



CITY OF ANN ARBOR, MICHIGAN

ARGO DAM TOE DRAIN IMPROVEMENTS

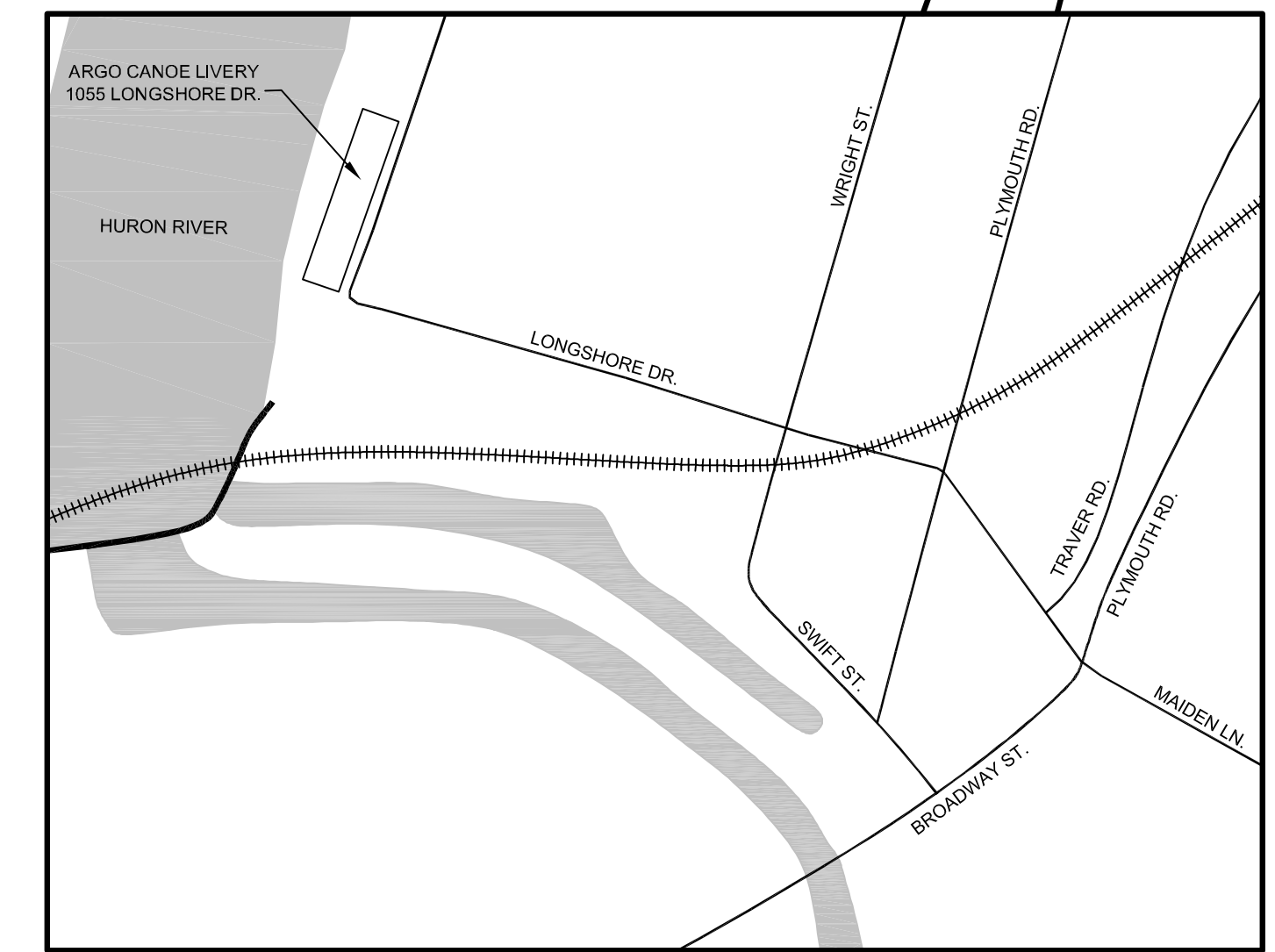
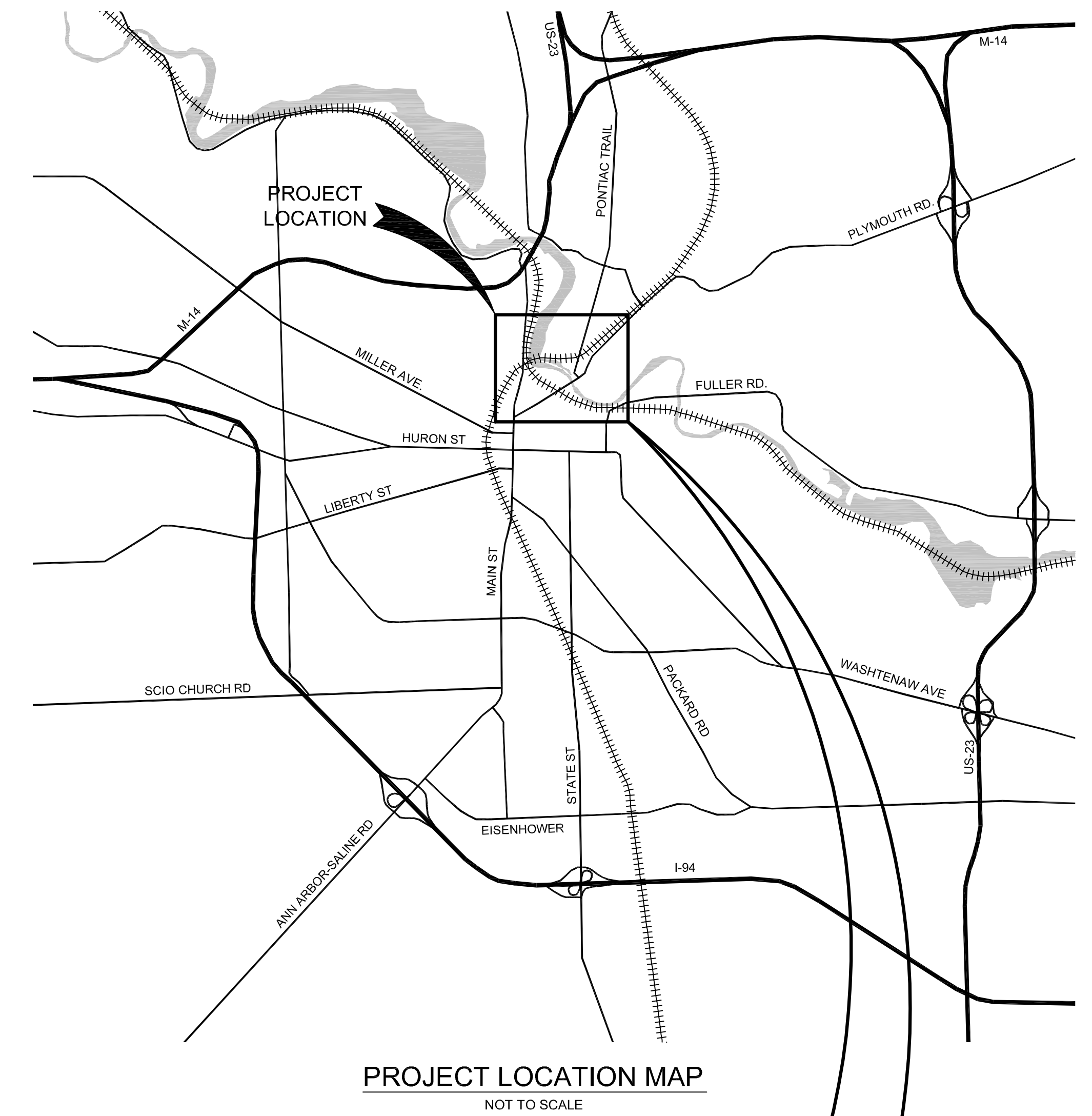
BID NO. ITB-4119

FILE NO. 11001

BID SET

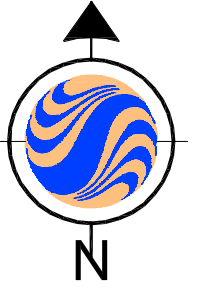
AUGUST 2010

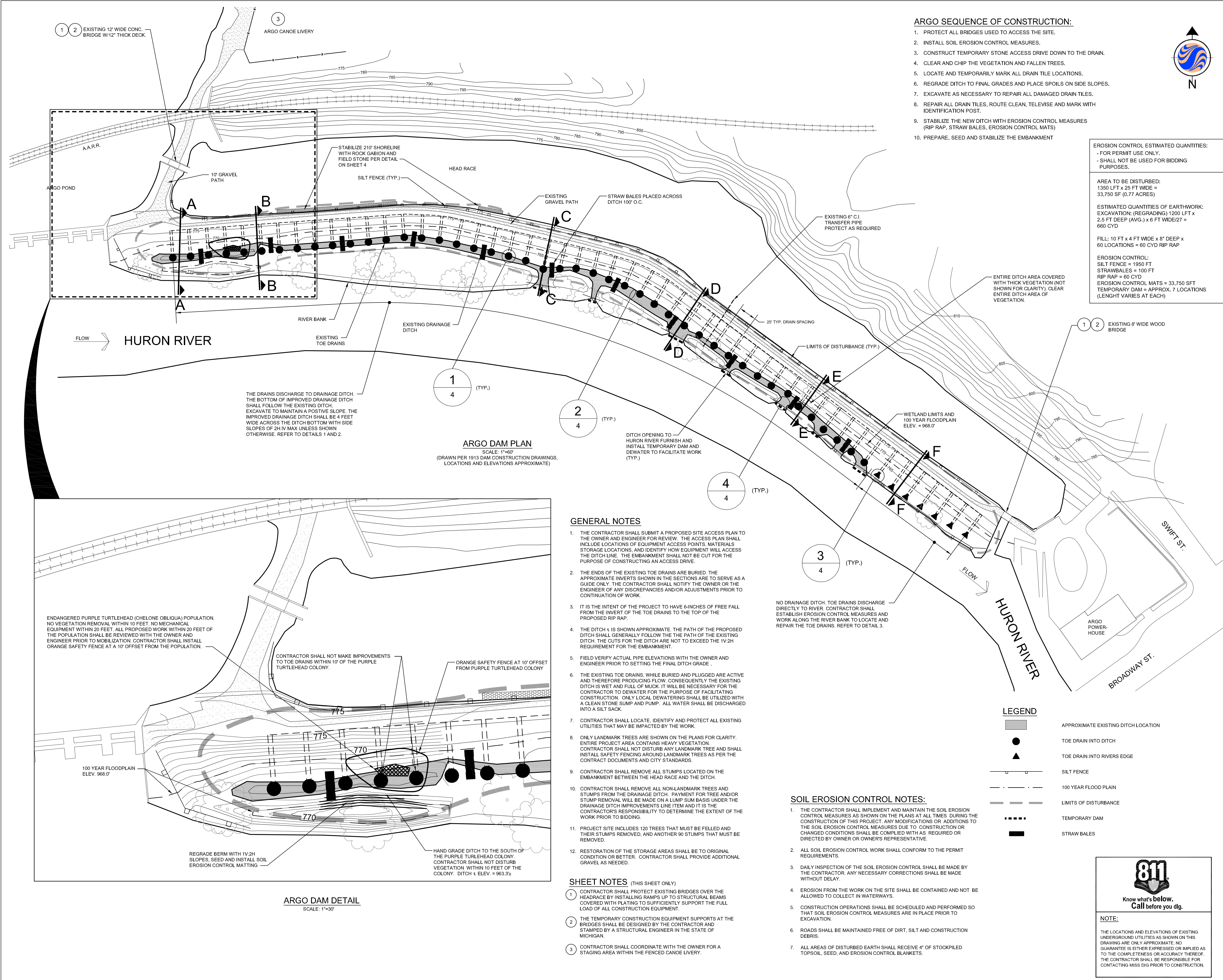
Project Number: 2075116500



DRAWING INDEX:

| DWG | SHEET | TITLE |
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| <u>GENERAL SHEETS</u> | | |
| 01 | 01 | COVER SHEET |
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| <u>REFERENCE SHEETS</u> | | |
| 05 | 5302 | ARGO POWER PLANT- HEAD RACE LAYOUT AND SECTIONS |





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Legend

Notes

Revision

| Revision | By | Appd. | YY.MM.DD |
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CLIENT REVIEW SET

Issued

| | CJE | GRW | 10.08.13 |
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| | CJE | GRW | 10.07.15 |
| | By | Appd. | YY.MM.DD |

File Name: C-01.DWG

Permit-Seal

| | Dwn. | Chkd. | Dsgn. | YY.MM.DD |
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Client/Project

CITY OF ANN ARBOR

ARGO DAM
TOE DRAIN IMPROVEMENTS
Ann Arbor, Michigan

Title

PLAN VIEW

Project No.

2075116500

Drawing No.

2

Scale

AS NOTED

Sheet

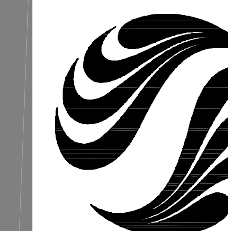
2 of 5

Revision

0

811
Know what's below.
Call before you dig.

NOTE:
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS DIG PRIOR TO CONSTRUCTION.



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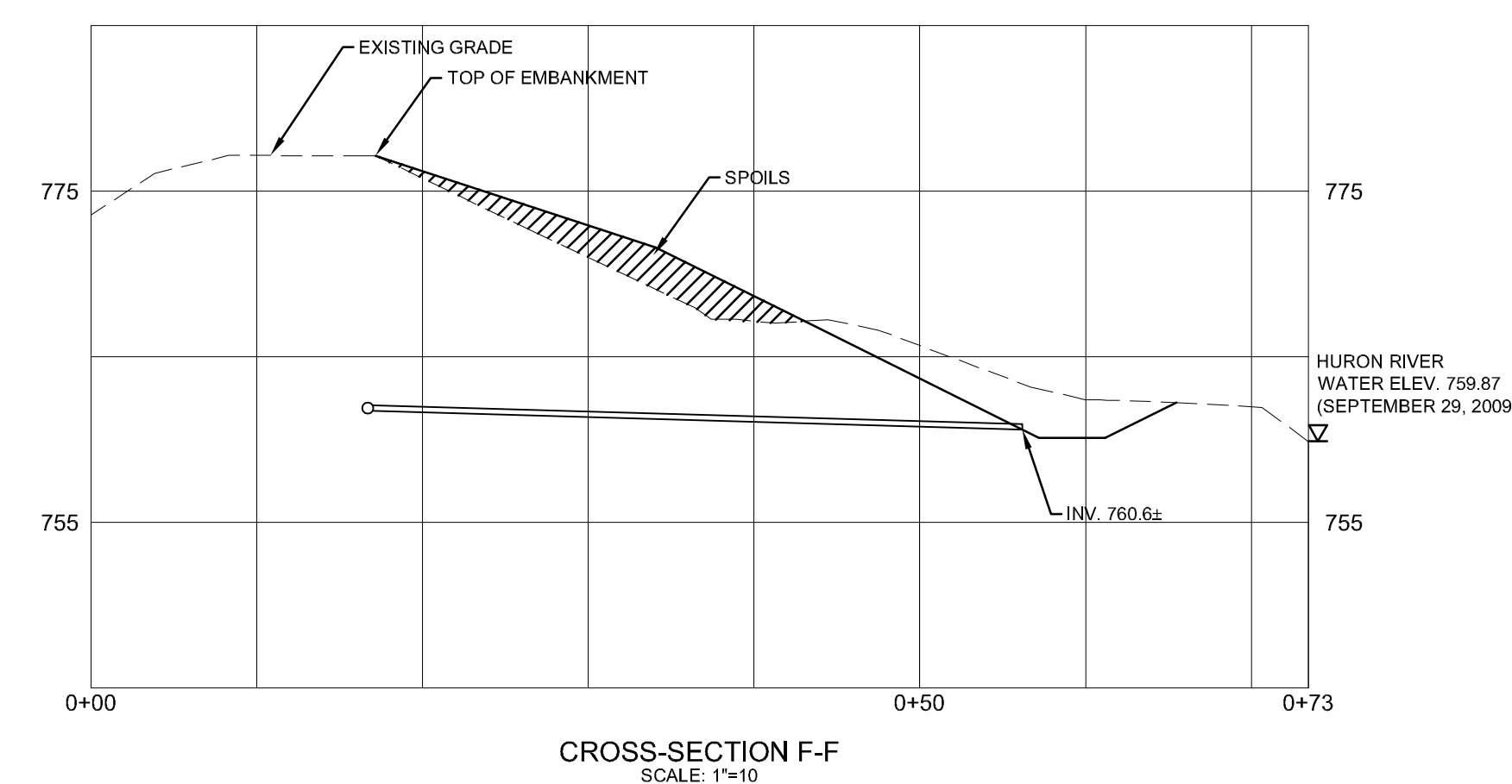
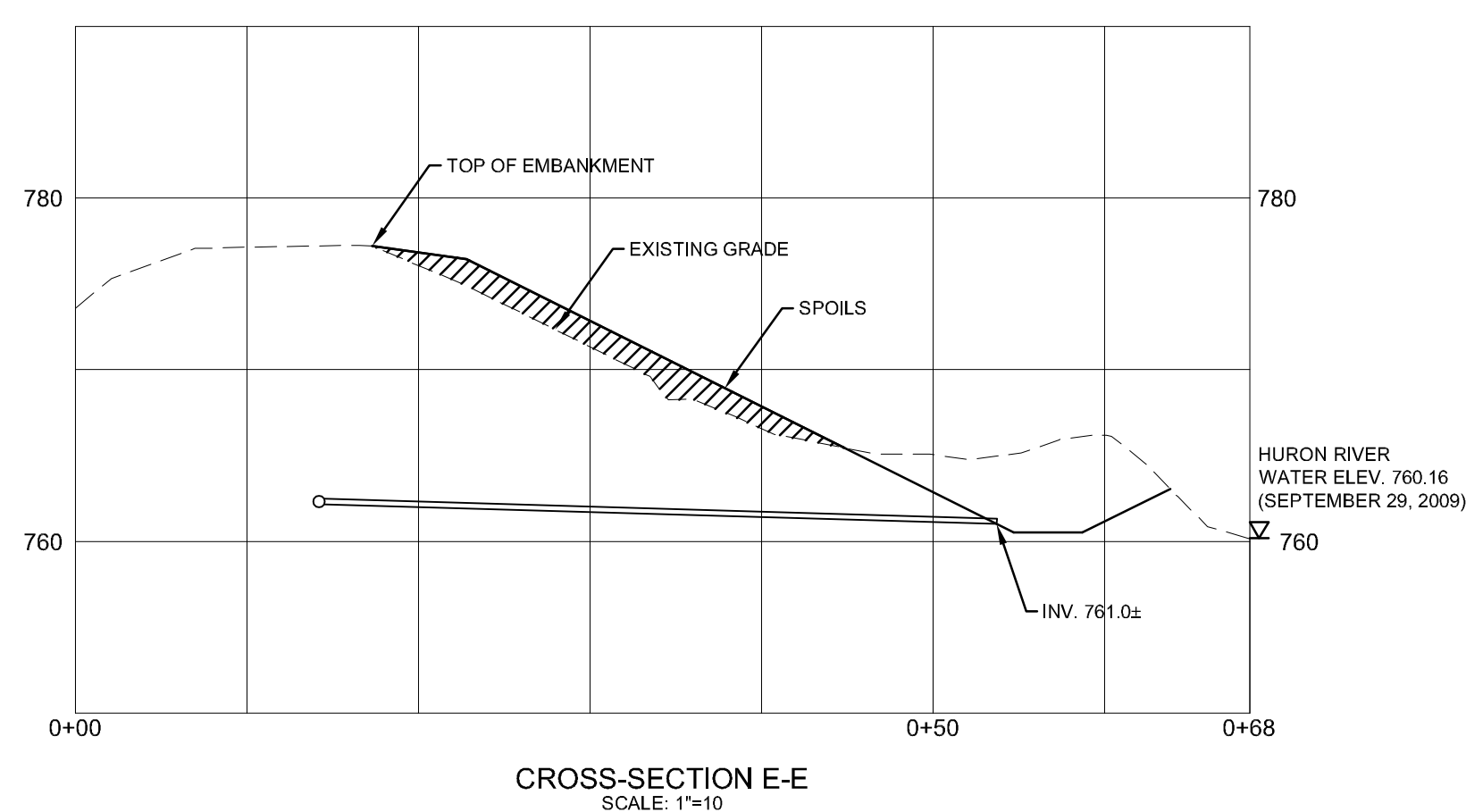
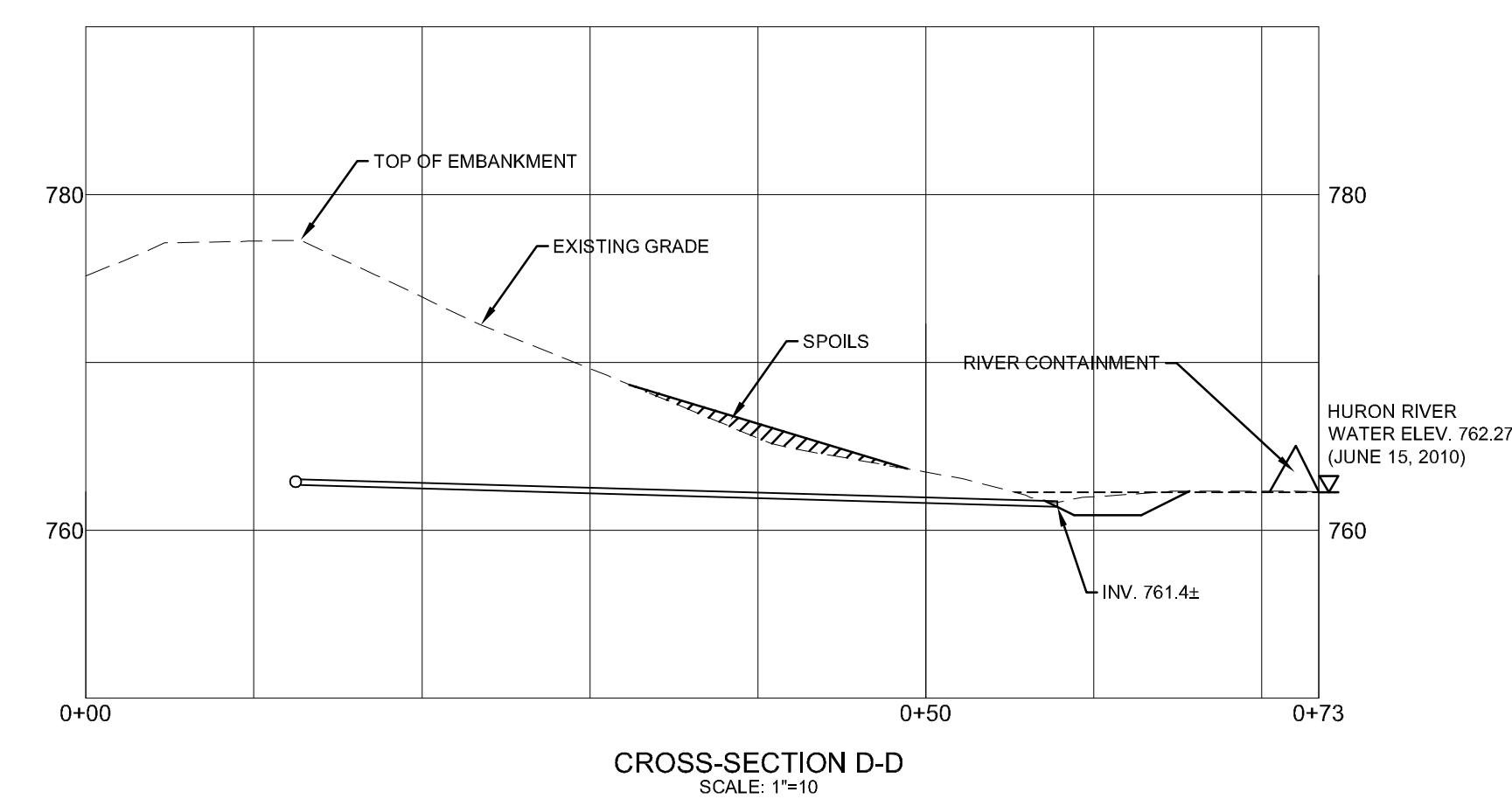
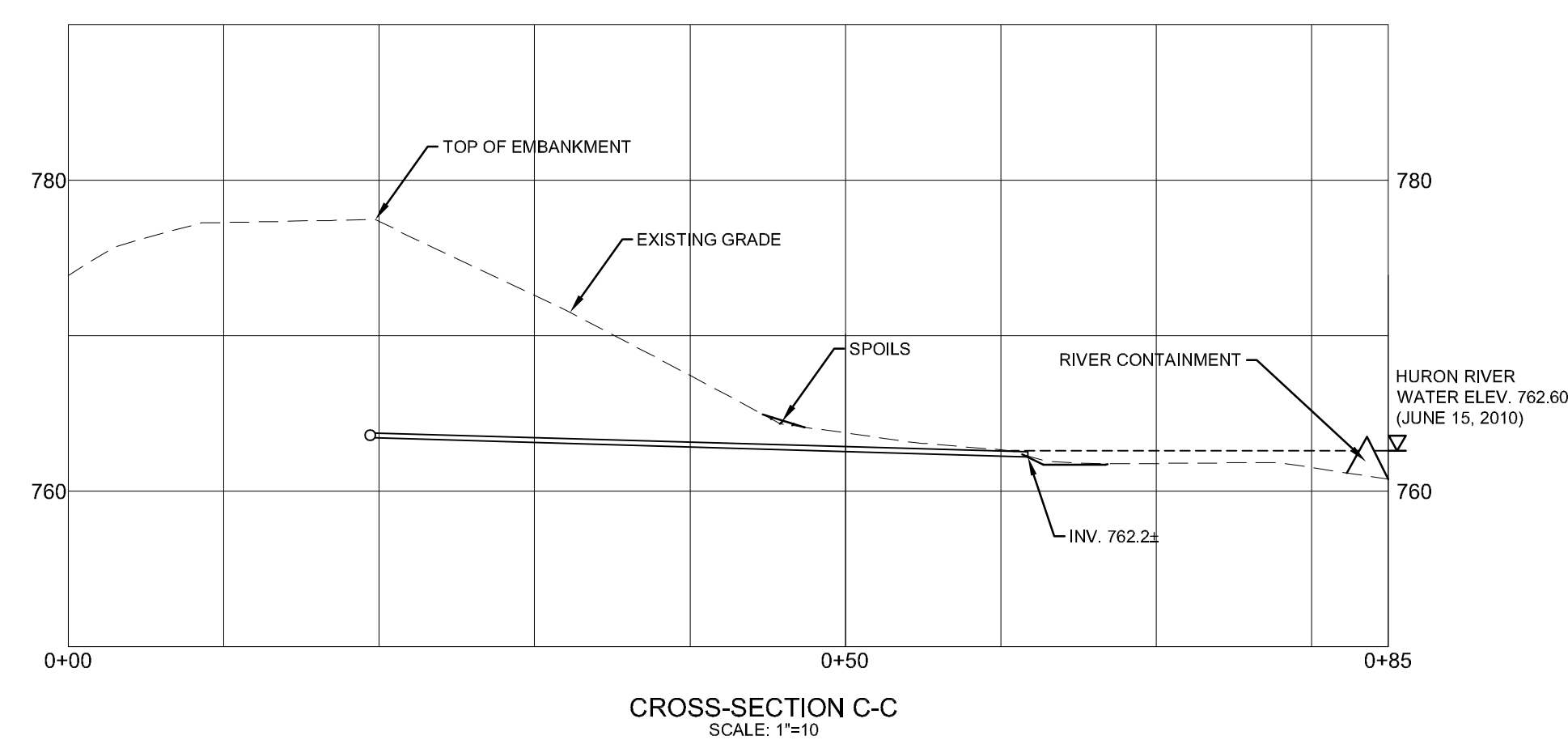
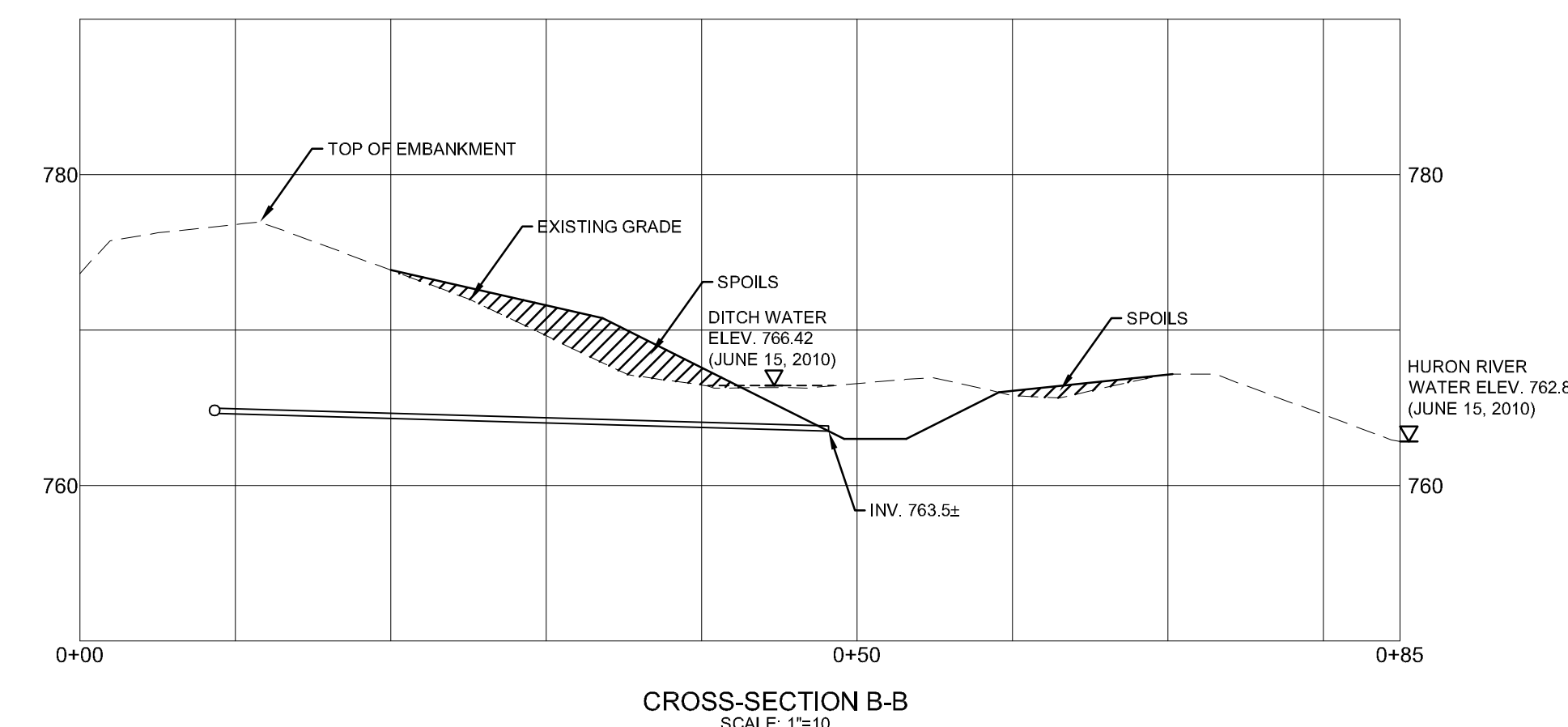
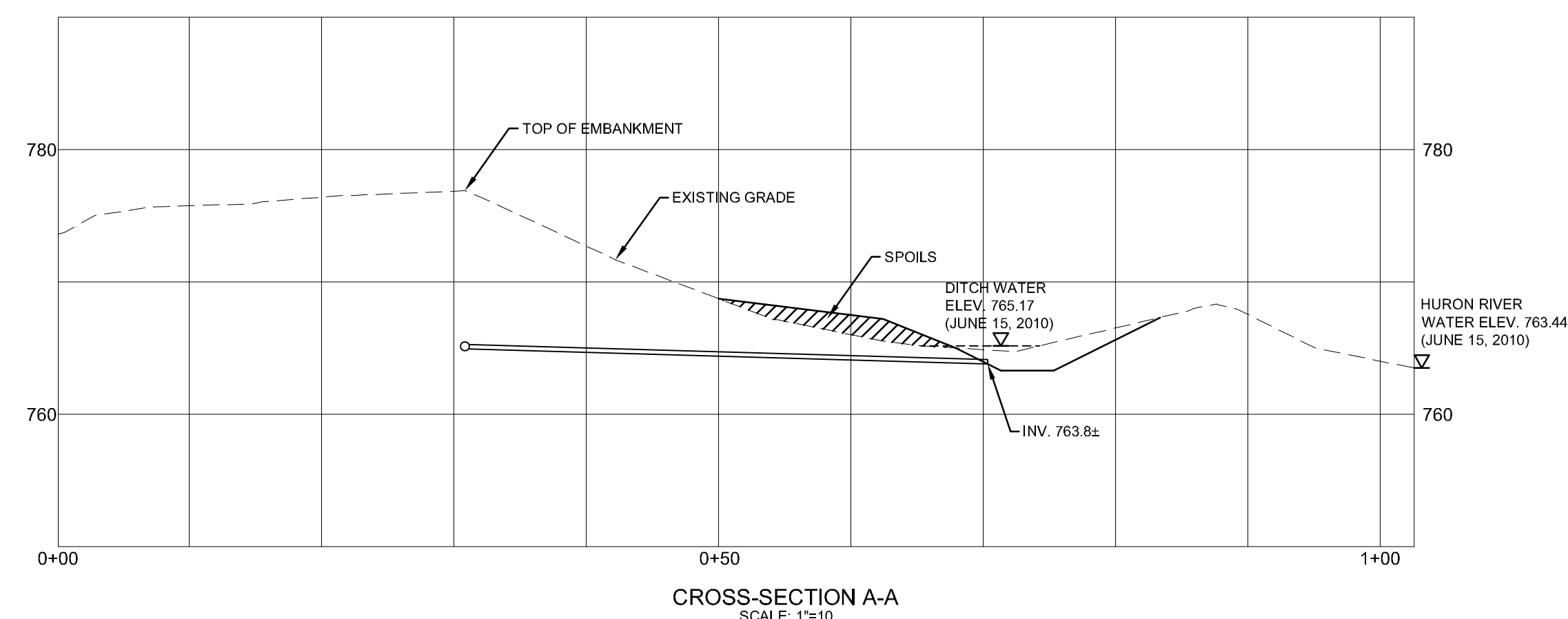
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| BID SET | CJE | GRW | 10.08.13 |
| CLIENT REVIEW SET | CJE | GRW | 10.07.15 |
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File Name: C-02.DWG

Permit-Seal

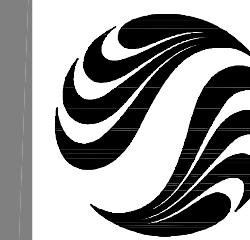
Client/Project
CITY OF ANN ARBOR
ARGO DAM
TOE DRAIN IMPROVEMENTS
 Ann Arbor, Michigan

Title
CROSS-SECTIONS

| | | |
|-------------|----------|----------|
| Project No. | Scale | |
| 2075116500 | AS NOTED | |
| Drawing No. | Sheet | Revision |
| 3 | 3 of 5 | 0 |

NOTE:
 THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS DIG PRIOR TO CONSTRUCTION.

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| CLIENT REVIEW SET | CJE | GRW | 10.07.15 |
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Permit-Seal

Client/Project
 CITY OF ANN ARBOR

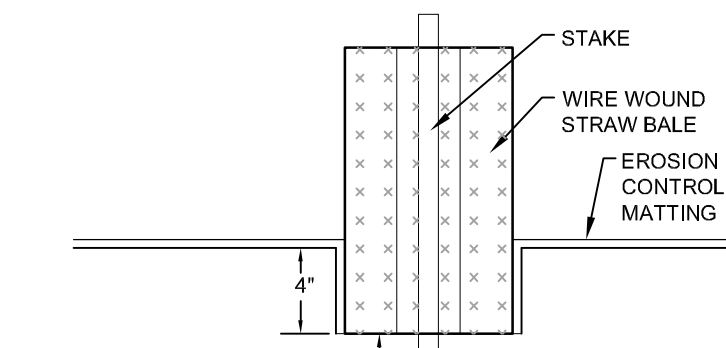
ARGO DAM
 TOE DRAIN IMPROVEMENTS
 Ann Arbor, Michigan

Title
 DETAILS

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| Project No. | Scale |
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| Drawing No. | Sheet |
| 4 | 4 of 5 |
| Revision | 0 |

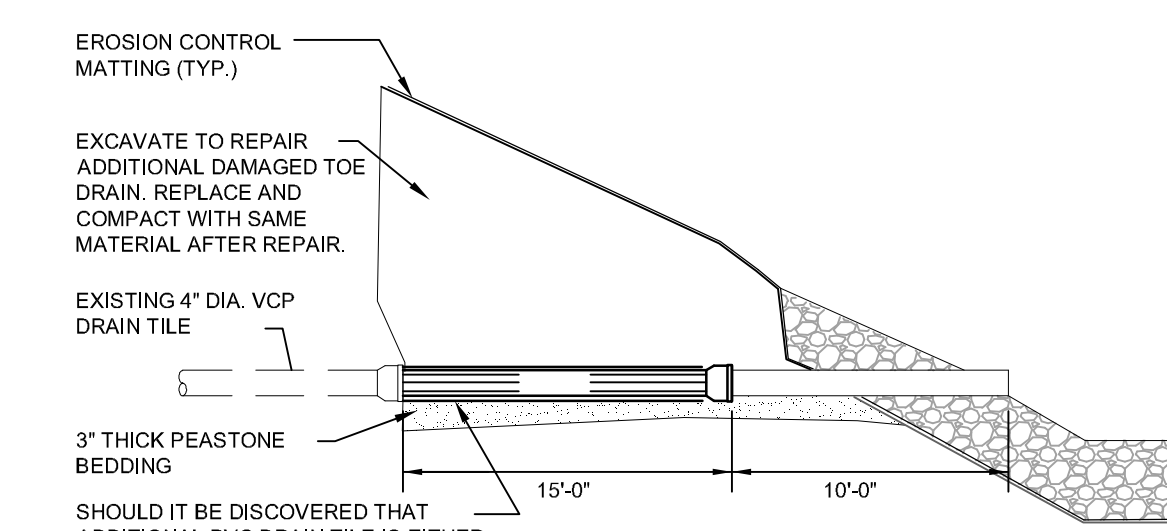
GENERAL NOTES

- ALL EXISTING 4 INCH PVC DRAIN TILES SHALL BE LOCATED IN THE TOE-OF-SLOPE DRAINAGE DITCH BY CAREFULLY EXCAVATING ALONG THE DRAINAGE DITCH TO WHERE THE LOCATION OF EACH DRAIN TILE IS ANTICIPATED (APPROX. 25 FT ± FT SPACING); INVERT ELEVATIONS OF EXISTING DRAIN TILES VARY.
- EXPOSE END OF TOE DRAIN AND REMOVE ANY BROKEN OR DETERIORATED PIPE. REMOVE ANY BROKEN PIPE RESULTING FROM THE GRADING OPERATIONS. THIS MAY REQUIRE SOME EXCAVATION INTO THE EMBANKMENT TOE-OF-SLOPE. THE PIPE SHALL BE REMOVED TO THE NEAREST UNDISTURBED JOINT.
- REPLACE BROKEN OR DETERIORATED PIPE WITH 4-INCH SCHEDULE 80 PVC PIPE. REPLACE TO FULL JOINT, I.E. TO PVC BELL JOINT. SEAL JOINT AT CONNECTION TO THE EXISTING PIPE WITH BUTYL JOINT SEALANT SIMILAR TO E-2-STIK AS MANUFACTURED BY PRESS-SEAL GASKET CORPORATION.
- EXISTING DRAIN TILES SHALL BE CLEARED OF ACCUMULATED SEDIMENT. DRAIN TILES SHALL BE ROUTED CLEAN APPROXIMATELY 30 L.F. IN AND VIDEO INSPECTED. ROUTING OPERATIONS SHALL NOT COMPROMISE THE INTEGRITY OF VCP DRAIN TILES.
- PLACE PERMANENT MARKERS AT THE END OF EACH TOE DRAIN. PERMANENT MARKERS TO BE 7'-0" LONG HOT DIPPED GALVANIZED STEEL CHANNEL (C3x6) DRIVEN 4'-0" INTO THE GROUND. LABEL CHANNEL WITH 3 INCH PAINTED NUMERICAL. NUMBERS SHALL BEGIN AT WESTERN END OF PROJECT AND COUNT CONSECUTIVELY FROM WEST TO EAST.
- ALL DISTURBED AREAS NOT RECEIVING AGGREGATE INCLUDING SIDESLOPES AND DITCH BOTTOMS SHALL RECEIVE STOCKPILED TOPSOIL AND SEED, INCLUDING EROSION CONTROL MATS.
- THE BOTTOM OF THE IMPROVED DRAINAGE DITCH SHALL FOLLOW THE PATH OF THE EXISTING DITCH. EXCAVATED TO MAINTAIN A MINIMUM SLOPE OF 1/8 INCH PER FOOT. THE IMPROVED DRAINAGE DITCH SHALL BE 4 FEET WIDE ACROSS THE DITCH BOTTOM WITH SIDE SLOPES OF 2H:1V MAX UNLESS SHOWN OTHERWISE.



- NOTES:**
- BALES SHALL BE PLACED IN A ROW ACROSS THE DITCH. ENDS SHALL TIGHTLY ABUTT ADJACENT BALES.
 - STRAW BALES SHALL BE PLACED APPROX. EVERY 100 FT ALONG THE DITCH.

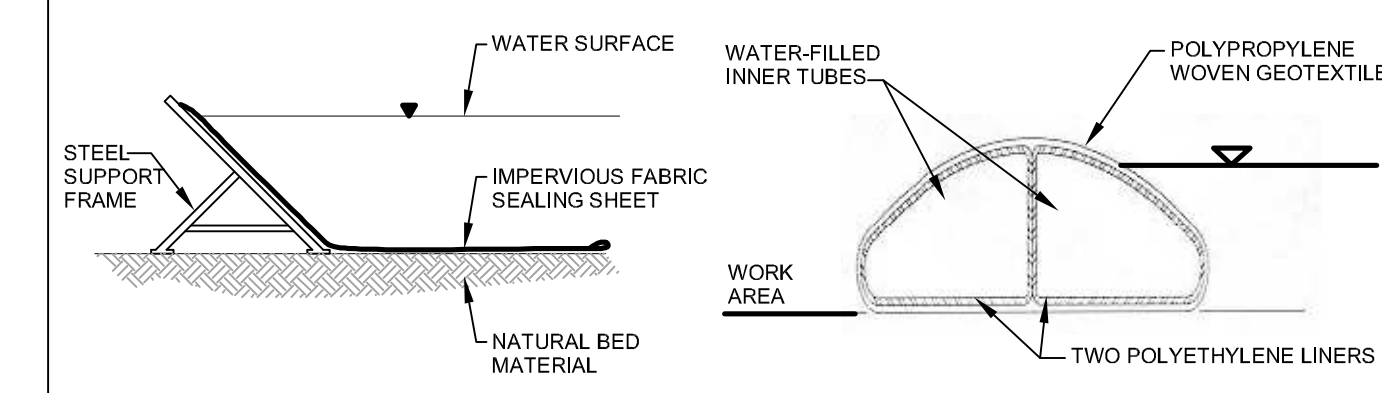
STRAW BALE DETAIL
 SCALE: NONE



SHOULD IT BE DISCOVERED THAT ADDITIONAL PVC DRAIN TILE IS EITHER DAMAGED OR DETERIORATED BEYOND THE ESTIMATED 10 FEET, THE TOE DRAIN SHALL BE REPLACED WITH ADDITIONAL PERFORATED PVC UNDERDRAIN PIPING AS REQUIRED. PERFORATED PIPE SHALL BE WRAPPED WITH GEOTEXTILE FABRIC.

ADDITIONAL REPAIR DETAIL
 SCALE: NONE

NOTE: WORK SHALL NOT PROCEED WITHOUT ON-SITE OWNER AND/OR ENGINEER INSPECTION.

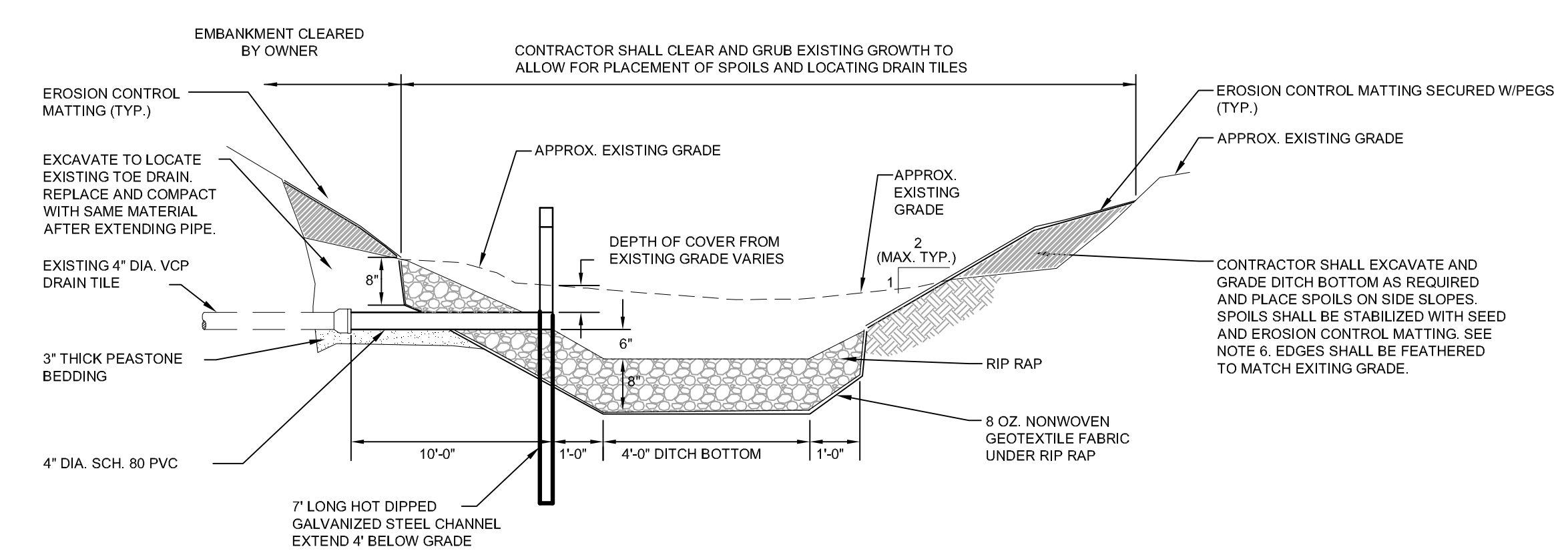


EXAMPLE PORTADAM INSTALLATION

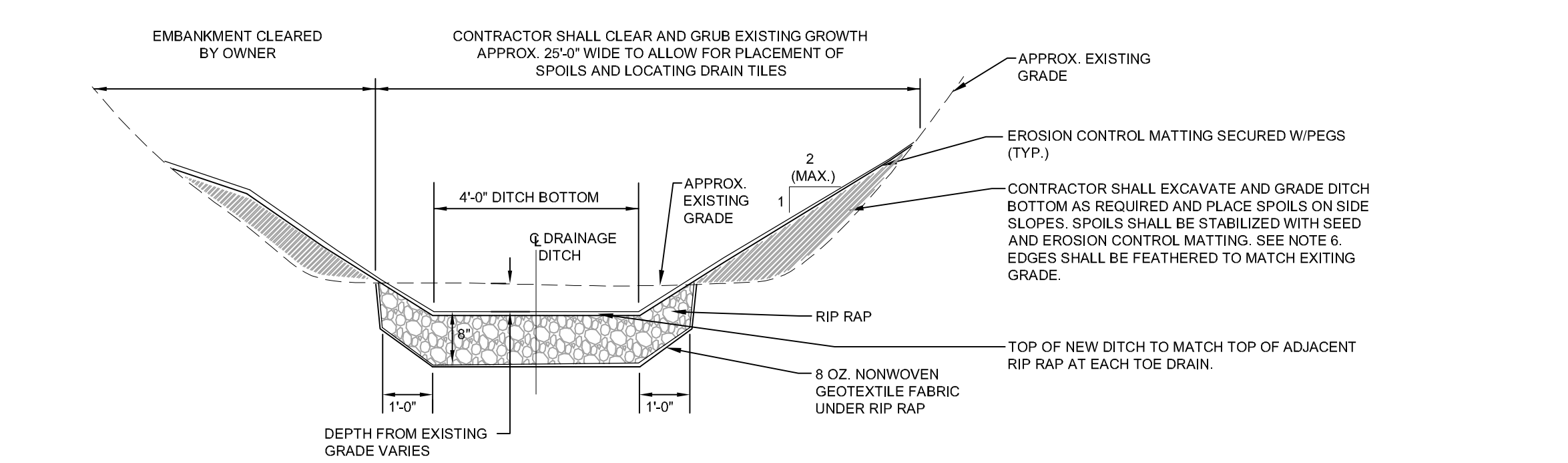
EXAMPLE AQUADAM INSTALLATION

DEWATERING CONTAINMENT AT RIVER'S EDGE

THE ACTUAL METHOD FOR CONTAINMENT IS UP TO THE CONTRACTOR. TWO RECOMMENDED ALTERNATIVES INCLUDE THE AQUADAM (WATER STRUCTURES UNLIMITED; 1-800-682-9283) AND PORTADAM (PORTADAM, INC.; 1-800-346-4793). EXAMPLE DETAILS OF THESE CONTAINMENT METHODS ARE SHOWN ON THIS SHEET. THE CONTRACTOR MUST SUBMIT SHOP DRAWINGS AND INSTALLATION METHODS FOR REVIEW BEFORE INSTALLATION.

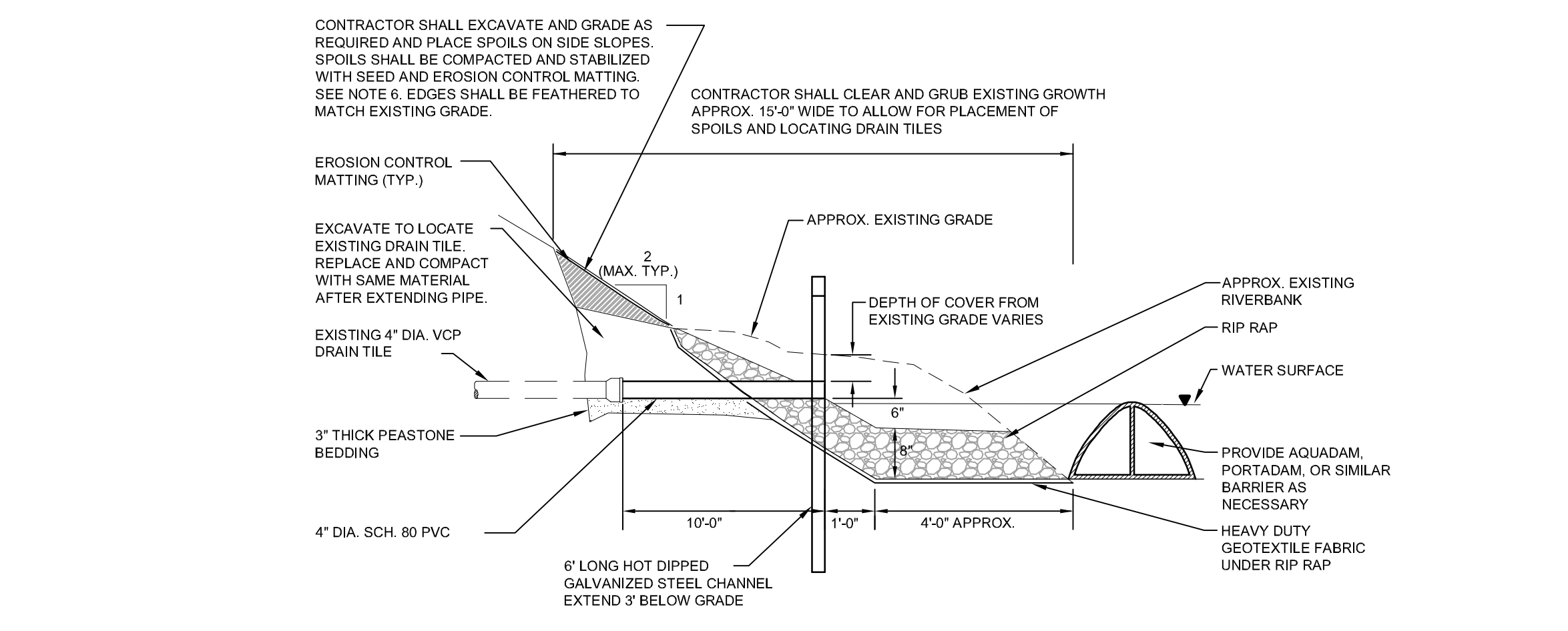


DRAINAGE DITCH AND TOE DRAIN REPAIR DETAIL
 SCALE: NONE

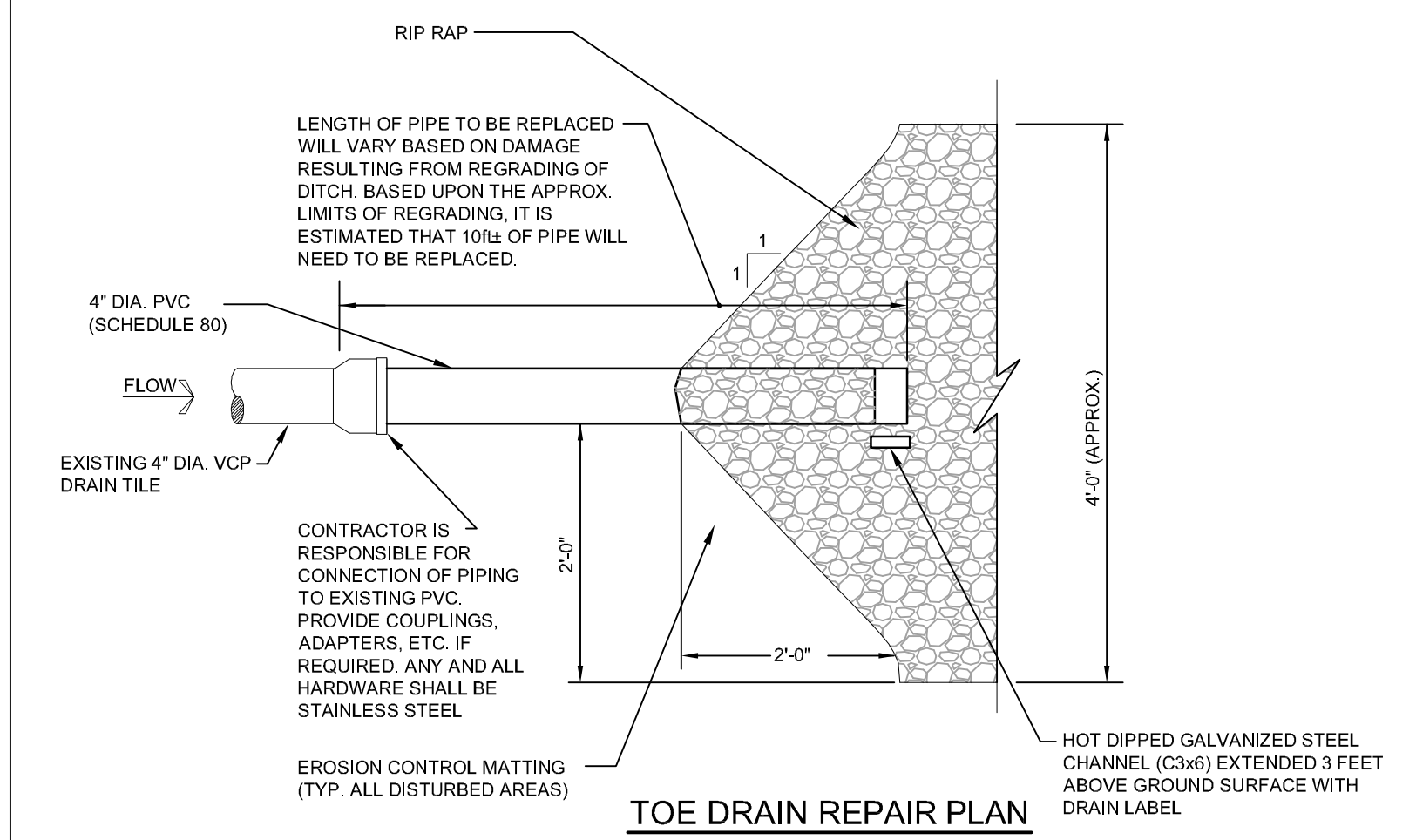


DRAINAGE DITCH DETAIL
 SCALE: NONE

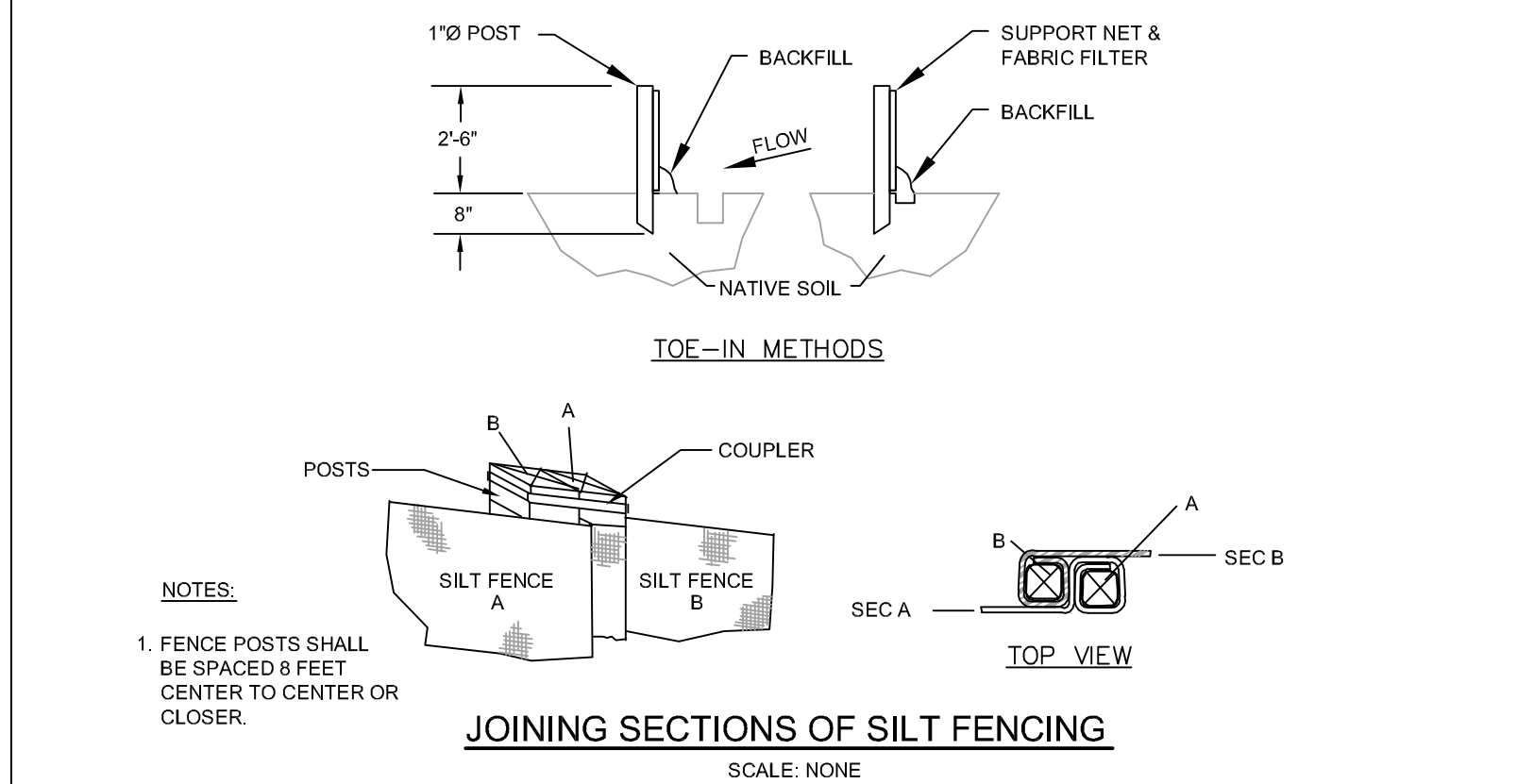
- NOTES:**
- CONTRACTOR SHALL REMOVE ALL VEGETATION FROM THE DRAINAGE DITCH EXCEPT FOR LANDMARK TREES. SHALL INCLUDE THE REMOVAL OF ALL BRUSH, TREES, FALLEN TREES, AND STUMPS.



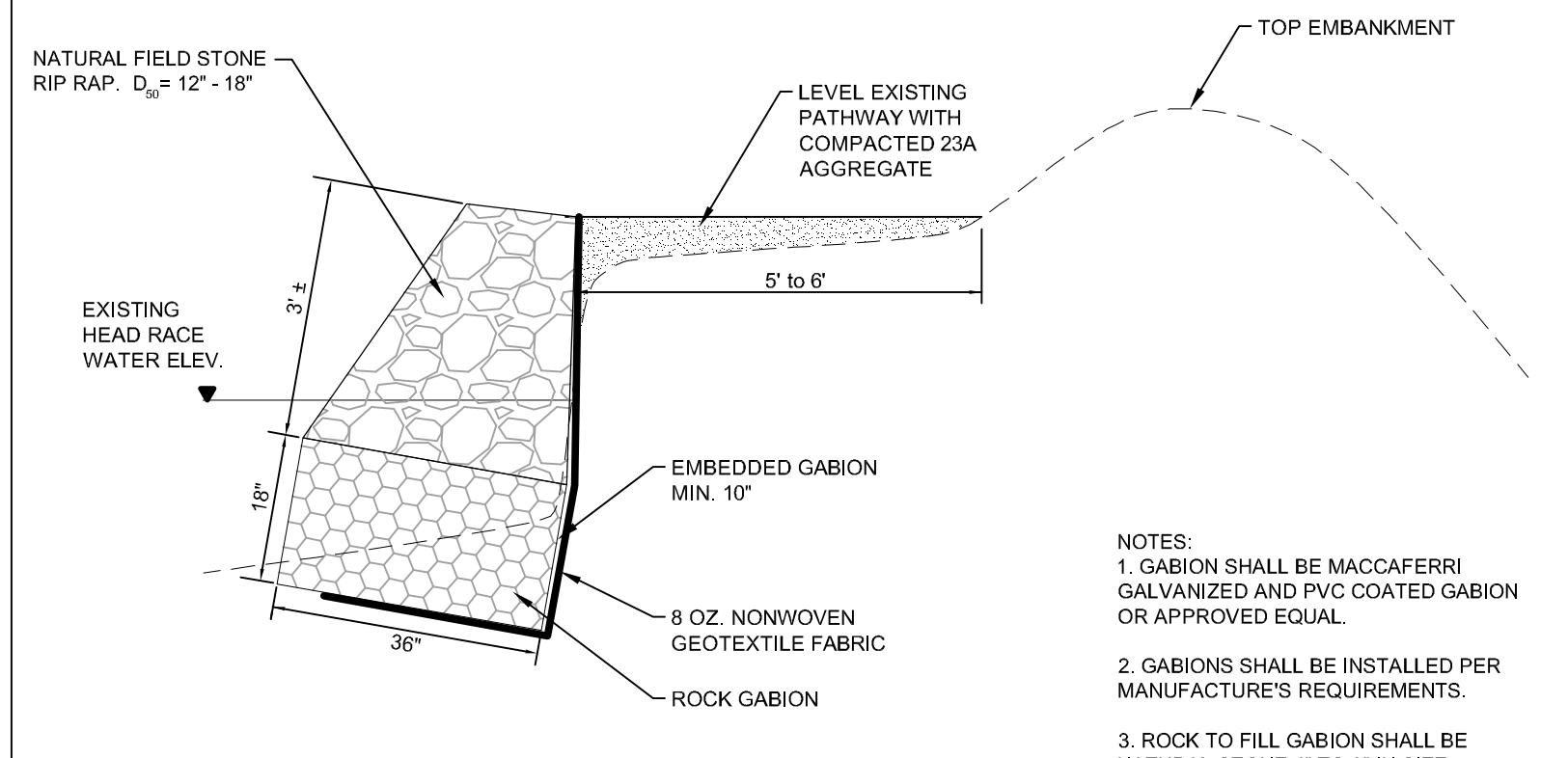
TOE DRAIN REPAIR AT RIVER'S EDGE DETAIL
 SCALE: NONE



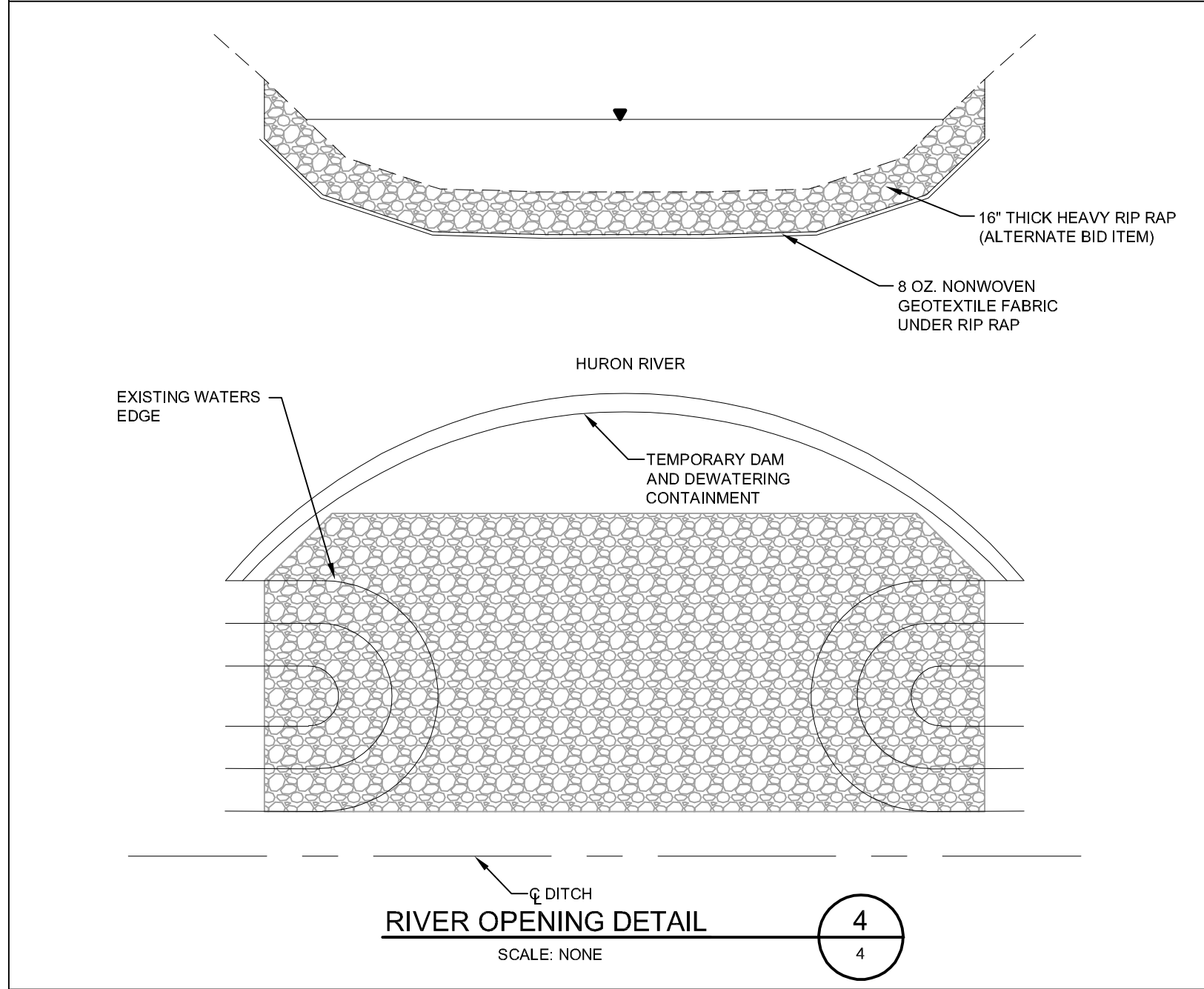
TOE DRAIN REPAIR PLAN
 SCALE: NONE



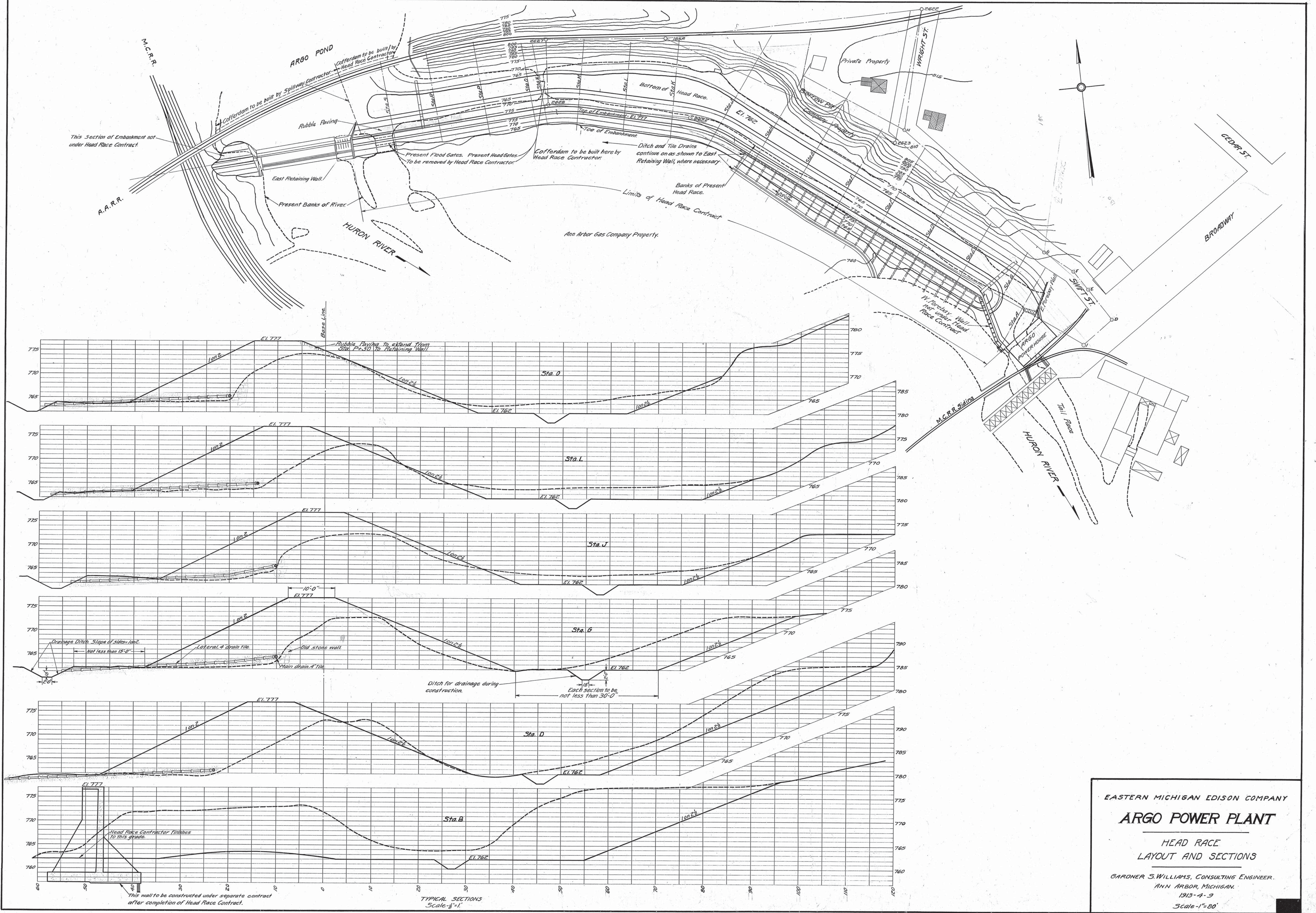
JOINING SECTIONS OF SILT FENCING
 SCALE: NONE



ROCK GABION AND FIELD STONE DETAIL
 SCALE: NONE



RIVER OPENING DETAIL
 SCALE: NONE



EASTERN MICHIGAN EDISON COMPANY
ARGO POWER PLANT
 HEAD RACE
 LAYOUT AND SECTIONS
 GARDNER S. WILLIAMS, CONSULTING ENGINEER.
 ANN ARBOR, MICHIGAN.
 1913-4-9
 Scale - 1" = 80'

corrected profile line at gravel pit 1914-U-3