DUCKS UNLIMITED

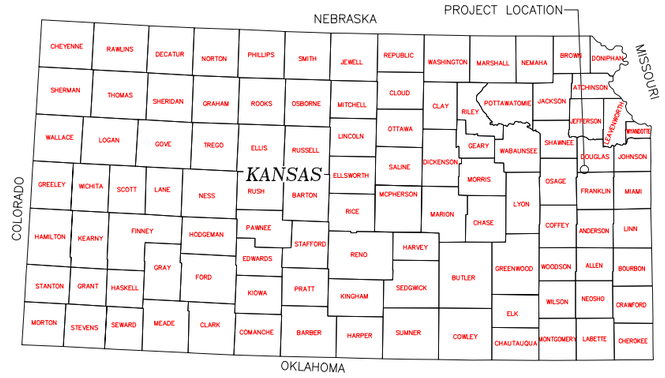
PROJECT

FORTIN WETLAND

LOCATED IN THE SE¼ OF SECTION 15 TOWNSHIP 15S, RANGE 18E, 6TH P.M. DOUGLAS COUNTY, KANSAS

IN COOPERATION WITH

NAWCC



DUCKS UNLIMITED

SPECIFICATIONS

101	GENERAL CONDITIONS
102	SUPPLEMENTAL CONDITIONS
201	MOBILIZATION
202	SITE PREPARATION
203	EXCAVATION
204	EMBANKMENT CONSTRUCTION
301	WATER CONTROL STRUCTURES
302	STRUCTURE AND CULVERT APPURTENANCES
303	CULVERT AND PIPE INSTALLATION
305	RIPRAP, REVETMENT & AGGREGATE PLACEMENT
401	SOIL EROSION AND POLLUTION CONTROL
402	SEEDING & MULCHING

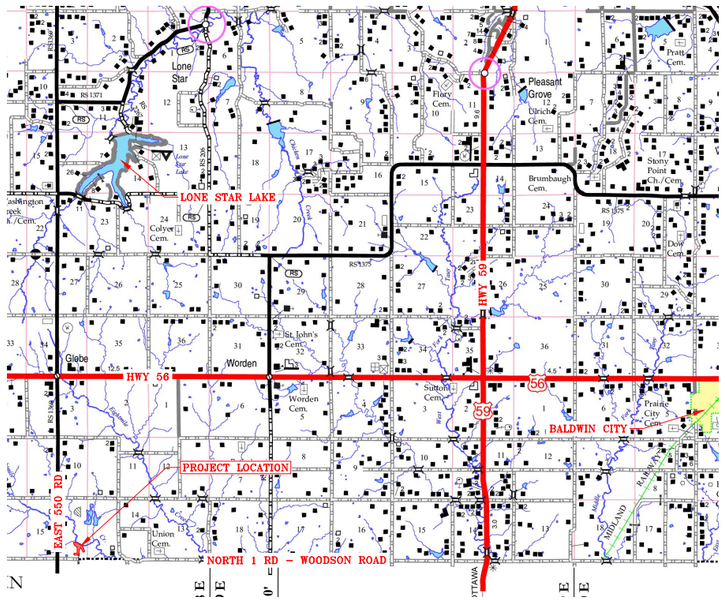
PLAN INDEX

1	LOCATION & VICINITY MAPS
2	OVERALL PLAN
3	EMBANKMENT PROFILE & DETAILS
4	WCS PLAN, SECTION, & DETAILS
5	SWPPP
6	SWPPP NOTES
7	USGS TOPOGRAPHIC MAP

ESTIMATED QUANTITIES

MOBILIZATION	1 L.S.
SITE PREPARATION	1 L.S.
EXCAVATION (INCIDENTAL TO EMBANKMENT CONSTRUCTION & FILL)	
EMBANKMENT	2,745 C.Y.–P**
FILL	72 C.Y.–P**
WATER CONTROL STRUCTURE (4' TALL WITH METAL LID)	1 L.S.
24" SDR 51 PVC PIPE	40 L.F.–A*
DU CLASS II RIP RAP	14 C.Y.–P**
SEEDING & MULCHING	1 L.S.

* PAYMENT WILL BE BASED ON ACTUAL QUANTITY USED OR INSTALLED.
** PAYMENT WILL BE BASED ON THE PLAN QUANTITY LISTED ABOVE.
NOTE, FILL QUANTITY INCLUDES A 20% SHRINKAGE FACTOR



VICINITY MAP
NOT TO SCALE

LOCATION MAP
NOT TO SCALE

ALL WRITTEN SCALES ARE ACCURATE ON 24x36 INCH SHEETS.
THE BELOW SCALE BAR CAN BE USED TO CHECK PLAN SET SCALE.

0 0.5 1 2 Inches

CRAIG A. ROY
LICENSED
14946
01/02/2026
KANSAS
PROFESSIONAL ENGINEER

DU REGIONAL ENGINEER:
CRAIG ROY, P.E.
LOUISBURG, KS 66053
(913) 991–2223

DU ENGINEER:
CORBEN MONZON
MANHATTAN, KS 66502
(785) 614–2999

PERMIT ISSUE

K:\Land Projects KS\KS–132–101 Paul Fortin RestorationEnhancement\3 Design\KS–132–101 FortinWetland_Design.dwg

DUCKS UNLIMITED INC. GREAT PLAINS REGIONAL OFFICE	PROJECT NO. KS–132–101		DESIGNED BY: CCM
	FORTIN WETLAND		DRAWN BY: CCM
	LOCATION & VICINITY MAPS		SURVEYED BY: CCM
			CHECKED BY: CAR
DATE: 1/2/2026	SHEET NO. 1 OF 7	APPROVED BY: CAR	APPROVED BY: .

EMBANKMENT P.I. TABLE		
PI STATION	NORTHING	EASTING
0+00.00	14,077,677.43	957,567.57
1+65.46	14,077,671.10	957,732.91
5+68.72	14,077,425.19	958,057.45
8+01.33	14,077,416.65	958,293.89

BORROW P.I. TABLE		
PI STATION	NORTHING	EASTING
0+00.00	14,077,653.21	957,673.64
1+00.71	14,077,576.84	957,739.30
3+16.70	14,077,447.47	957,912.24
4+01.27	14,077,371.72	957,949.86
4+90.03	14,077,290.57	957,985.82
5+19.42	14,077,279.94	958,013.22
7+07.32	14,077,402.35	958,155.78
8+17.42	14,077,396.08	958,265.70
10+10.94	14,077,271.37	958,117.72
11+64.35	14,077,178.97	957,995.27
12+36.14	14,077,201.39	957,927.07
13+56.28	14,077,320.58	957,911.96
14+75.34	14,077,420.00	957,846.47
16+74.78	14,077,540.97	957,687.91
18+04.81	14,077,658.04	957,631.31
18+47.42	14,077,653.21	957,673.64

FILL P.I. TABLE		
PI STATION	NORTHING	EASTING
0+00.00	14,077,466.37	957,971.64
0+46.88	14,077,494.68	957,934.28
0+95.57	14,077,453.45	957,960.17
1+08.19	14,077,440.82	957,960.18
1+23.28	14,077,427.57	957,967.38
1+62.05	14,077,466.11	957,971.57
1+67.22	14,077,483.03	957,975.72
2+54.54	14,077,379.00	957,999.45
2+75.09	14,077,381.76	958,019.82
3+05.77	14,077,366.06	958,046.17
3+76.44	14,077,404.95	958,105.18
5+18.00	14,077,463.02	957,976.07
5+18.01	14,077,463.02	957,976.06
5+23.56	14,077,466.37	957,971.64

DIRT BALANCE TABLE			
LOCATION	FILL (C.Y.) *	EXCAVATION (C.Y.)	NET (C.Y.)
EMBANKMENT	2,745		2,745
BORROW		2,741	(2,741)
FILL	72		72
TERRACE NOTCHES		76	(76)
			-
TOTAL	2,817	2,817	-

* FILL INCLUDES A 20% SHRINKAGE FACTOR

WETLAND STAGE STORAGE TABLE					
ELEVATION	SURFACE AREA (AC)	AVE. AREA (AC)	CONTOUR INTERVAL (FT)	VOLUME (AC-FT)	CUMULATIVE VOLUME (AC-FT)
1023.0	0.124				
		0.243	0.5	0.122	
1023.5	0.362				0.122
		0.498	0.5	0.249	
1024.0	0.634				0.370
		1.415	0.5	0.707	
1024.5	2.195				1.078
		2.251	0.5	1.126	
FSL 1025.0	**2.307**				**2.203**

CONSTRUCT 100' WIDE SPILLWAY
ELEV. 1025.5
SEE DETAIL SHEET 3

SURVEY CONTROL POINT
DU-439-25
2" ALUMINIUM CAP ON #5 REBAR
N: 14077711.90
E: 957915.82
ELEV.: 1018.20
LAT: N38° 44' 32.1175"
LONG: W95° 23' 36.8581"

CONSTRUCT EMBANKMENT
2,745 C.Y. INCLUDES 20% SHRINKAGE
TOP WIDTH = 10'
TOP ELEV. = 1026.5
SIDE SLOPE 4:1
FOOTPRINT AREA = 0.7 ACRES
SEE DETAILS SHEET 3

STA. 5+50 PROVIDE 4' TALL INLINE
WATER CONTROL STRUCTURE.
SEE DETAIL SHEET 4

BORROW AREA
2,741 C.Y.
BOTTOM ELEV. 1024.5
SIDE SLOPE 6:1
AREA = 1.7 ACRES
SEE DETAIL SHEET 3

FILL AREA
72 C.Y.
BOTTOM ELEV. 1023.0
AREA = 0.1 ACRES
SEE DETAIL SHEET 3

WETLAND
FSL AT ELEV. 1025.0
AREA = 2.3 ACRES
VOLUME = 2.2 AC-FT

FINISHED GROUND
ELEVATION, TYPICAL.

EXISTING GROUND
ELEVATION, TYPICAL.

NOTCH TERRACES TO ALLOW
DRAINAGE TOWARD WETLAND.
NOTCH WIDTH = 10'
6:1 SIDE SLOPES

NOTCH TERRACES TO ALLOW
DRAINAGE TOWARD WETLAND.
NOTCH WIDTH = 10'
6:1 SIDE SLOPES

SURVEY CONTROL POINT
DU-437-25
2" ALUMINIUM CAP ON #5 REBAR
N: 14076676.37
E: 957494.47
ELEV.: 1050.01
LAT: N38° 44' 21.7778"
LONG: W95° 23' 41.8315"

SURVEY CONTROL POINT
DU-438-25
2" ALUMINIUM CAP ON #5 REBAR
N: 14076598.40
E: 958804.77
ELEV.: 1036.64
LAT: N38° 44' 21.3459"
LONG: W95° 23' 25.2768"

N

0 30 60 120 Feet

OVERALL PLAN VIEW
SCALE 1" = 60'

BORROW AREA NOTE:
SUITABLE MATERIAL FOR ALL EMBANKMENTS OR FILLS SHALL BE OBTAINED FROM THE DESIGNATED BORROW AREA SHOWN ON THIS SHEET AS APPROVED BY THE DU FIELD ENGINEER. CARE SHALL BE TAKEN NOT TO OPEN UP ANY SAND LENSES THAT WILL INCREASE SEEPAGE FROM ANY EXCAVATION AREAS. FINISHED SLOPES SHALL BE 6:1 OR FLATTER AND 4" OF TOPSOIL SHALL BE RESPREAD OVER THE SLOPES. THE COST OF TOPSOIL WORK ON THE BORROW AREAS SHALL BE CONSIDERED INCIDENTAL TO "SITE PREPARATION."

SEEDING AND MULCHING NOTE:
1. SEEDING AND MULCHING SHALL BE REQUIRED ON EMBANKMENT.
2. PROVIDE ADEQUATE SEED BED TO ALLOW SEEDING WITH STANDARD SEEDING EQUIPMENT. THIS WILL INCLUDE USE OF A HARROW OR OTHER MEANS IN ORDER TO LEAVE A SMOOTH, TRACK-FREE FINISH. BACK DRAGGING WITH A DOZER IS NOT AN ACCEPTABLE FINISH.
3. BEFORE LAST SPRING FROST OR APRIL 15TH (WHICHEVER IS EARLIER), AREA WILL BE SEEDED WITH A MIXTURE OF CUSTOM NATIVE GRASS MIX (SEE TABLE BELOW).
4. MULCHING SHALL REQUIRE ANCHORING OF SOME TYPE SUCH AS TACKING, MATTING, HAND PUNCHING, ROLLER PUNCHING, CRIMPER PUNCHING, OR HYDRO-SEEDING TO PREVENT BLOWING OR WASHING AWAY.
5. MULCHING APPLICATION RATE SHALL BE TWO TONS PER ACRE OR ONE 74 POUND BALE PER 800 SQUARE FEET.

Description	Pure Live Seed (PLS) per Acre
Indiangrass, Cheyenne	0.60 lbs
Switchgrass, Kan Low	0.90 lbs
Switchgrass, Cave In Rock	0.90 lbs
Little Bluestem, Aldous	0.80 lbs
Eastern Gamagrass, Variety Not Stated	2.10 lbs
Canada Wildrye, Mandan	1.50 lbs
Virginia Wildrye, Variety Not Stated	1.50 lbs
Big Bluestem, Kaw	1.20 lbs
Total	9.50 lbs

CONSTRUCTION NOTES:
1. IF ANY CULTURAL OR ARCHEOLOGICAL REMAINS OR ARTIFACTS ARE DISCOVERED, IMMEDIATELY NOTIFY THE ENGINEER AND AVOID CONSTRUCTION ACTIVITIES THAT MAY AFFECT THE REMAINS AND ARTIFACTS.
2. REMOVE ALL TOPSOIL FROM EMBANKMENT AND BORROW AREAS AND RESPREAD TOPSOIL OVER THE AREAS WHEN COMPLETE.
3. ALL FILL MATERIALS SHALL BE PLACED IN LOOSE LIFTS OF NOT MORE THAN 8 INCHES THICKNESS AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD ASTM D698. MOISTURE CONTENT SHALL BE IN THE RANGE OF -1% TO +3% OF OPTIMUM MOISTURE CONTENT. DRYING OR WETTING OF THE SOILS TO OBTAIN PROPER MOISTURE CONTENT SHALL BE INCIDENTAL TO THE WORK.
4. WORK REQUIRED TO DEWATER THE SITE IS INCIDENTAL TO "SITE PREPARATION".

ABBREVIATIONS LIST

BLDC = BUILDING CORNER
BRK = BREAK
BTM = BOTTOM
CL = CENTER LINE
CMP = CORRUGATED METAL PIPE ROUND
CMPA = CORRUGATED METAL PIPE ARCH
CONC = CONCRETE
DIA = DIAMETER
E = EASTING COORDINATE OR EAST
ELEV = ELEVATION
EMB = EMBANKMENT
EPAV = EDGE OF PAVEMENT
EX = EXISTING
EXIST = EXISTING
FES = FLARED END SECTION
FX = FENCE
GA = GAUGE
GW = GUY WIRE
INV = INVERT
LAT = LATITUDE (WGS84)
LONG = LONGITUDE (WGS84)
LF = LINEAR FEET
MISC = MISCELLANEOUS
N = NORTHING COORDINATE OR NORTH
NFES = NON-FLARED END SECTION
OC = ON CENTER
OCEW = ON CENTER EACH WAY
OHE = OVERHEAD ELECTRIC
PC = POINT OF INTERSECTION
PI = POINT OF INTERSECTION
PT = POINT OF TANGENCY
RCP = REINFORCED CONCRETE PIPE
RD = ROAD
REM = REMOVE
REQ'D = REQUIRED
ROW = RIGHT OF WAY
S = SOUTH
SED = SEDIMENT
SHLD = SHOULDER
SLP = SLOPE
STPLG = STOPLOG
TBM = TEMPORARY BENCHMARK
TEL = TELEPHONE/COMMUNICATIONS
UG = UNDERGROUND
VEG = VEGETATION
W = WEST OR WITH
WCS = WATER CONTROL STRUCTURE
WL = WATER LEVEL
WS = WATER SHOT

*NOTE: NOT ALL ABBREVIATIONS IN THIS LIST APPEAR ON THIS SHEET

GENERAL NOTES

1. ONE HALF FOOT CONTOUR INTERVAL SHOWN.

2. ITALICIZED TEXT DENOTES EXISTING FEATURE OR EXISTING ELEVATION.

HORIZONTAL AND VERTICAL CONTROL OPUS SOLUTION- COORDINATES ARE UTM ZONE 14 GRID COORDINATES IN US FEET [NAD83]. THEY WERE ESTABLISHED FROM THE WGS84 ELLIPSOID WITH INFORMATION FROM A TRIMBLE R12 SURVEY GRADE GPS RECEIVER ON DECEMBER 5, 2025 AT DUCKS UNLIMITED CONTROL POINT DU-437-25 AND CALIBRATED TO AN OPUS POSITION OCCUPIED FOR 2 HOURS AND 20 MINUTE(S) AND SENT TO NGS FOR SOLUTION. THE VERTICAL CONTROL CAME FROM THE SAME SOLUTION USING GEOID 18 CONUS IN THE NAVD88. THE FULL OPUS SOLUTION REPORT IS ON FILE AT THE DUCKS UNLIMITED ENGINEERING DEPARTMENT IN GRAND ISLAND, NEBRASKA.

CRAIG A. ROY
LICENSED
14946
01/02/2026
KANSAS
PROFESSIONAL ENGINEER

PERMIT ISSUE

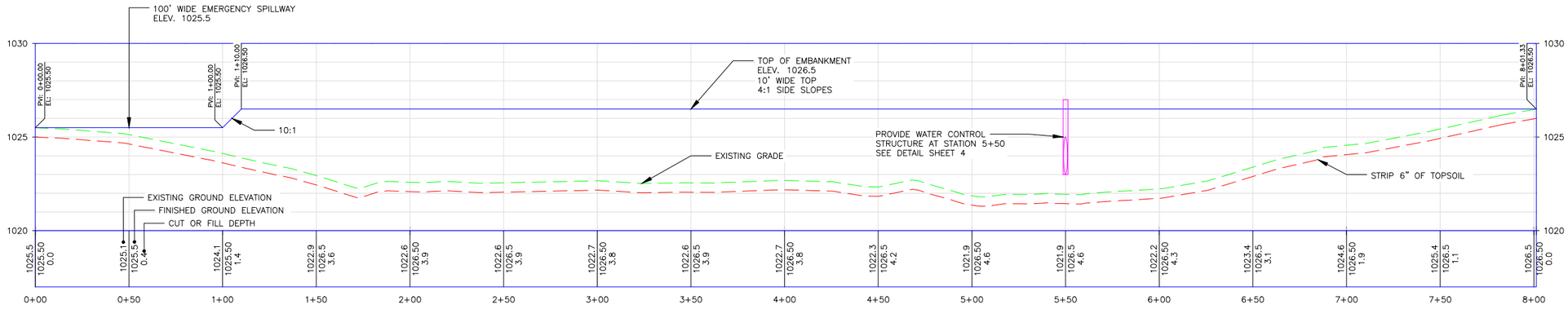
DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE

PROJECT NO. KS-132-101
FORTIN WETLAND
.
OVERALL PLAN

DESIGNED BY: CCM
DRAWN BY: CCM
SURVEYED BY: CCM
CHECKED BY: CAR

DATE: 1/2/2026
SHEET NO. 2 OF 7
APPROVED BY: CAR
APPROVED BY: .

K:\Land Projects KS\KS-132-101 Paul Fortin RestorationEnhancement\3 Design\KS-132-101 FortinWetland_Design.dwg



EMBANKMENT PROFILE
HORIZONTAL SCALE 1" = 30'
VERTICAL SCALE 1" = 3'

CONSTRUCTION NOTES:

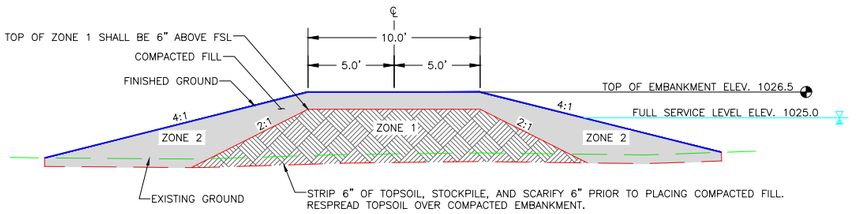
1. EMBANKMENT CONSTRUCTION SHALL BE FROM COMPACTED EARTHEN MATERIAL MOSTLY FREE OF VEGETATIVE MATTER AND SHALL COMPLY WITH SPECIFICATION SECTION 204 "EMBANKMENT CONSTRUCTION".

2. MATERIAL FOR EMBANKMENT CONSTRUCTION SHALL BE OBTAINED FROM THE BORROW AREA. ANY ADDITIONAL MATERIAL REQUIRED SHALL BE OBTAINED FROM AN AREA DESIGNATED BY A DUCKS UNLIMITED REPRESENTATIVE.

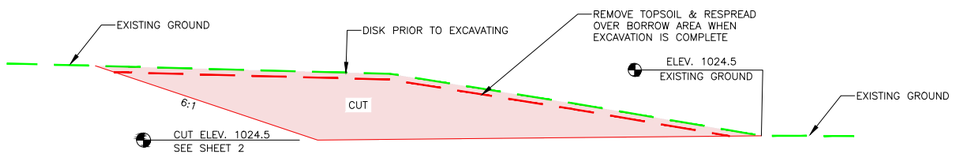
3. EMBANKMENT CONSTRUCTION FOR ZONE 1 SHALL UTILIZE CLAYEY FILL. OTHER MATERIALS SHALL BE USED IN ZONE 2.

4. STRIP AND STOCKPILE 6" TOPSOIL FROM THE EMBANKMENT FOOTPRINT. RESPREAD TOPSOIL OVER FINISHED EMBANKMENT. COST OF TOPSOIL WORK SHALL BE CONSIDERED INCIDENTAL TO "SITE PREPARATION".

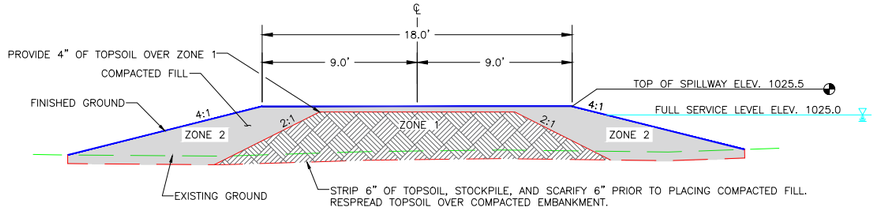
5. EMBANKMENT FILL TO BE PLACED IN LIFTS OF NO MORE THAT 8" AND COMPACTED PRIOR TO PLACING SUBSEQUENT LIFTS.



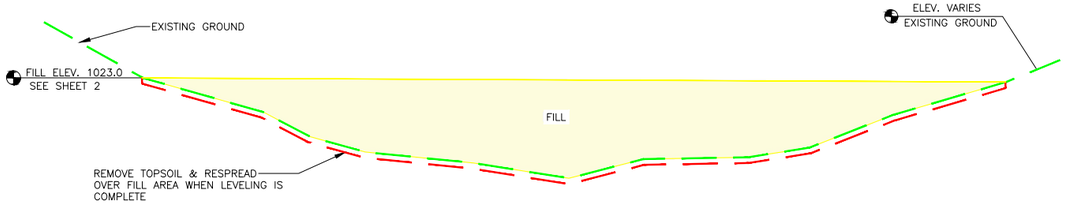
TYPICAL EMBANKMENT SECTION
SCALE 1"=4'



TYPICAL BORROW AREA SECTION
NTS



TYPICAL SPILLWAY SECTION
SCALE 1" = 4'



TYPICAL FILL AREA SECTION
NTS

CRAIG A. ROY
LICENSED
14946
01/02/2026
KANSAS
PROFESSIONAL ENGINEER

ABBREVIATIONS LIST

BLDC = BUILDING CORNER
BRK = BREAK
BTM = BOTTOM
CL = CENTER LINE
CMP = CORRUGATED METAL PIPE ROUND
CMPA = CORRUGATED METAL PIPE ARCH
CONC = CONCRETE
DIA = DIAMETER
E = EASTING COORDINATE OR EAST
ELEV = ELEVATION
EMB = EMBANKMENT
EPAV = EDGE OF PAVEMENT
EX = EXISTING
EXIST = EXISTING
FES = FLARED END SECTION
FX = FENCE
GA = GAUGE
GW = GUY WIRE
INV = INVERT
LAT = LATITUDE (WGS84)
LONG = LONGITUDE (WGS84)
LF = LINEAR FEET
MISC = MISCELLANEOUS
N = NORTHING COORDINATE OR NORTH
NFES = NON-FLARED END SECTION
OC = ON CENTER
OCEW = ON CENTER EACH WAY
OHE = OVERHEAD ELECTRIC
PC = POINT OF INTERSECTION
PI = POINT OF INTERSECTION
PT = POINT OF TANGENCY
RCP = REINFORCED CONCRETE PIPE
RD = ROAD
REM = REMOVE
REQ'D = REQUIRED
ROW = RIGHT OF WAY
S = SOUTH
SED = SEDIMENT
SHLD = SHOULDER
SLP = SLOPE
STPLG = STOPLOG
TBM = TEMPORARY BENCHMARK
TEL = TELEPHONE/COMMUNICATIONS
UG = UNDERGROUND
VEG = VEGETATION
W = WEST OR WITH
WCS = WATER CONTROL STRUCTURE
WL = WATER LEVEL
WS = WATER SHOT

*NOTE: NOT ALL ABBREVIATIONS IN THIS LIST APPEAR ON THIS SHEET

PERMIT ISSUE

K:\Land Projects KS\KS-132-101 Paul Fortin RestorationEnhancement\3 Design\KS-132-101 FortinWetland_Design.dwg

DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE

PROJECT NO. KS-132-101	FORTIN WETLAND EMBANKMENT PROFILE & DETAILS		DESIGNED BY: CCM
			DRAWN BY: CCM
			SURVEYED BY: CCM
			CHECKED BY: CAR
DATE: 1/2/2026	SHEET NO. 3 OF 7	APPROVED BY: CAR	APPROVED BY: .

STRUCTURE INSTALLATION NOTES:

1. STRUCTURE, INLET AND OUTLET PIPE SHALL BE PLACED ON A LEVEL SURFACE OF COMPACTED SOIL.

2. LEVEL STRUCTURE VERTICALLY PRIOR TO PLACING BACKFILL. BACKFILL AROUND STRUCTURE BY HAND IN 6" LIFTS. HAND TAMP ONLY.

3. COST OF STRUCTURE INSTALLATION SHALL BE PAID AS BID ITEM "WATER CONTROL STRUCTURE (4' TALL)".

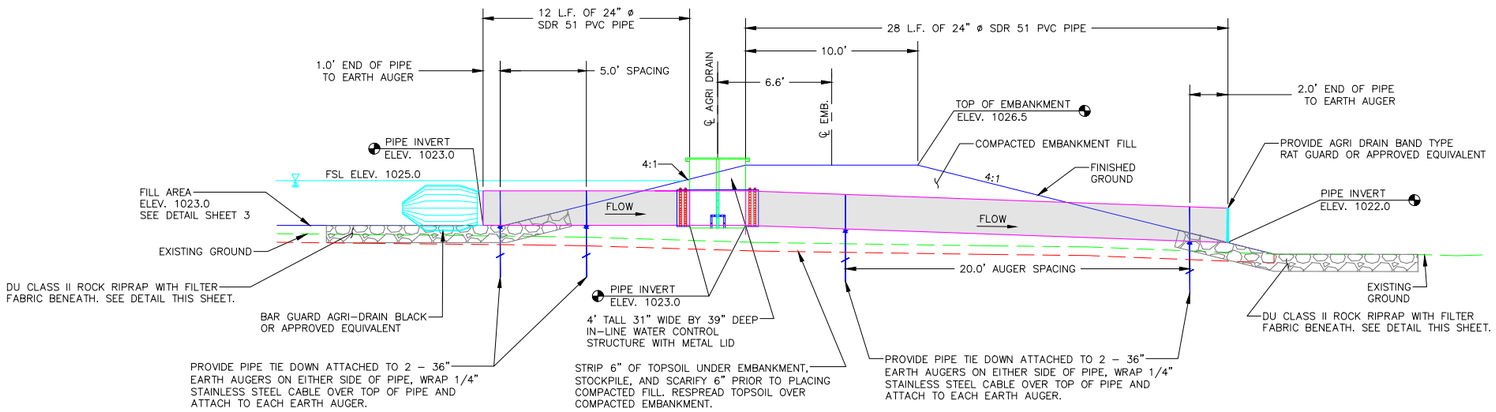
5. PROVIDE AGRI DRAIN BAR AND BAND TYPE RAT GUARDS. THESE SHALL BE CONSIDERED INCIDENTAL TO "WATER CONTROL STRUCTURE (4' TALL)" BID ITEM.

6. AGRI DRAIN PVC STOP LOGS SHALL BE WATERTIGHT AND PROVIDED BY SUPPLIER.

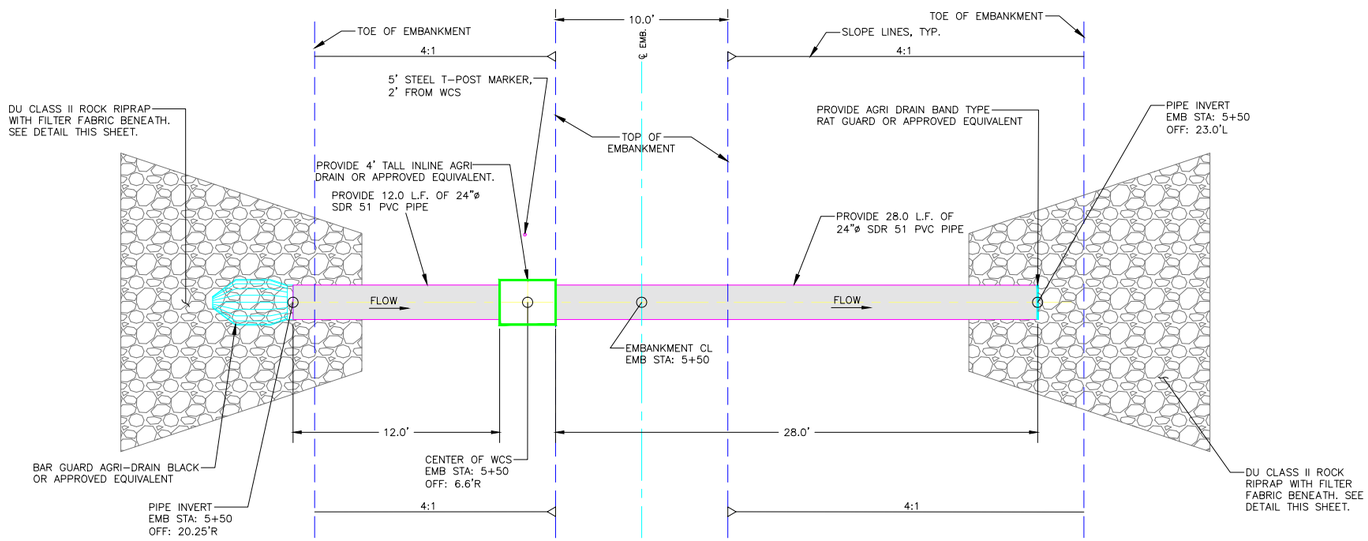
7. AGRI DRAIN CORP. TELEPHONE NUMBER IS 1-800-232-4742 SPECIFY SIZE AND TYPE OF PIPE WHEN ORDERING. ORDER 4" BASE EXTENSION TO HELP PREVENT FLOATATION.

8. BENTONITE CLAY SHALL BE MIXED WITH BACKFILL MATERIAL AROUND WCS AND PIPE TO PROVIDE A WATER TIGHT SEAL. TEN – FIFTY POUND BAGS ARE REQUIRED. COST FOR BENTONITE CLAY AND INSTALLATION SHALL BE INCIDENTAL TO "WATER CONTROL STRUCTURE (4' TALL)".

9. PROVIDE AND SET ONE – 5 FOOT LONG STEEL FENCE T-POSTS TO SERVE AS MARKERS. DRIVE INTO GROUND TO TOP OF POST FLAT PLATE. COST FOR POSTS SHALL BE INCIDENTAL TO "WATER CONTROL STRUCTURE (4' TALL)".

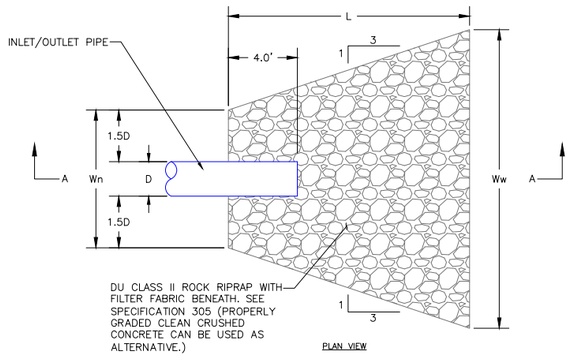


WATER CONTROL STRUCTURE SECTION
SCALE 1"=4'

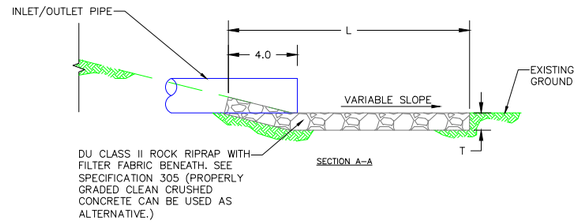


WATER CONTROL STRUCTURE PLAN
SCALE 1"=4'

INLET & OUTLET RIPRAP TABLE					
PIPE SIZE (D) INCHES	APRON WIDTH NARROW SIDE (Wn) FEET	APRON WIDTH WIDE SIDE (Ww) FEET	APRON LENGTH (L) FEET	THICKNESS (T) FEET	CUBIC YARDS
24	8.0	17.3	14.0	1.0	7.0



PLAN VIEW



SECTION A-A

INLET/OUTLET RIPRAP DETAIL
SCALE 1"=4'

ABBREVIATIONS LIST

BLDC = BUILDING CORNER
BRK = BREAK
BTM = BOTTOM
CL = CENTER LINE
CMP = CORRUGATED METAL PIPE ROUND
CMPA = CORRUGATED METAL PIPE ARCH
CONC = CONCRETE
DIA = DIAMETER
E = EASTING COORDINATE OR EAST
ELEV = ELEVATION
EMB = EMBANKMENT
EPAV = EDGE OF PAVEMENT
EX = EXISTING
EXIST = EXISTING
FES = FLARED END SECTION
FX = FENCE
GA = GAUGE
GW = GUY WIRE
INV = INVERT
LAT = LATITUDE (WGS84)
LONG = LONGITUDE (WGS84)
LF = LINEAR FEET
MISC = MISCELLANEOUS
N = NORTHING COORDINATE OR NORTH
NFES = NON-FLARED END SECTION
OC = ON CENTER
OCEW = ON CENTER EACH WAY
OHE = OVERHEAD ELECTRIC
PC = POINT OF INTERSECTION
PI = POINT OF INTERSECTION
PT = POINT OF TANGENCY
RCP = REINFORCED CONCRETE PIPE
RD = ROAD
REM = REMOVE
REQ'D = REQUIRED
ROW = RIGHT OF WAY
S = SOUTH
SED = SEDIMENT
SHLD = SHOULDER
SLP = SLOPE
STPLG = STOPLOG
TBM = TEMPORARY BENCHMARK
TEL = TELEPHONE/COMMUNICATIONS
UG = UNDERGROUND
VEG = VEGETATION
W = WEST OR WITH
WCS = WATER CONTROL STRUCTURE
WL = WATER LEVEL
WS = WATER SHOT

*NOTE: NOT ALL ABBREVIATIONS IN THIS LIST APPEAR ON THIS SHEET

PERMIT ISSUE

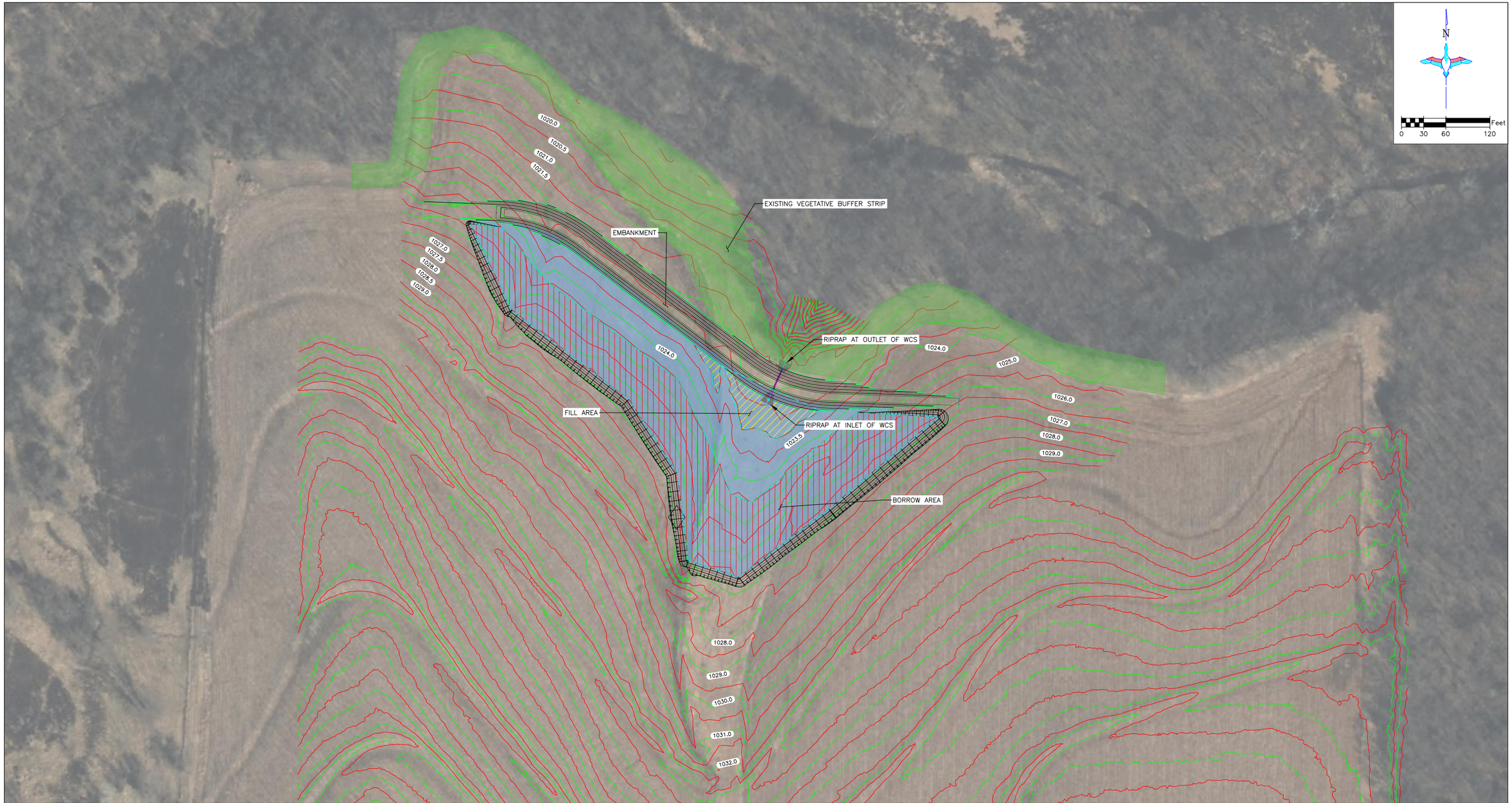
K:\Land Projects KS\KS-132-101 Paul Fortin RestorationEnhancement\3 Design\KS-132-101 FortinWetland_Design.dwg

DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE

PROJECT NO. KS-132-101
FORTIN WETLAND
.
WCS PLAN, SECTION, & DETAILS

DESIGNED BY: CCM
DRAWN BY: CCM
SURVEYED BY: CCM
CHECKED BY: CAR

DATE: 1/2/2026
SHEET NO. 4 OF 7
APPROVED BY: CAR
APPROVED BY: .



SWPP PLAN

SCALE 1" = 60'

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) CONSTRUCTION NOTES:

1. SEEDING AND MULCHING SHALL BE REQUIRED ON EMBANKMENT.
2. BEFORE LAST SPRING FROST OR APRIL 15TH (WHICHEVER IS EARLIER), AREA WILL BE SEEDED WITH A MIXTURE OF CUSTOM NATIVE GRASS MIX (SEE TABLE BELOW).
3. MULCHING SHALL REQUIRE ANCHORING OF SOME TYPE SUCH AS TACKING, MATTING, HAND PUNCHING, ROLLER PUNCHING, CRIMPER PUNCHING, OR HYDRO-SEEDING TO PREVENT BLOWING OR WASHING AWAY.
4. MULCHING APPLICATION RATE SHALL BE TWO TONS PER ACRE OR ONE 74 POUND BALE PER 800 SQUARE FEET.

Description	Pure Live Seed (PLS) per Acre
Indiangrass, Cheyenne	0.60 lbs
Switchgrass, Kan Low	0.90 lbs
Switchgrass, Cave In Rock	0.90 lbs
Little Bluestem, Aldous	0.80 lbs
Eastern Gamagrass, Variety Not Stated	2.10 lbs
Canada Wildrye, Mandan	1.50 lbs
Virginia Wildrye, Variety Not Stated	1.50 lbs
Big Bluestem, Kaw	1.20 lbs
Total	9.50 lbs

CRAIG A. ROY
LICENSED
14946
01/02/2026
KANSAS
PROFESSIONAL ENGINEER

PERMIT ISSUE

DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE

PROJECT NO. KS-132-101
FORTIN WETLAND
.
SWPPP

DESIGNED BY: CCM
DRAWN BY: CCM
SURVEYED BY: CCM
CHECKED BY: CAR

DATE: 1/2/2026
SHEET NO. 5 OF 7
APPROVED BY: CAR
APPROVED BY: .

K:\Land Projects KS\KS-132-101 Paul Fortin RestorationEnhancement\3 Design\KS-132-101 FortinWetland_Design.dwg

STORM WATER POLLUTION PREVENTION PLAN

The Kansas General Permit Authorization to Discharge Stormwater Associated with Construction Activity shall apply for this project.

ABBREVIATIONS

KDHE: Kansas Department of Health and Environment
KDEM: Kansas Division of Emergency Management
USFWS: United States Fish and Wildlife Service

NARRATIVE

Project Limits: See Sheets 2–5 of this plan for the project limits and details. These sheets cover embankment construction, regrading, water control structure, and associated piping.

SITE DESCRIPTION

Project Description: The purpose of the project is to create a shallow water impoundment and installation of an associated water control structure.

Site Map(s): See map on cover sheet of plans.

Major Soil Disturbing Activities (check all that apply):

- __X__ Clearing & Grubbing
- __X__ Grading & Shaping
- __X__ Cutting & Filling
- ____ Other (describe):

Total Project Area: 10.5 Acres
Total Area to Be Disturbed: 3.2 Acres
Existing Impervious Area: 0.0 Acres
Proposed Impervious Area: 0.0 Acres

Name of Receiving Water Body/Bodies: West Fork Eightmile Creek
Quantities Tabulation for All BMPs: See estimated quantities and construction notes in plans.

ORDER OF CONSTRUCTION ACTIVITIES

(Stabilization measures shall be completed as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.)

- Install erosion and sediment control measures.
- Proceed with site grading and construction activities.
- Stabilize areas disturbed by construction activities with temporary erosion and sediment control measures.
- Complete final grading.
- Complete permanent erosion and sediment control measures.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

See the SWPPP details on Sheet 5 and notes on this plan sheet.

EROSION AND SEDIMENT CONTROLS

(Check all that apply)

Stabilization Practices (See Erosion and Sediment Control Details in Plan Sheets)

- __X__ Temporary or Permanent Seeding
- ____ Sod Placement
- ____ Planting
- __X__ Mulching (Straw or Cellulose Fiber)
- ____ Erosion Control Blankets or Mats
- __X__ Vegetation Buffer Strips
- ____ Roughened Surface (e.g. tracking)
- ____ Gabions–Gabion Mattress
- __X__ Other: Riprap

Structural Temporary Erosion and Sediment Controls

- ____ Silt Fence
- ____ Temporary Berm
- ____ Temporary Slope Drain
- ____ Straw Wattles or Rolls
- ____ Diversion Channels/Swales
- ____ Channel Liners (TRM)
- ____ Stone Rip Rap Sheet
- ____ Rock Check Dams
- ____ Sediment Traps/Basins
- ____ Inlet Protection
- ____ Outlet Protection
- ____ Surface Inlet Protection
- ____ Curb Inlet Protection
- ____ Stabilized Construction Entrances
- ____ Other

STORM WATER MANAGEMENT

Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period.

Pollution Prevention Management Measures:

- Solid Wastes:
  Collected sediment, asphalt, and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with the KDHE disposal requirements.
- Hazardous Materials:
  Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with KDHE regulations.
- Vehicle Washing:
  External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.
- Concrete Washout Onsite:
  All liquid and solid wastes generated by concrete washout operation must be contained in a leak–proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. The liquid and solid wastes must not contact the ground, and there must not be runoff from the concrete washout operation or areas. Liquid and solid wastes must be disposed of properly and in compliance with KDHE regulations. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.

MAINTENANCE AND INSPECTION

Maintenance and Inspection Practices

- Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report or as soon as field conditions allow access.
- Inspections of areas that are temporarily stabilized due to ice, frozen soil conditions, or consistent snow cover are to be performed at the same frequency as during normal conditions; however, such areas are exempt from performing observations of disturbed soils, sediment and erosion BMPs, drainage areas, and locations where stormwater can flow from the construction site.
- Disturbed project areas that are temporarily stabilized due to ice, frozen soil conditions or consistent snow cover extending across 70 percent or more of the area shall be noted on the inspection report. The thawing of these areas shall be noted during the first subsequent inspection when iced, frozen or snow covered conditions are not longer present.
- Where parts of the construction site have undergone final stabilization, but work remains on other parts of the site, inspections of the stabilized areas may be reduced to once per month.
- Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely anchored. Sediment buildup will be removed from the silt fence when it reaches ⅓ of the height of the silt fence. All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches ½ of the height of the fence.
- Sediment basins and traps will be checked. Sediment will be removed and cleaned when the capacity of the sediment basin reaches 20 percent or more. The basin will be maintained until less than 10 acres of area needing final stabilization within the drainage basin remains.
- Check dams will be inspected for stability. Sediment will be removed when the depth reaches ½ the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment being deposited by erosion.
- Construction site vehicle entrance and exit locations will be designated prior to mobilizing equipment. If a designated entrance and exit locating cannot be determined, the use of a wheel washing facility will be utilized. If applicable, wash waters will be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge. Off–site track out shall be cleaned up at the end of each work day. If contaminated soils are encountered, a wheel washing station with tanks for holding of the fresh water will be utilized.
- Disturbed areas will be checked for stabilization. Stabilization measures shall be initiated as soon as construction activity in that portion of the site has temporarily or permanently ceased.
- The normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge into any surface water. Stabilization of the last 200 lineal feet must be completed within 24 hours after connection to a surface water.
- Stabilization of the remaining portions of any temporary or permanent ditches or swales must be completed within 14 days after connecting to a surface water and construction in that portion of the ditch has temporarily or permanently ceased.
- Temporary or permanent ditches or swales that are being used as a sediment containment system (with properly designed rock ditch checks, bio rolls, silt dikes, etc.) do not need to be stabilized. These areas must be stabilized within 24 hours after no longer being used as a sediment containment system.
- Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours after connection to a surface water.
- Discharge procedures for water control and dewatering operations will be inspected. If the water cannot be discharged to a sedimentation basin prior to entering the surface water, it must be treated with the appropriate BMPs, such that the discharge does not adversely affect the receiving water or downstream landowners.
- Inspection and maintenance reports will be completed for each site inspection, this form will also be used to document changes to the SWPPP. The report shall include the date and amount of precipitation or snowmelt events that cause surface erosion. A copy of the completed inspection form will be filed with the SWPPP documents.
- The Contractor's site superintendent is responsible for inspection. Maintenance and repair activities are the responsibility of the Contractor.
- In areas of concentrated flows such as channelized drainage, the use of velocity dissipation devices (e.g. check dams, riprap and wattles), installation of channel liners (e.g. riprap, geotextiles, and erosion control blankets) will be utilized.

SITE PROTECTION

- Fertilizer application and riparian areas: Fertilizer application for temporary erosion control on the construction site shall be done in a manner that does not allow it to leave the treated area.
- Erosion and sediment control: Maintain practices to minimize or avoid soil loss and sedimentation.
- Solid Waste: All waste materials by the construction project shall be disposed of in accordance with the provisions of the Kansas solid waste management statutes and regulations (K.S.A. 65–3401 and K.A.R. 28–29–1 et. seq.) or applicable local rules. Good housekeeping including personal refuse such as food containers, snacks, etc. shall also be addressed.
- Construction shall be done in a manner that avoids downstream bank instability.
- Floating Debris: The applicant shall take appropriate measures to capture any floating debris released to surface waters as a result of this project.
- Fuels, Chemicals and Maintenance Areas: All fuels and chemicals necessary to complete the project shall be stored in such a manner that accidental spillage is minimized or can be temporarily contained before reaching the water body. Equipment maintenance areas shall also be located in this manner.
- Spills: The Kansas Department of Health and Environment (KDHE) and the Kansas Division of Emergency Management (KDEM) are two of several state agencies that address spills. Should a spill of fuel or discharge of pollutants occur the local emergency staff should be contacted first by dialing 911. The Kansas Department of Health and Environment shall then be notified immediately: (785) 291–3333–Option 2. (24 hours a day.) These incidences should also be reported to the National Spill Response Center at 1–800–424–8802. A Spill Prevention and Response Plan should be prepared.

CONSTRUCTION CHANGES

The SWPP plan shall be modified or amended as appropriate during the term of the construction activity until the site is stabilized. The contractor is responsible for the installation, operation, and maintenance of erosion controls and shall keep a current copy of the SWPP plan on the project site.

Modifications to the SWPP plan shall be made to better control the site erosion and sediment discharges based on field conditions or site phasing that was not considered during SWPP plan development. The permittee shall indicate the changes on the erosion and sediment control plan sheets, maintain a log showing dates of all SWP2 plan modifications, and the name and title of the person authorizing the modifications. Changes to the SWP2 plan that are not an amendment (See Section 7.3.2 of the Kansas Department of Health and Environment–Kansas Pollution Control) are considered modifications and do not need to be submitted to KDHE. Modification of site erosion and sediment controls based on field conditions or site phasing do not require preparation or approval by a professional however, modifications that involve the relocation or reconfiguration of any sedimentation basin or corresponding outlet structure required under Section 7.2.7 of the Kansas Department of Health and Environment–Kansas Pollution Control shall be prepared under the supervision of a licensed or certified professional.

PROJECT CONTACTS

The Contractor is responsible for implementation of the SWP2 plan and installation, inspection and maintenance of the erosion prevention and sediment control BMP's before and during construction.

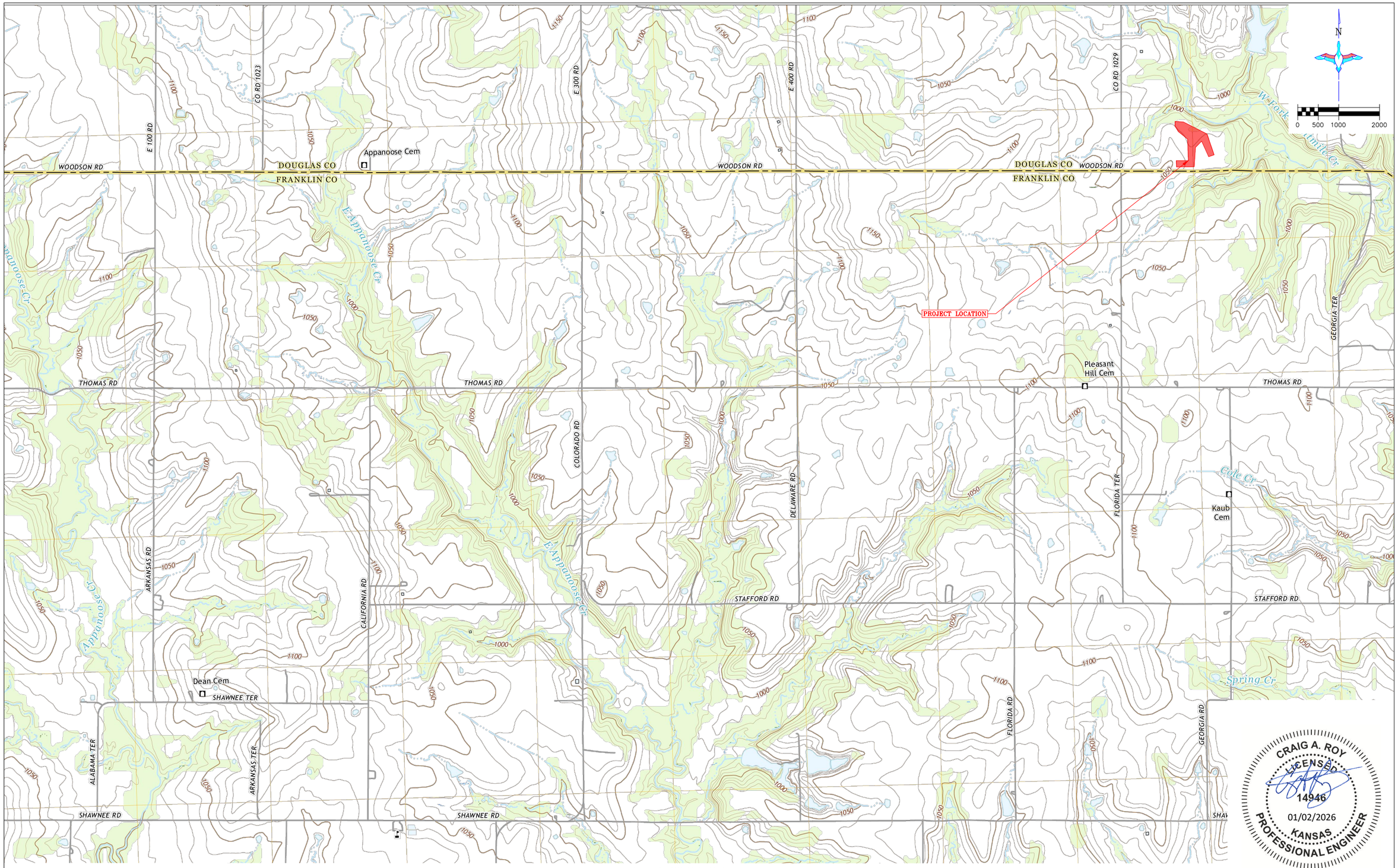
Contractor and KDHE contact information is provided in the contract documents and project plans.

CRAIG A. ROY
LICENSED
14946
01/02/2026
KANSAS
PROFESSIONAL ENGINEER

PERMIT ISSUE

K:\Land Projects KS\KS–132–101 Paul Fortin RestorationEnhancement\3 Design\KS–132–101 FortinWetland_Design.dwg

DUCKS UNLIMITED INC.	PROJECT NO. KS–132–101		DESIGNED BY: CCM
GREAT PLAINS REGIONAL OFFICE	FORTIN WETLAND . SWPPP NOTES		DRAWN BY: CCM
			SURVEYED BY: CCM
			CHECKED BY: CAR
DATE: 1/2/2026	SHEET NO. 6 OF 7	APPROVED BY: CAR	APPROVED BY: .



CRAIG A. ROY
LICENSED
14946
01/02/2026
KANSAS
PROFESSIONAL ENGINEER

USGS TOPOGRAPHIC MAP
SCALE 1" = 1000'

PERMIT ISSUE

K:\Land Projects KS\KS-132-101 Paul Fortin RestorationEnhancement\3 Design\KS-132-101 FortinWetland_Design.dwg

DUCKS UNLIMITED INC.	PROJECT NO. KS-132-101		DESIGNED BY: CCM
GREAT PLAINS REGIONAL OFFICE	FORTIN WETLAND		DRAWN BY: CCM
	.		SURVEYED BY: CCM
	USGS TOPOGRAPHIC MAP		CHECKED BY: CAR
DATE: 1/2/2026	SHEET NO. 7 OF 7	APPROVED BY: CAR	APPROVED BY: .