN, SHEET 2 OF 3
C16	RESERVOIR GRADING PLAN, SHEET 3 OF 3
C17	RESERVOIR CROSS SECTIONS, SHEET 1 OF 2
C18	RESERVOIR CROSS SECTIONS, SHEET 2 OF 2
C19	PROPOSED CONDITIONS, ENLARGED PLAN OF DAM
C20	PROPOSED DAM SECTIONS, SHEET 1 OF 4
C21	PROPOSED DAM SECTIONS, SHEET 2 OF 4
C22	PROPOSED DAM SECTIONS, SHEET 3 OF 4

SHEET NO.	DESCRIPTION
C23	PROPOSED DAM SECTIONS, SHEET 4 OF 4
C24	TYPICAL STREAM CROSS SECTIONS
C25	PROPOSED STREAM PROFILES, SHEET 1 OF 3
C26	PROPOSED STREAM PROFILES, SHEET 2 OF 3
C27	PROPOSED STREAM PROFILES, SHEET 3 OF 3
C28	STREAM DETAILS, SHEET 1 OF 2
C30	ACB DETAILS, SHEET 1 OF 2
C31	ACB DETAILS, SHEET 2 OF 2
C32	STORM SEWER PROFILES AND DETAILS
C33	STORM SEWER DETAILS
ES1	EROSION CONTROL PLAN - SITE PLAN - STAGE 1
ES2	EROSION CONTROL PLAN - SITE PLAN - STAGE 2
ES3	EROSION CONTROL PLAN - SITE PLAN - STAGE 3
ES4	EROSION CONTROL PLAN NARRATIVE, SHEET 1 OF 2
ES5	EROSION CONTROL PLAN NARRATIVE, SHEET 2 OF 2
ES6	EROSION CONTROL PLAN DETAILS, SHEET 1 OF 4
ES7	EROSION CONTROL PLAN DETAILS, SHEET 2 OF 4
ES8	EROSION CONTROL PLAN DETAILS, SHEET 3 OF 4
ES9	EROSION CONTROL PLAN DETAILS, SHEET 4 OF 4

SHEET NO.	DESCRIPTION
L1	LANDSCAPE PLAN - SITE LAYOUT PLAN, SHEET 1 OF 3
L2	LANDSCAPE PLAN - SITE LAYOUT PLAN, SHEET 2 OF 3
L3	LANDSCAPE PLAN - SITE LAYOUT PLAN, SHEET 3 OF 3
L4	LANDSCAPE PLAN - ENLARGED SITE PLAN
L5	LANDSCAPE PLAN - SITE DETAILS
L6	LANDSCAPE PLAN - SITE DETAILS
L7	LANDSCAPE PLAN - SITE DETAILS
L8	LANDSCAPE PLAN - SITE DETAILS
L9	LANDSCAPE PLAN - SITE DETAILS
L10	LANDSCAPE PLAN - SITE DETAILS
L11	LANDSCAPE PLAN - SITE DETAILS
L12	LANDSCAPE PLAN - SITE DETAILS
L13	LANDSCAPE PLAN - SITE DETAILS
L14	LANDSCAPE PLAN - SITE DETAILS
L15	LANDSCAPE PLAN - SITE DETAILS
L16	LANDSCAPE PLAN - SITE DETAILS
L17	LANDSCAPE PLAN - PLANTING LAYOUT PLAN
L18	LANDSCAPE PLAN - PLANTING LAYOUT PLAN
L19	LANDSCAPE PLAN - PLANTING LAYOUT PLAN
L20	LANDSCAPE PLAN - PLANTING LAYOUT PLAN

NO.	DESCRIPTION	REVISIONS	
		DATE	BY

ABBREVIATIONS

A	AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
	ACI	AMERICAN CONCRETE INSTITUTE
	AC-FT	ACRE-FOOT (FEET)
	ADDL	ADDITIONAL
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
	AL	ALUMINUM
	ALLOW.	ALLOWABLE
	ALT	ALTERNATE
	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
	APPROX	APPROXIMATE(LY)
	ASW	AUXILIARY SPILLWAY
	AVG	AVERAGE
	AWWA	AMERICAN WATER WORKS ASSOCIATION
	@	AT

B	BF	BLIND FLANGE OR BACK FACE
	BFF	BELOW FINISHED FLOOR
	BFG	BELOW FINISHED GRADE
	BFV	BUTTERFLY VALVE
	ℓ	BASELINE
	BM	BENCHMARK
	BOT	BOTTOM
	B.P.	BEGINNING POINT

C	C/C, C.C., C TO C	CENTER TO CENTER
	ℓ	CENTERLINE
	CI	CAST IRON
	CIP	CAST IN PLACE OR CAST IRON PIPE
	CJ	CONSTRUCTION JOINT
	CLR	CLEARANCE, CLEAR, CLEAR DISTANCE
	CMP	CORRUGATED METAL PIPE
	CONC	CONCRETE
	CONST, CONSTR	CONSTRUCTION
	CONT	CONTINUOUS
	CONTR	CONTRACTION
	CORR	CORRUGATED
	CF	CUBIC FOOT(FEET)
	CFM	CUBIC FEET PER MINUTE
	CFS	CUBIC FEET PER SECOND
	CY	CUBIC YARD(S)

D	DEPT	DEPARTMENT
	DI	DUCTILE IRON
	DIP	DUCTILE IRON PIPE
	DIA, Ø	DIAMETER
	DWG	DRAWING

E	E	EAST/EASTING COORDINATE
	EA	EACH
	EF	EACH FACE
	EL, EL.	ELEVATION
	EXP	EXPANSION
	EXP JT	EXPANSION JOINT
	EXT	EXTERIOR
	E&SC	EROSION AND SEDIMENT CONTROL
	EQ	EQUAL
	EW	EACH WAY

F	FF	FRONT FACE
	FM	FORCE MAIN
	FTG	FOOTING
	FT, FT/FT	FOOT/FEET, FEET PER FOOT

G	GALV.	GALVANIZED
	GIS	GEOGRAPHICAL INFORMATION SYSTEM
	GPD	GALLONS PER DAY
	GPM	GALLONS PER MINUTE

H	HEX	HEXAGONAL
	HDPE	HIGH DENSITY POLYETHYLENE
	HH	HAND HOLE
	HORIZ	HORIZONTAL

I	ID	INSIDE DIAMETER
	IN	INCH(ES)
	INTR	INTERIOR
	INV	INVERT

J	JT	JOINT
	JB	JUNCTION BOX

- ABBREVIATIONS NOTE:
- THIS IS A STANDARD LIST OF ABBREVIATIONS AND ALL THE ABBREVIATIONS SHOWN MAY NOT BE USED IN THIS SET OF DRAWINGS.

THIS DRAWING IS AND SHALL REMAIN THE PROPERTY OF GANNETT FLEMING, INC. ANY MISUSE, REUSE, ALTERATIONS, ADDITIONS AND/OR DELETIONS OF THESE DRAWINGS OR PROJECT EXTENSIONS OR OTHER PROJECTS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO GANNETT FLEMING, INC. IN THE EVENT THAT A CONFLICT ARISES BETWEEN THE SEALED DRAWINGS AND THE ELECTRONIC FILES, THE SEALED DRAWINGS WILL GOVERN.

L	LB	POUND
	LBS	POUNDS
	LF,	LINEAR FEET

M	MAX	MAXIMUM
	MH	MANHOLE
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MJ	MECHANICAL JOINT
	MSE	MECHANICALLY STABILIZED EMBANKMENT

N	N	NORTH/NORTHING COORDINATE
	N/A	NOT APPLICABLE
	NAD	NORTH AMERICAN DATUM
	NAVD	NORTH AMERICAN VERTICAL DATUM
	NGVD	NATIONAL GEODETIC VERTICAL DATUM
	NTS	NOT TO SCALE
	No., #	NUMBER

O	OC	ON CENTER
	OD	OUTSIDE DIAMETER
	OE	OVERHEAD ELECTRIC
	OPNG	OPENING
	OZ	OUNCE

P	P.C.	POINT OF CURVATURE
	PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
	PCF	POUNDS PER CUBIC FOOT
	PE	PLAIN END
	P.I.	POINT OF INFLECTION
	PL	PLATE
	POB	POINT OF BEGINNING
	POI	POINT OF INTERSECTION
	PSF	POUNDS PER SQUARE FOOT
	PSI	POUNDS PER SQUARE INCH
	PSW	PRINCIPAL SPILLWAY
	P.T.	POINT OF TANGENCY
	PVC	POLYVINYL CHLORIDE OR POINT VERTICAL CURVATURE
	PVI	POINT VERTICAL INTERSECTION
	PVT	POINT VERTICAL TANGENCY

Q	QTY	QUANTITY
----------	-----	----------

R	R	RADIUS
	RCP	REINFORCED CONCRETE PIPE
	REIN	REINFORCED
	REQ'D	REQUIRED
	RGS	RIGID GALVANIZED STEEL
	RJ	RESTRAINED JOINT
	ROW	RIGHT OF WAY

S	SECT	SECTION
	SF	SQUARE FOOT (FEET)
	SHT	SHEET
	SPA	SPACING
	SO	SQUARE
	SS	STAINLESS STEEL
	STA	STATION
	STD	STANDARD
	SY	SQUARE YARD

T	TEMP	TEMPORARY
	TOPO	TOPOGRAPHY
	TYP., TYP., (TYP)	TYPICAL

U	UNO	UNLESS OTHERWISE NOTED
	USGS	U.S. GEOLOGICAL SURVEY
	U/S	UPSTREAM

V	VC	VERTICAL CURVE
	VERT	VERTICAL
	VOL	VOLUME

W	WM	WATERMAIN
	W/	WITH
	W/O	WITHOUT
	WT	WEIGHT

Y	YD	YARD
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EXISTING LEGEND

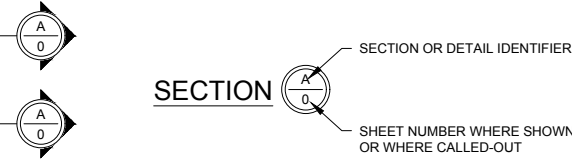
	EXISTING MAJOR CONTOUR		TREE - DECIDUOUS
	EXISTING MINOR CONTOUR		TREE - CONIFEROUS
	UNDERGROUND ELECTRIC		SHRUB
	OVERHEAD ELECTRIC		BORING INSTRUMENTED WITH PIEZOMETER
	GAS		BORING
	UNDERGROUND TELECOMMUNICATIONS		TEST PIT
	OVERHEAD TELECOMMUNICATIONS		IRON PIN
	UNDERGROUND CABLE TV		CONTROL POINT
	OVERHEAD CABLE TV		BENCHMARK
	WATERMAIN		MARKER POST
	24" WATER PIPE		RAILROAD SPIKE
	36" WATER PIPE		SURVEY MONUMENT
	42" WATER PIPE		PK NAIL
	UNDERGROUND UTILITIES DUCT BANK		POST
	FIBER OPTIC		WELL
	FORCE MAIN		WATER VALVE
	SANITARY SEWER		WATER METER
	STORM SEWER		WATER CURB BOX
	AIR LINE		FIRE HYDRANT
	RIPRAP		CLEANOUT
	SWALE / DITCH		SPIGOT
	LIMIT OF DETAILED FIELD SURVEY		DOWNSPOUT
	PROPERTY LINE		STORM MANHOLE
	RIGHT OF WAY		STORM INLET
	EASEMENT LINE		SANITARY MANHOLE
	CENTERLINE / BASELINE		VENT
	EDGE OF WATER		GAS VALVE
	VEGETATION		GAS METER
	BRUSH		GAS CURB BOX
	HEDGE ROW		CABLE TV UTILITY BOX
	FENCE		TELECOMMUNICATIONS UTILITY BOX
	GUIDE RAIL		TELECOMMUNICATIONS MANHOLE
	HANDRAIL		ELECTRICAL MANHOLE
	RAILROAD		ELECTRICAL UTILITY BOX
	PROTECTIVE FENCE		LIGHT POST
	SILT FENCE		UTILITY POLE
	SHEETPILE		GUY WIRE
	WETLAND		GUY POLE
	PROPOSED MAJOR CONTOUR		MANHOLE - UNKNOWN UTILITY
	PROPOSED MINOR CONTOUR		JUNCTION BOX
	GEOTEXTILE		MAILBOX
	LIMIT OF WORK		SIGN
	CULTURAL RESOURCES		STUMP
	EARTH SLOPE (SLOPING 1)		WEIR
	CONCRETE SURFACE SLOPE (SLOPING 1)		
	TOP OF ROCK		
	EARTH SUBGRADE		
	WATER LEVEL (FOR SECTIONS AND PROFILES)		
	FLOW ARROW		
	BORING INSTRUMENTED WITH PIEZOMETER		
	BORING		
	TEST PIT		
	SPOT ELEVATION		
	LIMIT OF TOPOGRAPHIC SURVEY		

- EXISTING LEGEND NOTE:
- THIS IS A STANDARD LIST OF SYMBOLS AND ALL THE SYMBOLS SHOWN MAY NOT BE USED IN THIS SET OF DRAWINGS.

GENERAL DRAFTING NOTES:

- GREY OR LIGHT LINEWORK GENERALLY REPRESENT EXISTING FEATURES, WHEREAS DARKER BLACK LINEWORK IS GENERALLY INTENDED TO DEPICT NEW CONSTRUCTION.
- DIMENSION AND TEXT CALLOUTS
 - EXISTING FEATURES TEXT IS SLANTED AS SHOWN HERE.

SECTION SYMBOLS:



NORTH ARROW:



PROJECT GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO ORDERING MATERIALS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO THOROUGHLY REVIEW AND UNDERSTAND THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF ERRORS, OMISSIONS, AND/OR DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO ORDERING MATERIALS.
- PROPOSED CONTOURS REPRESENT FINISHED GRADE (I.E., TOP OF TOPSOIL, TOP OF PAVEMENT, TOP OF ROCK RIPRAP, ETC.).
- MATCH EXISTING GRADES, CURB HEIGHTS, SIDEWALK WIDTHS, ETC. AT ALL LOCATIONS WHERE PROPOSED WORK ACTIVITIES MEET EXISTING FACILITIES.
- RAISE OR LOWER ALL EXISTING UTILITY VALVES, COVERS, GRATES, ETC. AS NEEDED TO BE FLUSH WITH THE PROPOSED FINAL GRADE.
- ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE ENGINEER AND OWNER DO NOT CERTIFY THE CORRECTNESS OR COMPLETENESS OF THE EXISTING UTILITY PORTRAYAL. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND THE OWNER PRIOR TO INITIATION OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR COORDINATING HIS ACTIVITIES WITH THE UTILITY COMPANIES AND THE OWNER.
- THE CONTRACTOR SHALL DEVELOP A VEHICULAR AND PEDESTRIAN SAFETY PLAN THAT COVERS THE DURATION OF THE PROJECT. SAID PLAN SHALL BE SUBMITTED TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO THE START OF CONSTRUCTION. SAID PLAN SHALL INCLUDE MEASURES SUCH AS SIGNAGE, TEMPORARY WALKWAYS, PROTECTIVE FENCING, FLAGMEN, AND/OR OTHER MEASURES AS DEEMED NECESSARY TO PROTECT THE SAFETY OF THE TRAVELING PUBLIC ALONG BOTH RESERVOIR ROAD AND EAST STRASBURG ROAD THROUGHOUT THE CONSTRUCTION PERIOD.
- THE PROJECT WILL INVOLVE WORK WITHIN THE MILLTOWN DAM RESERVOIR WHICH HAS A CONTRIBUTING DRAINAGE AREA OF APPROXIMATELY 6.3 SQUARE MILES. WATER ELEVATIONS AT THE PROJECT SITE WILL VARY DEPENDING ON STREAM FLOWS AND WEATHER CONDITIONS. THE CONTRACTOR IS MADE AWARE THAT STREAM AND/OR RESERVOIR LEVELS WILL VARY. THE CONTRACTOR SHALL MAKE PROVISIONS FOR CONDUCTING WORK IN VARIABLE WATER CONDITIONS AND SHALL INCLUDE SUCH MEASURES IN HIS BASE BID.
- ALL CONSTRUCTION EQUIPMENT, WITH THE EXCEPTION OF DEWATERING EQUIPMENT, SHALL BE REMOVED FROM THOSE AREAS OF THE RESERVOIR LOCATED BELOW THE TOP OF DAM ELEVATION (EL. 347.5) AT THE END OF EACH WORK DAY. CHEMICAL POLLUTANTS, INCLUDING FUEL, TRANSMISSION FLUIDS, GREASE, OILS, ETC. SHALL BE CONTAINED IN WATERTIGHT CONTAINERS AND SHALL NOT BE LOCATED OR STORED IN AREAS WHICH COULD BECOME INUNDATED OR OTHERWISE RESULT IN SAID MATERIAL BEING CONVEYED AND/OR DISCHARGED INTO WATERS OF THE COMMONWEALTH.
- ALL TREES LOCATED WITHIN THE WORK AREA THAT ARE TO REMAIN SHALL BE PROTECTED WITH FENCING. LOCATE PROTECTIVE FENCE AT THE DRIP LINE OF EACH TREE TO BE PROTECTED. AT NO TIME SHALL VEHICLES, EQUIPMENT, AND/OR MATERIALS BE STORED OVER EXISTING TREE ROOTS AND AT NO TIME SHALL VEHICLES OF ANY KIND BE ALLOWED TO TRAVERSE OR PARK ON EXISTING TREE ROOTS.
- CONTRACTOR SHALL NOTIFY THE PA FISH AND BOAT COMMISSION SOUTHEAST REGIONAL OFFICE (PHONE NUMBER: 215-968-3631) AT LEAST FIVE DAYS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE CHESTER COUNTY CONSERVATION DISTRICT (PHONE NUMBER: 610-925-4920) AT LEAST SEVEN DAYS PRIOR TO THE START OF CONSTRUCTION AND AGAIN AT THE COMPLETION OF THE PROJECT. THE DISTRICT SHALL MAKE A DETERMINATION IF THE SITE IS PERMANENTLY STABILIZED AND IF THE TEMPORARY EROSION CONTROL FACILITIES CAN BE REMOVED FROM SERVICE.
- UNTIL THE SITE IS PERMANENTLY STABILIZED, ALL EROSION CONTROL FACILITIES SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL FACILITIES AFTER EACH RAINFALL EVENT AND ON A DAILY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND ANCHORING OF SAID MULCH, SHALL BE PERFORMED IMMEDIATELY.
- MILLTOWN DAM WAS CONSTRUCTED IN THE EARLY 1920'S AS A WATER SUPPLY RESERVOIR AND REPLACED A LOW DIVERSION WEIR LOCATED APPROXIMATELY 500 FEET UPSTREAM FROM THE CURRENT DAM. THE CONTRACTOR IS MADE AWARE THAT EXCAVATION ACTIVITIES MAY ENCOUNTER REMNANENTS OF PAST CONSTRUCTION ACTIVITIES AND NO ADDITIONAL PAYMENT WILL BE MADE TO REMOVE AND PROPERLY DISPOSE OF SAID REMNANENTS.

w:\426active\jss\60466 - east goshen township\05 working\CADD\01 milltown dam\Design Set\General Notes, Legend and Abbreviation.dwg
Plot Date: 2/26/2020 12:36 PM, Plotted By: Helen Johnson P.

NO.	DESCRIPTION	DATE	BY	
REVISIONS				

DESIGNED	CADD	SCALE
WCH	TDT	AS SHOWN
DRAWN	CHECKED	APPROVED
TDT	ECN	ECN

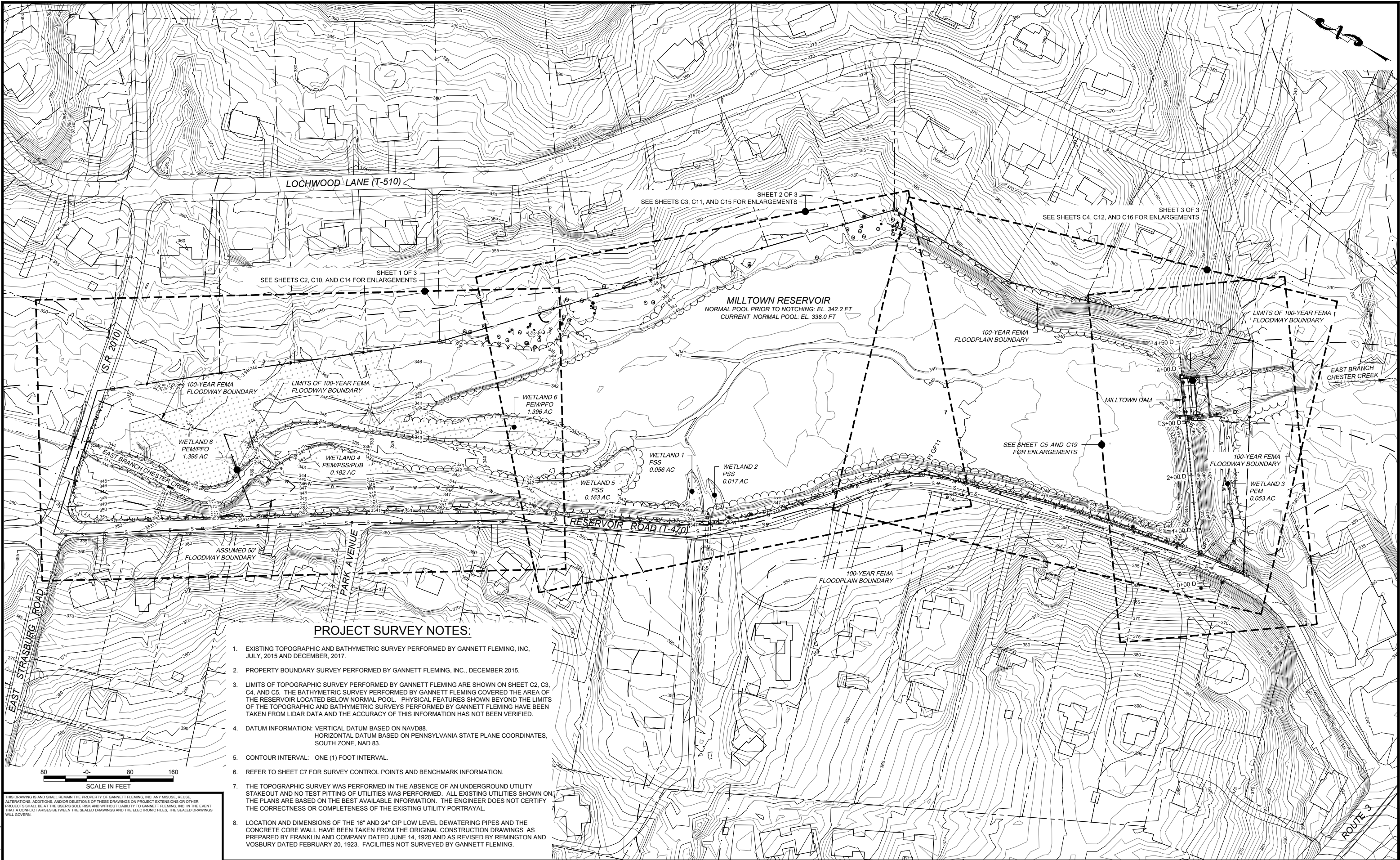


Gannett Fleming

EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

GENERAL NOTES, LEGEND
AND ABBREVIATIONS

JOB NO.	SHEET NO.
60466	G2
DATE	DRAWING NO.
FEB. 2020	



PROJECT SURVEY NOTES:

- EXISTING TOPOGRAPHIC AND BATHYMETRIC SURVEY PERFORMED BY GANNETT FLEMING, INC. JULY, 2015 AND DECEMBER, 2017.
- PROPERTY BOUNDARY SURVEY PERFORMED BY GANNETT FLEMING, INC., DECEMBER 2015.
- LIMITS OF TOPOGRAPHIC SURVEY PERFORMED BY GANNETT FLEMING ARE SHOWN ON SHEET C2, C3, C4, AND C5. THE BATHYMETRIC SURVEY PERFORMED BY GANNETT FLEMING COVERED THE AREA OF THE RESERVOIR LOCATED BELOW NORMAL POOL. PHYSICAL FEATURES SHOWN BEYOND THE LIMITS OF THE TOPOGRAPHIC AND BATHYMETRIC SURVEYS PERFORMED BY GANNETT FLEMING HAVE BEEN TAKEN FROM LIDAR DATA AND THE ACCURACY OF THIS INFORMATION HAS NOT BEEN VERIFIED.
- DATUM INFORMATION: VERTICAL DATUM BASED ON NAVD83. HORIZONTAL DATUM BASED ON PENNSYLVANIA STATE PLANE COORDINATES, SOUTH ZONE, NAD 83.
- CONTOUR INTERVAL: ONE (1) FOOT INTERVAL.
- REFER TO SHEET C7 FOR SURVEY CONTROL POINTS AND BENCHMARK INFORMATION.
- THE TOPOGRAPHIC SURVEY WAS PERFORMED IN THE ABSENCE OF AN UNDERGROUND UTILITY STAKEOUT AND NO TEST PITTING OF UTILITIES WAS PERFORMED. ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE ENGINEER DOES NOT CERTIFY THE CORRECTNESS OR COMPLETENESS OF THE EXISTING UTILITY PORTRAYAL.
- LOCATION AND DIMENSIONS OF THE 16" AND 24" CIP LOW LEVEL DEWATERING PIPES AND THE CONCRETE CORE WALL HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS AS PREPARED BY FRANKLIN AND COMPANY DATED JUNE 14, 1920 AND AS REVISED BY REMINGTON AND VOSSBURY DATED FEBRUARY 20, 1923. FACILITIES NOT SURVEYED BY GANNETT FLEMING.

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NO.	DESCRIPTION	DATE	BY

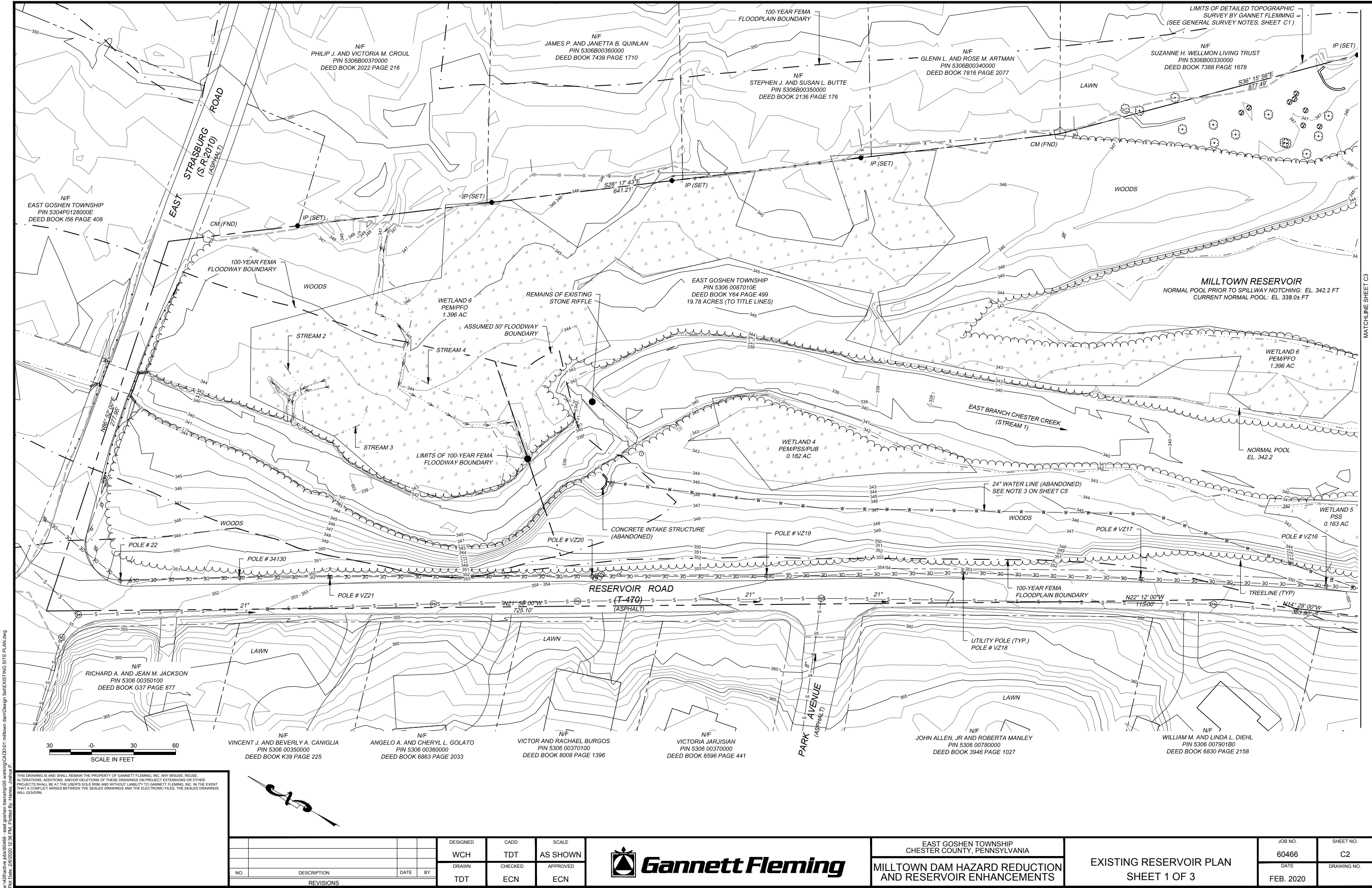
DESIGNED	CADD	SCALE
WCH	TDI	AS SHOWN
DRAWN	CHECKED	APPROVED
TDI	ECN	ECN



EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

EXISTING CONDITIONS OVERALL SITE PLAN AND SHEET INDEX

JOB NO. 60466	SHEET NO. C1
DATE FEB. 2020	DRAWING NO.



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Plot Date: 2/25/2020 12:36 PM, Plotted By: James P. Joshi

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REVISIONS			

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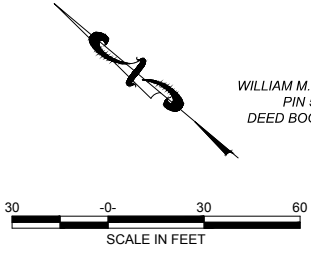
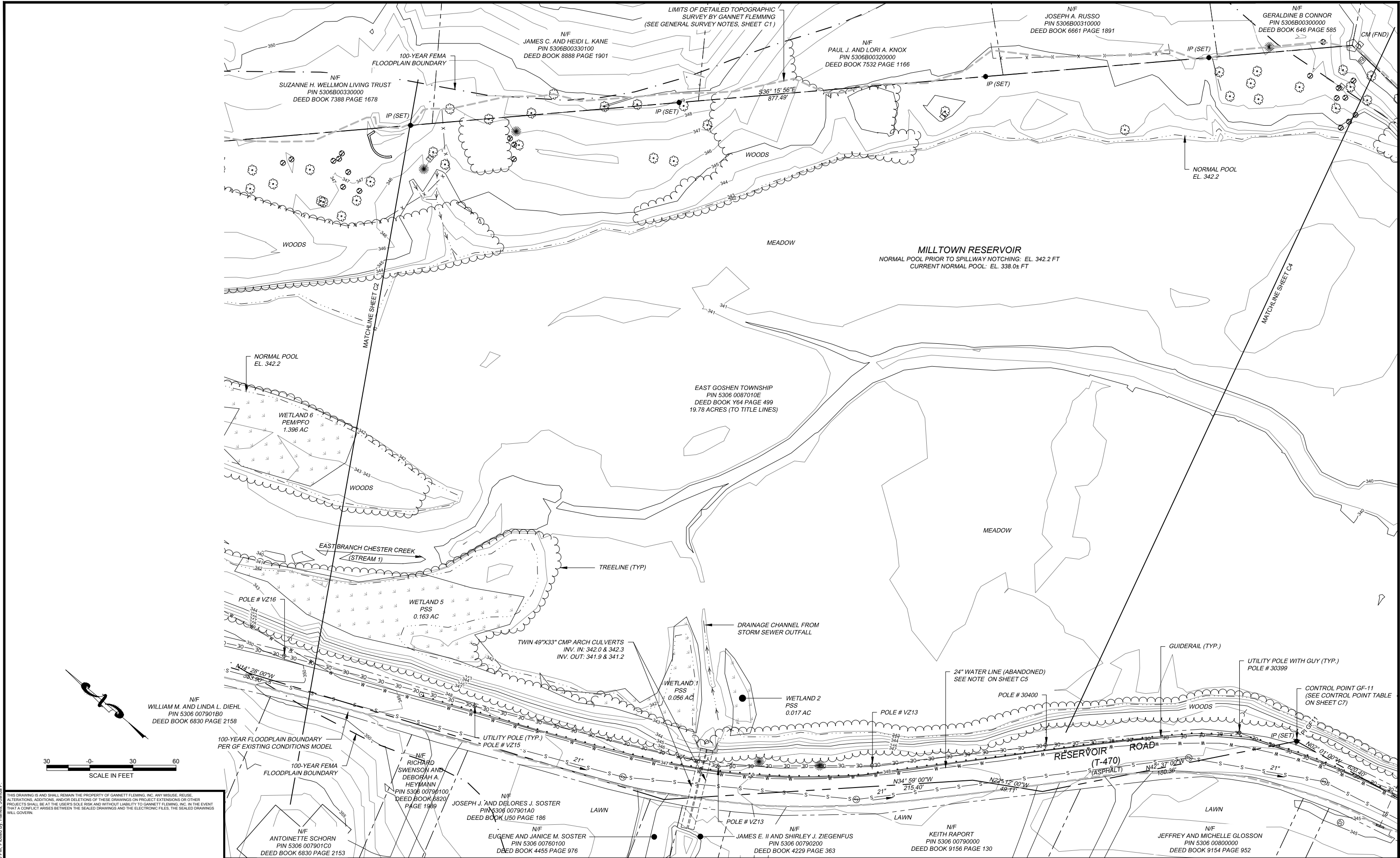
EAST GOSHEN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

MILLTOWN DAM HAZARD REDUCTION
AND RESERVOIR ENHANCEMENTS

EXISTING RESERVOIR PLAN
SHEET 1 OF 3

JOB NO.	SHEET NO.
60466	C2
DATE	DRAWING NO.
FEB. 2020	

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EAST GOSHEN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

MILLTOWN DAM HAZARD REDUCTION
AND RESERVOIR ENHANCEMENTS

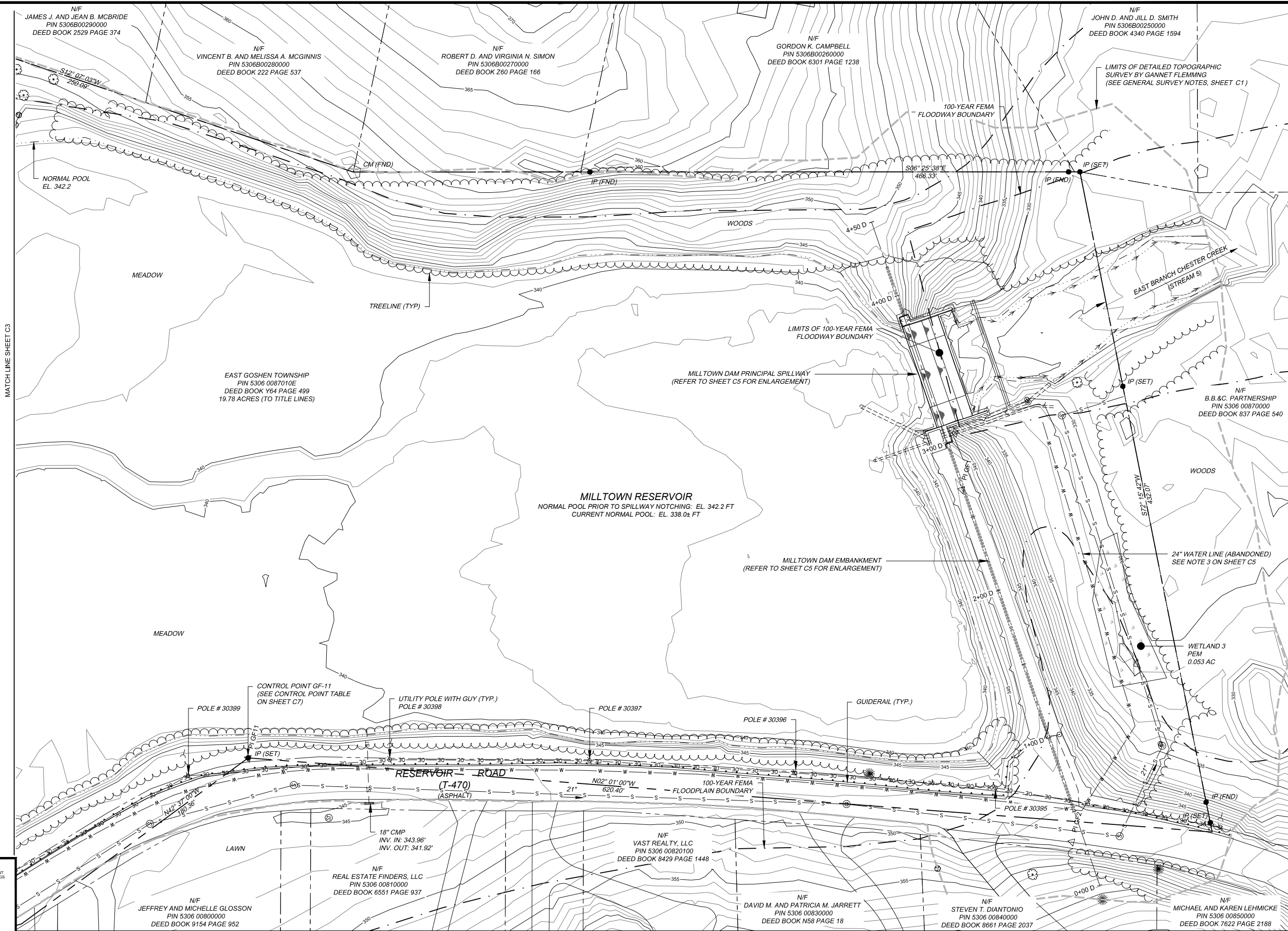
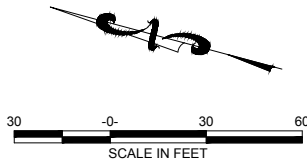
JOB NO.	SHEET NO.
60466	C3
DATE	DRAWING NO.
FEB. 2020	

EXISTING RESERVOIR PLAN SHEET 2 OF 3

JOB NO.	SHEET NO.
60466	C3
DATE	DRAWING NO.
FEB. 2020	

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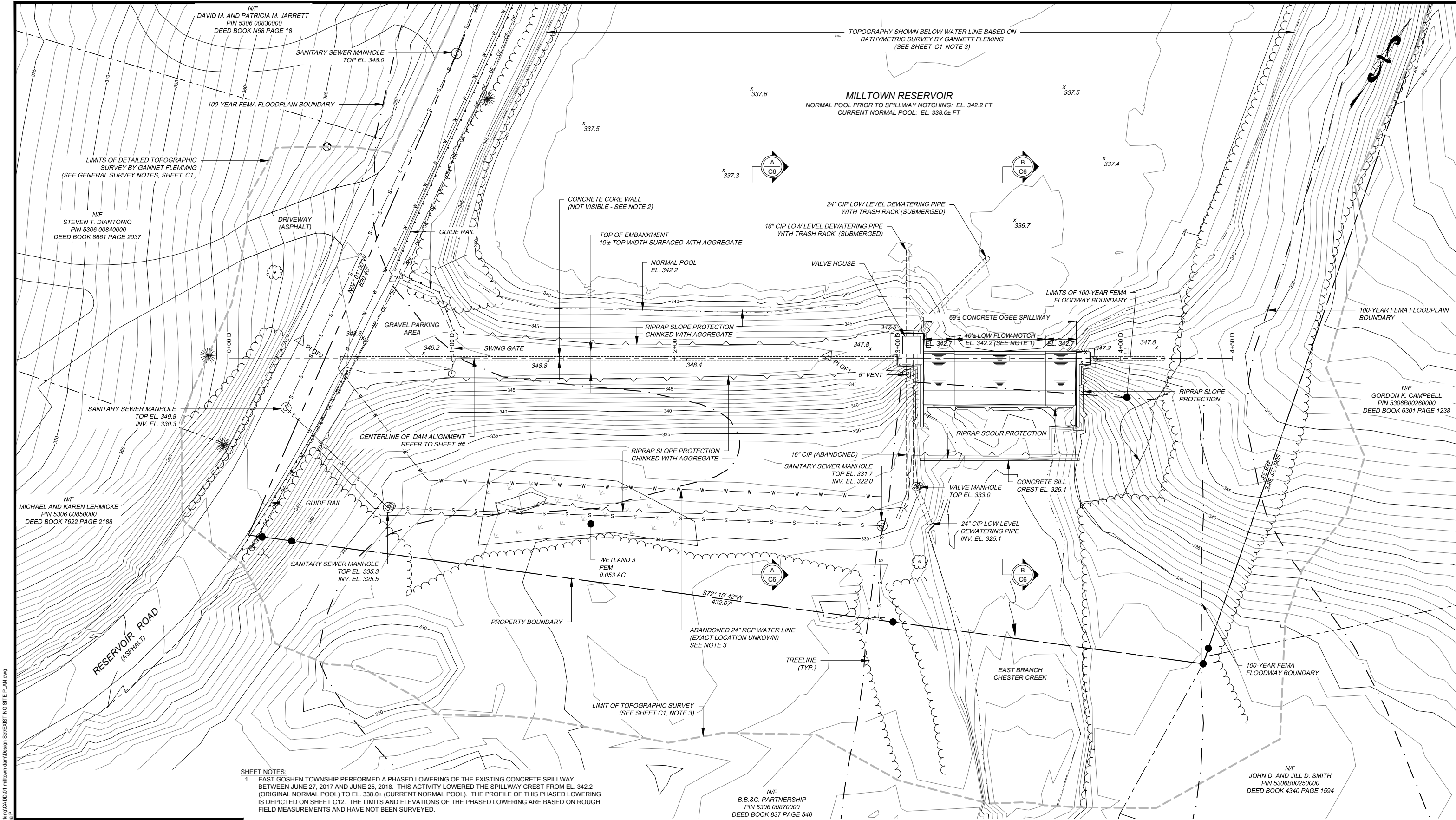


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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

EXISTING RESERVOIR PLAN
SHEET 3 OF 3

JOB NO.	SHEET NO.
60466	C4
DATE	DRAWING NO.
FEB. 2020	



SHEET NOTES:

- EAST GOSHEN TOWNSHIP PERFORMED A PHASED LOWERING OF THE EXISTING CONCRETE SPILLWAY BETWEEN JUNE 27, 2017 AND JUNE 25, 2018. THIS ACTIVITY LOWERED THE SPILLWAY CREST FROM EL. 342.2 (ORIGINAL NORMAL POOL) TO EL. 338.0± (CURRENT NORMAL POOL). THE PROFILE OF THIS PHASED LOWERING IS DEPICTED ON SHEET C12. THE LIMITS AND ELEVATIONS OF THE PHASED LOWERING ARE BASED ON ROUGH FIELD MEASUREMENTS AND HAVE NOT BEEN SURVEYED.
- LOCATION AND DIMENSIONS OF SUBSURFACE FEATURES, INCLUDING THE 16" AND 24" CIP LOW LEVEL DEWATERING PIPES AND THE CONCRETE CORE WALL, HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS AS PREPARED BY FRANKLIN AND COMPANY DATED JUNE 14, 1920 AND AS REVISED BY REMINGTON AND VOSBURY DATED FEBRUARY 20, 1923.
- THE 24" RCP WATER LINE IS SHOWN PER THE CHESTER CREEK INTERCEPTOR AND COLLECTION SEWERS PLAN, COMPLETED BY WESTON ENVIRONMENTAL CONSULTANTS-DESIGNERS, DATED FEBRUARY 14, 1978. FACILITIES NOT SURVEYED BY GANNETT FLEMING. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED BY GANNETT FLEMING AND EAST GOSHEN TOWNSHIP.

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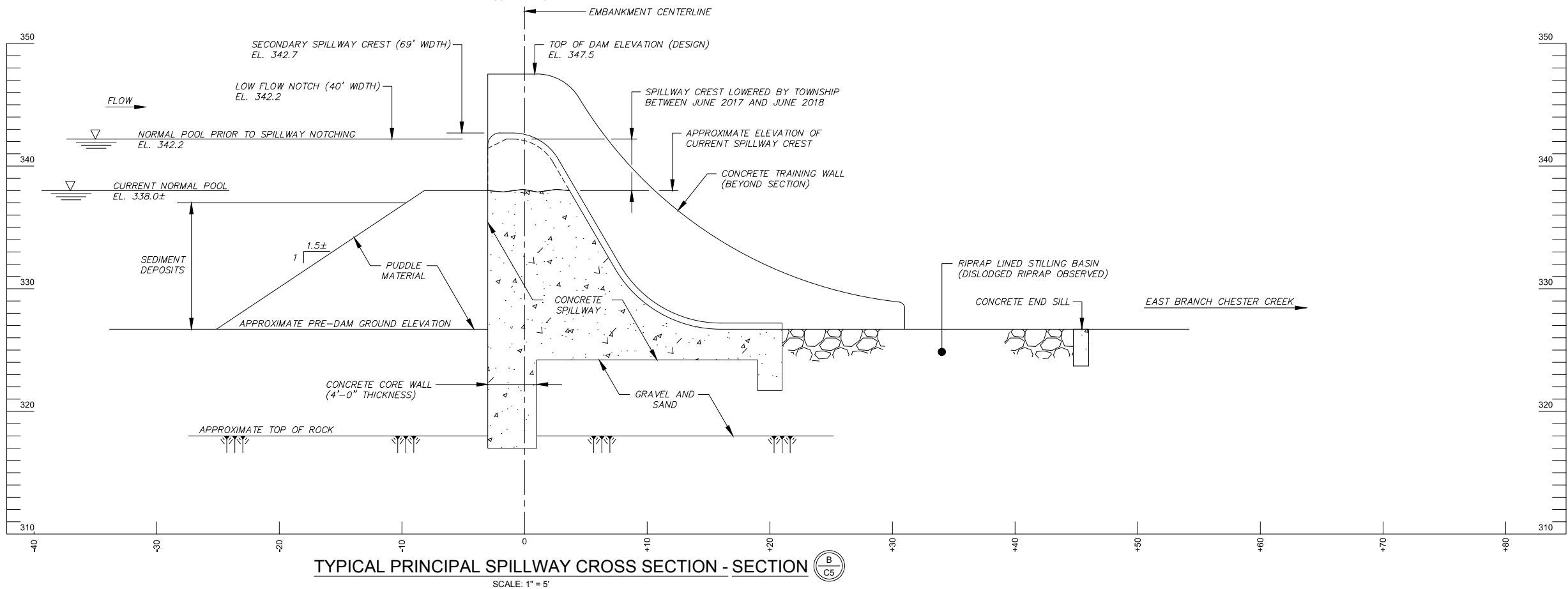
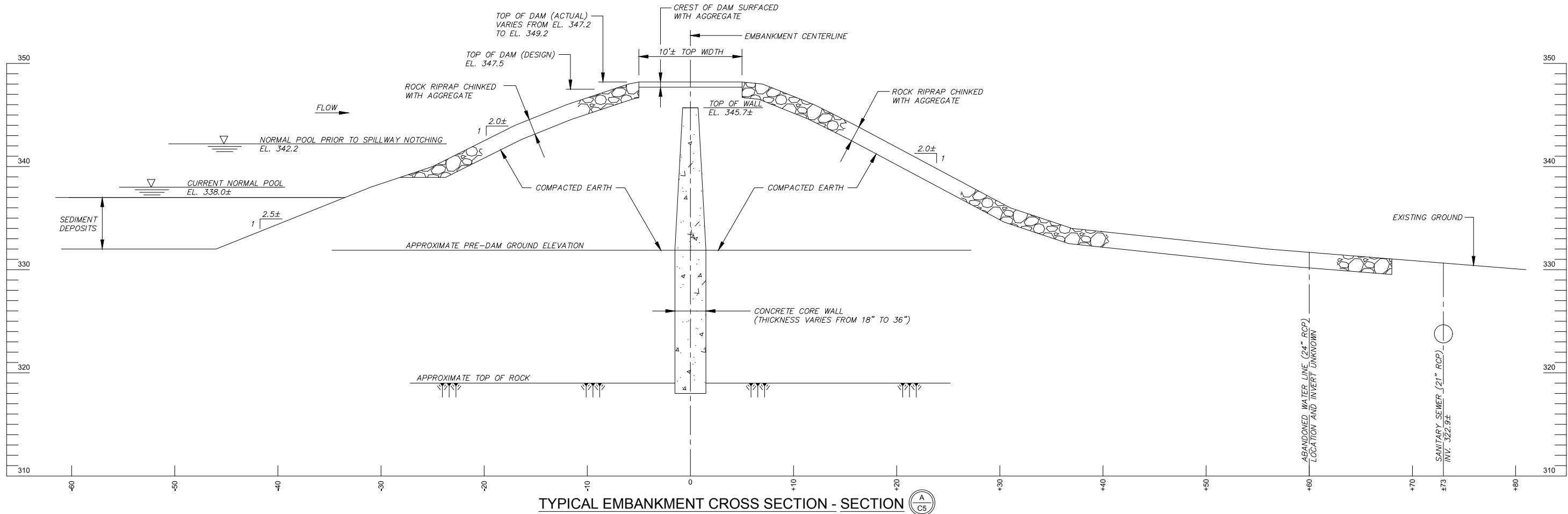
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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

EXISTING CONDITIONS
ENLARGED PLAN OF DAM

JOB NO.	SHEET NO.
60466	C5
DATE	DRAWING NO.
FEB. 2020	

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Plot Date: 2/26/2020 12:37 PM, Plotted By: Helen Joshius P.



SHEET NOTES:

1. LOCATION AND DIMENSIONS OF SUBSURFACE FEATURES SUCH AS THE CONCRETE CORE WALL, SPILLWAY FOUNDATION, BEDROCK, ETC. HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS AS PREPARED BY FRANKLIN AND COMPANY DATED JUNE 14, 1920 AND AS REVISED BY REMINGTON AND VOSBURY DATED FEBRUARY 20, 1923. SUBSURFACE FACILITIES HAVE NOT BEEN SURVEYED OR OTHERWISE VERIFIED BY GANNETT FLEMING OR EAST GOSHEN TOWNSHIP. GANNETT FLEMING AND EAST GOSHEN TOWNSHIP MAKE NO GUARANTEE TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION PORTRAYED.



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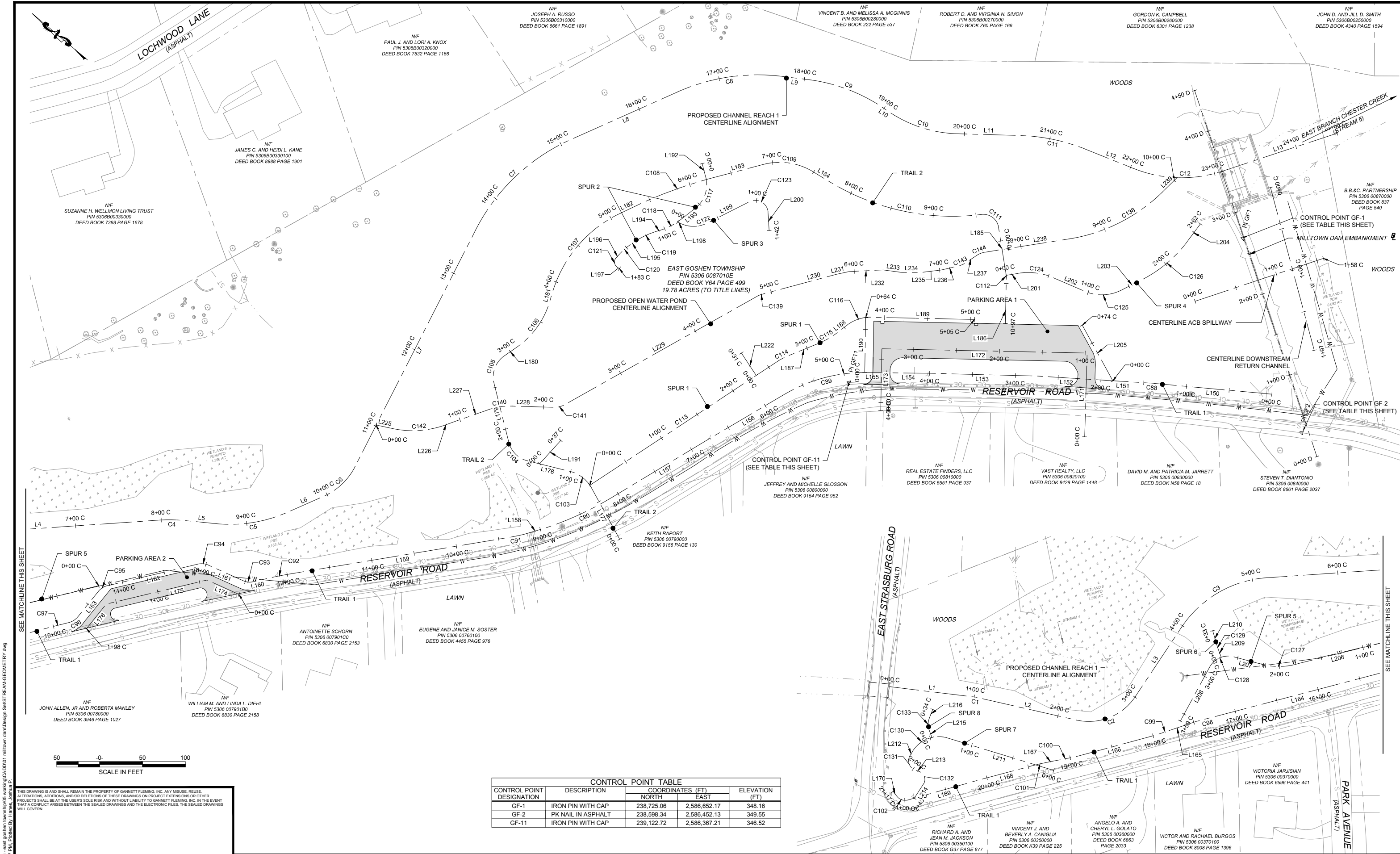


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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

EXISTING CONDITIONS
DAM CROSS SECTIONS

JOB NO.	SHEET NO.
60466	C6
DATE	DRAWING NO.
FEB. 2020	



CONTROL POINT TABLE				
CONTROL POINT DESIGNATION	DESCRIPTION	COORDINATES (FT)		ELEVATION (FT)
		NORTH	EAST	
GF-1	IRON PIN WITH CAP	238,725.06	2,586,652.17	348.16
GF-2	PK NAIL IN ASPHALT	238,598.34	2,586,452.13	349.55
GF-11	IRON PIN WITH CAP	239,122.72	2,586,367.21	346.52

NO.	DESCRIPTION	DATE	BY

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EAST GOSHEN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION
AND RESERVOIR ENHANCEMENTS

ALIGNMENT LAYOUT AND
SURVEY CONTROL PLAN
SHEET 1 OF 3


JOB NO.	SHEET NO.
60466	C7
DATE	DRAWING NO.
FEB. 2020	

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Gannett Fleming

CONSULTING ENGINEERS

EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA	
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS	

ALIGNMENT LAYOUT AND SURVEY CONTROL PLAN SHEET 2 OF 3	
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JOB NO. 60466	SHEET NO. C8
DATE FEB. 2020	DRAWING NO.

ALIGNMENT LAYOUT - LINE DATA				
LINE NO.	LENGTH (FT.)	BEARING ANGLE (DD°MM'SS")	BEGINNING POINT (NORTHING FT., EASTING FT.)	END POINT (NORTHING FT., EASTING FT.)
L1	98.99	S8° 33' 13.55"E	240509.43, 2585660.14	240411.53, 2585674.86
L2	118.16	S2° 42' 35.16"E	240406.46, 2585675.36	240288.43, 2585680.95
L3	97.46	S71° 48' 19.77"E	240229.76, 2585725.58	240199.33, 2585818.16
L4	278.74	S19° 26' 14.87"E	240119.09, 2585900.16	239856.24, 2585992.92
L5	34.92	S9° 47' 46.92"E	239823.71, 2586001.40	239789.30, 2586007.35
L6	46.31	S39° 23' 36.77"E	239712.66, 2586042.43	239676.87, 2586071.82
L7	309.64	S78° 29' 49.93"E	239650.97, 2586114.82	239589.23, 2586418.24
L8	135.93	S39° 32' 48.90"E	239510.29, 2586549.73	239405.47, 2586636.28
L9	30.56	S8° 25' 03.80"E	239292.70, 2586686.45	239262.46, 2586690.92
L10	8.88	S18° 27' 11.53"W	239169.88, 2586682.79	239161.46, 2586679.98
L11	72.55	S13° 52' 14.60"E	239078.02, 2586676.64	239007.59, 2586694.03
L12	60.59	S6° 18' 26.87"W	238928.93, 2586699.23	238868.71, 2586692.58
L13	141.34	S33° 47' 59.19"E	238768.78, 2586717.02	238651.33, 2586795.65
L150	137.42	N10° 17' 37.17"W	238643.24, 2586482.16	238778.45, 2586457.60
L151	62.84	N11° 56' 08.46"W	238784.07, 2586456.50	238845.56, 2586443.50
L152	68.27	N11° 56' 08.46"W	238845.56, 2586443.50	238912.35, 2586429.38
L153	128.69	N14° 03' 07.78"W	238912.35, 2586429.38	239037.19, 2586398.14
L154	43.43	N14° 51' 04.89"W	239037.19, 2586398.14	239079.17, 2586387.00
L155	20.69	N14° 31' 33.32"W	239079.17, 2586387.00	239099.20, 2586381.81
L156	96.40	N46° 03' 59.73"W	239193.36, 2586327.41	239260.25, 2586257.98

CHANNEL REACH 1

TRAIL 1

SPUR 2

SPUR 3

SPUR 4

SPUR 5

SPUR 6

SPUR 7

SPUR 8

ALIGNMENT LAYOUT - LINE DATA				
LINE NO.	LENGTH (FT.)	BEARING ANGLE (DD°MM'SS")	BEGINNING POINT (NORTHING FT., EASTING FT.)	END POINT (NORTHING FT., EASTING FT.)
L157	129.13	N46° 34' 36.35"W	239260.25, 2586257.98	239349.01, 2586164.20
L158	29.65	N32° 04' 05.53"W	239415.89, 2586106.49	239441.02, 2586090.75
L159	246.40	N24° 59' 39.15"W	239458.93, 2586081.85	239682.26, 2585977.74
L160	10.41	N28° 01' 30.82"W	239721.24, 2585958.16	239730.43, 2585953.27
L161	44.93	N8° 38' 23.37"E	239740.35, 2585951.58	239784.77, 2585958.33
L162	107.94	N28° 56' 01.08"W	239797.45, 2585956.06	239891.92, 2585903.84
L163	37.89	N66° 30' 25.53"W	239900.58, 2585894.31	239915.68, 2585859.56
L164	215.33	N30° 15' 50.55"W	239946.28, 2585837.55	240132.26, 2585729.03
L165	35.76	N34° 05' 34.23"W	240153.36, 2585716.87	240182.97, 2585696.83
L166	86.91	N30° 36' 13.54"W	240201.38, 2585684.84	240276.18, 2585640.60
L167	6.33	N26° 19' 25.36"W	240302.02, 2585627.52	240307.69, 2585624.71
L168	64.55	N30° 27' 45.65"W	240323.84, 2585615.92	240379.48, 2585583.19
L169	86.56	N31° 13' 07.61"W	240379.48, 2585583.19	240453.51, 2585538.33
L170	6.44	N37° 55' 12.09"E	240467.16, 2585539.76	240472.25, 2585543.73
L171	97.68	N76° 10' 30.83"E	238840.30, 2586375.84	238863.64, 2586470.69
L172	239.46	N14° 17' 56.54"W	238863.64, 2586470.69	239095.68, 2586411.55
L173	72.12	S75° 32' 35.99"W	239095.68, 2586411.55	239077.68, 2586341.71
L174	40.90	N8° 38' 23.37"E	239741.51, 2585935.06	239781.94, 2585941.21
L175	120.72	N28° 56' 01.08"W	239781.94, 2585941.21	239887.59, 2585882.81
L176	36.88	N66° 30' 25.53"W	239887.59, 2585882.81	239902.29, 2585848.99

TRAIL 1

PARKING AREA 1

PARKING AREA 2

OPEN WATER POND ALIGNMENT

ALIGNMENT LAYOUT - LINE DATA				
LINE NO.	LENGTH (FT.)	BEARING ANGLE (DD°MM'SS")	BEGINNING POINT (NORTHING FT., EASTING FT.)	END POINT (NORTHING FT., EASTING FT.)
L177	67.96	N45° 43' 06.97"E	239330.88, 2586115.70	239378.33, 2586164.35
L178	50.97	N1° 30' 36.12"W	239408.02, 2586176.41	239458.97, 2586175.07
L179	70.77	N60° 25' 16.64"E	239485.86, 2586190.25	239520.79, 2586251.79
L180	17.03	S50° 12' 13.54"E	239517.75, 2586285.80	239506.85, 2586298.89
L181	11.51	S88° 46' 12.69"E	239483.70, 2586360.75	239483.46, 2586372.26
L182	31.37	S41° 00' 37.04"E	239435.59, 2586478.93	239411.91, 2586499.52
L183	58.43	S30° 17' 41.17"E	239336.93, 2586552.09	239286.48, 2586581.56
L184	24.29	S15° 35' 45.43"W	239228.48, 2586589.04	239205.09, 2586582.51
L185	50.22	S65° 21' 59.22"W	239002.41, 2586584.30	238981.47, 2586538.65
L186	48.18	S75° 42' 03.46"W	238976.67, 2586525.06	238964.77, 2586478.38
L187	35.81	S37° 48' 09.46"E	239197.23, 2586375.54	239168.94, 2586397.49
L188	13.92	S52° 49' 55.56"E	239150.55, 2586416.08	239142.14, 2586427.18
L189	120.39	S14° 18' 10.12"E	239117.39, 2586443.60	239000.73, 2586473.34
L190	63.75	N75° 33' 22.32"E	239107.60, 2586379.66	239123.50, 2586441.39
L191	36.92	S63° 17' 02.45"E	239444.44, 2586175.45	239427.84, 2586208.43
L192	16.27	S59° 48' 21.91"W	239355.38, 2586563.55	239347.19, 2586549.48
L193	20.04	N53° 36' 49.10"W	239349.27, 2586511.12	239361.16, 2586494.99
L194	0.09	N32° 06' 16.25"W	239383.04, 2586474.68	239383.12, 2586474.63
L195	4.68	N50° 49' 50.73"W	239407.45, 2586454.15	239410.40, 2586450.52
L196	4.66	N62° 18' 43.02"W	239420.62, 2586434.86	239422.78, 2586430.73

TRAIL 2

SPUR 1

SPUR 2

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Gannett Fleming

EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

ALIGNMENT LAYOUT AND
SURVEY CONTROL PLAN
SHEET 3 OF 3

JOB NO.	SHEET NO.
60466	C9
DATE	DRAWING NO.
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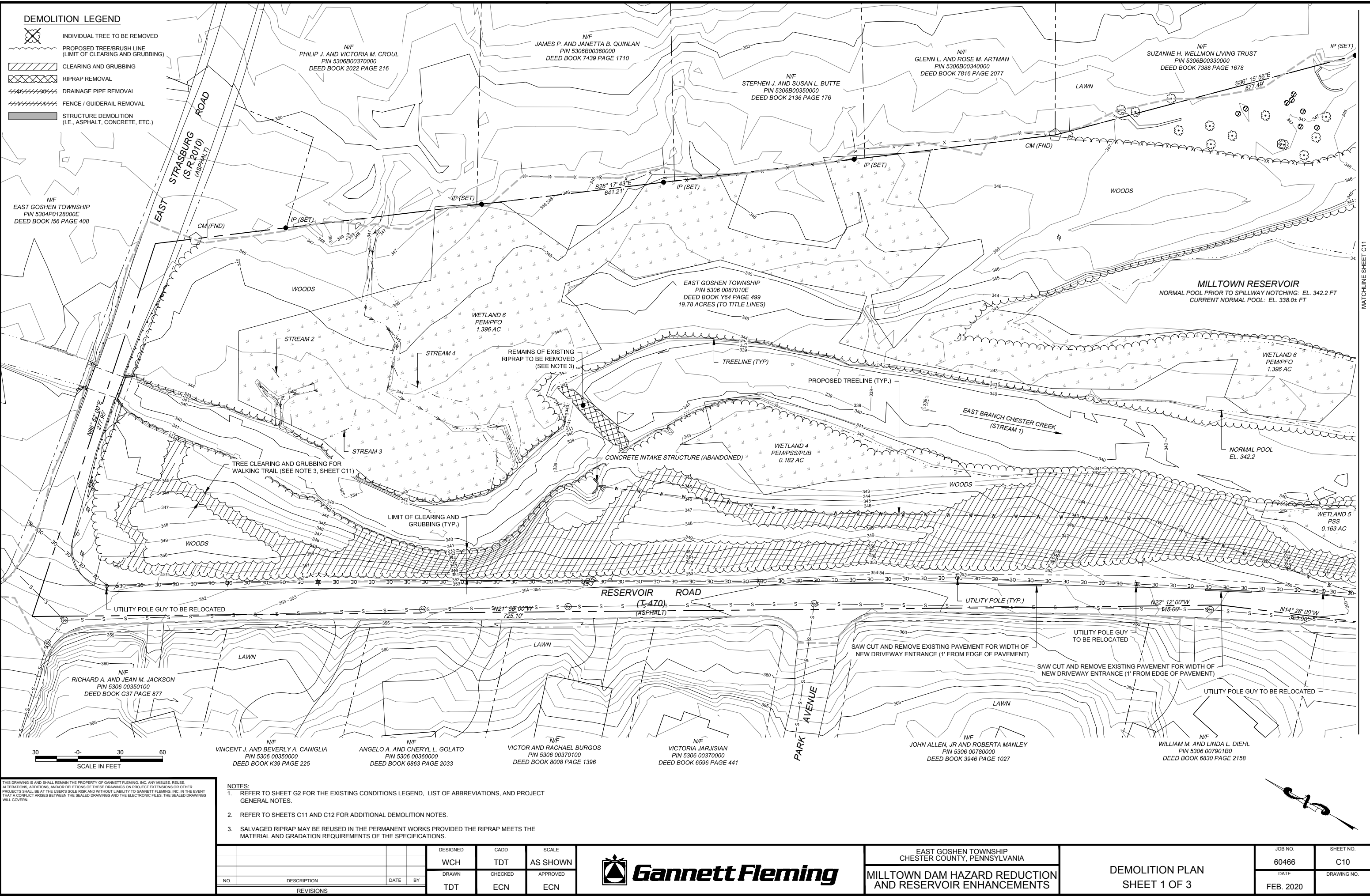
ALIGNMENT LAYOUT - CURVE DATA									
CURVE NO.	PI STATION (FT.)	PI NORTHING (FT.)	PI EASTING (FT.)	RADIUS (FT.)	DELTA ANGLE (DD°MM'SS")	TANGENT LENGTH (FT.)	CURVE LENGTH (FT.)	PC STATION (FT.)	PT STATION (FT.)
C1	1+01.54	240409.01	2585675.24	50.00	005°50'38"	2.55	5.10	0+98.99	1+04.09
C2	2+67.00	240243.73	2585683.06	65.00	069°05'45"	44.75	78.39	2+22.25	3+00.64
C3	4+62.02	240179.37	2585878.89	130.00	052°22'05"	63.92	118.82	3+98.10	5+16.92
C4	8+12.52	239840.33	2585998.53	200.00	009°38'28"	16.87	33.65	7+95.65	8+29.31
C5	9+07.82	239746.35	2586014.76	165.00	029°35'50"	43.59	85.23	8+64.23	9+49.46
C6	10+22.41	239656.28	2586088.72	75.00	039°06'13"	26.64	51.19	9+95.77	10+46.96
C7	14+37.93	239573.01	2586497.94	230.00	038°57'01"	81.33	156.36	13+56.60	15+12.95
C8	17+12.95	239356.07	2586677.07	230.00	031°07'45"	64.06	124.96	16+48.89	17+73.85
C9	18+52.19	239215.20	2586697.91	200.00	026°52'15"	47.78	93.80	18+04.41	18+98.21
C10	19+50.56	239120.22	2586666.22	150.00	032°19'26"	43.47	84.62	19+07.09	19+91.71
C11	21+04.29	238968.72	2586703.63	225.00	020°10'41"	40.03	79.24	20+64.25	21+43.49
C12	22+58.84	238814.28	2586686.56	150.00	040°06'26"	54.75	105.00	22+04.08	23+09.08
C88	1+40.29	238781.27	2586457.09	200.00	001°38'31"	2.87	5.73	1+37.42	1+43.15
C89	5+23.92	239154.58	2586368.97	186.41	033°55'03"	56.85	110.35	4+67.08	5+77.43
C90	8+47.42	239379.15	2586131.52	388.27	013°03'48"	44.46	88.53	8+02.96	8+91.49
C91	9+31.15	239449.80	2586085.95	259.04	004°25'29"	10.01	20.00	9+21.14	9+41.14
C92	12+09.38	239702.22	2585968.89	456.14	005°28'52"	21.84	43.64	11+87.55	12+31.18
C93	12+46.90	239735.11	2585950.78	16.00	036°39'54"	5.30	10.24	12+41.59	12+51.83
C94	13+03.57	239791.50	2585959.35	20.00	037°34'24"	6.80	13.12	12+98.77	13+09.88
C95	14+24.62	239897.87	2585900.55	20.00	037°34'24"	6.80	13.12	14+17.82	14+30.93

ALIGNMENT LAYOUT - CURVE DATA									
CURVE NO.	PI STATION (FT.)	PI NORTHING (FT.)	PI EASTING (FT.)	RADIUS (FT.)	DELTA ANGLE (DD°MM'SS")	TANGENT LENGTH (FT.)	CURVE LENGTH (FT.)	PC STATION (FT.)	PT STATION (FT.)
C116	3+69.88	239132.63	2586439.71	45.00	038°31'45"	15.73	30.26	3+54.15	3+84.42
C117	0+39.26	239335.64	2586529.62	35.00	066°34'49"	22.98	40.67	0+16.27	0+56.95
C118	0+92.18	239370.17	2586482.75	80.00	021°30'33"	15.20	30.03	0+76.99	1+07.02
C119	1+23.22	239396.96	2586466.38	98.53	018°34'34"	16.11	31.95	1+07.11	1+39.05
C120	1+53.13	239416.36	2586443.25	86.25	012°26'50"	9.41	18.74	1+43.73	1+62.47
C121	1+75.78	239426.42	2586422.87	7.46	098°30'18"	8.66	12.83	1+67.12	1+79.95
C122	0+21.22	239344.04	2586486.56	35.00	052°18'00"	17.18	31.95	0+04.04	0+35.99
C123	1+13.00	239274.37	2586549.96	15.01	110°32'32"	21.65	28.96	0+91.35	1+20.31
C124	0+35.66	238946.40	2586547.71	75.00	032°25'34"	21.81	42.45	0+13.85	0+56.30
C125	1+19.48	238862.19	2586536.18	50.00	050°17'00"	23.47	43.88	0+96.02	1+39.90
C126	2+02.57	238798.67	2586594.36	150.00	026°18'30"	35.06	68.87	1+67.51	2+36.39
C127	2+00.84	240076.05	2585800.82	77.24	034°59'20"	24.35	47.17	1+76.49	2+23.66
C128	2+74.29	240151.01	2585800.81	25.00	076°15'09"	19.62	33.27	2+54.67	2+87.94
C129	0+12.30	240152.56	2585806.56	50.00	004°22'28"	1.91	3.82	0+10.39	0+14.21
C130	1+57.36	240455.64	2585620.22	36.26	073°15'08"	26.96	46.36	1+30.40	1+76.76
C131	1+96.56	240467.73	2585575.08	11.70	100°10'39"	13.98	20.45	1+82.57	2+03.03
C132	2+18.62	240438.33	2585572.35	9.96	089°59'50"	9.95	15.64	2+08.67	2+24.31
C133	0+16.46	240455.19	2585629.50	20.00	042°14'57"	7.73	14.75	0+08.74	0+23.48
C138	9+21.04	238861.21	2586619.94	200.00	035°26'48"	63.92	123.73	8+57.12	9+80.85
C139	4+86.04	239249.94	2586433.84	25.00	014°21'02"	3.15	6.26	4+82.89	4+89.15

ALIGNMENT LAYOUT - CURVE DATA									
CURVE NO.	PI STATION (FT.)	PI NORTHING (FT.)	PI EASTING (FT.)	RADIUS (FT.)	DELTA ANGLE (DD°MM'SS")	TANGENT LENGTH (FT.)	CURVE LENGTH (FT.)	PC STATION (FT.)	PT STATION (FT.)
C96	14+75.68	239918.42	2585853.27	20.00	037°51'40"	6.86	13.22	14+68.82	14+82.03
C97	14+94.60	239935.47	2585843.96	716.32	002°00'36"	12.57	25.13	14+82.03	15+07.17
C98	17+34.67	240142.88	2585723.07	1099.34	001°16'10"	12.18	24.36	17+22.49	17+46.85
C99	17+93.60	240191.88	2585690.38	222.23	005°39'54"	11.00	21.97	17+82.60	18+04.58
C100	19+05.97	240288.95	2585633.76	639.54	002°35'43"	14.49	28.97	18+91.49	19+20.45
C101	19+35.97	240315.90	2585620.57	296.68	003°33'01"	9.19	18.38	19+26.78	19+45.16
C102	21+04.61	240460.83	2585534.36	12.13	068°56'44"	8.33	14.60	20+96.28	21+10.88
C103	0+85.45	239390.54	2586176.87	40.00	047°13'43"	17.49	32.97	0+67.96	1+00.93
C104	1+69.91	239476.97	2586174.59	30.00	081°55'53"	18.00	32.43	1+51.91	1+84.33
C105	2+75.87	239531.04	2586269.85	30.00	069°22'30"	20.76	36.32	2+55.10	2+91.43
C106	3+43.44	239484.45	2586325.77	100.00	038°33'59"	34.99	67.31	3+08.46	3+75.77
C107	4+50.76	239482.09	2586435.72	150.00	045°52'38"	63.48	120.11	3+87.28	5+07.39
C108	5+84.71	239376.63	2586528.95	547.20	009°35'57"	45.95	91.68	5+38.76	6+30.44
C109	7+20.62	239259.07	2586597.58	75.00	045°53'27"	31.75	60.07	6+88.87	7+48.94
C110	8+68.32	239113.50	2586556.95	275.00	038°09'03"	95.10	183.11	7+73.23	9+56.34
C111	9+73.70	239009.64	2586600.08	18.00	087°55'17"	17.36	27.62	9+56.34	9+83.96
C112	10+41.41	238978.46	2586532.07	80.00	010°20'04"	7.23	14.43	10+34.18	10+48.61
C113	1+31.08	239295.24	2586265.98	127655.87	000°07'04"	131.08	262.16	0+00.00	2+62.16
C114	2+70.20	239203.61	2586370.65	93.01	009°52'24"	8.03	16.03	2+62.16	2+78.19
C115	3+27.19	239158.52	2586405.57	100.00	015°01'46"	13.19	26.23	3+14.00	3+40.23

ALIGNMENT LAYOUT - CURVE DATA									
CURVE NO.	PI STATION (FT.)	PI NORTHING (FT.)	PI EASTING (FT.)	RADIUS (FT.)	DELTA ANGLE (DD°MM'SS")	TANGENT LENGTH (FT.)	CURVE LENGTH (FT.)	PC STATION (FT.)	PT STATION (FT.)
C140	1+49.36	239507.28	2586228.37	80.19	021°02'45"	14.90	29.46	1+34.46	1+63.92
C141	2+18.83	239439.49	2586245.01	25.00	031°06'01"	6.96	13.57	2+11.87	2+25.44
C142	0+51.63	239588.58	2586171.07	112.55	032°18'08"	32.59	63.45	0+19.04	0+82.49
C143	7+26.68	239031.72	2586530.42	25.00	020°20'51"	4.49	8.88	7+22.20	7+31.08
C144	7+52.51	239014.72	2586549.98	25.00	024°29'20"	5.43	10.69	7+47.08	7+57.77

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TDT	ECN	ECN

EAST GOSHEN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

MILLTOWN DAM HAZARD REDUCTION
AND RESERVOIR ENHANCEMENTS

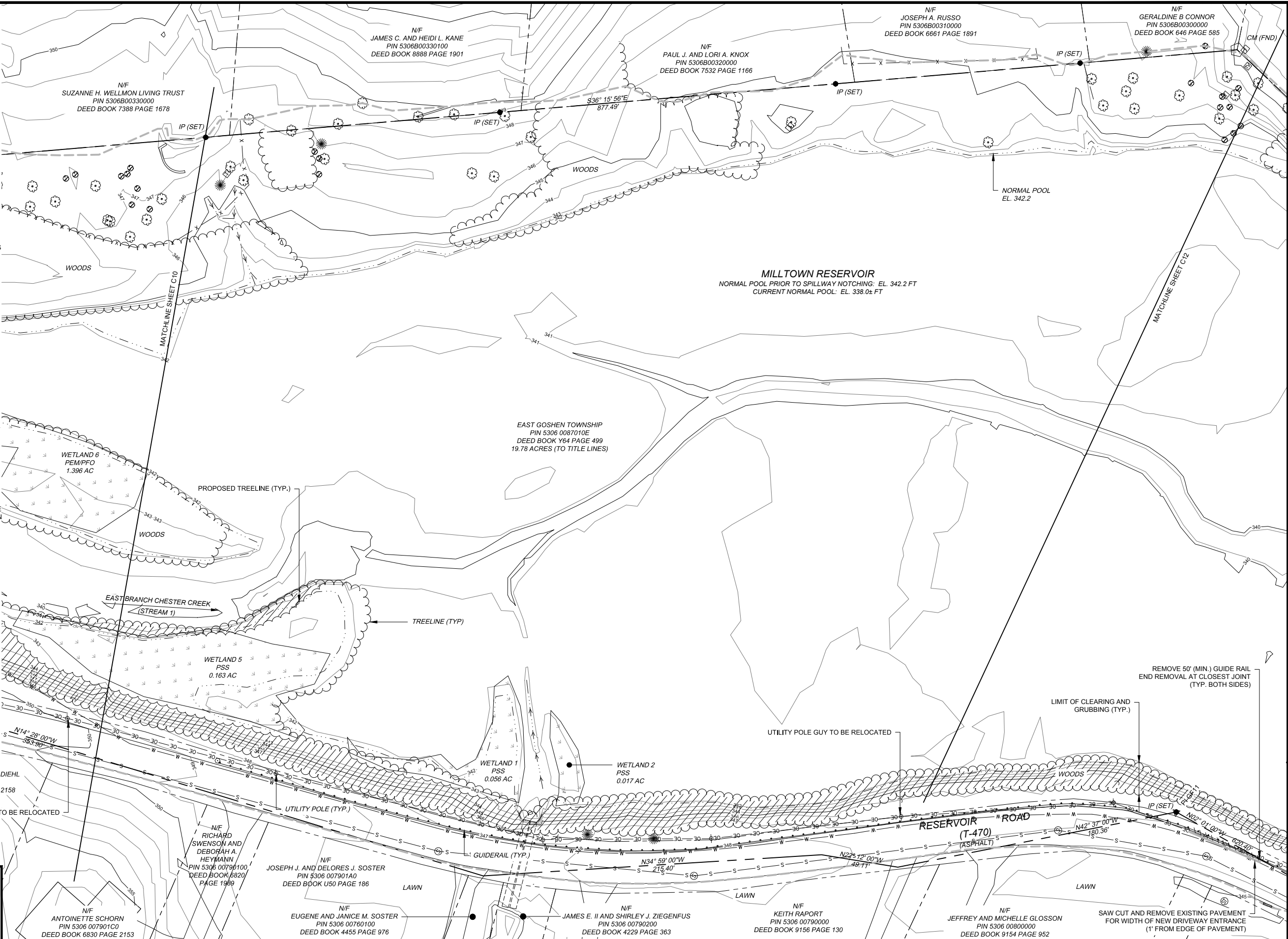
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60466	C10
DATE	DRAWING NO.
FEB. 2020	

DEMOLITION LEGEND

- INDIVIDUAL TREE TO BE REMOVED
- PROPOSED TREE/BRUSH LINE
(LIMIT OF CLEARING AND GRUBBING)
- CLEARING AND GRUBBING
- RIPRAP REMOVAL
- DRAINAGE PIPE REMOVAL
- FENCE / GUIDERAIL REMOVAL
- STRUCTURE DEMOLITION
(I.E., ASPHALT, CONCRETE, ETC.)

NOTES:

- REFER TO SHEET G2 FOR THE EXISTING CONDITIONS LEGEND, LIST OF ABBREVIATIONS, AND PROJECT GENERAL NOTES.
- CONTRACTOR SHALL DEMARCAT E CLEARING AND GRUBBING LIMITS AND INDIVIDUAL TREES TO BE REMOVED IN THE FIELD. ALL CLEARING AND GRUBBING AND INDIVIDUAL TREE REMOVAL SHALL BE APPROVED BY THE TOWNSHIP PRIOR TO THE START OF WORK.
- LAYOUT OF WALKING TRAILS, IN COORDINATION WITH THE ENGINEER, MAY BE ADJUSTED IN THE FIELD AS NEEDED TO AVOID/MINIMIZE TREE CUTTING.
- ALL WASTE AND DEMOLITION MATERIAL (INCLUDING CLEARING AND GRUBBING) SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- TOPSOIL FROM AREAS IMPACTED BY TEMPORARY AND/OR PERMANENT GRADING ACTIVITIES SHALL BE STRIPPED AND STOCKPILED SEPARATELY FOR USE IN PERMANENT STABILIZATION. THE CONTRACTOR IS ADVISED THAT THE VOLUME OF ONSITE TOPSOIL IS UNKNOWN AND IMPORTING OF TOPSOIL TO THE SITE MAY BE NECESSARY IN ORDER TO PERMANENTLY STABILIZE THE SITE.
- THE SEQUENCE OF CONSTRUCTION, LOCATION OF TEMPORARY ACCESS ROADS AND HAUL ROUTES, METHODS FOR DEWATERING THE SITE, THE LOCATION OF SPOIL/STOCKPILE AREAS, TEMPORARY STREAM DIVERSION MEASURES, ETC. SHALL BE AS SHOWN ON THE DRAWINGS. SHOULD THE CONTRACTOR WISH TO DEViate FROM THE APPROVED PLAN, APPROVAL OF THOSE CHANGES MAY BE REQUIRED FROM THE U.S. ARMY CORPS OF ENGINEER, DEP DAM SAFETY, AND/OR THE COUNTY CONSERVATION DISTRICT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPROVALS, INCLUDING ALL ASSOCIATED COSTS.
- AT NO TIME SHALL THE CONVEYANCE CAPACITY OF EXISTING DRAINAGE FEATURES BE REDUCED, COMPROMISED OR OTHERWISE RESTRICTED BEYOND THE LIMITS OF THE FINAL GRADES SHOWN ON THE CONTRACT DRAWINGS.
- PERMANENT WETLAND DISTURBANCES, IF ANY, SHALL BE LIMITED TO THOSE PERMANENT GRADING ACTIVITIES SHOWN ON THE DRAWINGS. TEMPORARY WETLAND IMPACTS AS NEEDED TO FACILITATE CONSTRUCTION OF THE PERMANENT WORKS SHALL BE REPAIRED OR OTHERWISE AVOIDED BY USE OF TEMPORARY WOOD MATS OR TEMPORARY STEEL PLATES. NO DISTURBANCE SHALL OCCUR BEYOND THE LIMIT OF DISTURBANCE (LOD) LINE.
- EXISTING UTILITIES TO REMAIN SHALL BE PROTECTED FROM DAMAGE THROUGHOUT THE DURATION OF THE PROJECT.



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NO.	DESCRIPTION	DATE	BY
REVISIONS			

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TDI	ECN	ECN



Gannett Fleming

EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

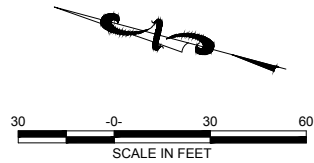
DEMOLITION PLAN SHEET 2 OF 3		JOB NO. 60466	SHEET NO. C11
DATE FEB. 2020		DRAWING NO.	

DEMOLITION LEGEND

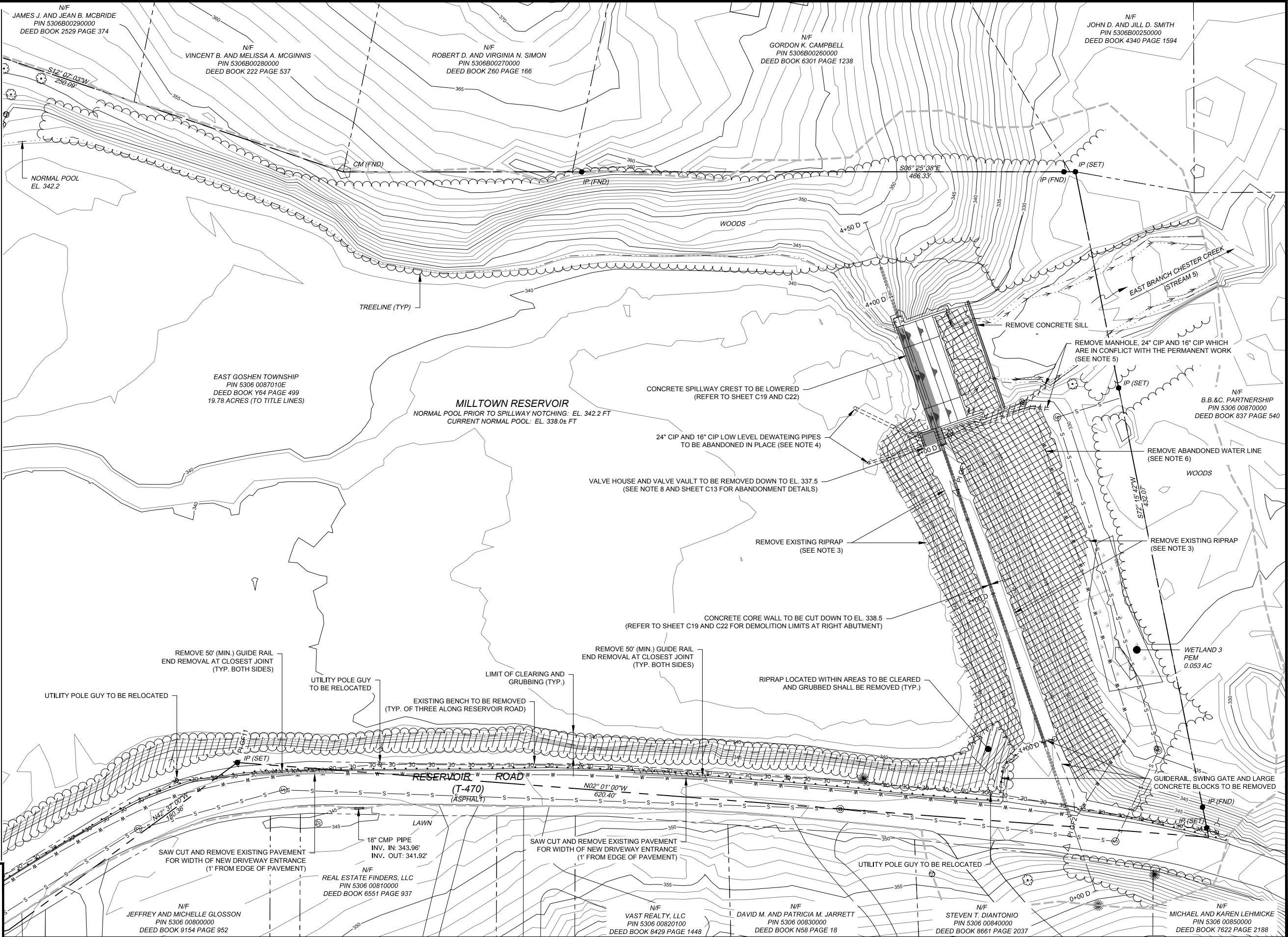
- INDIVIDUAL TREE TO BE REMOVED
- PROPOSED TREE/BRUSH LINE (LIMIT OF CLEARING AND GRUBBING)
- CLEARING AND GRUBBING
- RIPRAP REMOVAL
- DRAINAGE PIPE REMOVAL
- FENCE / GUIDERAIL REMOVAL
- STRUCTURE DEMOLITION (I.E., ASPHALT, CONCRETE, ETC.)

- NOTES:
- REFER TO SHEET G2 FOR THE EXISTING CONDITIONS LEGEND, LIST OF ABBREVIATIONS, AND PROJECT GENERAL NOTES.
 - REFER TO SHEET C11 FOR ADDITIONAL DEMOLITION NOTES.
 - SALVAGED RIPRAP MAY BE REUSED IN THE PERMANENT WORKS PROVIDED THE RIPRAP MEETS THE MATERIAL AND GRADATION REQUIREMENTS OF THE SPECIFICATIONS.
 - THE EXISTING TRASH RACKS FROM THE 24" CIP AND 16" CIP LOW LEVEL DEWATERING PIPES (UPSTREAM OF VALVE VAULT) SHALL BE REMOVED AND THE PIPES SHALL BE ABANDONED IN PLACE WITH A CONCRETE PIPE PLUG (REFER TO SHEET C13 FOR DETAIL).
 - THOSE PORTIONS OF THE 24" CIP AND 16" CIP LOCATED DOWNSTREAM OF THE VALVE VAULT WHICH ARE TO REMAIN SHALL BE ABANDONED IN PLACE. CAP THE EXPOSED END(S) OF EACH PIPE TO REMAIN WITH A CONCRETE PIPE PLUG (REFER TO SHEET C13 FOR DETAIL). REFER TO SHEET C13 FOR ABANDONMENT PROCEDURES WITHIN THE VALVE VAULT.
 - THOSE PORTIONS OF THE ABANDONED 24" WATER LINE WHICH CONFLICT WITH THE INSTALLATION OF THE PERMANENT WORKS SHALL BE REMOVED. PIPE WHICH REMAINS SHALL BE ABANDONED IN PLACE. CAP EXPOSED ENDS OF PIPE TO REMAIN WITH A CONCRETE PIPE PLUG (REFER TO SHEET C13 FOR DETAIL).
 - EXISTING BENCHES ALONG RESERVOIR ROAD AND LARGE CONCRETE BLOCKS (LOCATED AT EXISTING PARKING AREA OFF OF RESERVOIR ROAD) SHALL BE SALVAGED AND STOCKPILED AT A LOCATION DESIGNATED BY THE TOWNSHIP.
 - THE HAND CUT STONE FACING ON THE VALVE HOUSE SHALL BE SALVAGED AND STOCKPILED ONSITE AT A LOCATION DESIGNATED BY THE TOWNSHIP.

MATCH LINE SHEET C11



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				DESIGNED	CADD	SCALE	 Gannett Fleming	EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA		DEMOLITION PLAN SHEET 3 OF 3	JOB NO.	SHEET NO.
				WCH	TDT	AS SHOWN		60466	C12			
				DRAWN	CHECKED	APPROVED		MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS			DATE	DRAWING NO.
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REVISIONS												



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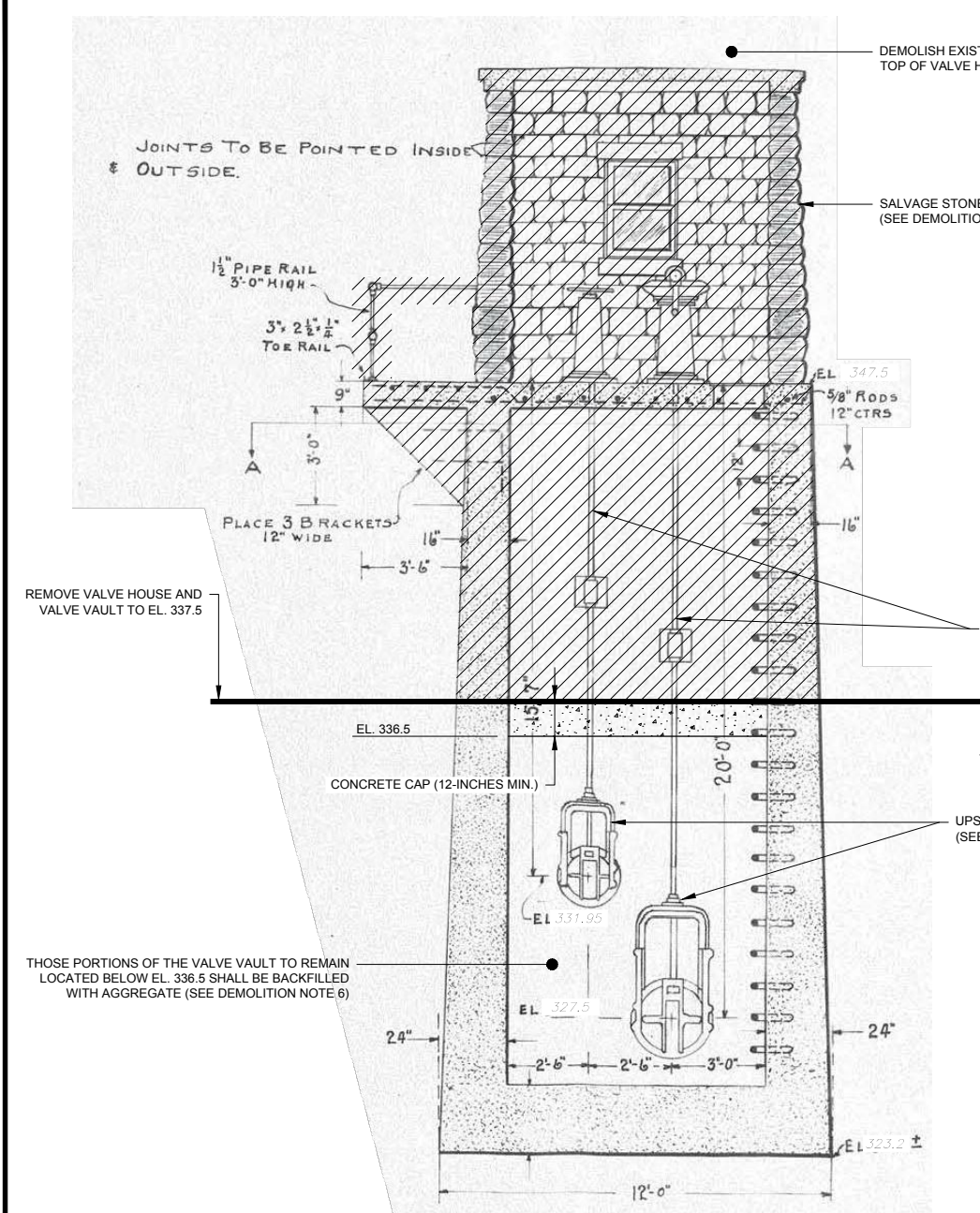
Gannett Fleming

EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

JOB NO. 60466	SHEET NO. C13
DATE FEB. 2020	DRAWING NO.

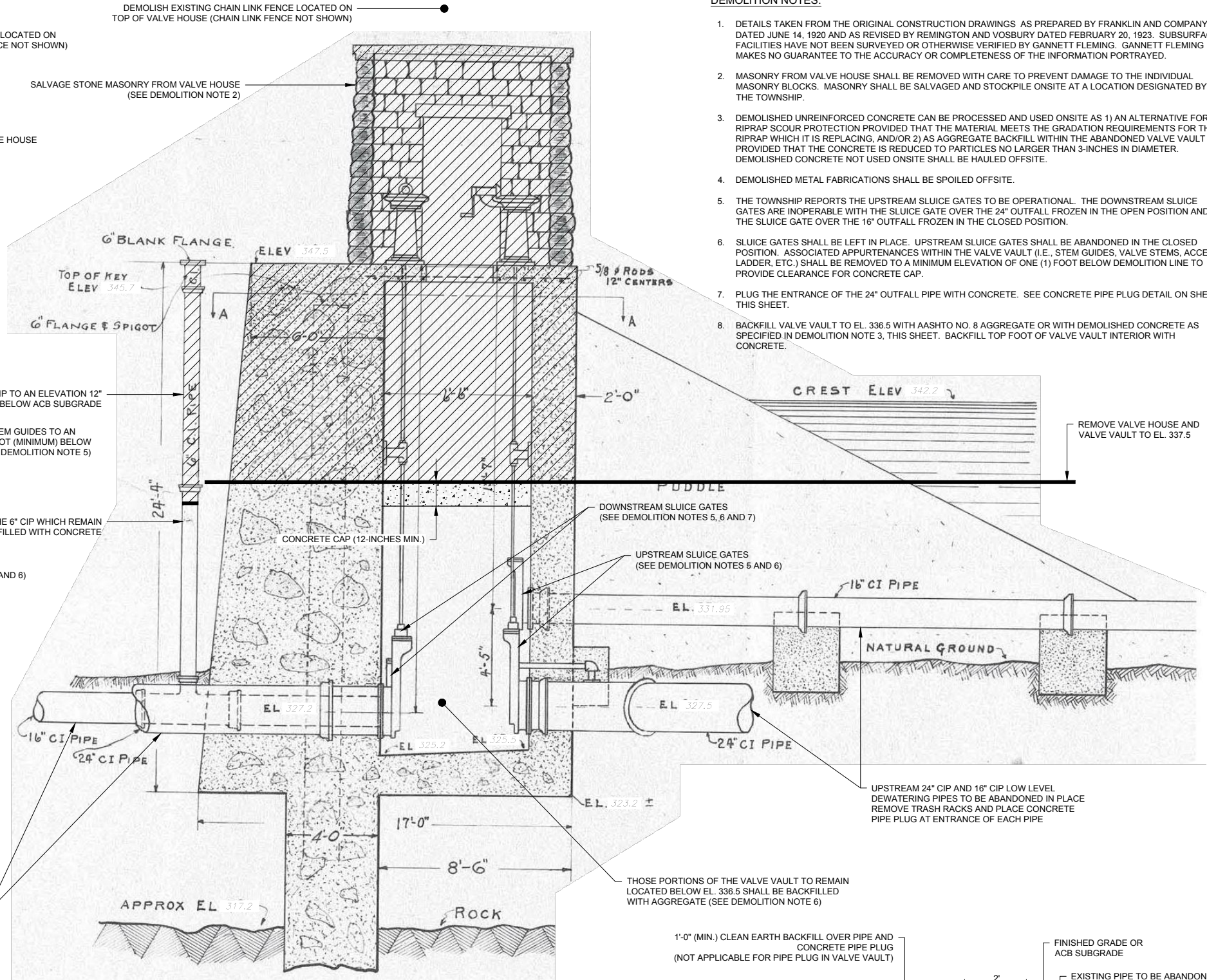
DEMOLITION NOTES:

- DETAILS TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS AS PREPARED BY FRANKLIN AND COMPANY DATED JUNE 14, 1920 AND AS REVISED BY REMINGTON AND VOSBURY DATED FEBRUARY 20, 1923. SUBSURFACE FACILITIES HAVE NOT BEEN SURVEYED OR OTHERWISE VERIFIED BY GANNETT FLEMING. GANNETT FLEMING MAKES NO GUARANTEE TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION PORTRAYED.
- MASONRY FROM VALVE HOUSE SHALL BE REMOVED WITH CARE TO PREVENT DAMAGE TO THE INDIVIDUAL MASONRY BLOCKS. MASONRY SHALL BE SALVAGED AND STOCKPILE ONSITE AT A LOCATION DESIGNATED BY THE TOWNSHIP.
- DEMOLISHED UNREINFORCED CONCRETE CAN BE PROCESSED AND USED ONSITE AS 1) AN ALTERNATIVE FOR RIPRAP SCOUR PROTECTION PROVIDED THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS FOR THE RIPRAP WHICH IT IS REPLACING, AND/OR 2) AS AGGREGATE BACKFILL WITHIN THE ABANDONED VALVE VAULT PROVIDED THAT THE CONCRETE IS REDUCED TO PARTICLES NO LARGER THAN 3-INCHES IN DIAMETER. DEMOLISHED CONCRETE NOT USED ONSITE SHALL BE HAULED OFFSITE.
- DEMOLISHED METAL FABRICATIONS SHALL BE SPOILED OFFSITE.
- THE TOWNSHIP REPORTS THE UPSTREAM SLUICE GATES TO BE OPERATIONAL. THE DOWNSTREAM SLUICE GATES ARE INOPERABLE WITH THE SLUICE GATE OVER THE 24" OUTFALL FROZEN IN THE OPEN POSITION AND THE SLUICE GATE OVER THE 16" OUTFALL FROZEN IN THE CLOSED POSITION.
- SLUICE GATES SHALL BE LEFT IN PLACE. UPSTREAM SLUICE GATES SHALL BE ABANDONED IN THE CLOSED POSITION. ASSOCIATED APPURTENANCES WITHIN THE VALVE VAULT (I.E., STEM GUIDES, VALVE STEMS, ACCESS LADDER, ETC.) SHALL BE REMOVED TO A MINIMUM ELEVATION OF ONE (1) FOOT BELOW DEMOLITION LINE TO PROVIDE CLEARANCE FOR CONCRETE CAP.
- PLUG THE ENTRANCE OF THE 24" OUTFALL PIPE WITH CONCRETE. SEE CONCRETE PIPE PLUG DETAIL ON SHEET THIS SHEET.
- BACKFILL VALVE VAULT TO EL. 336.5 WITH AASHTO NO. 8 AGGREGATE OR WITH DEMOLISHED CONCRETE AS SPECIFIED IN DEMOLITION NOTE 3, THIS SHEET. BACKFILL TOP FOOT OF VALVE VAULT INTERIOR WITH CONCRETE.

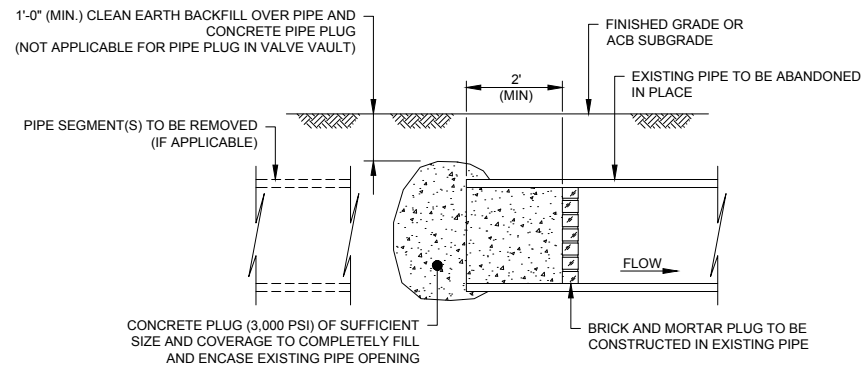


ORIGINAL DRAWING SECTION LOOKING UP STREAM
N.T.S

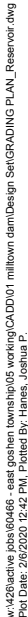
DOWNSTREAM 24" CIP AND 16" CIP PIPES WHICH REMAIN SHALL BE ABANDONED IN PLACE
PLACE CONCRETE PIPE PLUG AT DOWNSTREAM END OF PIPE TO REMAIN



ORIGINAL DRAWING PROFILE LOOKING RIGHT
N.T.S



CONCRETE PIPE PLUG
NOT TO SCALE



PROPOSED LEGEND

- MINOR CONTOUR (1' INTERVAL)
MAJOR CONTOUR (5' INTERVAL)
335
STREAM RIFFLE
(RUN AND GLIDE TRANSITIONS NOT HATCHED)
BRANCH BUNDLE STREAM STABILIZATION
ARTICULATED CONCRETE BLOCK
BOULDER TOE WALL STREAM STABILIZATION
RIPRAP

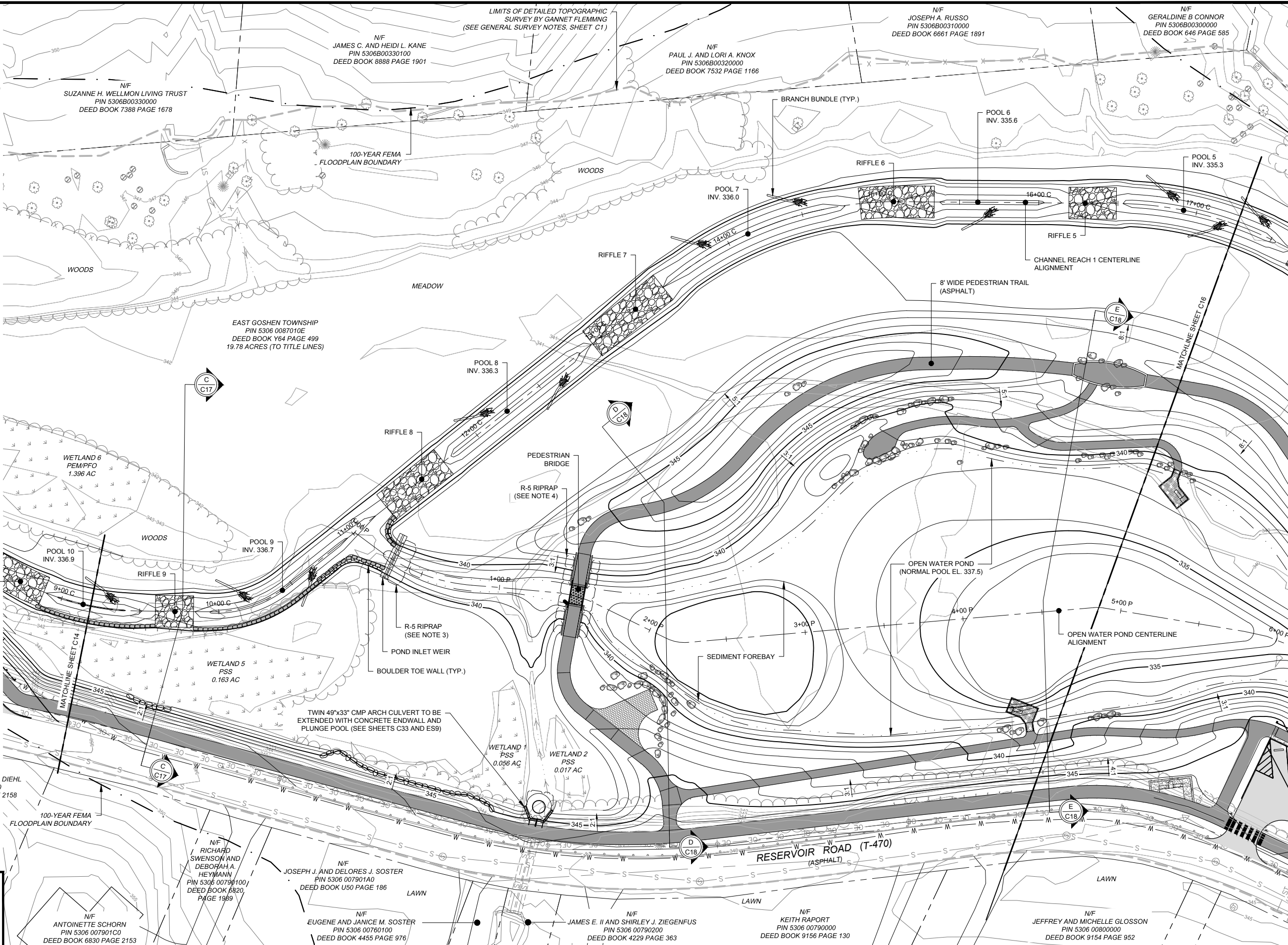
SHEET NOTES:

- REFER TO SHEET G2 FOR THE EXISTING CONDITIONS LEGEND, LIST OF ABBREVIATIONS, AND PROJECT GENERAL NOTES. FOR CLARITY, THE EXISTING CONDITION FEATURES ARE SHOWN AS SHADED GRAY LINEWORK THIS SHEET.
- REFER TO LANDSCAPE PLAN FOR LAYOUT AND DETAILS ASSOCIATED WITH PROPOSED LANDSCAPE FEATURES.
- PLACE A TEN (10) FOOT WIDE BAND OF R-5 RIPRAP (27" PLACEMENT THICKNESS UNDERLAIN WITH CLASS 2, TYPE A GEOTEXTILE) IMMEDIATELY DOWNSTREAM OF THE POND INLET WEIR. TOP OF RIPRAP TO MATCH THE PROPOSED CHANNEL GRADES. WITHIN THE STREAM BOTTOM, CHOKE SURFACE OF RIPRAP WITH STREAMBED MATERIAL MIX (REFER TO SHEET C28 FOR STREAMBED MATERIAL MIX).
- PLACE A FIVE (5) FOOT WIDE BAND OF R-5 RIPRAP (27" PLACEMENT THICKNESS UNDERLAIN WITH CLASS 2, TYPE A GEOTEXTILE) IMMEDIATELY UPSTREAM AND DOWNSTREAM OF THE PEDESTRIAN BRIDGE AND WITHIN THE STREAM CHANNEL UNDER THE BRIDGE. TOP OF RIPRAP TO MATCH THE PROPOSED FINISHED GRADES. WITHIN THE STREAM BOTTOM, CHOKE SURFACE OF RIPRAP WITH STREAMBED MATERIAL MIX (REFER TO SHEET C28 FOR STREAMBED MATERIAL MIX).

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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

RESERVOIR GRADING PLAN
SHEET 2 OF 3

JOB NO.	SHEET NO.
60466	C15
DATE	DRAWING NO.
FEB. 2020	

Diagram illustrating various types of stream stabilization structures:

- MINOR CONTOUR (1' INTERVAL)
- MAJOR CONTOUR (5' INTERVAL)
- STREAM RIFFLE (RUN AND GLIDE TRANSITIONS NOT HATCHED)
- BRANCH BUNDLE STREAM STABILIZATION
- ARTICULATED CONCRETE BLOCK
- BOULDER TOE WALL STREAM STABILIZATION
- RIPRAP

N/F
JOHN D. AND JILL D. SMITH
PIN 5306B00250000
DEED BOOK 4340 PAGE 1594

LIMITS OF DETAILED TOPOGRAPHIC
SURVEY BY GANNET FLEMMING
(SEE GENERAL SURVEY NOTES, SHEET C1)

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B.B.&C. PARTNERSHIP
PIN 5306 00870000
DEED BOOK 837 PAGE 540

SEE SHEET C19 FOR ENLARGED PLAN
OF SPILLWAY AND EMBANKMENT
IMPROVEMENTS

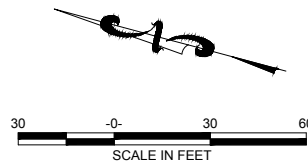
WETLAND 3
PEM
0.053 AC

N/F
MICHAEL AND KAREN LEHMICKE
PIN 5306 00850000
DEED BOOK 7622 PAGE 2188

SHEET NOTES

1. REFER TO SHEET G2 FOR THE EXISTING CONDITIONS LEGEND, LIST OF ABBREVIATIONS, AND PROJECT GENERAL NOTES. FOR CLARITY, THE EXISTING CONDITION FEATURES ARE SHOWN AS SHADED GRAY LINEWORK THIS SHEET.
2. REFER TO LANDSCAPE PLAN FOR LAYOUT AND DETAILS ASSOCIATED WITH PROPOSED LANDSCAPE FEATURES.
3. PLACE A FIVE (5) FOOT WIDE BAND OF R-5 RIPRAP (27" PLACEMENT THICKNESS UNDERLAIN WITH CLASS 2, TYPE A GEOTEXTILE) IMMEDIATELY DOWNSTREAM OF THE POND OUTLET WEIR, IMMEDIATELY UPSTREAM AND DOWNSTREAM OF THE PEDESTRIAN BRIDGE, AND WITHIN THE STREAM CHANNEL AS SHOWN. TOP OF RIPRAP TO MATCH THE PROPOSED FINISHED GRADES. WITHIN THE STREAM BOTTOM, CHOKE SURFACE OF RIPRAP WITH STREAMBED MATERIAL MIX (REFER TO SHEET C28 FOR STREAMBED MATERIAL MIX). ON CHANNEL SIDE SLOPES, RIPRAP MAY BE CHOKED WITH TOPSOIL TO SUPPORT PLANTINGS (REFER TO THE LANDSCAPE DRAWINGS).

\\cadd\active jobs\60466 - east goshen township\05 working\CADD\01 milltown dam\Design Set\GRADING PLAN_Reservoir.dwg
Plot Date: 2/6/2020 12:42 PM Plotted By: Hanes Joshua P



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REVISIONS			

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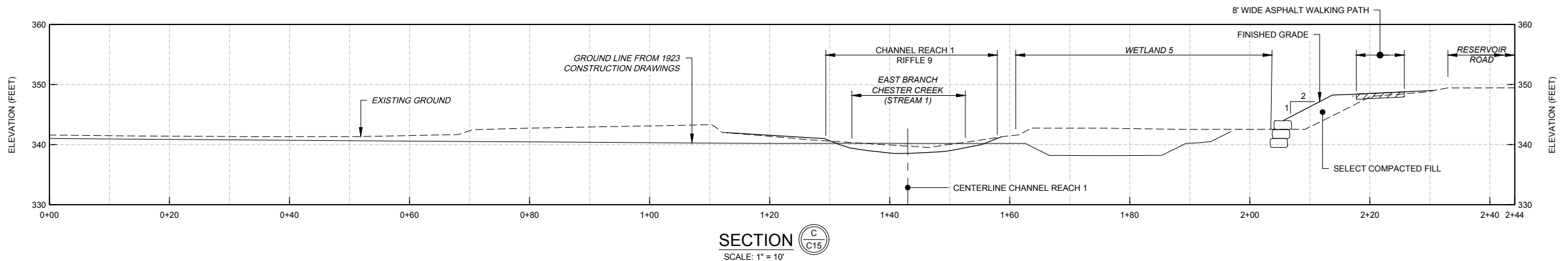
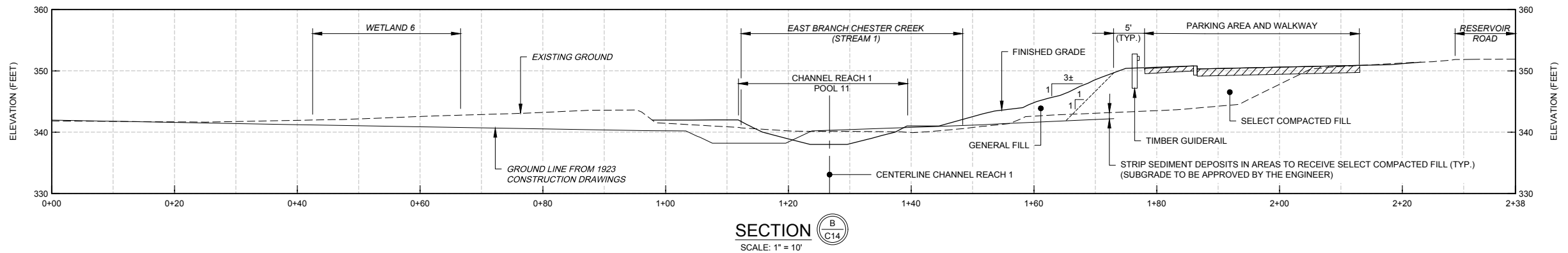
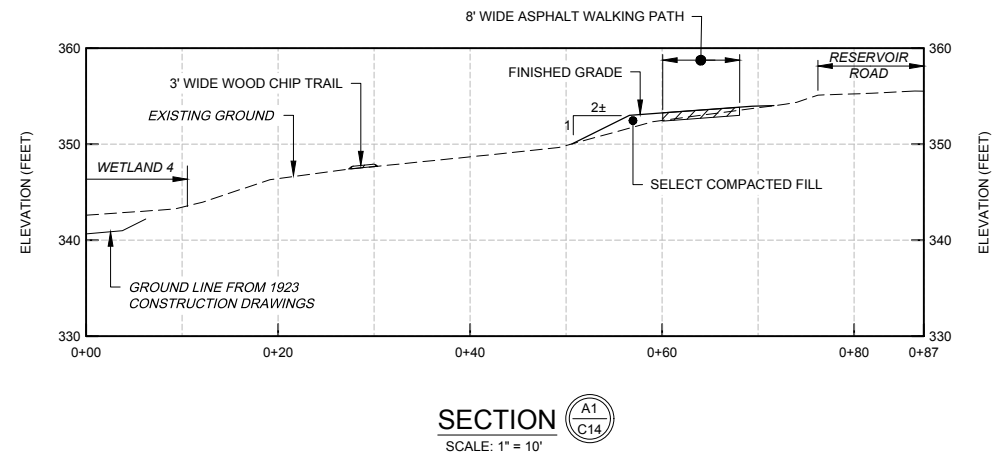
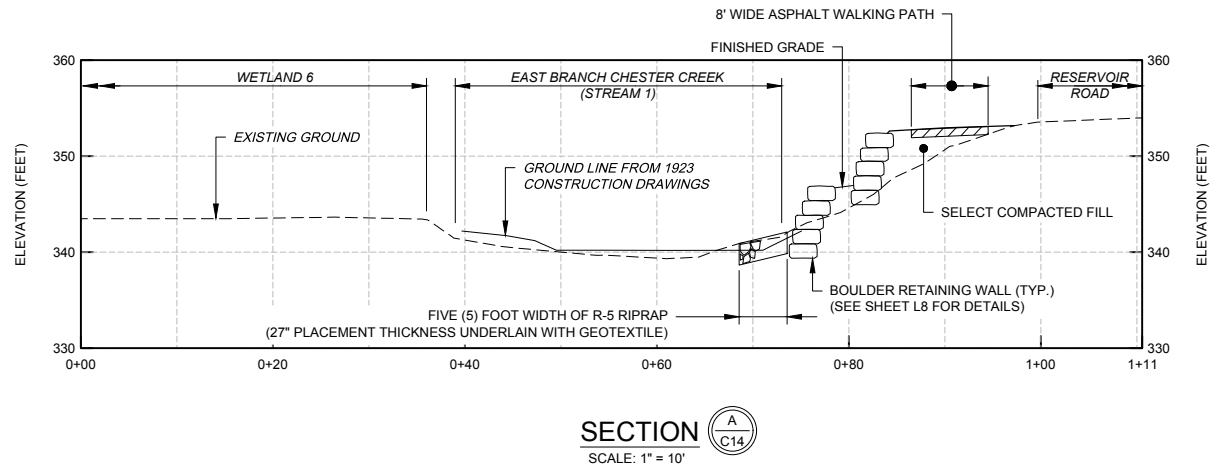
Gannett Fleming

EAST GOSHEN TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

MILLTOWN DAM HAZARD REDUCTION
AND RESERVOIR ENHANCEMENTS

RESERVOIR GRADING PLAN
SHEET 3 OF 3

JOB NO. 60466	SHEET NO. C16
DATE FEB. 2020	DRAWING NO.



SHEET NOTES:

- REFER TO SHEETS C14, C15 AND C16 FOR CROSS SECTION LOCATIONS.
- REFER TO SHEET C24 FOR CHANNEL GEOMETRY AND STABILIZATION REQUIREMENTS. ALL DISTURBED AREAS WHICH ARE TO BE PERMANENTLY STABILIZED WITH VEGETATION SHALL RECEIVE EROSION CONTROL MATTING.
- WALKING PATH LOCATIONS AND DIMENSIONS SHOWN ON CROSS SECTIONS ARE APPROXIMATE. REFER TO LANDSCAPE PLANS FOR WALKING PATH LAYOUT AND DETAILS.
- THE GROUND LINE FROM THE 1923 CONSTRUCTION DRAWINGS IS SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ITS COMPLETENESS AND ACCURACY IS NOT GUARANTEED.

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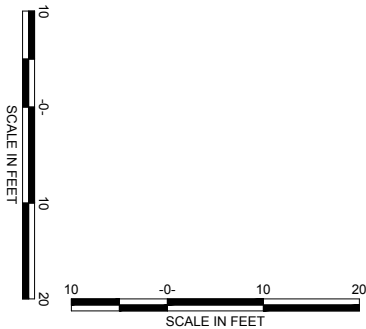
EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

RESERVOIR CROSS SECTIONS
SHEET 1 OF 2

JOB NO.	SHEET NO.
60466	C17
DATE	DRAWING NO.
FEB. 2020	

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SHEET NOTES:

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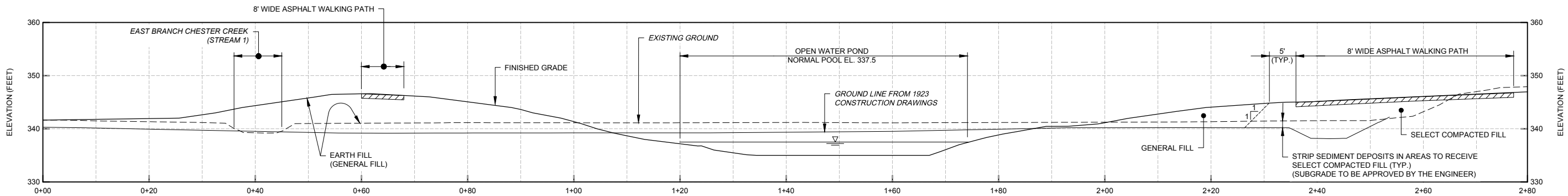


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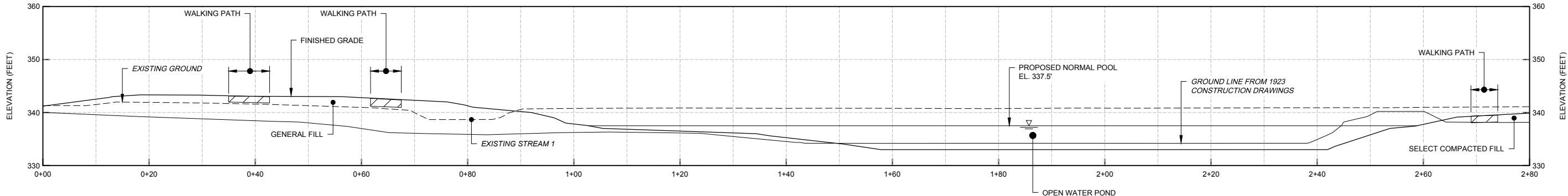
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CHESTER COUNTY, PENNSYLVANIA
**MILLTOWN DAM HAZARD REDUCTION
AND RESERVOIR ENHANCEMENTS**

**RESERVOIR CROSS SECTIONS
SHEET 2 OF 2**

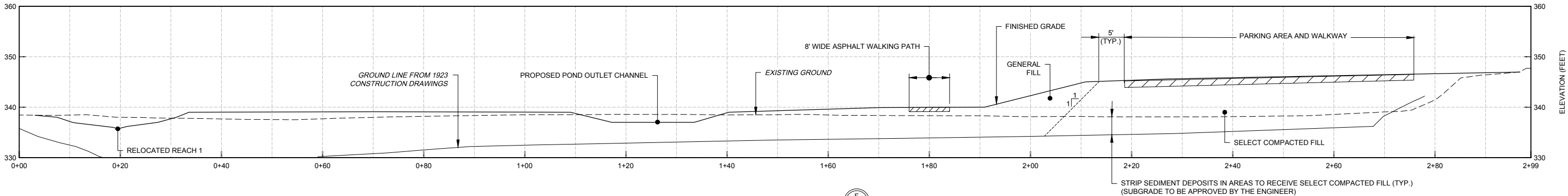
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60466	C18
DATE	DRAWING NO.
FEB. 2020	



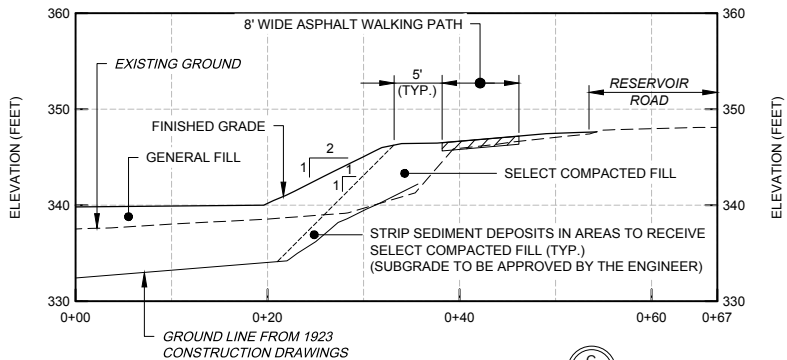
SECTION D
SCALE: 1" = 10'



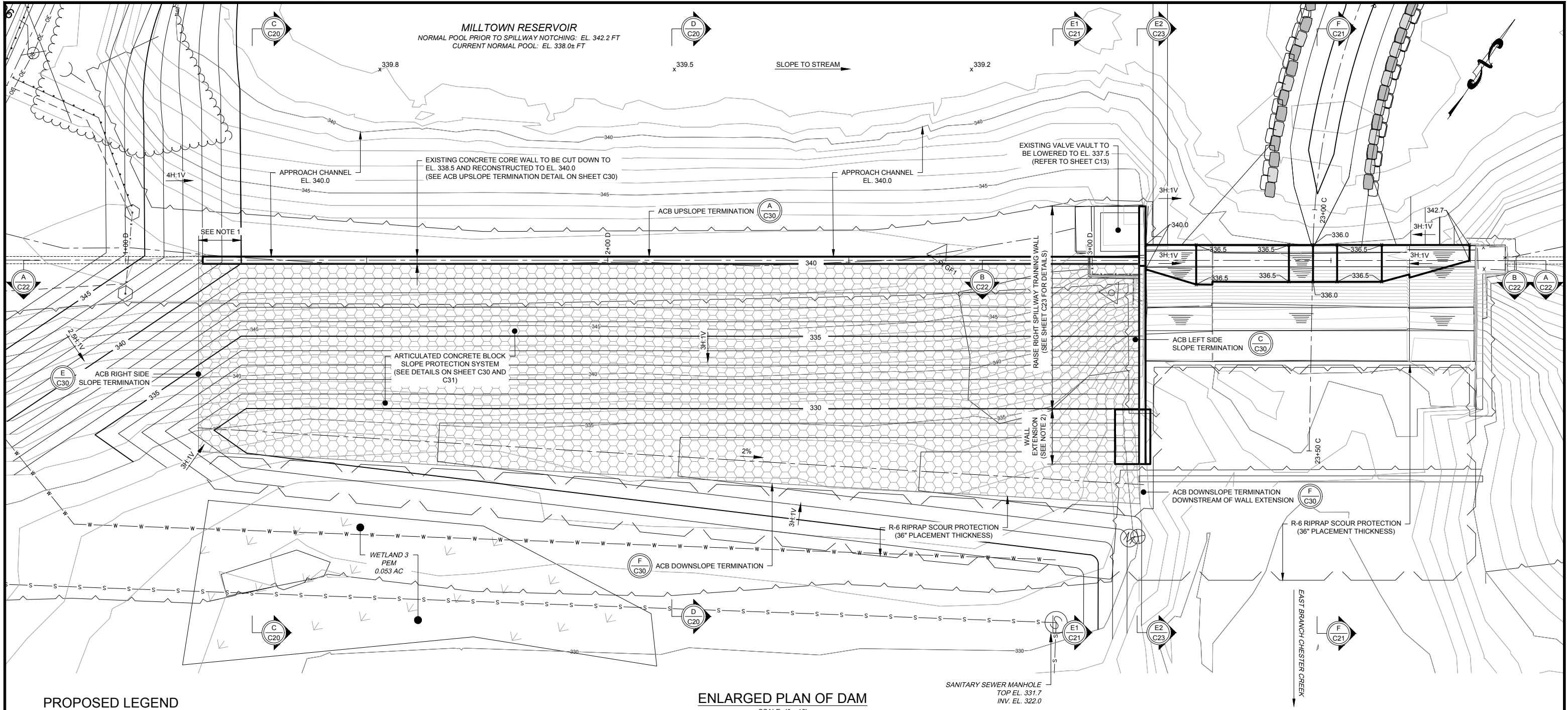
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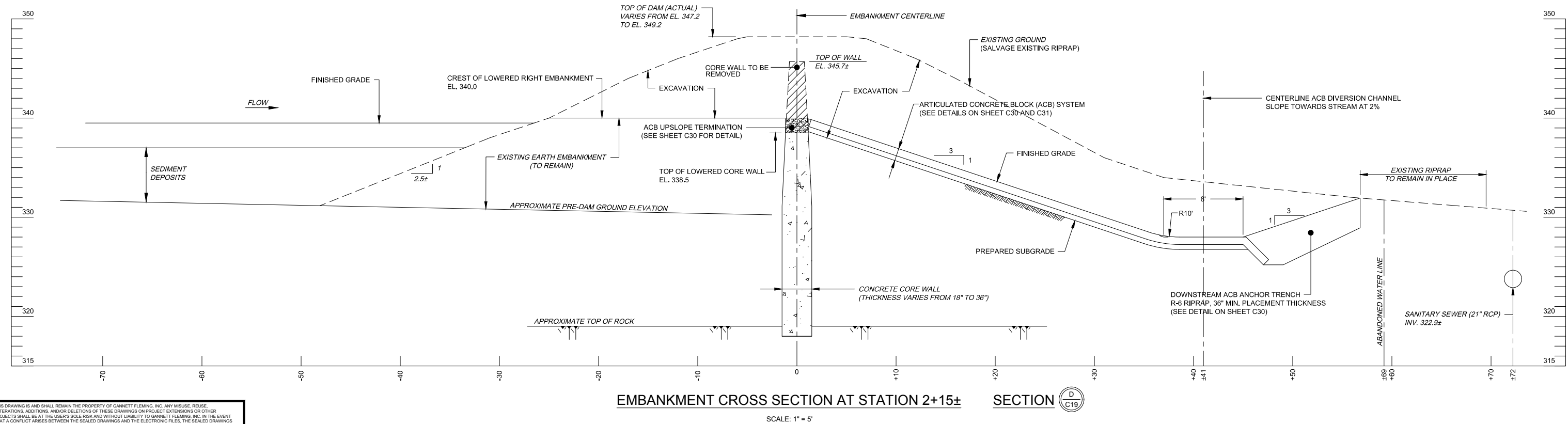
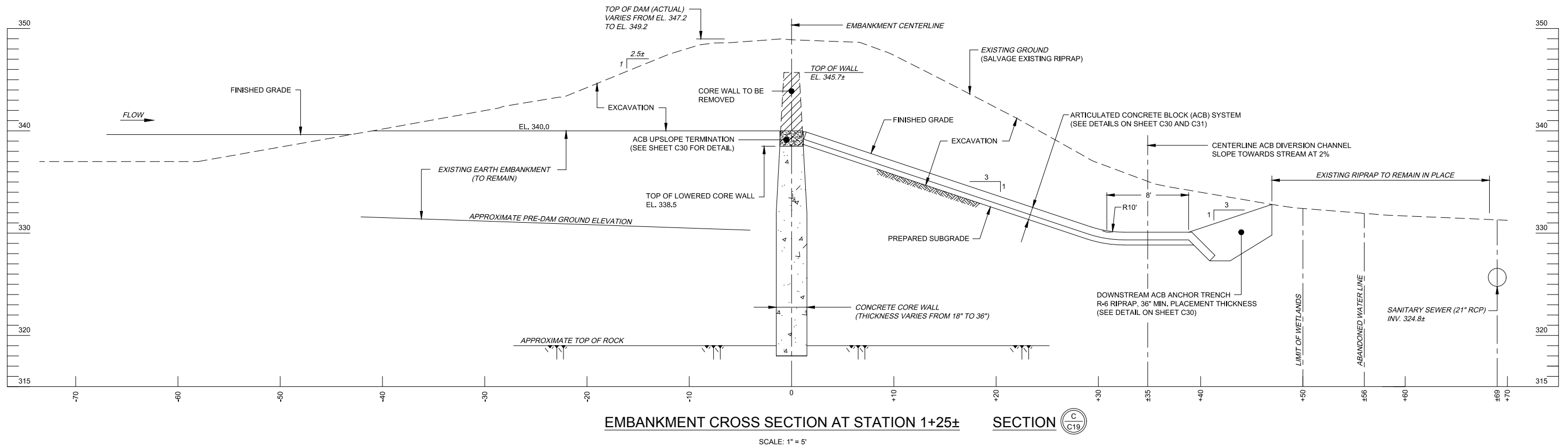


SECTION F
SCALE: 1" = 10'



SECTION G
SCALE: 1" = 10'





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REVISIONS			

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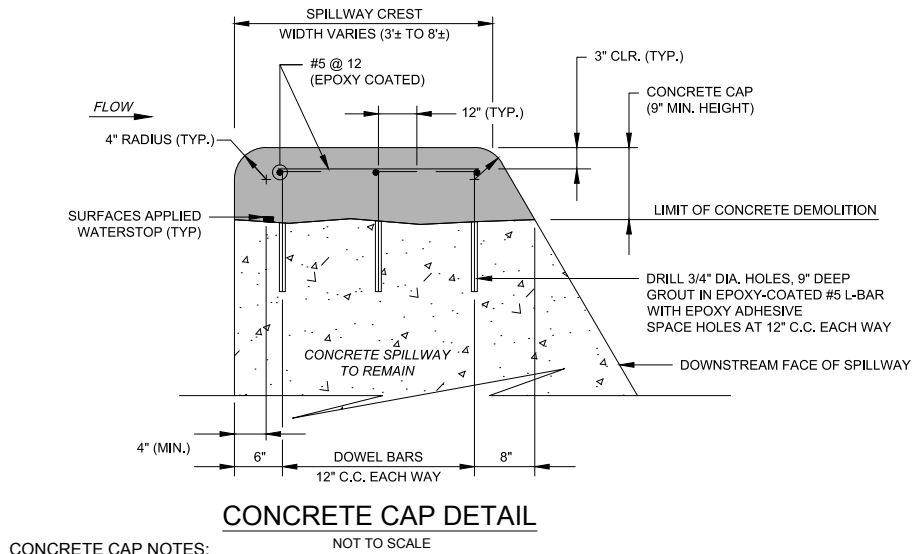
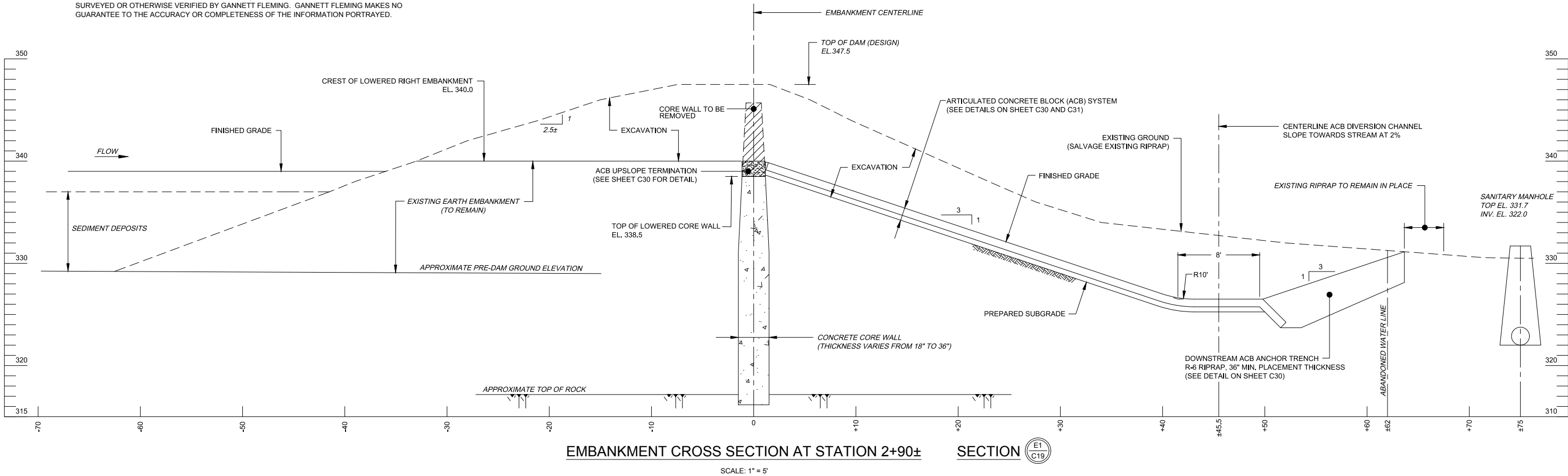
EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION DEP ID NO. D15-146

PROPOSED DAM SECTIONS
SHEET 1 OF 4

JOB NO.	SHEET NO.
60466	C20
DATE	DRAWING NO.
FEB. 2020	

SHEET NOTES:

1. LOCATION AND DIMENSIONS OF SUBSURFACE FEATURES SUCH AS THE CONCRETE CORE WALL, SPILLWAY FOUNDATION, BEDROCK, ETC. HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS AS PREPARED BY FRANKLIN AND COMPANY DATED JUNE 14, 1920 AND AS REVISED BY REMINGTON AND VOSBURY DATED FEBRUARY 20, 1923. SUBSURFACE FACILITIES HAVE NOT BEEN SURVEYED OR OTHERWISE VERIFIED BY GANNETT FLEMING. GANNETT FLEMING MAKES NO GUARANTEE TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION PORTRAYED.



CONCRETE CAP NOTES:

1. CLEAN DRILL HOLES FREE OF DIRT AND DEBRIS PRIOR TO INSTALLING L-BARS.
2. REFER TO SECTION 03300 FOR EPOXY ADHESIVE AND SURFACE APPLIED WATERSTOP.
3. CLEAN SURFACE TO RECEIVE NEW CONCRETE FREE OF ALL UNSATISFACTORY CONCRETE, LAITANCE, COATINGS, STAINS OR DEBRIS BY SANDBLASTING OR HIGH-PRESSURE AIR-WATER JET CUTTING. THE SURFACE OF THE CONCRETE SHALL BE CUT TO EXPOSE CLEAN SOUND AGGREGATE, BUT NOT SO DEEP AS TO UNDERCUT EDGES OF LARGER PARTICLES OF AGGREGATE. AFTER CUTTING, THE SURFACE SHALL BE THOROUGHLY WASHED TO REMOVE ALL LOOSE MATERIAL.

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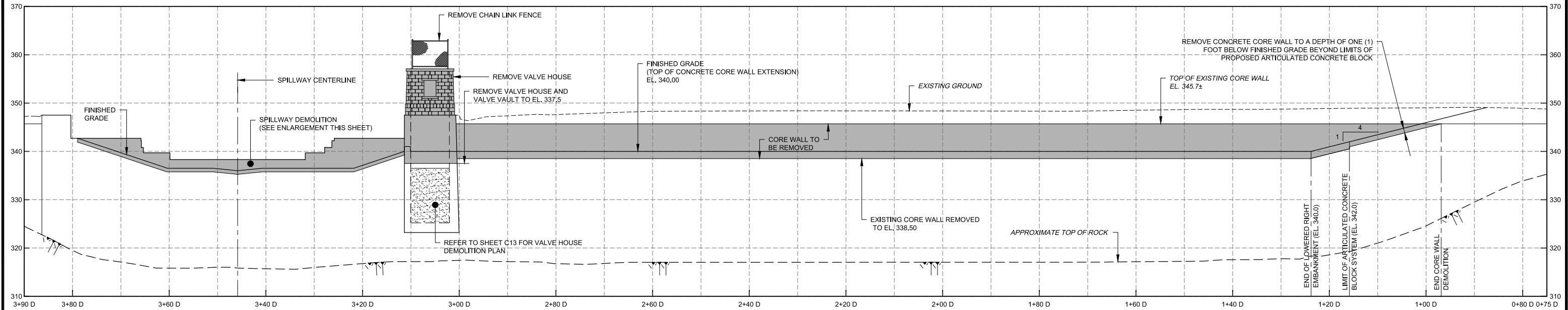
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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION DEP ID NO. D15-146

PROPOSED DAM SECTIONS
SHEET 2 OF 4

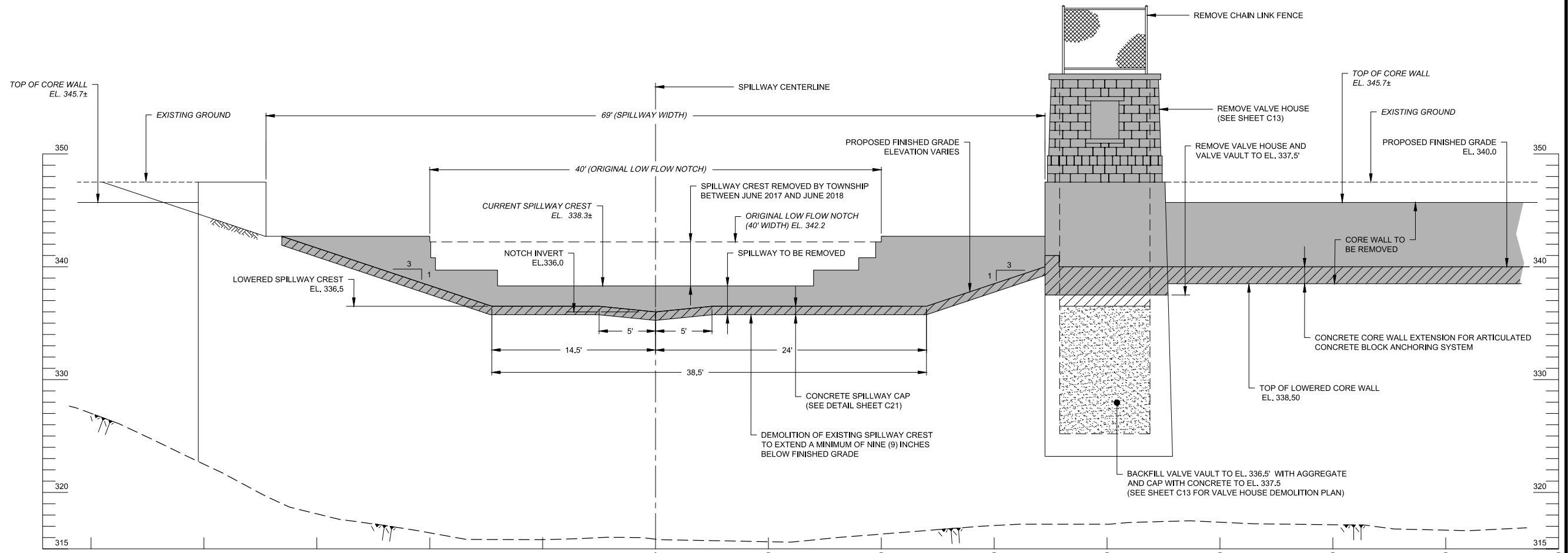
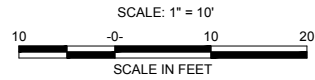
JOB NO.	SHEET NO.
60466	C21
DATE	DRAWING NO.
FEB. 2020	

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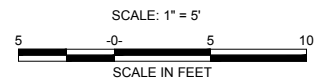
PROFILE ALONG MILLTOWN DAM EMBANKMENT BASELINE

SECTION (A) C19



PROFILE ALONG MILLTOWN DAM EMBANKMENT BASELINE AT PRINCIPAL SPILLWAY

SECTION (B) C19



LEGEND

STRUCTURE TO BE DEMOLISHED

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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION DEP ID NO. D15-146

PROPOSED DAM SECTIONS
SHEET 3 OF 4

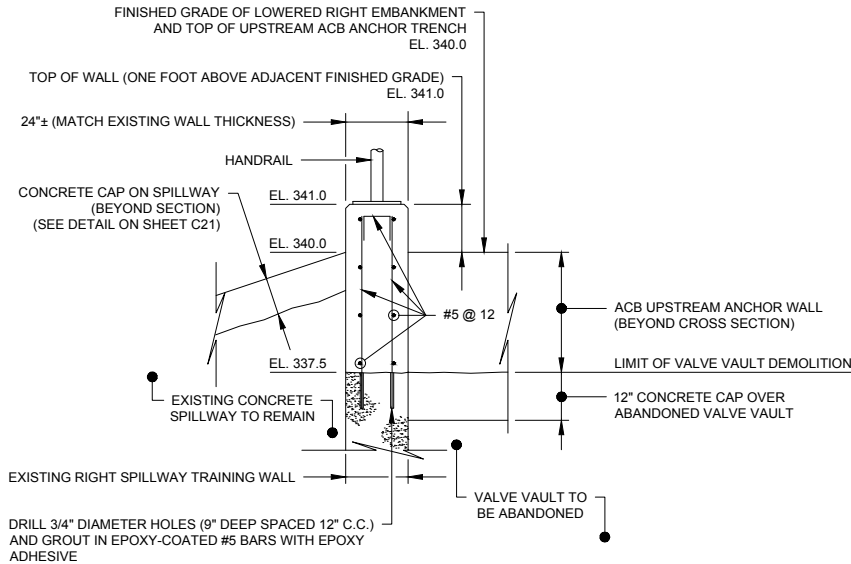
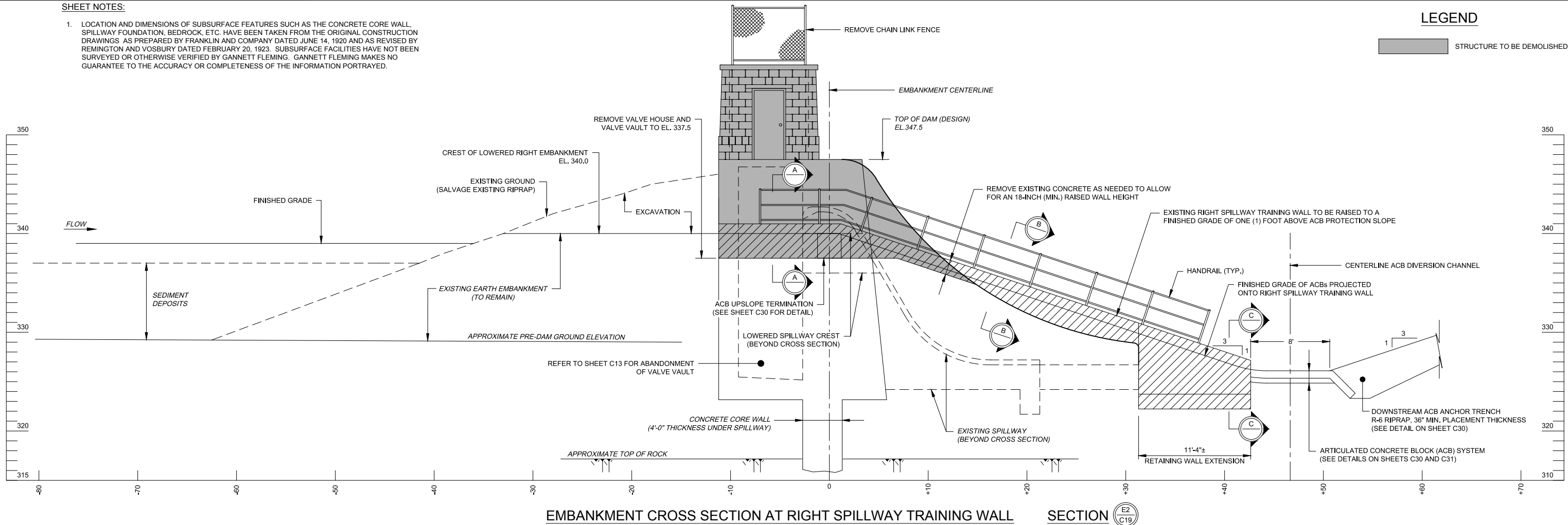
JOB NO.	SHEET NO.
60466	C22
DATE	DRAWING NO.
FEB. 2020	

SHEET NOTES:

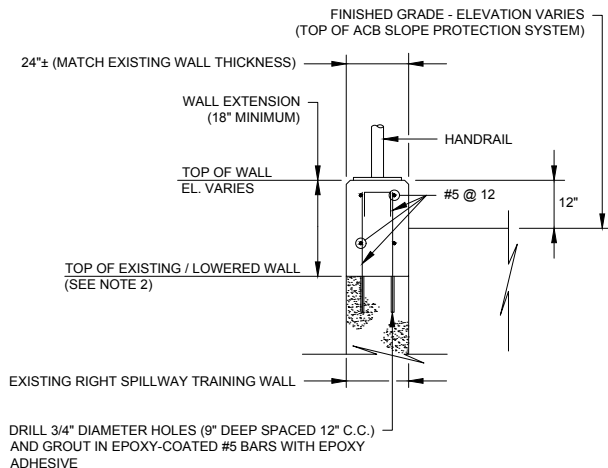
1. LOCATION AND DIMENSIONS OF SUBSURFACE FEATURES SUCH AS THE CONCRETE CORE WALL, SPILLWAY FOUNDATION, BEDROCK, ETC. HAVE BEEN TAKEN FROM THE ORIGINAL CONSTRUCTION DRAWINGS AS PREPARED BY FRANKLIN AND COMPANY DATED JUNE 14, 1920 AND AS REVISED BY REMINGTON AND VOSBURY DATED FEBRUARY 20, 1923. SUBSURFACE FACILITIES HAVE NOT BEEN SURVEYED OR OTHERWISE VERIFIED BY GANNETT FLEMING. GANNETT FLEMING MAKES NO GUARANTEE TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION PORTRAYED.

LEGEND

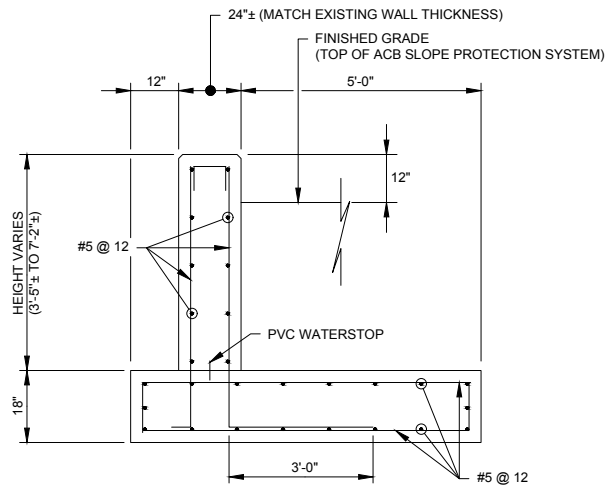
STRUCTURE TO BE DEMOLISHED



SECTION A



SECTION B



SECTION C

CONCRETE NOTES:

- ALL REBAR SHALL BE EPOXY COATED.
- LOWER THE EXISTING RIGHT SPILLWAY TRAINING WALL AS NEEDED TO MAINTAIN AN 18-INCH (MINIMUM) WALL EXTENSION HEIGHT.
- CHAMFER ALL EXPOSED EDGES ONE INCH.
- ALL CONCRETE SHALL BE CLASS A, HAVING 4,500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.



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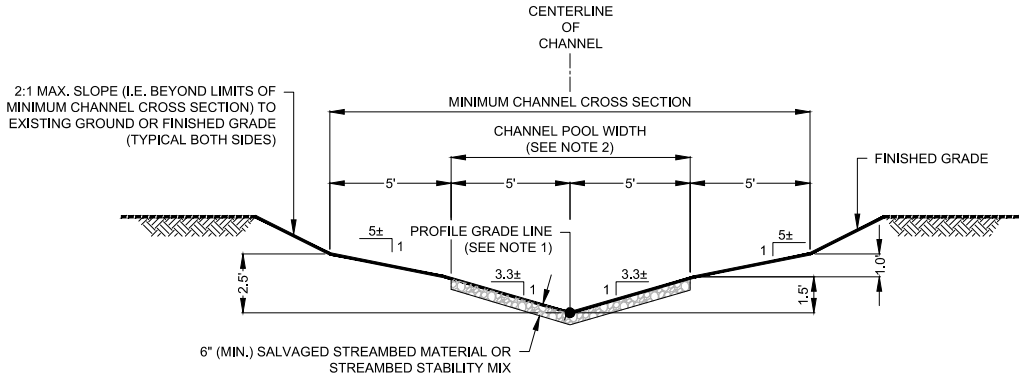
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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION DEP ID NO. D15-146

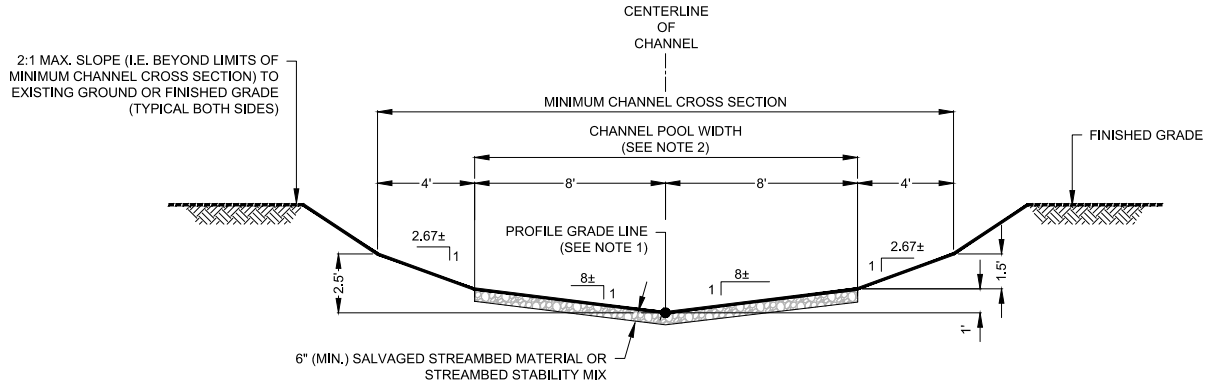
PROPOSED DAM SECTIONS
SHEET 4 OF 4

JOB NO.	SHEET NO.
60466	C23
DATE	DRAWING NO.
FEB. 2020	

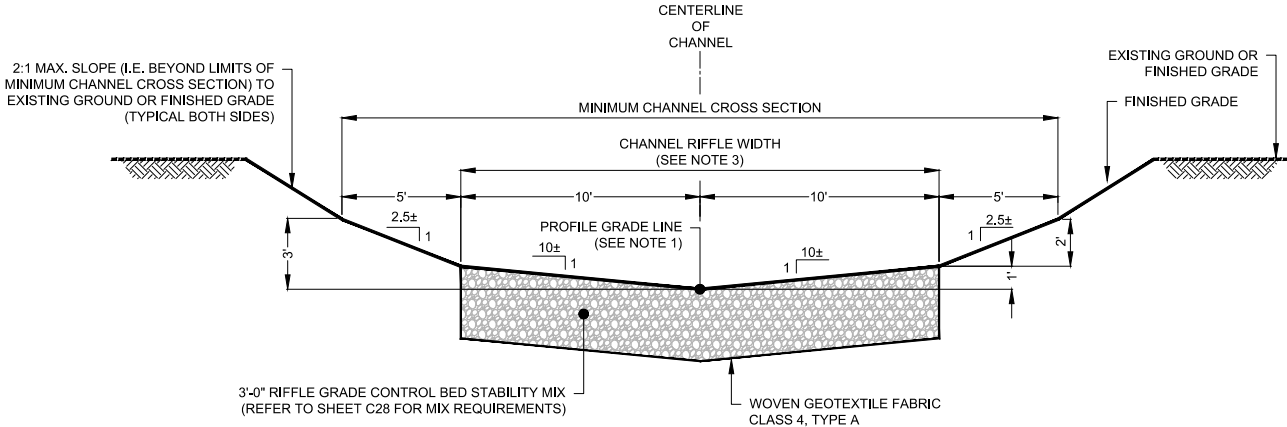
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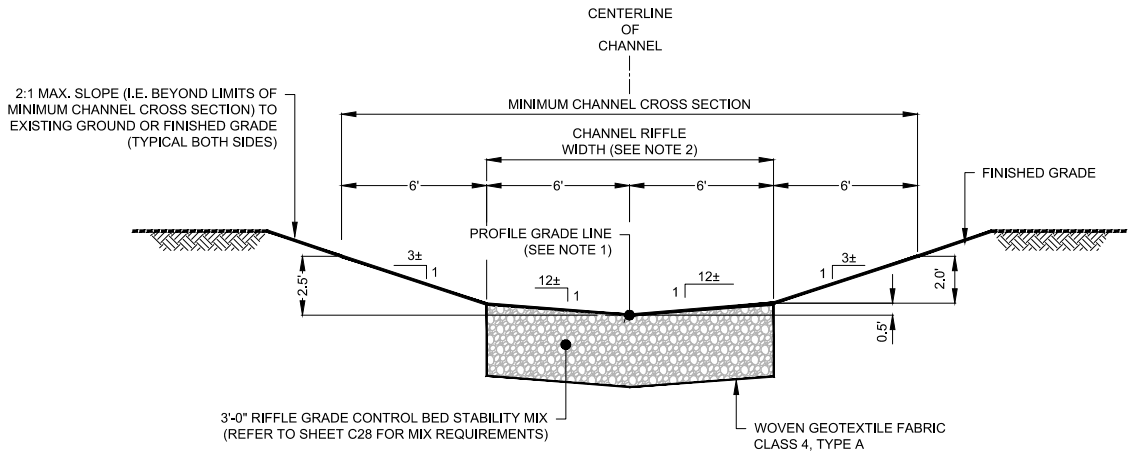
CHANNEL REACH NO. 1
TYPICAL POOL SECTION
NOT TO SCALE



POND OUTLET CHANNEL
TYPICAL POOL SECTION
NOT TO SCALE



CHANNEL REACH NO. 1
TYPICAL RIFFLE SECTION
NOT TO SCALE



POND OUTLET CHANNEL
TYPICAL RIFFLE SECTION
NOT TO SCALE

SHEET NOTES:

1. REFER TO SHEETS C25, C26, C27 FOR CHANNEL CENTERLINE PROFILES.
2. CHANNEL POOL WIDTH SHALL RECEIVE SALVAGED STREAMBED MATERIAL OR STREAMBED STABILITY MIX. REFER TO RIFFLE GRADE CONTROL DETAIL ON SHEET C28.
3. CHANNEL RIFFLE WIDTH SHALL RECEIVE RIFFLE GRADE CONTROL MIX WITH SALVAGED STREAMBED MATERIAL OR STREAMBED STABILITY MIX WASHED IN. REFER TO RIFFLE GRADE CONTROL DETAIL ON SHEET C28.
4. VEGETATED AREAS OF STREAM CHANNEL SHALL RECEIVE FOUR (4) INCHES (MINIMUM) TOPSOIL WITH SEED, SOIL STABILIZATION MATTING, AND LIVE STAKE PLANTINGS.

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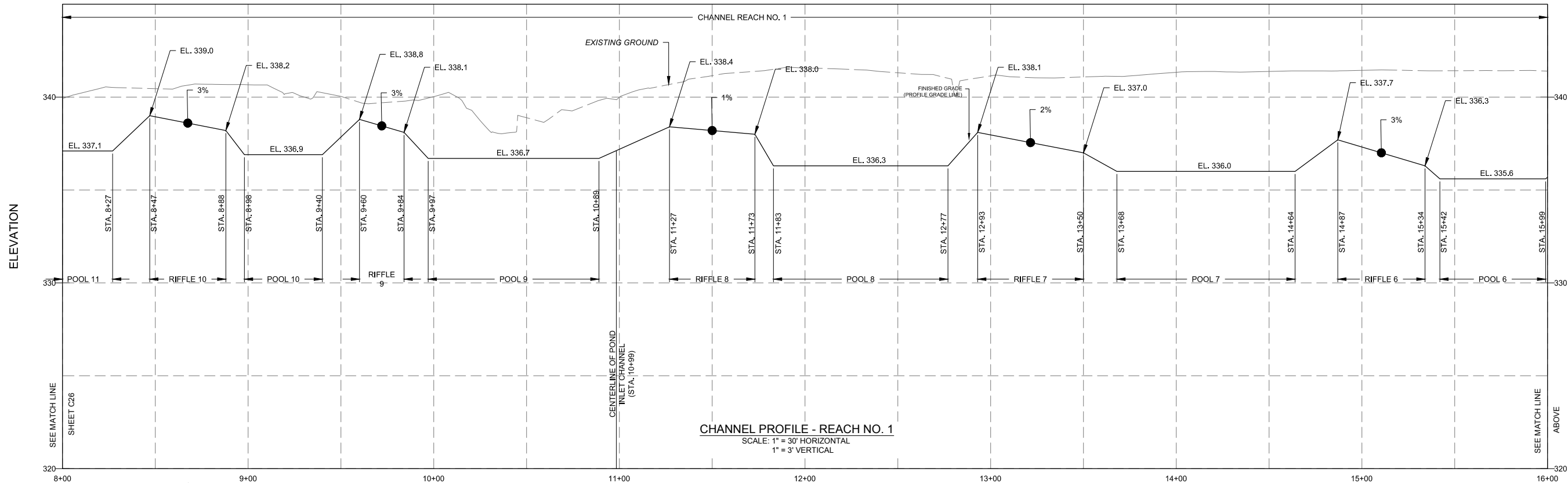
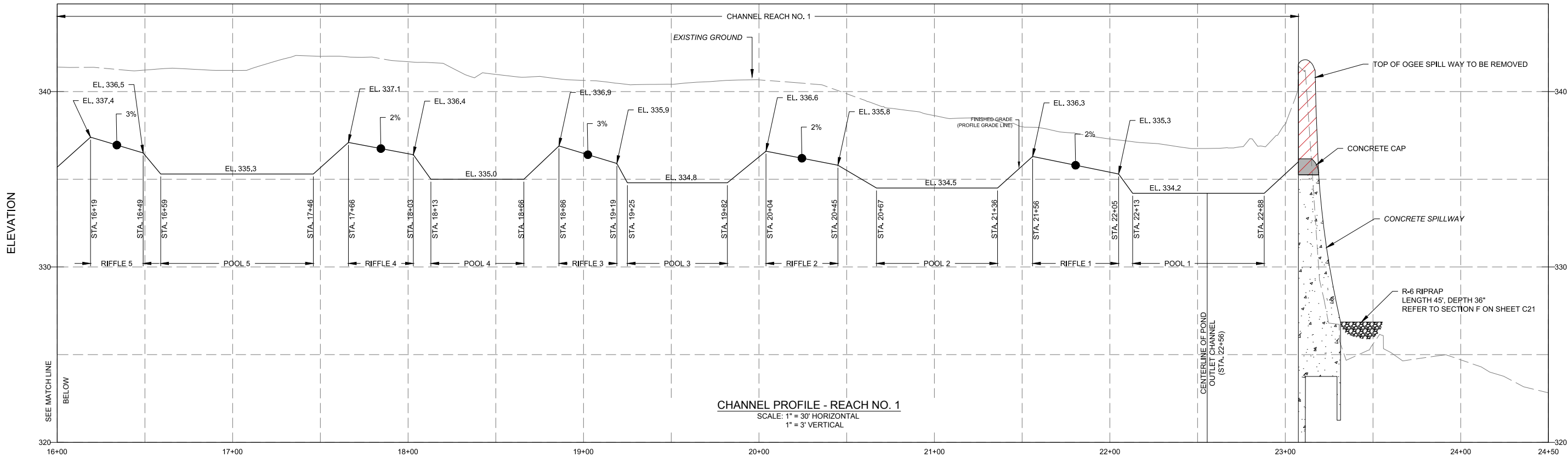


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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

TYPICAL STREAM CROSS SECTIONS

JOB NO.	SHEET NO.
60466	C24
DATE	DRAWING NO.
FEB. 2020	



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SCALE IN FEET

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SCALE IN FEET

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REVISIONS			

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DRAWN	CHECKED	APPROVED
TDI	ECN	ECN

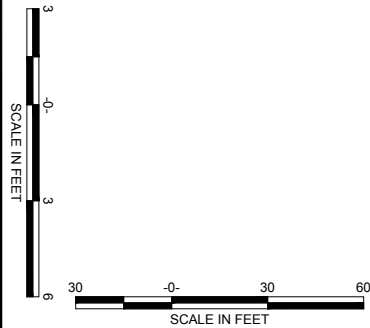
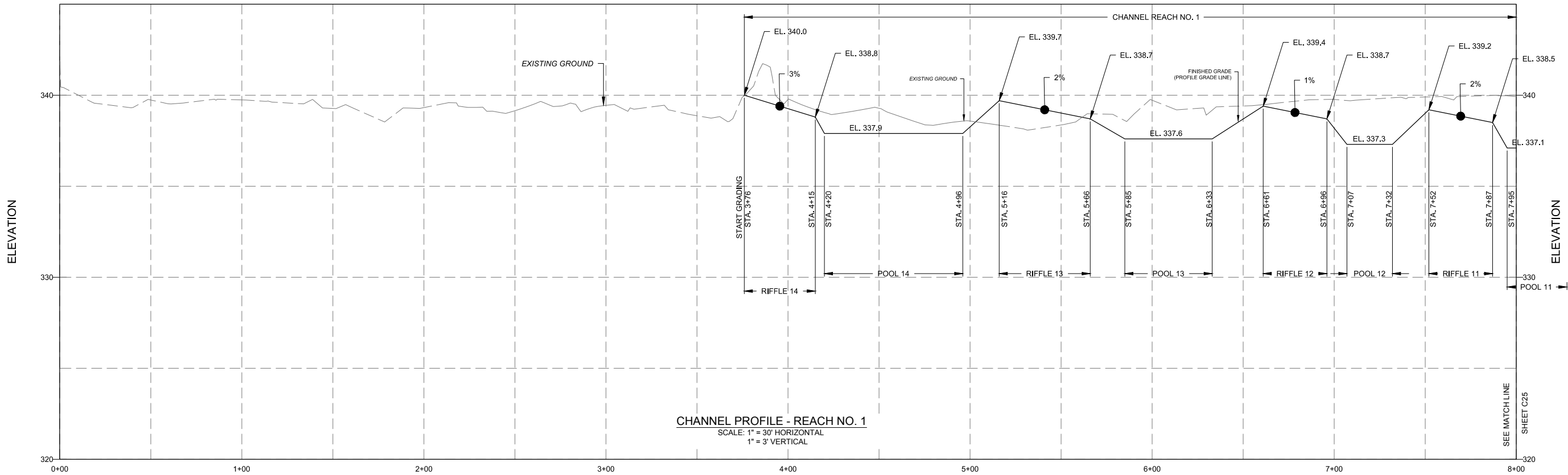


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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

PROPOSED STREAM PROFILES
SHEET 1 OF 3

JOB NO.	SHEET NO.
60466	C25
DATE	DRAWING NO.
FEB. 2020	



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REVISIONS			

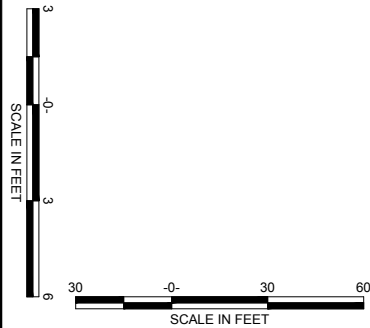
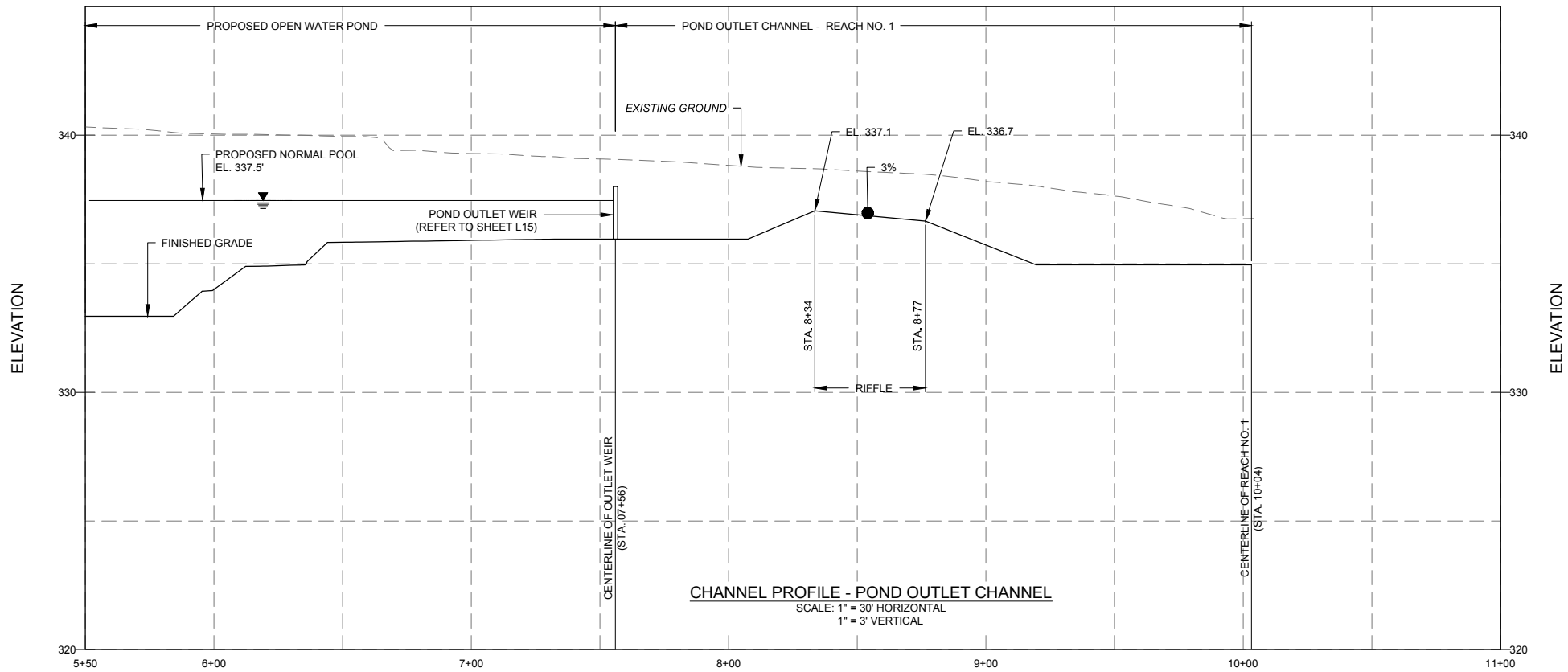
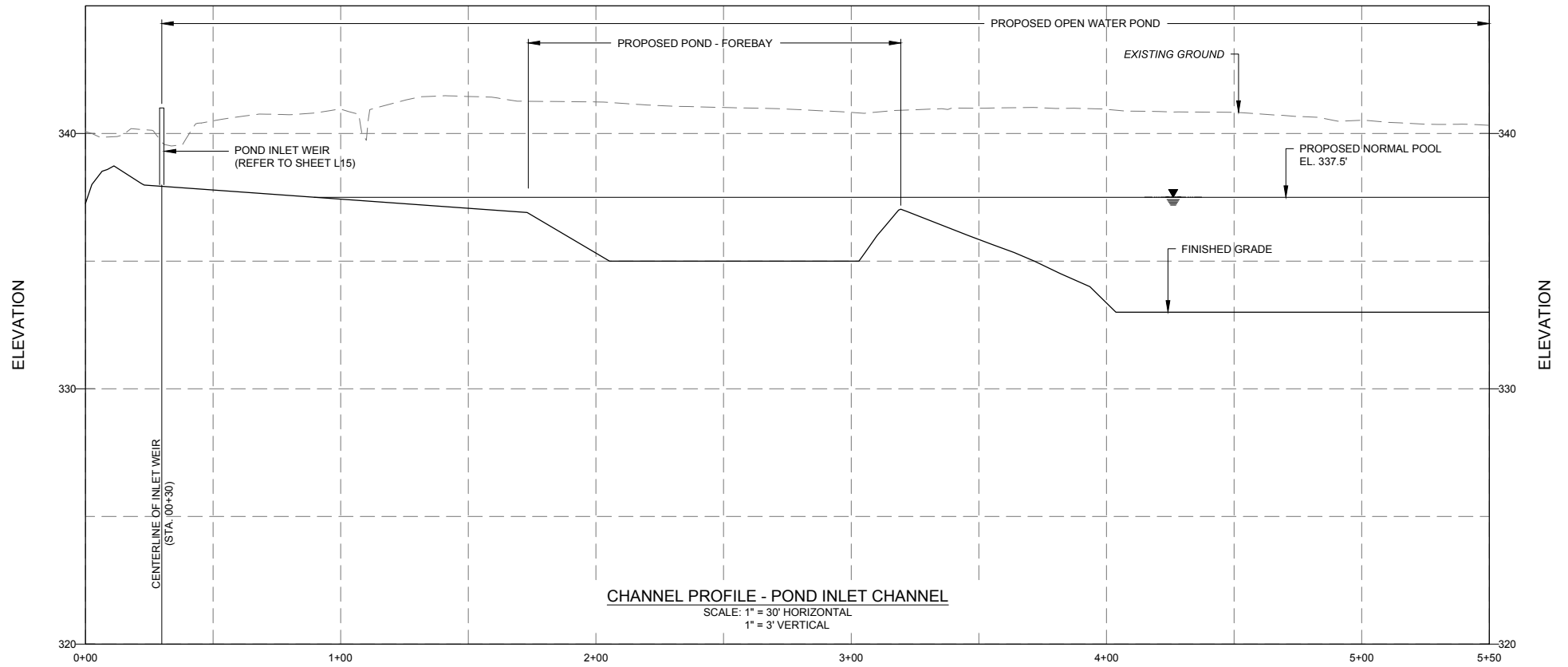
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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

PROPOSED STREAM PROFILES SHEET 2 OF 3
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JOB NO. 60466	SHEET NO. C26
DATE FEB. 2020	DRAWING NO.



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TDT	ECN	ECN

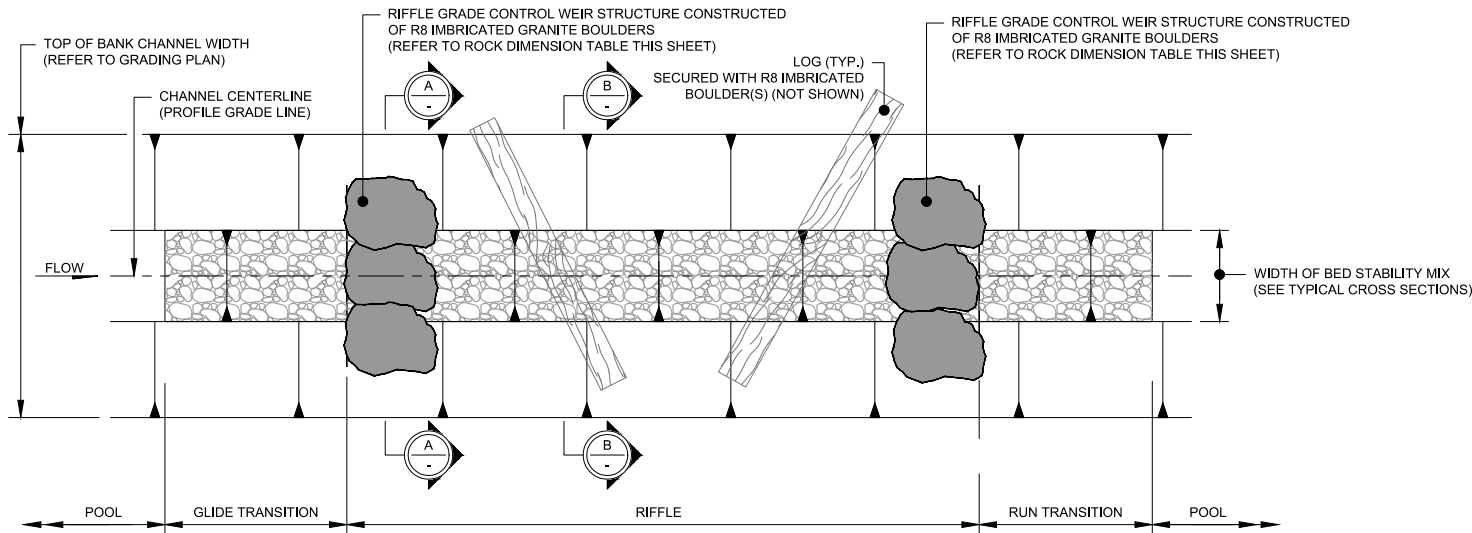


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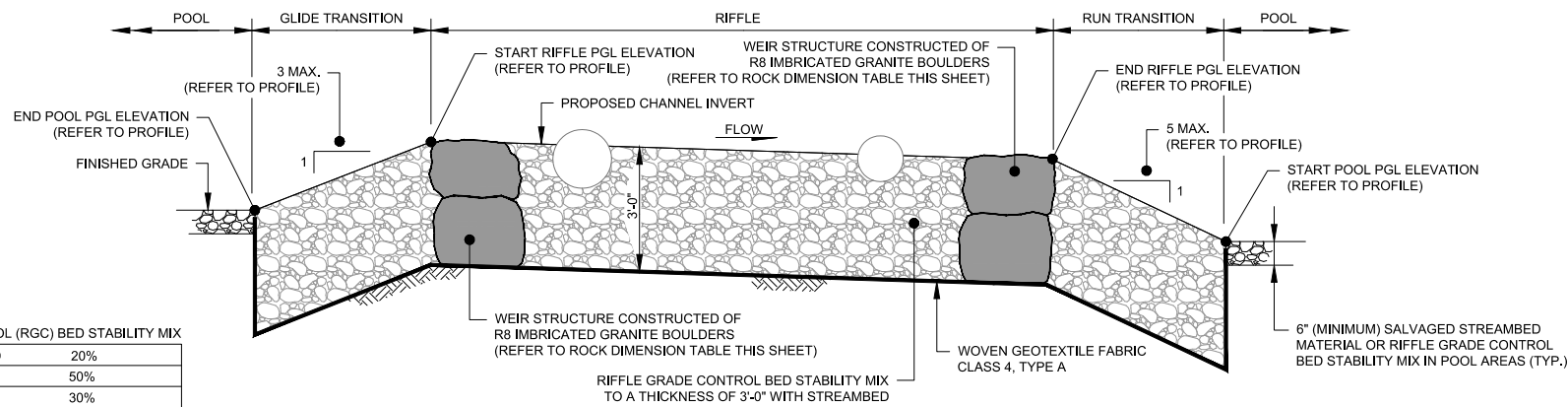
EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

PROPOSED STREAM PROFILES
SHEET 3 OF 3

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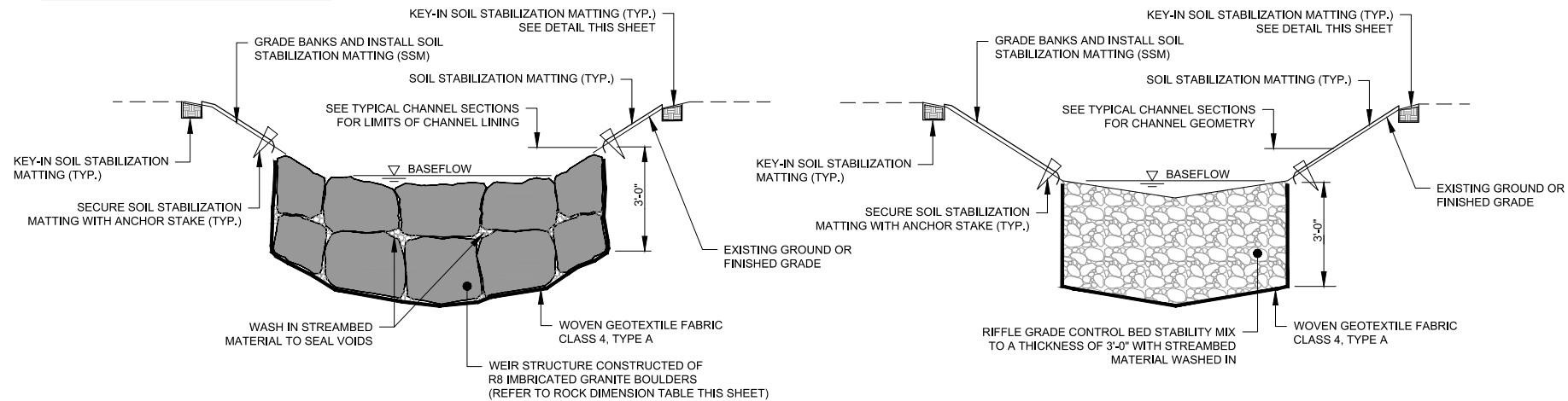
TYPICAL RIFFLE - PLAN VIEW



TYPICAL RIFFLE - CENTERLINE PROFILE

RIFFLE GRADE CONTROL (RGC) BED STABILITY MIX		
% MIX	WASHED SAND	20%
	R-3 ROCK	50%
	R-4 ROCK	30%

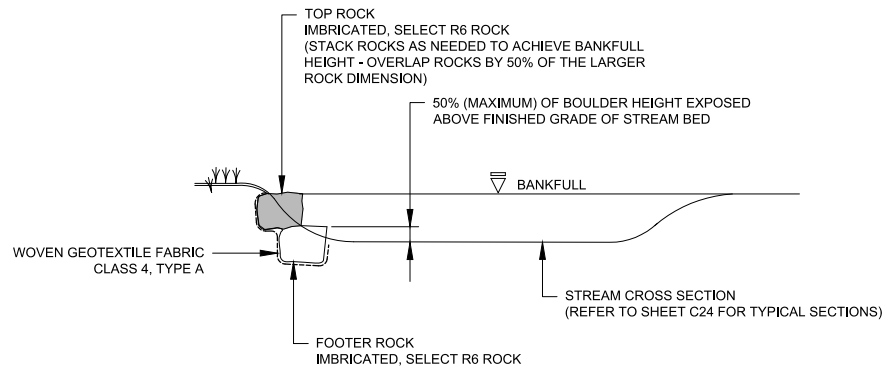
STREAMBED MATERIAL MIX (SBM) -- CONTINGENT		
% MIX	SAND	20%
	GRAVEL	60%
	COBBLE	20%



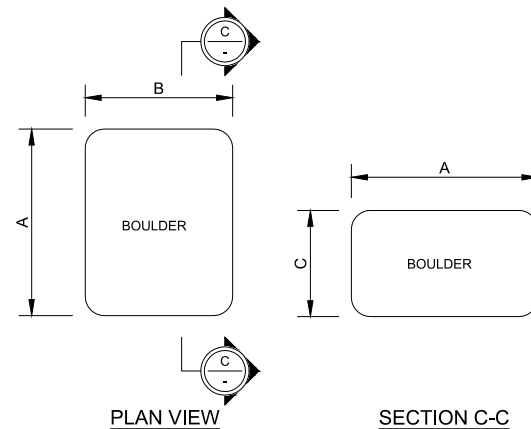
TYPICAL RIFFLE GRADE CONTROL WEIR STRUCTURE
SECTION A-A

TYPICAL RIFFLE
SECTION B-B

RIFFLE GRADE CONTROL
NOT TO SCALE



IN-STREAM BOULDER TOE-WALL DETAIL
NOT TO SCALE



ROCK DIMENSION TABLE			
ROCK	A - AXIS	B - AXIS	C - AXIS
R8 IMBRICATED GRANITE BOULDERS	3' (MIN.)	2' (MIN.)	1.5' (MIN.)
	4' (MAX.)	3' (MAX.)	3' (MAX.)
R6 IMBRICATED GRANITE BOULDERS	1.5' (MIN.)	1' (MIN.)	0.75' (MIN.)
	2.5' (MAX.)	1.5' (MAX.)	1.5' (MAX.)

TYPICAL BOULDER ROCK DETAIL
NOT TO SCALE

- NOTES:
1. COMPACT NATURAL CHANNEL BACKFILL TO MATCH PRE-CONSTRUCTION GRADE UNLESS OTHERWISE SPECIFIED.
 2. CROSS-SECTIONAL DIMENSIONS AND LONGITUDINAL SPACING OF FEATURES VARY. SEE CROSS SECTIONS AND PROFILES FOR DIMENSIONS OF EACH INDIVIDUAL STRUCTURE.
 3. BED STABILITY MIX SHALL BE PLACED SO THAT IT SHINGLES IN A DOWNSTREAM DIRECTION. SMALL AND LARGE STONES SHALL BE MIXED TO MINIMIZE VOID SPACES. RIPRAP MUST BE PLACED IN A MANNER TO PROMOTE INTERLOCKING. DUMPING OF RIPRAP SHALL NOT BE PERMITTED.
 4. THALWEG MAY BE MODIFIED IN FIELD PER THE ENGINEER.
 5. WHEN EXCAVATING FOR THE STRUCTURE, SALVAGE STREAMBED MATERIAL. IF THERE IS AN INSUFFICIENT SUPPLY OF SALVAGED STREAMBED MATERIAL, CONTRACTOR SHALL PROVIDE STREAMBED MATERIAL MIX.
 6. THE RIFFLE SHALL BE CONSTRUCTED IN 6-INCH LIFTS. STREAM BED MATERIAL SHALL BE WASHED INTO THE VOIDS OF EACH LIFT.
 7. WHEN THE FINAL SHAPE OF THE STRUCTURE IS ATTAINED, PLACE A LAYER OF SAND ATOP THE STRUCTURE AND WASH THE MATERIAL INTO THE VOIDS USING A GENTLE STREAM OF WATER. CONTINUE PLACING AND WASHING SAND INTO THE STRUCTURE UNTIL MATERIAL CEASES TO BE ACCEPTED.

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DRAWN	CHECKED	APPROVED
TDI	ECN	ECN

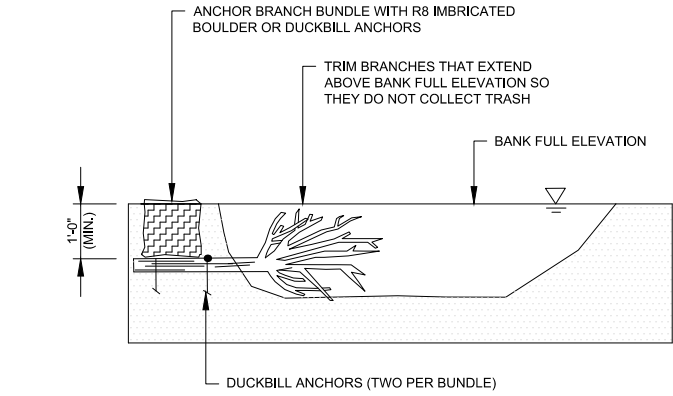


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MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS	

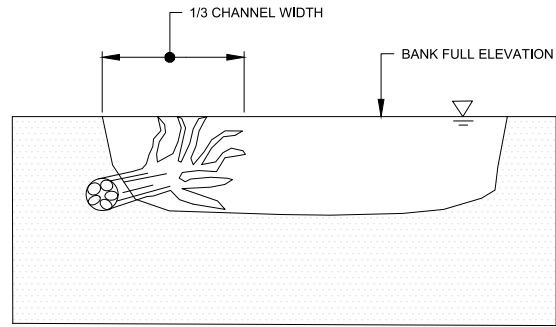
STREAM DETAILS
SHEET 1 OF 2

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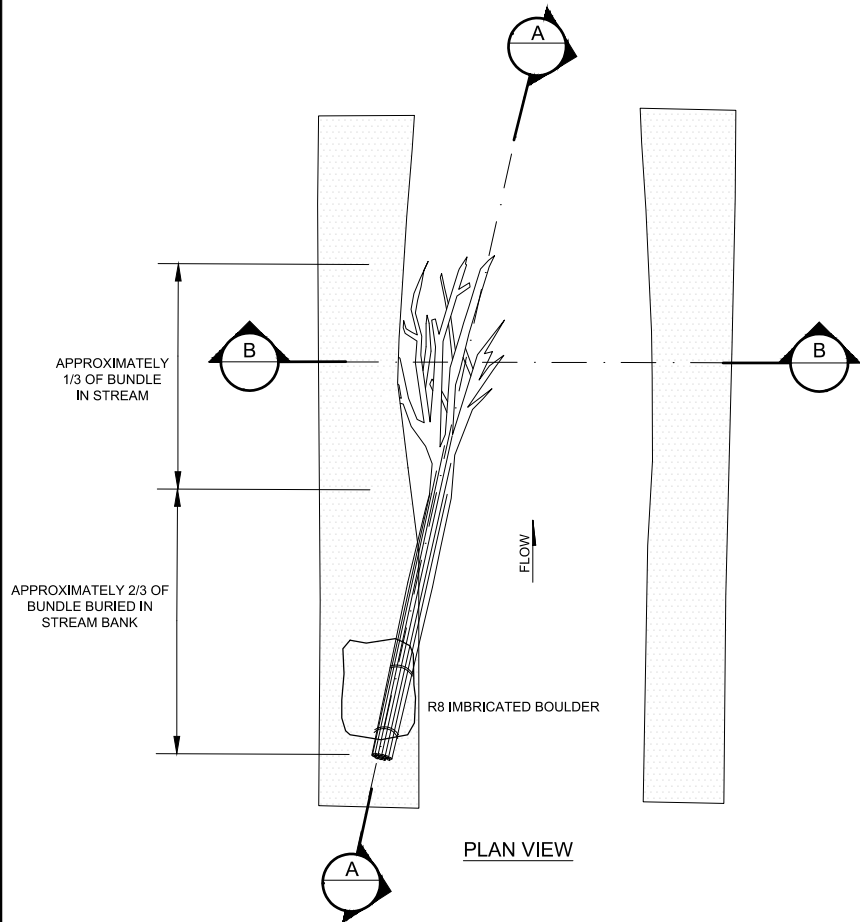


NOTE: EITHER R8 IMBRICATED BOULDER OR DUCKBILL ANCHORS TO BE USED TO SECURE BRANCH BUNDLE.

SECTION A-A

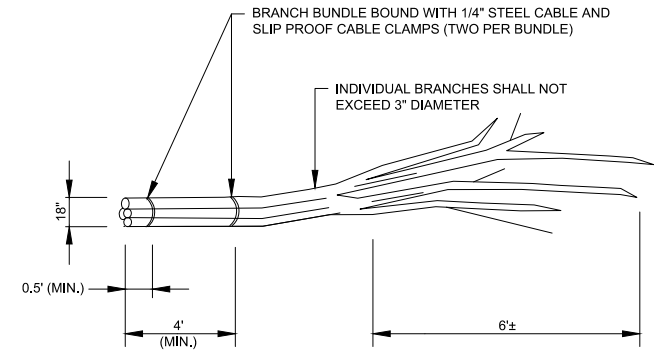


SECTION B-B
(LOOKING DOWNSTREAM)



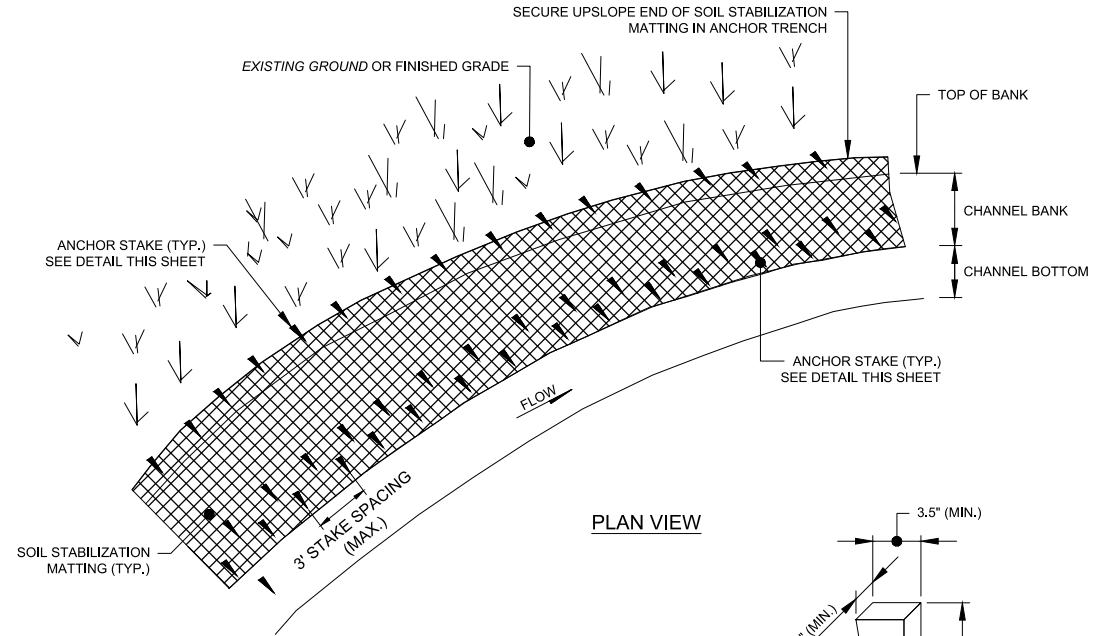
PLAN VIEW

BRANCH BUNDLE
NOT TO SCALE

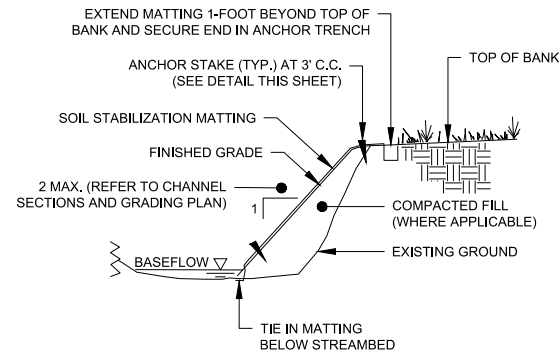


BRANCH BUNDLE / LOG DETAIL
NOT TO SCALE

- NOTES:
- INDIVIDUAL BRANCHES SHALL BE NO MORE THAN 3" IN DIAMETER.
 - CONTRACTOR TO PROVIDE 25 BUNDLES AT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

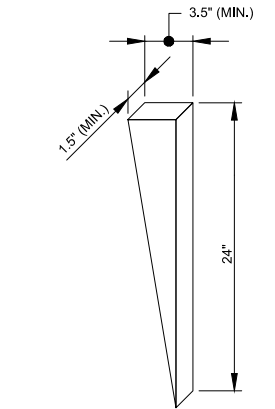


PLAN VIEW



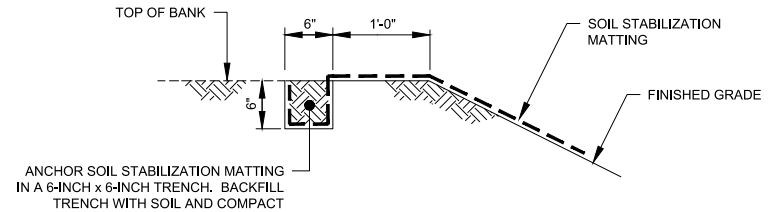
TYPICAL SECTION

SOIL STABILIZATION MATTING - CHANNEL APPLICATIONS
NOT TO SCALE



ANCHOR STAKE DETAIL
NOT TO SCALE

- ANCHOR STAKE NOTES:
- ANCHOR STAKES SHALL BE TAPERED TWO FOOT LONG WOODEN STAKES CONSISTING OF STANDARD 2" X 4" WOODEN BOARDS CUT DIAGONALLY.



SOIL STABILIZATION MATTING
TOP OF BANK KEY-IN DETAIL
NOT TO SCALE

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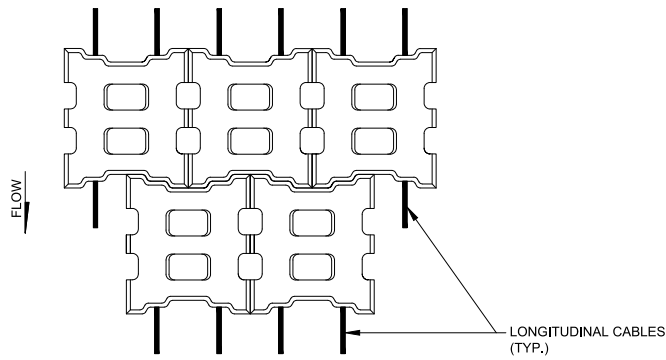


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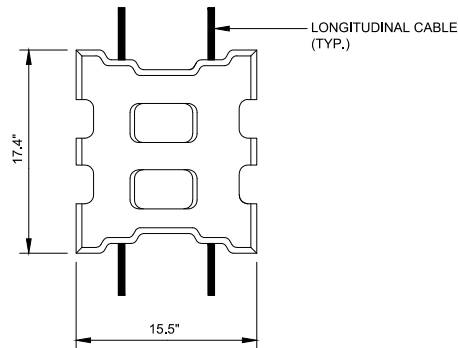
EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

STREAM DETAILS
SHEET 2 OF 2

JOB NO.	SHEET NO.
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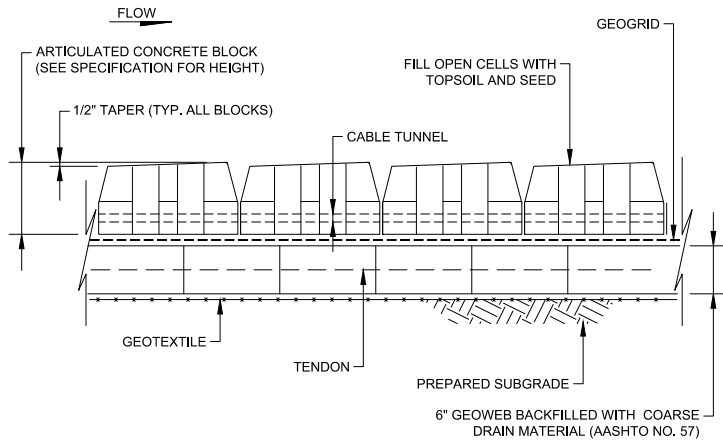


PLAN VIEW

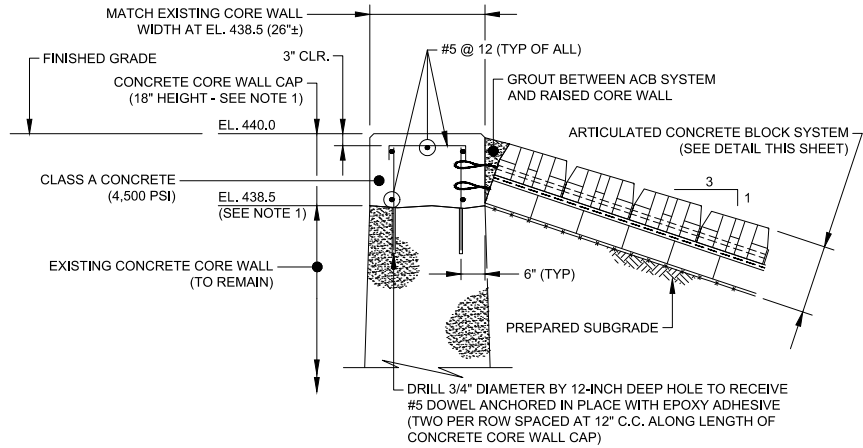


ENLARGED PLAN VIEW OF INDIVIDUAL BLOCK

ARTICULATED CONCRETE BLOCK SYSTEM
TYPICAL DETAIL
NOT TO SCALE

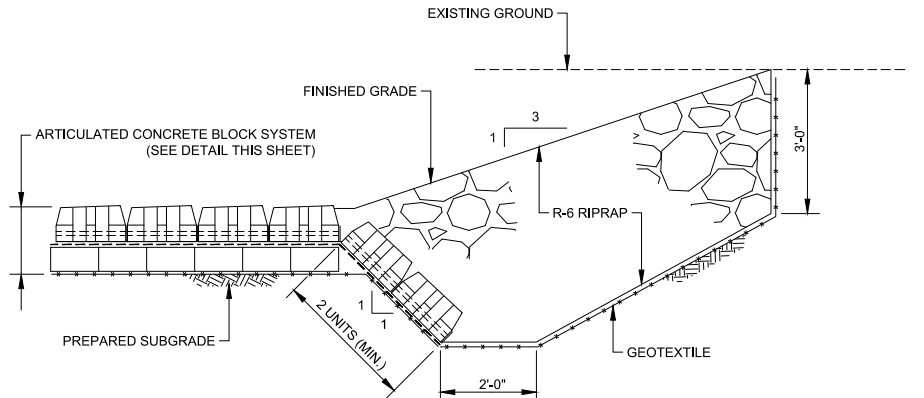


ARTICULATED CONCRETE BLOCK SYSTEM
TYPICAL CROSS SECTION
NOT TO SCALE

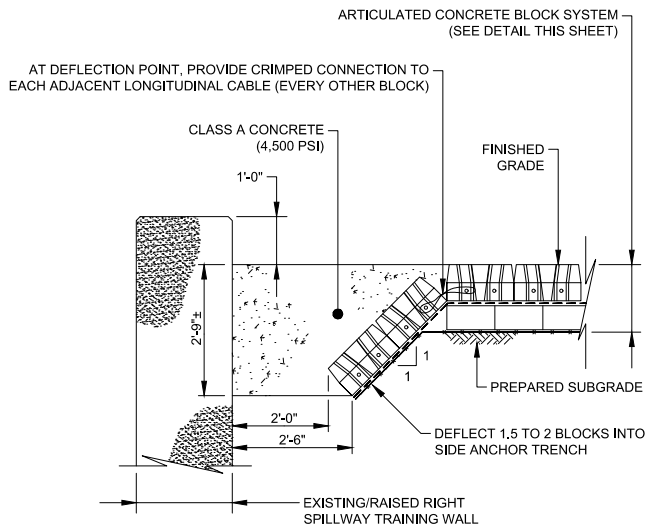


ACB UPSLOPE TERMINATION AT CORE WALL
NOT TO SCALE

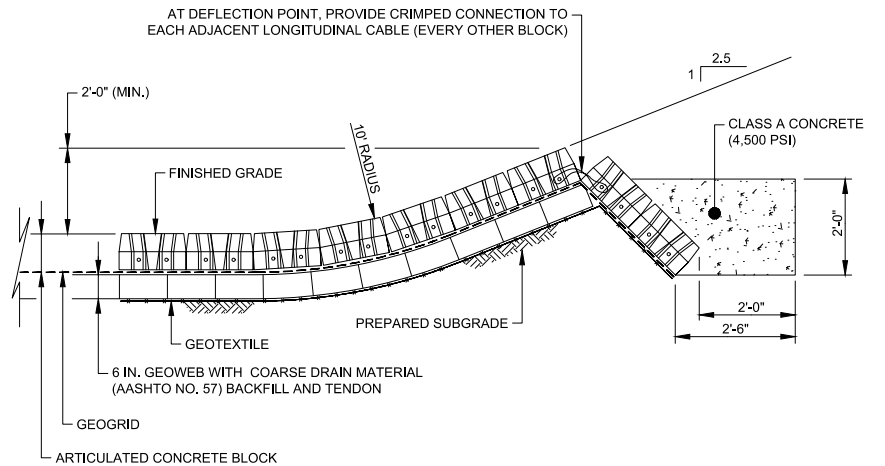
- NOTES:
1. AT LOCATIONS WHERE THE CONCRETE CORE WALL CAP IS LOCATED OVER THE EXISTING VALVE VAULT (WHICH IS TO BE DEMOLISHED TO EL. 437.5), INCREASE THE HEIGHT OF THE CONCRETE CORE WALL CAP AS NEEDED TO MAINTAIN THE TOP OF CAP AT EL. 440.0.
 2. ANCHOR ACB REVETMENT CABLE AND THE GEOGRID TENDON TO THE STEEL REINFORCING OF THE CONCRETE CORE WALL CAP. USE PIG TAIL CONNECTIONS AS NEEDED TO REMOVE SLACK IN THE REVETMENT CABLE.
 3. ANCHOR GEOGRID TENDON TO THE STEEL REINFORCING OF THE CONCRETE CORE WALL CAP. ANCHOR TENDON SO AS TO REMOVE SLACK IN THE TENDON.



ACB DOWNSLOPE TERMINATION
NOT TO SCALE



ACB LEFT SIDE SLOPE TERMINATION
(LOOKING DOWNSTREAM)
NOT TO SCALE



ACB RIGHT SIDE SLOPE TERMINATION
(LOOKING DOWNSTREAM)
NOT TO SCALE

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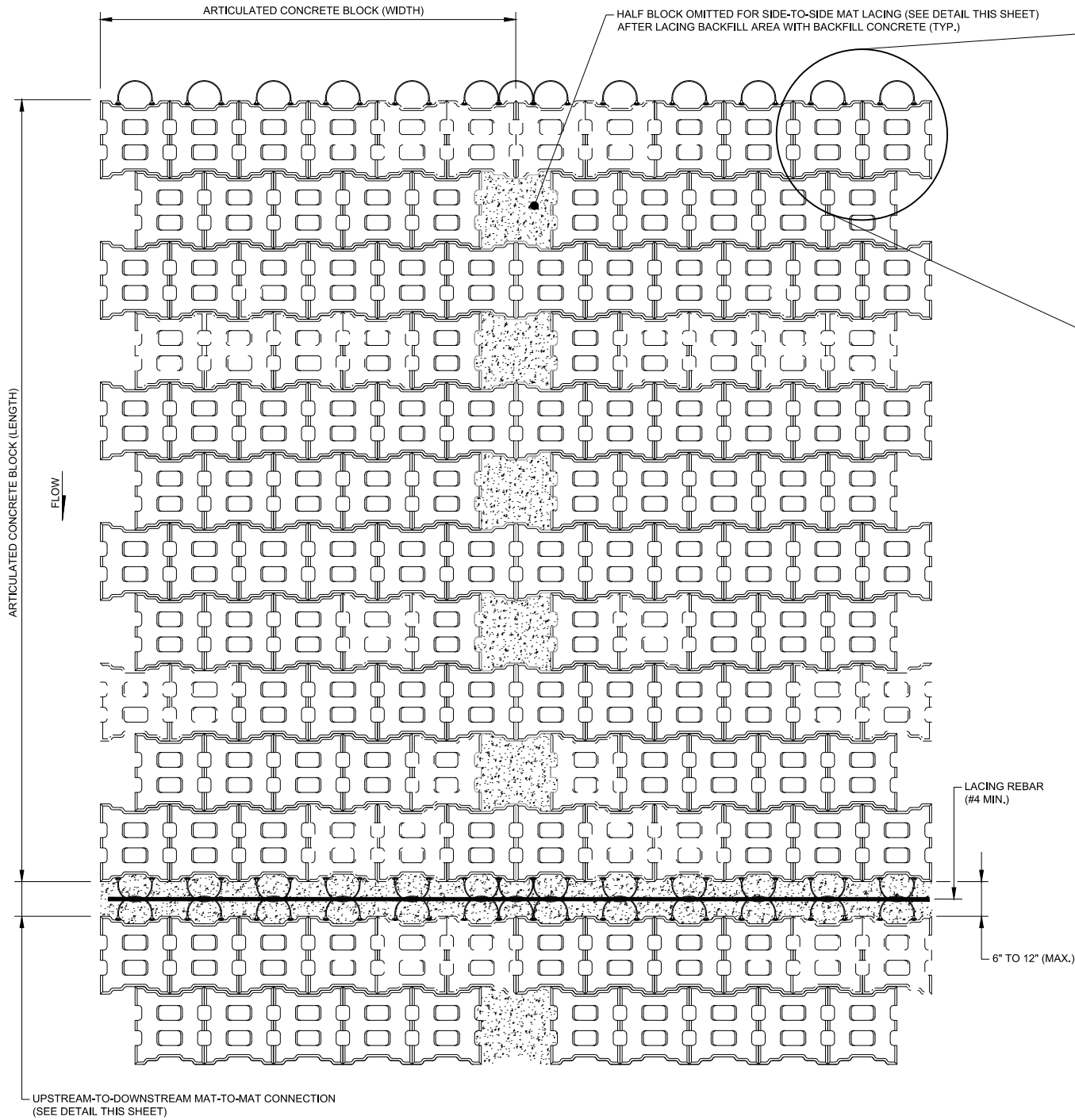


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MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

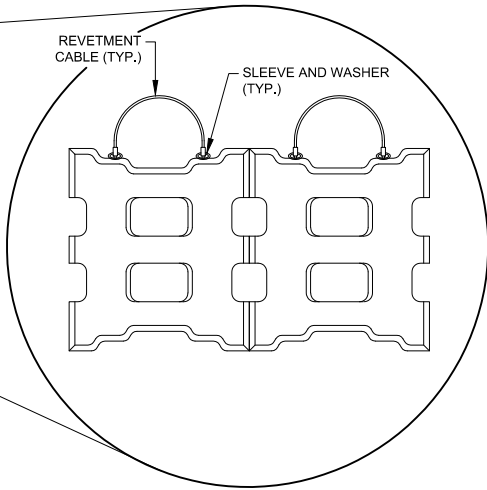
ACB DETAILS SHEET 1 OF 2

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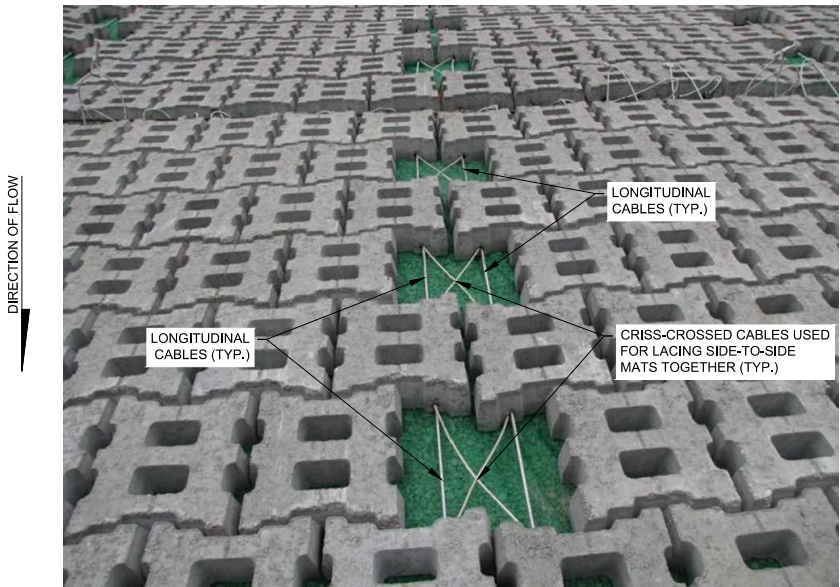
PLAN VIEW

ACB SIDE-TO-SIDE AND UPSTREAM-TO-DOWNSTREAM
MAT-TO-MAT CONNECTIONS DETAILS
NOT TO SCALE

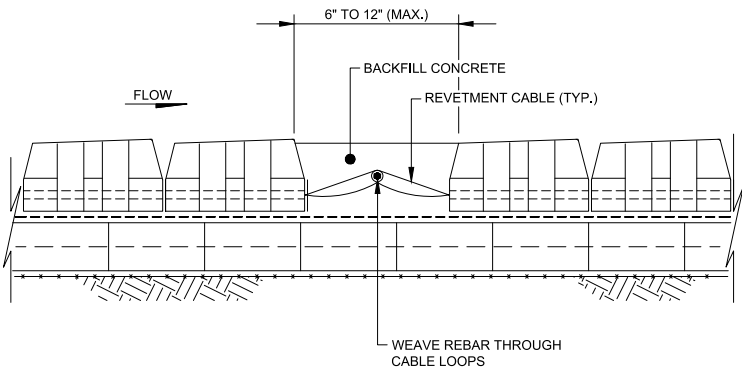


ARTICULATED CONCRETE BLOCK (ACB) NOTES:

1. SEE SPECIFICATION SECTION 02275 FOR ACCEPTABLE ACB SYSTEM(S).
2. PRIMARY REQUIREMENTS OF THE ACB UNITS, AS DETAILED IN THE SPECIFICATION, ARE AS FOLLOWS: CONCRETE BLOCKS THAT HAVE A NOMINAL HEIGHT OF 9-INCHES, INTERLOCKING, TAPERED, OPEN CELL AND CABLED.
3. PREPARATION OF THE SUBGRADE IS CRITICAL TO THE SUCCESSFUL PERFORMANCE OF THE ACB SYSTEM. SUBGRADE TESTING AND INSTALLATION REQUIREMENTS ARE DETAILED IN THE SPECIFICATIONS.
4. MANUFACTURER TO PROVIDE ON-SITE CONSULTING DURING CONSTRUCTION AS INDICATED IN SPECIFICATIONS.
5. CONTRACTOR TO SUBMIT MANUFACTURER'S SPECIFICATIONS AND INSTALLATION PROCEDURES/ RECOMMENDATIONS TO ENGINEER FOR APPROVAL PER SPECIFICATION SECTION 02275.
6. MANUFACTURER TO CERTIFY THAT INSTALLATION WAS PERFORMED IN ACCORDANCE WITH MANUFACTURER'S PROCEDURES AND RECOMMENDATIONS.
7. EACH SIDE OF EACH MAT SHALL BE TIED TO ADJACENT MATS USING THE LACING DETAILS SHOWN ON THIS SHEET.
8. WITH THE EXCEPTION OF JOINTS WHICH ARE BACKFILLED WITH CONCRETE, THE OPEN CELLS OF EACH BLOCK AND THE SPACES BETWEEN THE BLOCKS SHALL BE FILLED WITH TOPSOIL, SEEDED AND MULCHED. TOPSOIL SHALL BE WETTED AND LIGHTLY COMPACTED TO BE FLUSH WITH THE TOP OF THE ARTICULATED CONCRETE BLOCK SYSTEM.



ACB SIDE-TO-SIDE MAT-TO-MAT LACING DETAIL
NOT TO SCALE



ACB UPSTREAM-TO-DOWNSTREAM MAT-TO-MAT CONNECTION DETAIL
NOT TO SCALE

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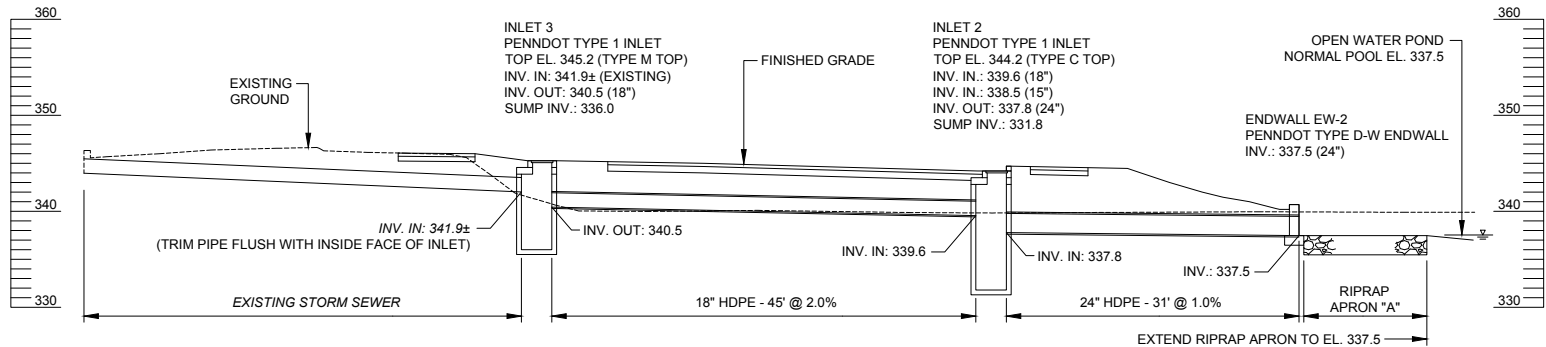


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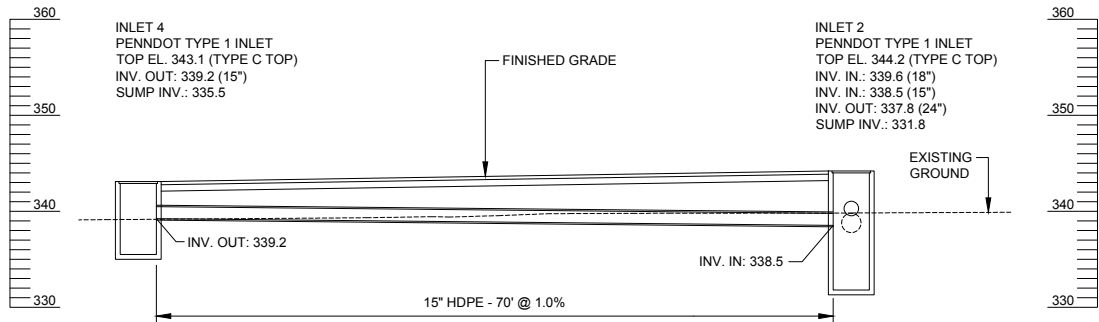
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MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

ACB DETAILS
SHEET 2 OF 2

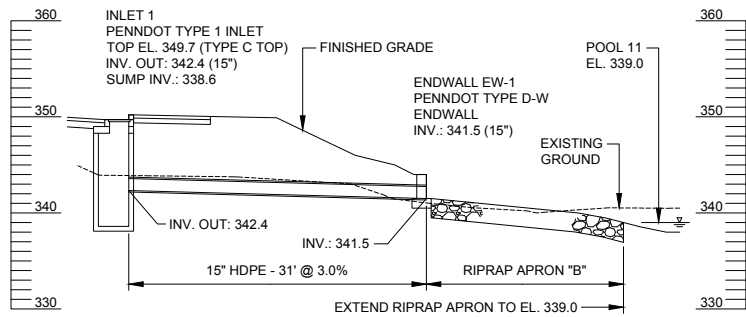
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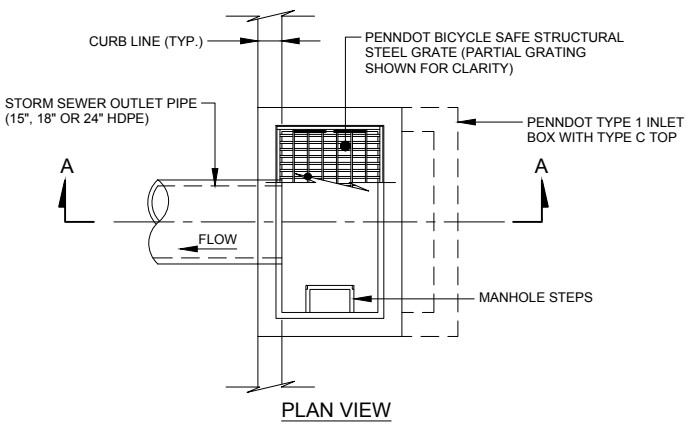
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EXISTING CROSS PIPE TO EW-2
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL



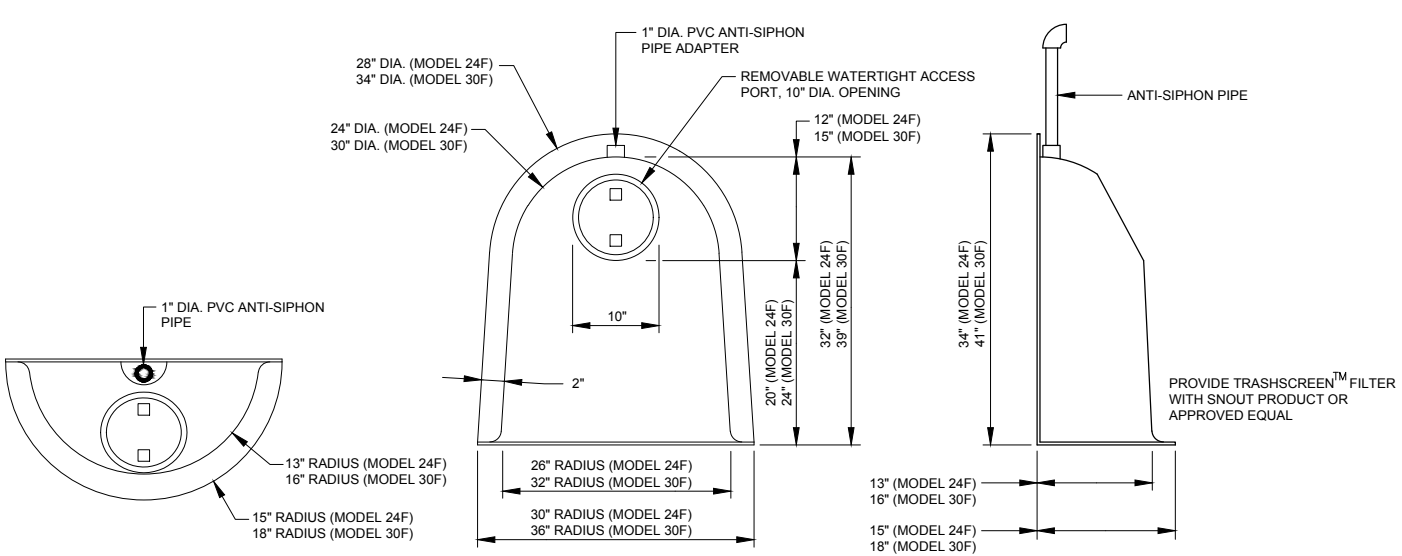
STORM SEWER PROFILE - SOUTHERN PARKING LOT
INLET 2 TO INLET 4
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL



STORM SEWER PROFILE - NORTHERN PARKING LOT
INLET 1 TO ENDWALL EW-1
SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL



PLAN VIEW



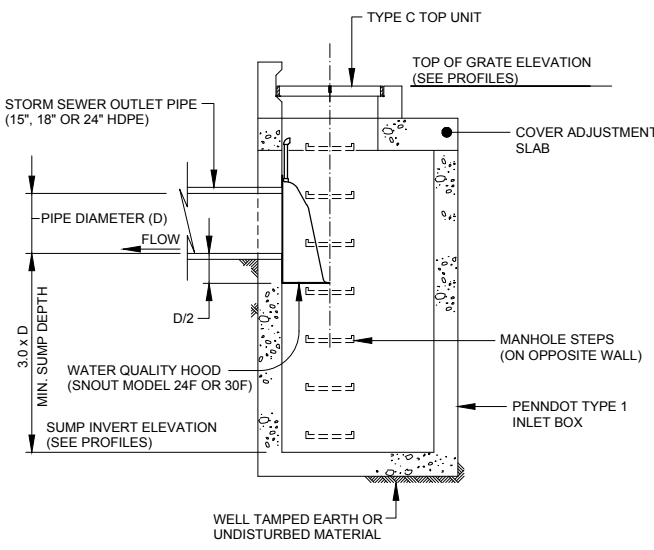
PLAN VIEW

FRONT VIEW

SIDE VIEW

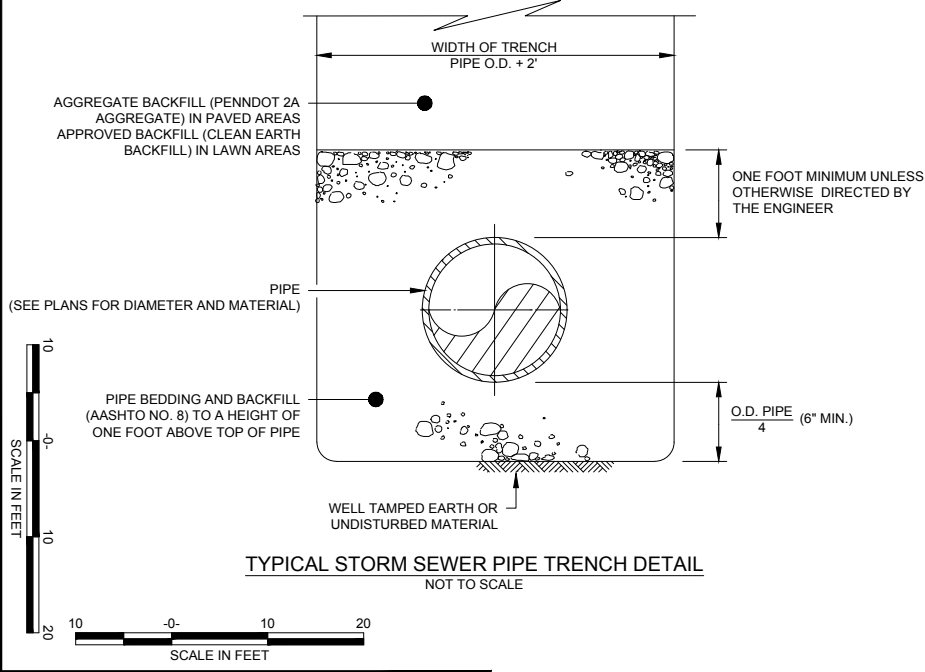
WATER QUALITY HOOD
NOT TO SCALE

- WATER QUALITY HOOD NOTES:
1. WATER QUALITY HOOD SHALL BE THE SNOOT MODEL 24F OR MODEL 30F AS SPECIFIED HEREIN, OR APPROVED EQUAL.
 2. USE SNOOT MODEL 24F OVER PIPES HAVING AN INSIDE DIAMETER OF 18" OR LESS. USE SNOOT MODEL 30F OVER PIPES HAVING AN INSIDE DIAMETER OF 24".
 3. INSTALL THE WATER QUALITY HOOD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.



SECTION A-A

TYPICAL WATER QUALITY INLET
(INLETS 1, 2, 3 AND 4)
NOT TO SCALE



TYPICAL STORM SEWER PIPE TRENCH DETAIL
NOT TO SCALE

STORM SEWER INSTALLATION NOTES:

1. ALL STORM SEWER INSTALLATION SHALL CONFORM TO COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF TRANSPORTATION, BUREAU OF DESIGN STANDARDS FOR ROADWAY CONSTRUCTION, SUBSURFACE DRAINS, RC-30M, LATEST EDITION.

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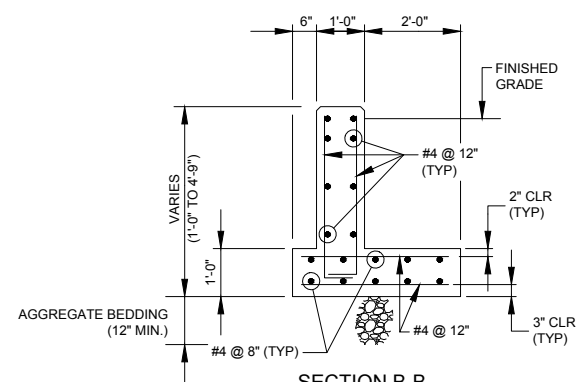
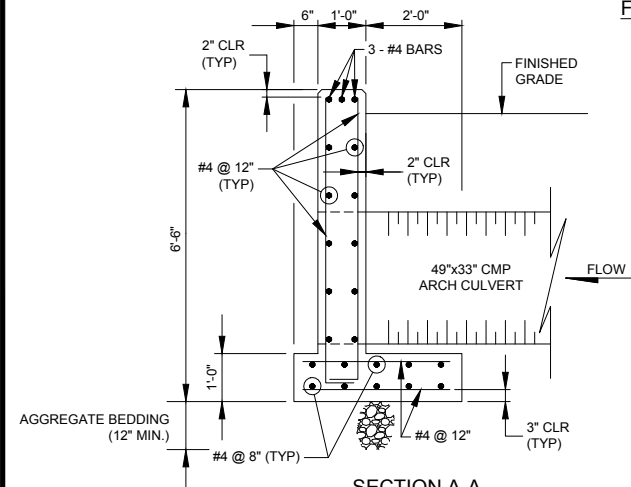
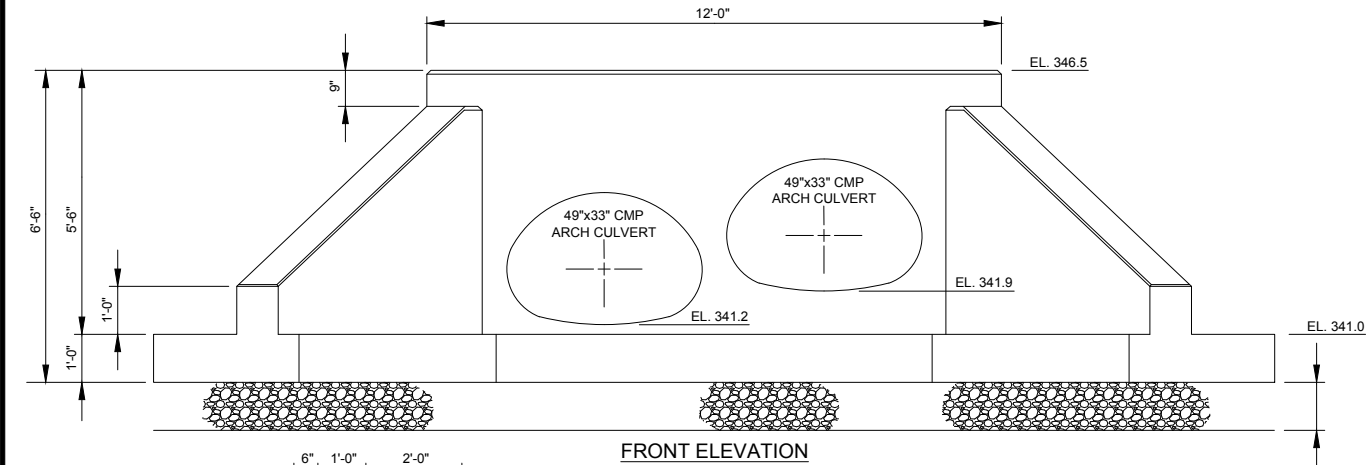
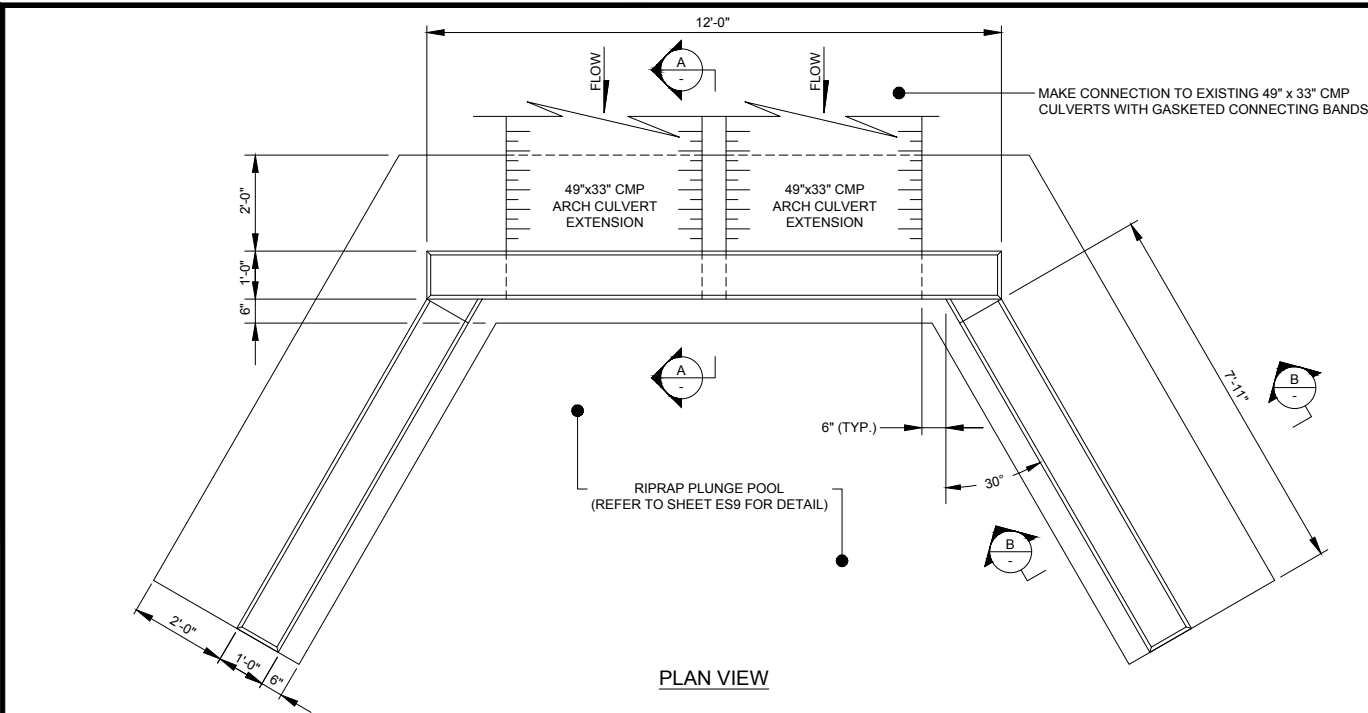


EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

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STORM SEWER PROFILES
AND DETAILS

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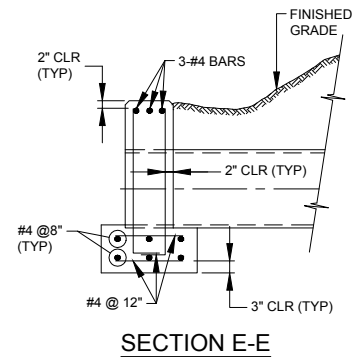
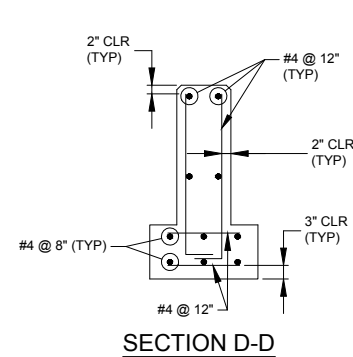
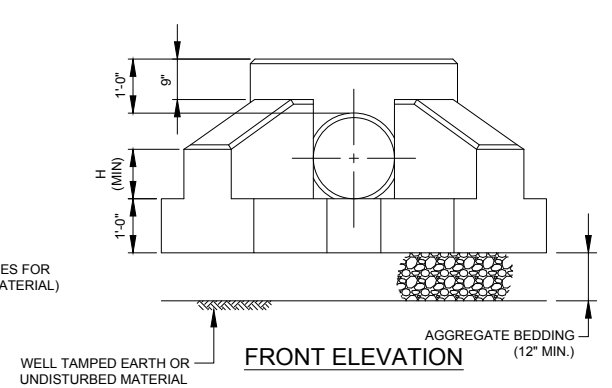
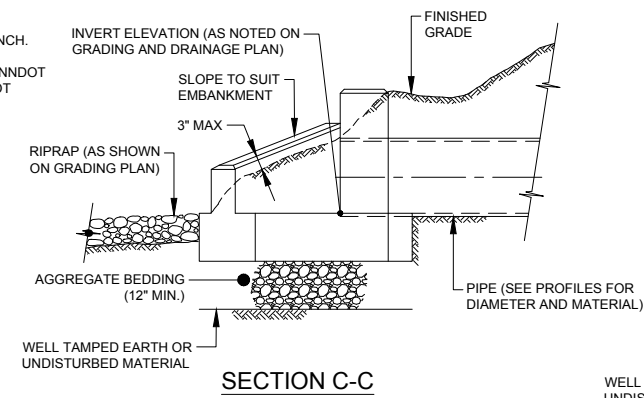


ENDWALL FOR TWIN 49' x 33' CMP ALONG RESERVOIR ROAD
NOT TO SCALE

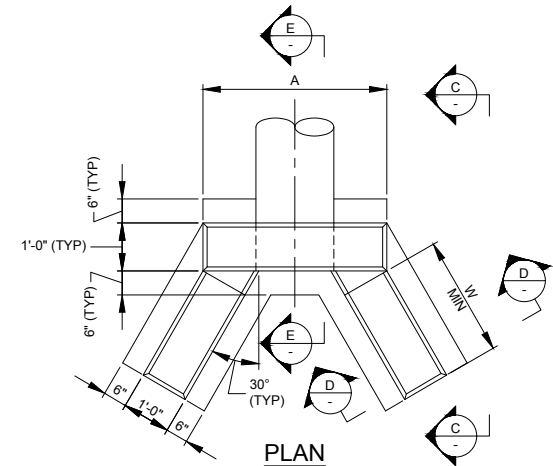
ENDWALL NOTES:

- ALL EXPOSED EDGES TO BE CHAMFERED ONE INCH.
- CONCRETE ENDWALLS SHALL COMPLY WITH PENNDOT PUBLICATION 408 SPECIFICATIONS AND PENNDOT PUBLICATION 72M STANDARDS FOR ROADWAY CONSTRUCTION.
- ALL ENDWALLS TO BE FOUNDED ON 12" (MIN) COMPACTED AGGREGATE.

SCHEDULE OF TYPE D-W ENDWALL DIMENSIONS			
PIPE DIAMETER	A	W	H
12" THRU 18"	4.0'	2.5'	1.0'
21" THRU 24"	4.6'	4.0'	1.5'
27"	4.9'	4.6'	1.5'
30"	5.2'	4.6'	1.75'
19" x 30"	5.4'	4.0'	1.5'
36"	5.8'	4.6'	1.75'
42"	6.3'	5.8'	1.75'
48"	6.9'	6.9'	1.75'



TYPE D-W ENDWALL
NOT TO SCALE



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EAST GOSHEN TOWNSHIP CHESTER COUNTY, PENNSYLVANIA
MILLTOWN DAM HAZARD REDUCTION AND RESERVOIR ENHANCEMENTS

STORM SEWER DETAILS

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