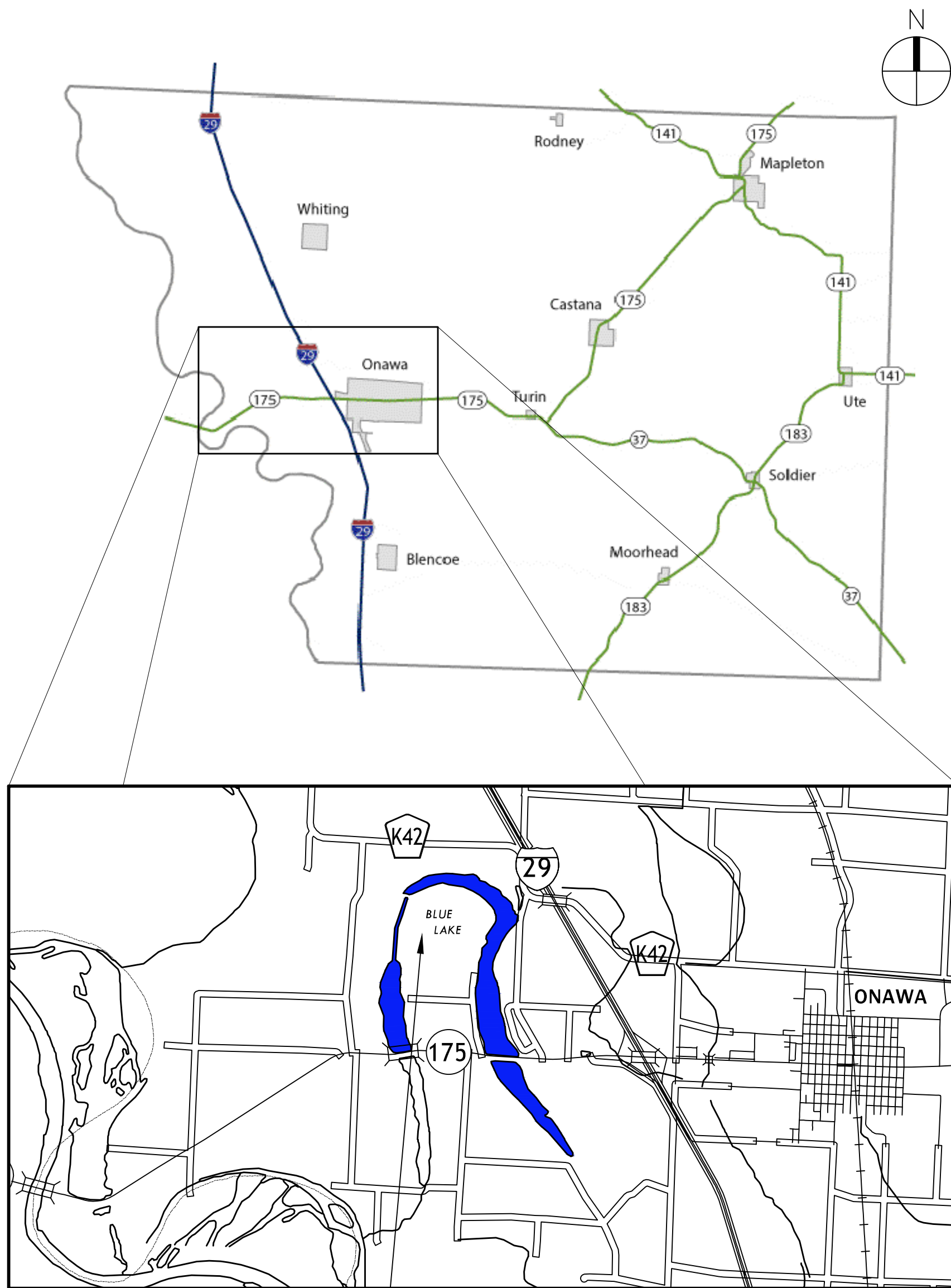


IOWA DEPARTMENT OF NATURAL RESOURCES BLUE LAKE DREDGING CONTAINMENT BASIN

MONONA COUNTY, IOWA

IDNR PROJECT #: 17-01-67-06

LOCATION MAP



PROJECT LOCATION



SHEET INDEX

C000	COVER SHEET
C001	PROJECT QUANTITIES & NOTES
C101	EXISTING TOPOGRAPHIC PLAN
C201	OVERALL GRADING PLAN
C202	OVERALL CUT & FILL PLAN
C301 - C302	DAM EMBANKMENT PROFILE
C303	PRINCIPAL SPILLWAY PLAN AND PROFILE
C401	EROSION AND SEDIMENT CONTROL PLAN
C501	DETAILS
C601	SIGNAGE AND TRAFFIC CONTROL PLAN
C701	FENCING PLAN

CONTACT INFORMATION

IDNR LAKE RESTORATION

ATTN: MICHELLE BALMER
MICHELLE.BALMER@DNR.IOWA.GOV
502 E. 9TH STREET
DES MOINES, IOWA 50319-0034
PHONE: (515) 725-8448

ENGINEER

SHIVE-HATTERY, INC.
ATTN: LUKE MONAT
LMONAT@SHIVE-HATTERY.COM
4125 WESTOWN PKWY SUITE 100
WEST DES MOINES, IOWA 50266
PHONE: (515) 223-8104

LEWIS & CLARK STATE PARK

ATTN: KATHERINE HOEPPNER
KATHERINE.HOEPPNER@DNR.IOWA.GOV
21914 PARK LOOP
ONAWA, IA 51040
PHONE: (712) 423-2829

BLUE LAKE WMA

ATTN: DOUG CHAFA
DOUG.CHAFA@DNR.IOWA.GOV
21914 PARK LOOP
ONAWA, IA 51040
PHONE: (712) 420-2437

IDNR FIELD ENGINEER

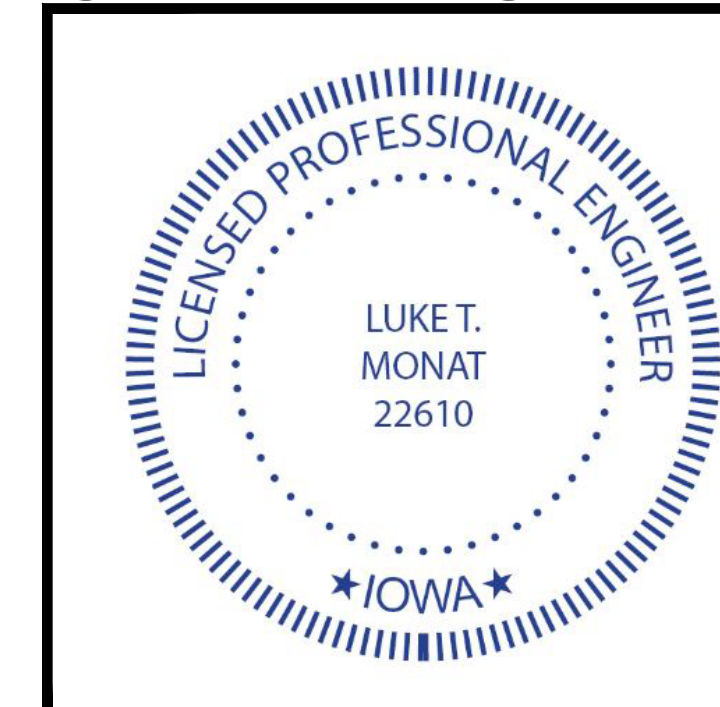
ATTN: JEFF FELTS
JEFF.FELTS@DNR.IOWA.GOV
PHONE: (515) 250-3712

AUTHORIZATION TO BID	
AUTHORIZATION - PARKS WILDLIFE FISHERIES LAW ENFORCEMENT FORESTRY	DATE
ENGINEERING BUREAU CHIEF	DATE

GENERAL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK BETWEEN ALL SUPPLIERS AND SUBCONTRACTORS INVOLVED IN THE PROJECT INCLUDING STAGING OF CONSTRUCTION.
- THE LOCATIONS OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS PLOTTED ON THIS DRAWING ARE APPROXIMATE ONLY AND WERE OBTAINED FROM RECORDS MADE AVAILABLE TO SHIVE-HATTERY, INC. THERE MAY BE OTHER EXISTING UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS NOT KNOWN TO SHIVE-HATTERY, INC. AND NOT SHOWN ON THIS DRAWING. THE VERIFICATION OF EXISTENCE OF, AND THE DETERMINATION OF THE EXACT LOCATION OF, UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR(S). IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERE TO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.
- IOWA CODE 480, UNDERGROUND FACILITIES INFORMATION, REQUIRES VERBAL NOTICE TO IOWA ONE-CALL 1-800-292-8989, NOT LESS THAN 48 HOURS BEFORE EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.
- THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SPECIFICALLY CALLED OUT, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
- WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK, SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY THE OWNER AT THE CONTRACTOR'S EXPENSE.
- NO WORK SHALL BE PERFORMED BEYOND THE PROJECT LIMITS WITHOUT PRIOR AUTHORIZATION FROM THE OWNER'S REPRESENTATIVE.
- CONTOURS AND SPOT ELEVATIONS SHOWN ARE TO FINISHED GRADE.
- THE EXISTING SURFACE INFORMATION SHOWN WAS BASED ON LIGHT DETECTION AND RANGING (LIDAR) INFORMATION FOR IOWA AND LIMITED TOPOGRAPHIC SURVEY DATA COLLECTED BY SHIVE-HATTERY IN APRIL 2020. SOME VARIATIONS AND ADJUSTMENTS MAY NEED TO BE MADE DURING CONSTRUCTION. NOTIFY ENGINEER OF ANY CONFLICTING INFORMATION.
- DO NOT RESTRICT DRAINAGE CHANNELS. CONTRACTOR SHALL BE AWARE OF EXISTING DRAINAGE CONDITIONS AND FACILITIES AND SHALL ENSURE DRAINAGE IS MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
- REPAIR OR REPLACE DAMAGE TO EXISTING FACILITIES (TILE, UTILITIES, FENCES, ETC.) DESIGNATED TO REMAIN, AT NO ADDITIONAL EXPENSE TO THE OWNER.
- WORK DONE CONTRARY TO THE INSTRUCTIONS OF THE OWNER'S REPRESENTATIVE, WORK DONE BEYOND THE LINES SHOWN ON THE PLANS, OR ANY EXTRA WORK DONE WITHOUT AUTHORITY WILL NOT BE PAID FOR.
- ALL AREAS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS AND HAUL ROADS, ARE TO BE REWORKED TO THEIR EXISTING CONDITIONS AND SEEDED.
- ALL OPEN EXCAVATIONS SHALL BE PROTECTED.
- FOR ALL WORK NOT SPECIFIED IN THE CONTRACT DOCUMENTS, THE MOST RECENT EDITION OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS FOR PUBLIC IMPROVEMENTS SHALL APPLY TO THIS PROJECT EXCLUDING THE MEASUREMENT AND PAYMENT SECTIONS.
- A SHRINKAGE FACTOR OF 20% WAS UTILIZED FOR THIS PROJECT. THE CONTRACTOR SHALL MAKE CHANGES IN EARTHWORK AS NEEDED TO ADJUST FOR INACCURACIES INHERENT WITH ESTIMATING THE SHRINKAGE FACTOR. THESE CHANGES SHALL ONLY BE MADE AFTER CONSULTATION AND APPROVAL BY THE ENGINEER AND OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEPARTMENT OF NATURAL RESOURCES (DNR) NPDES PERMIT AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS AND REQUIRED CONTAINMENT STRUCTURES. THE OWNER HAS OBTAINED THE IOWA DNR GENERAL PERMIT #2 FOR THE PROJECT AND DEVELOPED A SWPPP. THE CONTRACTOR SHALL IMPLEMENT, MAINTAIN, COMPLETE REQUIRED INSPECTIONS, AND UPDATE THE SWPPP AS REQUIRED TO MEET ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- A UNITED STATES ARMY CORPS OF ENGINEERS (USACE) SECTION 404 PERMIT HAS BEEN OBTAINED BY THE OWNER FOR THE PROJECT.
- AN IOWA DNR FLOODPLAIN PERMIT/WATER STORAGE PERMIT AND SOVEREIGN LANDS PERMIT HAS BEEN OBTAINED BY THE OWNER FOR THE PROJECT.
- GEOTECHNICAL AND MATERIALS TESTING SERVICES WILL BE OBTAINED AND PAID FOR BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE TESTING AGENCY TO SCHEDULE TESTS AND FOR CORRECTION OF ANY DEFICIENCIES WITH MOISTURE OR DENSITY OF COMPACTED FILL.

CIVIL ENGINEER



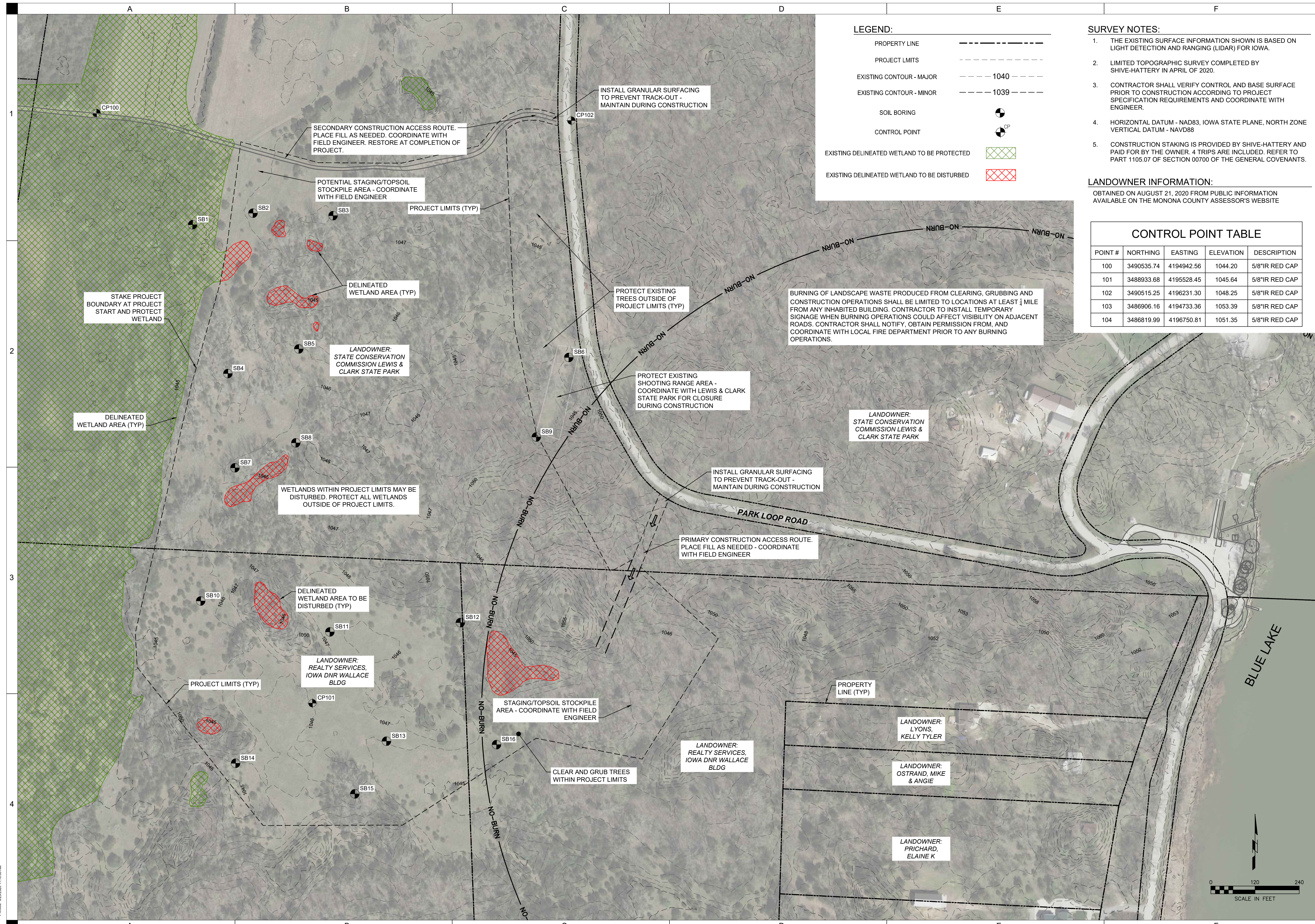
I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

Signature: *Luke Monat* Date: 8/25/2020

Printed or typed name: LUKE T. MONAT
License Number: 22610
My License Renewal Date is: DECEMBER 31, 2020

PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL:
ALL SHEETS

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LEGEND:

PROPERTY LINE _____

PROJECT LIMITS - - - - -

EXISTING CONTOUR - MAJOR _____ 1040 _____

EXISTING CONTOUR - MINOR _____ 1039 _____

SOIL BORING ○●

CONTROL POINT ● CP

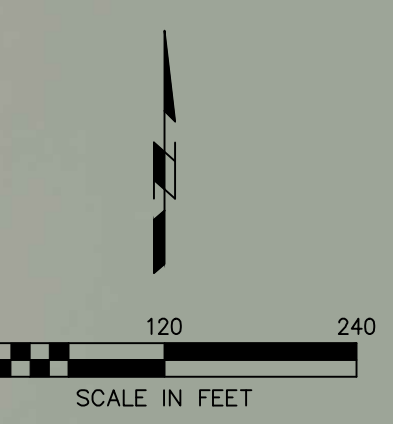
EXISTING DELINEATED WETLAND TO BE PROTECTED [Green cross-hatch]

EXISTING DELINEATED WETLAND TO BE DISTURBED [Red cross-hatch]

- SURVEY NOTES:**
- THE EXISTING SURFACE INFORMATION SHOWN IS BASED ON LIGHT DETECTION AND RANGING (LIDAR) FOR IOWA.
 - LIMITED TOPOGRAPHIC SURVEY COMPLETED BY SHIVE-HATTERY IN APRIL OF 2020.
 - CONTRACTOR SHALL VERIFY CONTROL AND BASE SURFACE PRIOR TO CONSTRUCTION ACCORDING TO PROJECT SPECIFICATION REQUIREMENTS AND COORDINATE WITH ENGINEER.
 - HORIZONTAL DATUM - NAD83, IOWA STATE PLANE, NORTH ZONE VERTICAL DATUM - NAVD88
 - CONSTRUCTION STAKING IS PROVIDED BY SHIVE-HATTERY AND PAID FOR BY THE OWNER. 4 TRIPS ARE INCLUDED. REFER TO PART 1105.07 OF SECTION 00700 OF THE GENERAL COVENANTS.
- LANDOWNER INFORMATION:**
- OBTAINED ON AUGUST 21, 2020 FROM PUBLIC INFORMATION AVAILABLE ON THE MONONA COUNTY ASSESSOR'S WEBSITE

CONTROL POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	3490535.74	4194942.56	1044.20	5/8"IR RED CAP
101	3488933.68	4195528.45	1045.64	5/8"IR RED CAP
102	3490515.25	4196231.30	1048.25	5/8"IR RED CAP
103	3486906.16	4194733.36	1053.39	5/8"IR RED CAP
104	3486819.99	4196750.81	1051.35	5/8"IR RED CAP



SHIVE-HATTERY
ARCHITECTURE + ENGINEERING

4125 Westown Pkwy, Suite 100 | West Des Moines, Iowa 50266
515.233.8104 | www.shive-hattery.com
Iowa | Illinois | Indiana

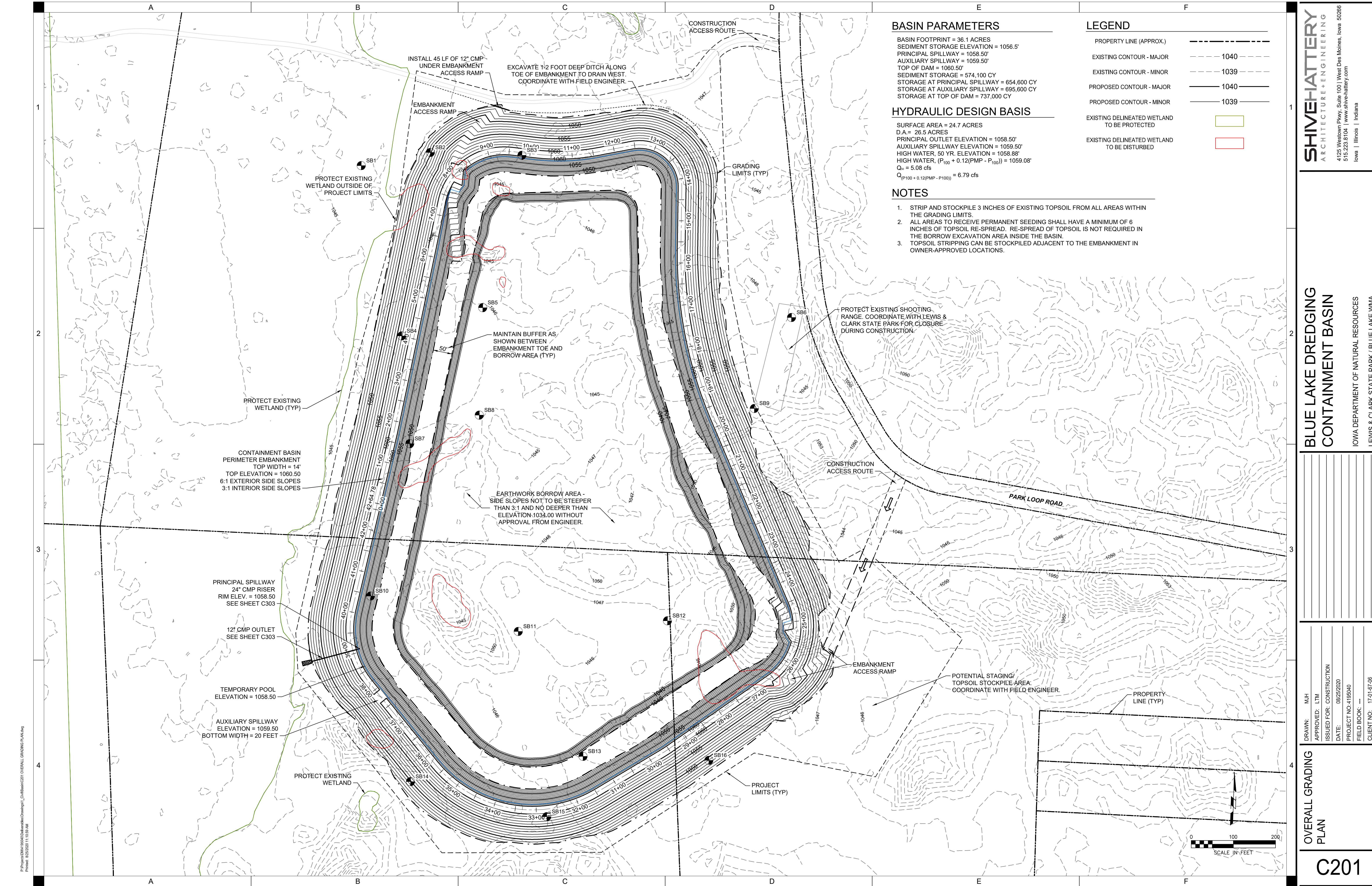
**BLUE LAKE DREDGING
CONTAINMENT BASIN**

IOWA DEPARTMENT OF NATURAL RESOURCES
LEWIS & CLARK STATE PARK / BLUE LAKE WMA

DRAWN:	MJM
APPROVED:	LTM
ISSUED FOR:	CONSTRUCTION
DATE:	08/25/2020
PROJECT NO.:	119545
FIELD BOOK:	--
CLIENT NO.:	17-01-67-06

**EXISTING
TOPOGRAPHIC
PLAN**

C101



BASIN PARAMETERS

BASIN FOOTPRINT = 36.1 ACRES
 SEDIMENT STORAGE ELEVATION = 1056.5'
 PRINCIPAL SPILLWAY = 1058.50'
 AUXILIARY SPILLWAY = 1059.50'
 TOP OF DAM = 1060.50'
 SEDIMENT STORAGE = 574,100 CY
 STORAGE AT PRINCIPAL SPILLWAY = 654,600 CY
 STORAGE AT AUXILIARY SPILLWAY = 695,600 CY
 STORAGE AT TOP OF DAM = 737,000 CY

HYDRAULIC DESIGN BASIS

SURFACE AREA = 24.7 ACRES
 D.A. = 26.5 ACRES
 PRINCIPAL OUTLET ELEVATION = 1058.50'
 AUXILIARY SPILLWAY ELEVATION = 1059.50'
 HIGH WATER, 50 YR. ELEVATION = 1058.88'
 HIGH WATER, (P₁₀₀ + 0.12(PMP - P₁₀₀)) = 1059.08'
 Q₅₀ = 5.08 cfs
 Q_{(P₁₀₀ + 0.12(PMP - P₁₀₀))} = 6.79 cfs

NOTES

- STRIP AND STOCKPILE 3 INCHES OF EXISTING TOPSOIL FROM ALL AREAS WITHIN THE GRADING LIMITS.
- ALL AREAS TO RECEIVE PERMANENT SEEDING SHALL HAVE A MINIMUM OF 6 INCHES OF TOPSOIL RE-SPREAD. RE-SPREAD OF TOPSOIL IS NOT REQUIRED IN THE BORROW EXCAVATION AREA INSIDE THE BASIN.
- TOPSOIL STRIPPING CAN BE STOCKPILED ADJACENT TO THE EMBANKMENT IN OWNER-APPROVED LOCATIONS.

LEGEND

PROPERTY LINE (APPROX.)	
EXISTING CONTOUR - MAJOR	1040
EXISTING CONTOUR - MINOR	1039
PROPOSED CONTOUR - MAJOR	1040
PROPOSED CONTOUR - MINOR	1039
EXISTING DELINEATED WETLAND TO BE PROTECTED	
EXISTING DELINEATED WETLAND TO BE DISTURBED	

DRAWN: MJH
APPROVED: LTM
ISSUED FOR: CONSTRUCTION
DATE: 08/25/2020
PROJECT NO.: 189940
FIELD BOOK: --
CLIENT NO.: 17-01-07-06

OVERALL GRADING PLAN
C201

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ELEVATIONS TABLE

CUT/FILL	MINIMUM ELEVATION (FT.)	MAXIMUM ELEVATION (FT.)	COLOR
CUT	-14.0000	-12.0000	
CUT	-12.0000	-10.0000	
CUT	-10.0000	-8.0000	
CUT	-8.0000	-6.0000	
CUT	-6.0000	-4.0000	
CUT	-4.0000	-2.0000	
CUT	-2.0000	0.0000	
BALANCE LINE	0.0000	0.0000	
FILL	0.0000	2.0000	
FILL	2.0000	4.0000	
FILL	4.0000	6.0000	
FILL	6.0000	8.0000	
FILL	8.0000	10.0000	
FILL	10.0000	12.0000	
FILL	12.0000	14.0000	
FILL	14.0000	16.0000	
FILL	16.0000	18.0000	

ESTIMATED PROJECT QUANTITIES:

EARTHWORK TABLE		
TOTAL CUT (CY)	TOTAL FILL (CY)	TOTAL FILL + 20% SHRINK (CY)
208,000	173,300	208,000

- IN ADDITION TO THE QUANTITIES LISTED ABOVE, 13,000± CY OF TOPSOIL TO BE STRIPPED, SALVAGED, AND RE-SPREAD.
- STRIP AND STOCKPILE 3 INCHES OF EXISTING TOPSOIL FROM ALL AREAS WITHIN THE GRADING LIMITS.
- ALL AREAS TO RECEIVE PERMANENT SEEDING SHALL HAVE A MINIMUM OF 6 INCHES OF TOPSOIL RE-SPREAD. RE-SPREAD OF TOPSOIL IS NOT REQUIRED IN THE BORROW EXCAVATION AREA INSIDE THE BASIN.
- EARTHWORK QUANTITIES HAVE BEEN INCLUDED FOR REFERENCE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BUILD THE EMBANKMENTS TO THE ELEVATIONS REQUIRED.

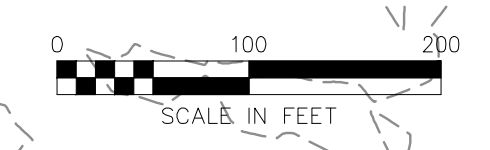
ALL FILL MATERIAL WITHIN DAM EMBANKMENT SHALL BE PLACED AT SPECIFIED MOISTURE AND DENSITY. REFER TO TECHNICAL SPECIFICATIONS.

MAINTAIN BUFFER AS SHOWN BETWEEN EMBANKMENT TOE AND BORROW AREA (TYP)

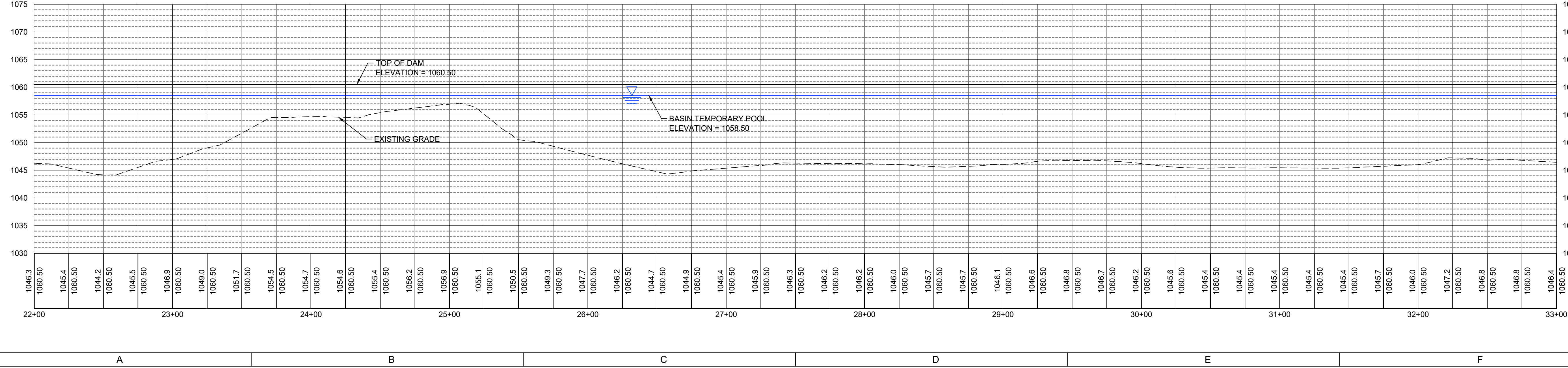
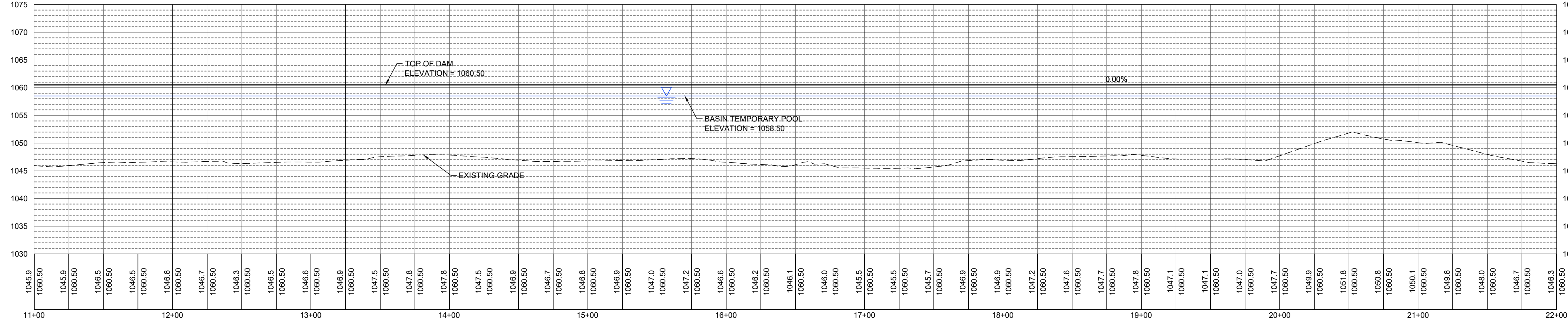
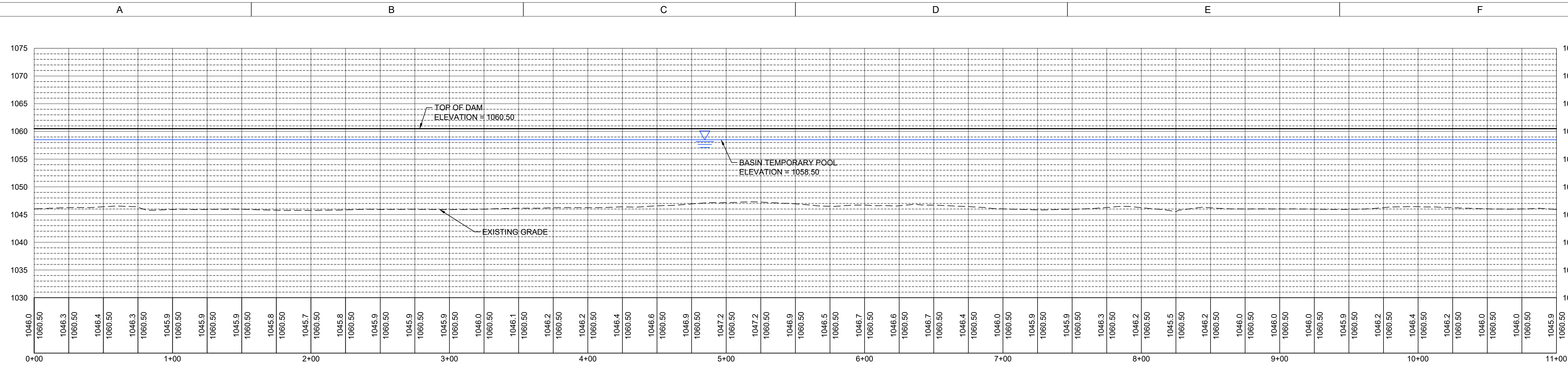
EARTHWORK BORROW AREA - SIDE SLOPES NOT TO BE STEEPER THAN 3:1 AND NO DEEPER THAN ELEVATION 1034.00 WITHOUT APPROVAL FROM ENGINEER.

GRADING LIMITS (TYP)

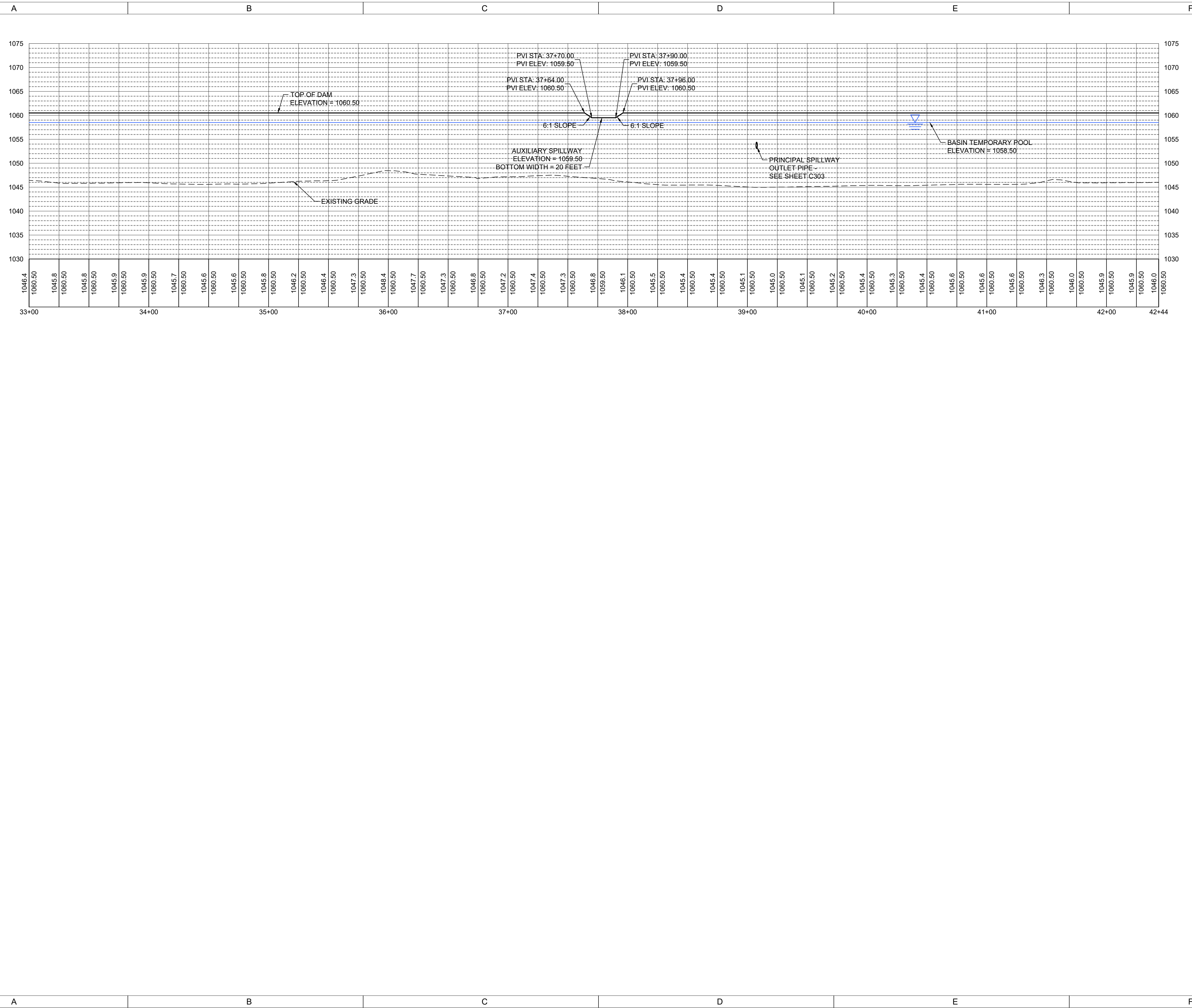
PARK LOOP ROAD



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DRAWN: MJH
APPROVED: LTM
ISSUED FOR: CONSTRUCTION
DATE: 08/25/2020
PROJECT NO.: 195040
FIELD BOOK: ---
CLIENT NO.: 17-01-67-06



1

2

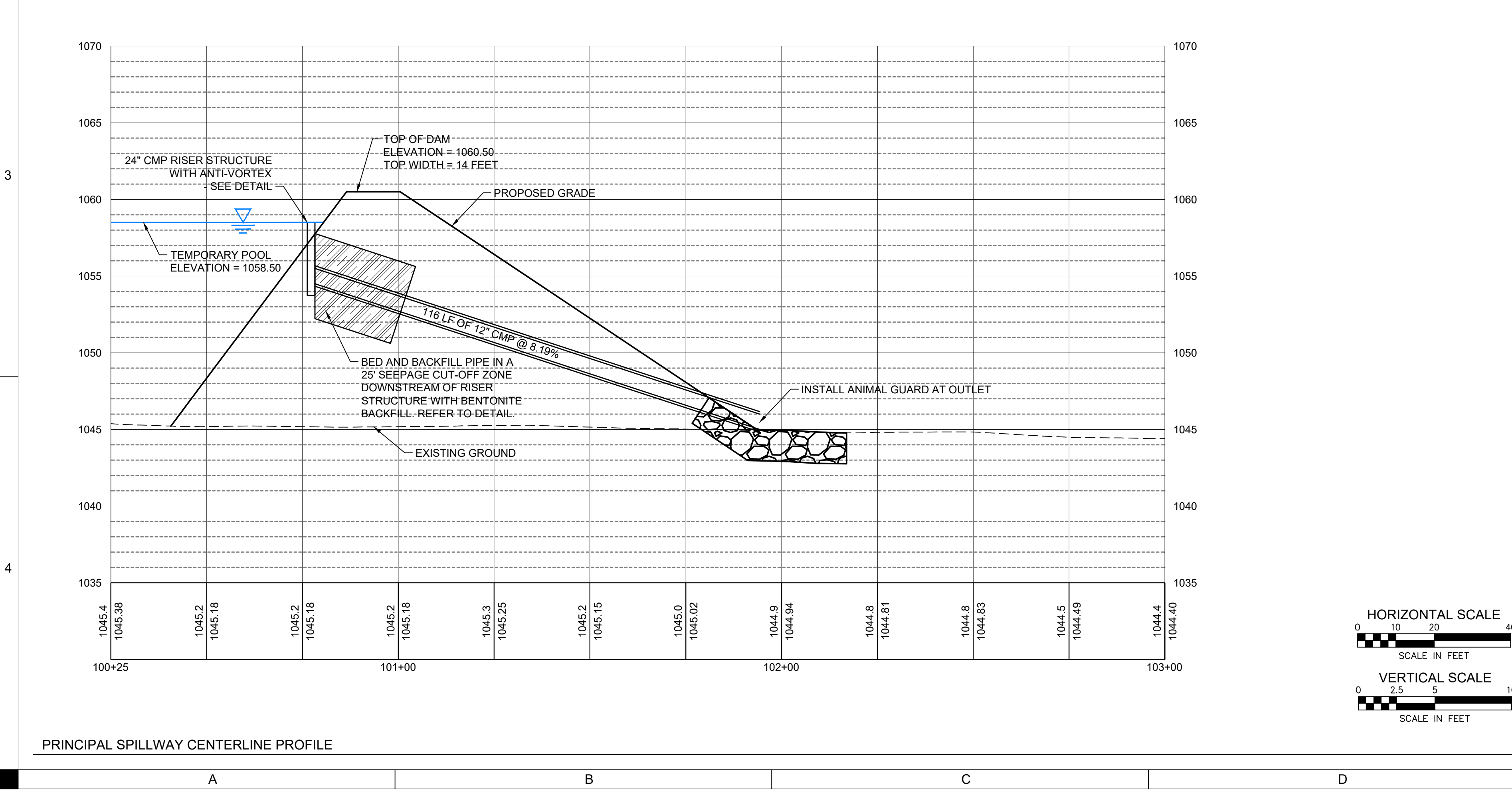
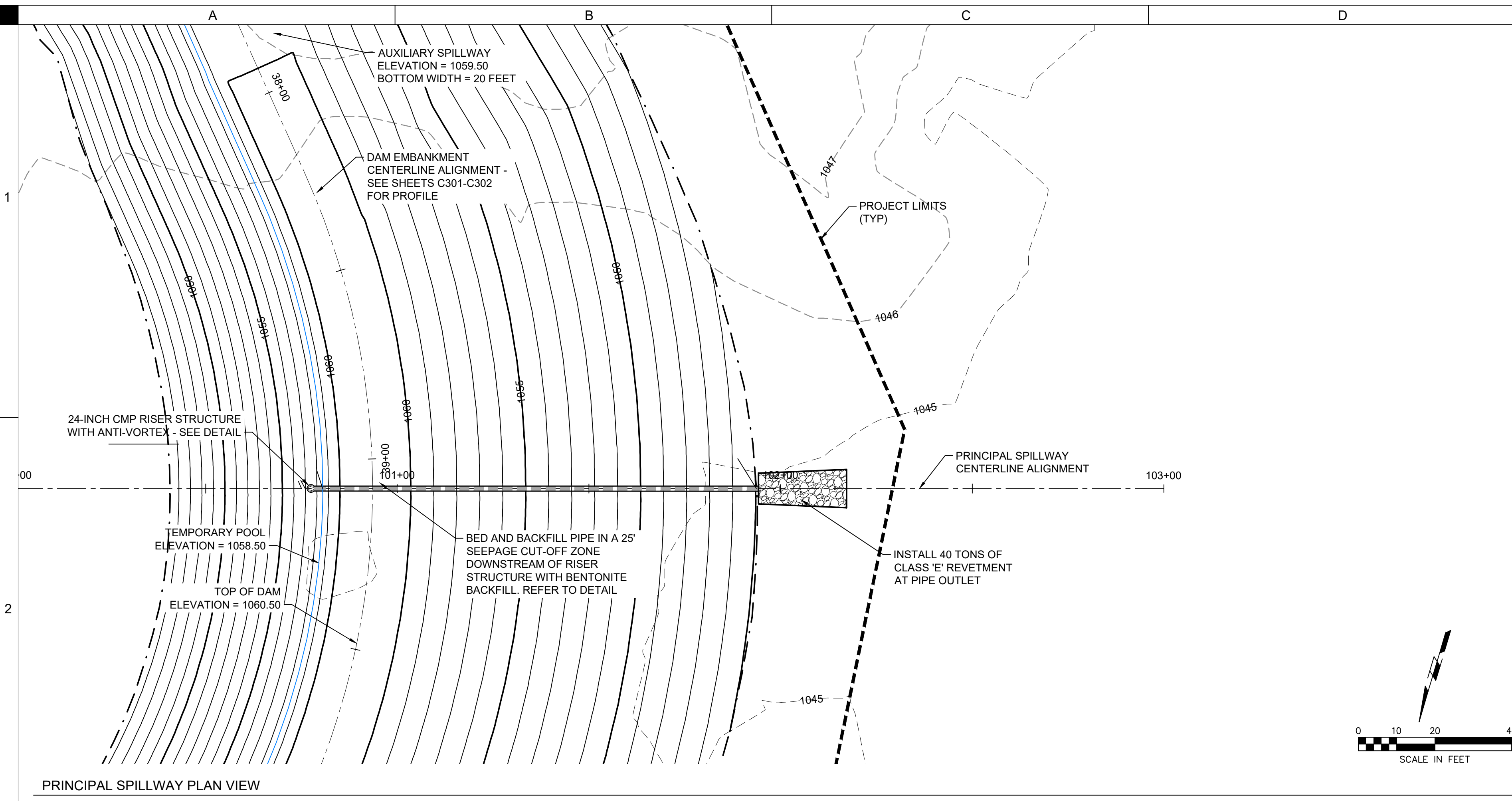
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4

DRAWN: MJH
APPROVED: LTM
ISSUED FOR: 100% Review
DATE: 08/25/2020
PROJECT NO: 17-01-67-06
FIELD BOOK: --
CLIENT NO: 17-01-67-06

DAM EMBANKMENT PROFILE
--

C302

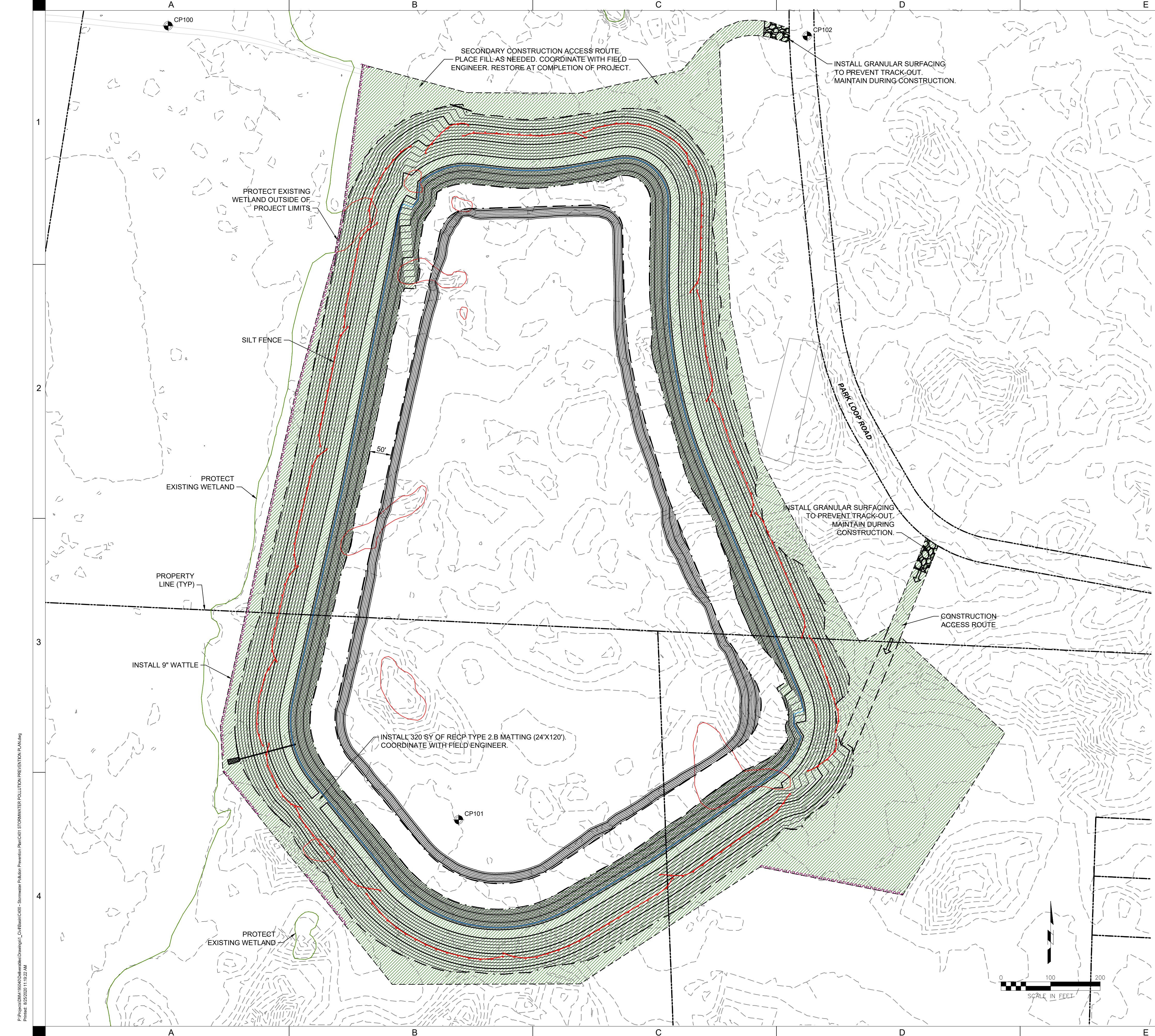


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DRAWN:	MJM
APPROVED:	LTM
ISSUED FOR:	CONSTRUCTION
DATE:	08/25/2020
PROJECT NO.:	4195040
FIELD BOOK:	--
CLIENT NO.:	17-01-67-06

**PRINCIPAL
 SPILLWAY PLAN
 AND PROFILE**

C303

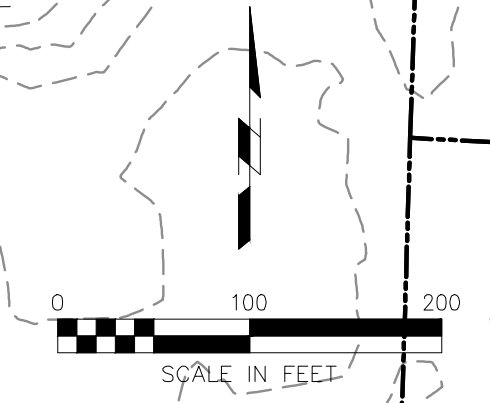


LEGEND:

PROPERTY LINE (APPROX)	---
EXISTING CONTOUR - MAJOR	1040
EXISTING CONTOUR - MINOR	1039
PROPOSED CONTOUR - MAJOR	1140
PROPOSED CONTOUR - MINOR	1039
SILT FENCE	---
WATTLE	---
PERMANENT SEEDING AREA	---
GRANULAR SURFACING	---

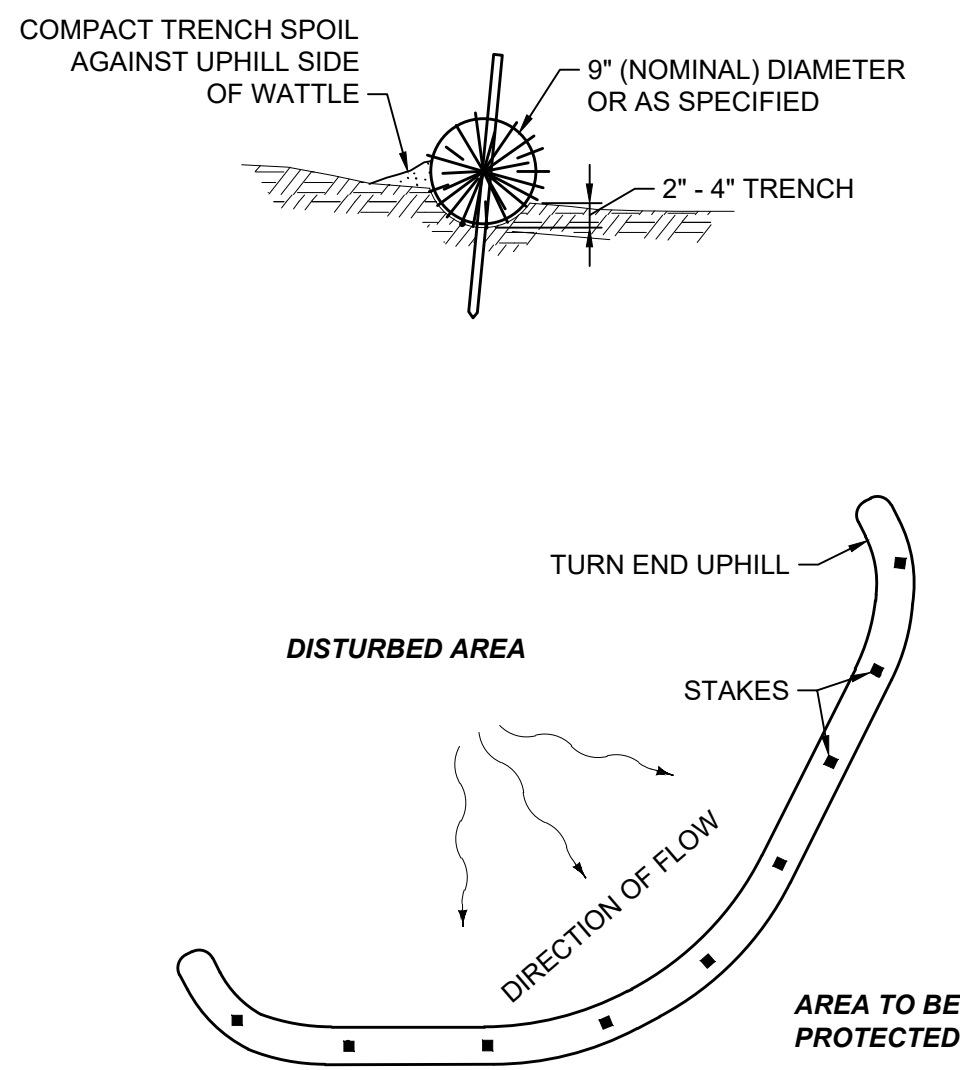
EROSION AND SEDIMENT CONTROL NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEPARTMENT OF NATURAL RESOURCES (DNR) NPDES PERMIT AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS AND REQUIRED CONTAINMENT STRUCTURES. THE OWNER HAS OBTAINED THE IOWA DNR GENERAL PERMIT #2 AND DEVELOPED A SWPPP FOR THE PROJECT. THE CONTRACTOR SHALL IMPLEMENT, MAINTAIN, COMPLETE REQUIRED INSPECTIONS, AND UPDATE THE SWPPP AS REQUIRED TO MEET ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS. THE IOWA GENERAL PERMIT #2 CAN BE TERMINATED AFTER THE CONFINEMENT BASIN IS CONSTRUCTED AND STABILIZED. DREDGING OPERATIONS DO NOT HAVE TO BE COMPLETED BEFORE TERMINATION OF THE GENERAL PERMIT #2.
- CONTRACTORS SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THIS PLAN AND THE SWPPP.
- BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT. CLEARING SHALL NOT OCCUR OUTSIDE THE PROJECT LIMITS SHOWN ON THE CONSTRUCTION PLANS UNLESS APPROVED BY THE OWNER IN WRITING.
- STAGING LOCATION FOR CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE COORDINATED WITH AND APPROVED BY OWNER.
- SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
- DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE SEED BY THE CONTRACTOR. THESE AREAS SHALL BE SEED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
- ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- ON-SITE & OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW WATTLES, ETC.) TO PREVENT EROSION.
- ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
- AN UPDATED COPY OF THE SWPPP SHALL BE KEPT ONSITE FOR THE DURATION OF THE PROJECT.
- ALL SUBCONTRACTORS ENGAGED IN ACTIVITIES AT THE CONSTRUCTION SITE THAT COULD IMPACT STORMWATER MUST BE IDENTIFIED AND COMPLETE A CERTIFICATION STATEMENT PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZING ALL AREAS DISTURBED BY BASIN CONSTRUCTION INCLUDING ACCESS ROUTES, STAGING AREAS, AND STOCKPILE AREAS.



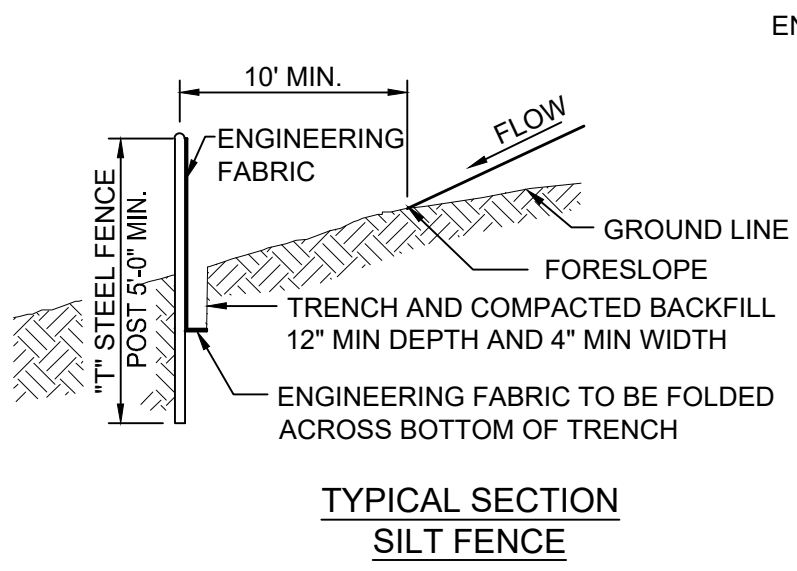
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DRAWN:	MJM
APPROVED:	LTM
ISSUED FOR:	CONSTRUCTION
DATE:	08/25/2020
PROJECT NO.:	4195040
FIELD BOOK:	--
CLIENT NO.:	17-01-07-06

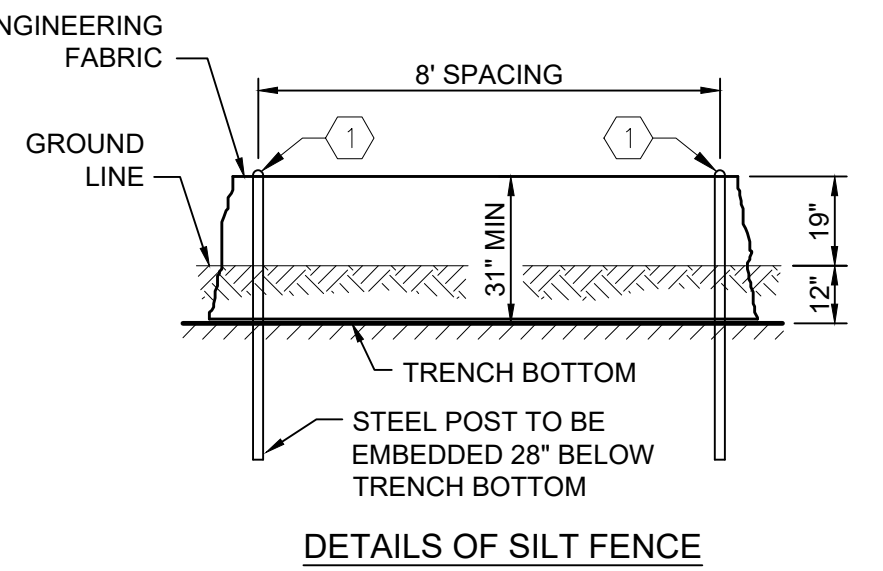


5 STRAW WATTLE
NOT TO SCALE

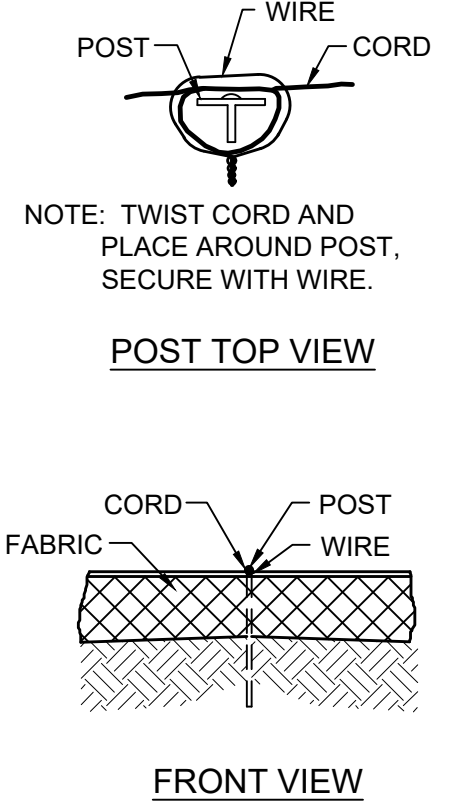
- NOTES:
- 1 SECURE TOP OF ENGINEERING FABRIC TO STEEL POST.
 - 2 ENGINEERING FABRIC TO BE PLACED TO BOTTOM OF TRENCH.
 - 3 ENGINEERING FABRIC SHALL HAVE A MINIMUM 36" WIDTH.



TYPICAL SECTION SILT FENCE

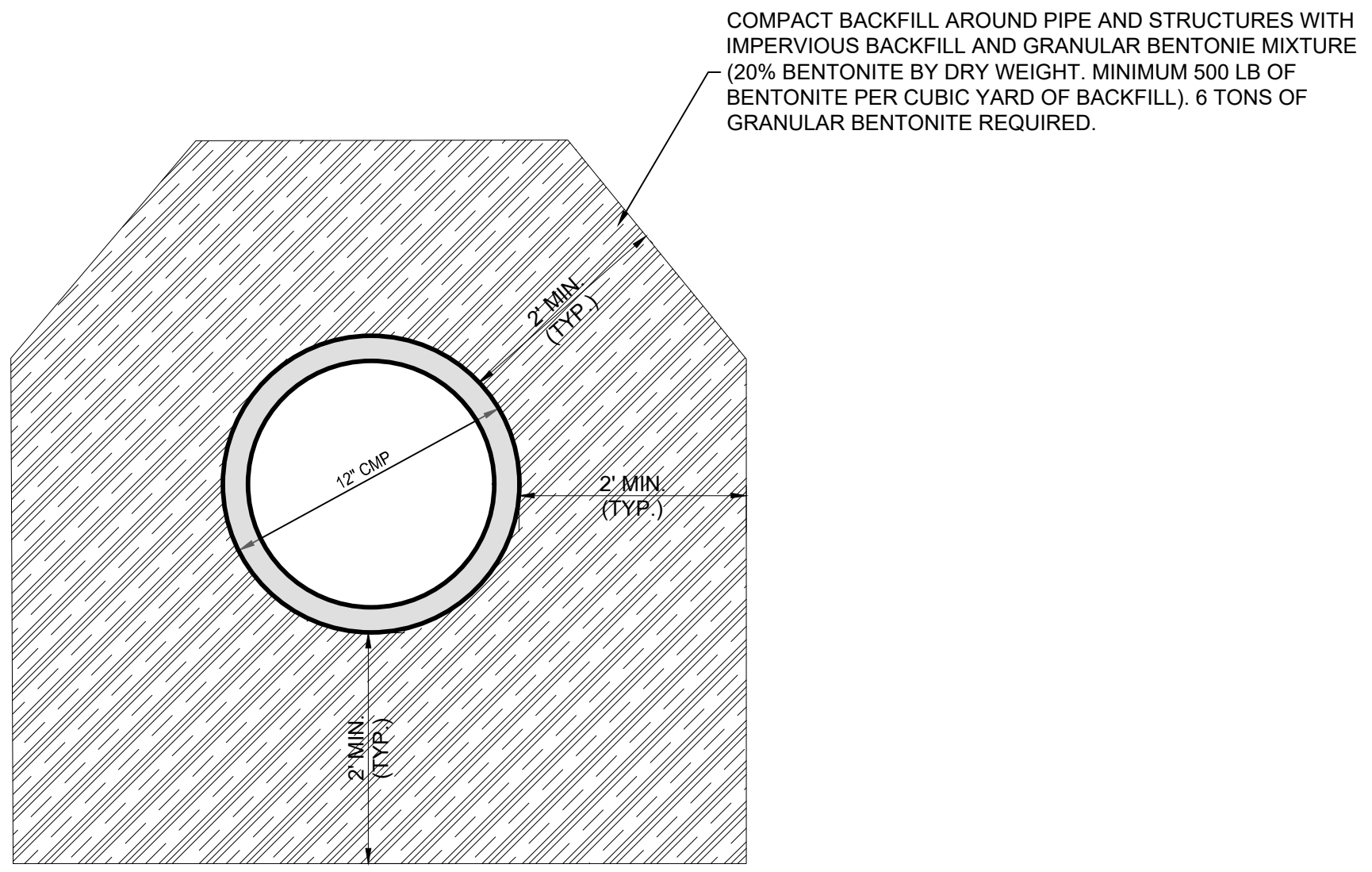


DETAILS OF SILT FENCE

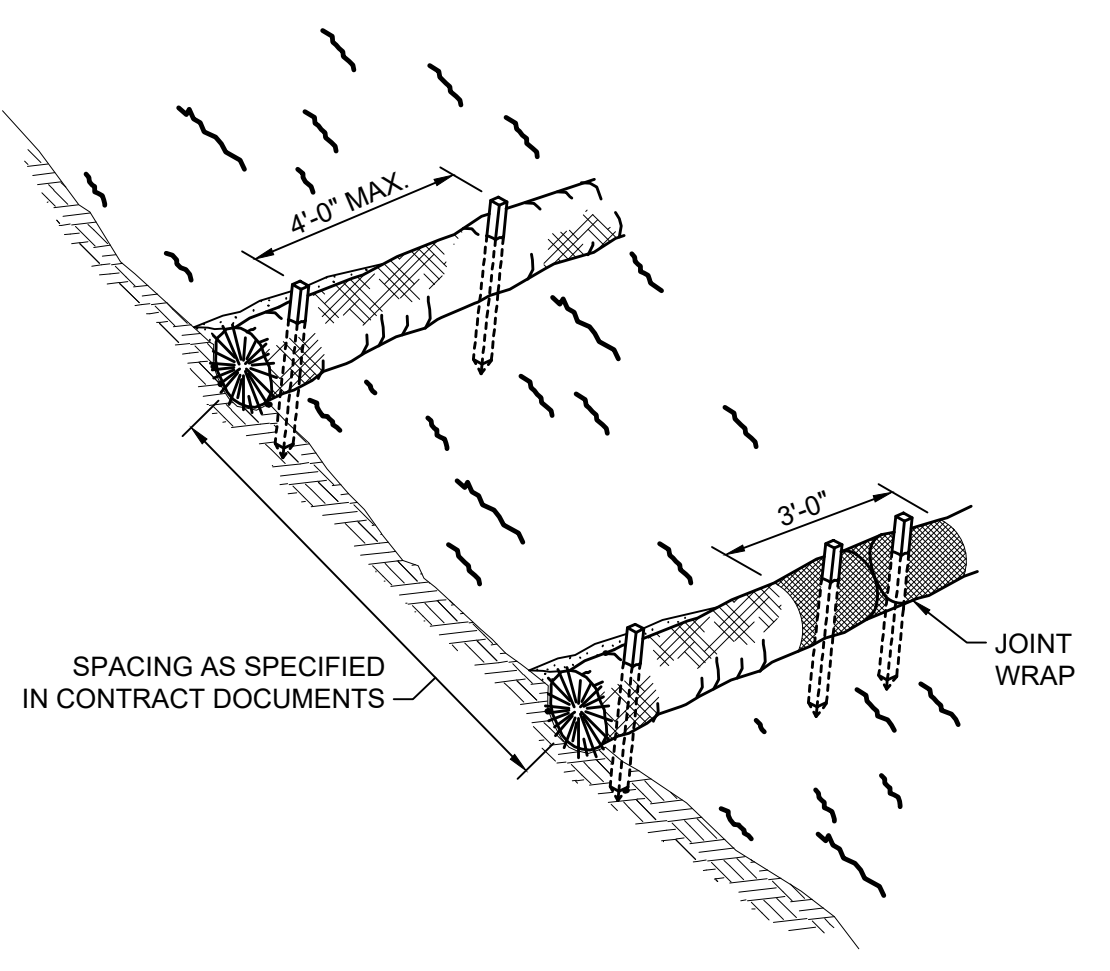


FRONT VIEW

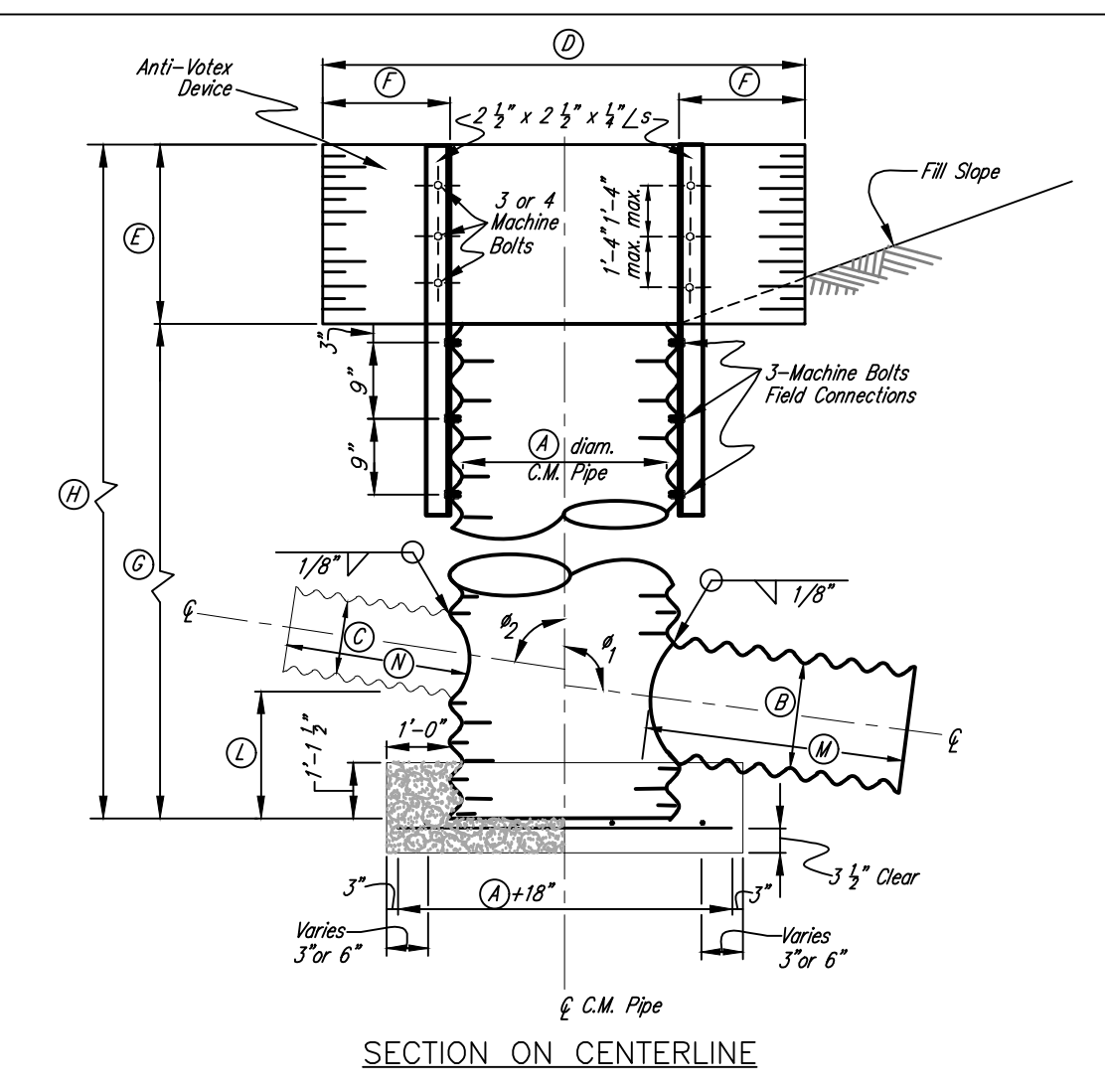
4 SILT FENCE
NOT TO SCALE



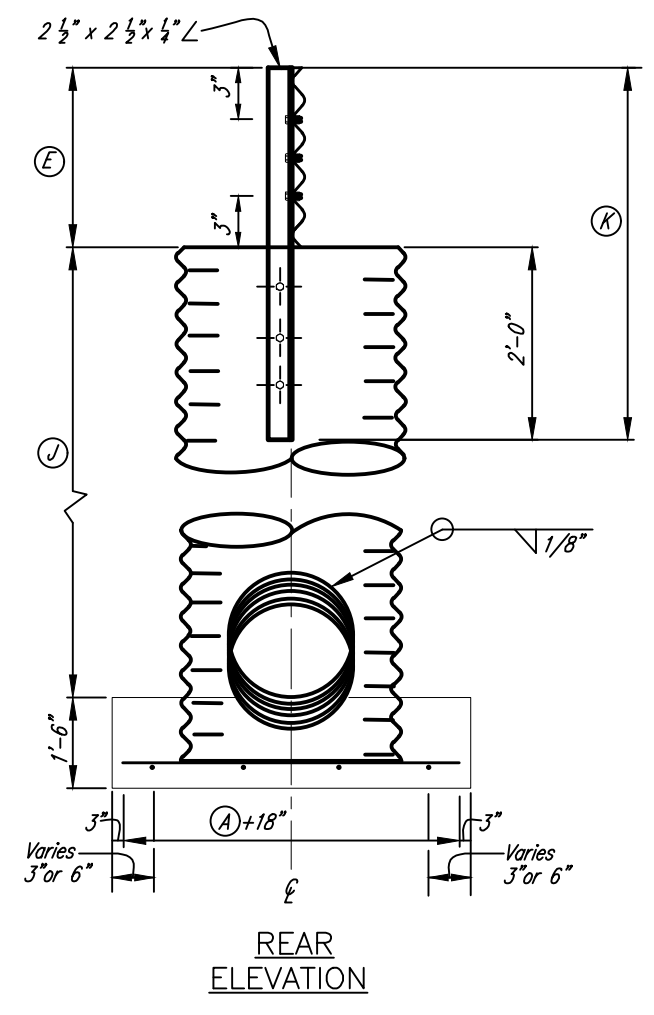
3 PRINCIPAL SPILLWAY PIPE BEDDING & BACKFILL (SEEPAGE CUT-OFF ZONE)
NOT TO SCALE



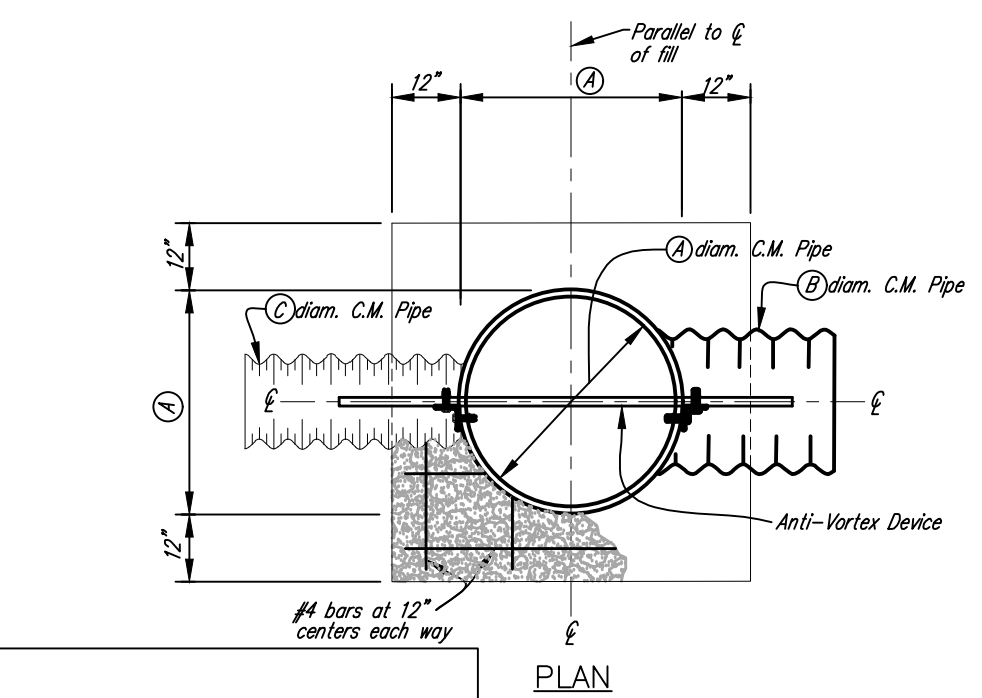
2 24-INCH CMP RISER
NOT TO SCALE



SECTION ON CENTERLINE



REAR ELEVATION



PLAN

Notes:
All holes for bolts shall be 9/16" diam.
Vertical inlet to be shop fabricated.
After welding, damaged coatings shall be repaired as specified in Construction Specification 51.
Minimum (D) Dimension
B=36" M=2'-1 1/2"
B=36" M=4'-1 1/2"
Minimum (E) Dimension
N=2'-1 1/2"

OPTIONAL (C) FABRICATION		C1	C2
Diameter, Inches			
Sheet Thickness			
Corrugations			
Position O'clock (B=12:00)			
(D)			
Ø2 Degrees-Angles			
Slope in ft./ft.			

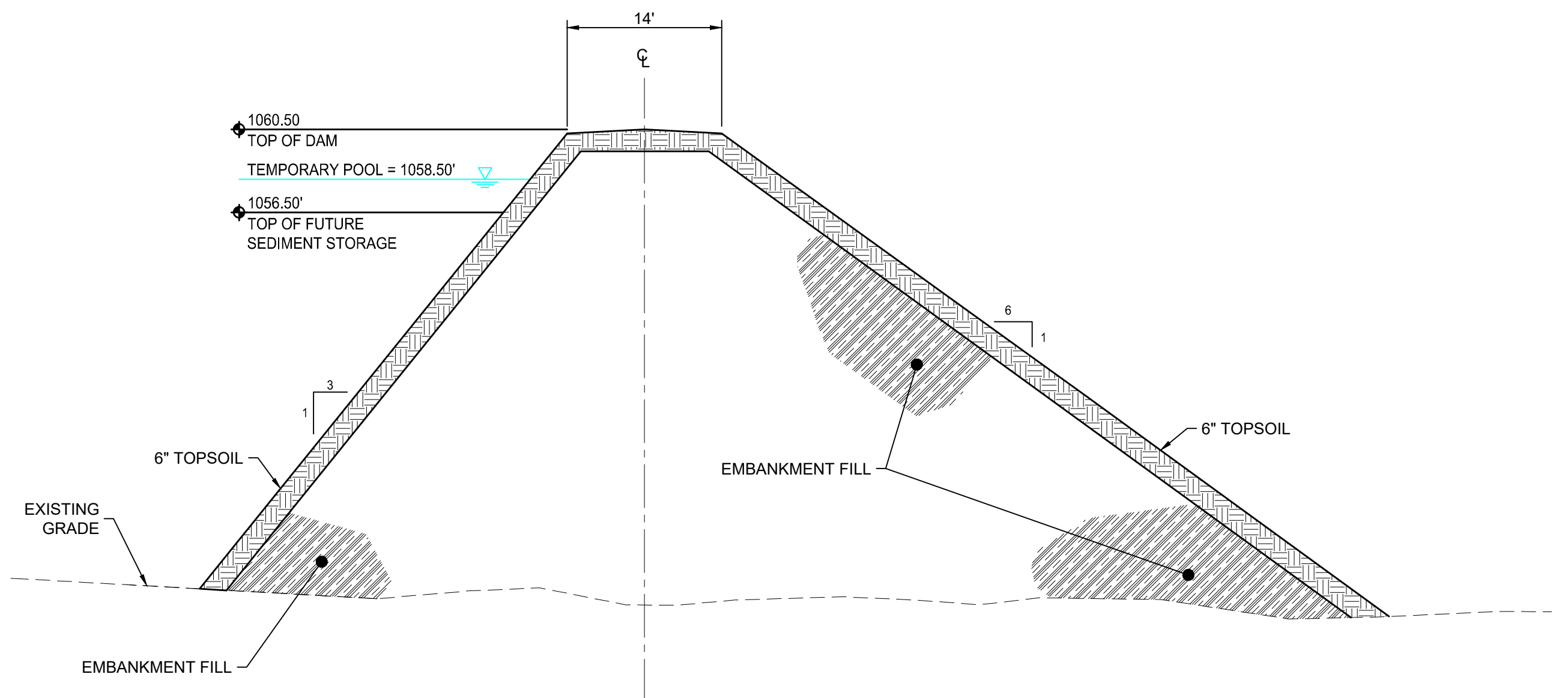
STANDARD DWG. IA-11.31
DATE Oct. 2012 PAGE 1 OF 1

DETAILS OF INLET
Not to Scale

TABLE-DIMENSIONS AND MATERIAL				
	Dimensions			
(A)	24"			
(B)	12"			
(C)	-			
(D)	48"			
(E)	24"			
(F)	11"			
(G)	66"			
(H)	90"			
(I)	48"			
(K)	48"			
(L)	-			
(M)	26"			
(N)	-			
Sheet Thickness for (A) diam.		14"		
Corrugations for (A) diam.		2 1/2" X 1/2"		
Sheet Thickness for (B) diam.		14"		
Corrugations for (B) diam.		2 1/2" X 1/2"		
Sheet Thickness for (C) diam.		-		
Corrugations for (C) diam.		-		
Sheet Thickness for Anti-Vortex Device		14"		
Corrugations for Anti-Vortex		2 1/2" X 1/2"		
MATERIAL ITEMS		QUANTITY REQUIRED		
2 1/2" x 2 1/2" x 1/4" Galv.		2		
(D) x (E) Corr. Metal Sheets Galv.		1		
1/2" x 1 1/4" Steel Cadmium Plated Mach. Bolts				
1/2" Steel Split Lockwashers				
1/2" Steel Cadmium Plated Nuts				
Ø Degrees-Angles		Ø1 Ø2		
Slope of (B) diam. pipe in ft./ft.				
Slope of (C) diam. pipe in ft./ft.				
VERTICAL INLET BASE QUANTITIES				
Dimension (in.)	Concrete Cu. Yd.	Steel Reinforcement #4 Bar		
		Length Each Bar	Number of Bars	
			Total Weight Pounds	
18"	0.68	3'-0"	8	16.0
24"	0.89	3'-6"	8	18.7
30"	1.13	4'-0"	10	26.7
36"	1.39	4'-6"	10	30.1
42"	1.68	5'-0"	12	40.1
48"	2.00	5'-6"	12	44.1
54"	2.35	6'-0"	14	56.1
60"	2.72	6'-6"	14	60.8

DESIGNED: _____
DRAWN: _____
CHECKED: _____
APPROVED: _____

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE



1 TYPICAL DAM CROSS SECTION
NOT TO SCALE

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LEGEND

PROPERTY LINE (APPROX.)	---
EXISTING WETLAND BOUNDARY	—
PROPOSED FENCE	—+—+—+—+—
PROPOSED DOUBLE GATE	▽
PROPOSED SIGN	○
PROJECT/CLEARING LIMITS	---
GRADING LIMITS	-.-.-

TRAFFIC CONTROL NOTES

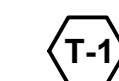
1. ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
2. CONTRACTOR SHALL MONITOR AND MAINTAIN TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICES THROUGHOUT THE PROJECT DURATION.
3. SIGN "T-1" SHALL BE INSTALLED AT THE START OF CONTAINMENT BASIN CONSTRUCTION AND SHALL BE REMOVED WHEN CONSTRUCTION IS COMPLETE.

SIGNING NOTES

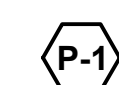
1. SIGNS "P-1" AND "P-2" ARE PERMANENT SIGNS TO BE INSTALLED BY THE CONTRACTOR.
 - A. SIGN "P-1" SHALL BE INSTALLED AT EACH ACCESS GATE. MOUNT TO GATE WITH HARDWARE AND METHODS APPROVED BY FIELD ENGINEER. SIGNS MAY BE TEMPORARILY MOUNTED NEAR ACCESS OFF PARK LOOP ROAD DURING CONSTRUCTION TO CONTROL ACCESS, AND RELOCATED TO PERMANENT LOCATIONS WHEN FENCING IS INSTALLED. TOTAL OF (2) SIGNS.
 - B. SIGN "P-2" SHALL BE MOUNTED TO FENCE AROUND CONTAINMENT BASIN AT 200-FOOT INTERVALS. MOUNT TO FENCE POSTS WITH HARDWARE AND METHODS APPROVED BY FIELD ENGINEER. TOTAL OF (27) SIGNS.
2. COMPLY WITH IOWA DOT STANDARD SPECIFICATIONS SECTION 2524 FOR TYPE A SIGN MATERIALS, FABRICATION, AND INSTALLATION. COORDINATE ANY DEVIATIONS FROM STANDARD SPECIFICATIONS WITH FIELD ENGINEER.
3. SUBMIT SHOP DRAWINGS OF PERMANENT SIGNS FOR REVIEW.



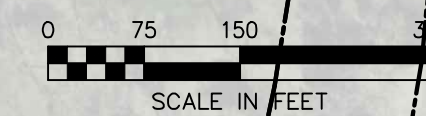
W21-3A
BLACK ON ORANGE
48" X 48"



OSHA-8
BLUE/BLACK ON WHITE
24" x 18"

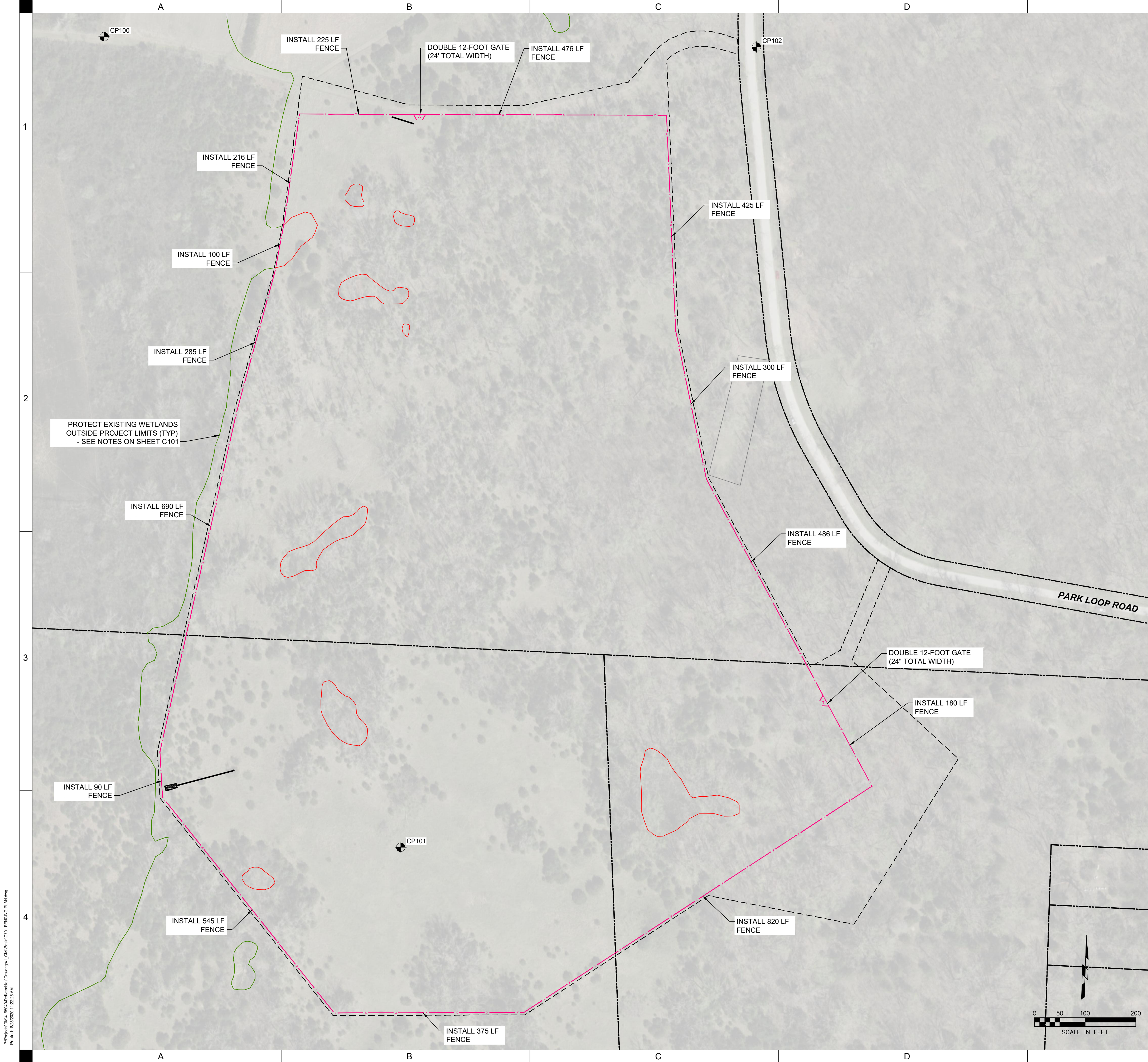


CUSTOM
RED ON WHITE
12" x 18"



3 SIGN FACE DETAILS
NOT TO SCALE

DRAWN:	MJM
APPROVED:	LTM
ISSUED FOR:	CONSTRUCTION
DATE:	08/25/2020
PROJECT NO.:	17-01-67-06
FIELD BOOK:	---
CLIENT NO.:	17-01-67-06



LEGEND

PROPERTY LINE (APPROX.)	---
EXISTING WETLAND BOUNDARY	—
PROPOSED FENCE	- · - · -
PROPOSED DOUBLE GATE	◁ ▷
PROJECT/CLEARING LIMITS	---
GRADING LIMITS	---

FENCING NOTES

1. FENCING WORK SHALL BE IN CONFORMANCE WITH IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR FIELD FENCE CONSTRUCTION EXCEPT AS MODIFIED BELOW:
 - A. EARTH ANCHORS, IN COMBINATION WITH CORNER POSTS AND PULL POSTS, MAY BE USED IN LIEU OF BRACE PANELS. EARTH ANCHORS SHALL BE #6-45" LONG, $\frac{1}{16}$ " SHAFT, 6" AUGER ANCHORS, MINIMUM. EARTH ANCHORS SHOULD BE PROVIDED IN ALL LOCATIONS WHERE ORIGINALLY-SPECIFIED BRACE PANELS ARE NOT INSTALLED.
2. MATERIALS SHALL MEET IOWA DOT STANDARD SPECIFICATIONS SECTION 4154, WHICH ARE INCLUDED IN THE PROJECT SPECIFICATIONS
3. CONSTRUCTION TO MEET IOWA DOT STANDARD SPECIFICATIONS SECTION 2519, WHICH ARE INCLUDED IN THE PROJECT SPECIFICATIONS.
4. FENCE INSTALLATION SHALL BE PER DETAILS FOR FIELD FENCE AS SHOWN ON IOWA DOT STANDARD ROAD PLAN MI-103 WHICH IS INCLUDED IN THE PROJECT SPECIFICATIONS.
5. PROTECT ALL EXISTING TREES AND WETLAND AREAS OUTSIDE THE PROJECT LIMITS.

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DRAWN: MJM
APPROVED: LTM
ISSUED FOR: CONSTRUCTION
DATE: 08/25/2020
PROJECT NO.: 190040
FIELD BOOK: --
CLIENT NO.: 17-01-67-06