

RICE LAKE STATE PARK
WATER CONTROL STRUCTURE REPLACEMENT
15-03-98-02

AUTHORIZATION TO BID

Aug. Ben 8.27.15
AUTHORIZATION - PARKS | WILDLIFE | FISHERIES | LAW ENFORCEMENT | FORESTRY DATE

Travis Baker 8/27/15
LAND AND WATERS BUREAU CHIEF DATE



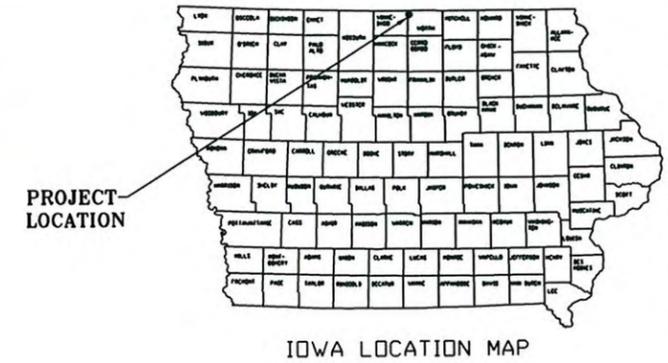
DUCKS UNLIMITED

DUCKS UNLIMITED, INC.

RICE LAKE

SECTION 19 TOWNSHIP 99N, RANGE 22W
WORTH COUNTY, IA

IN COOPERATION WITH
IOWA DEPARTMENT OF NATURAL RESOURCES



IF THESE PLANS ARE NOT PLOTTED AND/OR REPRODUCED AT THE ORIGINAL SIZE OF 24"x 36" ANY SCALE REFERENCED HEREIN SHOULD BE DISREGARDED AND THE PLANS SHOULD BE CONSIDERED "NOT TO SCALE."



MAP POINT "▲" IS LOCATED AT INTERSECTION OF EAST MAIN STREET AND R74 LOCATED IN LAKE MILLS, IA. TO SITE FROM MAP POINT, GO SOUTH ON R74 (225TH AVE) 2.75± MILES TO INTERSECTION OF R74 (225TH AVE) & A34 (425TH ST). GO EAST ON A34 (425TH ST) 1.8± MILES TO IA DEPARTMENT OF NATURAL RESOURCES PUBLIC BOAT ACCESS TRAIL LOCATED ON THE NORTH SIDE OF THE HWY. GPS COORDINATES TO ACCESS TRAIL ARE: LAT: 43° 22' 45.4" LONG: 93° 29' 25.8"



VICINITY MAP
NOT TO SCALE

PLAN INDEX

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LOCATION MAP
NOT TO SCALE

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.
Douglas J. Lipetzky, P.E. 3-2-2015
Date
Douglas J. Lipetzky, P.E.
for Ducks Unlimited, Inc.
License No. 11677

Revision Number	Sheet Number	Revisions	Date	By
1	2,16	SPOIL FROM CHANNEL CLEANOUT	6/18/15	DJL
1	2,16	SPOIL FROM CHANNEL CLEANOUT METHOD OF PAYMT FOR CLEANOUT	6/30/15	DJL

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 GREAT PLAINS REGIONAL OFFICE DATE: 3-2-2015 SHEET NO. 1	PROJECT NO. IA-311-1 RICE LAKE COVER SHEET	DESIGNED BY: DJL DRAWN BY: MLO SURVEYED BY: MO,AW CHECKED BY:
	APPROVED BY:	APPROVED BY:

ESTIMATED QUANTITIES

NOTE	SPEC.#	ITEM	UNIT	QUANTITY
1	201	MOBILIZATION	L.S	1
2	202	SITE PREPARATION	L.S	1
	203	EXCAVATION		
3		INLET CHANNEL	L.F.	113
4		OUTLET CHANNEL	C.Y.-P	537
5		EXISTING CHANNEL CLEAN-OUT		
		NORTH OF A34/425TH ST. (HAUL SPOIL)	L.F.	1,530
		SOUTH OF A34/425TH ST. (ADJ. SPOIL)	L.F.	2,725
	303	CULVERT SUPPLY AND INSTALLATION		
		48"Ø WELDED STEEL PIPE	L.F.	100
6	304	CAST-IN-PLACE REINFORCED CONCRETE	C.Y.	12
	305	RIPRAP, REVETMENT, AND AGGREGATE PLACEMENT		
7		DU CLASS II RIPRAP	TON	108
7		DU CLASS III RIPRAP	TON	250
8		¾"-1¼" CLEAR ROCK BEDDING & BACKFILL	TON	130
9	307	SHEET PILE MATERIAL	S.F.	1628
9	307	SHEET PILE INSTALLATION	S.F.	1628
10	309	STRUCTURAL STEEL & ALUMINUM		
		DRIVEN H-PILES (HP10x57)	L.F.	124
		DRIVEN H-PILES (HP12x53) ICE BREAKERS	L.F.	75
		6"x6"x¾" STEEL ANGLE FOR ICE BREAKERS	L.F.	21
		ALUMINUM STOPLOGS	L.S.	1
		ALUMINUM LOCKING BARS	L.S.	1
		GALVANIZED CATWALK COMPONENTS	L.S.	1
		GALVANIZED STEEL GRATING	S.F.	291
		GALVANIZED CHANNEL GUIDES	L.S.	1
		GALVANIZED LIFTING HOOKS	L.S.	1
		GALVANIZED STORAGE BOX	L.S.	1
		PILE CAP	L.S.	1
		ALUMINUM FISH SCREENS - LONG	EA.	9
		ALUMINUM FISH SCREENS - SHORT	EA.	6
11	311	REMOVAL OF EXISTING STRUCTURES	L.S.	1
		MISCELLANEOUS		
12		COFFERDAM PLACEMENT AND REMOVAL	L.S.	1
13		CLEARING & GRUBBING	L.S.	1
14	401	STORMWATER MANAGEMENT AND POLLUTION CONTROL		
		SILT FENCE	L.F.	200
		EROSION CONTROL BLANKET	S.Y.	1600
		12' BID ROLLS	L.F.	1000
		FLOATING SILT FENCE	L.F.	250
		STORMWATER PERMIT, MAINTENANCE	L.S.	1
15	402	SEEDING (IA DNR PROVIDES SEED)	ACRE	3
15	402	MULCHING	ACRE	1

CONSTRUCTION NOTES:

- BID ITEM FOR MOBILIZATION SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL AND EQUIPMENT TO TRANSPORT ALL NEEDED LABOR, MATERIAL AND EQUIPMENT TO AND FROM A PROJECT SITE TO SUCCESSFULLY COMPLETE THAT PROJECT AS SHOWN ON THE PLANS OR DESCRIBED BY THE ENGINEER.
- SITE PREPARATION BID ITEM SHALL INCLUDE STRIPPING BENEATH WATER CONTROL STRUCTURE PIPELINE, EXISTING/NEW STRUCTURE AREA AND BORROW/SPOIL AREAS. TOPSOIL SHALL BE STOCKPILED AND REPLACED OVER COMPLETED EMBANKMENT, WATER CONTROL STRUCTURE PIPELINE, BORROW/SPOIL AREA AND CHANNEL SIDES SLOPES. BID ITEM SHALL INCLUDE LEVELING AND DRAGGING OR DISK PRIOR TO PLACEMENT OF SEED MIX.
- BID ITEM FOR INLET CHANNEL EXCAVATION SHALL INCLUDE ALL WORK REQUIRED TO EXCAVATE THE INLET CHANNEL AS SHOWN ON THE PLANS. ALL SPOIL MATERIAL MUST BE REMOVED FROM ANY WETLAND AREA AND DEPOSITED IN THE DESIGNATED SPOIL AREA AS NOTED IN THESE PLANS. SPOIL MATERIAL SHALL BE LEVELED AND TOPSOIL PLACED OVER COMPLETED SURFACE. PAYMENT IS BASED ON LINEAR FEET. CONTRACTOR WILL ONLY BE PAID FOR THE EXACT AMOUNT OF FINISHED CHANNEL EXCAVATED IN THE FIELD.
- BID ITEM FOR OUTLET CHANNEL EXCAVATION SHALL INCLUDE ALL WORK REQUIRED TO EXCAVATE THE OUTLET CHANNEL AS SHOWN ON THE PLANS. ALL SPOIL MATERIAL SHALL BE PLACED IN EXISTING OUTLET CHANNEL OR DOWNSTREAM SIDE OF EMBANKMENT AS DETERMINED IN THE FIELD. SUITABLE MATERIAL SHALL BE USED FOR FILL AND COFFERDAM AS DETERMINED BY THE CONTRACTOR/DU FIELD ENGINEER. ALL SPOIL MATERIAL SHALL BE LEVELED AND TOPSOIL PLACED OVER COMPLETED SURFACE. PAYMENT IS BASED ON CUBIC YARD-PLAN. THERE WILL BE NO ADJUSTMENT MADE FOR INCREASE OR DECREASE TO QUANTITY.
- BID ITEM FOR EXISTING CHANNEL CLEAN-OUT SHALL BE FOR CLEANING OUT SEDIMENT FROM THE EXISTING CHANNEL FROM ENDING OUTLET CHANNEL EXCAVATION TO HIGHWAY CULVERT & FROM HIGHWAY TO INTERSECTION WITH MAIN DITCH AS SHOWN ON SHEETS 1 & 16. SPOIL MATERIAL FROM CHANNEL NORTH OF A34/425TH ST. SHALL BE HAULED TO THE DESIGNATED BORROW AREA SHOWN ON SHEET 16. SPOIL FROM CHANNEL SOUTH OF A34 SHALL BE PLACED ON ADJACENT EXISTING SPOIL BERM. SEE SHEET 16. PAYMENT WILL BE BASED ON THE CONTRACTOR'S UNIT BID PRICE FOR LINEAR FEET (L.F.) OF CHANNEL CLEANOUT. THE SECTION NORTH OF A34/425TH ST. SHALL BE BID SEPARATELY SINCE THE SPOIL FROM THAT SECTION SHALL BE HAULED TO THE DESIGNATED BORROW/SPOIL AREA SHOWN ON SHEET 16. THE UNIT BID PRICE SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE CHANNEL CLEANOUT INCLUDING EXCAVATING, HAULING, GRADING SPOIL AND ANY CLEANUP REQUIRED ALONG THE HAUL ROUTE.
- BID ITEM FOR CAST-IN-PLACE CONCRETE SHALL INCLUDE ALL MATERIALS INCLUDING CONCRETE, REBAR, DOWELS, PVC PIPES, TIES AND ASSOCIATED ITEMS. SEE DETAILS ON SHEET 11.
- BID ITEM FOR RIPRAP (DU CLASS II & III) IS AS SHOWN ON THE PLANS AND ON RIPRAP SCHEDULE THIS SHEET. NON-WOVEN FILTER FABRIC IS REQUIRED BENEATH ALL ROCK RIPRAP AND SHALL BE SECURED TO SLOPES AND BOTTOM USING PINS AS NOTED IN SPECIFICATION 305. EXCAVATION REQUIRED FOR ROCK RIPRAP AND PLACEMENT IS CONSIDERED INCIDENTAL TO THIS BID ITEM. CONTRACTOR WILL BE PAID FOR THE ACTUAL QUANTITY INSTALLED. QUANTITIES ARE MEASURED BASED ON TONS. CONTRACTOR SHALL PROVIDE SCALE TICKETS WITH WEIGHTS INCLUDING TARE WEIGHTS, GROSS WEIGHTS, AND NET WEIGHTS OF MATERIAL DELIVERED. RIPRAP SUPPLY SOURCE SHALL BE IDENTIFIED FOR INSPECTION BY THE IA DNR FOR INVASIVE SPECIES PRIOR TO TRANSPORTING ONSITE.
- BID ITEM FOR ¾"-1¼" CRUSHED ROCK BEDDING & BACKFILL SHALL INCLUDE MATERIALS, HAULING, PLACING, AND COMPACTING. QUANTITY IS MEASURED BASED ON TONS. CONTRACTOR SHALL PROVIDE SCALE TICKETS WITH WEIGHTS INCLUDING TARE WEIGHTS, GROSS WEIGHTS, AND NET WEIGHTS OF MATERIAL DELIVERED.
- SHEET PILE MATERIAL SHALL BE PZ-22 OR APPROVED EQUAL. MINIMUM THICKNESS OF 0.375" (¾") AND MINIMUM SECTION MODULUS 18.1 IN³/FT. THE COST OF THE PILE-PRO CORNERS, TEES AND BULLHEAD SECTIONS SHALL BE CONSIDERED INCIDENTAL TO "SHEET PILE MATERIAL." NO SEPARATE PAYMENT WILL BE MADE FOR SUCH SECTIONS.
- BID ITEMS FOR STRUCTURAL STEEL SHALL INCLUDE ALL INDIVIDUAL LINE ITEMS LISTED UNDER THIS HEADING AND INCLUDE ALL MATERIALS AND LABOR REQUIRED FOR FABRICATION AND A COMPLETE INSTALLATION AS SHOWN ON THE PLANS. ANY GALVANIZED ITEMS LISTED REQUIRING FIELD WELDING SHALL BE RE-PAINTED WITH A COLD GALVANIZED SPRAY.
- BID ITEM FOR REMOVAL OF EXISTING STRUCTURES SHALL BE FOR REMOVING AND PROPERLY DISPOSING THE EXISTING CONCRETE WATER CONTROL STRUCTURE AND THE 48"Ø CMP OUTLET PIPE OFF-SITE AS NOTED ON SHEET 4. SUCH MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL OFF-SITE. ANY EXISTING ROCK AT THIS LOCATION SHALL BE SALVAGED AND RE-INSTALLED UNDER THIS LINE ITEM.
- BID ITEM FOR COFFERDAM SHALL INCLUDE ALL MATERIALS, INSTALLATION, REMOVAL, AND LEVELING OF COFFERDAM MATERIAL SUITABLE ENOUGH FOR SEEDING & MULCHING. COFFERDAM MATERIAL SHALL COME FROM OUTLET CHANNEL EXCAVATION, INLET CHANNEL EXCAVATION, OR IMPORTED FROM AN APPROVED SHPO CLEARANCE AREA OFF-SITE AS IDENTIFIED BY THE IA DNR. ONE SUCH AREA IS SHOWN ON SHEET 1 & 16. THE CONTRACTOR WILL STILL BE PAID FOR OUTLET CHANNEL EXCAVATION & INLET CHANNEL EXCAVATION EVEN IF THERE SPOIL MATERIAL IS USED FOR COFFERDAM. ALL COFFERDAM MATERIAL SHALL BE REMOVED FROM RICE LAKE AFTER COMPLETION OF STRUCTURE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN A COFFERDAM SUFFICIENT ENOUGH TO CONSTRUCT ALL ITEMS LISTED ON THESE PLANS. THE COST OF COFFERDAM REMOVAL INCLUDING TRUCKING TO THE SPOIL SITE IF NECESSARY, SHALL BE INCLUDED IN THE CONTRACTOR'S UNIT BID PRICE FOR "COFFERDAM PLACEMENT & REMOVAL." FLOATING SILT FENCE SHALL BE INSTALLED IN RICE LAKE PRIOR TO ANY COFFERDAM WORK.
- BID ITEM FOR CLEARING & GRUBBING SHALL BE FOR REMOVING ANY TREES/BRUSH LOCATED WITHIN THE CONSTRUCTION AREA AS IDENTIFIED BY THE DU FIELD ENGINEER. CONTRACTOR SHALL EITHER CRUSH INTO SMALL PIECES & BURY UNDER SPOIL MATERIAL IN EXISTING OUTLET CHANNEL OR STOCKPILE ON DNR LAND FOR BURNING BY AGENCY AT LATER TIME. THE IA DNR WILL MAKE THE DECISION IN THE FIELD. PAYMENT SHALL INCLUDE REMOVING AND DISPOSING OF TREES/BRUSH ON-SITE.

- THE BID ITEM FOR STORM WATER MANAGEMENT AND POLLUTION CONTROL SHALL INCLUDE THE SUPPLY, INSTALLATION AND MAINTENANCE OF SILT FENCE, CATEGORY 3 EROSION CONTROL BLANKET, BIO-ROLLS, AND FLOATING SILT FENCE. EXACT LOCATION AND QUANTITY MAY VARY DEPENDING UPON ACTUAL SITE CONDITIONS. EROSION CONTROL MEASURES SHALL BE INSTALLED CONCURRENTLY OR WITHIN 24 HOURS AFTER THE START OF WORK AND WILL BE MAINTAINED FOR THE DURATION OF THE PROJECT. CONTRACTOR WILL BE PAID AT THE UNIT PRICE BID FOR THE ACTUAL QUANTITY INSTALLED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL, INSPECT AND MAINTAIN THE BEST MANAGEMENT PRACTICE MEASURES REQUIRED TO PREVENT SILT AND POLLUTION RUNOFF. IF ADDITIONAL ITEMS NOT LISTED ON THE UNIT PRICE TABLE ARE NEEDED, THOSE SHALL BE CONSIDERED EXTRA WORK. THE CONTRACTOR WILL ALSO BE REQUIRED TO OBTAIN THE STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES PRIOR TO THE START OF THE CONSTRUCTION.
- THE BID ITEM FOR "SEEDING" AND FOR "MULCHING" SHALL INCLUDE THE EQUIPMENT AND LABOR REQUIRED TO LEVEL AND PREPARE TOPSOIL FOR SEEDING AND MULCHING DISTURBED AREAS WHERE THE EXISTING STRUCTURE IS REMOVED, THE NEW STRUCTURE IS INSTALLED, THE OUTLET CHANNEL TO WHERE THE CHANNEL CLEANOUT BEGINS, AND ANY OTHER AREAS IDENTIFIED BY THE DU FIELD ENGINEER. IOWA DNR WILL PROVIDE THE LOCAL ECO-TYPE SEED MIXTURE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING SEED IN ACCORDANCE WITH DU SPECIFICATION 402. TYPE 1 MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS SEEDED ADJACENT TO THE WATER CONTROL STRUCTURE AS DIRECTED BY THE DU FIELD ENGINEER. PAYMENT WILL BE BASED ON ACTUAL ACRES "SEEDED" OR "MULCHED" AFTER FINAL COMPLETION OF PROJECT. THIS WILL BE DETERMINED BY DU FIELD ENGINEER. DOWNSTREAM CHANNEL SLOPES DO NOT NEED TO BE SEEDED OR MULCHED. ALSO, THE SPOIL AREAS FROM THE CHANNEL CLEANOUT DO NOT NEED TO BE MULCHED.

A NOTE CONCERNING INVASIVE SPECIES REQUIREMENTS

THE IOWA DNR REQUIRES PREVENTING OR LIMITING THE INTRODUCTION, ESTABLISHMENT AND SPREAD OF INVASIVE SPECIES DURING ACTIVITIES ON PUBLIC WATER AND USFWS ADMINISTERED LANDS. THE CONTRACTOR SHALL PREVENT INVASIVE SPECIES FROM ENTERING INTO OR SPREADING WITHIN A PROJECT SITE BY CLEANING EQUIPMENT AND CLOTHING PRIOR TO ARRIVING AT THE PROJECT SITE. THE DNR SHALL INSPECT ALL EQUIPMENT AND CLOTHING AT THE STAGING AREA DETERMINED AT THE PRE-CONSTRUCTION MEETING.

IF EQUIPMENT OR CLOTHING ARRIVES AT THE PROJECT SITE WITH SOIL, AGGREGATE MATERIAL, MULCH, VEGETATION (INCLUDING SEEDS) OR ANIMALS, IT SHALL BE CLEANED BY CONTRACTOR FURNISHED TOOL OR EQUIPMENT (BRUSH/BROOM, COMPRESSED AIR, OR PRESSURE WASHER) AT THE STAGING AREA. THE CONTRACTOR SHALL DISPOSE OF MATERIAL CLEANED FROM EQUIPMENT AND CLOTHING AT A LOCATION DETERMINED BY THE OWNER. IF MATERIAL CANNOT BE DISPOSED OF ONSITE, SECURE MATERIAL PRIOR TO TRANSPORT (SEALED CONTAINER, COVERED TRUCK, OR WRAP WITH TARP) AND LEGALLY DISPOSE OF OFFSITE.

IF WORK IS PERFORMED WITHIN A WATER BODY, THE CONTRACTOR SHALL CLEAN EQUIPMENT AND CLOTHING AS NOTED ABOVE, PRIOR TO ENTERING AND LEAVING THE WATER BODY. DRAIN ALL WATER FROM EQUIPMENT WHERE WATER MIGHT BE TRAPPED, SUCH AS TANKS, PUMPS, HOSES, SILT CURTAINS, AND WATER RETAINING COMPONENTS OF BOATS/BARGES.

THE SOURCES OF ALL IMPORTED MATERIAL SHALL BE INSPECTED FOR INVASIVE SPECIES BY THE DNR PRIOR TO TRANSPORTING.

UTILITIES NOTE

BEFORE THE START OF CONSTRUCTION, THE OWNER OF ANY UTILITIES INVOLVED MUST BE NOTIFIED. THE EXCAVATOR/CONTRACTOR IS RESPONSIBLE FOR GIVING THIS NOTICE BY CALLING "IOWA ONE-CALL" AT 800-292-6989 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

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RIPRAP SCHEDULE		
LOCATION	CLASS II	CLASS III
UPSTREAM SIDE SHEET PILE STR.	60 TON	
UPSTREAM SLOPES EXISTING EMB.	48 TON	
PLUNGE POOL BOTTOM AND SLOPES		250 TON

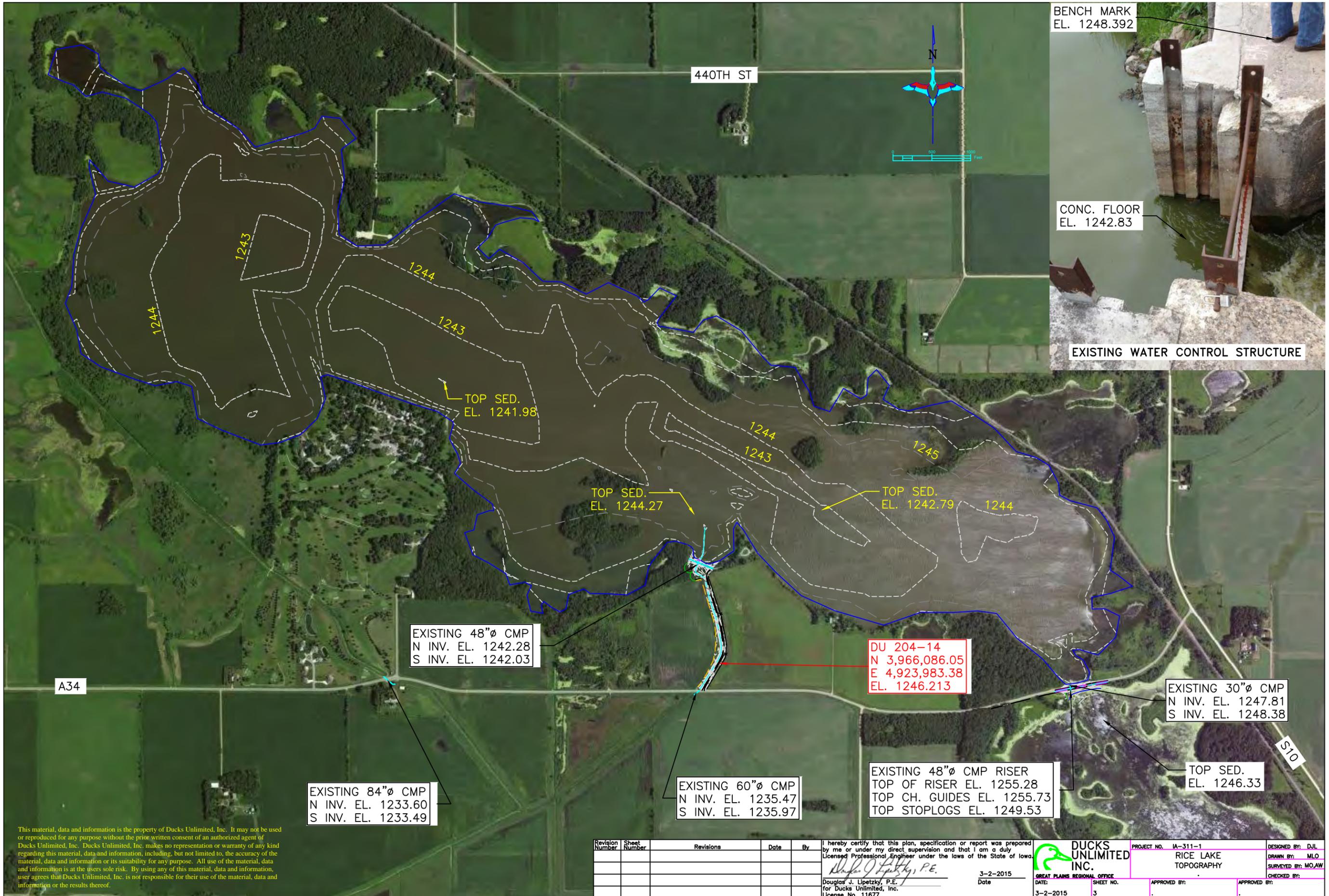
Revision Number	Sheet Number	Revisions	Date	By
1	2	CHANNEL CLEANOUT & NOTE 5	6/18/15	DJL
2	2	CHANNEL CLEANOUT METHOD OF PAYMENT & NOTE 5	6/30/15	DJL

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

Douglas J. Lipetzky, P.E.
 Douglas J. Lipetzky, P.E.
 for Ducks Unlimited, Inc.
 License No. 11677

3-2-2015
 Date

	PROJECT NO. IA-311-1	DESIGNED BY: DJL
	RICE LAKE ESTIMATED QUANTITIES AND CONSTRUCTION NOTES	DRAWN BY: MLO SURVEYED BY: MLO/AV CHECKED BY: .
	APPROVED BY:	APPROVED BY:
DATE: 3-2-2015	SHEET NO. 2	



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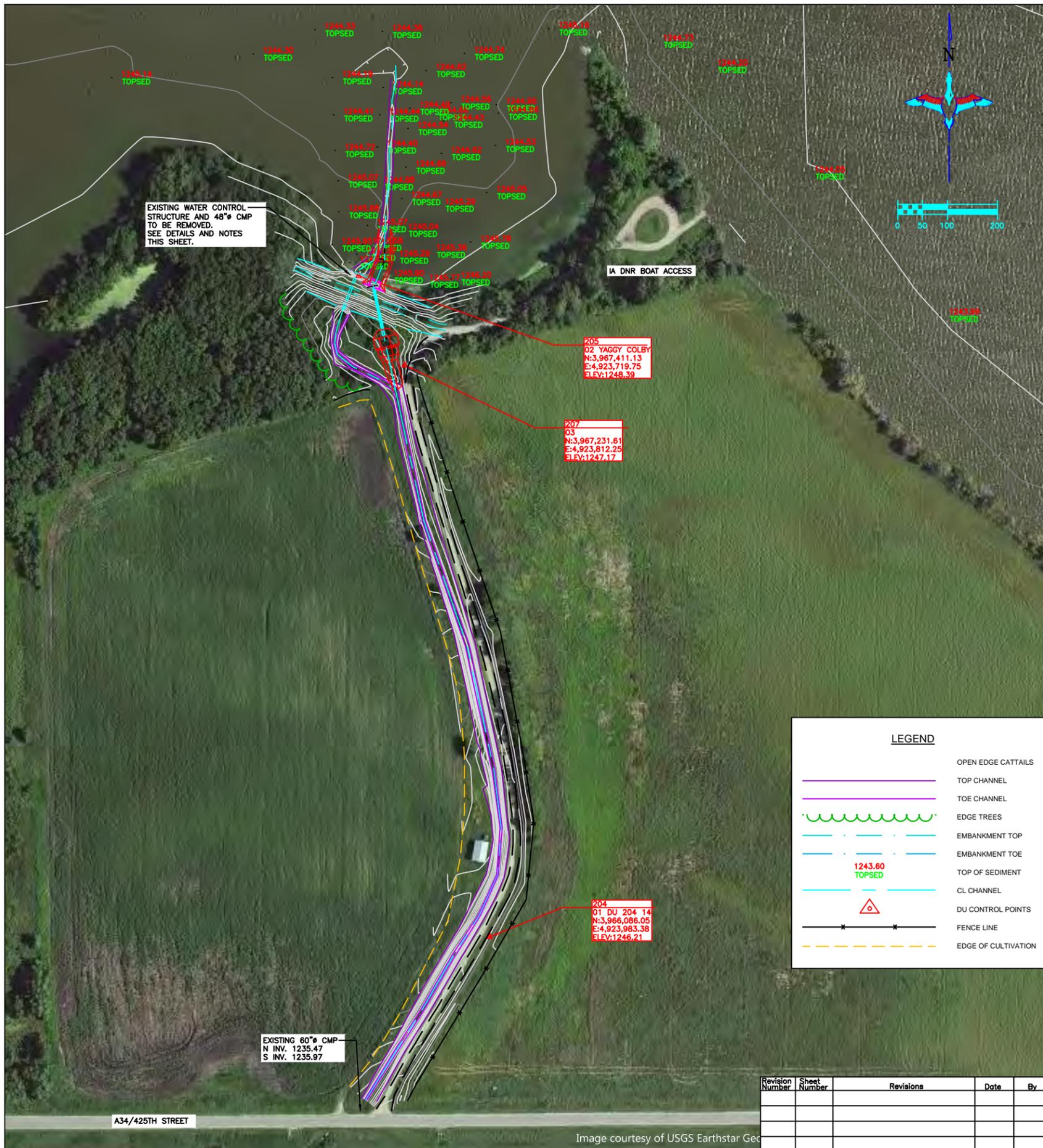
3-2-2015
 Date

DUCKS UNLIMITED INC.
 GREAT PLAINS REGIONAL OFFICE

PROJECT NO. IA-311-1
 RICE LAKE TOPOGRAPHY

DESIGNED BY: DJL
 DRAWN BY: MLO
 SURVEYED BY: MO,AW
 CHECKED BY:
 APPROVED BY:
 APPROVED BY:

DATE: 3-2-2015
 SHEET NO. 3



PICTURES SHOWING EXISTING WATER CONTROL STRUCTURE, OLD IA DNR SET OF PLANS SHOWING DIMENSIONS OF STRUCTURE CAN BE PROVIDED.

REMOVAL OF EXISTING STRUCTURE NOTE:

EXISTING WATER CONTROL STRUCTURE: CONTRACTOR SHALL REMOVE THE EXISTING WATER CONTROL STRUCTURE FROM "TOP OF CONCRETE FLOOR" UPWARDS. THIS INCLUDES ALL CONCRETE FROM TOP OF FLOOR (JUST BELOW 48" CMP INVERT) UPWARDS INCLUDING BACK HEADWALL, SIDE WALLS, FRONT WALL, CHANNEL GUIDES/STOPLOGS, AND ANY OTHER ITEMS AS IDENTIFIED BY THE DU FIELD ENGINEER. THIS IS A VERY STOUT STRUCTURE. CONTRACTOR WILL LIKELY NEED A JACK HAMMER OF SOME TYPE IN ORDER TO ACHIEVE SUCH REMOVAL. ALL CONCRETE AND ASSOCIATED HARDWARE SHALL BECOME PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL OFF-SITE. THE ONLY EXCEPTION, AS APPROVED BY THE DU FIELD ENGINEER, IS CONCRETE FREE OF REBAR CAN BE USED AS RIPRAP OVER FILL THAT WILL BE PLACED OVER STRUCTURE. SEE NOTE BELOW. THIS IS PROVIDING THAT THE CONTRACTOR HAS CHISELED CONCRETE INTO CHUCKS SIMILAR TO QUARRY ROCK DU CLASS II SIZE. BIG SQUARE/FLAT CHUCKS OF CONCRETE WILL NOT BE SUITABLE FOR RE-USE AS RIPRAP. ANY SALVAGED CONCRETE THAT WILL BE PLACED AS RIPRAP SHALL HAVE NON-WOVEN FILTER FABRIC BENEATH. FABRIC AND INSTALLATION OF SALVAGED CONCRETE WILL BE CONSIDERED INCIDENTAL TO "REMOVAL OF EXISTING STRUCTURE" LINE ITEM.

EXISTING 48" CMP OUTLET PIPE: THE CONTRACTOR SHALL REMOVE THE EXISTING 48" CMP OUTLET PIPE AND ASSOCIATED HARDWARE. SUCH MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL OFF-SITE. SUITABLE CLAY MATERIAL SHALL BE RE-COMPACTED USING A VIBRATORY SHEEP'S FOOT TO FILL VOID AND MATCH EXISTING EMBANKMENT. ANY RIPRAP AT THE OUTLET SHALL BE SALVAGED AND RE-INSTALLED ON UPSTREAM END. SUCH WORK WILL BE CONSIDERED INCIDENTAL. SUITABLE CLAY MATERIAL NEEDED TO FILL EXISTING 48" CMP VOID SHALL COME FROM OUTLET CHANNEL EXCAVATION (PLUNGE POOL) OR IMPORTED BY THE CONTRACTOR.

FILL MATERIAL TO COVER EXISTING W.C.S.: AFTER COMPLETION OF EXISTING WATER CONTROL STRUCTURE REMOVAL THE CONTRACTOR SHALL FILL VOID WITH SUITABLE CLAY MATERIAL COMPACTED TO 95% OF A STANDARD PROCTOR. FILL MATERIAL SHALL COVER EXISTING CONCRETE FLOOR AND MATCH NEW WATER CONTROL STRUCTURE/EMBANKMENT SLOPES AS DETERMINED IN THE FIELD. RIPRAP WILL THEN BE PLACED OVER SLOPES TO ELEVATION 1250.0. MATERIAL SHALL COME FROM OUTLET CHANNEL EXCAVATION (PLUNGE POOL) AS AVAILABLE AND APPROVED. IF ADDITIONAL MATERIALS IS NEEDED, IT SHALL BE IMPORTED BY THE CONTRACTOR FROM THE DESIGNATED BORROW AREA SHOWN ON SHEETS 1 & 15, OR OTHER SITES APPROVED BY THE IA DNR.

PAYMENT FOR REMOVAL OF EXISTING WATER CONTROL STRUCTURE, CHANNEL GUIDES, 48" CMP, ASSOCIATED HARDWARE, FILL MATERIAL REQUIRED TO BACKFILL STRUCTURE/CMP, SALVAGING ROCK, AND RE-INSTALLATION OF ROCK SHALL BE PAID FOR BASED ON THE CONTRACTOR'S UNIT BID PRICE FOR "REMOVAL OF EXISTING STRUCTURES."

LEGEND

	OPEN EDGE CATTAILS
	TOP CHANNEL
	TOE CHANNEL
	EDGE TREES
	EMBANKMENT TOP
	EMBANKMENT TOE
	TOP OF SEDIMENT
	CL CHANNEL
	DU CONTROL POINTS
	FENCE LINE
	EDGE OF CULTIVATION

Revision Number	Sheet Number	Revisions	Date	By

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.

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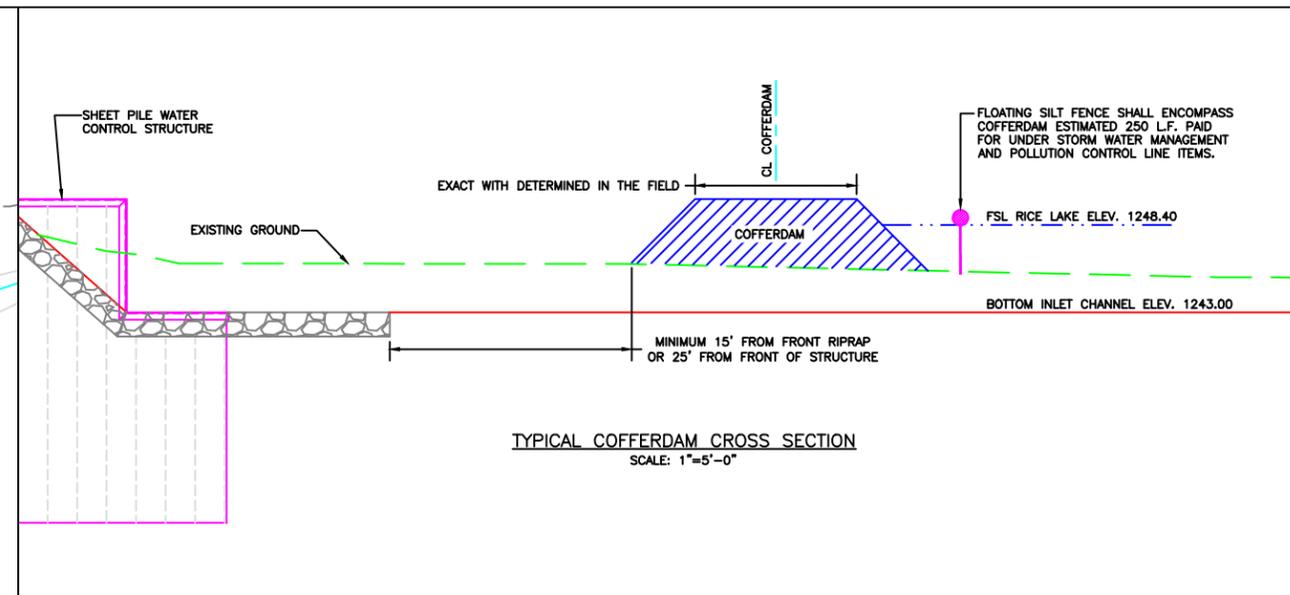
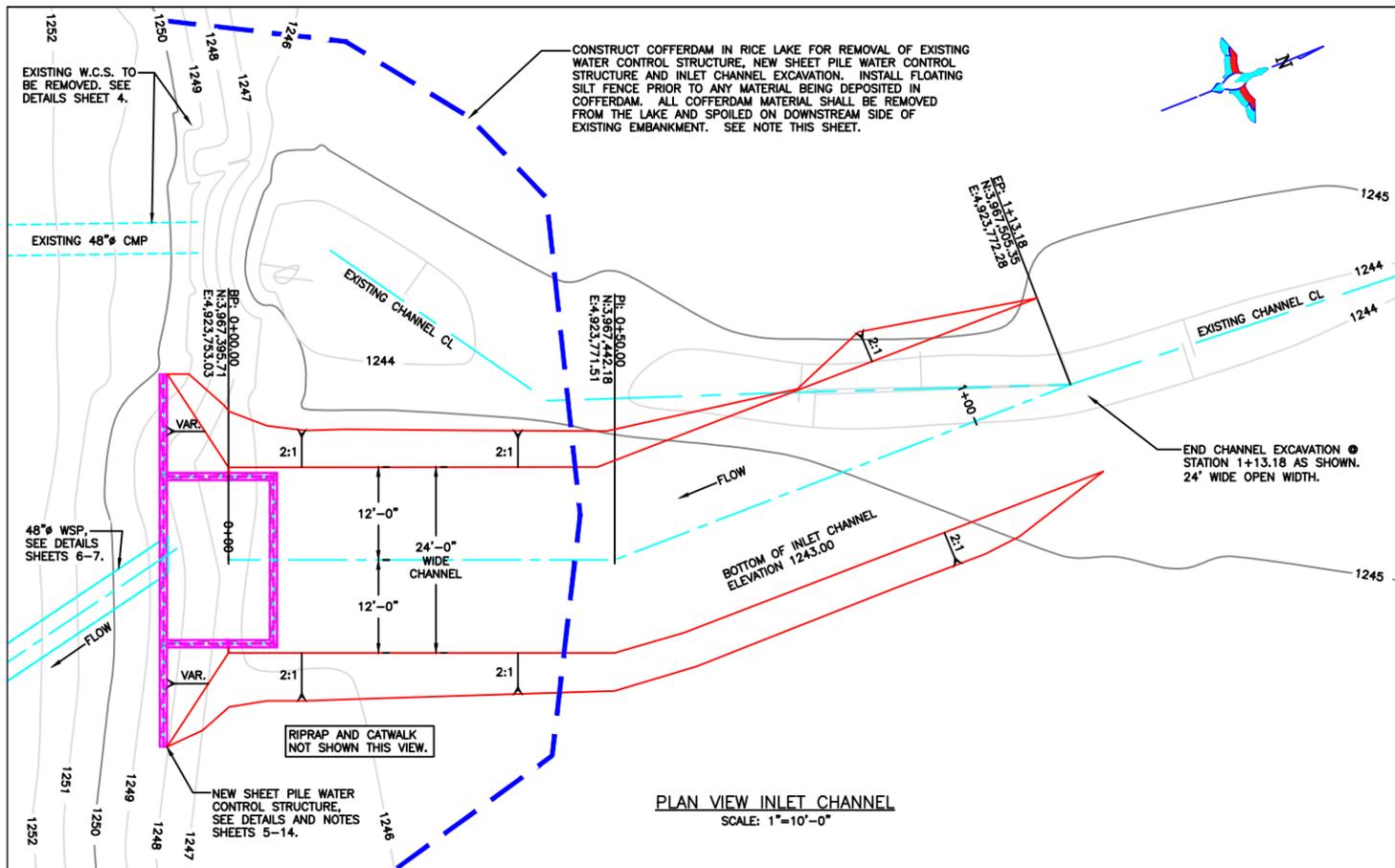
DUCKS UNLIMITED INC.
 GREAT PLAINS REGIONAL OFFICE

PROJECT NO. IA-311-1
 RICE LAKE TOPOGRAPHY
 EXISTING STRUCTURE REMOVAL

DESIGNED BY: DJL
 DRAWN BY: MLO
 SURVEYED BY: MO,AW
 CHECKED BY:
 APPROVED BY:
 APPROVED BY:
 DATE: 3-2-2015 SHEET NO. 4

A34/425TH STREET

Image courtesy of USGS Earthstar Geo



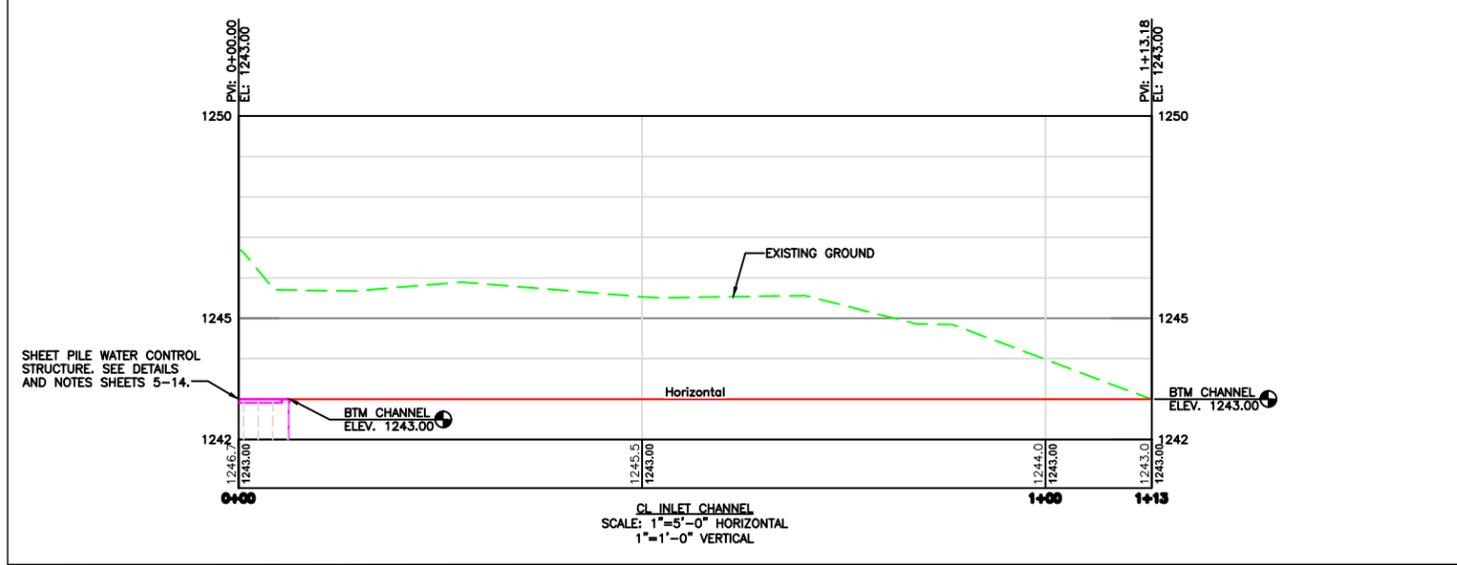
COFFERDAM NOTES:

THE CONTRACTOR SHALL CONSTRUCT A COFFERDAM INTO RICE LAKE TO ALLOW (1) CONSTRUCTION OF THE NEW SHEET PILE STRUCTURE/RIPRAP, (2) REMOVAL OF EXISTING CONCRETE WATER CONTROL STRUCTURE, AND (3) EXCAVATION OF THE INLET CHANNEL TO THE EXTENT POSSIBLE. MATERIAL FOR THE COFFERDAM SHALL COME FROM INLET CHANNEL EXCAVATION SPOIL MATERIAL, OUTLET CHANNEL EXCAVATION MATERIAL, OR HAULED ON SITE BY THE CONTRACTOR WITH AN APPROVED SHPO CLEARANCE AS IDENTIFIED BY THE IOWA DEPARTMENT OF NATURAL RESOURCES. ONE SUCH BORROW AREA IS SHOWN ON SHEETS 1 & 16. THE COFFERDAM SHALL BE A MINIMUM 25' UPSTREAM OF THE NEW SHEET PILE WATER CONTROL STRUCTURE TO ALLOW CONSTRUCTION OF REQUIRED FEATURES. THE CONTRACTOR MAY DECIDE UTILIZE THE COFFERDAM TO EXCAVATE THE INLET CHANNEL AS FAR OUT AS POSSIBLE. THE CONTRACTOR CAN MAINTAIN ANY CLEARANCE HE/SHE WOULD LIKE ON EITHER SIDE OF THE STRUCTURES PROVIDING ALL WORK CAN BE CONSTRUCTED WITHIN THE COFFERDAM. ALL MATERIAL USED FOR COFFERDAM SHALL BE REMOVED IN ITS ENTIRETY AND HAULED TO THE DOWNSTREAM SIDE OF THE EXISTING EMBANKMENT TO FILL-IN THE EXISTING CHANNEL AS NOTED BELOW OR PLACED ALONG THE DOWNSTREAM SIDE OF EMBANKMENT TO FLATTEN THE SLOPE. ALL COFFERDAM MATERIAL SHALL BE LEVELED SUITABLE ENOUGH FOR SEEDING & MULCHING. IF THE CONTRACTOR USES OUTLET CHANNEL MATERIAL OR INLET CHANNEL MATERIAL, HE/SHE WILL STILL BE PAID FOR EACH OF THOSE LINE ITEMS. THERE IS A SEPARATE LINE ITEM FOR "COFFERDAM." THIS SHALL INCLUDE MATERIAL, PLACEMENT, MAINTENANCE, REMOVAL, AND LEVING SUITABLE ENOUGH FOR SEEDING & MULCHING. FLOATING SILT FENCE SHALL BE INSTALLED PRIOR TO COFFERDAM CONSTRUCTION TO PREVENT SEDIMENTS FROM ENTERING THE LAKE. FLOATING SILT FENCE WILL BE PAID FOR UNDER STORM WATER MANAGEMENT AND POLLUTION CONTROL LINE ITEMS.

INLET CHANNEL EXCAVATION NOTES:

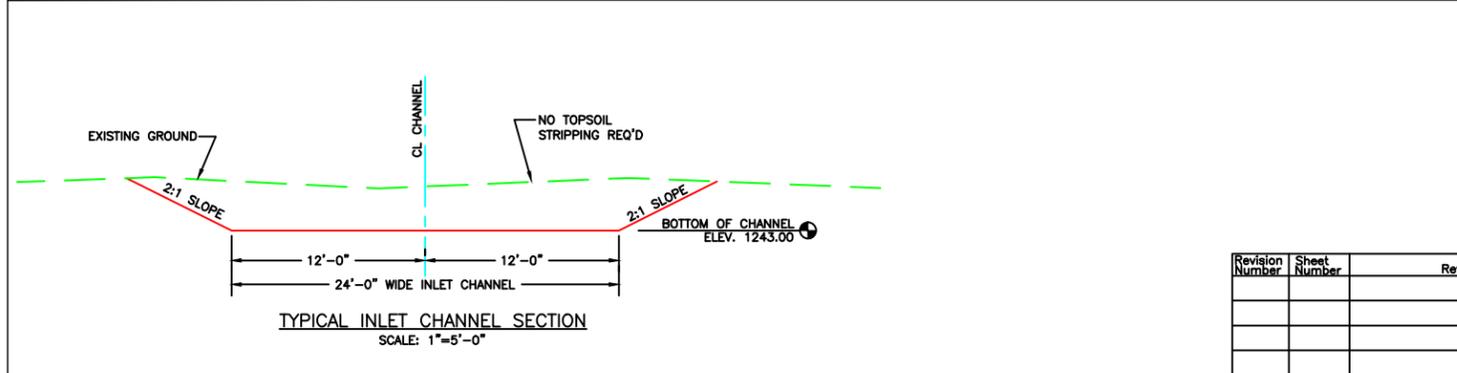
CONTRACTOR SHALL EXCAVATE 24' WIDE CHANNEL BOTTOM WITH 2:1 SLOPES AND BOTTOM AT ELEV. 1243.0. ALL SPOIL MATERIAL SHALL BE REMOVED FROM RICE LAKE/CHANNEL AND DEPOSITED ON DOWNSTREAM SIDE OF EXISTING EMBANKMENT. SPOIL MATERIAL CAN BE USED TO FILL IN EXISTING OUTLET CHANNEL FROM EXISTING OUTLET 48" CMP TO NEWLY CONSTRUCTED CHANNEL OR PLACED ALONG DOWNSTREAM EMBANKMENT SLOPES TO FLATTEN SLOPES. ALL SPOIL MATERIAL SHALL BE LEVELED SUITABLE ENOUGH FOR SEEDING & MULCHING AS DETERMINED BY THE DU FIELD ENGINEER. NO TOPSOIL STRIPPING IS REQUIRED WITHIN EXISTING CHANNEL FOOTPRINT. FULL SERVICE LEVEL OF RICE LAKE IS 1248.4. CONTRACTOR SHALL ASSUME HIGH WATER WILL EXIST WHEN CONSTRUCTING THE INLET CHANNEL. THE CONTRACTOR WILL ONLY BE PAID FOR THE EXACT LINEAR FEET OF CHANNEL CONSTRUCTED IN THE FIELD. THE INLET CHANNEL WILL NOT DAYLIGHT, THEREFORE, CONTRACTOR WILL SIMPLY END EXCAVATION AT STATION 1+13 OR AS APPROVED IN THE FIELD. ANY FURTHER EXCAVATION BEYOND STATION 1+13 (APPROVED BY ENGINEER) WILL BE PAID FOR AS EXTRA. CHANNEL CONSTRUCTED WITHIN COFFERDAM SHALL MATCH TEMPLATE SHOWN THIS SHEET. ANYTHING OUTSIDE OF COFFERDAM SLOPES WILL BE A FIELD DETERMINATION BUT SHALL HAVE A MINIMUM 24' WIDTH. INLET CHANNEL SPOIL CAN BE USED AS COFFERDAM MATERIAL PROVIDING ALL SPOIL IS REMOVED WHEN CONSTRUCTION IS COMPLETED.

PAYMENT FOR INLET CHANNEL EXCAVATION INCLUDING REMOVAL OF MATERIAL, HAULING, SPOILING AND LEVING WILL BE PAID FOR BASED ON THE CONTRACTOR'S UNIT BID PRICE FOR "INLET CHANNEL EXCAVATION."



ESTIMATED QUANTITIES:

INLET CHANNEL STATIONS 0+00-1+13:	267 C.Y.-P*
*QUANTITY IS LISTED FOR INFORMATION ONLY. PAYMENT WILL BE BASED ON LINEAR FEET.	
INLET CHANNEL STATIONS 0+00-1+13:	113 L.F.
*CONTRACTOR WILL ONLY BE PAID FOR THE EXACT AMOUNT OF LINEAR FEET OF EXCAVATION IN THE FIELD. CONTRACTOR SHALL ASSUME ALL COSTS ASSOCIATED WITH INLET CHANNEL EXCAVATION.	



Revision Number	Sheet Number	Revisions	Date	By

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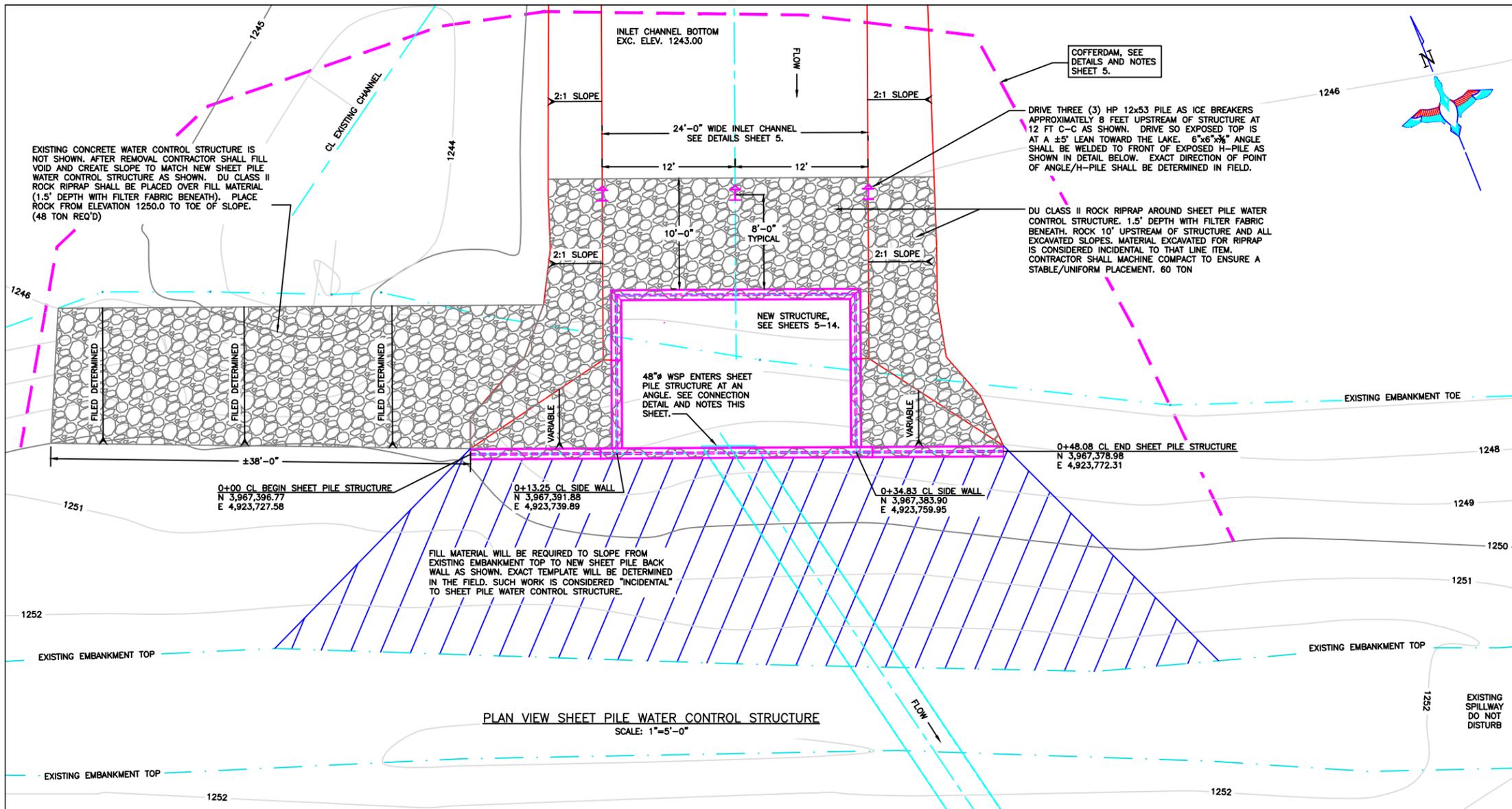
Douglas J. Lipetzky, P.E.
Douglas J. Lipetzky, P.E.
for Ducks Unlimited, Inc.
License No. 11677

3-2-2015
Date

DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE
DATE: 3-2-2015 SHEET NO. 5

PROJECT NO. IA-311-1
RICE LAKE
PLAN & PROFILE INLET CHANNEL
COFFERDAM NOTES

DESIGNED BY: DJL
DRAWN BY: MLO
SURVEYED BY: MOAW
CHECKED BY:
APPROVED BY:
APPROVED BY:



SITE PREPARATION NOTE:
CONTRACTOR SHALL STRIP 6" DEPTH OF TOPSOIL OVER CONSTRUCTION FOOTPRINT & STOCKPILE. UPON COMPLETION OF EXISTING CONCRETE WATER CONTROL STRUCTURE REMOVAL, NEW SHEET PILE WATER CONTROL STRUCTURE AND 48" WSP INSTALLATION, CONTRACTOR SHALL PLACE MINIMUM 4" TOPSOIL OVER ALL DISTURBED AREAS. TOPSOIL SHALL BE LEVELED SUITABLE ENOUGH FOR SEEDING AND MULCHING. ANY ADDITIONAL TOPSOIL SHALL BE USED TO COVER THE VARIOUS SPOIL AREAS.

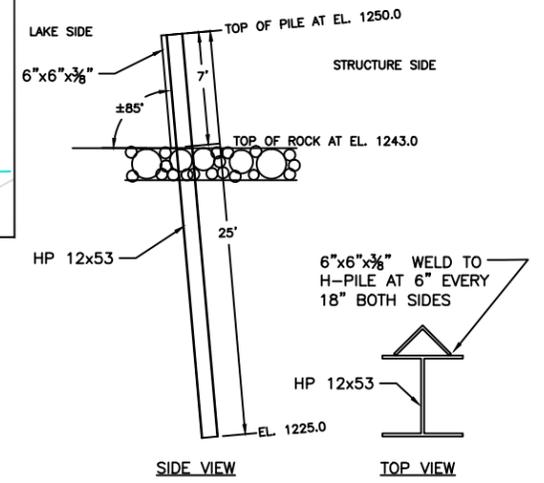
PAYMENT FOR STRIPPING, STOCKPILING, AND PLACEMENT SHALL BE PAID FOR BASED ON THE CONTRACTOR'S UNIT BID PRICE FOR "SITE PREPARATION."

EMBANKMENT FILL NOTE:
CONTRACTOR SHALL BLEND SLOPES TO MATCH NEW WATER CONTROL STRUCTURE AS SHOWN. FILL MATERIAL SHALL COME FROM OUTLET CHANNEL EXCAVATION PROVIDING IT IS SUITABLE MATERIAL AS DETERMINED BY THE DU FIELD ENGINEER. OTHERWISE, FILL MATERIAL SHALL BE IMPORTED FROM AN APPROVED SHPO SITE APPROVED BY THE IA DEPARTMENT OF NATURAL RESOURCES. ONE SUCH SITE IS SHOWN ON SHEETS 1 & 16. CONTRACTOR SHALL TAPER FROM EXISTING SHOULDER EMBANKMENT TO BACK WALL OF SHEET PILE STRUCTURE. THE CONTRACTOR SHALL ALSO FIX ANY DAMAGE TO THE EXISTING EMBANKMENT OR EMERGENCY SPILLWAY THAT OCCURS DURING CONSTRUCTION.

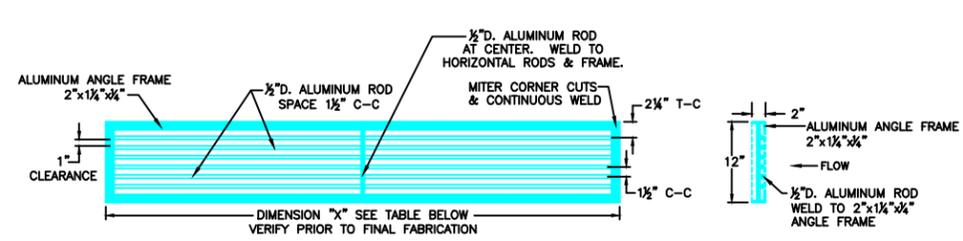
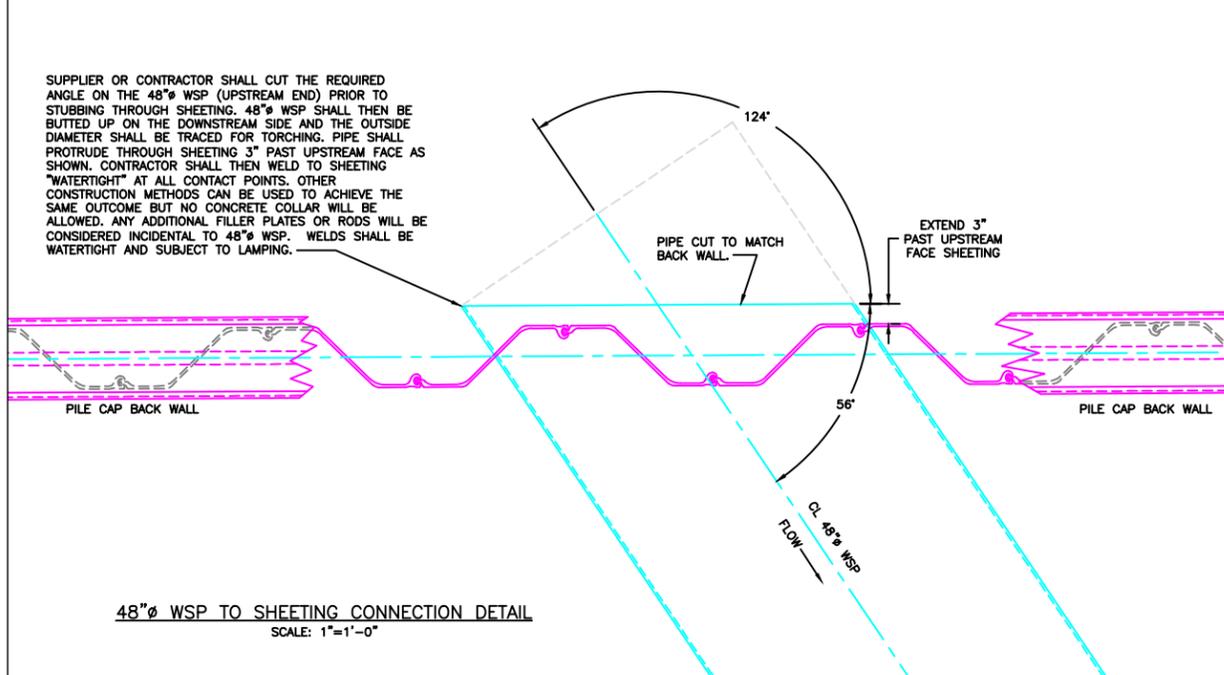
SUCH WORK SHALL BE CONSIDERED INCIDENTAL TO SHEET PILE WATER CONTROL STRUCTURE.

RIPRAP NOTE:
CONTRACTOR SHALL PLACE DU CLASS II ROCK RIPRAP 10' UPSTREAM OF SHEET PILE WATER CONTROL STRUCTURE AND ON EXCAVATED SLOPES AS SHOWN. RIPRAP SHALL HAVE 1.5' DEPTH WITH FILTER FABRIC BENEATH. ANY EXCAVATION FOR RIPRAP IS CONSIDERED INCIDENTAL TO DU CLASS II RIPRAP. CONTRACTOR SHALL MACHINE COMPACT TO ENSURE A STABLE/UNIFORM PLACEMENT. (60 TON)

CONTRACTOR SHALL PLACE DU CLASS II ROCK RIPRAP OVER FILL MATERIAL (FOR EXISTING CONCRETE W.C.S.) AS SHOWN ON WEST SIDE OF STRUCTURE. RIPRAP SHALL HAVE 1.5' DEPTH WITH FILTER FABRIC BENEATH. CONTRACTOR SHALL ROCK FROM NEW STRUCTURE ±38' WEST OR AS DETERMINED IN THE FIELD. RIPRAP SHALL BE MACHINE COMPACTED TO ENSURE A STABLE/UNIFORM SLOPE. TOP OF ROCK SHALL BE AT ELEV. 950.0 AND SHALL MATCH UP TO STRUCTURE. IF CONTRACTOR CHOOSES TO USE CONCRETE CHUCKS (AS NOTED SHEET 4), THEN IT SHALL NOT REPLACE DU CLASS II ROCK RIPRAP AS THAT WORK IS BID UNDER "REMOVAL OF EXISTING STRUCTURES." (48 TON)



H-PILE ICE BREAKER NOTE:
CONTRACTOR SHALL DRIVE THREE (3) HP12x53 PILE UPSTREAM OF STRUCTURE AS SHOWN ON THE PLAN VIEW THIS SHEET. A 6"x6"x3/8" x 7'-0" LONG ANGLE SHALL BE WELDED TO THE TOP, UPSTREAM SIDE OF EACH PILE. PAYMENT WILL BE BASED ON CONTRACTOR'S UNIT BID PRICE FOR "DRIVEN HP 12x53 PILE." (75 LF PILE & 21 LF OF ANGLE REQ'D)



15 SCREENS REQ'D
9 ONE LENGTH
6 ANOTHER LENGTH
SEE TABLE THIS SHEET

THREE (3) SCREENS REQUIRED FOR EACH STOPLOG BAY -- 15 TOTAL SCREENS REQ'D

BAY LOCATION	DIMENSION "X"	NUMBER REQ'D
FRONT BAY	APPROX. 6'-5" VERIFY IN FIELD	9
SIDE BAY	APPROX. 4'-10" VERIFY IN FIELD	6

FISH SCREENS WILL BE PAID FOR BASED ON CONTRACTOR'S UNIT BID PRICE FOR "LONG FISH SCREENS" OR "SHORT FISH SCREENS."

Revision Number	Sheet Number	Revisions	Date	By

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Douglas J. Lipetzky, P.E.
Douglas J. Lipetzky, P.E.
for Ducks Unlimited, Inc.
License No. 11677

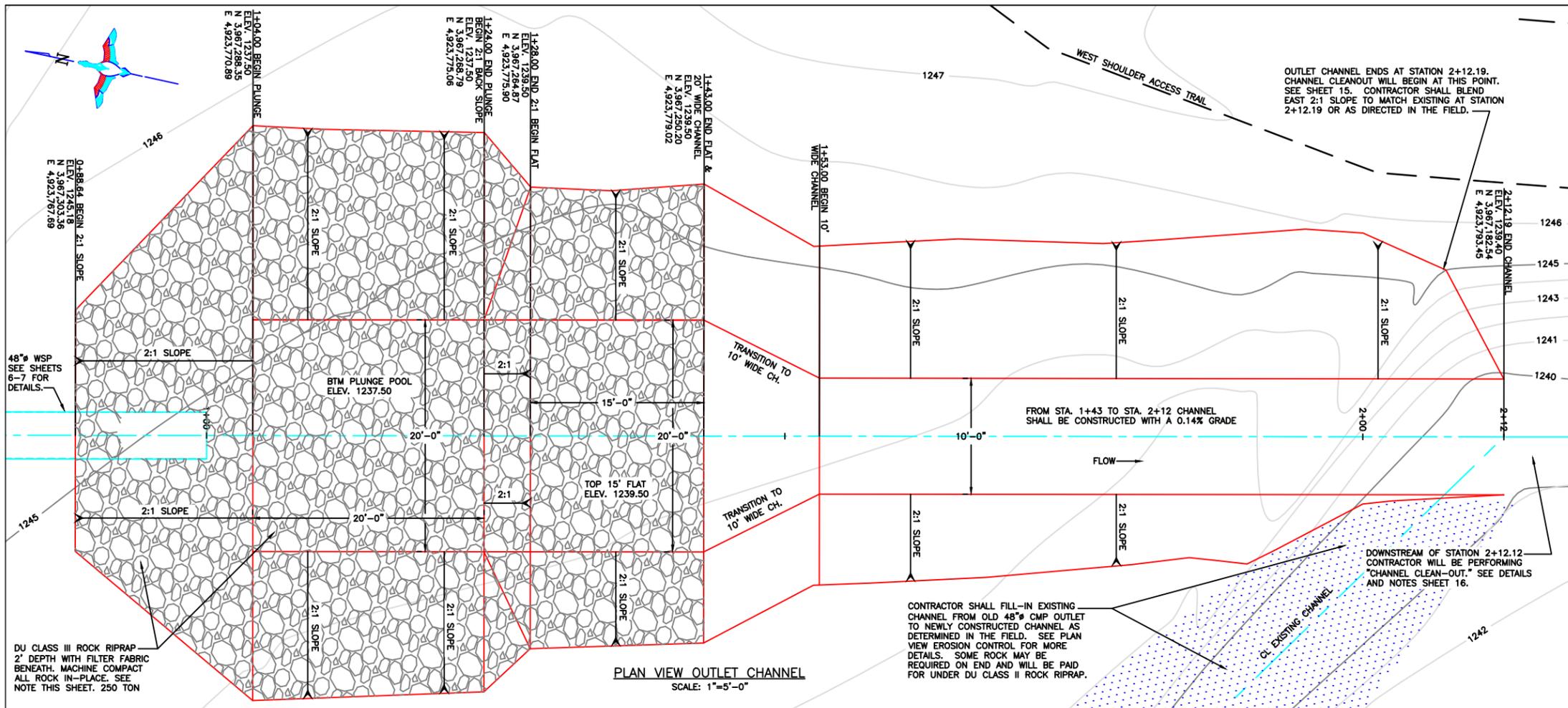
3-2-2015
Date

DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE
DATE: 3-2-2015 SHEET NO. 6

PROJECT NO. IA-311-1
RICE LAKE
PLAN & PROFILE W.C.S.
RIPRAP DETAILS

DESIGNED BY: DJL
DRAWN BY: MLO
SURVEYED BY: MOAW
CHECKED BY:

APPROVED BY:



ESTIMATED QUANTITIES:

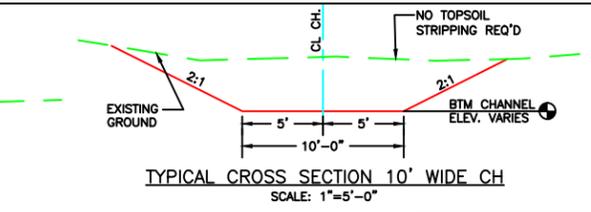
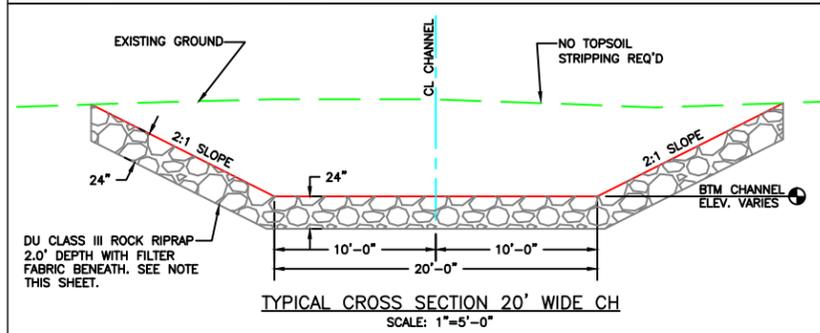
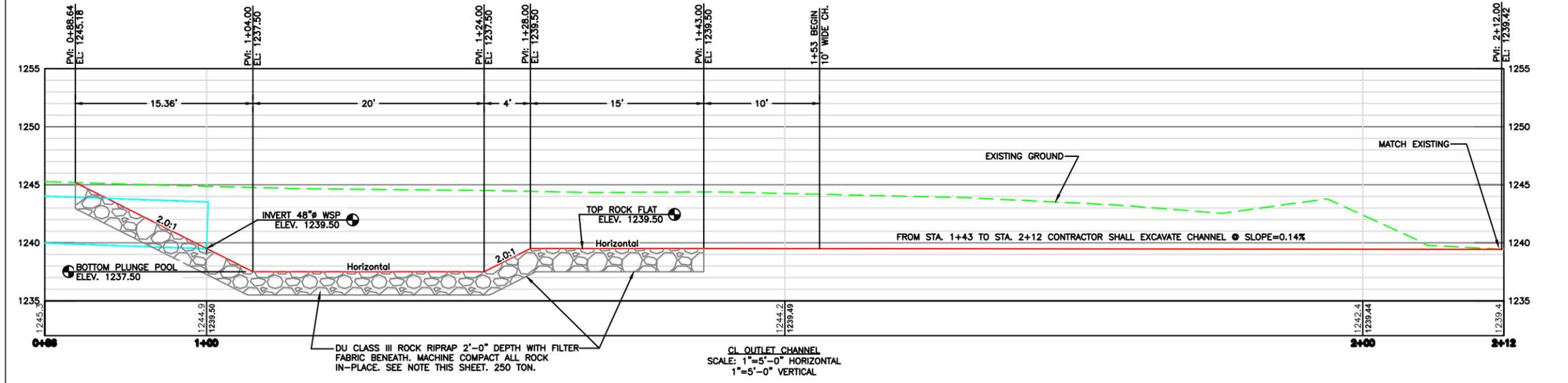
DU CLASS III ROCK RIPRAP	250 TON
NON-WOVEN FILTER FABRIC	INCIDENTAL
OUTLET CHANNEL EXCAVATION	537 C.Y.-P

RIPRAP NOTE:
 CONTRACTOR SHALL PLACE DU CLASS III ROCK RIPRAP ALONG ENTIRE PLUNGE POOL FOOTPRINT AS SHOWN THIS SHEET. ALL 20' WIDE EXCAVATION AREAS WILL RECEIVE ROCK RIPRAP CONSISTING OF 2.0' DEPTH WITH NON-WOVEN FILTER FABRIC PLACED BENEATH. CONTRACTOR SHALL MACHINE COMPACT ALL ROCK IN-PLACE TO ENSURE A STABLE/UNIFORM INSTALLATION. ANY EXCAVATION FOR RIPRAP IS CONSIDERED INCIDENTAL TO DU CLASS III RIPRAP. SEE ADDITIONAL NOTES ON SHEET 2.

PAYMENT FOR MATERIALS, HAULING, PLACING, AND COMPACTING SHALL BE PAID FOR BASED ON THE CONTRACTOR'S UNIT BID PRICE FOR RIPRAP-DU CLASS III.

OUTLET CHANNEL NOTE:
 CONTRACTOR SHALL EXCAVATE 20' WIDE CHANNEL BETWEEN STA. 1+04 & STA. 1+43, THEN TRANSITION TO 10' WIDE CHANNEL AT STA. 1+53 AND MAINTAIN THEREAFTER. SPOIL MATERIAL SHALL BE USED FOR FILLING IN VOID FROM REMOVAL OF EXISTING CONCRETE STRUCTURE AND EXISTING 48" CMP, COFFERDAM PLACEMENT, OR ADDING FILL OVER 48" WSP. REMAINING SPOIL MATERIAL SHALL BE USED TO FILL EXISTING OUTLET CHANNEL STARTING AT OLD 48" CMP OUTLET TO NEWLY CONSTRUCTED CHANNEL. EXACT PLACEMENT WILL BE DETERMINED IN THE FIELD. ANY REMAINING SPOIL SHALL BE PLACED ON THE DOWNSTREAM SIDE OF THE EXISTING EMBANKMENT TO FLATTEN THE SLOPES. ALL SPOIL MATERIAL SHALL BE LEVELED SUITABLE ENOUGH FOR SEEDING & MULCHING AS DETERMINED BY THE DU FIELD ENGINEER.

PAYMENT FOR EXCAVATION, REMOVAL, HAULING, AND SPOILING SHALL BE PAID FOR BASED ON THE CONTRACTOR'S UNIT BID PRICE FOR "EXCAVATION-OUTLET CHANNEL."



Revision Number	Sheet Number	Revisions	Date	By

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PRELIMINARY

Douglas J. Lipetzky, P.E.
 for Ducks Unlimited, Inc.
 License No. 11677

DATE: 3-2-2015

DUCKS UNLIMITED INC.
 GREAT PLAINS REGIONAL OFFICE

PROJECT NO. IA-311-1
 RICE LAKE
 PLAN & PROFILE OUTLET CHANNEL
 DETAILS AND NOTES

DESIGNED BY: DJL
 DRAWN BY: MLO
 SURVEYED BY: MO,AW
 CHECKED BY:

APPROVED BY: [Signature]
 DATE: 3-2-2015

SHEET NO. 8

PILE PRO PZ-90 CORNER OR APPROVED EQUAL.
13'-0" LONG VISIT www.pilepro.com PZ90
CORNER TACK WELDED 90° TO PILING 34
BEFORE DRIVING.

PILE PRO PZ-90 CORNER OR APPROVED EQUAL.
13'-0" LONG VISIT www.pilepro.com
PZ90 CORNER TACK WELDED 90° TO PILING
46 BEFORE DRIVING.

SHEET PILE SPECIFICATIONS & NOTES:

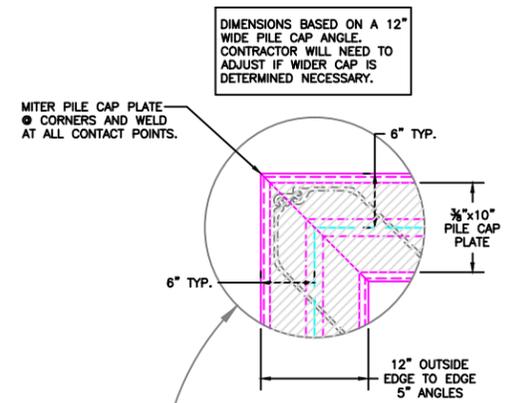
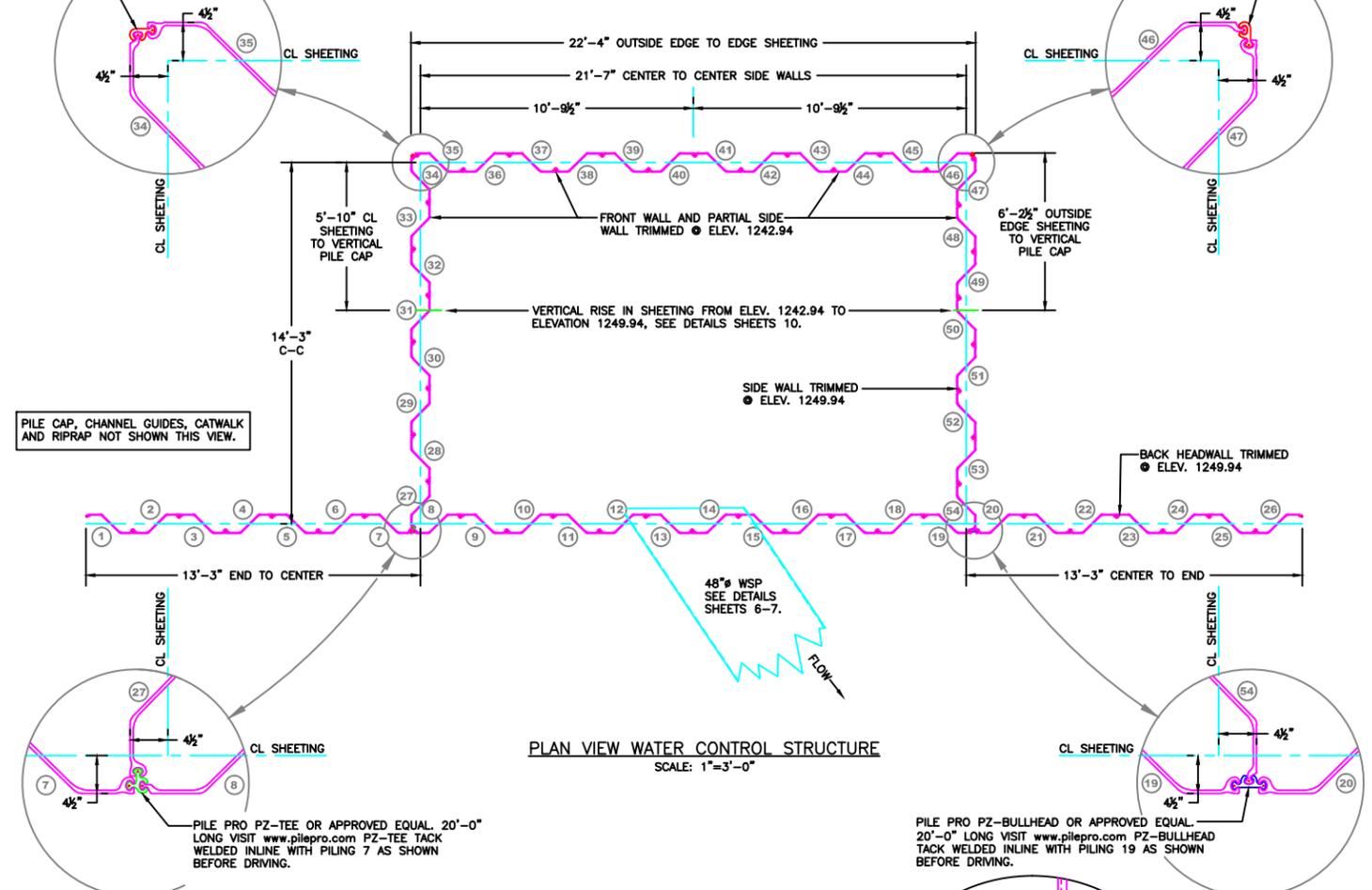
PZ-22 SHEET PILE OR APPROVED EQUAL
MINIMUM THICKNESS 0.375 INCHES
MINIMUM SECTION MODULUS 18.1 IN³/L.F. OF WALL

PZ-22 SHEET PILE: {PZ-22 (22" LONG)}	4 REQ'D (73.33 S.F.)
SHEETING #1, #2, #25, #26 @ 10' LONG	
SHEETING #3 & #24 @ 12' LONG	2 REQ'D (43.92 S.F.)
SHEETING #32-#49 @ 13' LONG	18 REQ'D (429 S.F.)
SHEETING #4 & #23 @ 14' LONG	2 REQ'D (51.33 S.F.)
SHEETING #5 & #22 @ 16' LONG	2 REQ'D (58.67 S.F.)
SHEETING #6 & #21 @ 18' LONG	2 REQ'D (66 S.F.)
SHEETING #27-#31, #50-#54 @ 20' LONG	10 REQ'D (366.67 S.F.)
SHEETING #7-#20 @ 21' LONG	14 REQ'D (539 S.F.)
TOTAL SQUARE FOOT:	1,628 S.F.-P
PilePro PZ90 CORNERS 13' LONG	2 REQ'D
PilePro PZTEE 20' LONG	1 REQ'D
PilePro PZBULLHEAD 20' LONG	1 REQ'D
PILE CAP:	
3/8"x10" PLATE	116 L.F.
3/8"x5"x5" ANGLES	232 L.F.

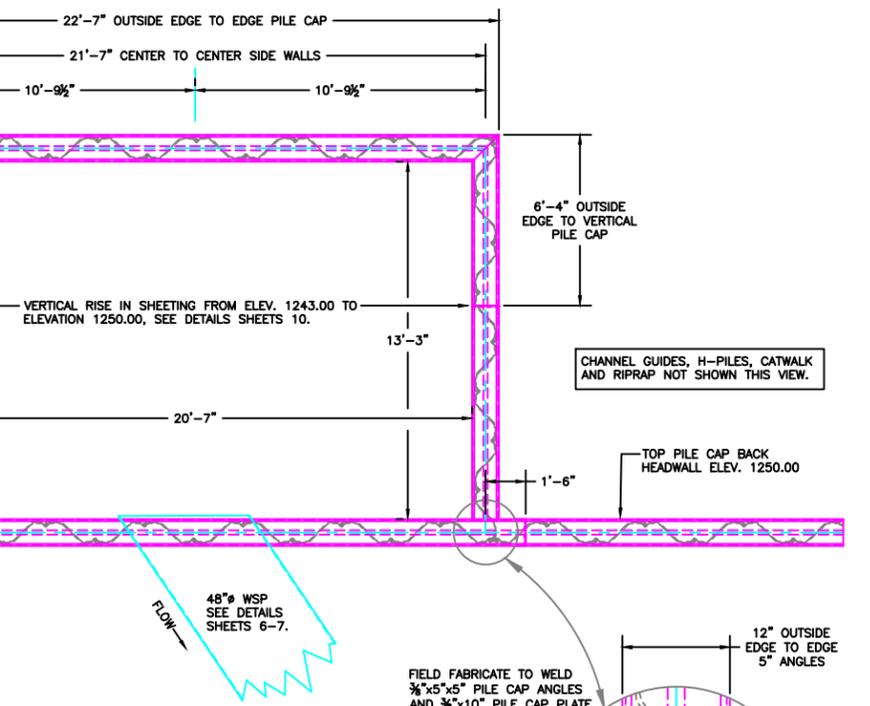
NOTE: THE COST OF THE PILE-PRO CORNERS, TEES AND BULLHEAD SECTIONS WILL BE CONSIDERED INCIDENTAL TO THE "SHEET PILE MATERIAL" BID ITEM. THEREFORE, NO SEPARATE PAYMENT WILL BE MADE FOR SUCH ITEMS.

RICE LAKE

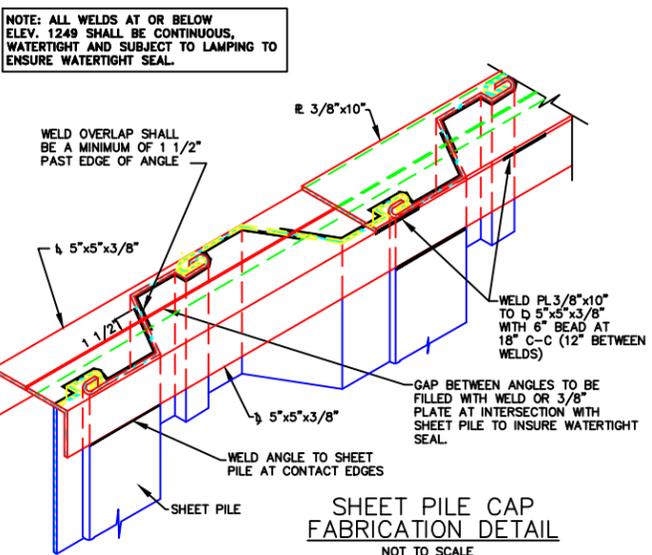
RICE LAKE



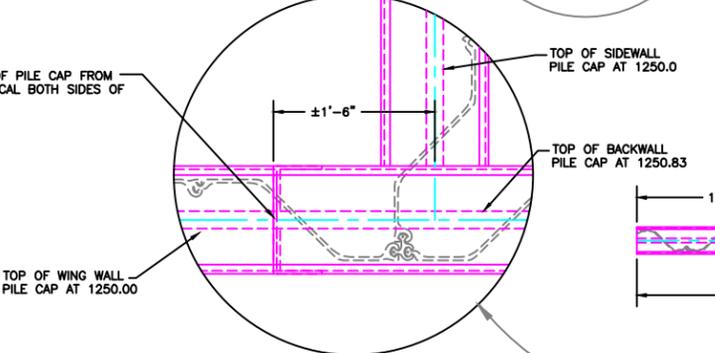
PLAN VIEW WATER CONTROL STRUCTURE
SCALE: 1"=3'-0"



PLAN VIEW WATER CONTROL STRUCTURE
SCALE: 1"=3'-0"



SHEET PILE CAP FABRICATION DETAIL
NOT TO SCALE



PILE CAP SECTION VIEW
NOT TO SCALE

- NOTES:
- ALL WELDS TO BE 1/4" FILLET WELDS (SEE D.U. SPECIFICATIONS).
 - ALL WELDS WILL BE SUBJECT TO LAMPING. ANY AREAS FAILING WILL BE REWELDED BEFORE ACCEPTANCE OF PROJECT.
 - TOP OF SHEET PILE SHALL BE TRIMMED TO GRADES INDICATED ON PLANS TO REMOVE ANY DAMAGE CAUSED BY DRIVING. ANY TRIMMING OVER 3" SHALL BE CONSIDERED CUT-OFF AND WILL BE DEDUCTED FROM THE COST OF "SHEET PILE INSTALLATION."
 - ABOVE ELEV. 1249.00 PILE CAP NEED NOT BE WATERTIGHT, WELDS SHALL CONSIST OF A 6" BEAD AT 18" C-C (12" BETWEEN WELDS).
 - LENGTH OF PILE CAP AS SHOWN ON PLANS.
 - ALL WELDS AROUND STOPLOG BAY TO BE CONTINUOUS TO INSURE A WATERTIGHT SEAL.

Revision Number	Sheet Number	Revisions	Date	By

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Douglas J. Lipetzky, P.E.
Douglas J. Lipetzky, P.E.
for Ducks Unlimited, Inc.
License No. 11677

3-2-2015
Date

DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE

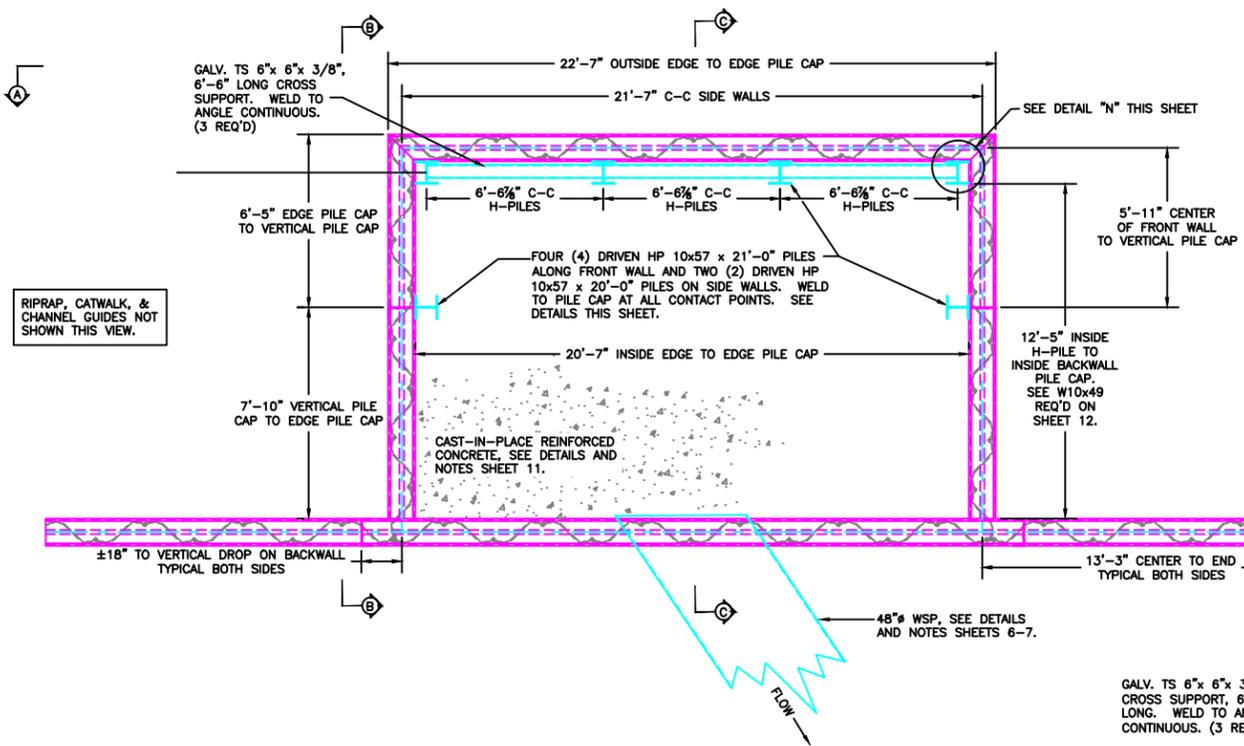
PROJECT NO. IA-311-1
RICE LAKE WATER CONTROL STRUCTURE DETAILS AND NOTES

DESIGNED BY: DJL
DRAWN BY: MLO
SURVEYED BY: MO,AW
CHECKED BY: []

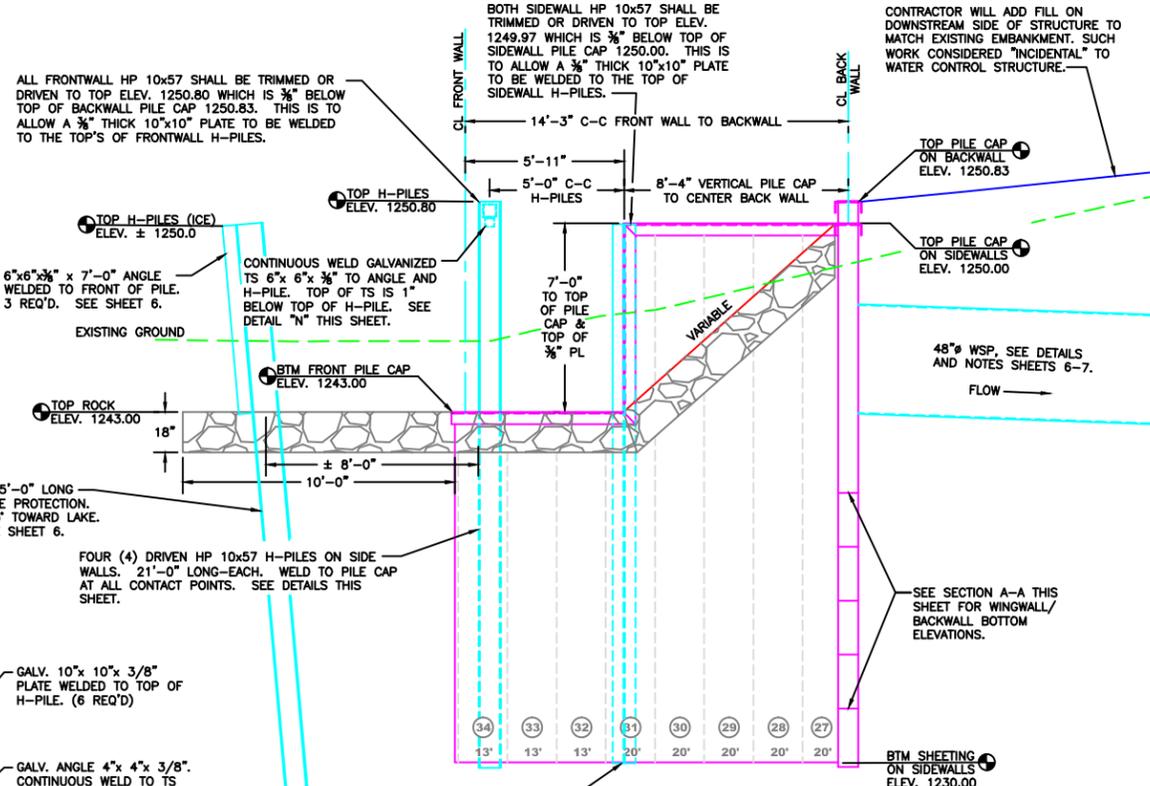
APPROVED BY: []
APPROVED BY: []

DATE: 3-2-2015
SHEET NO. 9

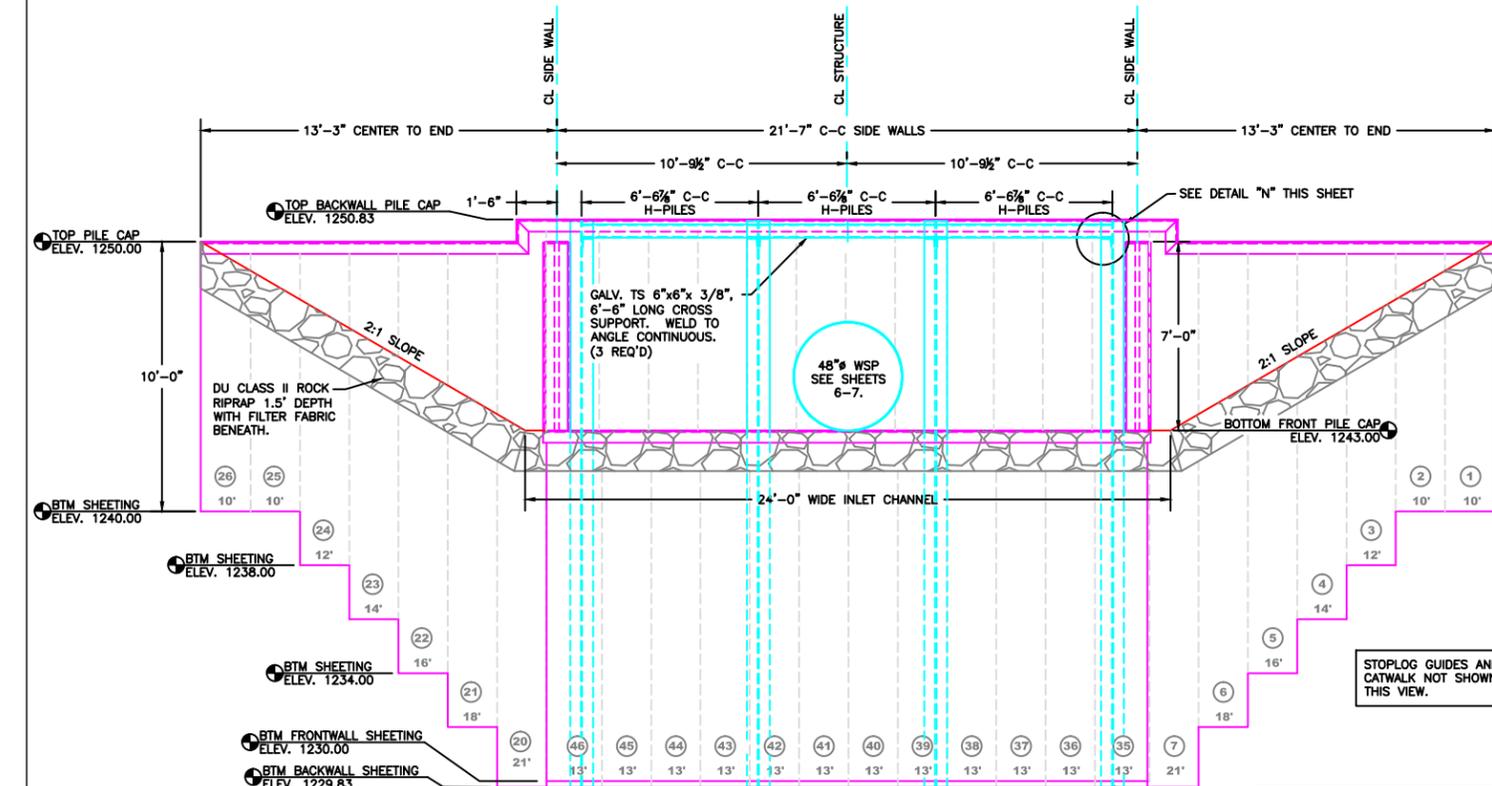
RICE LAKE



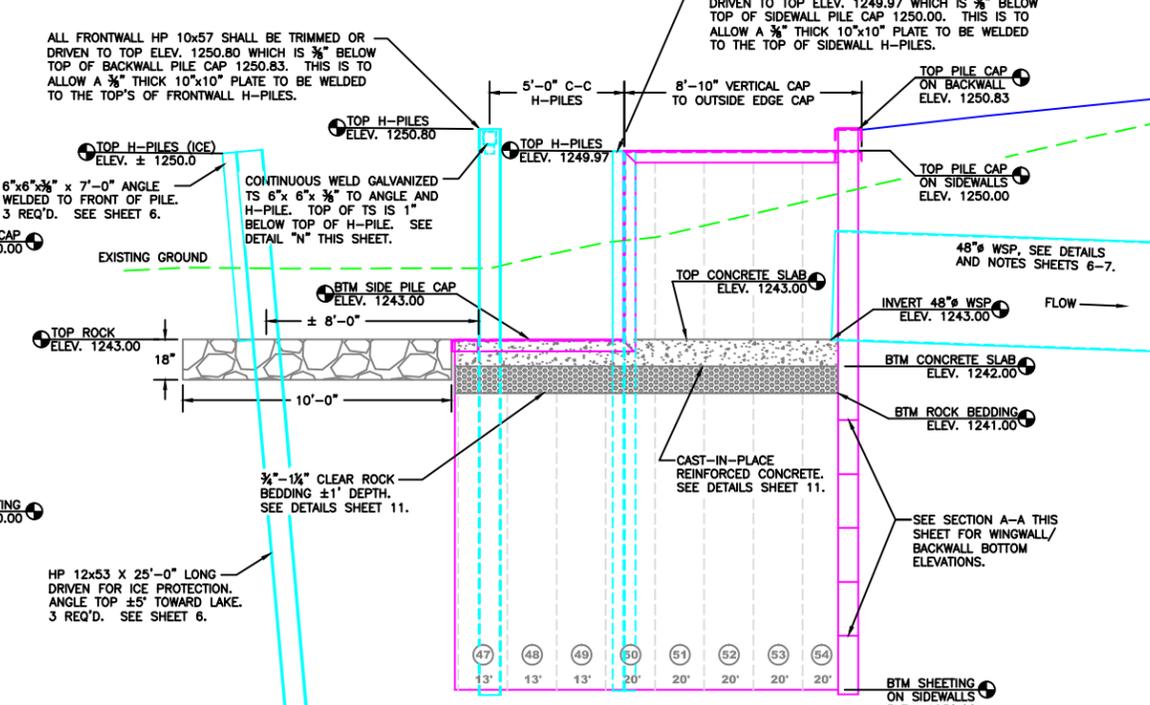
PLAN VIEW SHEET PILE CONTROL STRUCTURE
SCALE: 1"=3'-0"



SECTION B-B
SCALE: 1"=3'-0"



SECTION A-A
SCALE: 1"=3'-0"



SECTION C-C
SCALE: 1"=3'-0"

(4) FOUR DRIVEN 10x57 H-PILES ALONG FRONT WALL AND (2) TWO DRIVEN 10x57 H-PILES ALONG SIDE WALLS. 21'-0" LONG-EACH, WELD TO PILE CAP AT ALL CONTACT POINTS. SEE DETAILS THIS SHEET.

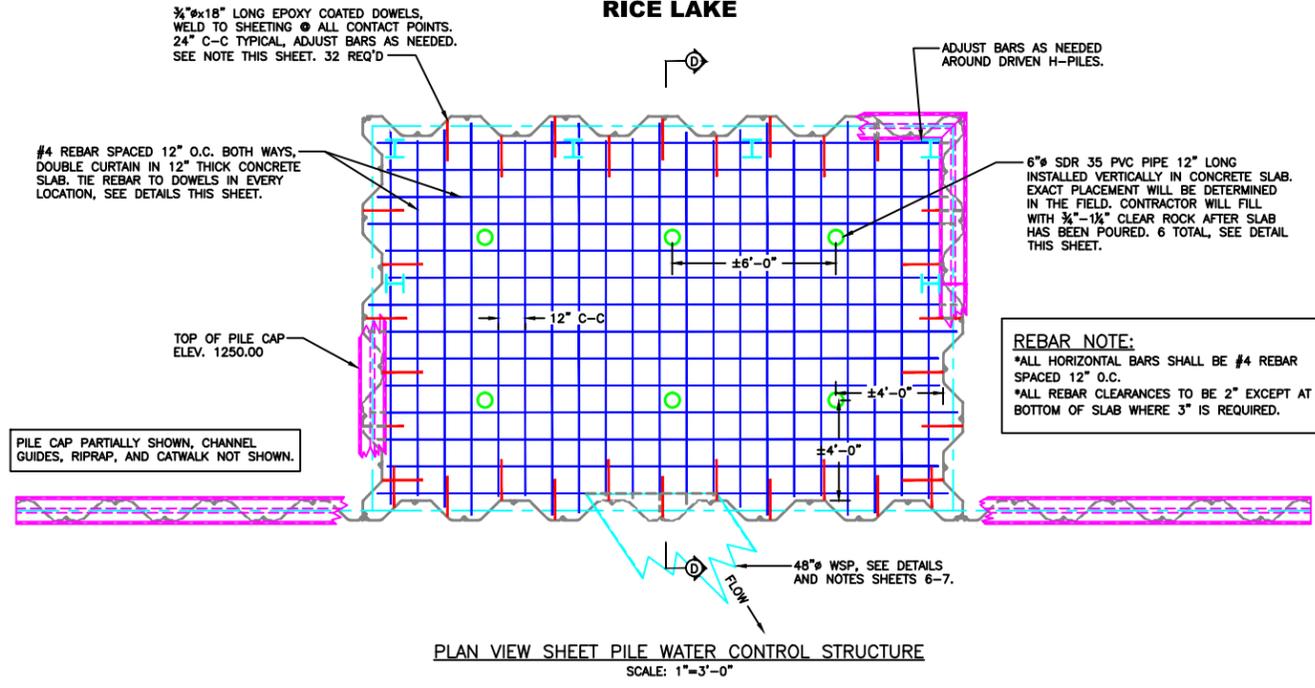
Revision Number	Sheet Number	Revisions	Date	By

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for Ducks Unlimited, Inc.
License No. 11677

DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE
DATE: 3-2-2015
SHEET NO. 10

PROJECT NO. IA-311-1
RICE LAKE WATER CONTROL STRUCTURE DETAILS AND NOTES
DESIGNED BY: DJL
DRAWN BY: MLO
SURVEYED BY: MOAW
CHECKED BY:
APPROVED BY:
APPROVED BY:

RICE LAKE



PLAN VIEW SHEET PILE WATER CONTROL STRUCTURE
SCALE: 1"=3'-0"

- CONSTRUCTION NOTES:**
1. CONCRETE (CAST-IN-PLACE) SEE DU SPECIFICATION 304.
 2. REINFORCEMENT A615, GRADE 60 $f_y = 60,000$ PSI
 3. REINFORCEMENT ON CORNERS SHALL BE CONTINUOUS OR INCLUDE A LAP LENGTH WITH 36 BAR DIAMETER.
 4. MINIMUM COVER ON REINFORCEMENT STEEL SHALL BE 3" WHEN IT IS ADJACENT TO THE GROUND AND 2" MINIMUM IN ALL OTHER AREAS.
 5. ALL EXPOSED EDGES SHALL BE FINISHED WITH 3/4" CHAMFER.
 6. ALL CONCRETE SHOWN SHALL BE REINFORCED. SECTIONS AND PLANS SHOWN WITHOUT REINFORCEMENT ARE INTENDED TO SHOW DIMENSIONS AND DETAILS OF CONSTRUCTION ONLY. REINFORCEMENT OF THESE SECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH DETAILS SHOWING REINFORCEMENT.

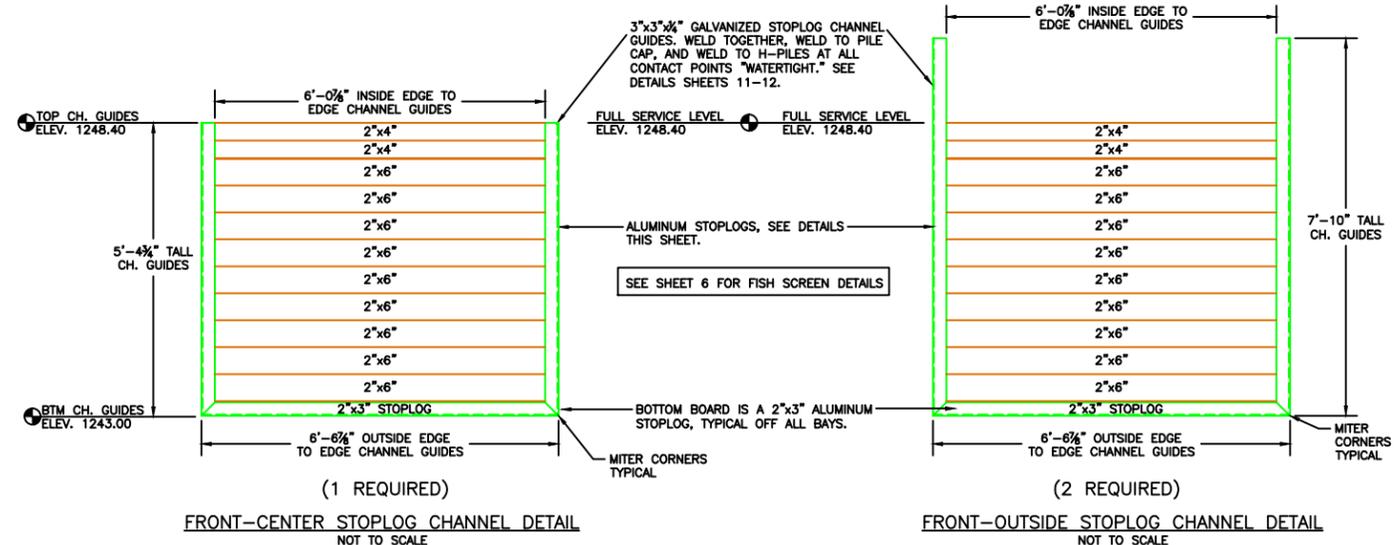
3/4" x 18" LONG DOWEL NOTE:
3/4" x 18" LONG EPOXY COATED DOWELS SHALL BE WELDED TO THE INSIDE SHEET PILE WATER CONTROL STRUCTURE @ 24" C-C SPACING, ADJUST BARS AS NEEDED. TOTAL OF 32 REQUIRED. CONTRACTOR SHALL USE A 2 PART EPOXY COATING WHERE DOWELS ARE WELDED TO SHEETING, AREA SHALL BE RE-COATED WITH EPOXY COATING AS MANUFACTURER RECOMMENDS. ALL DOWELS SHALL BE EPOXY COATED. PAYMENT FOR MATERIALS & INSTALLATION WILL BE BASED ON THE CONTRACTORS UNIT BID PRICE FOR "CAST-IN-PLACE CONCRETE."

6" SDR 35 PVC NOTE:
CONTRACTOR SHALL INSTALL SIX 6" SDR 35 PVC DRAIN PIPES IN CONCRETE FLOOR AS SHOWN THIS SHEET. PVC PIPES SHALL BE CENTERED BETWEEN REBAR AND BE PLACED AS SHOWN ON PLAN VIEW OR AS DETERMINED IN THE FIELD. PVC PIPES SHALL BE INSTALLED FROM TOP OF CONCRETE SLAB TO TOP OF ROCK BEDDING. CONTRACTOR CAN EXTEND PIPES TO BOTTOM OF SUB-CUT TO BE USED AS DE-WATERING WELLS DURING CONCRETE FABRICATION/INSTALLATION PROVIDING ADEQUATE SLOTS ARE CUT INTO PIPES. AFTER CONCRETE FLOOR HAS BEEN POURED AND CURED, CONTRACTOR SHALL FILL HOLES WITH CLEAR ROCK TO MATCH NEW CONCRETE SLAB. PAYMENT FOR MATERIALS & INSTALLATION WILL BE BASED ON THE CONTRACTORS UNIT BID PRICE FOR "CAST-IN-PLACE CONCRETE."

MATERIAL LIST:

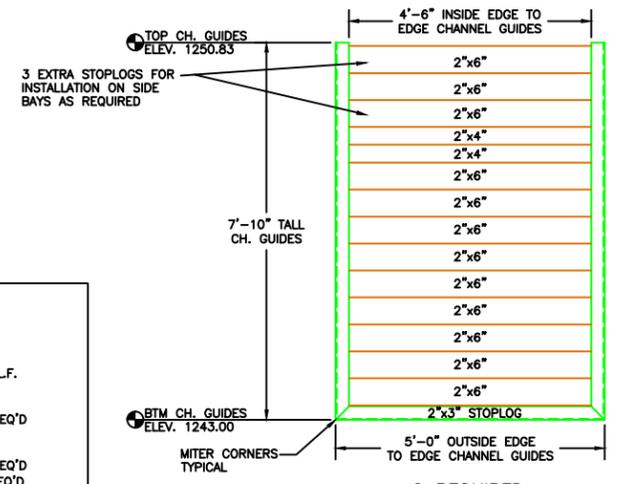
GALVANIZED CHANNEL GUIDES:	
3"x3"x3/4" GALVANIZED STOPLOG GUIDES	104 L.F.
GALVANIZED STOPLOG LIFTING HOOKS:	
3/4" GALVANIZED ROD LIFTING HOOKS	2 REQ'D
ALUMINUM STOPLOGS:	
2"x3"x3/4" ALUMINUM STOPLOGS WITH NO LIFTING HOLES	5 REQ'D
2"x4"x3/4" ALUMINUM STOPLOGS WITH LIFTING HOLES	10 REQ'D
2"x6"x3/4" ALUMINUM STOPLOGS WITH LIFTING HOLES	51 REQ'D
CAST-IN-PLACE CONCRETE:	
#4 REBAR	AS NEEDED
#6 EPOXY COATED DOWELS 18" IN LENGTH	32 REQ'D
4,000 PSI CONCRETE	12 C.Y.
6" SDR 35 PVC @ 12" IN LENGTH	6 REQ'D

*THIS LIST IS PROVIDED FOR INFORMATION ONLY. ADDITIONAL MATERIALS NOT LISTED HERE MAY BE REQUIRED. BIDDER IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES. ALSO, ADDITIONAL LENGTH OF STEEL STOCK BEYOND WHAT'S LISTED HERE MAY BE REQUIRED TO ALLOW FOR FABRICATION.

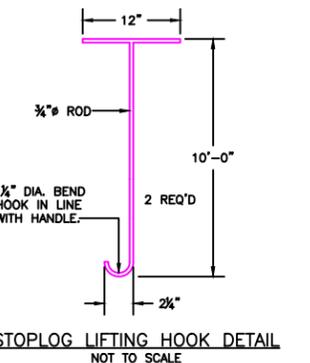


FRONT-CENTER STOPLOG CHANNEL DETAIL
NOT TO SCALE

FRONT-OUTSIDE STOPLOG CHANNEL DETAIL
NOT TO SCALE

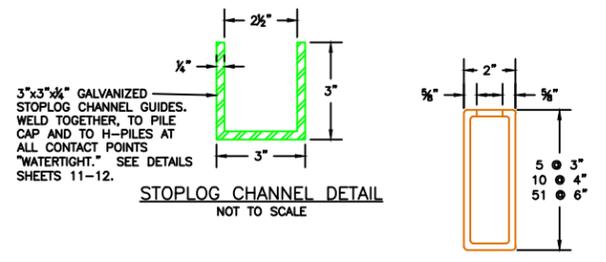


SIDE STOPLOG CHANNEL DETAIL
NOT TO SCALE

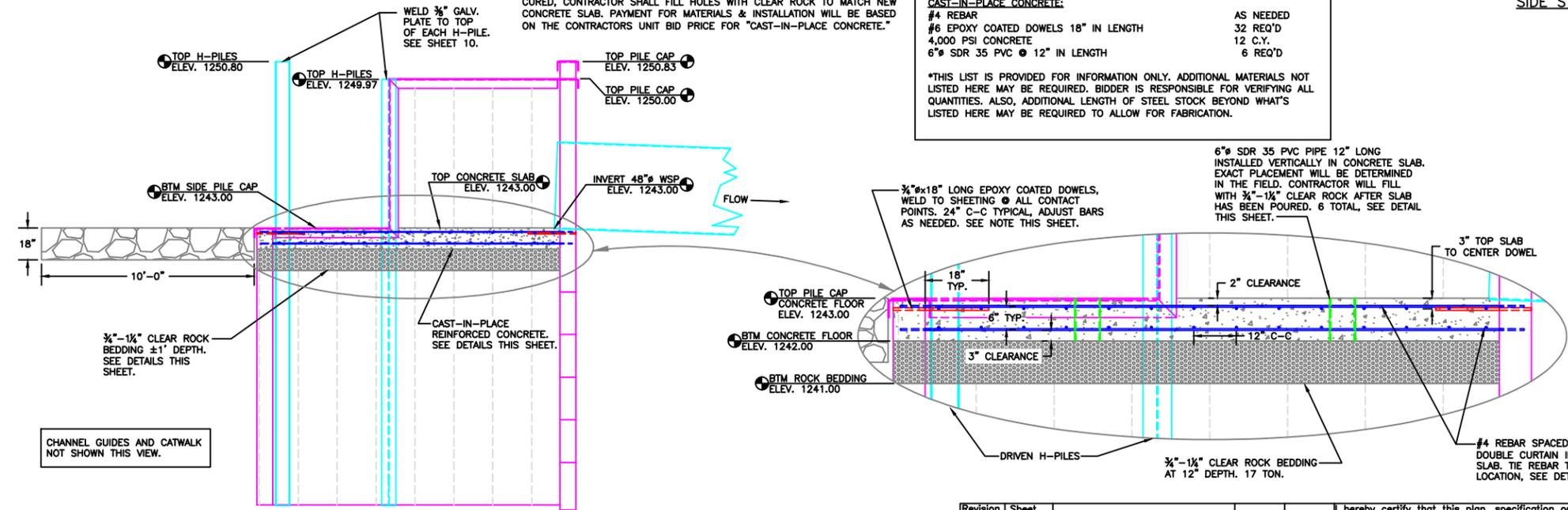


STOPLOG LIFTING HOOK DETAIL
NOT TO SCALE

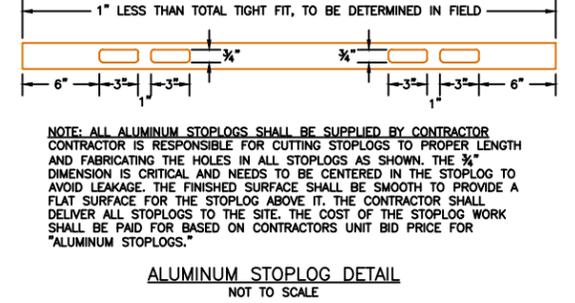
SUPPLIER MAY SPIT TS 6"x3"x3/4" TO FORM CHANNEL. CHANNELS WILL BE GALVANIZED.



STOPLOG CHANNEL DETAIL
NOT TO SCALE



SECTION D-D
SCALE: 1"=3'-0"



ALUMINUM STOPLOG DETAIL
NOT TO SCALE

NOTE: ALL ALUMINUM STOPLOGS SHALL BE SUPPLIED BY CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR CUTTING STOPLOGS TO PROPER LENGTH AND FABRICATING THE HOLES IN ALL STOPLOGS AS SHOWN. THE 3/4" DIMENSION IS CRITICAL AND NEEDS TO BE CENTERED IN THE STOPLOG TO AVOID LEAKAGE. THE FINISHED SURFACE SHALL BE SMOOTH TO PROVIDE A FLAT SURFACE FOR THE STOPLOG ABOVE IT. THE CONTRACTOR SHALL DELIVER ALL STOPLOGS TO THE SITE. THE COST OF THE STOPLOG WORK SHALL BE PAID FOR BASED ON CONTRACTORS UNIT BID PRICE FOR "ALUMINUM STOPLOGS."

Revision Number	Sheet Number	Revisions	Date	By

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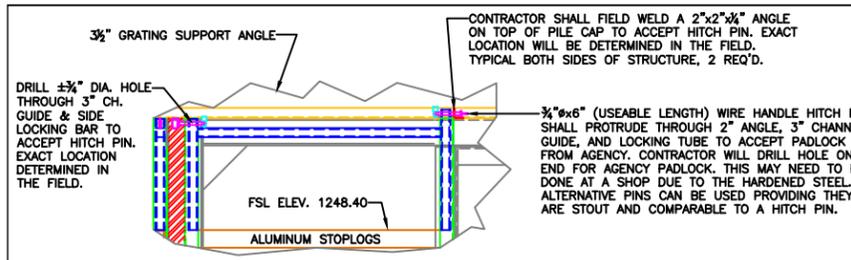
Douglas J. Lipetzky, P.E.
Douglas J. Lipetzky, P.E.
for Ducks Unlimited, Inc.
License No. 11677

3-2-2015
Date

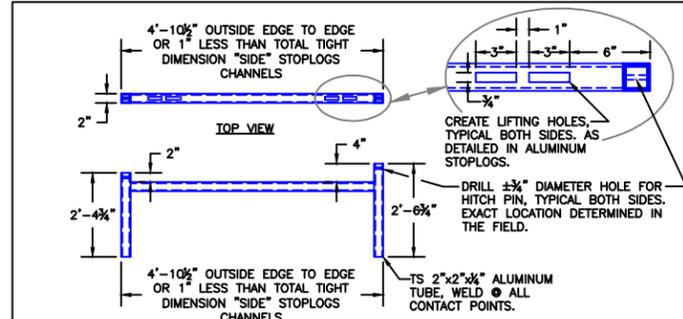
DUCKS UNLIMITED INC.
GREAT PLAINS REGIONAL OFFICE
DATE: 3-2-2015 SHEET NO. 11

PROJECT NO. IA-311-1
RICE LAKE WATER CONTROL STRUCTURE DETAILS AND NOTES

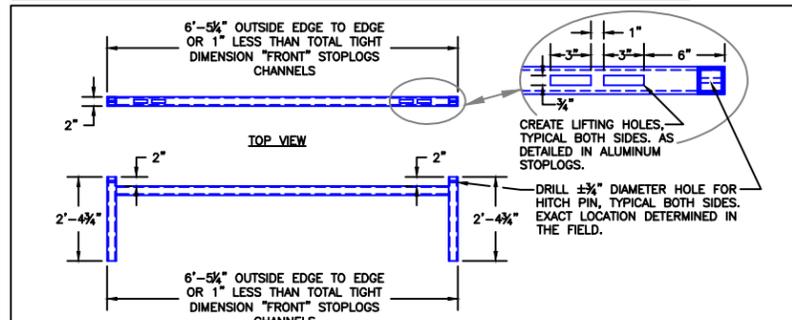
DESIGNED BY: DJL
DRAWN BY: MLO
SURVEYED BY: MOAW
CHECKED BY:
APPROVED BY:
APPROVED BY:
APPROVED BY:



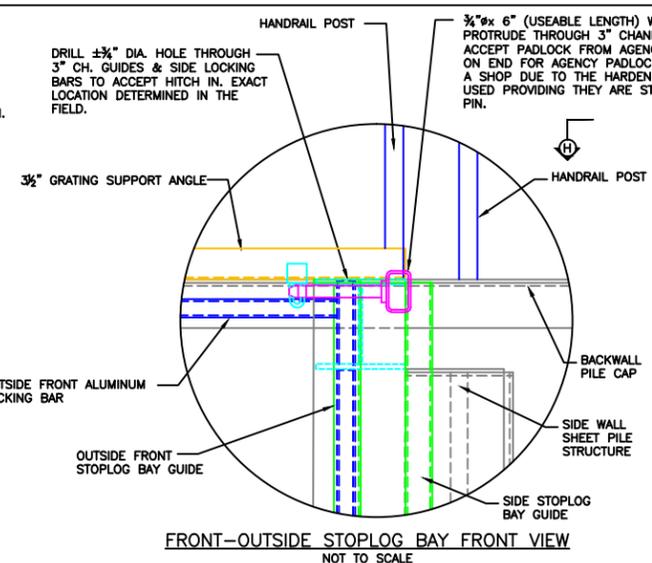
"SIDE" STOPLOG BAY FRONT VIEW
NOT TO SCALE



"SIDE" STOPLOG BAY LOCKING BAR DETAIL
NOT TO SCALE
2 REQUIRED



FRONT - OUTSIDE STOPLOG BAY LOCKING BAR DETAIL
NOT TO SCALE
2 REQUIRED



FRONT-OUTSIDE STOPLOG BAY FRONT VIEW
NOT TO SCALE

MATERIAL LIST:

CATWALK COMPONENTS (ALL GALVANIZED):

McNICHOLS GALVANIZED BAR GRATING	291 S.F.
4" STAINLESS STEEL HINGES FOR HATCH OPENINGS	4 REQ'D
3"x 1" STUD W/ PADLOCK HOLE & 4"x 1/2" SQ. PLATE	1 REQ'D
TS 2"x2"x1/8" HANDRAIL POSTS 3'-8" LONG	12 REQ'D
TS 2"x2"x1/8" HANDRAIL POSTS 4'-6" LONG	2 REQ'D
TS 2"x2"x1/8" HANDRAIL	119 L.F.

ALUMINUM LOCKING BARS:

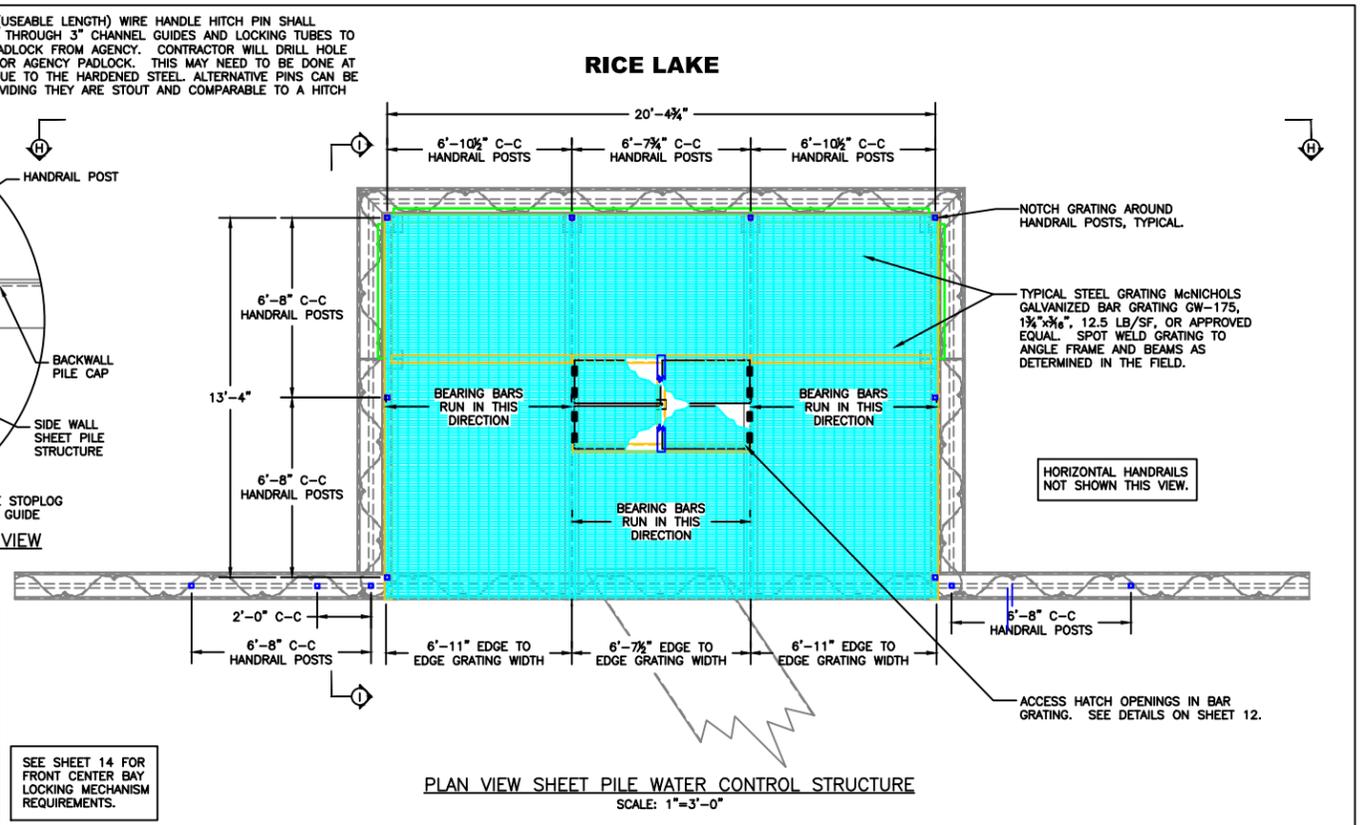
TWO "OUTSIDE FRONT" BAY LOCKING BARS:

TS 2"x2"x1/8" ALUMINUM TUBE AT 2'-4 1/4" LONG	4 REQ'D
TS 2"x2"x1/8" ALUMINUM TUBE AT 6'-1 1/4" LONG	2 REQ'D
WIRE HANDLE HITCH PIN 3/4" DIA. & 6" USABLE LENGTH	2 REQ'D

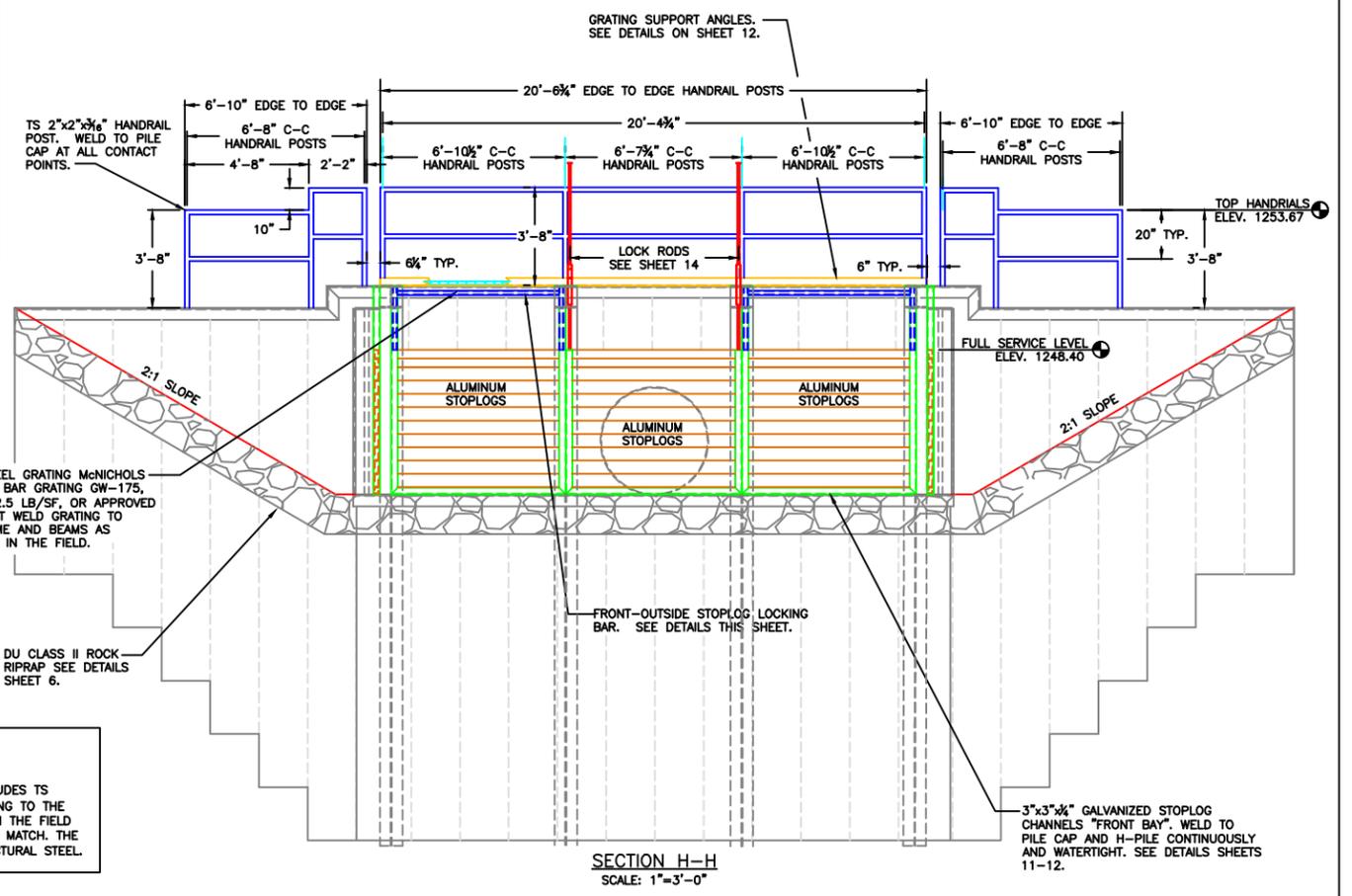
SIDE BAY LOCKING BARS:

TS 2"x2"x1/8" ALUMINUM TUBE AT 2'-4 1/4" LONG	2 REQ'D
TS 2"x2"x1/8" ALUMINUM TUBE AT 2'-6 1/4" LONG	2 REQ'D
TS 2"x2"x1/8" ALUMINUM TUBE AT 4'-6 1/2" LONG	2 REQ'D
2"x2"x1/8" STEEL ANGLE WELDED TO PILE CAP	2 REQ'D
WIRE HANDLE HITCH PIN 3/4" DIA. & 6" USABLE LENGTH	4 REQ'D

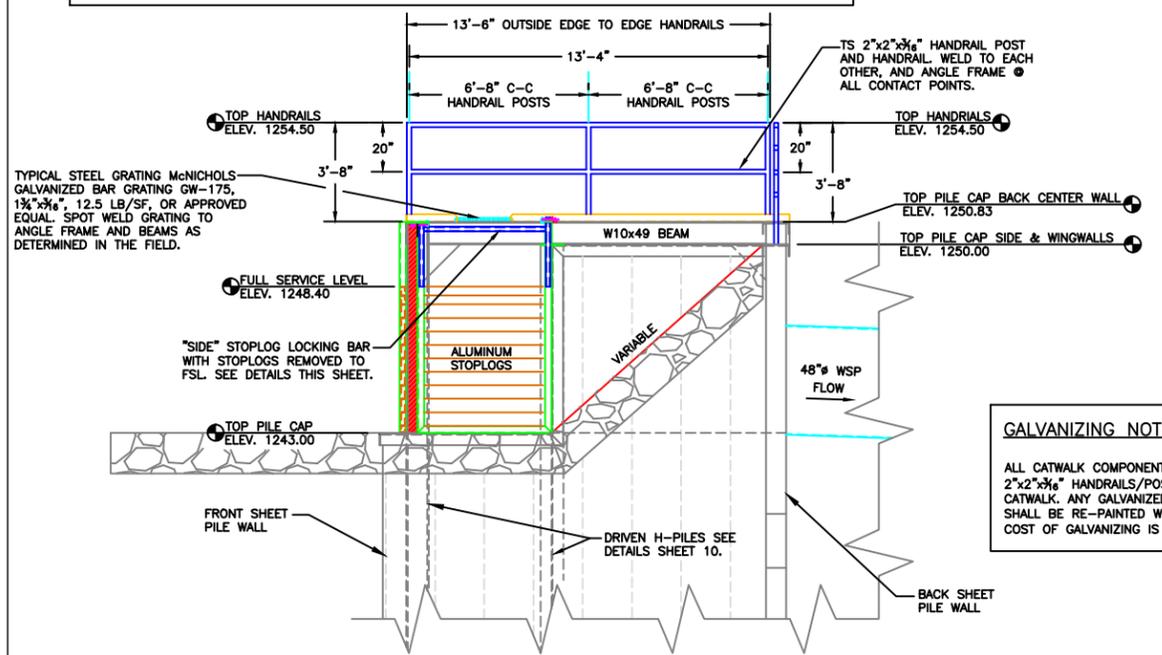
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PLAN VIEW SHEET PILE WATER CONTROL STRUCTURE
SCALE: 1"=3'-0"



SECTION H-H
SCALE: 1"=3'-0"



SECTION I-I
SCALE: 1"=3'-0"

GALVANIZING NOTE:

ALL CATWALK COMPONENTS SHALL BE GALVANIZED. THIS INCLUDES TS 2"x2"x1/8" HANDRAILS/POSTS AND ANY OTHER ITEMS PERTAINING TO THE CATWALK. ANY GALVANIZED COMPONENTS THAT ARE WELDED IN THE FIELD SHALL BE RE-PAINTED WITH A COLD GALVANIZATION PAINT TO MATCH. THE COST OF GALVANIZING IS CONSIDERED "INCIDENTAL" TO STRUCTURAL STEEL.

Revision Number	Sheet Number	Revisions	Date	By

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Douglas J. Lipetzky, P.E.
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 for Ducks Unlimited, Inc.
 License No. 11677

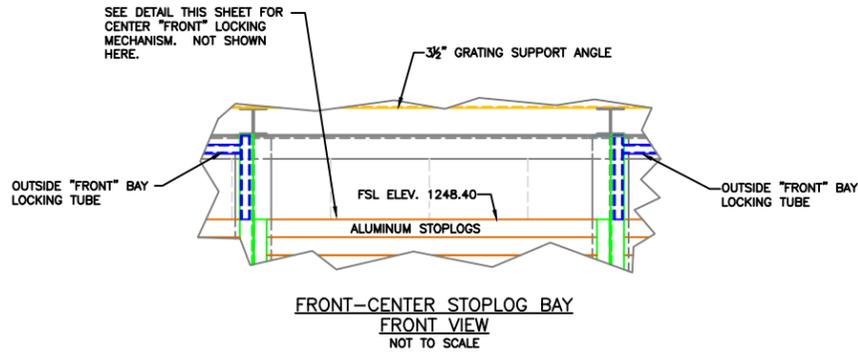
3-2-2015
 Date

DUCKS UNLIMITED INC.
 GREAT PLAINS REGIONAL OFFICE
 DATE: 3-2-2015 SHEET NO. 13

PROJECT NO. IA-311-1
RICE LAKE WATER CONTROL STRUCTURE DETAILS AND NOTES

DESIGNED BY: DJL
 DRAWN BY: MLO
 SURVEYED BY: MOAW
 CHECKED BY: []
 APPROVED BY: []

3/2" GRATING SUPPORT ANGLE



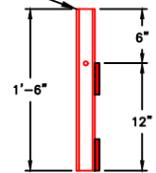
MATERIAL LIST:

FRONT CENTER LOCKING MECHANISM (ALL GALVANIZED):

TS 2"x2"x1/4" LOCK ROD GUIDE AT 1'-6" LONG 2 REQ'D
 STD 1" x 7'-0" STEEL PIPE W/ DRILLED HOLES, CAP SPACERS, SIZE AS REQ'D IN FIELD 2 REQ'D

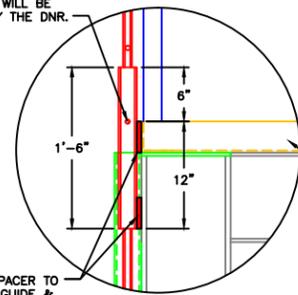
*THIS LIST IS PROVIDED FOR INFORMATION ONLY. ADDITIONAL MATERIALS NOT LISTED HERE MAY BE REQUIRED. BIDDER IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES. ALSO, ADDITIONAL LENGTH OF STEEL STOCK BEYOND WHAT'S LISTED HERE MAY BE REQUIRED TO ALLOW FOR FABRICATION.

TS 2"x 2"x 1/4" x 18" LONG LOCK ROD GUIDE. WELD TO SPACER. WELD SPACER TO CATWALK ANGLE & H-PILE.



LOCK ROD GUIDE DETAIL NOT TO SCALE (2 REQ'D)

DRILL 1/2" HOLE THRU LOCK ROD GUIDE AT 6" DOWN TO ACCOMMODATE PIN FOR PADLOCK. PIN & PADLOCK WILL BE SUPPLIED BY THE DNR.



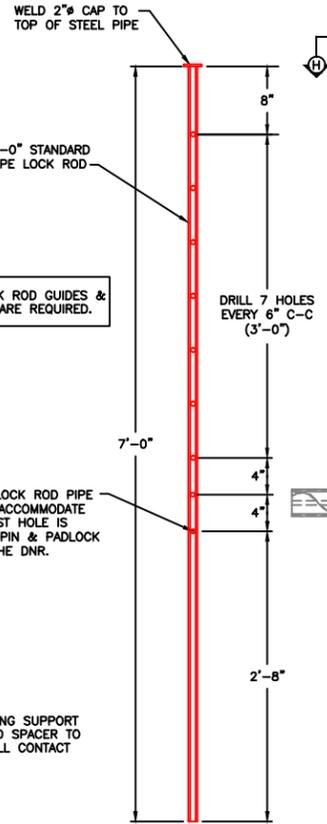
WELD 1/2" SPACER TO LOCK ROD GUIDE & GRATING SUPPORT ANGLE. WELD SECOND SPACER AT BOTTOM TO H-PILE. ADJUST SPACER SIZE AS NEEDED.

LOCK ROD GUIDE DETAIL NOT TO SCALE

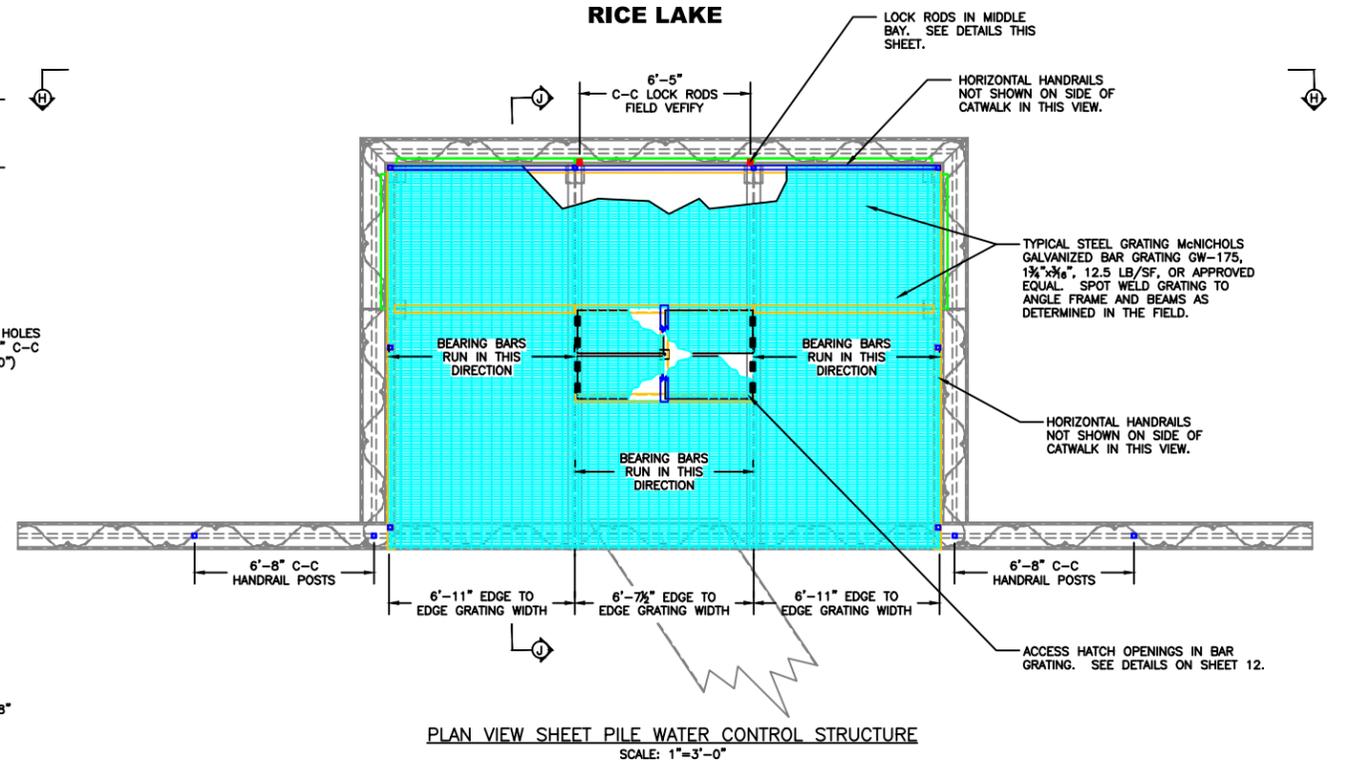
DRILL 1/2" HOLE THRU LOCK ROD PIPE AT SPACING SHOWN TO ACCOMMODATE PIN FOR PADLOCK. FIRST HOLE IS 2'-8" ABOVE BOTTOM. PIN & PADLOCK WILL BE SUPPLIED BY THE DNR.

3/2"x3/2"x 1/4" GRATING SUPPORT ANGLE FRAME. WELD SPACER TO ANGLE FRAME AT ALL CONTACT POINTS.

LOCK ROD DETAIL NOT TO SCALE

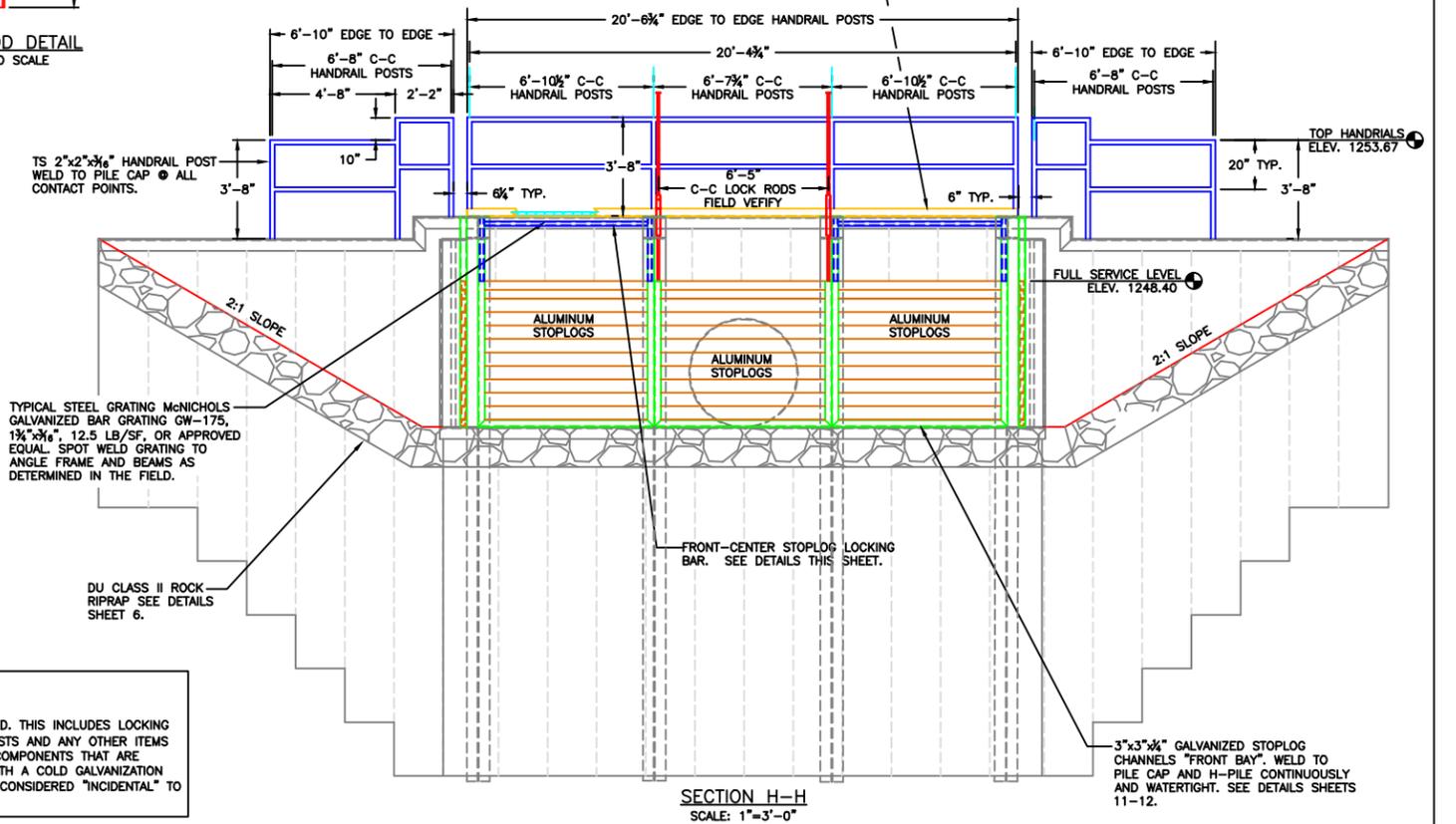


RICE LAKE



PLAN VIEW SHEET PILE WATER CONTROL STRUCTURE SCALE: 1"=3'-0"

GRATING SUPPORT ANGLES. SEE DETAILS ON SHEET 12.



SECTION H-H SCALE: 1"=3'-0"

GALVANIZING NOTE:

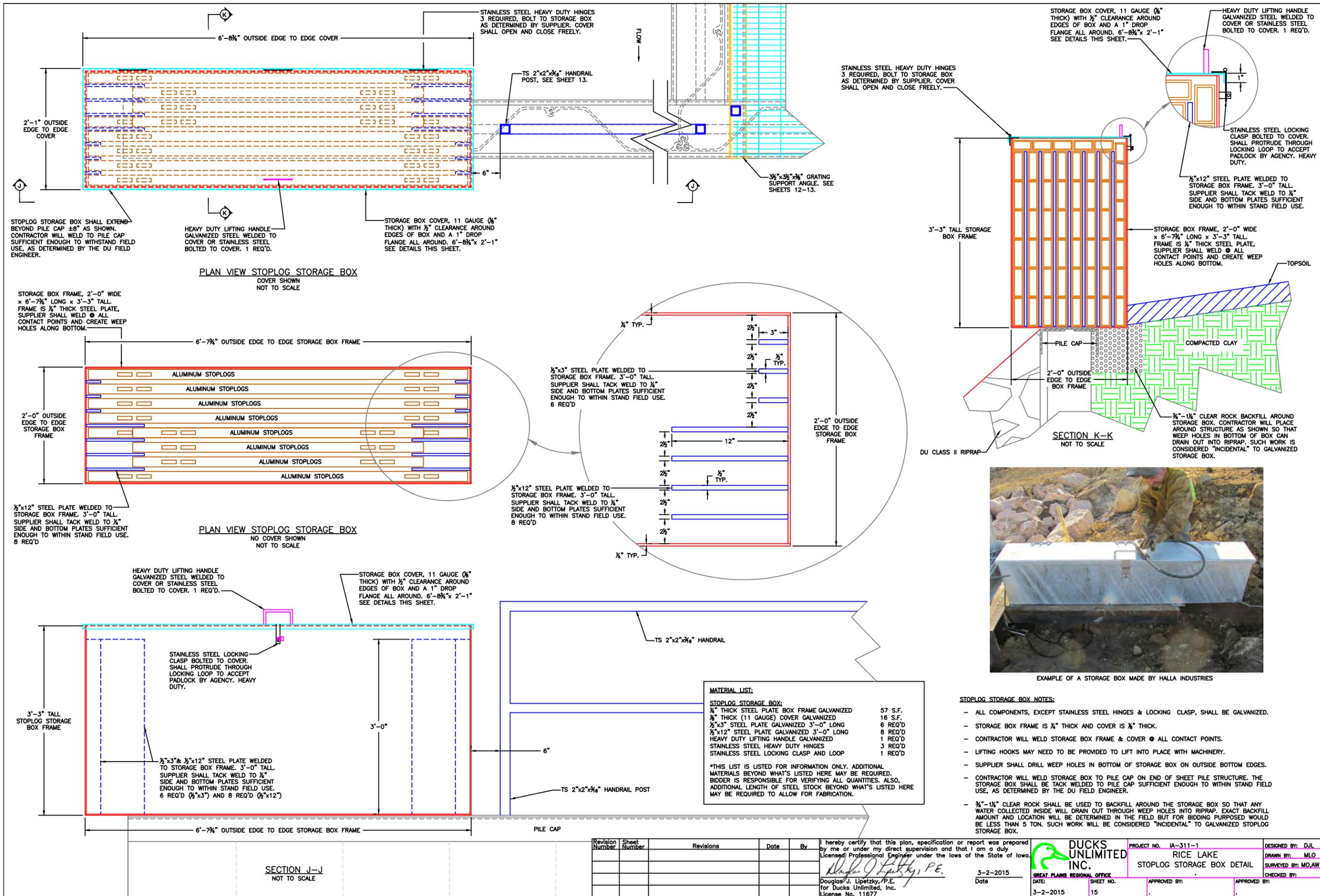
ALL CATWALK COMPONENTS SHALL BE GALVANIZED. THIS INCLUDES LOCKING RODS AND GUIDES, TS 2"x2"x1/4" HANDRAILS/POSTS AND ANY OTHER ITEMS PERTAINING TO THE CATWALK. ANY GALVANIZED COMPONENTS THAT ARE WELDED IN THE FIELD SHALL BE RE-PAINTED WITH A COLD GALVANIZATION PAINT TO MATCH. THE COST OF GALVANIZING IS CONSIDERED "INCIDENTAL" TO STRUCTURAL STEEL.

Revision Number	Sheet Number	Revisions	Date	By

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 for Ducks Unlimited, Inc.
 License No. 11677

DUCKS UNLIMITED INC.
 GREAT PLAINS REGIONAL OFFICE
 DATE: 3-2-2015
 SHEET NO. 14

PROJECT NO. IA-311-1
RICE LAKE WATER CONTROL STRUCTURE DETAILS AND NOTES
 DESIGNED BY: DJL
 DRAWN BY: MLO
 SURVEYED BY: MO,AW
 CHECKED BY: []
 APPROVED BY: []



EXAMPLE OF A STORAGE BOX MADE BY HALLA INDUSTRIES

Revision Number	Sheet Number	Revisions	Date	By

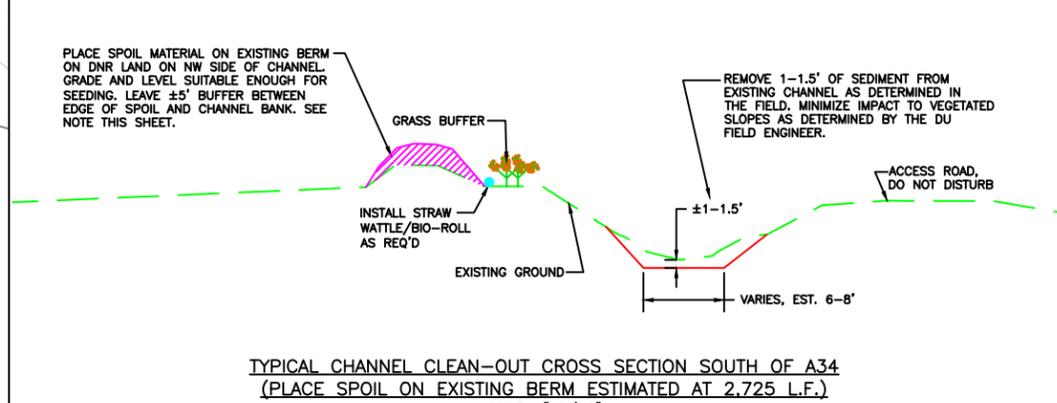
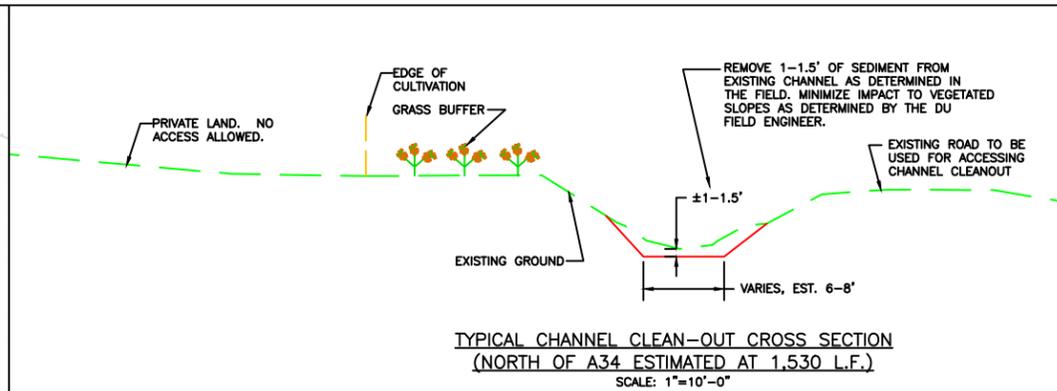
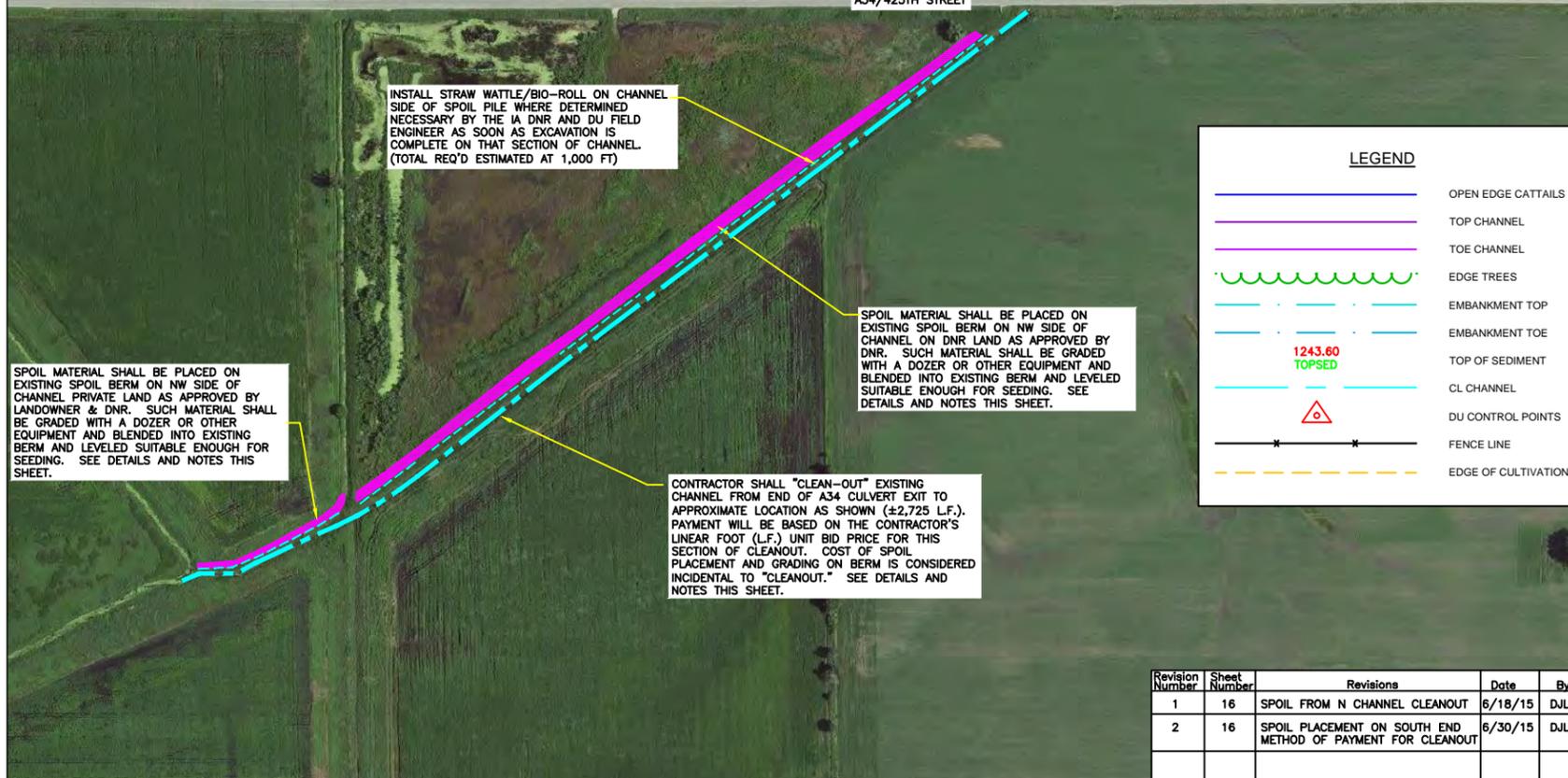
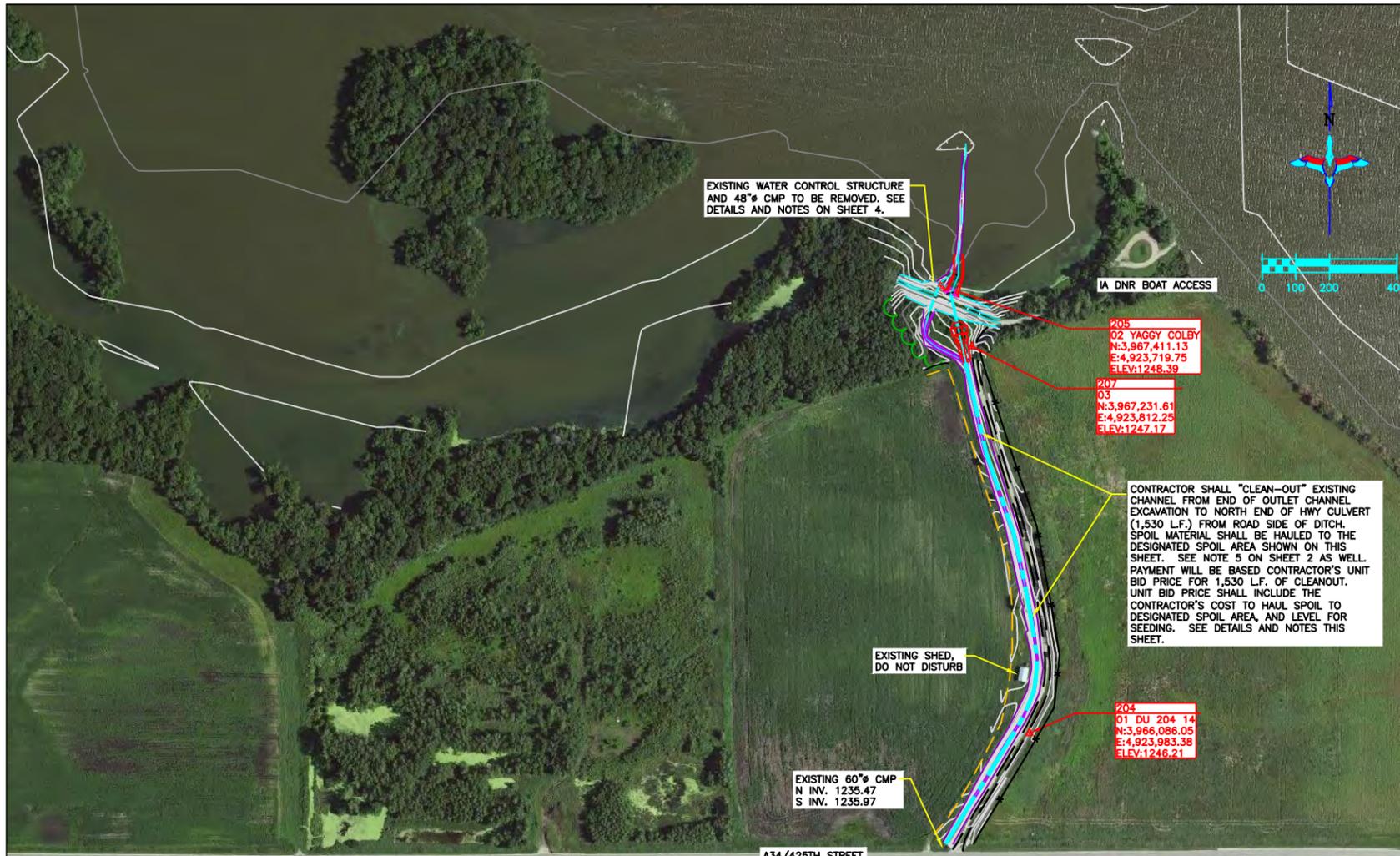
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DUCKS UNLIMITED INC.
 GREAT PLAINS REGIONAL OFFICE
 DATE: 3-2-2015 SHEET NO. 15

PROJECT NO. IA-311-1
 RICE LAKE
 STOPLOG STORAGE BOX DETAIL

DESIGNED BY: DJL
 DRAWN BY: MLO
 SURVEYED BY: MOAW
 CHECKED BY: []
 APPROVED BY: []



OUTLET CHANNEL CLEAN-OUT NOTE:

CONTRACTOR SHALL HAVE UTILITIES LOCATED AND MARKED PRIOR TO ANY EXCAVATION IN CHANNEL, ESPECIALLY ADJACENT TO ROADWAYS.

CONTRACTOR SHALL "CLEAN-OUT" EXISTING CHANNEL STARTING AT END OF "OUTLET CHANNEL EXCAVATION" AND CONTINUING DOWNSTREAM TO THE POINT WHERE IT INTERSECTS THE MAIN DITCH COMING FROM THE NORTHWEST AS SHOWN HEREIN. TYPICAL CLEAN-OUT SHALL CONSIST OF 1-1.5 FOOT DEPTH OF SEDIMENT REMOVAL. SPOIL FROM CHANNEL NORTH OF A34/425TH ST. SHALL BE HAULED TO DESIGNATED BORROW & SPOIL AREA. SPOIL FROM CHANNEL SOUTH OF A34 TO END CLEANOUT SHALL BE PLACED ON EXISTING SPOIL BERM AS DIRECTED BY DNR. SEE DRAWINGS AND NOTES ON THIS SHEET.

THERE IS A SHED LOCATED ON THE WEST SIDE OF THE UPPER REACHES. CONTRACTOR SHALL BE CAUTIOUS NOT TO DISTURB SUCH. ALSO, THERE IS NO ACCESS ON PRIVATE LAND NORTH OF A34/425TH ST AND WEST OF CHANNEL.

IN AREAS WHERE THE SPOIL IS TO BE PLACED ON AN EXISTING SPOIL BERM ON DNR OR PRIVATE LAND, SUCH MATERIAL SHALL BE GRADED WITH A DOZER OR OTHER EQUIPMENT SUITABLE ENOUGH AS APPROVED BY THE FIELD ENGINEER TO ALLOW SEEDING. NO MULCH IS REQUIRED ON THIS BERM.

PAYMENT FOR "CHANNEL CLEAN-OUT" SHALL BE BASED ON THE CONTRACTOR'S UNIT BID PRICE FOR LINEAR FOOT (L.F.) OF CLEANOUT. FOR BIDDING PURPOSES, THE SECTION THAT REQUIRES HAULING SPOIL TO THE DESIGNATED BORROW/SPOIL AREA WILL BE BID SEPARATELY FROM THE SECTION THAT HAS ADJACENT PERIPHERAL SPOIL BERM AREA. THE UNIT PRICE SHALL INCLUDE ALL COSTS FOR A COMPLETE CLEANOUT, SPOILING, HAULING & GRADING SPOIL AS REQUIRED HEREIN. SEE NOTE 5 ON SHEET 2.

CONTRACTOR SHALL BE CAUTIOUS NOT TO SPILL ON HIGHWAY OR GRAVEL ROAD. ANY COSTS FOR CLEAN-UP REQUIRED IS CONSIDERED INCIDENTAL TO THE CHANNEL CLEANOUT BID ITEM.



Revision Number	Sheet Number	Revisions	Date	By
1	16	SPOIL FROM N CHANNEL CLEANOUT	6/18/15	DJL
2	16	SPOIL PLACEMENT ON SOUTH END METHOD OF PAYMENT FOR CLEANOUT	6/30/15	DJL

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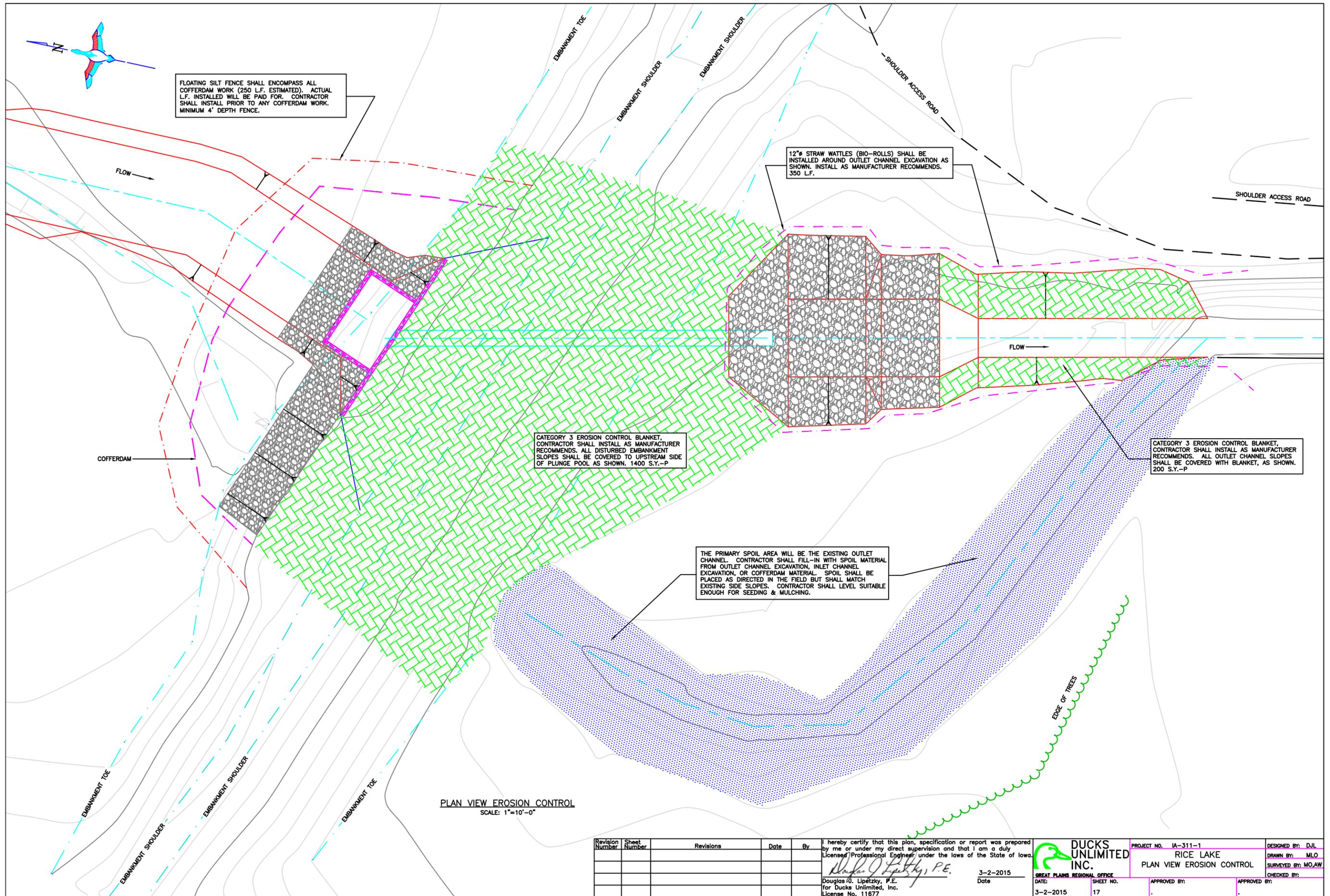
3-2-2015
 Date

DUCKS UNLIMITED INC.
 GREAT PLAINS REGIONAL OFFICE
 DATE: 3-2-2015 SHEET NO. 16

PROJECT NO. IA-311-1
 RICE LAKE
 OUTLET CHANNEL "CLEAN-OUT"

DESIGNED BY: DJL
 DRAWN BY: MLO
 SURVEYED BY: MOAW
 CHECKED BY:

APPROVED BY: APPROVED BY:



PLAN VIEW EROSION CONTROL
SCALE: 1"=10'-0"

Revision Number	Sheet Number	Revisions	Date	By

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 License No. 11677

3-2-2015
 Date

DUCKS UNLIMITED INC.
 GREAT PLAINS REGIONAL OFFICE

PROJECT NO. IA-311-1
 RICE LAKE
 PLAN VIEW EROSION CONTROL

DESIGNED BY: DJL
 DRAWN BY: MLO
 SURVEYED BY: MO,AW
 CHECKED BY: .

APPROVED BY: .
 APPROVED BY: .

DATE: 3-2-2015
 SHEET NO. 17

STORM WATER POLLUTION PREVENTION PLAN

THE Iowa General Permit No. 2 Authorization to Discharge Stormwater Associated with Construction Activity shall apply for this project.

ABBREVIATIONS

IADNR: Iowa Department of Natural Resources

NARRATIVE

Project Limits: See Sheets 1, 4 & 15 of these plans for the project limits. These sheets cover the existing structure removal, new water control structure installation, outlet channel excavation, riprap placement, downstream channel clean-out and associated project features.

SITE DESCRIPTION

Project Description: The purpose of the project is to replace the existing Rice Lake outlet water control structure, and remove debris and sediment from the existing downstream channel section to provide more efficient water flow. The project will include existing structure removal, new water control structure installation, outlet channel excavation, riprap placement, downstream channel clean-out and associated project features. The downstream channel clean-out is to provide more efficient flow from Rice Lake, but is also in coordination with adjacent landowners who indicate the channel debris and sedimentation are causing excess water in their agricultural fields. Therefore, any area disturbed due to such channel clean-out relates more to agricultural channel maintenance than the Rice Lake structure replacement project.

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

Major Soil Disturbing Activities (check all that apply):

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

Total Project Area: 3.0 Acres
 Total Area to Be Disturbed: 3.0 Acres
 Existing Impervious Area: 0.0 Acres
 Proposed Impervious Area: 0.0 Acres

Name of Receiving Water Body/Bodies: The Rice Lake outlet is the headwaters of Beaver Creek, which flows into the Winnebago River near Fertile, IA. The Winnebago River flows into the Shell Rock River which joins the Cedar River, then into the Iowa River and eventually the Mississippi River.

Discharges to Special Or Impaired Waters: Unknown. Landowner (IADNR) to determine and evaluate for permit.

Discharges to Calcareous Fen: Unknown. Landowner (IADNR) to determine and evaluate for permit.

Endangered or Threatened Species: Unknown. Landowner (IADNR) to determine and evaluate for permit.

Historic Places or Archeological Sites: Historical places or archeological sites have been addressed by the IADNR.

Quantities Tabulation for All BMPs: See estimated quantities and construction notes in plans.

ORDER OF CONSTRUCTION ACTIVITIES

(Stabilization measures shall be initiated 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 Erosion and Sediment Control notes and details on plan sheets 2 and 16.

EROSION AND SEDIMENT CONTROLS

(Check all that apply)

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

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

Structural Temporary Erosion and Sediment Controls

- Silt Fence
- Temporary Berm
- Temporary Slope Drain
- Straw Wattles or Rolls
- Diversion Channels/Swoles
- 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

Wetland Avoidance:

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes No
 If yes, the project and erosion and sediment control impacts have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

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. The outlet structure and resulting area upstream will serve as a sediment basin once constructed.

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 IADNR 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 IADNR 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 IADNR 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.
- Where work has been suspended due to frozen ground conditions, the required inspections and maintenance must take place as soon as runoff occurs at the site or prior to resuming construction, whichever comes first.
- 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 1/2 of the height of the silt fence. All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/2 of the height of the fence.

- Sediment basins and traps will be checked. Sediment will be removed when the depth reaches approximately 50 percent of the structure's capacity.
- Check dams will be inspected for stability. Sediment will be removed when the depth reaches 1/2 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 exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all off-site paved surfaces within 24 hours of discovery.
- 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 shall 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 rainfall events greater than 0.5 inch in 24 hours. 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.

SPILL NOTIFICATION

In the event of a spill, the contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

1. A reportable spill is a quantity of more than 5 gallons of petroleum which must be reported immediately to the IADNR and local Sheriff's Office.
2. Any spill of oil or hazardous substance to waters of the state must be reported immediately by telephone to the IADNR and local Sheriff's Office.
3. IADNR Contact for Environmental Emergencies: Contact number of front sheet of these plans and local Sheriff's Office.

CONSTRUCTION CHANGES

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SWPPP will be retained in a designated place for review over the course of the project.

PROJECT CONTACTS AND RESPONSIBILITIES

If a permit is required, the Contractor is responsible for cosigning and being familiar with the IADNR General Permit for storm water discharges associated with a construction site. When a conflict arises between the permit and this plan sheet, the permit shall govern.

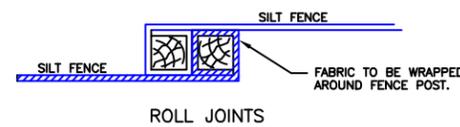
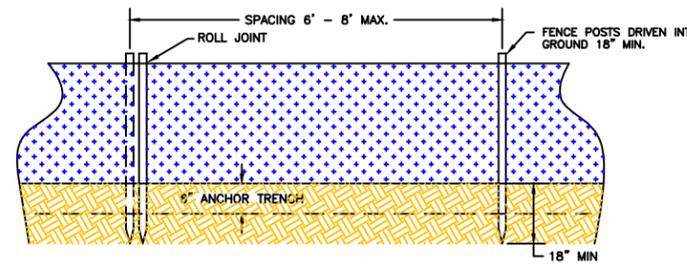
The Contractor is responsible for implementation of the SWPPP and installation, inspection and maintenance of the erosion prevention and sediment control BMP's before and during construction. The IADNR is responsible for long term operation and maintenance of the permanent storm water management system. The Contractor and IADNR contact information is provided in the contract documents and project plans.

Douglas J. Lipetzky, P.E., Senior Regional Engineer for Ducks Unlimited, Inc. prepared the SWPPP. He successfully completed the "Design of Storm Water Pollution Prevention Plans" training course sponsored by the University of Minnesota (Nov. 16-17, 2009, Mankato, MN). Mr. Lipetzky then successfully completed the re-certification course (February 4, 2013, St. Cloud, MN). His MN certification expires May 31, 2016.

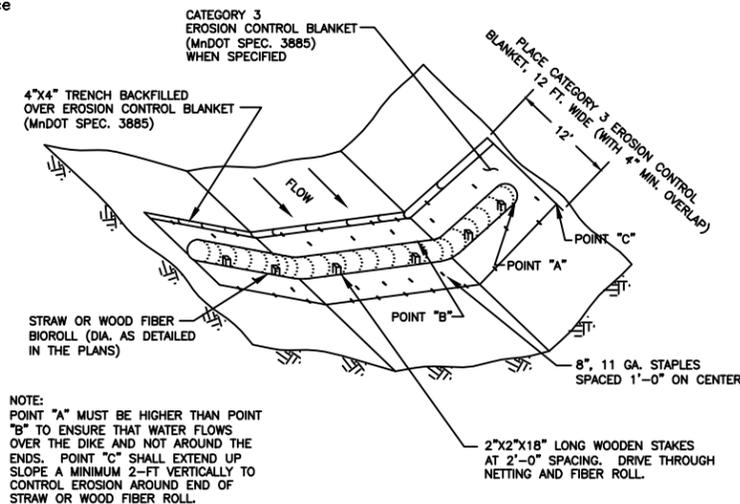
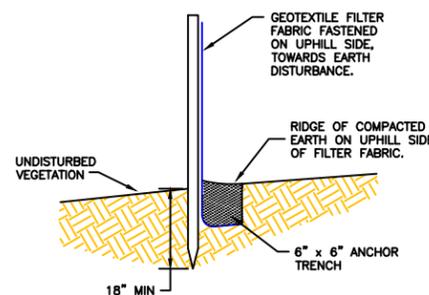
The Contractor will be required to have a person designated and on the project site who has been trained and certified as either an Erosion/ Sediment Control Inspector/Installer or in Erosion/Sediment Control Site Management.

SILT FENCE NOTES:
 WOOD POST SHALL BE A MINIMUM OF 1 1/2" x 1 1/2".

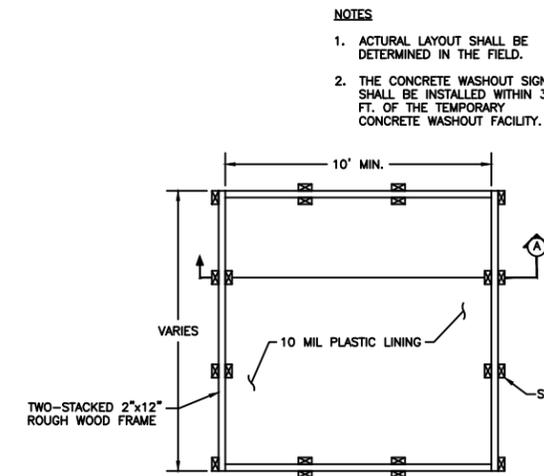
CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL. IF A JOINT IS NECESSARY, USE THE DETAIL SHOWN OR OTHER APPROVED METHOD.



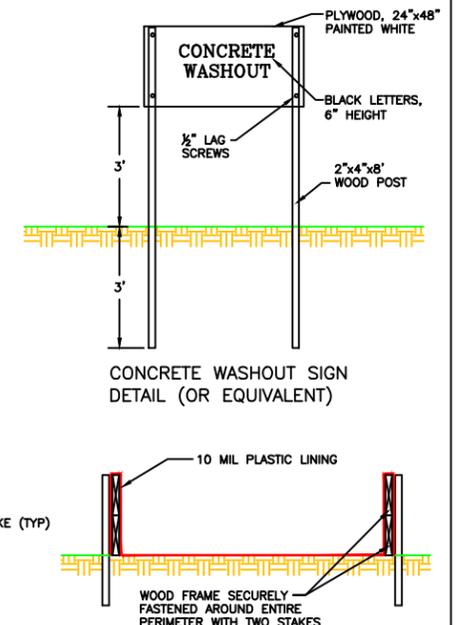
SILT FENCE DETAIL
 NOT TO SCALE



TEMPORARY DITCH CHECK DETAIL
 NOT TO SCALE



CONCRETE WASHOUT PLAN VIEW
 TYPE - ABOVE GRADE



SECTION A-A

Revision Number	Sheet Number	Revisions	Date	By

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa
Douglas J. Lipetzky, P.E.
 Douglas J. Lipetzky, P.E.
 for Ducks Unlimited, Inc.
 License No. 11677
 DATE: 3-2-2015

DUCKS UNLIMITED INC.
 GREAT PLAINS REGIONAL OFFICE
 DATE: 3-2-2015 SHEET NO. 18

PROJECT NO. IA-311-1
RICE LAKE STORM WATER POLLUTION PREVENTION PLAN
 DESIGNED BY: DJL
 DRAWN BY: DJL
 SURVEYED BY: MO/AW
 CHECKED BY: DJL
 APPROVED BY: _____