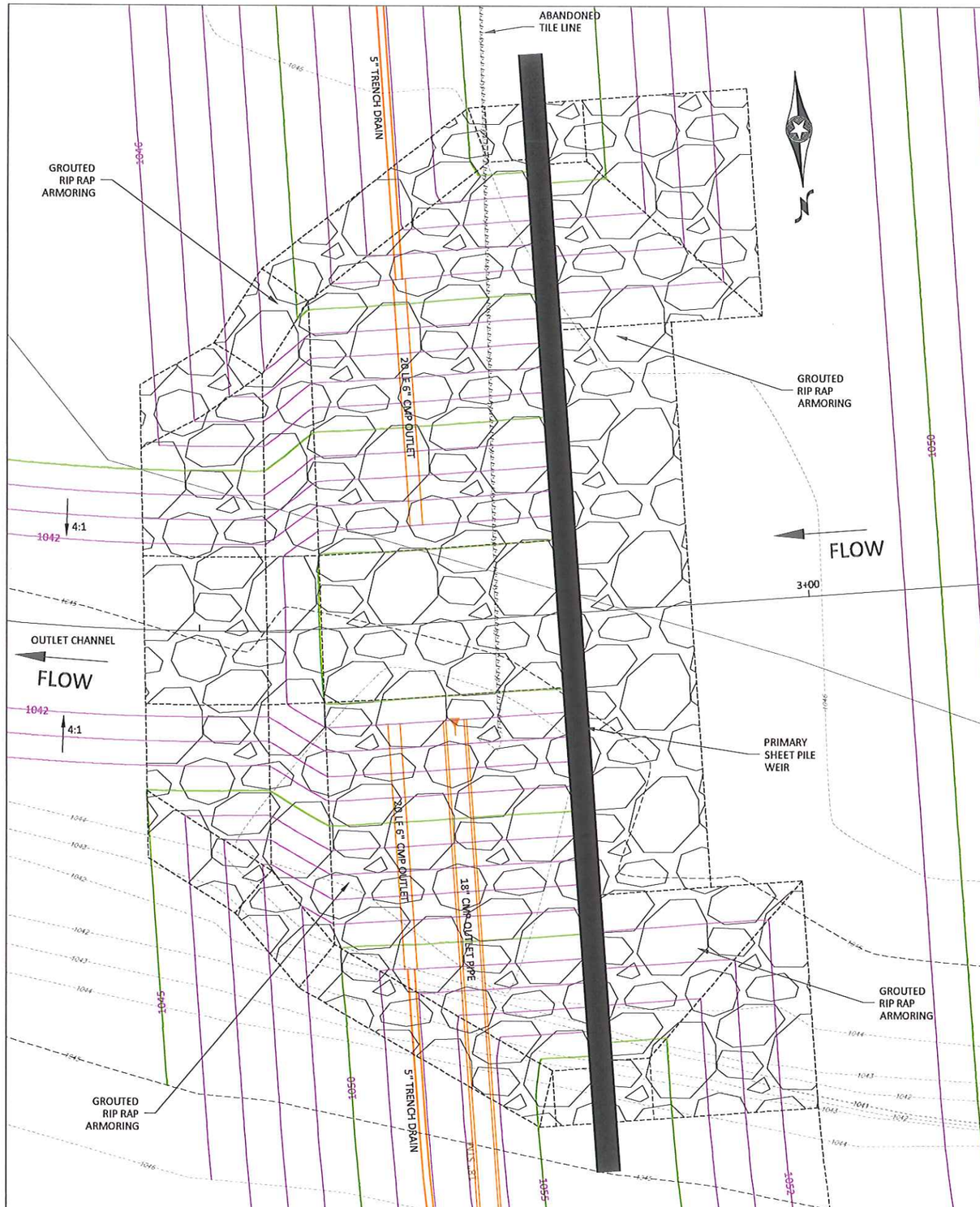

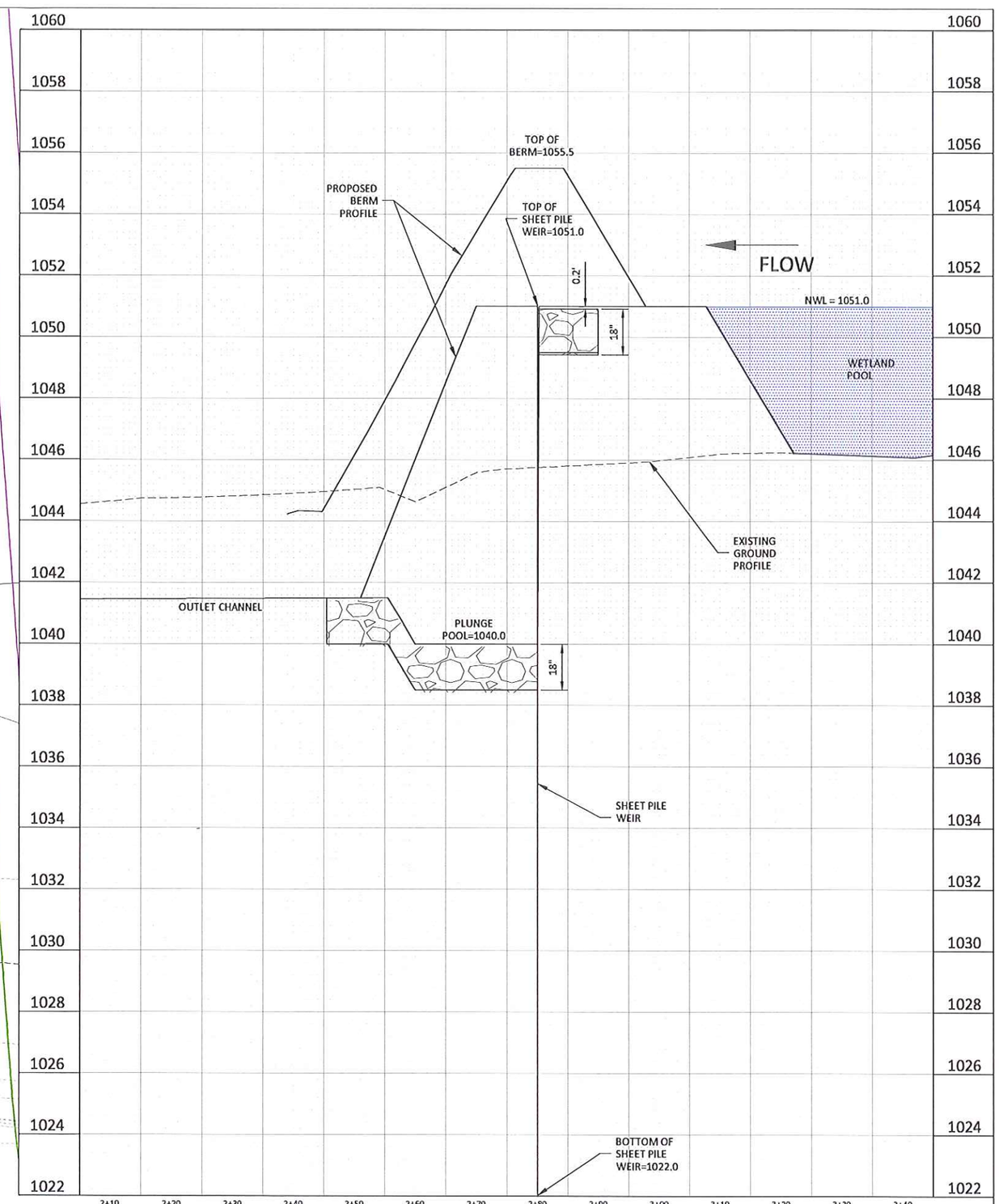

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IOWA DEPARTMENT OF AGRICULTURE
HARDIN CREP PROJECT NO. HAR892029C
SHEET PILE

SHEET 7.0

DESIGN SHEET PILING AREA IS 2,170 SF - PRIOR TO TRIMMING

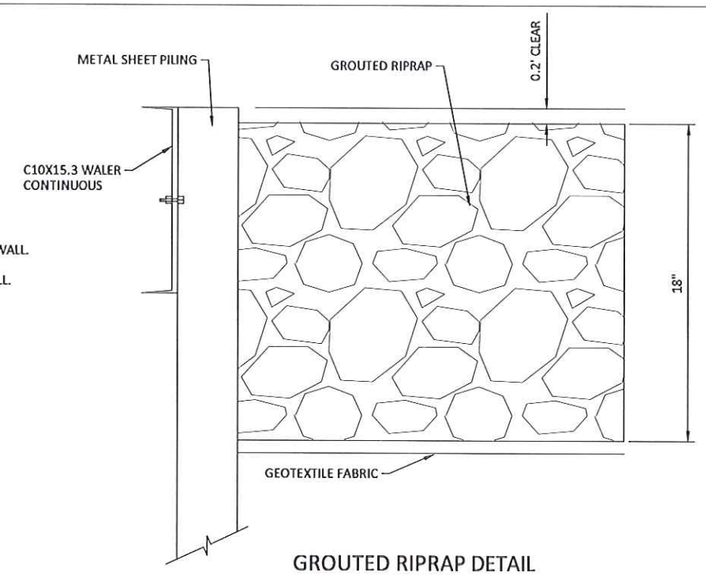
SHEET PILING REQUIREMENTS

MINIMUM SECTION MODULUS OF 12.7 CUBIC INCHES PER FOOT OF WALL.
MINIMUM GRADE OF STEEL IS 36 KSI.
MINIMUM MOMENT OF INERTIA OF 58 INCHES ^ 4 PER FOOT OF WALL.
ALL SHEETING SHALL MEET ASTM A-328, A-572 GR50 OR A-690.

RECOMMENDED STEEL CHOICES:

SKYLINE STEEL SCZ 22 OR EQUIVALENT
SHORELINE STEEL SZ-24, MSZ-18-312 OR EQUIVALENT
CONTECH SZ-24, XZ85 OR EQUIVALENT
LB FOSTER PZC18 OR EQUIVALENT
GERDAU AMERISTEEL (CHAPPARRAL) PZC18 OR EQUIVALENT

OTHER SHEETING MAYBE ALLOWED WITH PRIOR APPROVAL OF ENGINEER.



GROUTED RIPRAP DETAIL
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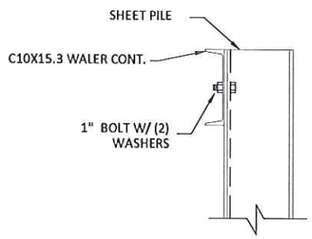
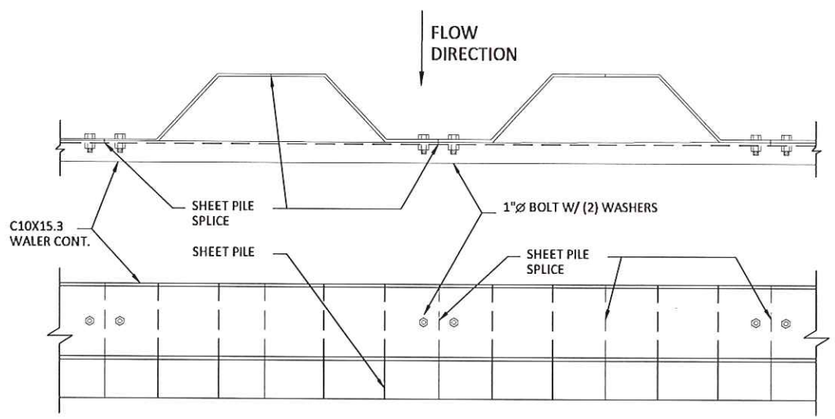


NOTE: 1 BOLT TO BE PLACED ON EACH SIDE OF SPLICE

BOLT DETAIL
NOT TO SCALE



WALER BOLT PLACEMENT
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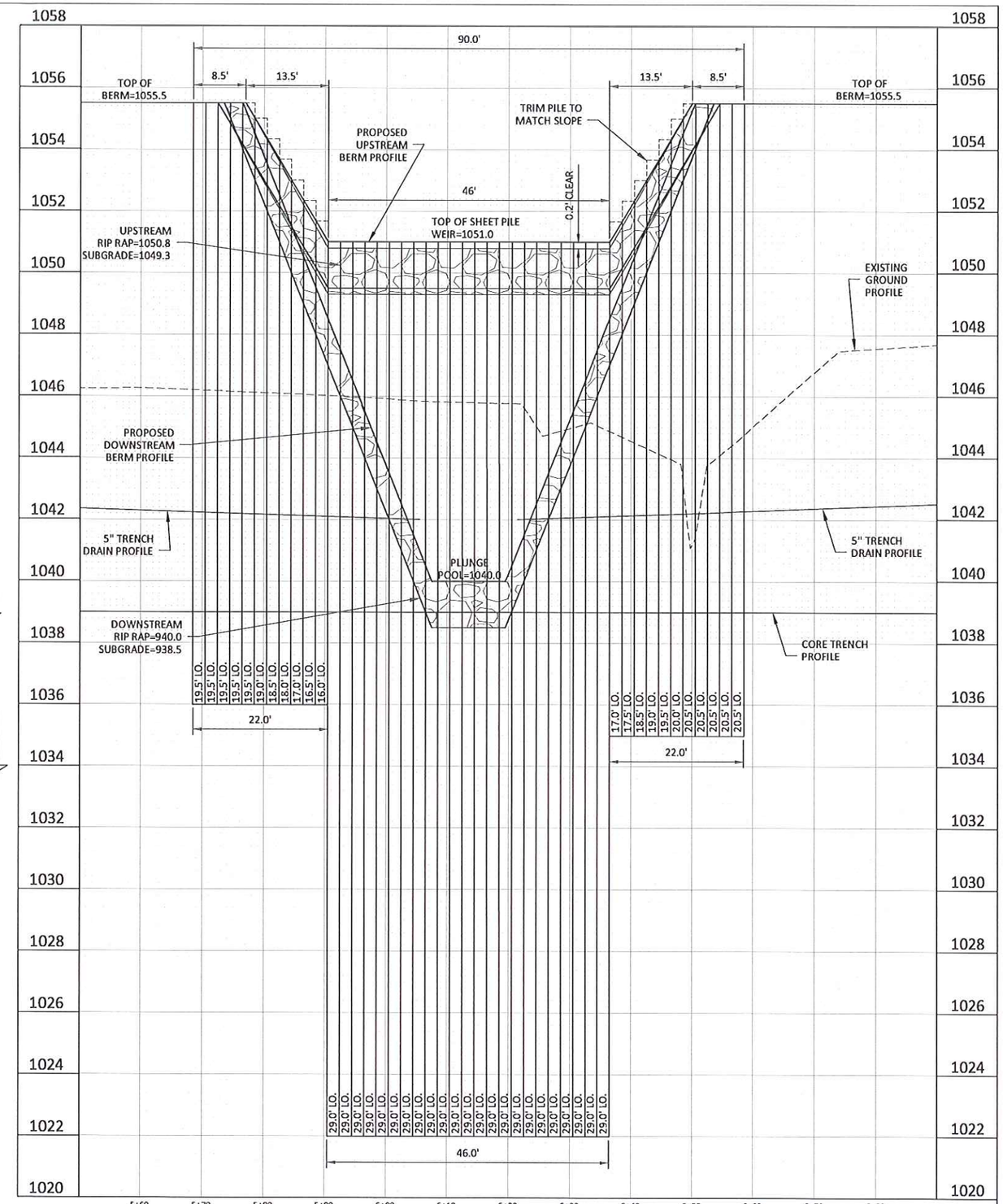

NOTES:

1. ALL BOLTS WILL BE 1" DIA. WITH 2 WASHERS. BOLT SHALL BE EXTENDED AT A MINIMUM OF $\frac{3}{8}$" BEYOND THE NUT.
2. ALL HOLES SHALL BE DRILLED $\frac{1}{16}$" DIA. LARGER THE THE BOLT.
3. IT IS RECOMMENDED THAT THE WALER SHALL BE PLACED ON THE DOWNSTREAM SIDE OF THE WEIR.
4. ANY HOLES LEFT IN SHEET PILE (LIFTING HOOKS ETC.) SHALL BE CLOSED OFF TO NOT ALLOW WATER TO FLOW THROUGH RIPRAP.
5. AFTER SHEETING AND WALER INSTALLATION ALL SHEETING IS TO BE CUT TO CONFORM WITH 3:1 SLOPE.
6. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDING WITH THE LATEST SPECIFICATION OF AISC. FABRICATOR SHALL SUBMIT SHOP DRAWINGS. FABRICATE AFTER ENGINEERS REVIEW.
7. DEFLECTIONS SHALL BE MADE IN FABRICATED PIECES AND STILL CONFORM TO THE DIMENSIONS GIVEN.
8. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LIVE LOADS.
9. PROVIDE ALL NECESSARY TEMPORARY BRACING, SHORING, GUYING OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION.

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IOWA DEPARTMENT OF AGRICULTURE
HARDIN CREP PROJECT NO. HAR892029C
SHEET PILE SECTION & DETAILS

SHEET 7.1

SEEDING NOTES:

1. ALL SEED BEDS SHALL BE PREPARED AS SPECIFIED IN SECTION IA-6.
2. ALL ROCKS 3" OR LARGER IN DIAMETER SHALL BE REMOVED FROM THE SEEDBED.
3. CONTRACTOR SHALL SUBMIT A SEEDING PLAN ON FORM IA-CPA-4 FOR EACH TYPE OF SEED TO BE PROVIDED AT LEAST 3 WEEKS PRIOR TO BEGINNING SEEDING OPERATIONS.
4. NO SEED TO BE PLACED BELOW THE NORMAL WATER ELEVATION.
5. THE 10:1 SAFETY BENCH ALONG THE PERIMETER OF THE POOL AREA SHALL BE GRADED TO A UNIFORM SURFACE.
6. MULCH SHALL BE APPLIED TO ALL FIREBREAK AND STRUCTURE AND CHANNEL SEEDING AREAS; NO MULCH TO BE APPLIED TO THE BUFFER SEEDING.
7. SEEDED AREAS WHERE MULCH IS REQUIRED SHALL BE MULCHED WITHIN 24 HOURS.
8. ALL MULCH SHALL BE ANCHORED.
9. SEED TYPES SHALL AS SPECIFIED IN SECTION IA-6 OF THE PROJECT MANUAL.
10. EXISTING VEGETATION SHALL BE REMOVED OR KILLED BY APPLICATION OF HERBICIDE PRIOR TO PREPARATION FOR SEEDING.
11. ANY EXISTING VEGETATION AREAS THAT ARE TO REMAIN UNDISTURBED WILL BE DETERMINED IN THE FIELD BY THE ENGINEER, NO CHANGE IN CONTRACT PRICE WILL BE ALLOWED DUE TO CHANGE IN SEEDING AREAS.
12. WATERWAY SEEDING SHALL BE THE SAME SEED MIX AS THE STRUCTURE AND CHANNEL SEEDING MIX.
13. WATERWAY SEEDING WITH EROSION CONTROL MATTE SHALL UTILIZE A NRCS APPROVED PRODUCT AND BE INSTALLED TRANSVERSELY FROM DOWNSTREAM TO UPSTREAM AND STAKED IN PLACE.

SEEDING QUANTITIES:

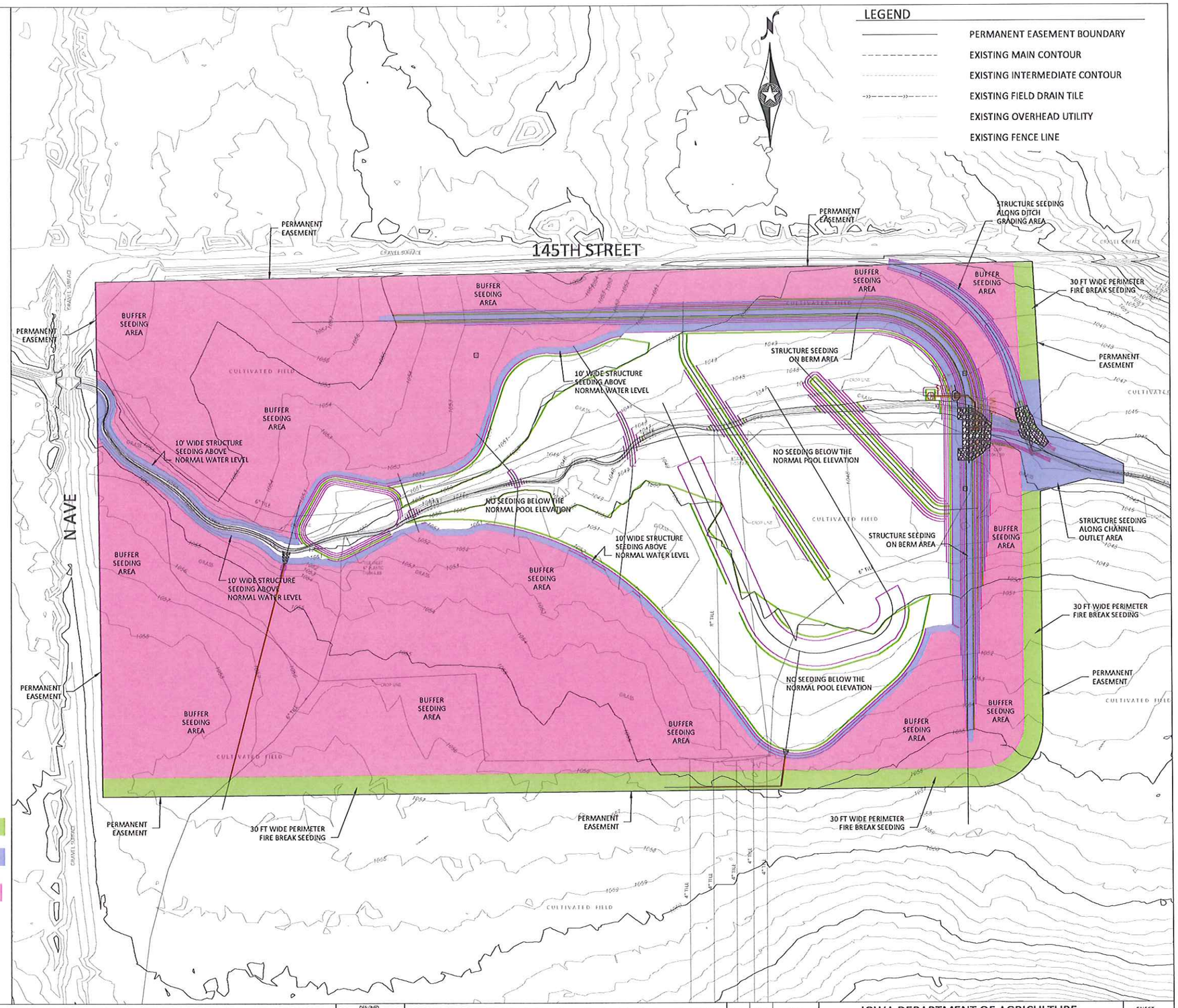
28.10 ACRES - TOTAL EASEMENT AREA

8.80 ACREA - NORMAL WATER LEVEL POOL AREA

1.40 ACRES - FIRE BREAK

2.60 ACRES - STRUCTURE AND CHANNEL

15.30 ACRES - BUFFER



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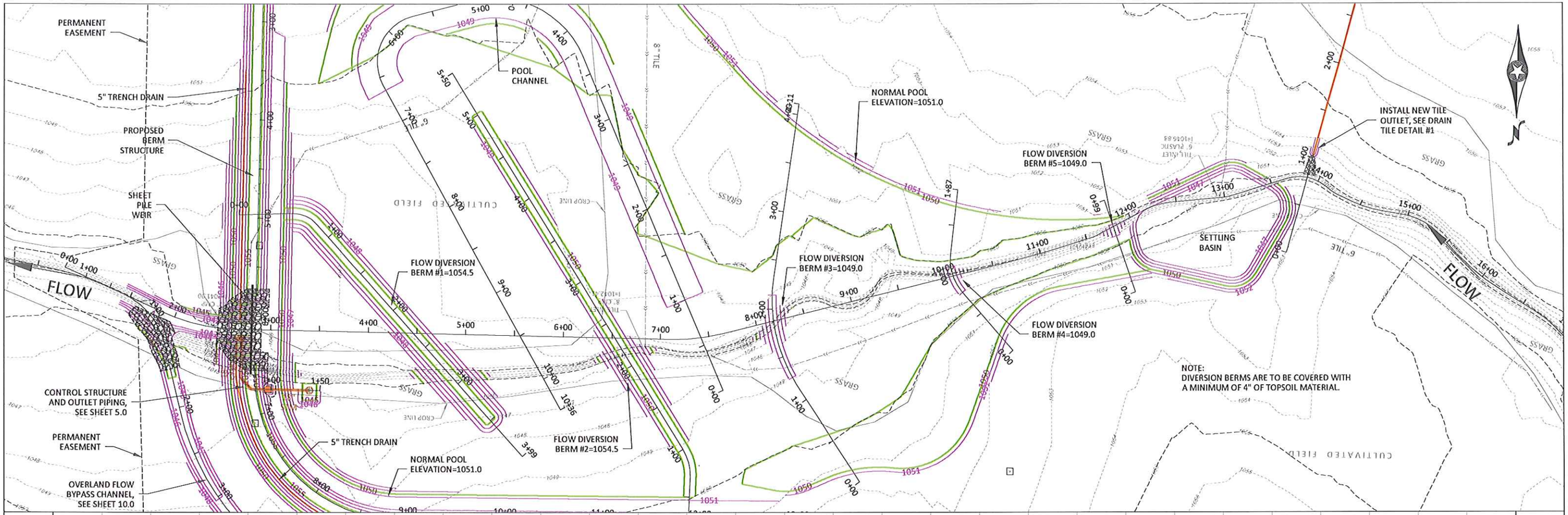
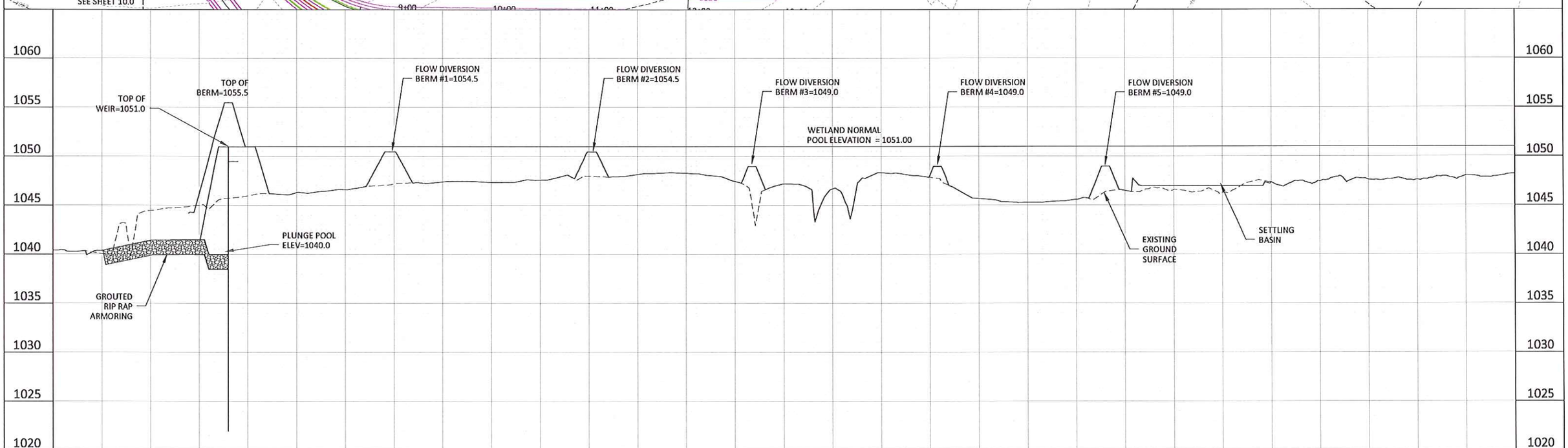
IOWA DEPARTMENT OF AGRICULTURE
HARDIN CREP PROJECT NO. HAR892029C
SEEDING AREAS

SHEET 8.0





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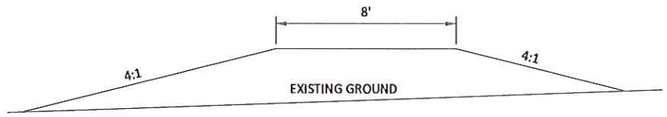
IOWA DEPARTMENT OF AGRICULTURE
HARDIN CREP PROJECT NO. HAR892029C
WETLAND CENTERLINE DETAIL

SHEET 9.0



DIVERSION BERM TYPICAL SECTION
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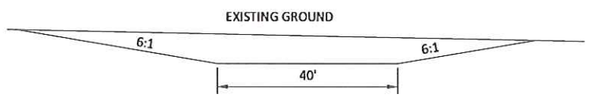

WETLAND DRAWDOWN CHANNEL
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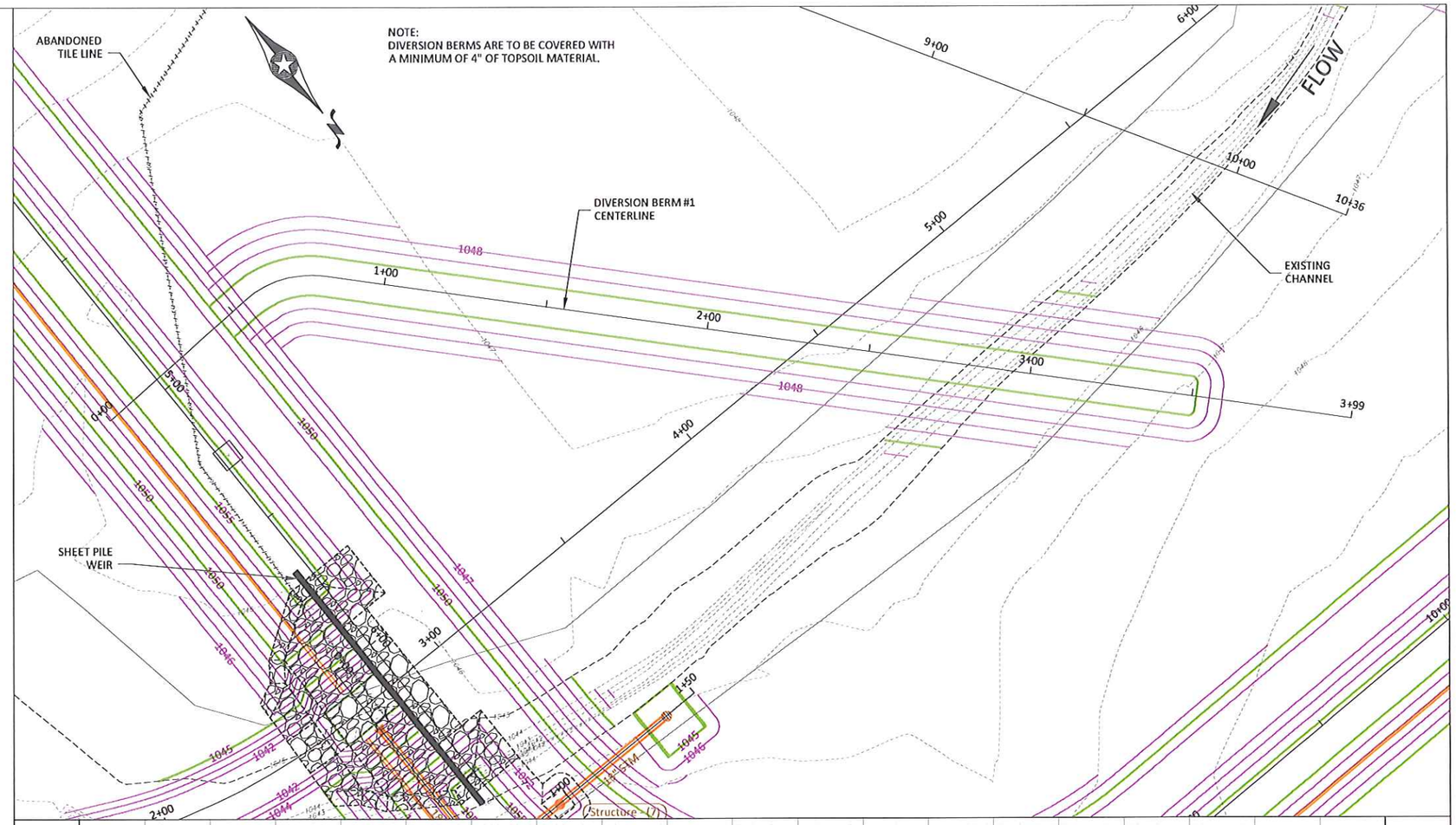

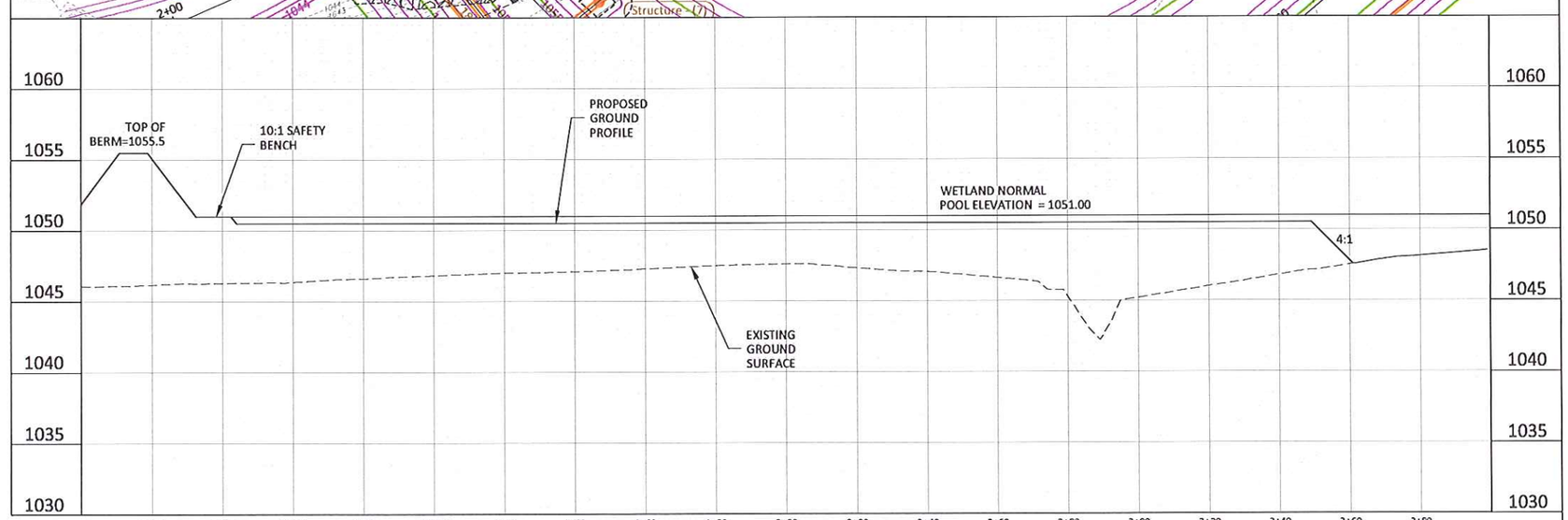

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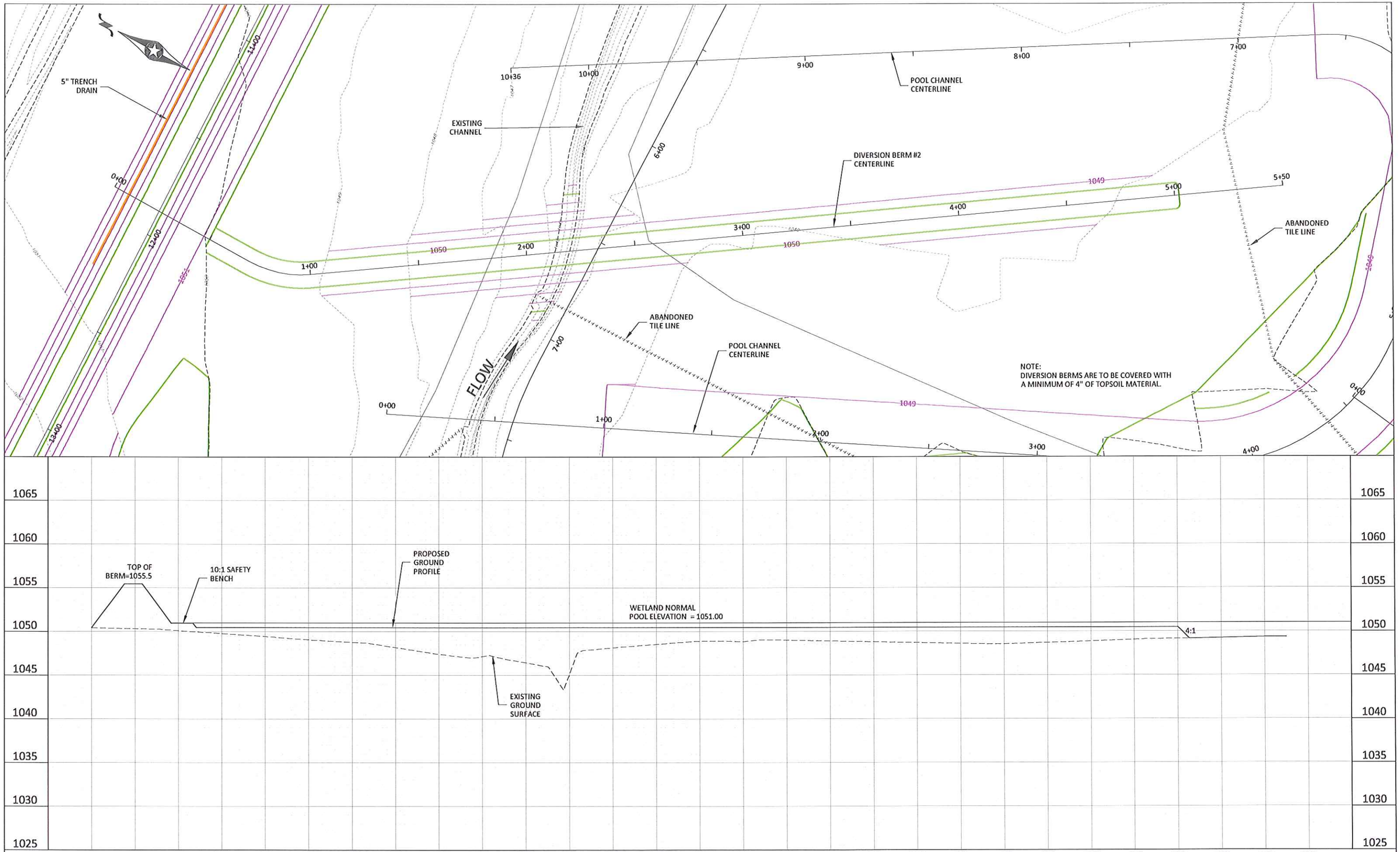
IOWA DEPARTMENT OF AGRICULTURE
HARDIN CREP PROJECT NO. HAR892029C
DIVERSION BERM DETAIL
DIVERSION BERM #1

SHEET 9.1



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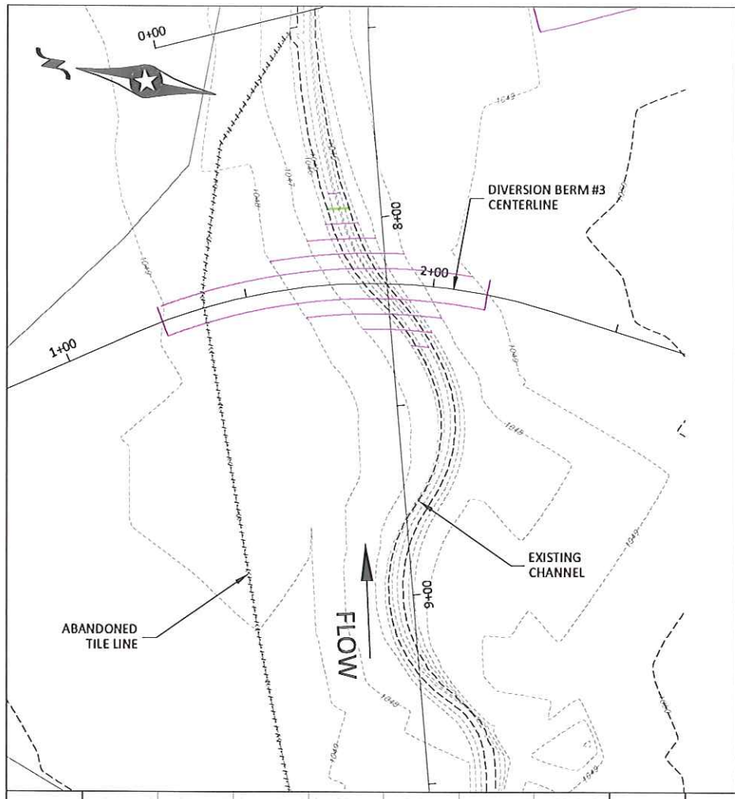
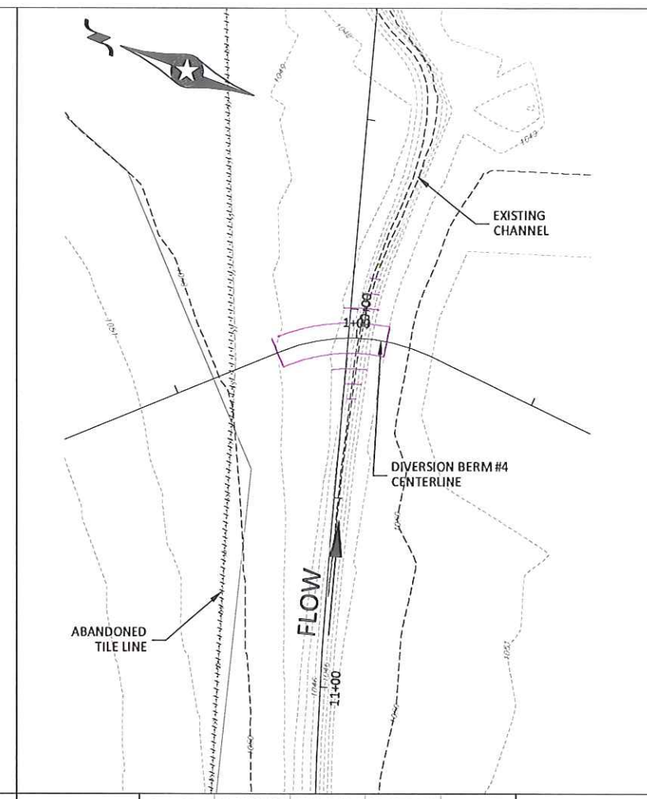
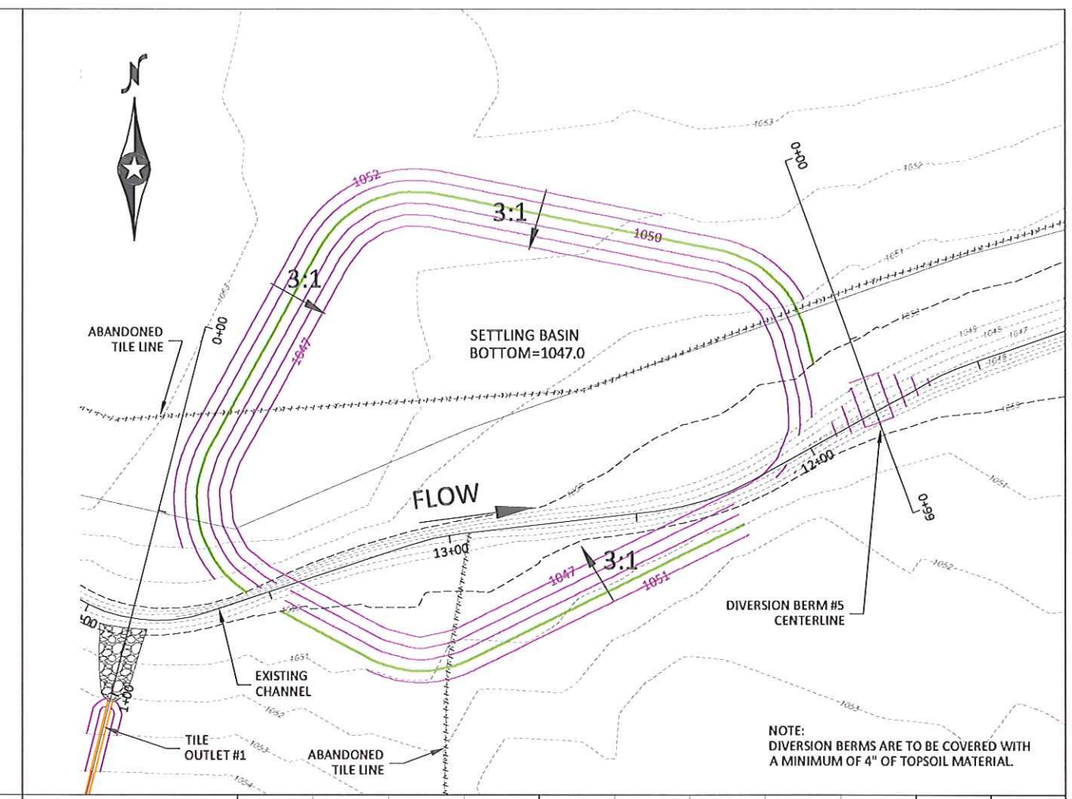
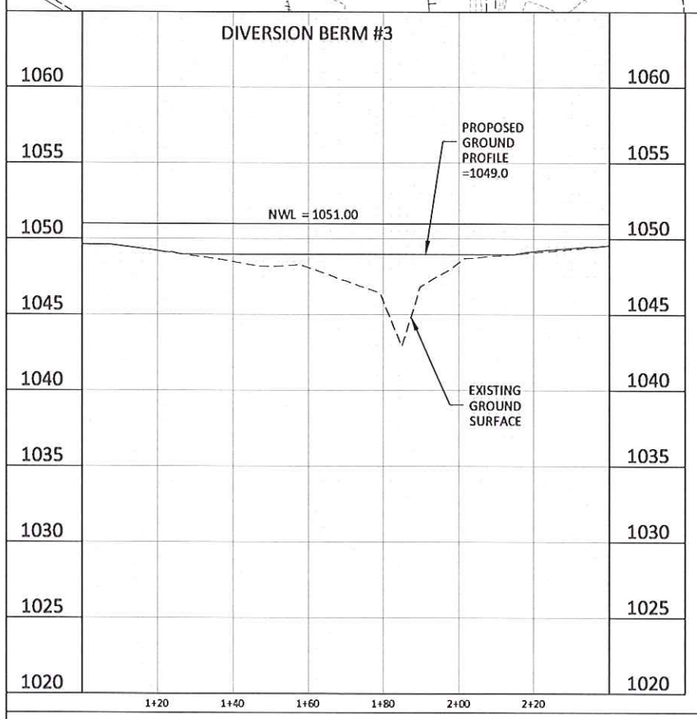
IOWA DEPARTMENT OF AGRICULTURE
HARDIN CREP PROJECT NO. HAR892029C
DIVERSION BERM DETAIL
DIVERSION BERM #2

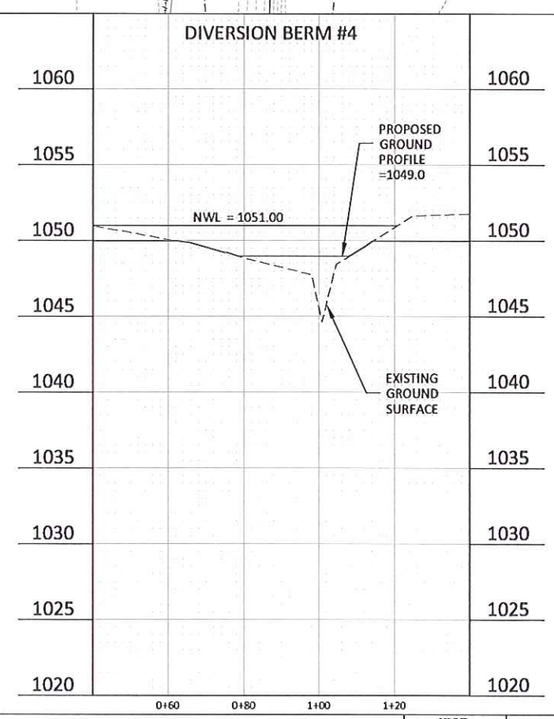
SHEET 9.2

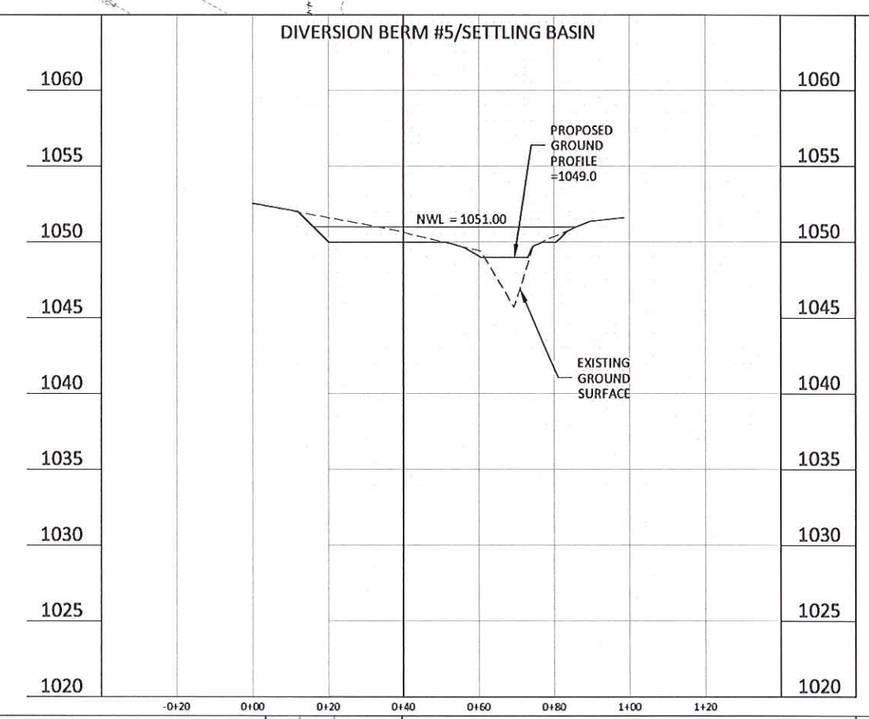












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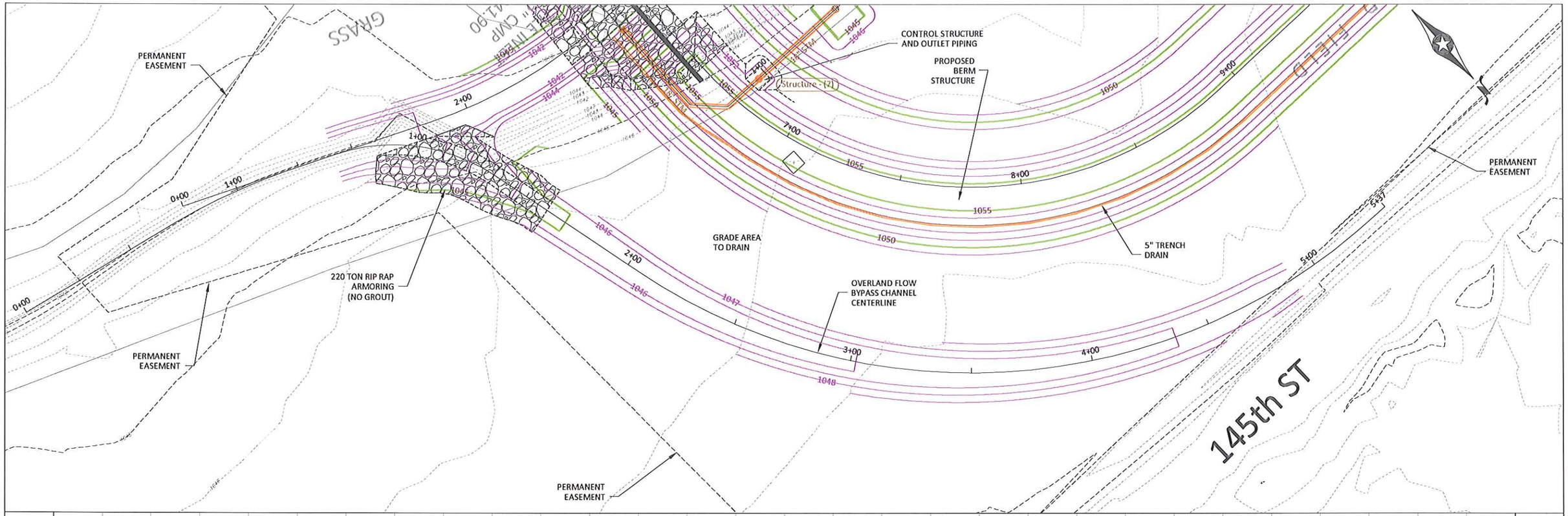
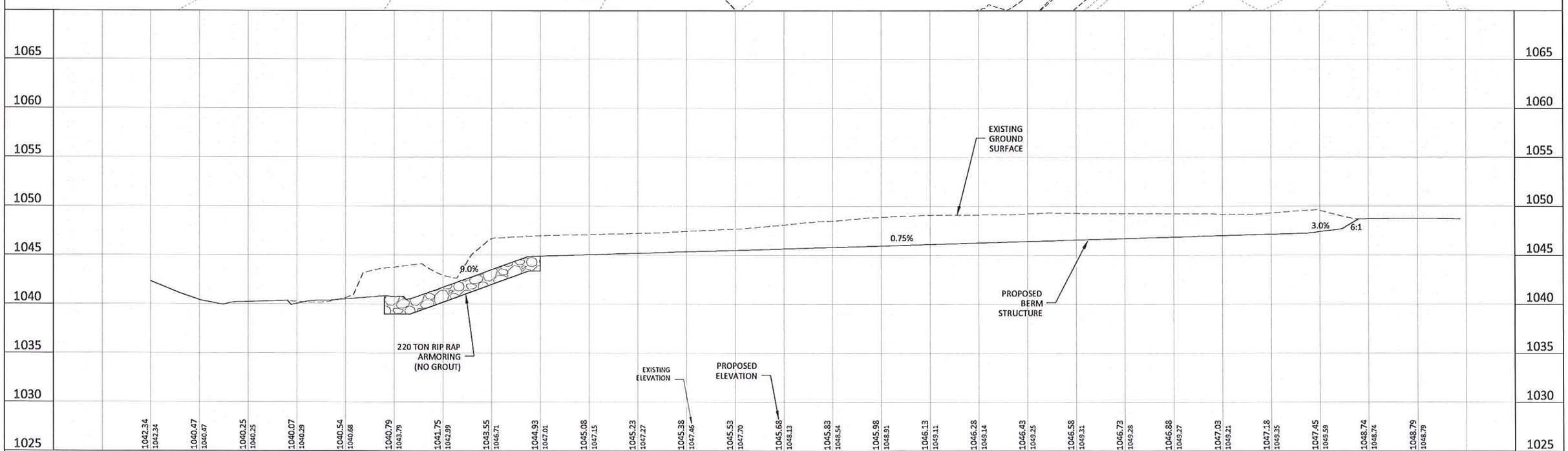
IOWA DEPARTMENT OF AGRICULTURE
HARDIN CREP PROJECT NO. HAR892029C
DIVERSION BERM DETAIL
DIVERSION BERM #3, #4, AND #5

SHEET 9.3





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IOWA DEPARTMENT OF AGRICULTURE
HARDIN CREP PROJECT NO. HAR892029C
OVERLAND FLOW BYPASS CHANNEL

SHEET 10.0