

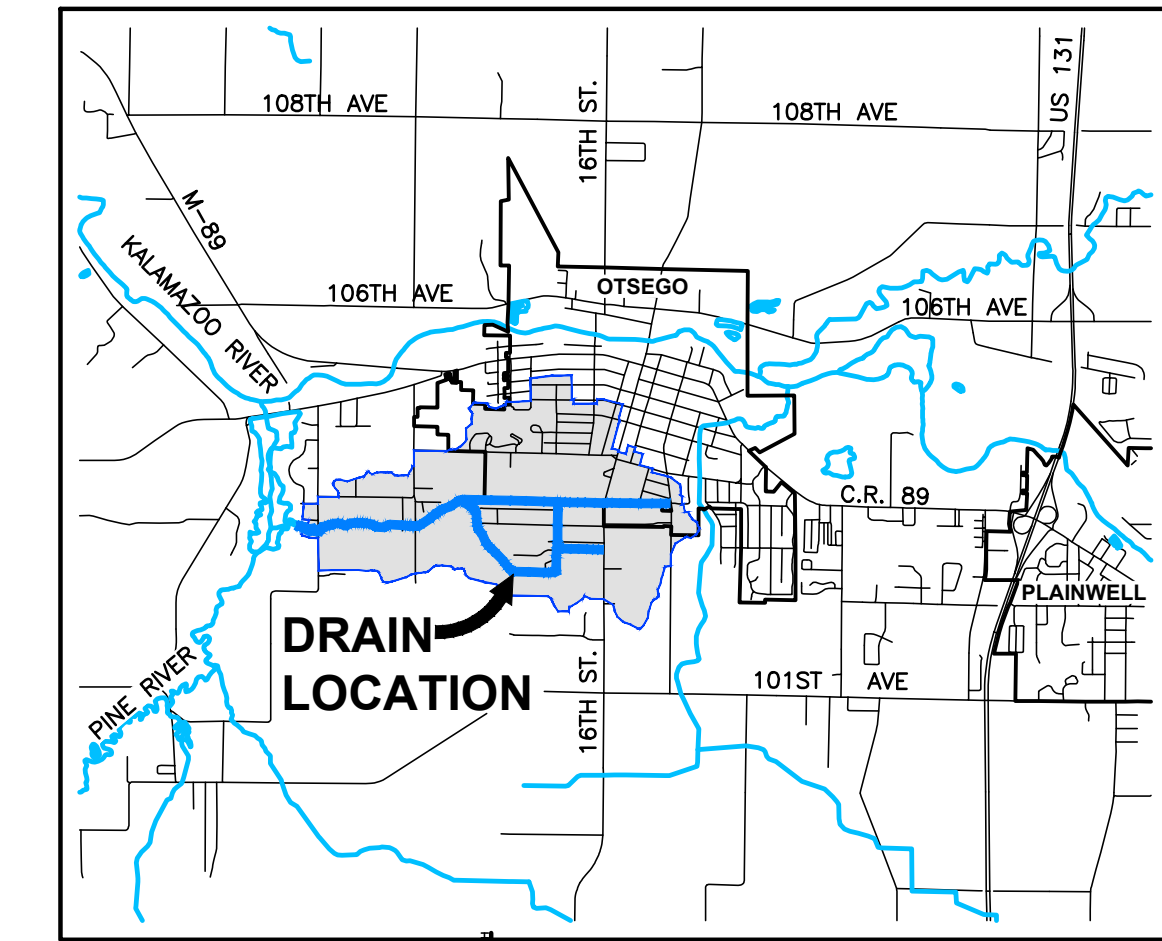
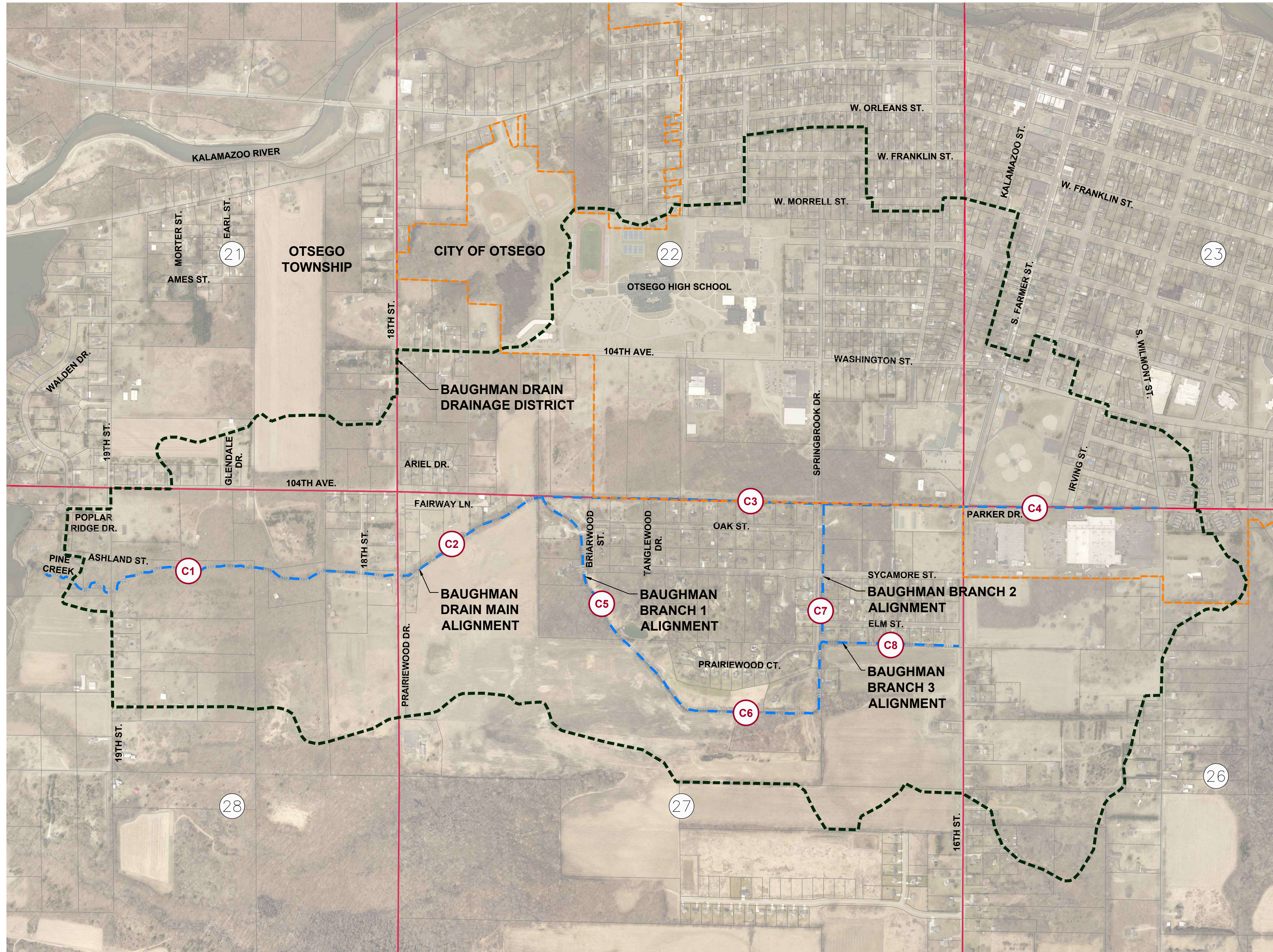


Baughman Drain - Division 1

Sections 21-23 & 26-28

T01N, R12W

Otsego Township & City of Otsego,
Allegan County, Michigan



VICINITY MAP
NOT TO SCALE

INDEX OF SHEETS

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- C2 - PLAN & PROFILE**
MAIN ALIGNMENT (STA. 28+50 - 57+50)
- C3 - PLAN & PROFILE**
MAIN ALIGNMENT (STA. 57+50 - 86+50)
- C4 - PLAN & PROFILE**
MAIN ALIGNMENT (STA. 86+50 - 110+00)
- C5 - PLAN & PROFILE**
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- C6 - PLAN & PROFILE**
BRANCH 2 (STA. 0+00 - 19+00)
- C7 - PLAN & PROFILE**
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- C13 - SESC PLAN**

DRAIN INFORMATION

BAUGHMAN MAIN DRAIN LENGTH	2.08 MILES
BAUGHMAN BRANCH 1 LENGTH	0.72 MILES
BAUGHMAN BRANCH 2 LENGTH	0.35 MILES
BAUGHMAN BRANCH 3 LENGTH	0.25 MILES
BAUGHMAN DRAIN DRAINAGE DISTRICT AREA	968.27 ACRES

LEGEND

- ENCLOSED CHANNEL DRAIN
- OPEN CHANNEL DRAIN
- OTSEGO CITY LIMITS
- DRAINAGE DISTRICT BOUNDARY
- SECTION LINE
- TOWNSHIP LINE
- ROADS
- PROPERTY LINES
- SECTION NUMBERS
- SHEET NUMBERS

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171

ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.

2121 3 Mile Rd. NW
Walker, MI 49544
Ph: 616-501-7888
www.LREMI.com

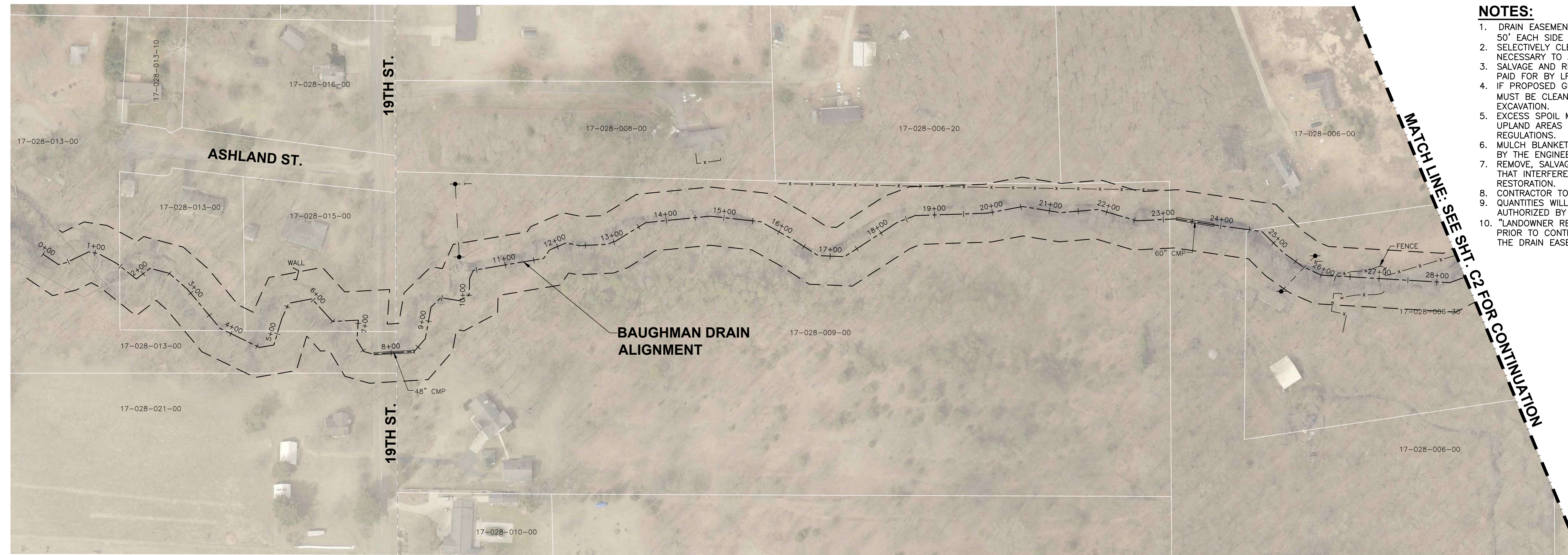
REVISIONS:	NO.	ISSUED FOR:	DATE
	1	PRELIMINARY REVIEW	11/2016
	2	PRELIMINARY REVIEW	01/2019
	3	OWNER REVIEW	11/22/2024
	4	OWNER REVIEW	05/19/2024
	5	ISSUED FOR BID	

CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010
PROJECT: BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

DATE	PROJECT NUMBER
07/2016	15043
07/2016	
07/2016	
04/2024	

COVER SHEET

SHEET NUMBER
CS



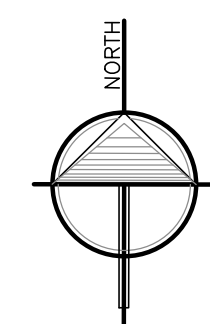
- NOTES:**
1. DRAIN EASEMENT: 50' EACH SIDE OF DRAIN CENTERLINE
 2. SELECTIVELY CLEAR, SNAG & GRUB THE DRAIN EASEMENT AS NECESSARY TO ACCESS AND COMPLETE THE WORK.
 3. SALVAGE AND RE-SPREAD TOPSOIL AND SEED ALL DISTURBED AREAS. PAID FOR BY LF OPEN CHANNEL SEEDINGS.
 4. IF PROPOSED GRADE LINE CONTIGUES THROUGH EXISTING CULVERT, IT MUST BE CLEANED/JETTED OUT. PAID FOR AS LF OPEN CHANNEL EXCAVATION.
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 6. MULCH BLANKET AREAS AS INDICATED ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
 7. REMOVE, SALVAGE AND REPAIR FENCES, STRUCTURES AND OTHER ITEMS THAT INTERFERE WITH CONSTRUCTION. PAID FOR AS 1 LS SITE RESTORATION.
 8. CONTRACTOR TO DISPOSE OF REMOVED CULVERTS.
 9. QUANTITIES WILL NOT BE PAID ABOVE THE CONTRACT AMOUNT UNLESS AUTHORIZED BY ENGINEER.
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NO.	ISSUED FOR	DATE
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2	PRELIMINARY REVIEW	01/2019
3	OWNER REVIEW	11/22/2024
4	ISSUED FOR BID	08/19/2024

PROJECT NUMBER: 15043
 CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER
 113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010
 PROJECT: BAUGHMAN DRAIN - DIVISION 1
 OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

DATE	BY
07/2016	CVF, RLB
07/2016	DJF, KJV
07/2016	LGS
04/2024	DJF

SHEET NUMBER
C1

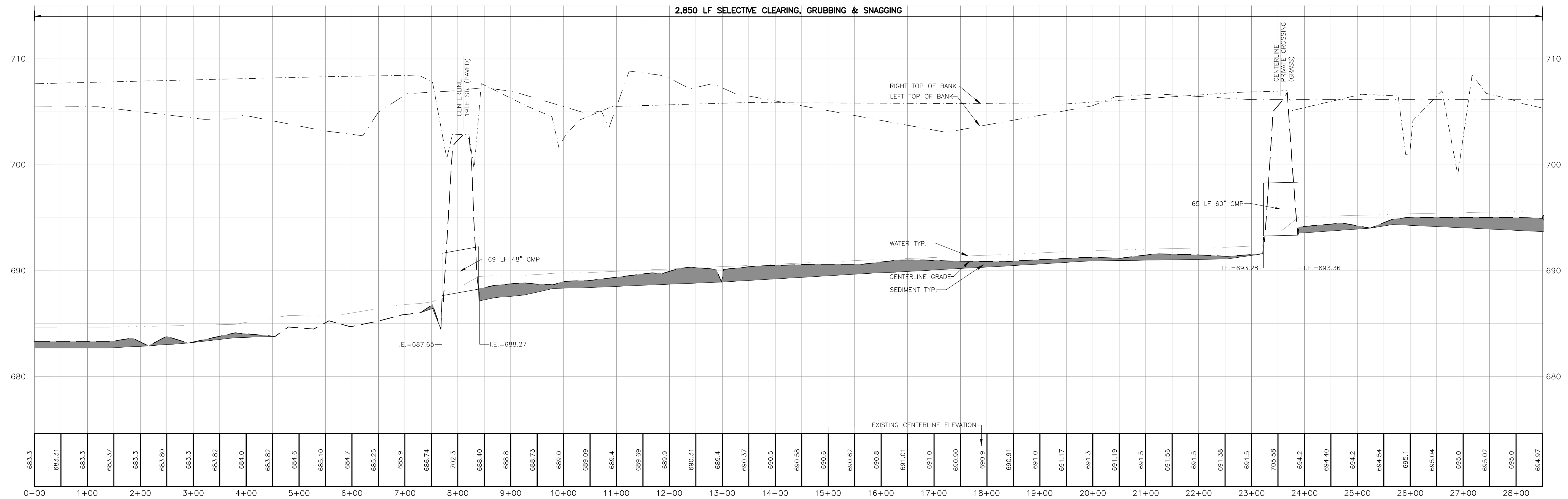


PLAN VIEW - MAIN DRAIN

Horizontal Scale in Feet

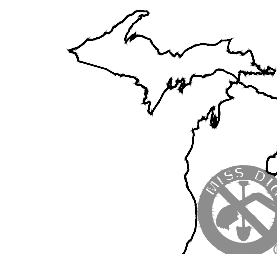
MISCELLANEOUS QUANTITIES

MOBILIZATION (5% MAX)	1 LS
TRAFFIC CONTROL	1 LS
UTILITY PROTECTION AND COORDINATION	1 LS
SITE RESTORATION	1 LS



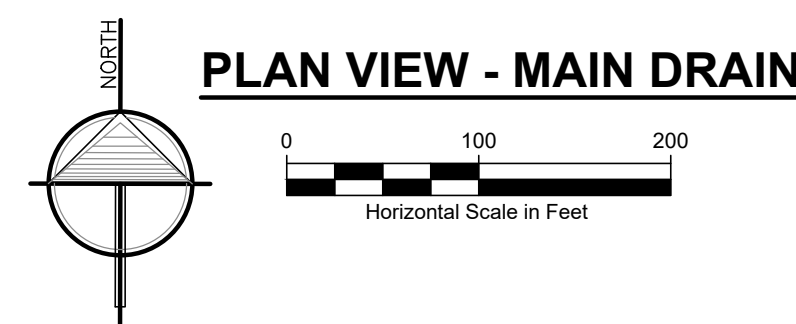
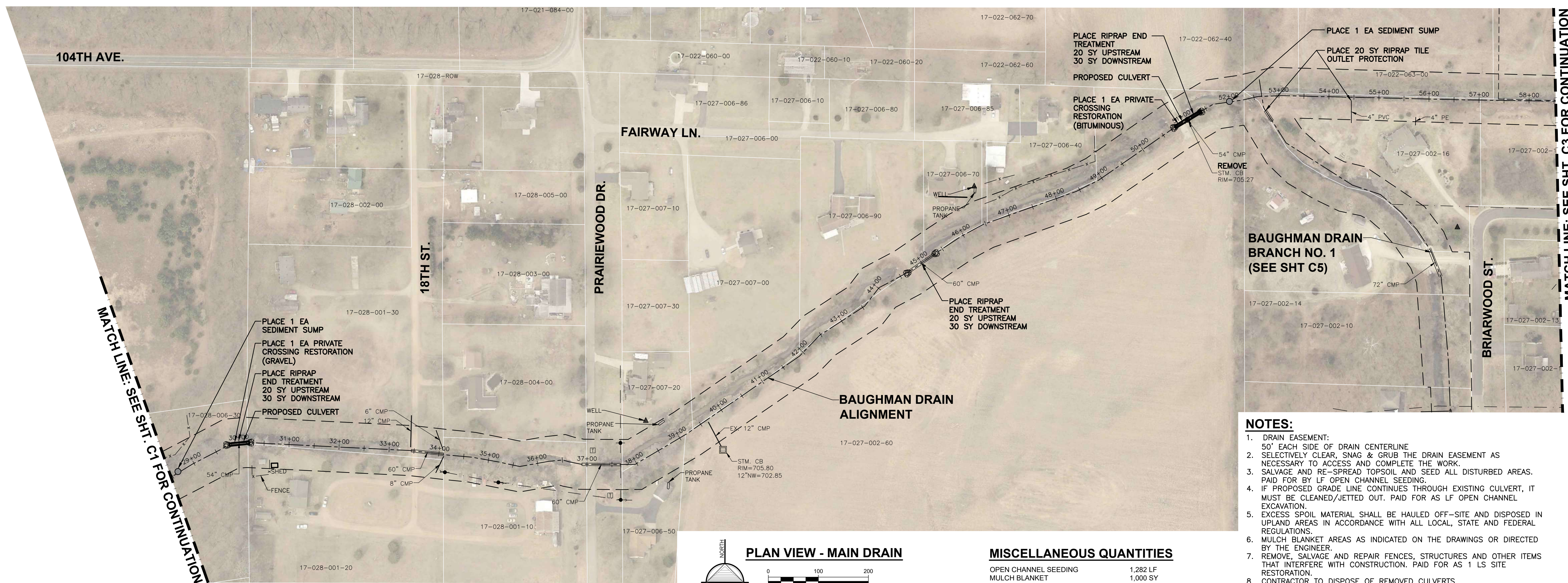
CENTERLINE PROFILE

SCALE: HORIZONTAL: 1" = 100'
 VERTICAL: 1" = 5'



**3 WORKING DAYS
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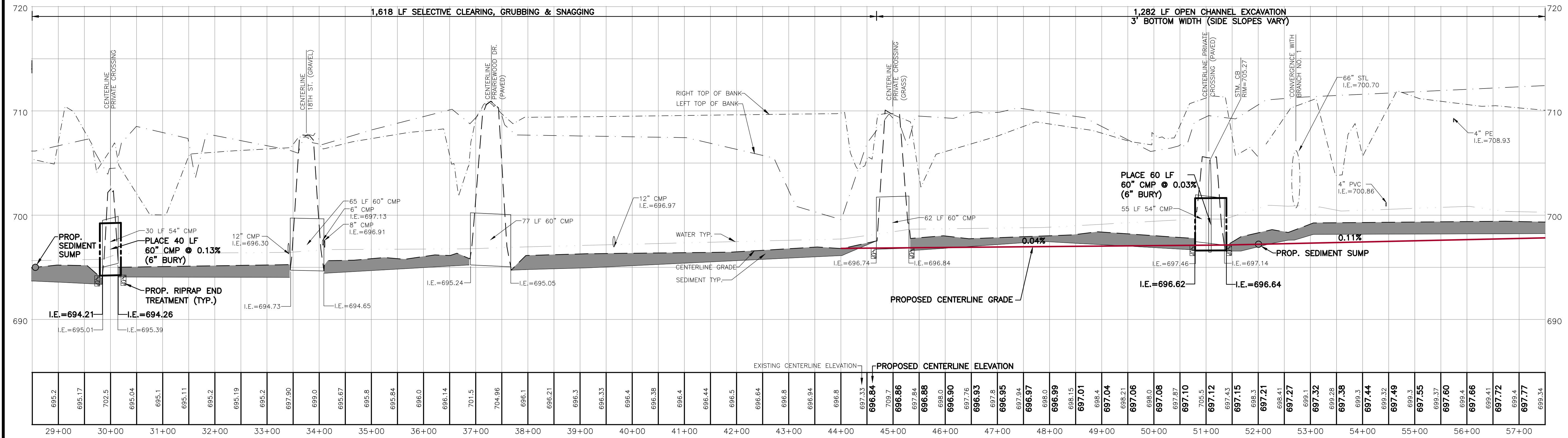
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MISCELLANEOUS QUANTITIES

OPEN CHANNEL SEEDING	1,282 LF
MULCH BLANKET	1,000 SY

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PROJECT NUMBER: 15043
SHEET NUMBER: 15043

CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010

PROJECT: BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

DATE	BY
07/2016	CVF, RLB
07/2016	DFJ, KJV
07/2016	LGJ
04/2024	CAJCC, DJF

PLAN & PROFILE
MAIN ALIGNMENT
STA: 28+50 - 57+50

C2

NO.	ISSUED FOR	DATE
1	PRELIMINARY REVIEW	11/2016
2	PRELIMINARY REVIEW	01/2019
3	OWNER REVIEW	11/22/2024
4	ISSUED FOR BID	08/19/2024

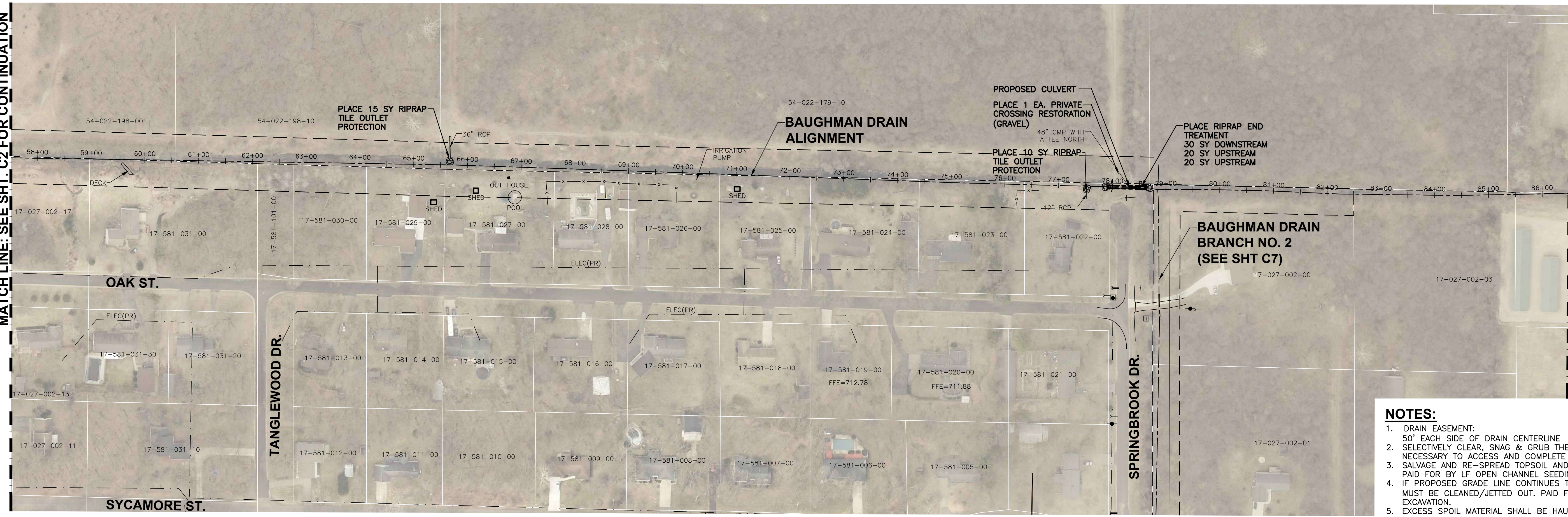
PROJECT NUMBER: 15043
CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010
PROJECT: BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

DATE	BY
07/2016	CVF, RLB
07/2016	DFJ, KJV
07/2016	DFJ, LGS
04/2024	DFJ

SHEET NAME: PLAN & PROFILE
MAIN ALIGNMENT
STA: 57+50 - 86+50
SHEET NUMBER: C3

MATCH LINE: SEE SHT. C2 FOR CONTINUATION

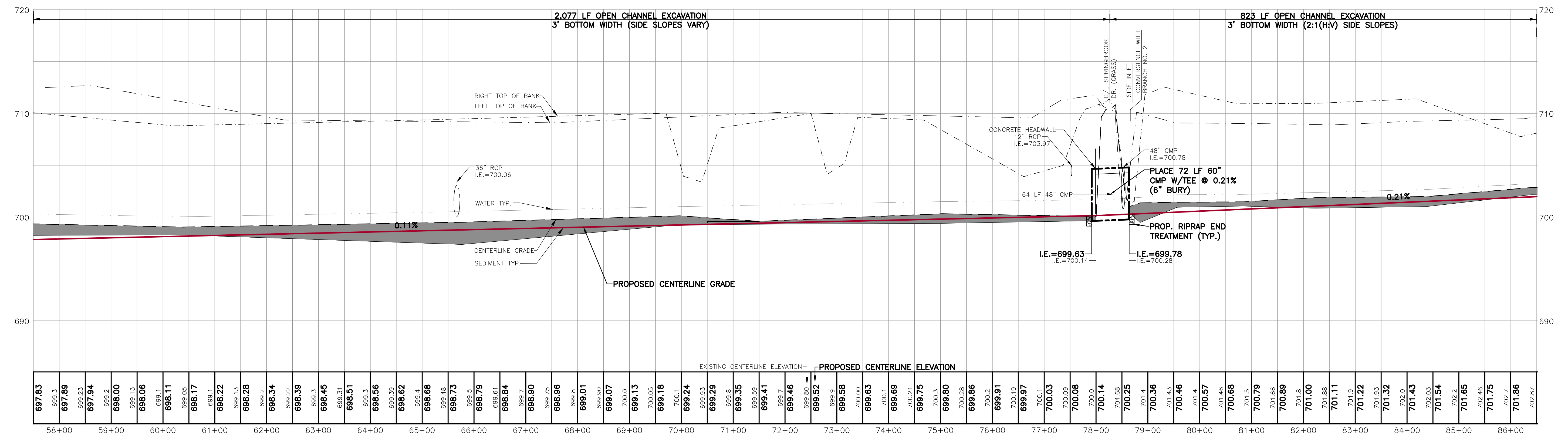
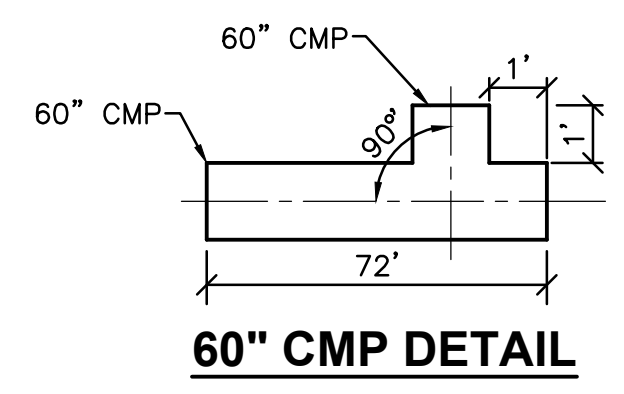
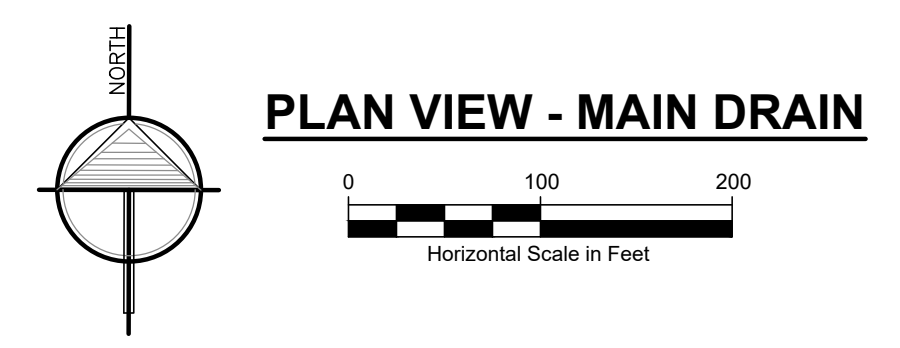
MATCH LINE: SEE SHT. C4 FOR CONTINUATION



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MISCELLANEOUS QUANTITIES

OPEN CHANNEL SEEDING 2,900 LF



CENTERLINE PROFILE
SCALE: HORIZONTAL: 1" = 100'
VERTICAL: 1" = 5'

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171

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CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010

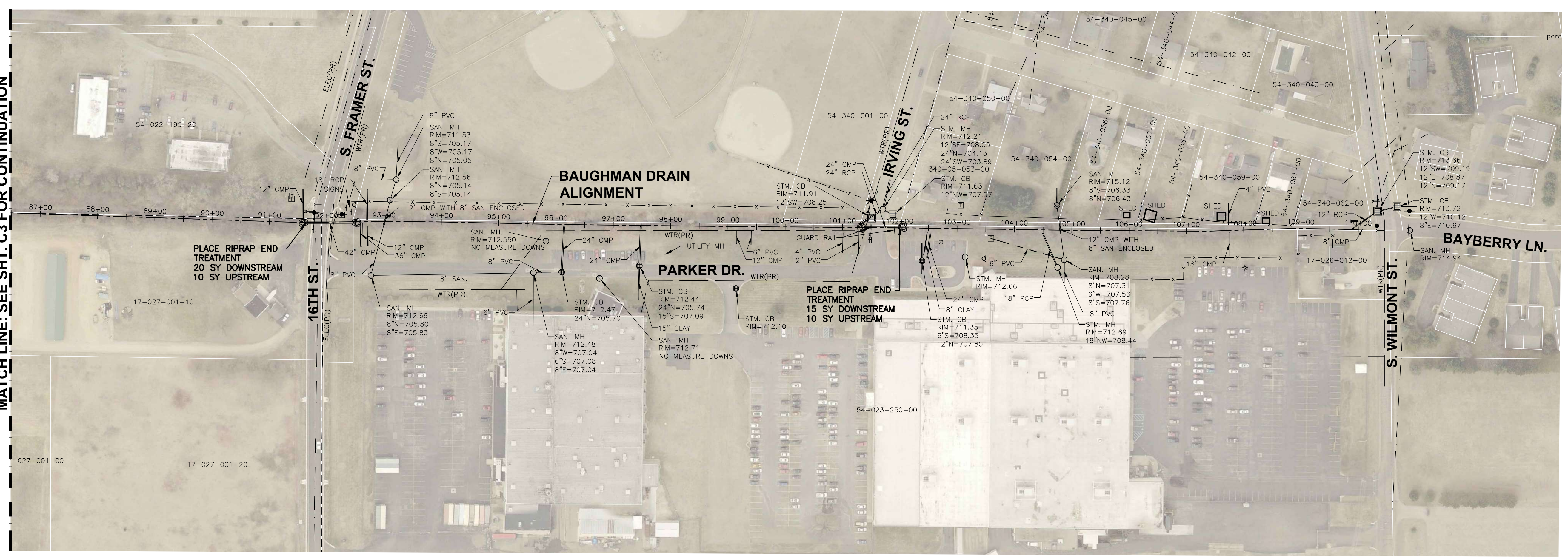
PROJECT: BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

PROJECT NUMBER	DATE
15043	07/2016
	07/2016
	07/2016
	04/2024

SHEET NAME: PLAN & PROFILE
MAIN ALIGNMENT
STA: 86+50 - 110+00

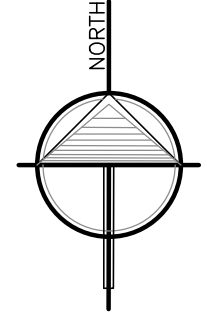
SHEET NUMBER: C4

MATCH LINE: SEE SHT. C3 FOR CONTINUATION

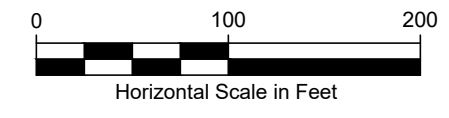


MISCELLANEOUS QUANTITIES

RIPRAP TILE OUTLET PROTECTION	120 SY
OPEN CHANNEL SEEDING	2,350 LF

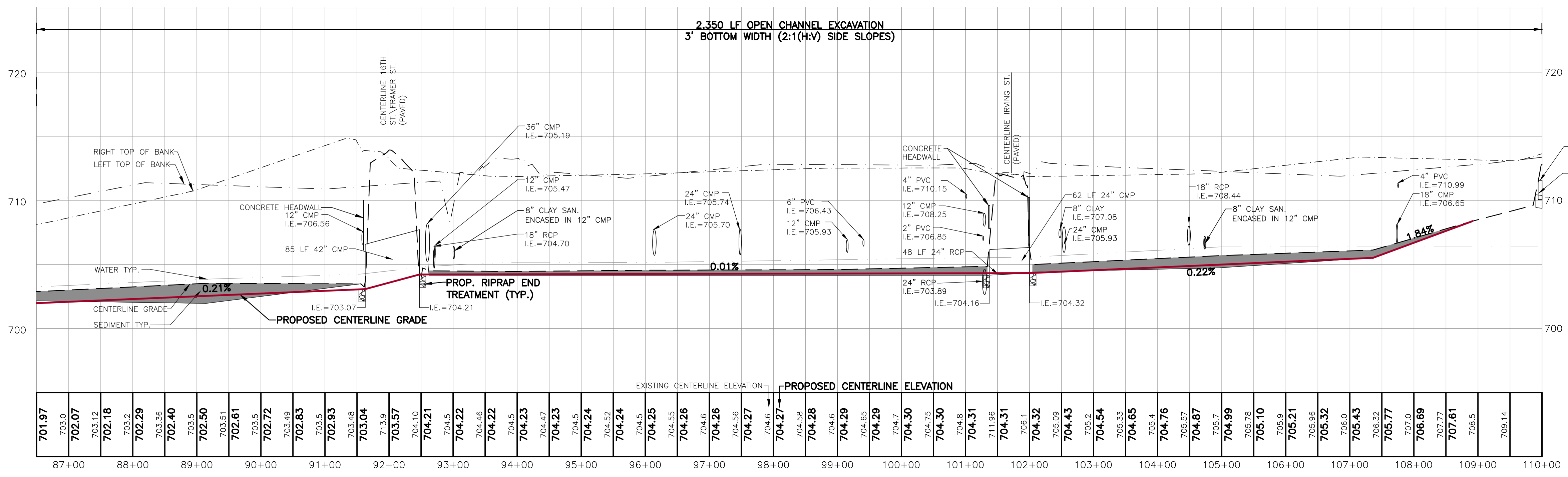


PLAN VIEW - MAIN DRAIN



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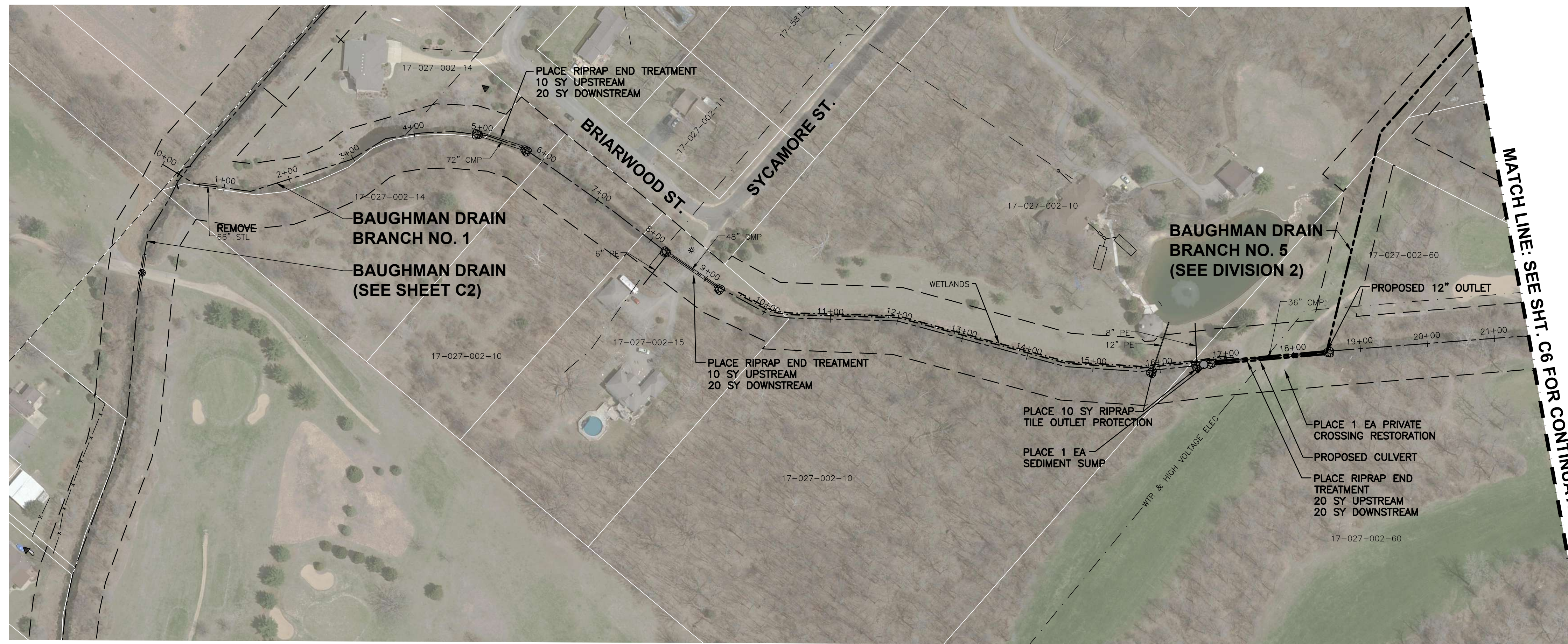
CENTERLINE PROFILE

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 11. NO TREE CLEARING FROM APRIL 1 TO SEPTEMBER 30.
 12. NO WORK OR EXCAVATION WITHIN WATER FROM MAY 1 TO JUNE 30.
 13. NO SPOIL OR WOODY DEBRIS SHALL BE PLACED WITHIN WETLANDS.
 14. CONTRACTOR SHALL COORDINATE TREE REMOVALS WITH PROPERTY OWNERS.

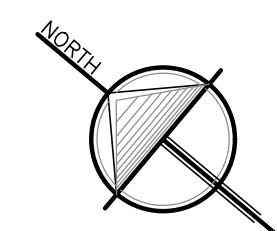


NO.	ISSUED FOR	DATE
1	PRELIMINARY REVIEW	11/20/16
2	PRELIMINARY REVIEW	01/20/19
3	OWNER REVIEW	11/22/2024
4	OWNER REVIEW	11/22/2024
5	ISSUED FOR BID	06/19/2024

ALLEGAN COUNTY DRAIN COMMISSIONER
 113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010
 PROJECT: BAUGHMAN DRAIN - DIVISION 1
 CLIENT: OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

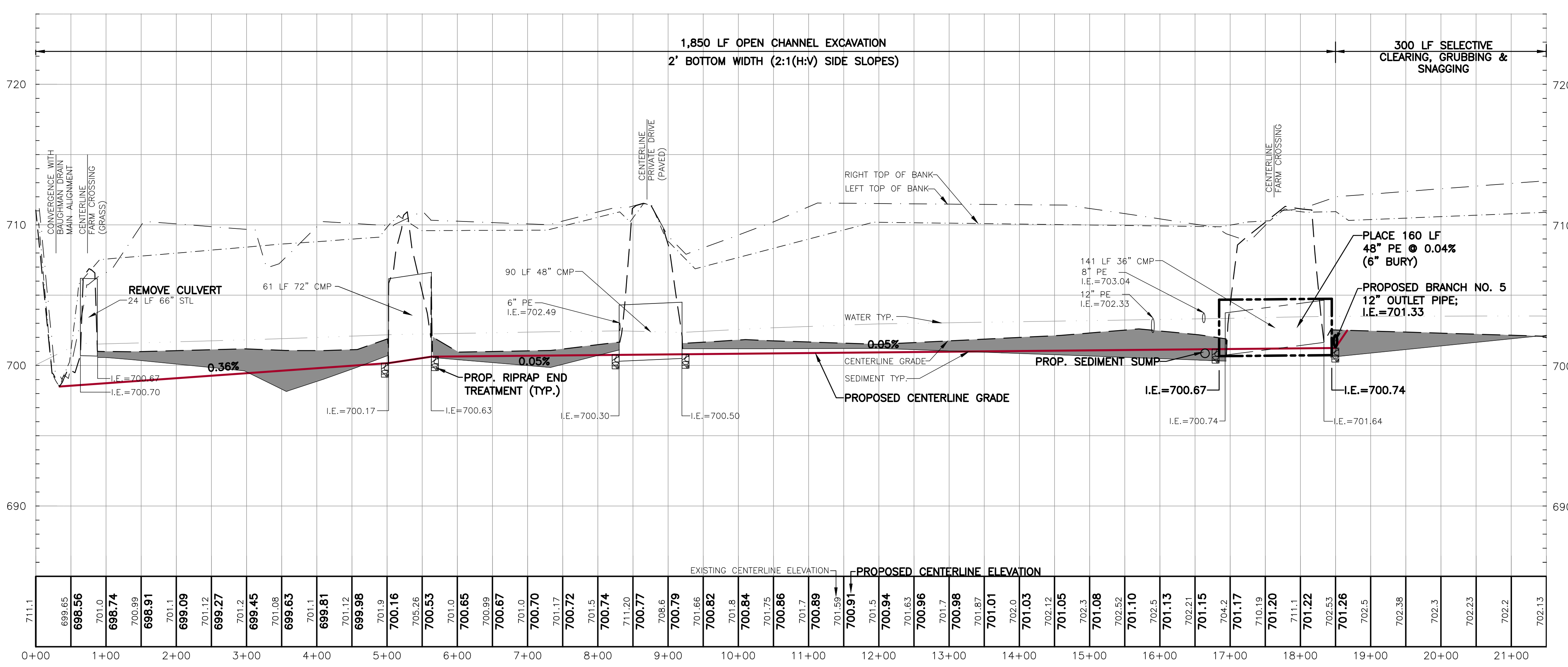
PROJECT NUMBER:	DATE
15-043	07/20/16
SURVEYED BY: C.V.F. RLB	07/20/16
DESIGNED BY: D.J.F. KJV	07/20/16
DRAFTED BY: LGG	04/22/24
CHECKED BY: D.F.	

PLAN VIEW - BRANCH NO. 1



MISCELLANEOUS QUANTITIES

OPEN CHANNEL SEEDING	1,850 LF
MULCH BLANKET	1,000 SY



CENTERLINE PROFILE

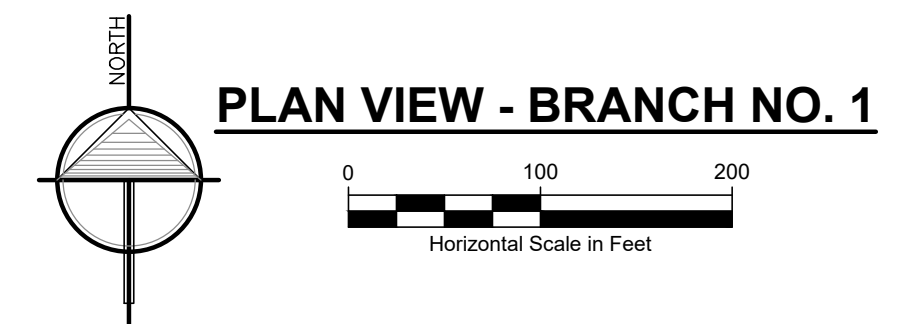
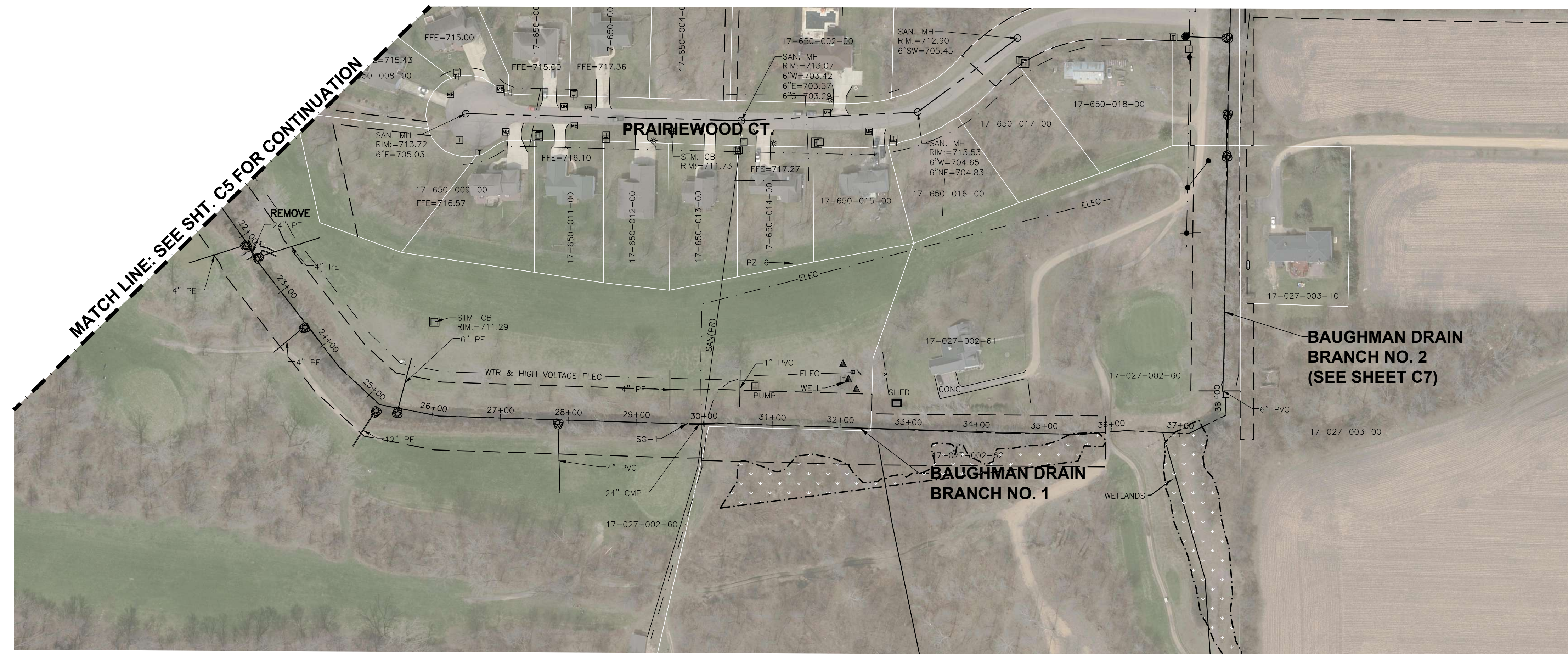
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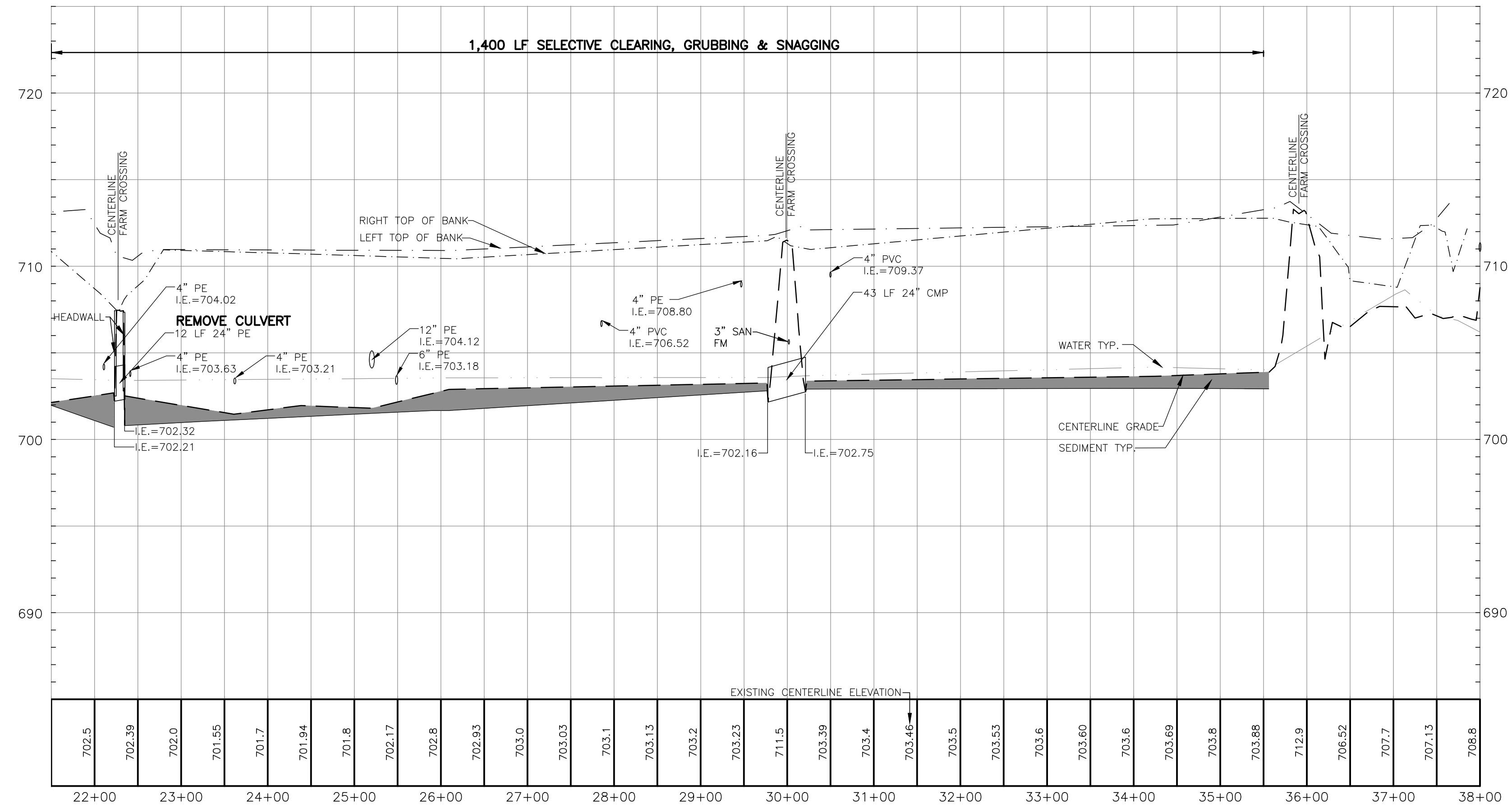
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SHEET NAME: **PLAN & PROFILE BRANCH NO. 1 STA:0+00 - 21+50**
 SHEET NUMBER: **C5**



MISCELLANEOUS QUANTITIES
RIPRAP TILE OUTLET PROTECTION 50 SY



CENTERLINE PROFILE
SCALE: HORIZONTAL: 1" = 100'
VERTICAL: 1" = 5'

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2121 3 Mile Rd. NW
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Ph: 616-501-7888
www.LREMI.com

NO.	ISSUED FOR	DATE
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2	PRELIMINARY REVIEW	01/2019
3	OWNER REVIEW	11/22/2024
4	ISSUED FOR BID	08/19/2024

ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010

PROJECT
BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

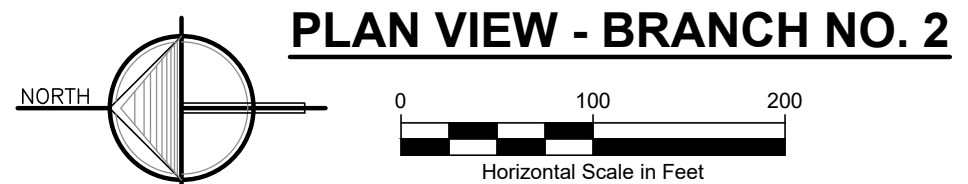
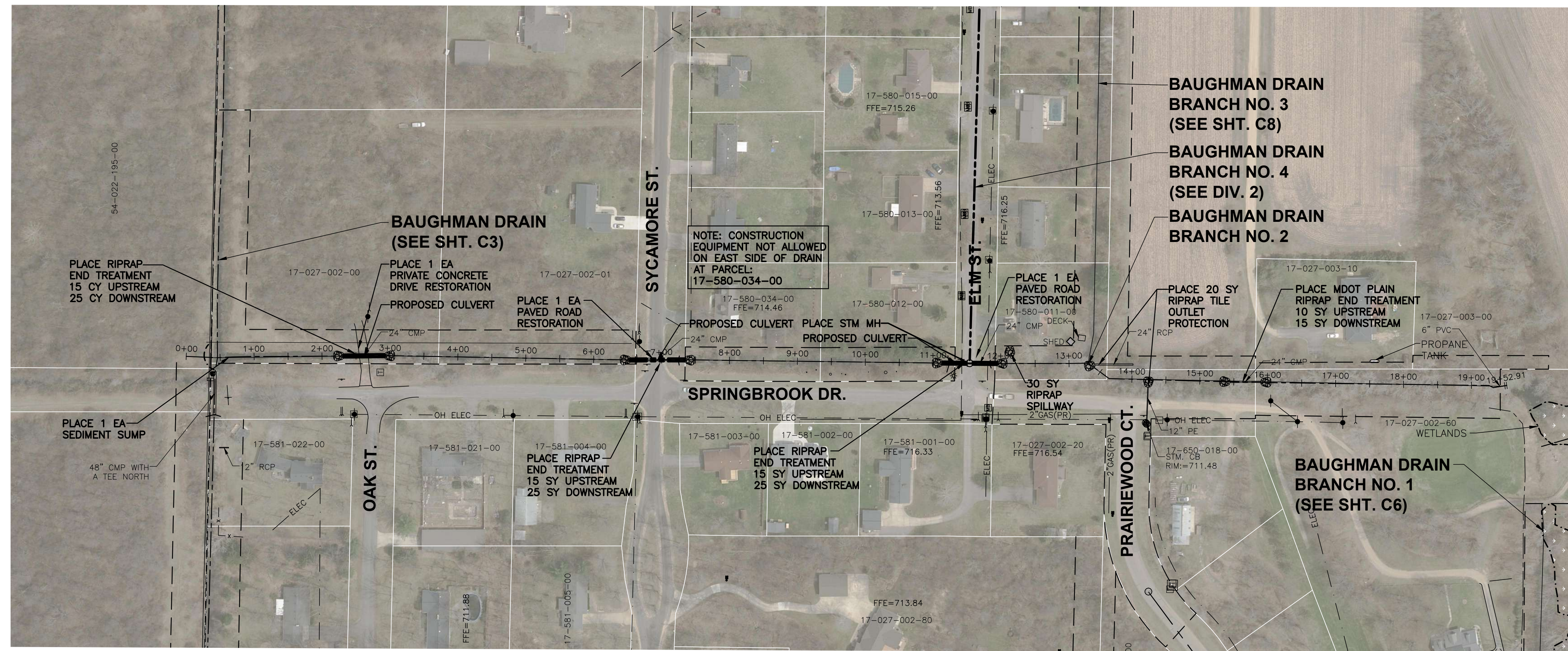
DATE	BY
07/2016	CVF, RLB
07/2016	DJF, KJV
07/2016	LGS
04/2024	DJF

PROJECT NUMBER: 15043
SHEET NAME: PLAN & PROFILE
BRANCH NO. 1
STA: 21+50 - 38+00

C6

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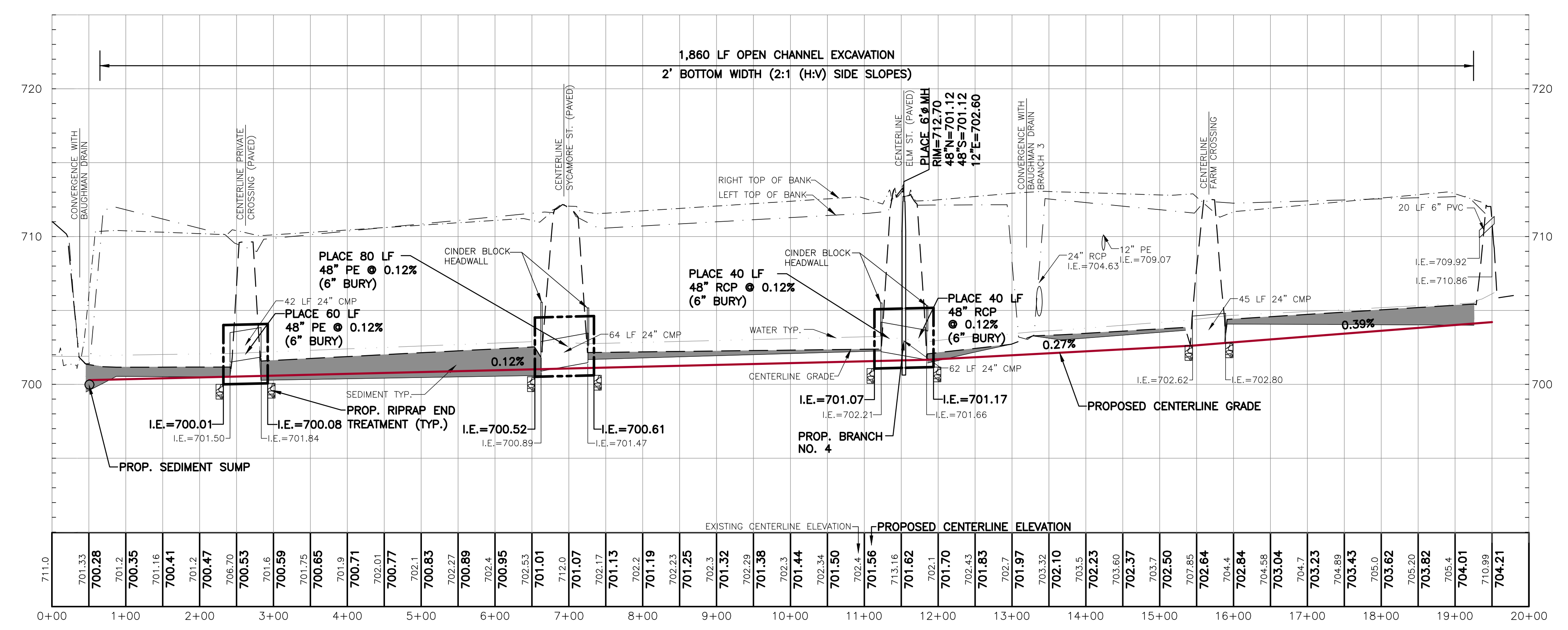
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- NOTES:**
- DRAIN EASEMENT: AS SHOWN ON DRAWINGS.
 - SELECTIVELY CLEAR, SNAG AND GRUB THE DRAIN EASEMENT AS NECESSARY TO ACCESS AND COMPLETE THE WORK.
 - SALVAGE AND RE-SPREAD TOPSOIL AND SEED ALL DISTURBED AREAS. PAID FOR BY LF OPEN CHANNEL SEEDING.
 - IF PROPOSED GRADE LINE CONTINUES THROUGH EXISTING CULVERT, IT MUST BE CLEANED/JETTED OUT. PAID FOR AS LF OPEN CHANNEL EXCAVATION.
 - EXCESS SPOIL MATERIAL SHALL BE HAULED OFF-SITE AND DISPOSED IN UPLAND AREAS IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
 - MULCH BLANKET AREAS AS INDICATED ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
 - REMOVE, SALVAGE AND REPAIR FENCES, STRUCTURES AND OTHER ITEMS THAT INTERFERE WITH CONSTRUCTION. PAID FOR AS 1 LS SITE RESTORATION.
 - CONTRACTOR TO DISPOSE OF REMOVED CULVERTS.
 - QUANTITIES WILL NOT BE PAID ABOVE THE CONTRACT AMOUNT UNLESS AUTHORIZED BY ENGINEER.
 - "LANDOWNER REQUEST FOR CHANGE" AGREEMENT SHALL BE OBTAINED PRIOR TO CONTRACTOR PERFORMING ANY WORK OR ACCESS BEYOND THE DRAIN EASEMENT.
 - NO TREE CLEARING FROM APRIL 1 TO SEPTEMBER 30.
 - NO WORK OR EXCAVATION WITHIN WATER FROM MAY 1 TO JUNE 30.
 - NO SPOIL OR WOODY DEBRIS SHALL BE PLACED WITHIN WETLANDS.
 - CONTRACTOR SHALL COORDINATE TREE REMOVALS WITH PROPERTY OWNERS.

MISCELLANEOUS QUANTITIES

OPEN CHANNEL SEEDING	1,860 LF
MULCH BLANKET	1,800 SY



CENTERLINE PROFILE
SCALE: HORIZONTAL: 1" = 100'
VERTICAL: 1" = 5'



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2121 3 Mile Rd. NW
Walker, MI 49544
Ph: 616-501-7888
www.LREMI.com

LRE
ENGINEERS & SURVEYORS

NO.	ISSUED FOR	DATE
1	PRELIMINARY REVIEW	11/2016
2	PRELIMINARY REVIEW	01/2019
3	OWNER REVIEW	11/22/2024
4	ISSUED FOR BID	08/19/2024

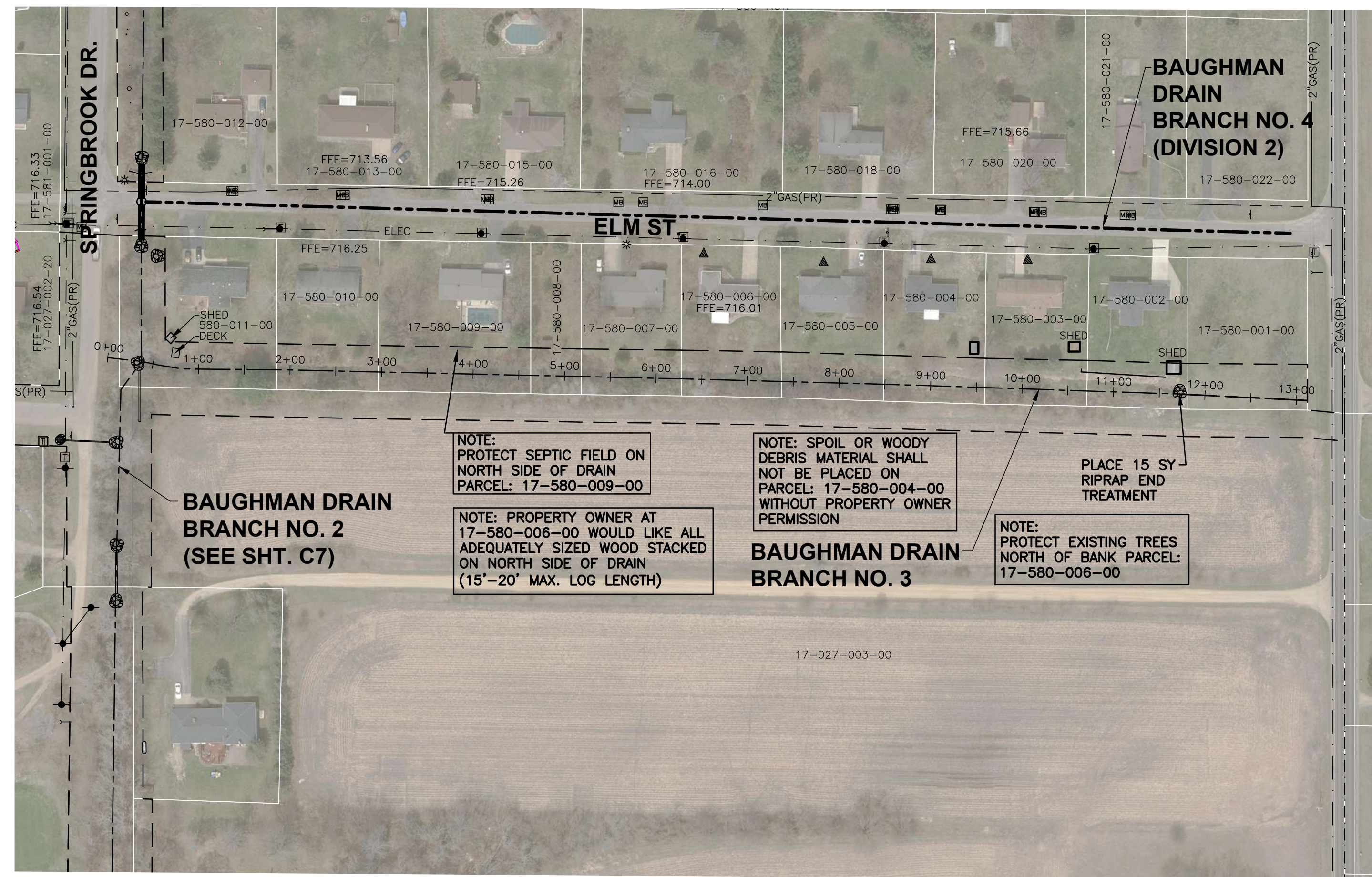
PROJECT: ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010

CLIENT: BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

PROJECT NUMBER: 15-043
SURVEYED BY: C.V.F. R.B.
DESIGNED BY: D.I.F. K.V.
DRAFTED BY: L.G.S.
C.A.O.C./D.I.F.

SHEET NAME: PLAN & PROFILE
BRANCH NO. 2
STA.: 0+00 - 19+00

SHEET NUMBER: **C7**

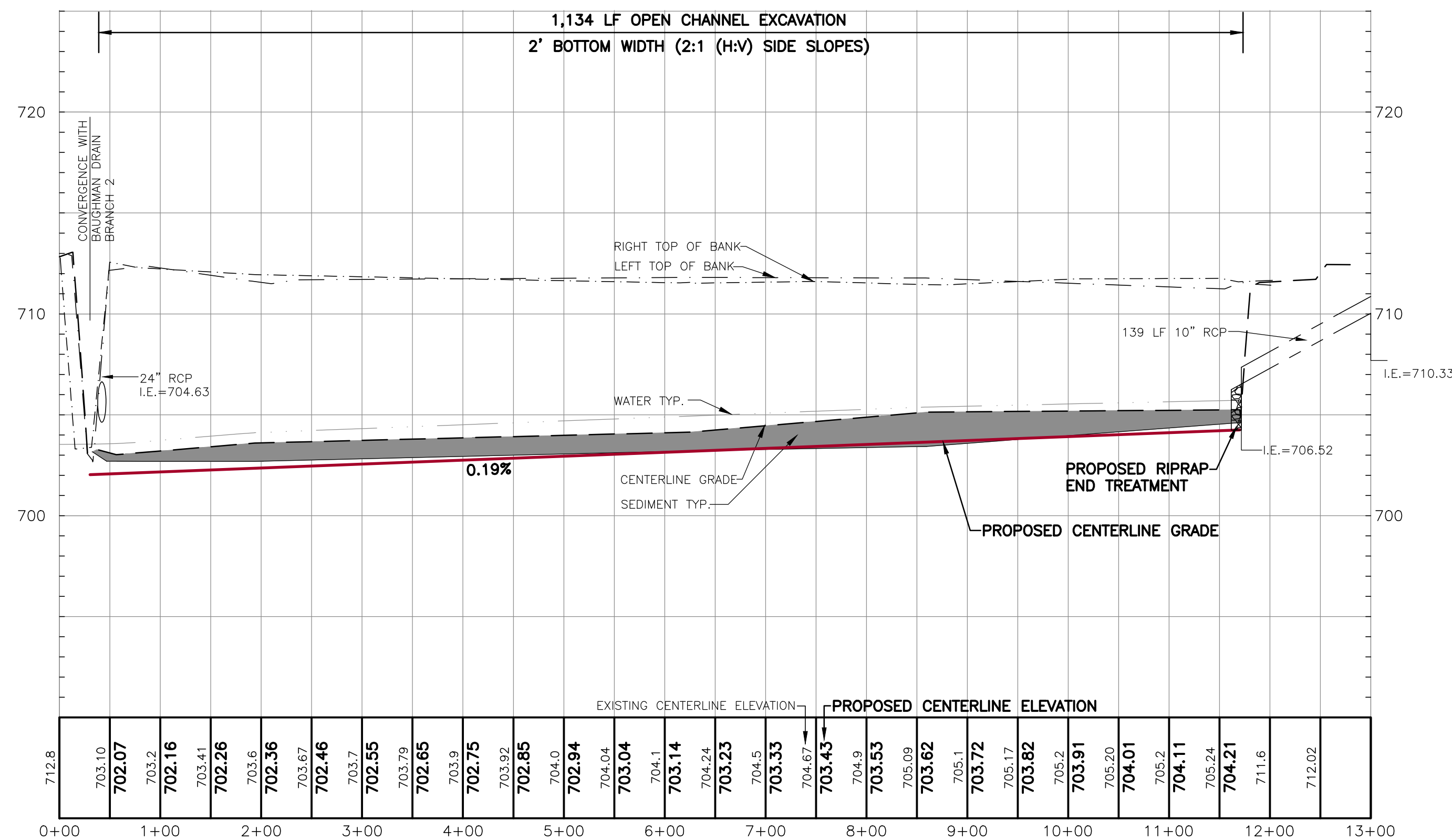
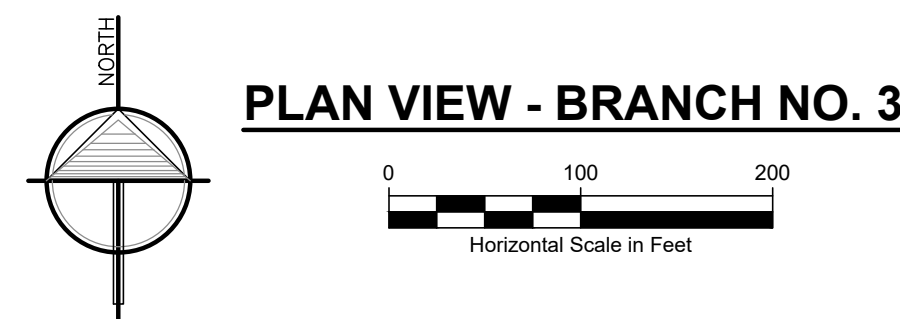


NOTES:

1. DRAIN EASEMENT: AS SHOWN ON DRAWINGS
2. SELECTIVE CLEAR, SNAG AND GRUB THE DRAIN EASEMENT AS NECESSARY TO ACCESS AND COMPLETE THE WORK.
3. SALVAGE AND RE-Spread TOPSOIL AND SEED ALL DISTURBED AREAS. PAID FOR BY LF OPEN CHANNEL SEEDING.
4. IF PROPOSED GRADE LINE CONTINUES THROUGH EXISTING CULVERT, IT MUST BE CLEANED/JETTED OUT. PAID FOR AS LF OPEN CHANNEL EXCAVATION.
5. EXCESS SPOIL MATERIAL SHALL BE HAULED OFF-SITE AND DISPOSED IN UPLAND AREAS IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
6. MULCH BLANKET AREAS AS INDICATED ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
7. REMOVE, SALVAGE AND REPAIR FENCES, STRUCTURES AND OTHER ITEMS THAT INTERFERE WITH CONSTRUCTION. PAID FOR AS 1 LS SITE RESTORATION.
8. CONTRACTOR TO DISPOSE OF REMOVED CULVERTS.
9. QUANTITIES WILL NOT BE PAID ABOVE THE CONTRACT AMOUNT UNLESS AUTHORIZED BY ENGINEER.
10. "LANDOWNER REQUEST FOR CHANGE" AGREEMENT SHALL BE OBTAINED PRIOR TO CONTRACTOR PERFORMING ANY WORK OR ACCESS BEYOND THE DRAIN EASEMENT.
11. NO TREE CLEARING FROM APRIL 1 TO SEPTEMBER 30.
12. NO WORK OR EXCAVATION WITHIN WATER FROM MAY 1 TO JUNE 30.
13. NO SPOIL OR WOODY DEBRIS SHALL BE PLACED WITHIN WETLANDS.
14. CONTRACTOR SHALL COORDINATE TREE REMOVALS WITH PROPERTY OWNERS.
15. CONTRACTOR SHALL WORK FROM SOUTH SIDE OF BRANCH NO. 3. NO EQUIPMENT ALLOWED ON NORTH SIDE OF DRAIN WITHOUT PROPERTY OWNER PERMISSION.

MISCELLANEOUS QUANTITIES

OPEN CHANNEL SEEDING 1,134 LF



CENTERLINE PROFILE

SCALE: HORIZONTAL: 1" = 100'
VERTICAL: 1" = 5'



**3 WORKING DAYS
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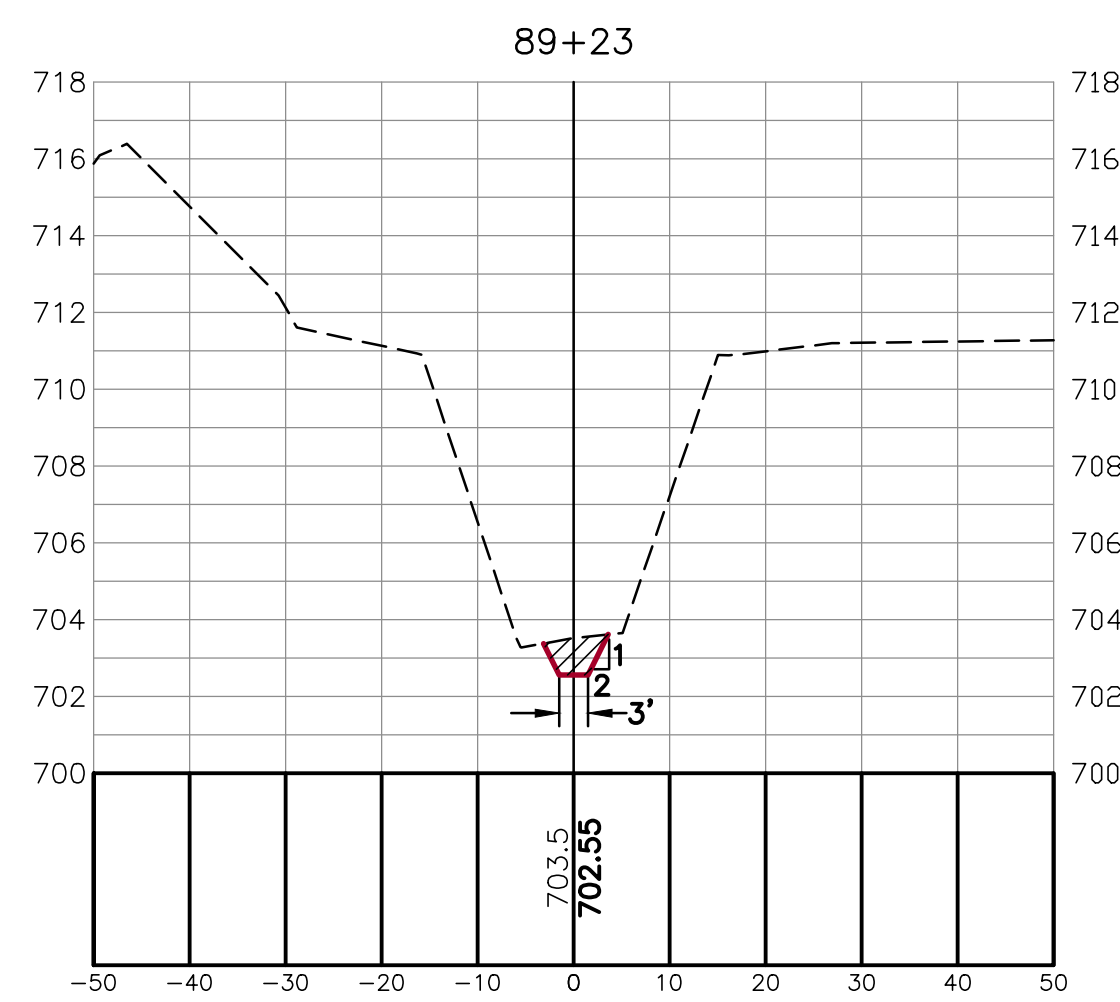
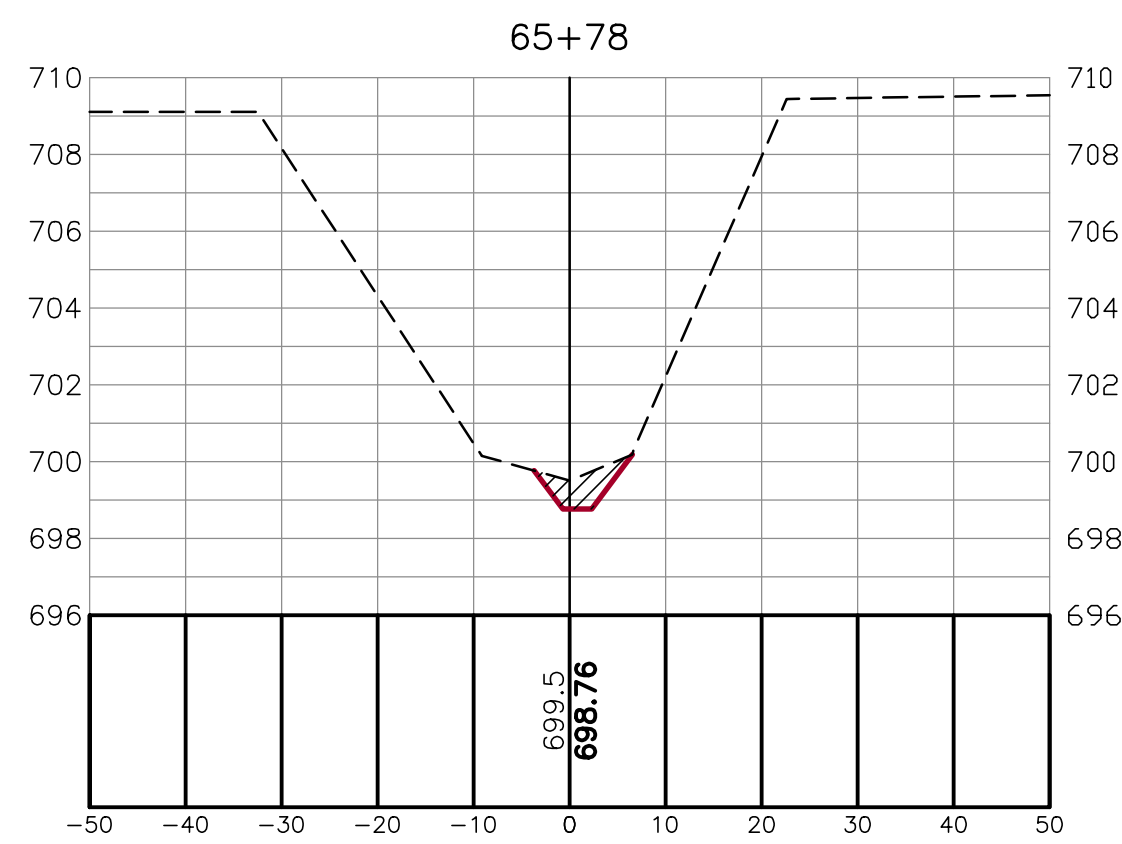
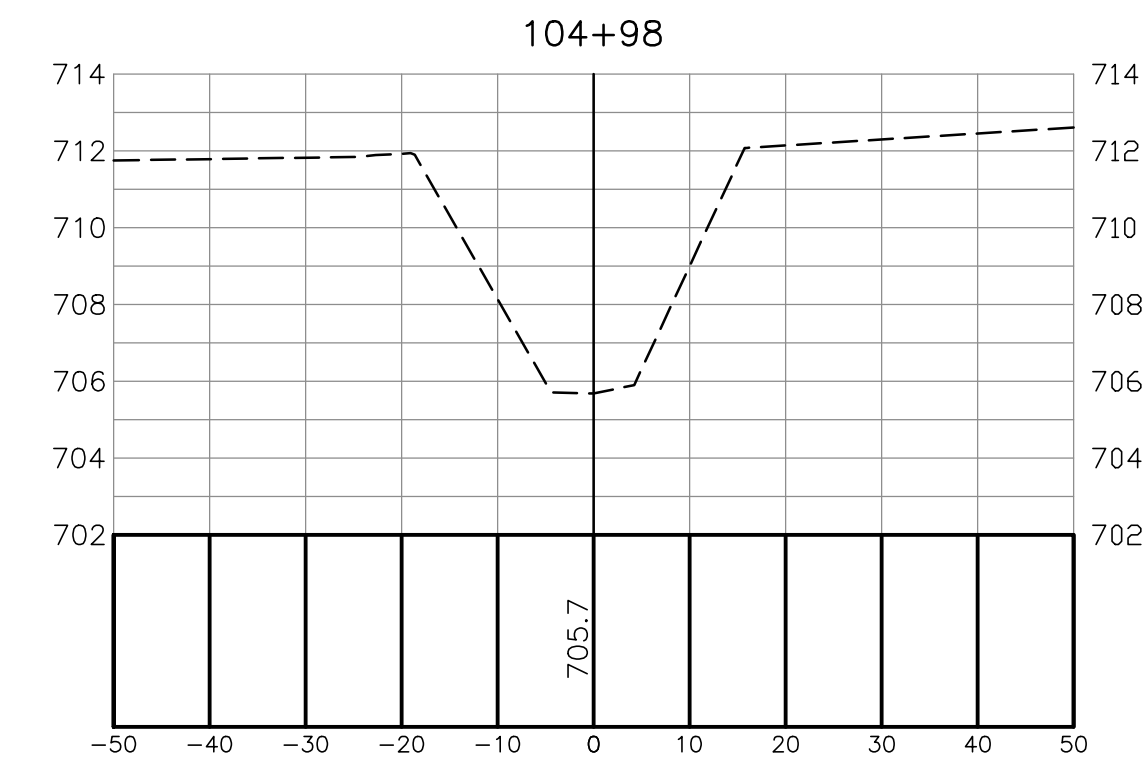
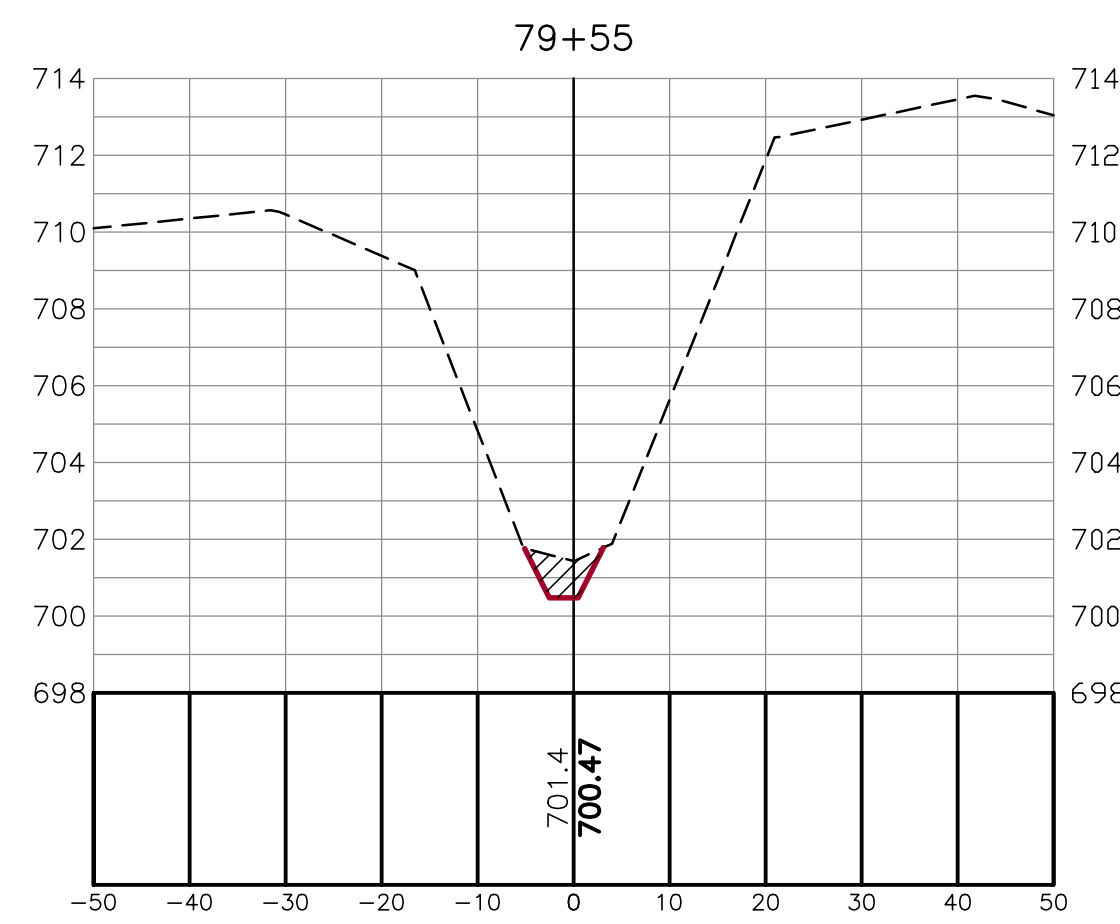
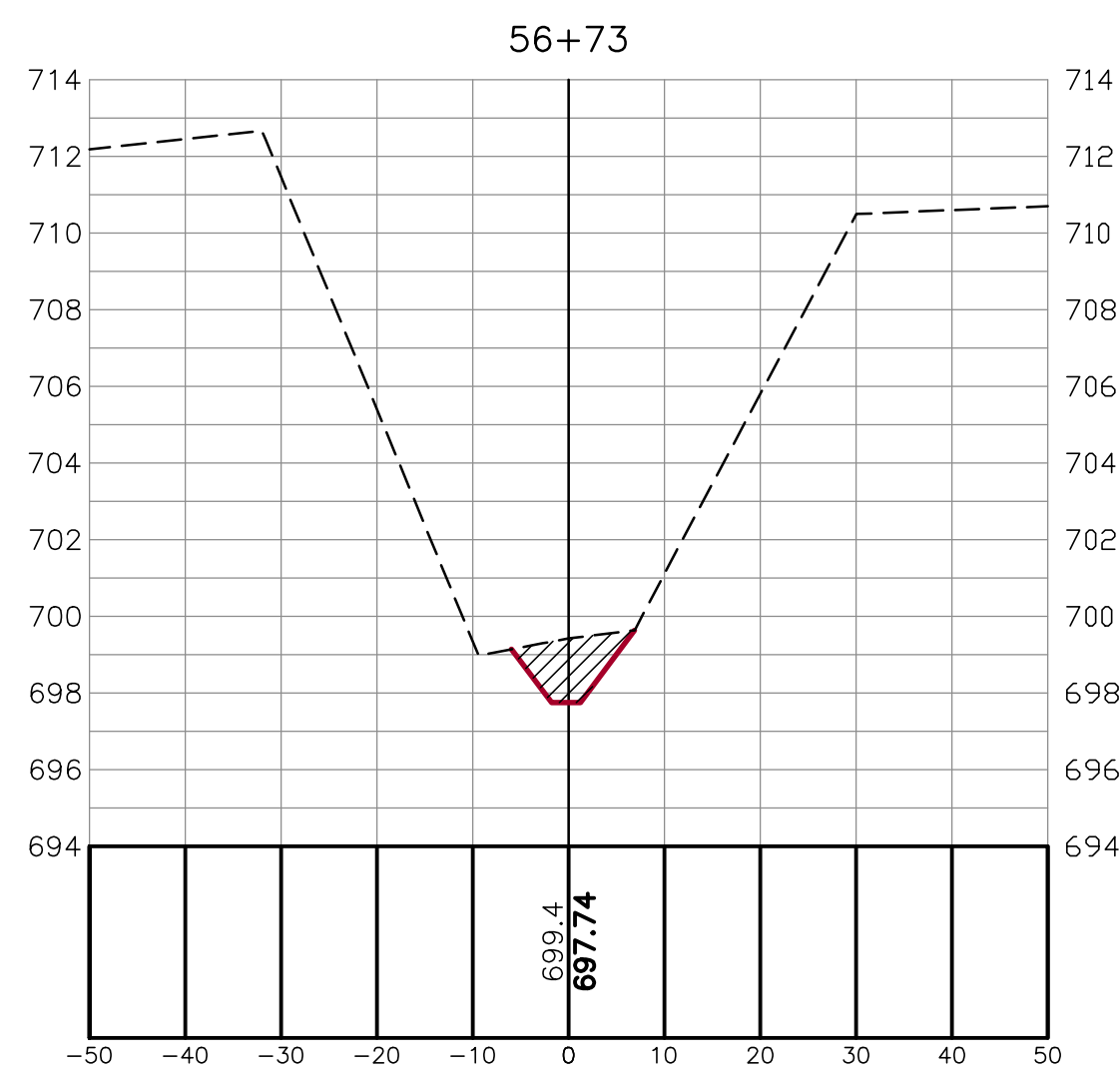
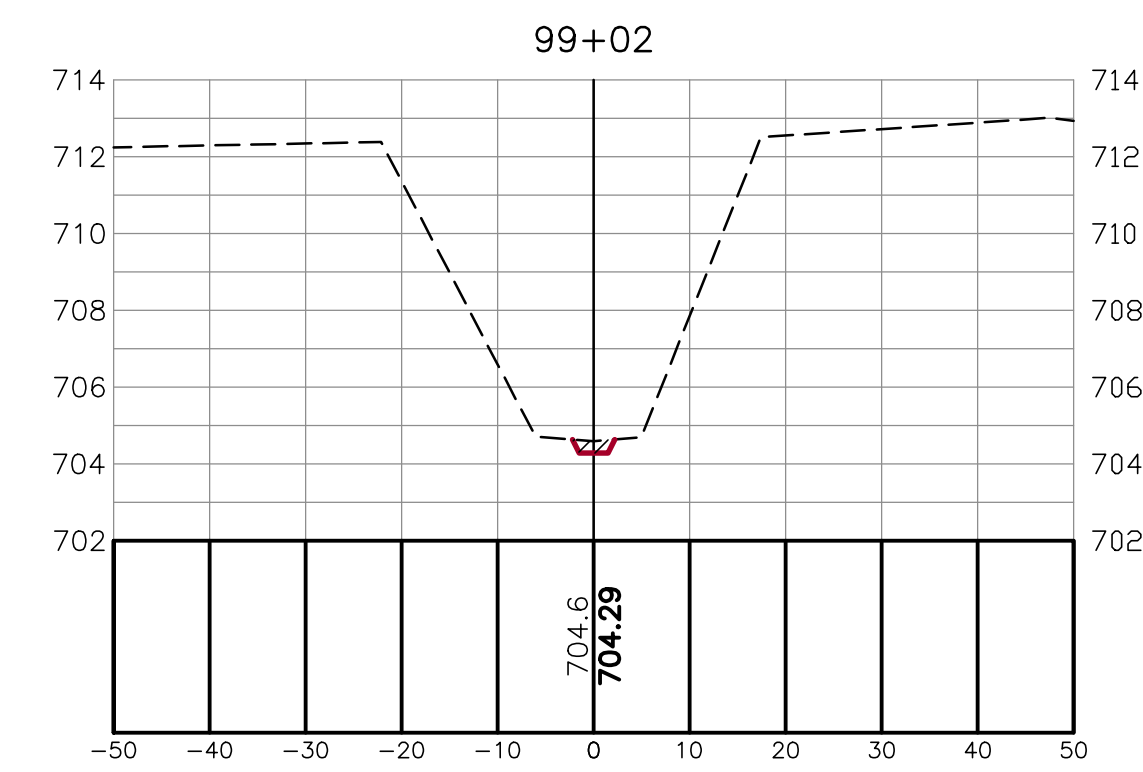
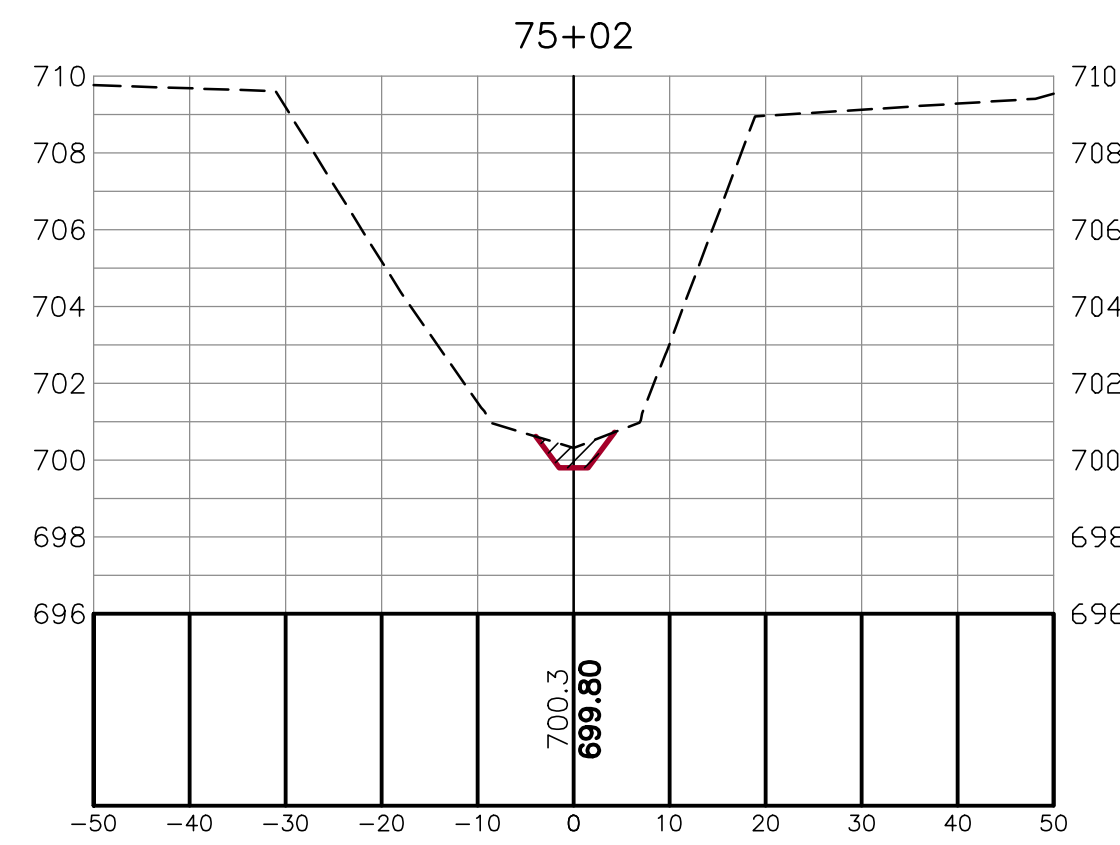
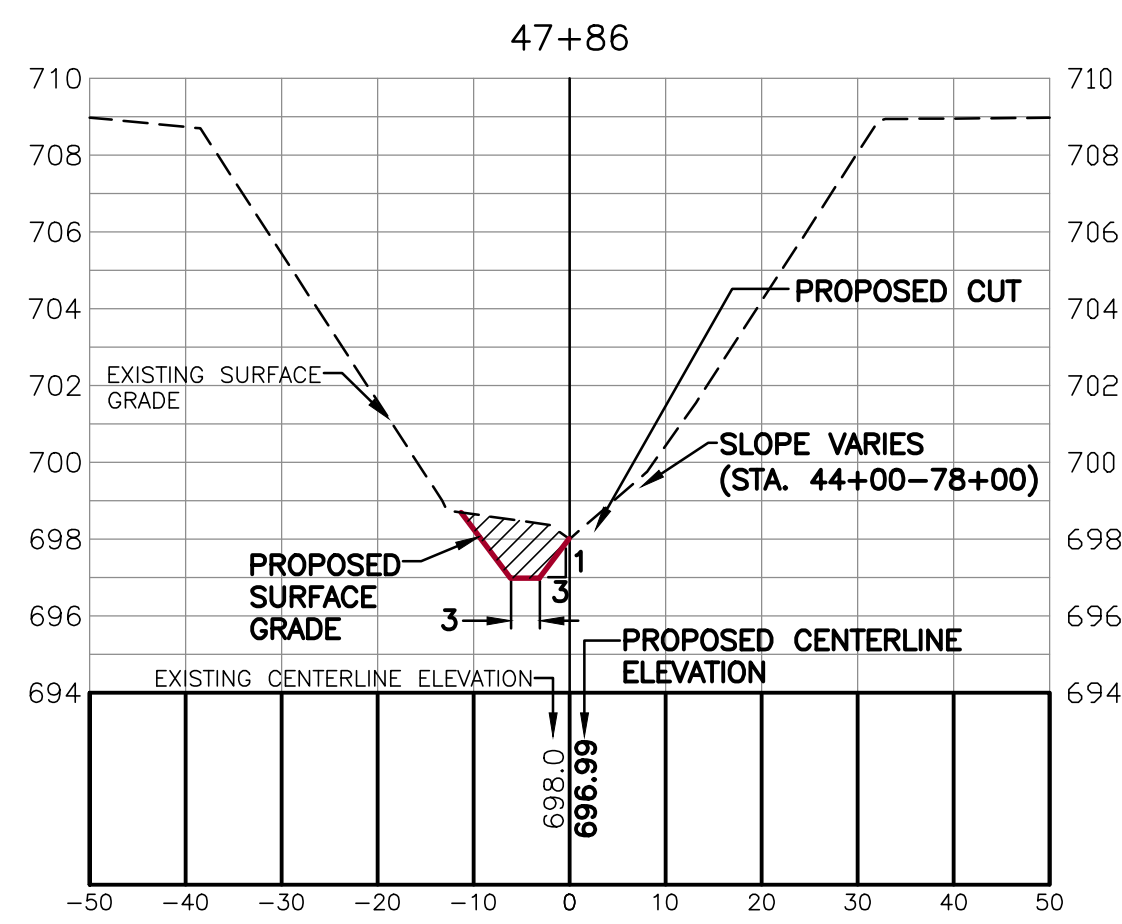
LRE
ENGINEERS & SURVEYORS

REVISIONS:	NO.	ISSUED FOR	DATE
	1	PRELIMINARY REVIEW	11/2016
	2	PRELIMINARY REVIEW	01/2019
	3	OWNER REVIEW	11/22/2024
	4	ISSUED FOR BID	08/19/2024

PROJECT NUMBER: 15043
CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010
PROJECT: BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

DATE	BY
07/2016	CVF, RLB
07/2016	DIF, KJV
04/2024	LGSS

PROJECT NUMBER: 15043
SHEET NAME: PLAN & PROFILE
BRANCH NO. 3
STA: 0+00 - 13+00
SHEET NUMBER: C8



CROSS SECTIONS - MAIN
 SCALE: HORIZONTAL: 1" = 20'
 VERTICAL: 1" = 5'

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NO.	ISSUED FOR	DATE
1	PRELIMINARY REVIEW	11/2016
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3	OWNER REVIEW	11/22/2024
4	ISSUED FOR BID	08/19/2024

CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER
 113 CHESTNUT STREET ALEGAN, MICHIGAN 49010
 PROJECT: BAUGHMAN DRAIN - DIVISION 1
 OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

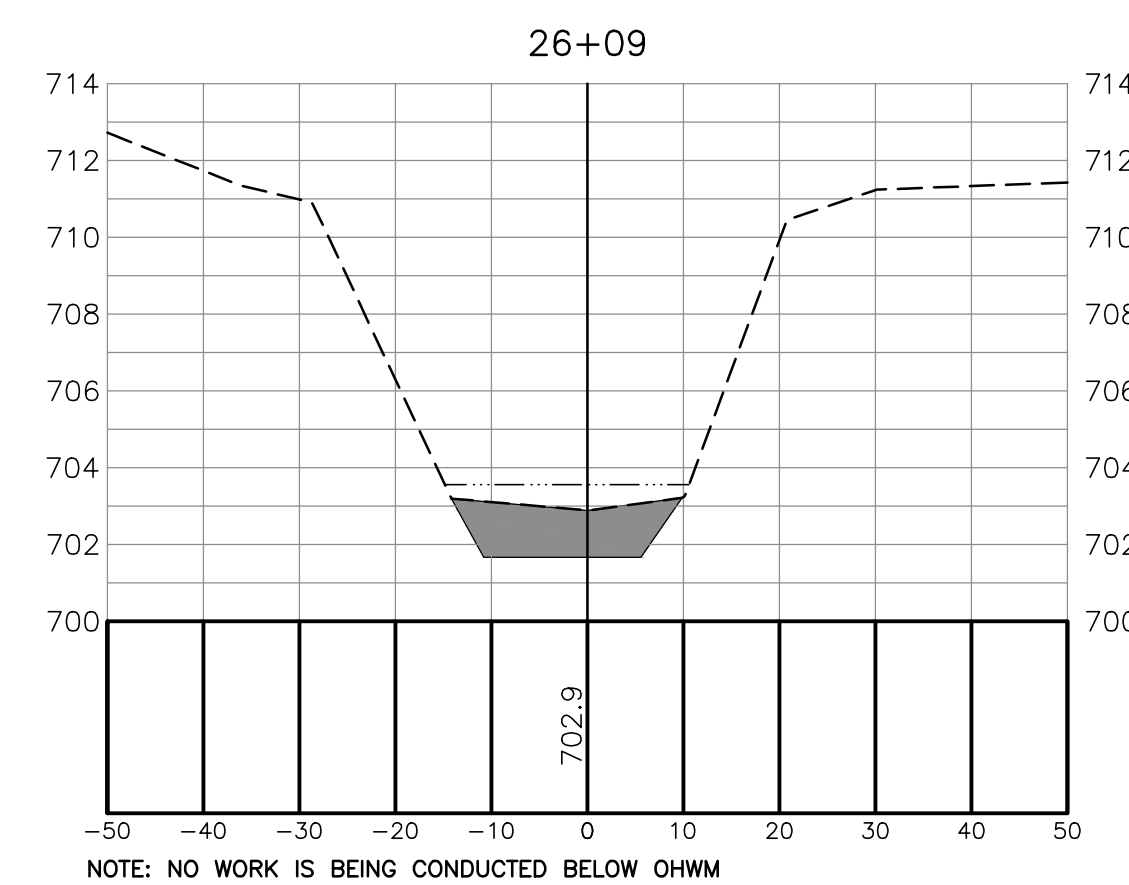
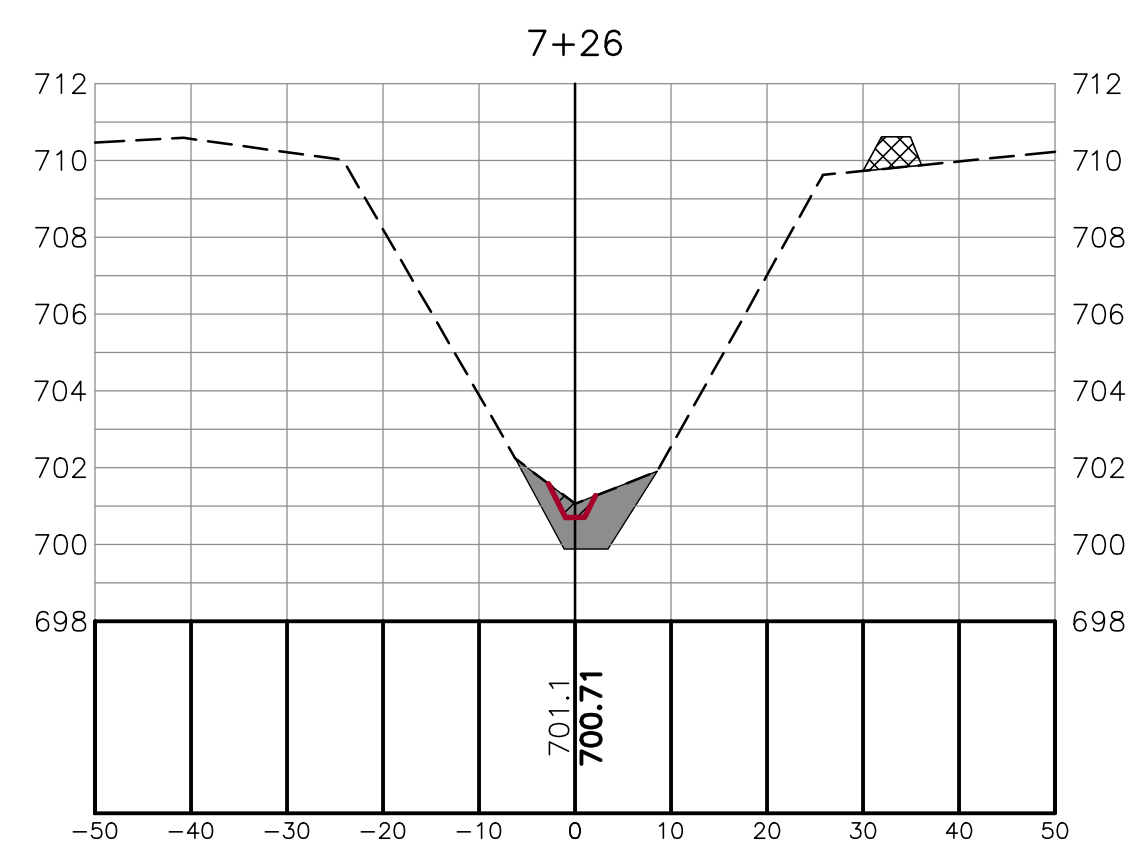
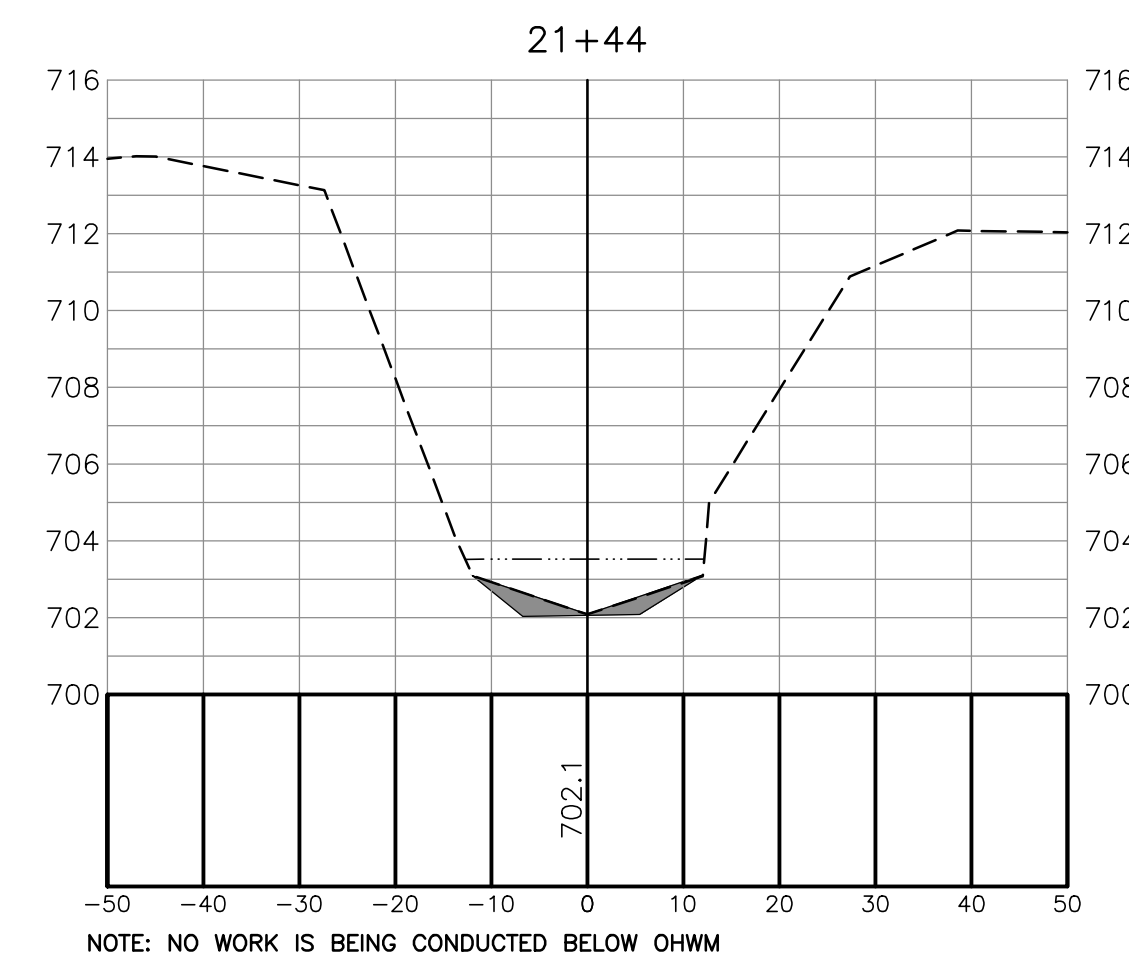
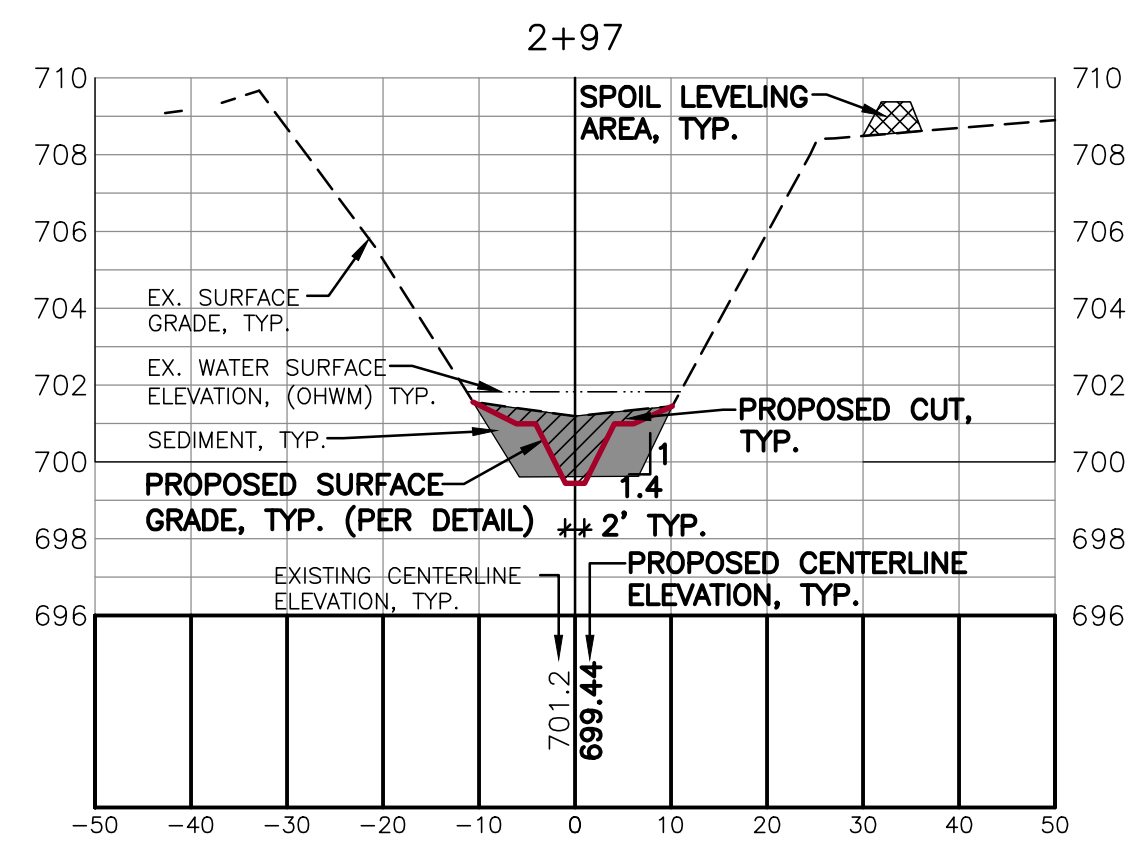
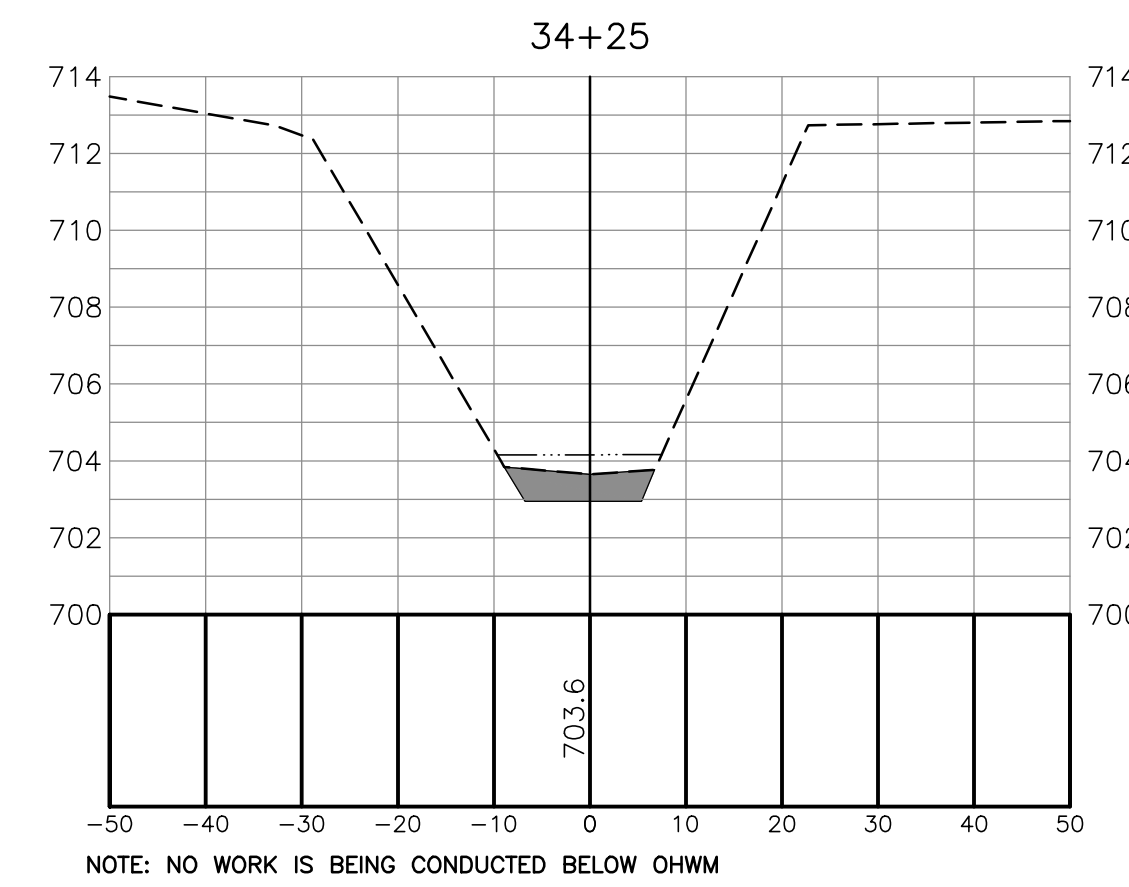
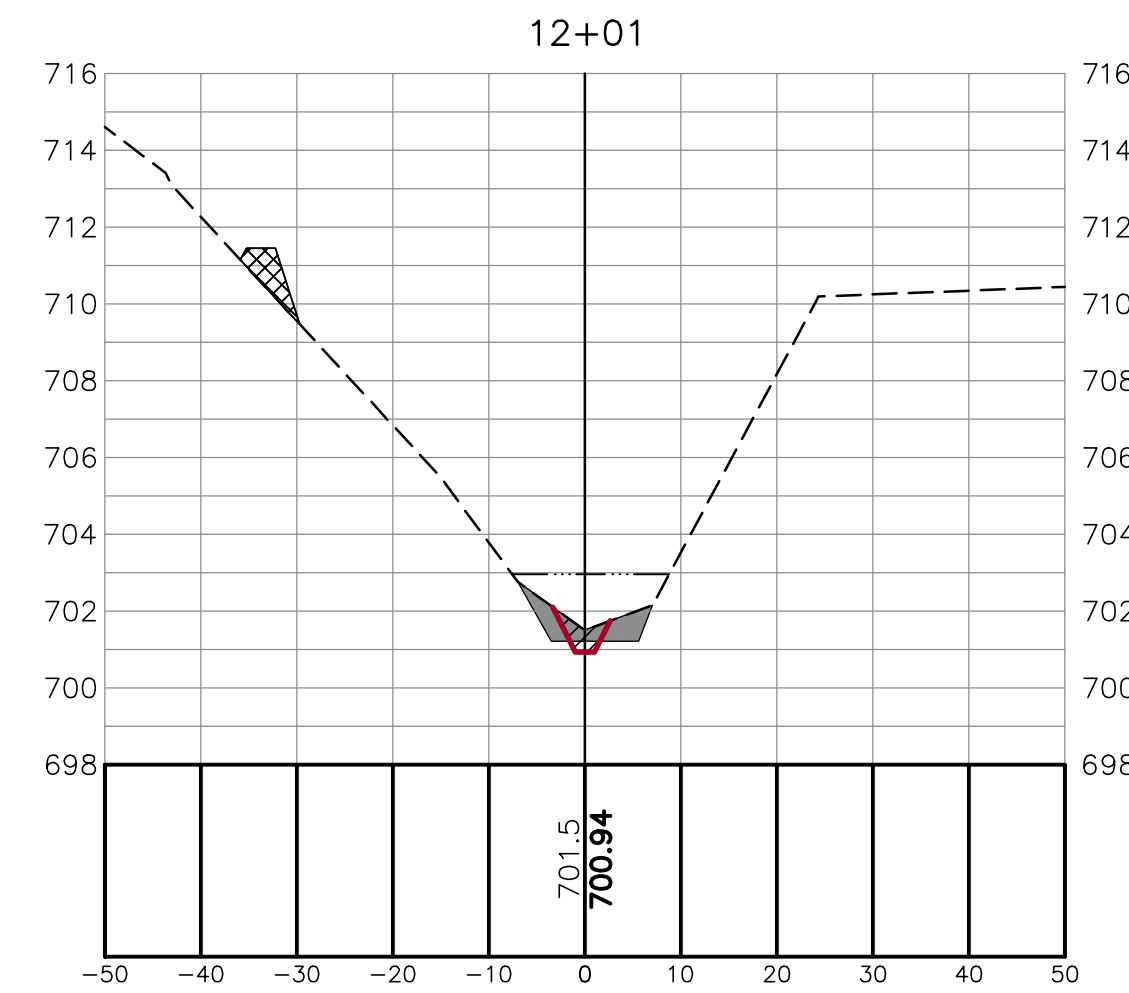
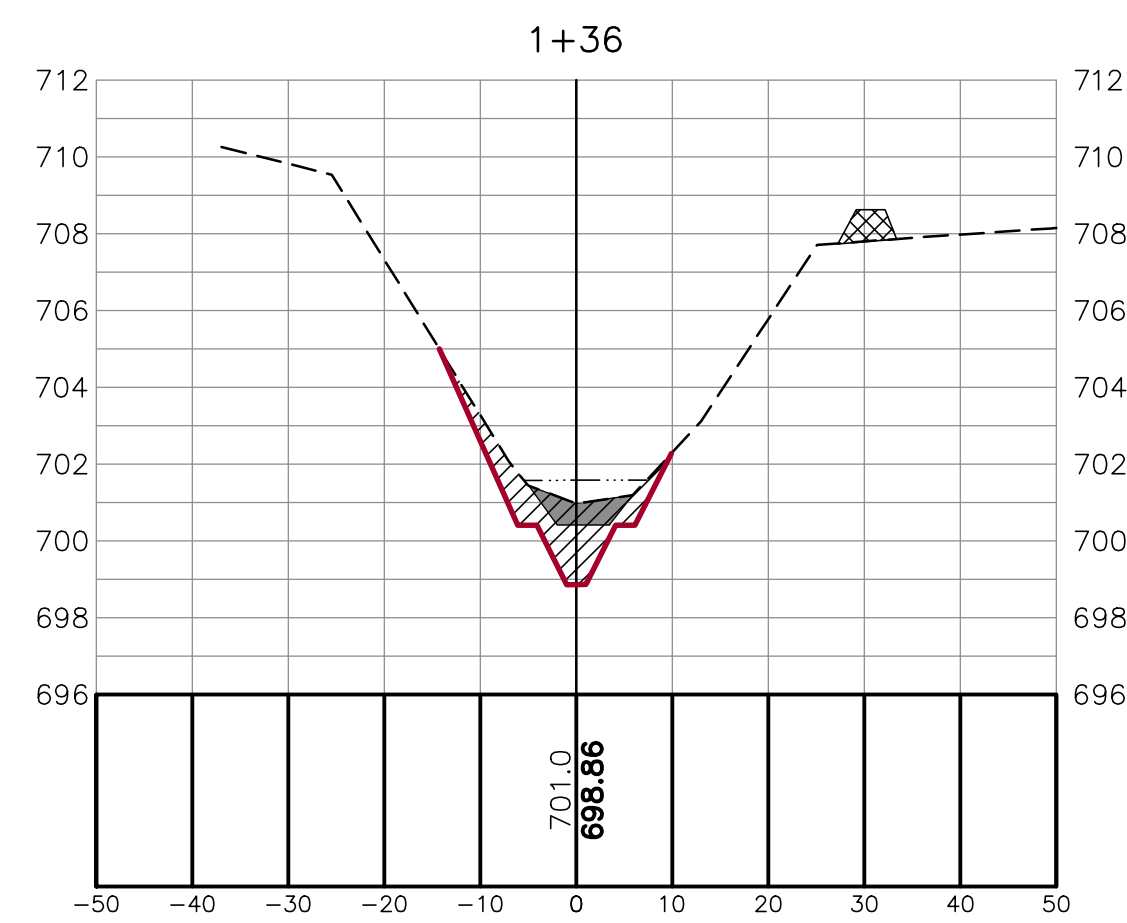
DATE	PROJECT NUMBER
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07/2016	
07/2016	
04/2024	

CROSS SECTIONS
 MAIN ALIGNMENT

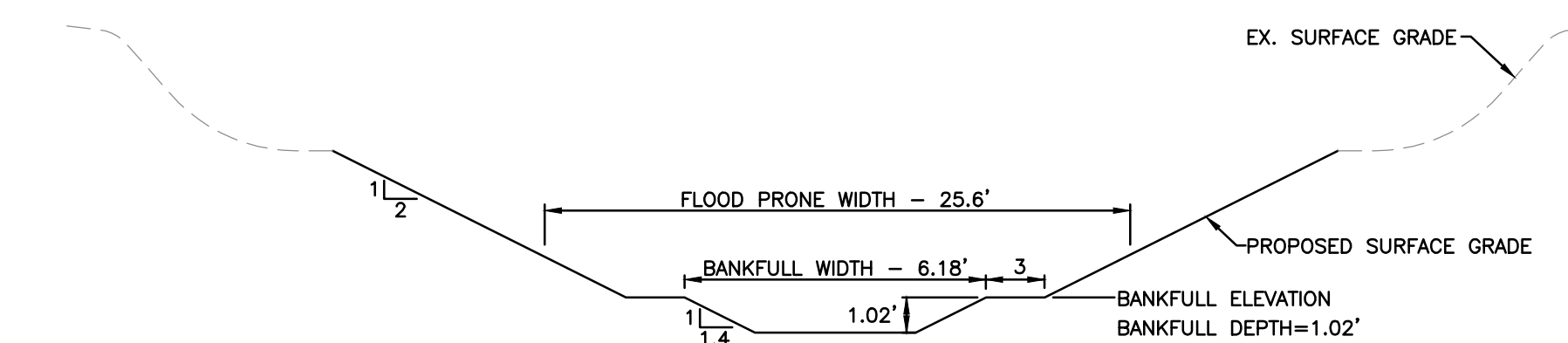
SHEET NUMBER
C9



ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.



CROSS SECTIONS - BRANCH NO. 1
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



BRANCH 1 PROPOSED CHANNEL X-SECTION
NOT TO SCALE

NO.	ISSUED FOR	DATE
1	PRELIMINARY REVIEW	11/2016
2	PRELIMINARY REVIEW	07/2019
3	OWNER REVIEW	11/22/2024
4	ISSUED FOR BID	08/19/2024

CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALEGAN, MICHIGAN 49010
PROJECT: BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

DATE	BY
07/2016	CVF, RLB
07/2016	DJF, KJV
07/2016	LGS
04/2024	DJF

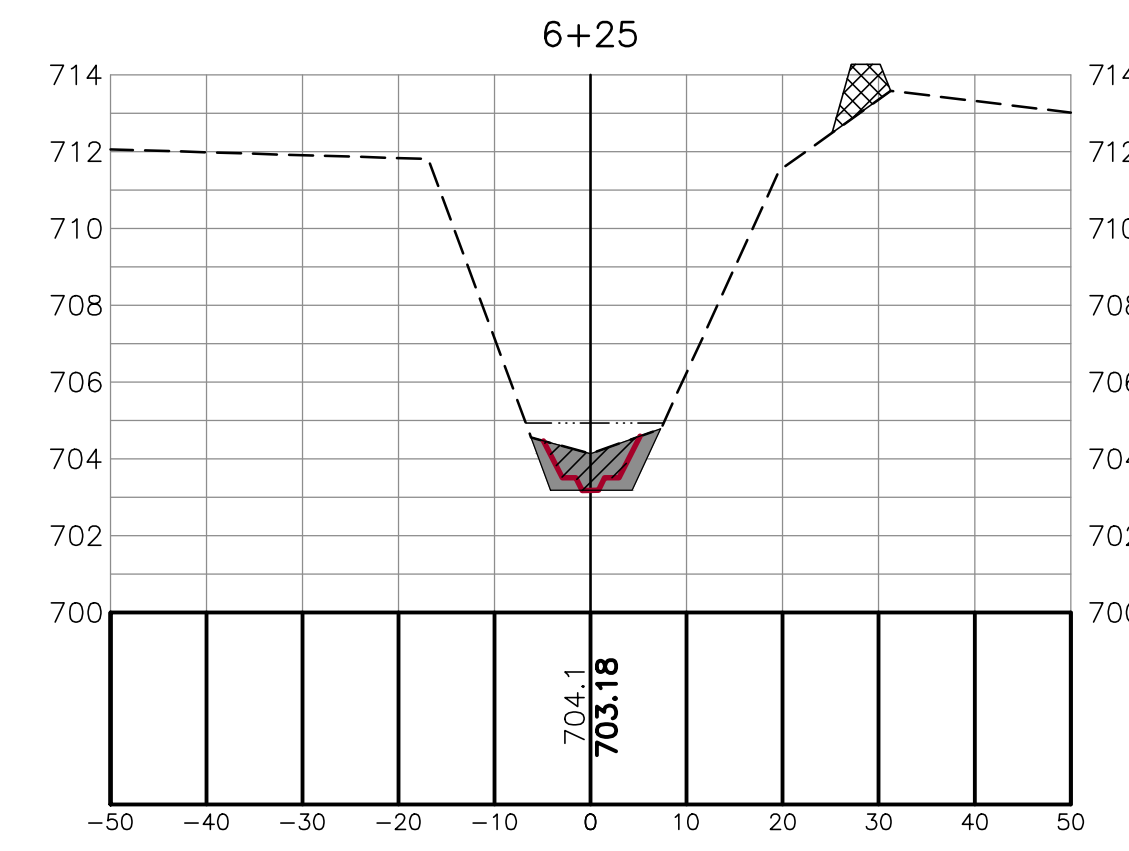
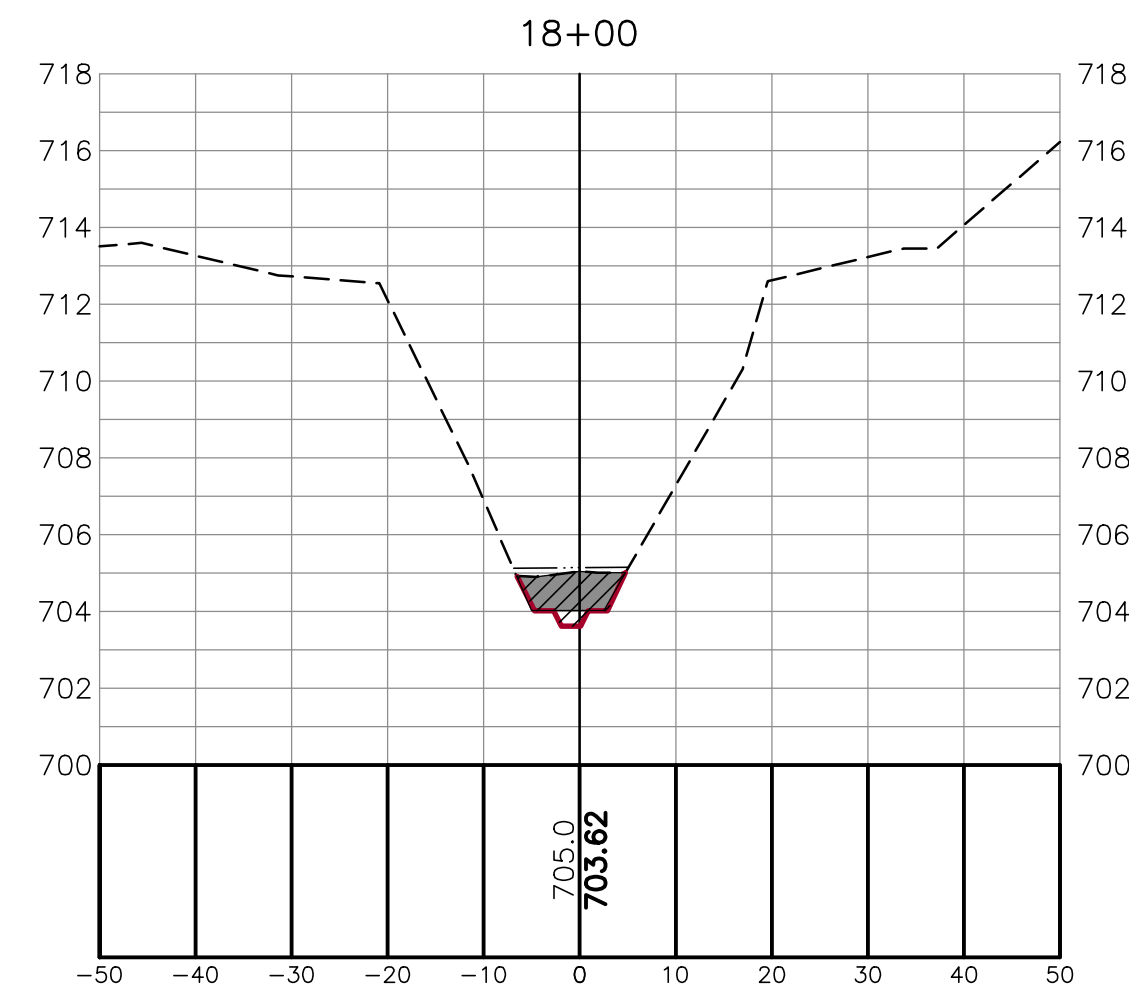
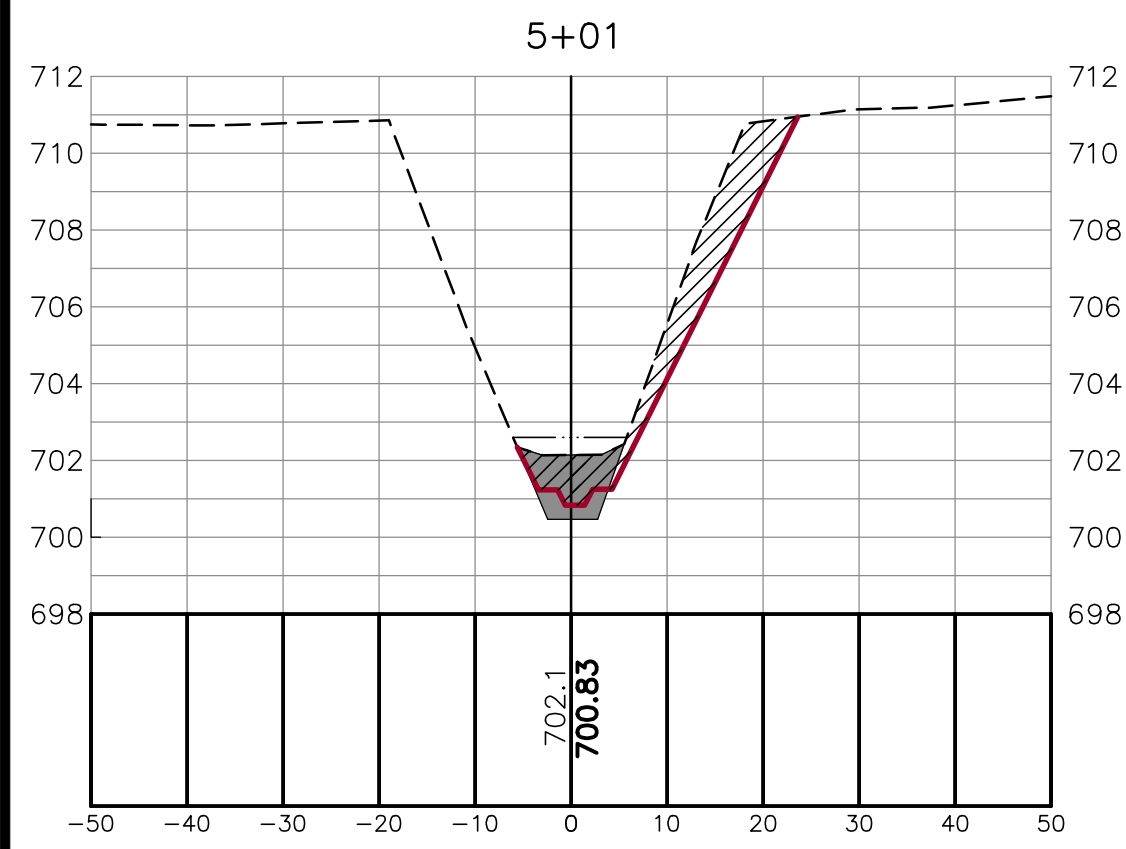
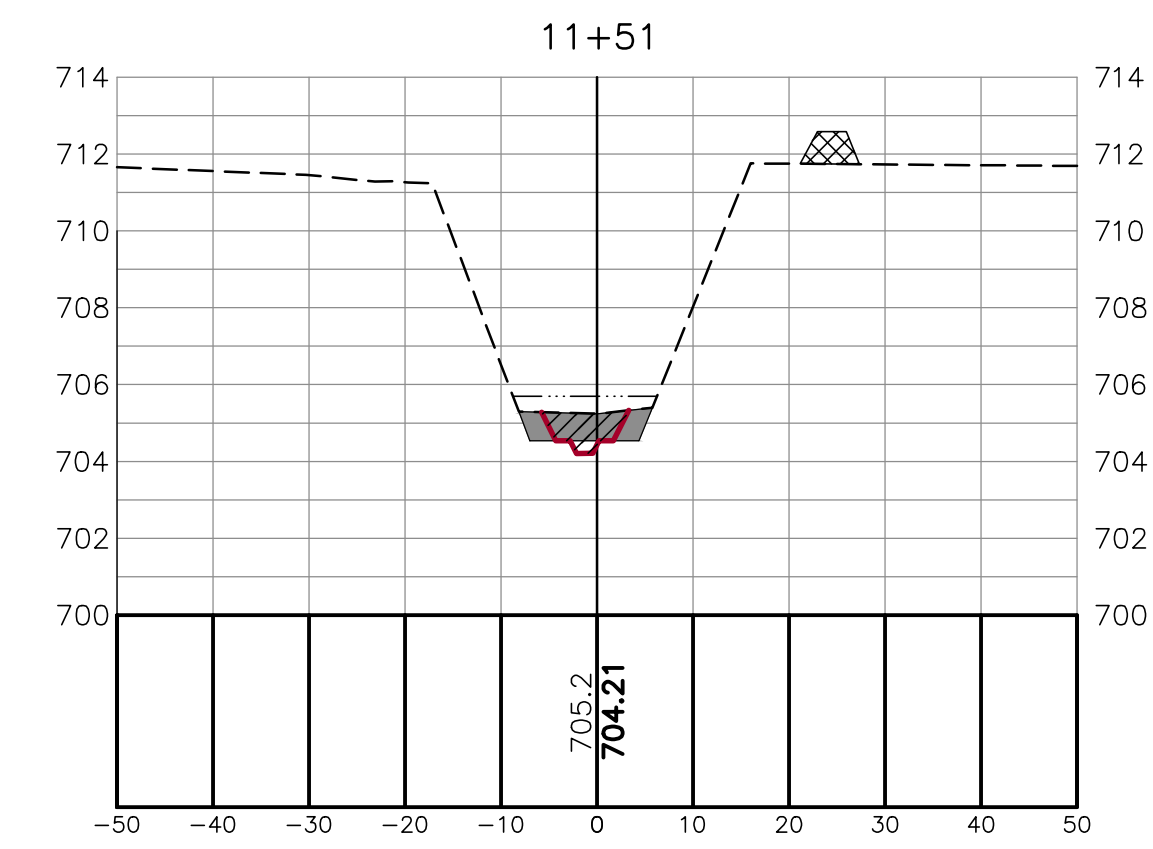
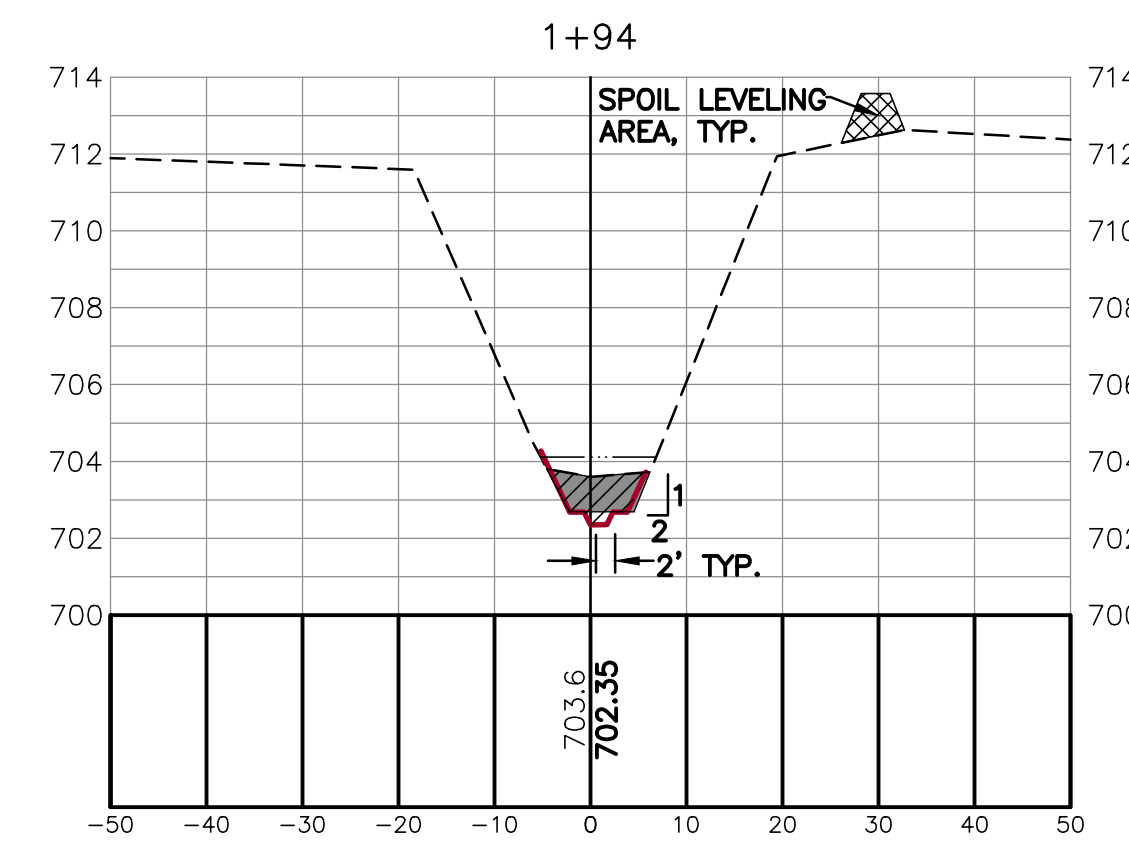
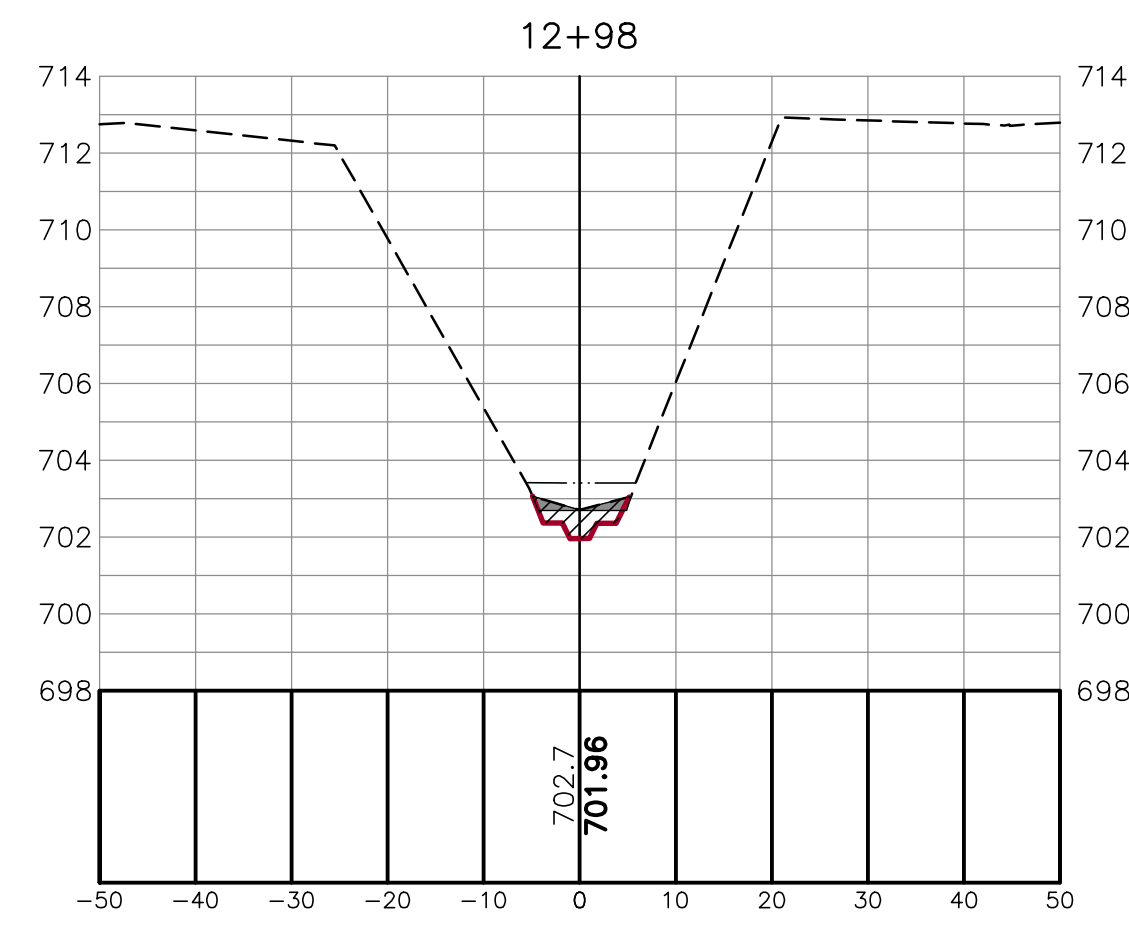
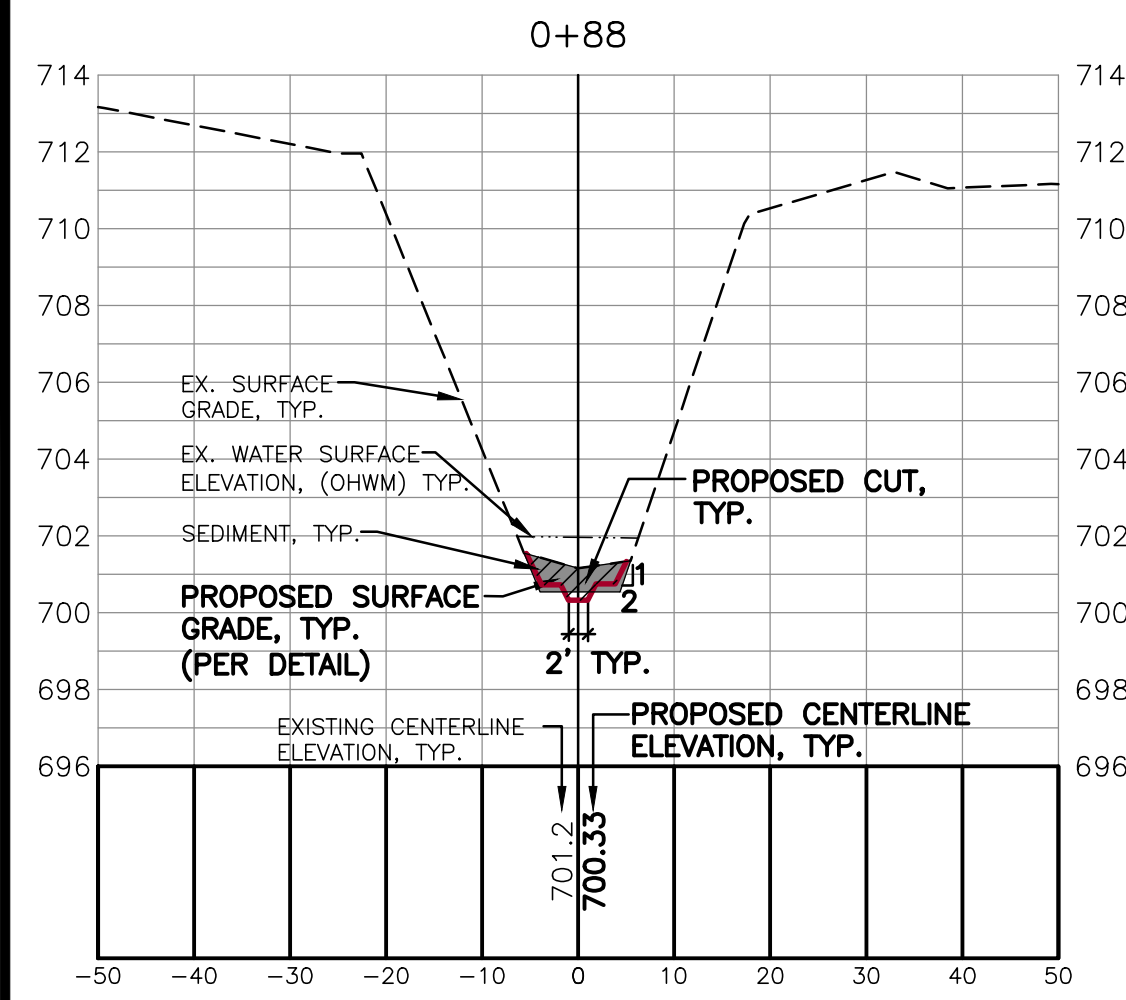
PROJECT NUMBER: 15043

CROSS SECTIONS
BRANCH NO. 1

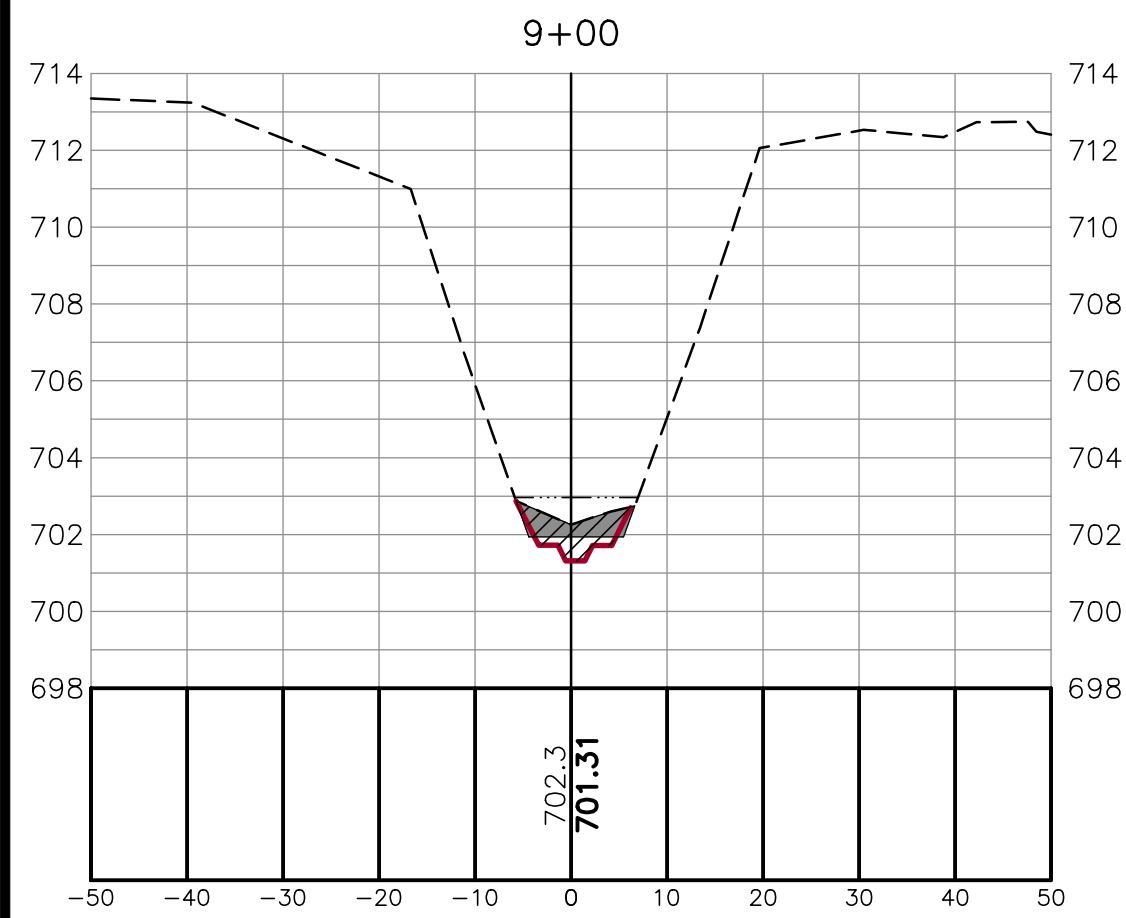
SHEET NUMBER
C10



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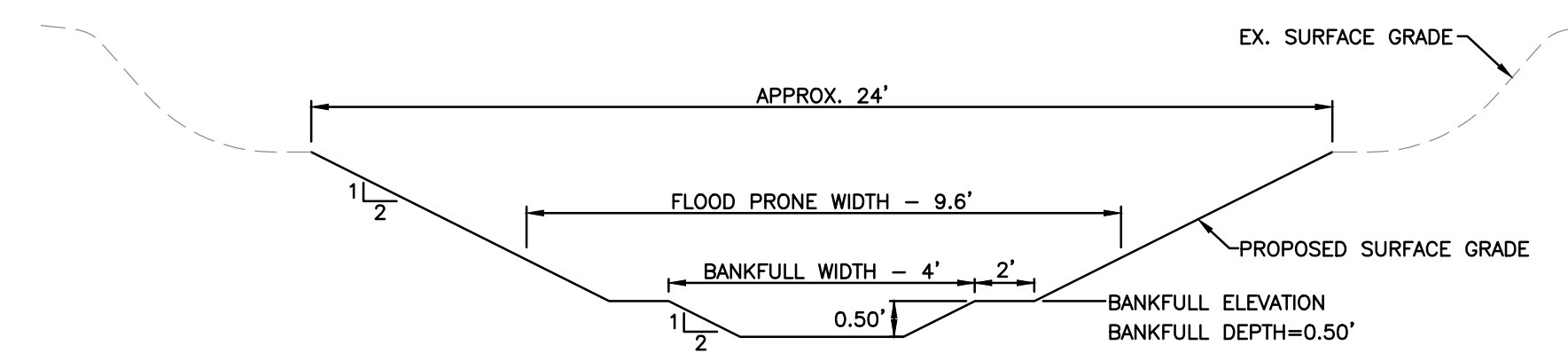


CROSS SECTIONS - BRANCH NO. 3
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

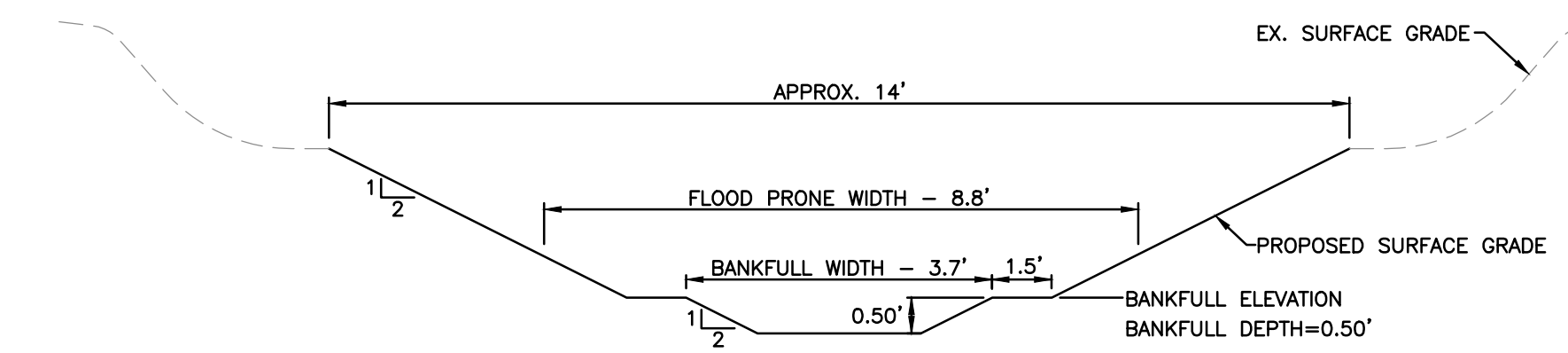


CROSS SECTIONS - BRANCH NO. 2
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

NOTE:
SPOILS TO BE HAULED OFF-SITE
FOR BRANCH NO. 2



BRANCH 2 PROPOSED CHANNEL X-SECTION
NOT TO SCALE



BRANCH 3 PROPOSED CHANNEL X-SECTION
NOT TO SCALE



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REVISIONS:	NO.	DATE	ISSUED FOR
	1	11/2016	PRELIMINARY REVIEW
	2	01/2019	PRELIMINARY REVIEW
	3	07/2016	OWNER REVIEW
	4	11/22/2024	ISSUED FOR BID
	5	08/19/2024	

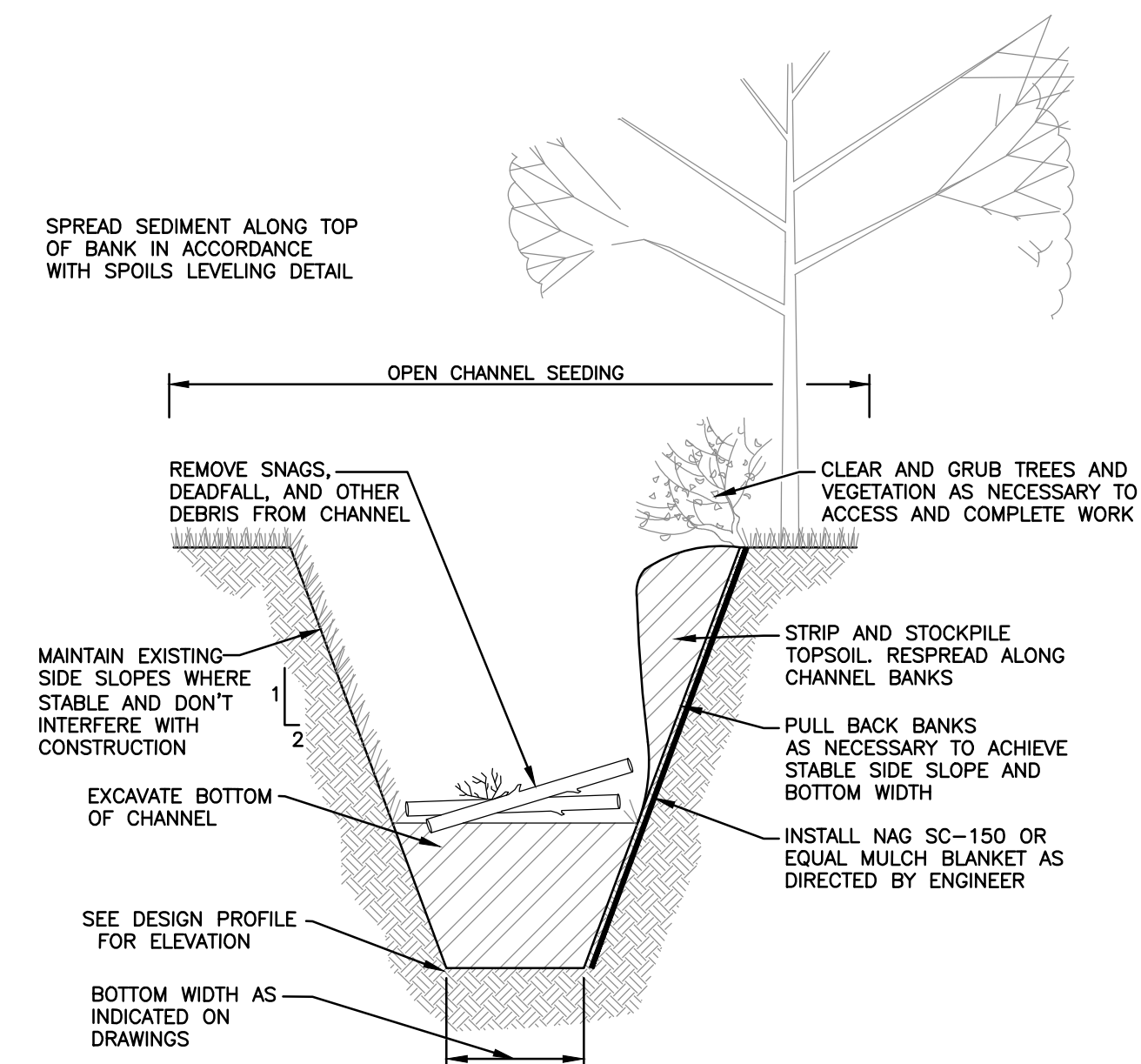
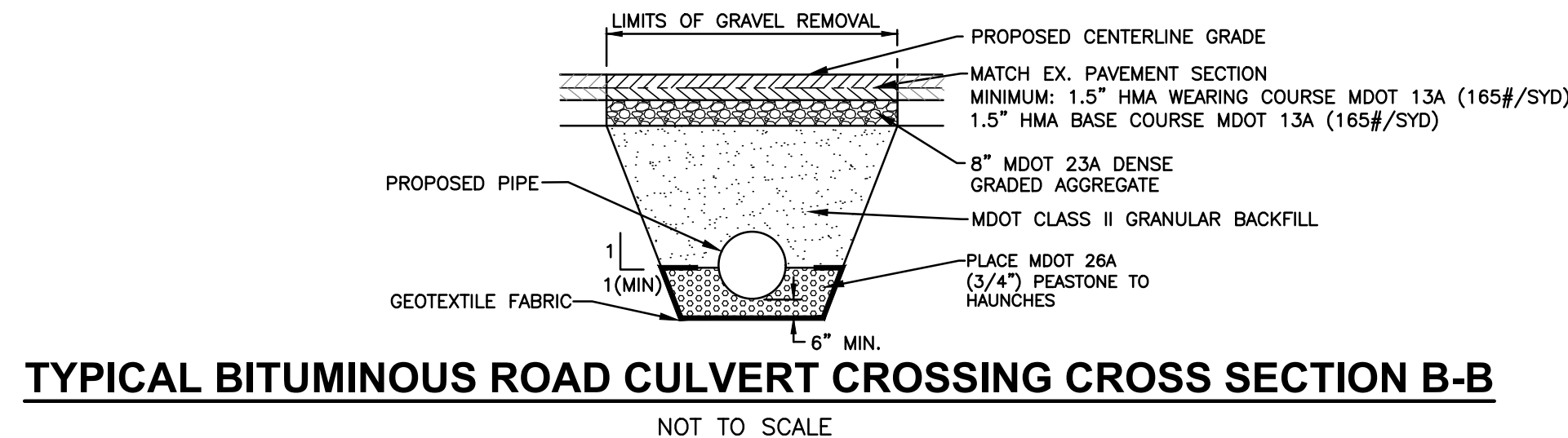
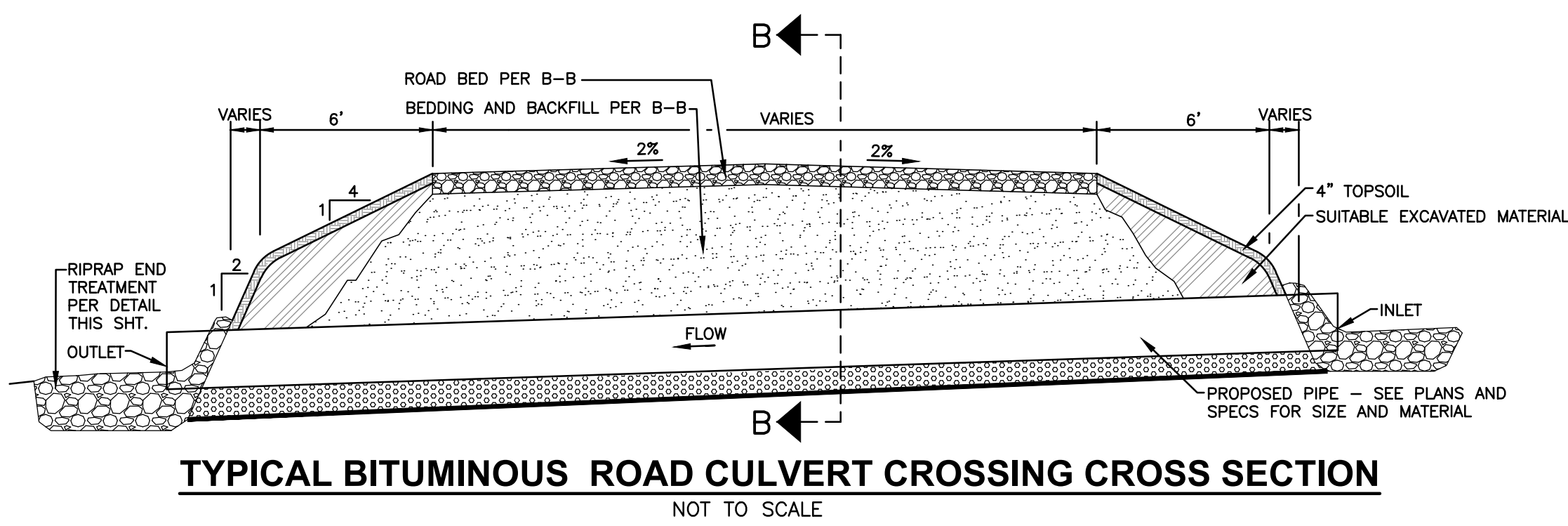
CLIENT:
ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALEGAN, MICHIGAN 49010

PROJECT:
BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

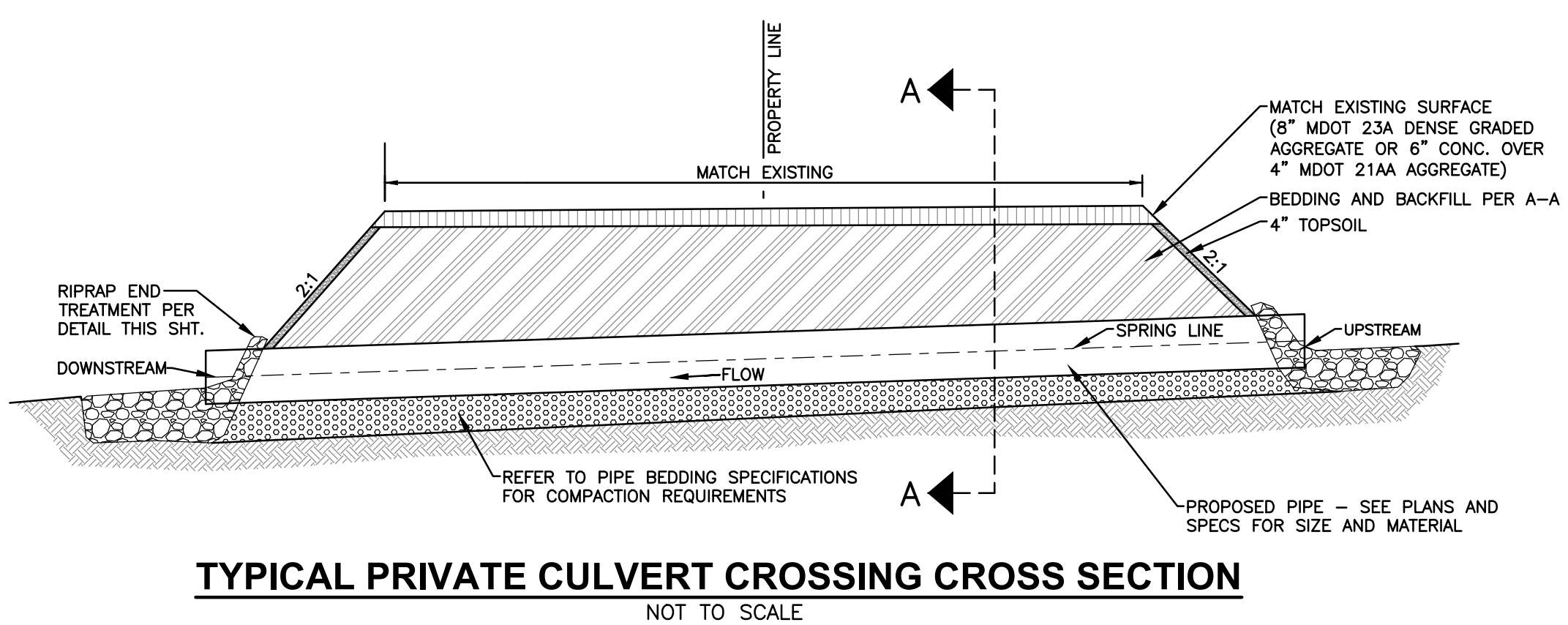
PROJECT NUMBER:	DATE
15-043	07/2016
	07/2016
	07/2016
	04/2024

SHEET NAME:
**CROSS SECTIONS
BRANCH NO. 2 & NO. 3**

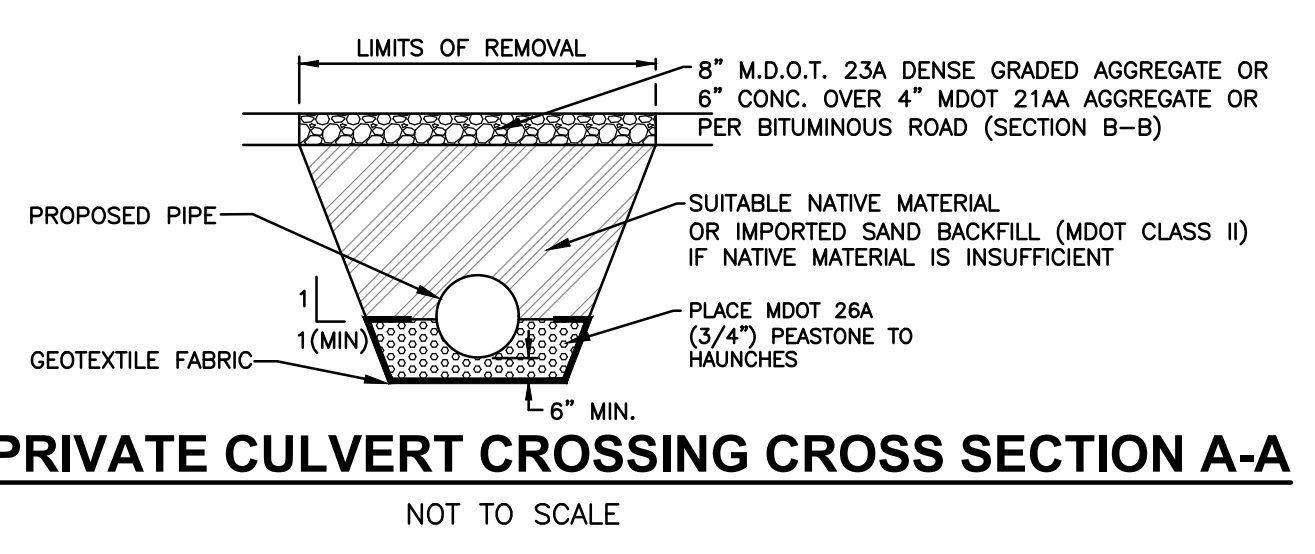
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C11



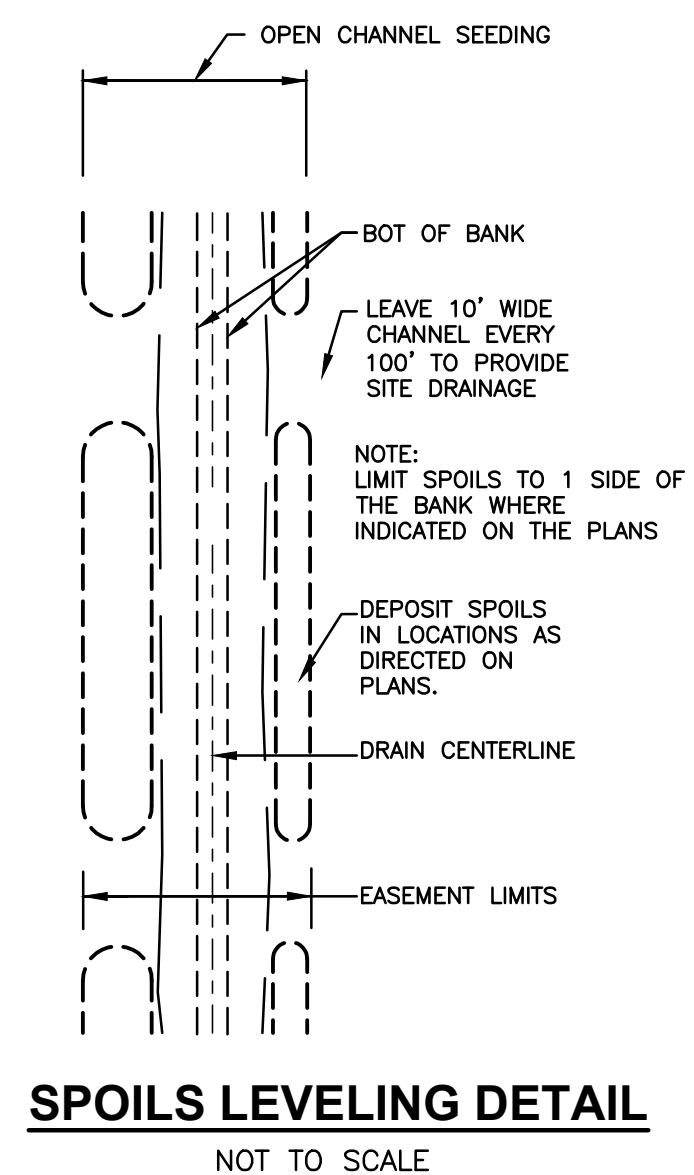
A B OPEN CHANNEL EXCAVATION DETAIL
NOT TO SCALE



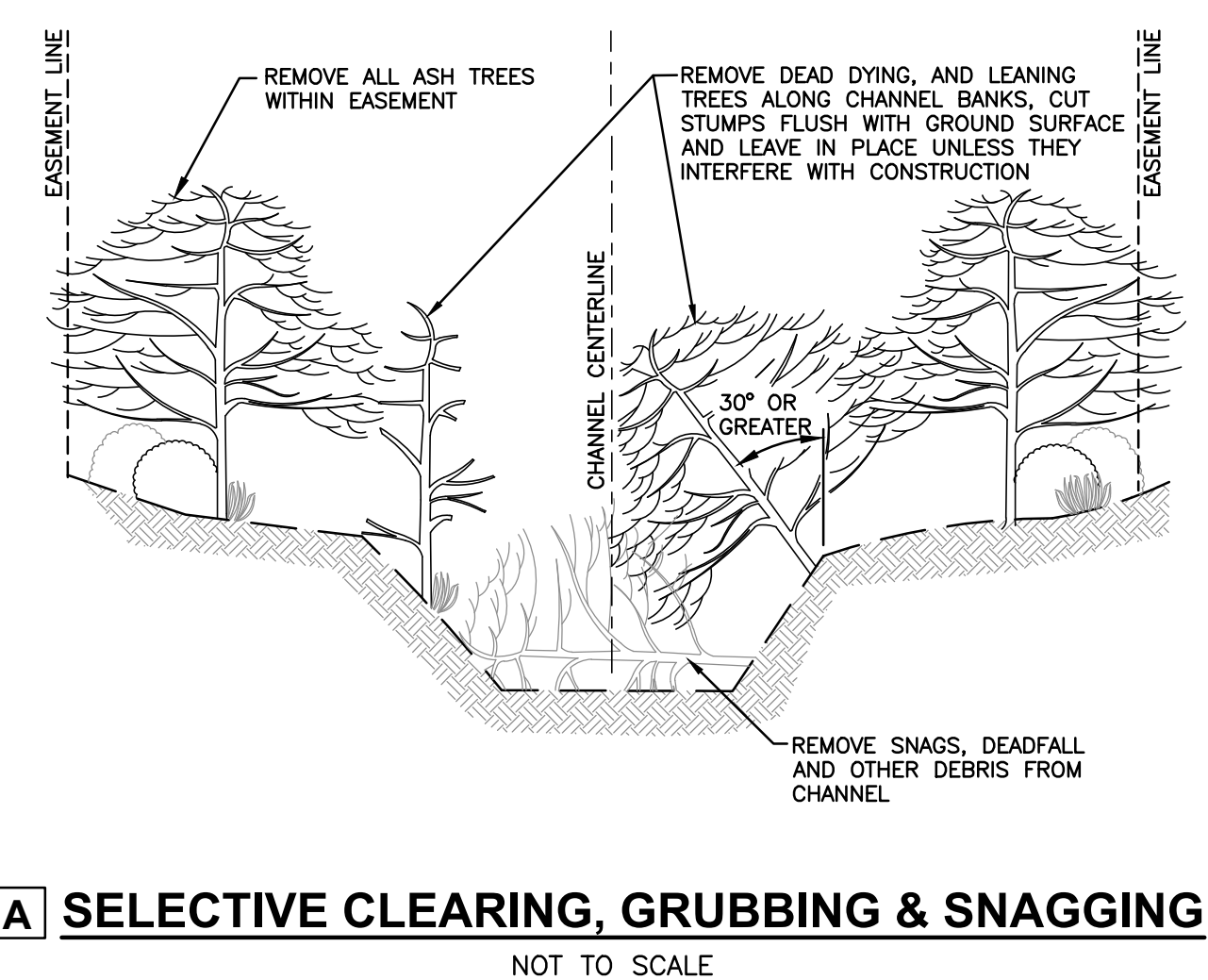
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NOT TO SCALE



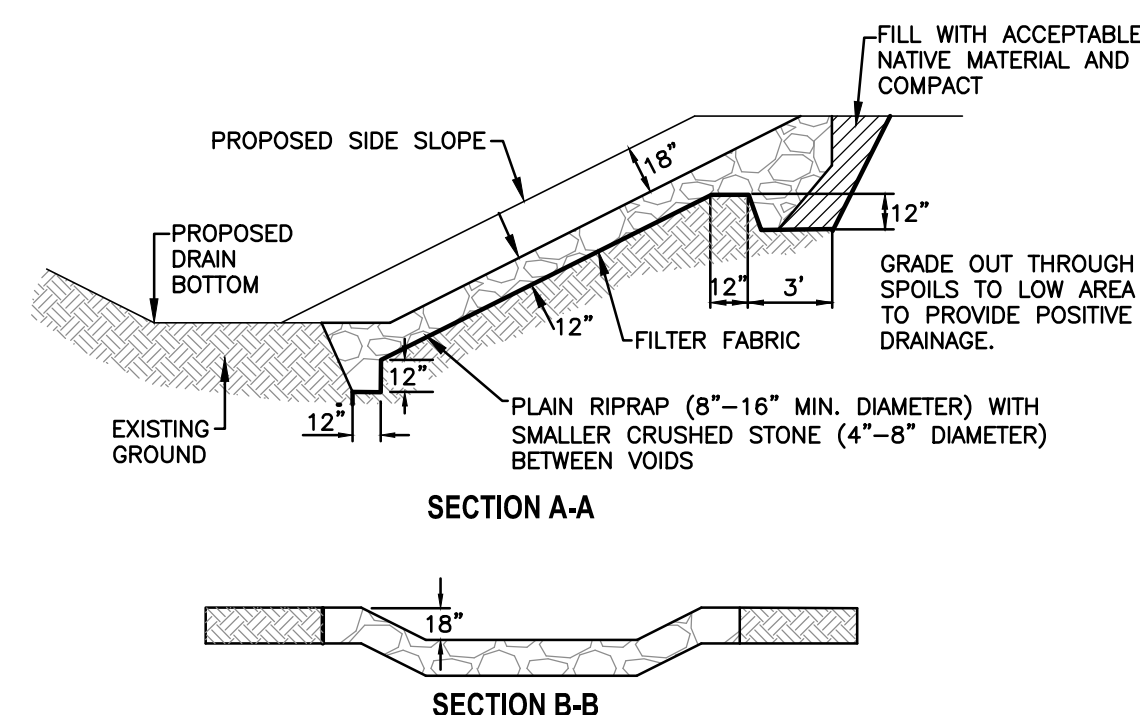
TYPICAL PRIVATE CULVERT CROSSING CROSS SECTION A-A
NOT TO SCALE



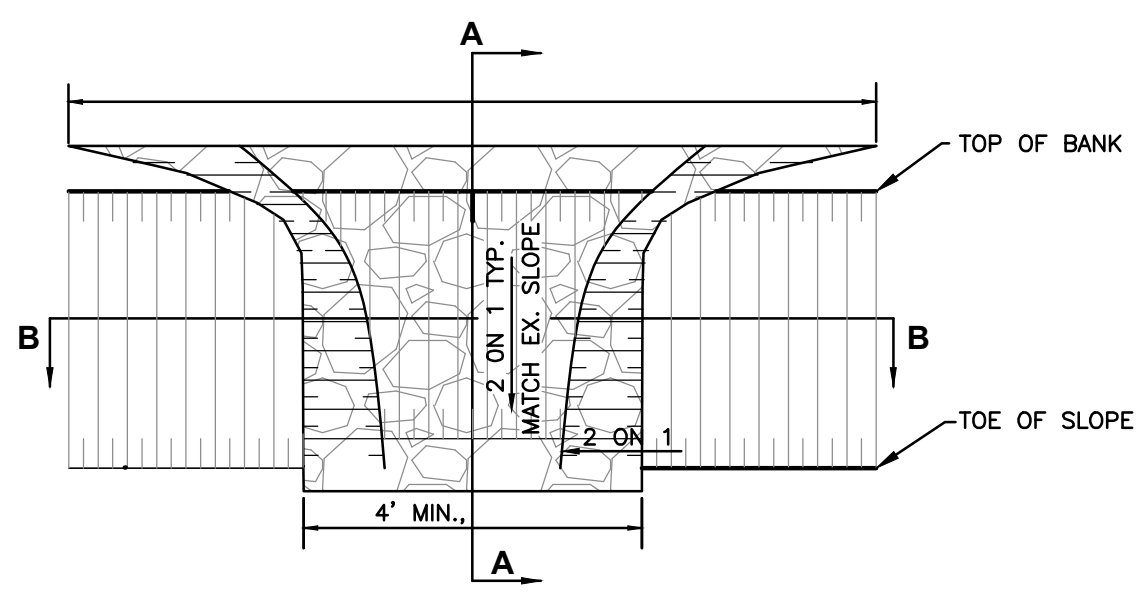
SPOILS LEVELING DETAIL
NOT TO SCALE



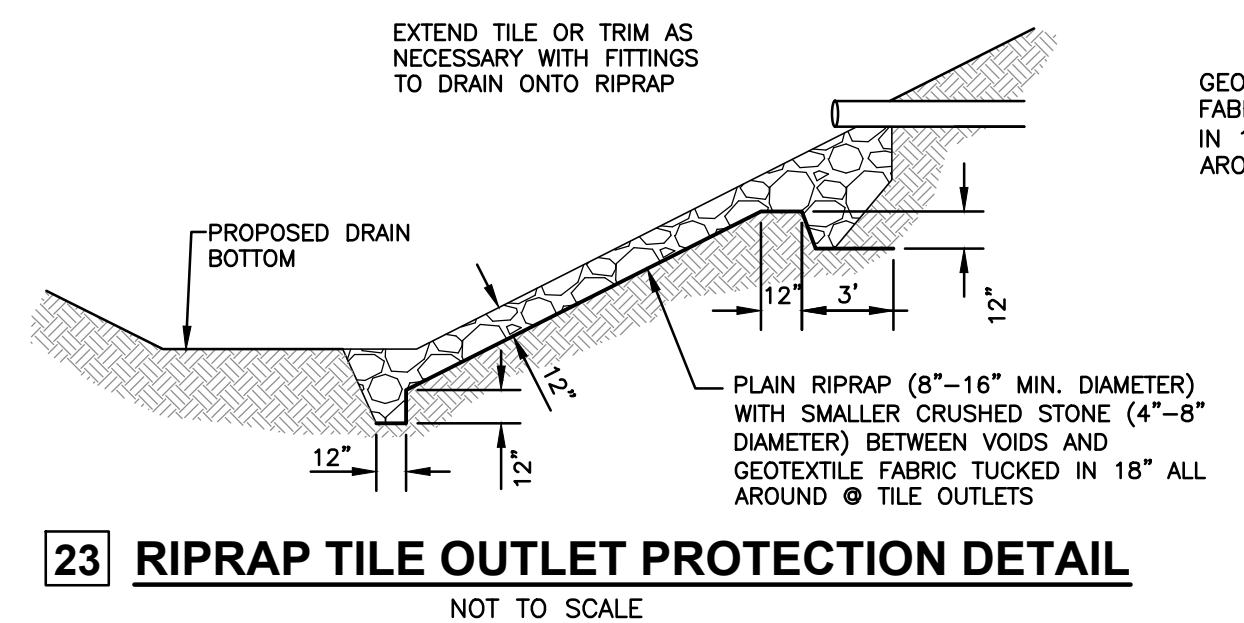
A SELECTIVE CLEARING, GRUBBING & SNAGGING
NOT TO SCALE



19 RIPRAP SIDE INLET DETAIL
NOT TO SCALE



15 RIPRAP END TREATMENT DETAIL
NOT TO SCALE



23 RIPRAP TILE OUTLET PROTECTION DETAIL
NOT TO SCALE

LEGEND

BENCHMARK	FIRE HYDRANT
WELL	WATER VALVE
MONUMENT	ELECTRIC TRANSFORMER
FOUND IRON STAKE	GAS METER
SET IRON STAKE	WATER METER
SET WOOD STAKE	TELEPHONE RISER
SIGN	ELECTRIC METER
RR SIGN	CATCH BASIN
GUY POLE	ROUND CATCH BASIN
UTILITY ANCHOR	UTILITY MANHOLE
GUYING POLE	STORM MANHOLE
LIGHT POLE	FLARED END SECTION
POST	SANITARY MANHOLE
SOIL BORING	ELECTRIC MANHOLE
MAILBOX	TELEPHONE MANHOLE
AC UNIT	DECIDUOUS TREE
FLAGPOLE	CONIFEROUS TREE

	WATER UTILITY LINE
	TELEPHONE UTILITY LINE
	ELECTRIC UTILITY LINE
	GAS UTILITY LINE
	STEAM UTILITY LINE
	STORM UTILITY LINE
	SANITARY UTILITY LINE
	FIBER OPTIC UTILITY LINE
	OVERHEAD UTILITY LINE
	LAKE LINE
	EXISTING CONTOUR

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Walker, MI 49544
Ph: 616-501-7888
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REVISIONS:	NO.	ISSUED FOR:	DATE
	1	PRELIMINARY REVIEW	11/20/16
	2	PRELIMINARY REVIEW	07/20/16
	3	PRELIMINARY REVIEW	07/20/16
	4	OWNER REVIEW	11/22/2024
	5	ISSUED FOR BID	08/19/2024

CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010
PROJECT: BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

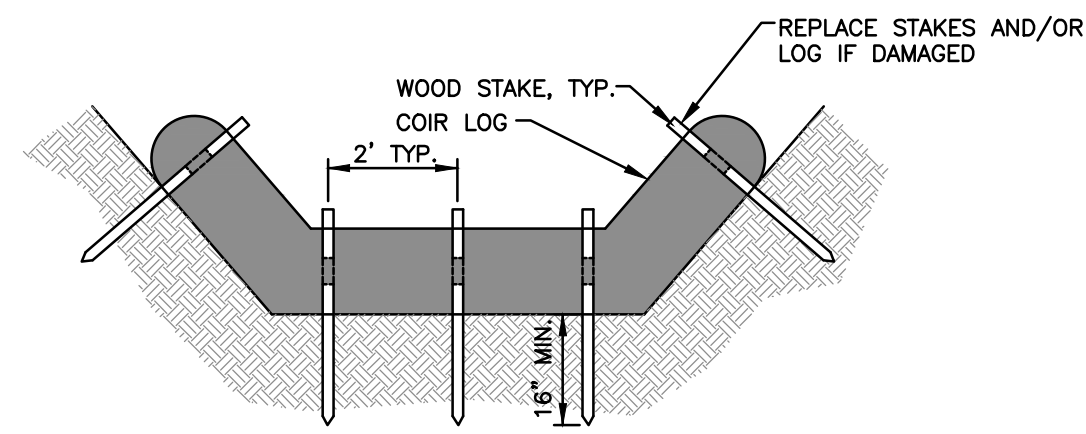
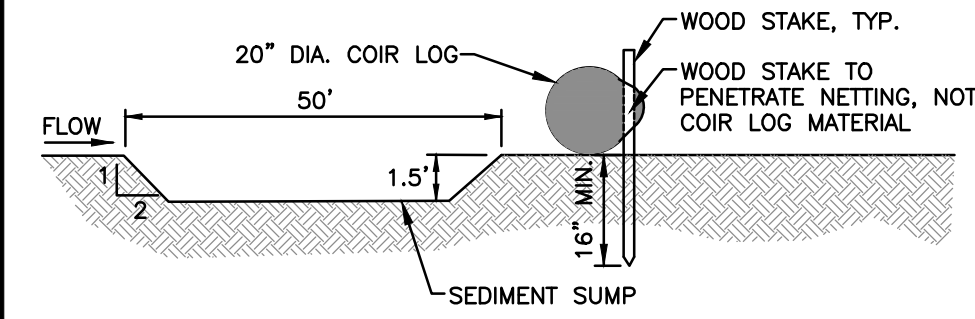
PROJECT NUMBER:	DATE
15043	07/20/16
	07/20/16
	07/20/16
	04/20/24

SURVEYED BY: CVF, RLB
DESIGNED BY: DJF, KJV
DRAFTED BY: LGS
CHECKED BY: DJF

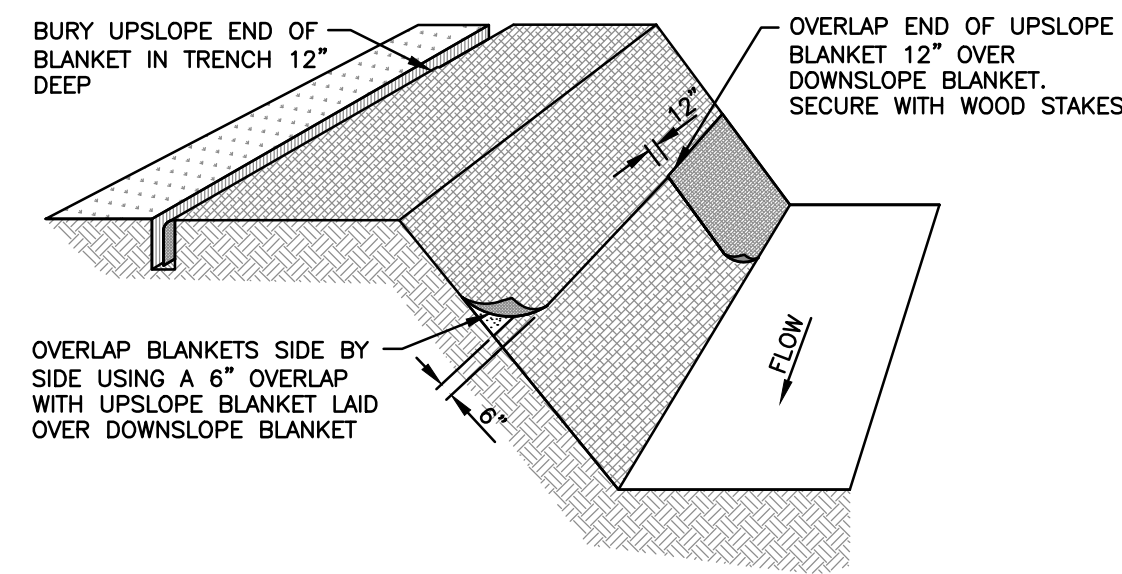
DETAILS

SHEET NUMBER
C12

NOTE:
REMOVE ACCUMULATED SEDIMENT
WHEN IT REACHES 1/3 THE HEIGHT
OF THE LOG OR SUMP DEPTH



SEDIMENT SUMP DETAIL
NOT TO SCALE



NOTES:
1. PLACE MULCH BLANKET PARALLEL TO FLOW AND ANCHOR SECURELY.
2. STAPLES INSTALLED/SECURED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
3. MULCH BLANKET SHALL BE NA GREEN SC 150 OR EQUAL.

2 MULCH BLANKETS INSTALLATION DETAIL
NOT TO SCALE

MACDC UNIFIED KEYING SYSTEM EROSION CONTROL MEASURES (SESC)

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	Seeding		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	Mulch		On flat areas, slopes, grassed waterways and spillways, diversion ditches & dikes, borrow & stockpile areas, & spoil piles when areas are subject to raindrop impact, & erosive forces from wind or water.
9	Vegetation Removal without Grubbing		Retains existing root mat which assists in stabilizing slopes. Assists in the revegetation process by providing sprout growth. Reduces sheet flow velocities preventing rilling and gullying. Discourages off-road vehicle use.
13	Slope Stabilization		Slope stabilizing measures provide an immediate and effective cover over raw erodible slopes affording excellent protection against rain and wind erosion.
15	Riprap		Along drain banks, shorelines, or where concentrated flows occur, slows velocity, reduces erosion and sedimentation.
16	Riprap Toe of Slope		Riprap toe of slope protection is used in areas where velocities are causing drain bank erosion and are too high to stabilize using other methods.
19	Armored Spillway		When concentrated flow must be conveyed down a drain bank or slope of discharge into another drain. Where slope failure or channel scour is observed or is likely to occur, or when runoff must be redirected around work in the drain.
23	Outfall Stabilization		In the stream or drain bank usually above the ordinary high water mark where an enclosed drain or tile discharges to an open drain.

MACDC UNIFIED KEYING SYSTEM - ROUTINE MAINTENANCE ACTIVITIES

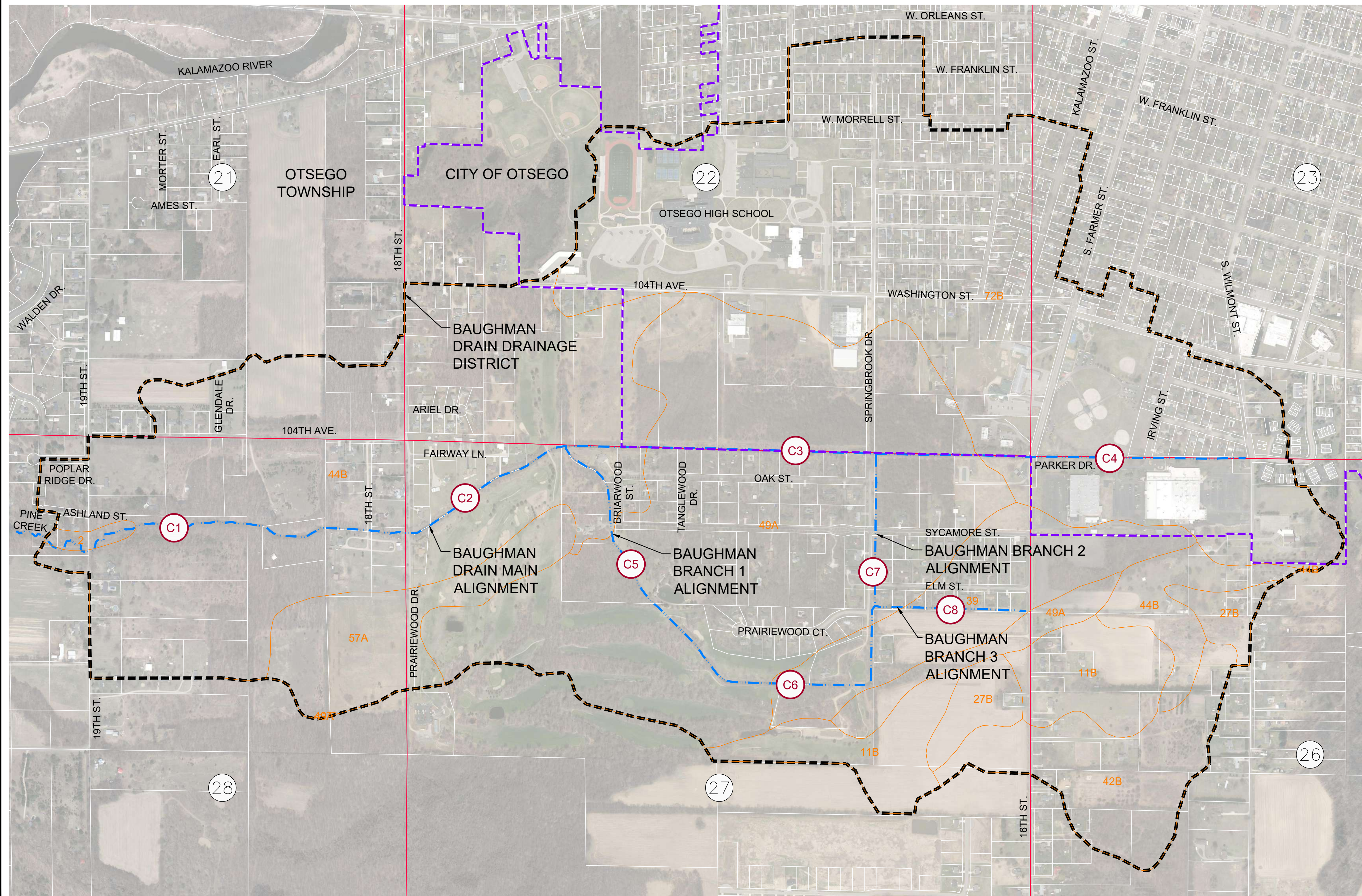
KEY	BEST MANAGEMENT PRACTICE	SESC PLAN
A	Debris Removal	NO
B	Sediment Removal	> 100 FEET

SOILS INFORMATION

- 2 GLENDORA LOAMY SAND
- 11B OSHTOMO-CHELSEA COMPLEX, 0 TO 6 PERCENT SLOPES
- 27B META LOAMY FINE SAND, 1 TO 6 PERCENT SLOPES
- 39 GRANBY LOAMY SAND, LAKE PLAIN, 0 TO 2 PERCENT SLOPES
- 42B METAMORA SANDY LOAM, 1 TO 4 PERCENT SLOPES
- 44B CHELSEA LOAMY FINE SAND, 0 TO 6 PERCENT SLOPES
- 49A TEDROW FINE SAND, 0 TO 4 PERCENT SLOPES
- 57A COVERT SAND, 0 TO 4 PERCENT SLOPES
- 72B URBAN LAND-OAKVILLE COMPLEX, 0 TO 6 PERCENT SLOPES

LEGEND

- ENCLOSED CHANNEL DRAIN
- OPEN CHANNEL DRAIN
- OTSEGO CITY LIMITS
- DRAINAGE DISTRICT BOUNDARY
- SECTION LINE
- TOWNSHIP LINE
- COUNTY LINE
- ROADS
- PROPERTY LINES
- SECTION NUMBERS
- SHEET NUMBERS
- SOIL TYPE



SOILS MAP

2121 1/2 Mile Rd. NW
Walker, MI 49544
Ph: 616-501-7888
www.LREMI.com

LRE
ENGINEERS & SURVEYORS

REVISIONS:	NO.	DATE	ISSUED FOR:
	1	11/2016	PRELIMINARY REVIEW
	2	07/2019	PRELIMINARY REVIEW
	3	11/22/2024	OWNER REVIEW
	4	11/22/2024	ISSUED FOR BID
	5	08/19/2024	

ALLEGAN COUNTY DRAIN COMMISSIONER
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010

BAUGHMAN DRAIN - DIVISION 1
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

DATE	PROJECT
07/2016	113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010
07/2016	BAUGHMAN DRAIN - DIVISION 1
07/2016	OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN
04/2024	

PROJECT NUMBER: 15043
SURVEYED BY: CVF, RLB
DESIGNED BY: DJF, KJV
DRAFTED BY: LGS
CADC:DJF

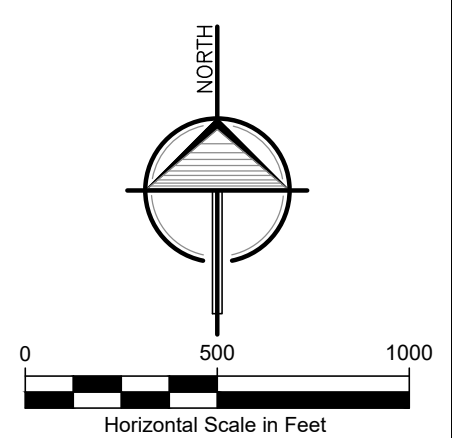
SESC PLAN

SHEET NUMBER

C13



3 WORKING DAYS
BEFORE YOU DIG
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ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.