

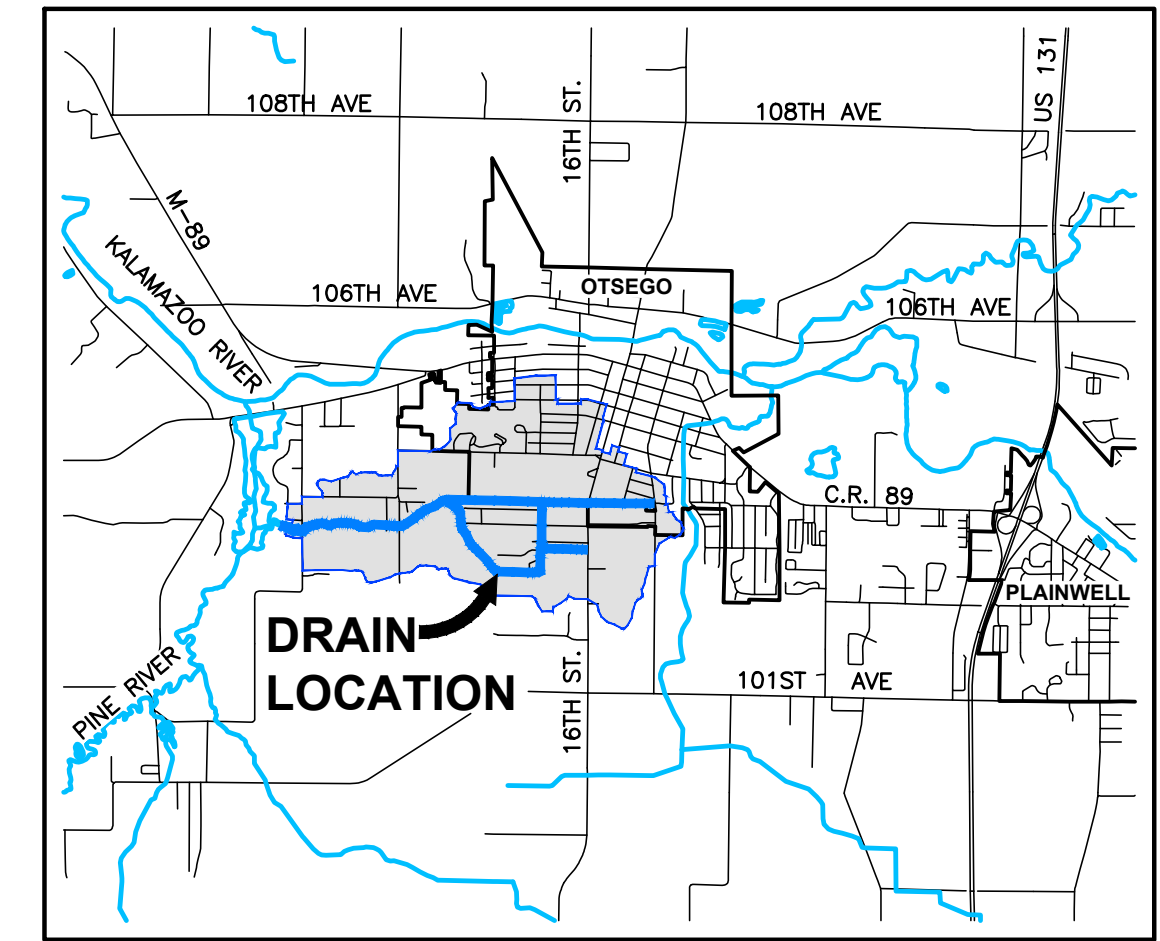


# Baughman Drain - Division 2

Sections 21-23 & 26-28

T01N, R12W

Otsego Township & City of Otsego,  
Allegan County, Michigan



VICINITY MAP  
NOT TO SCALE

### INDEX OF SHEETS

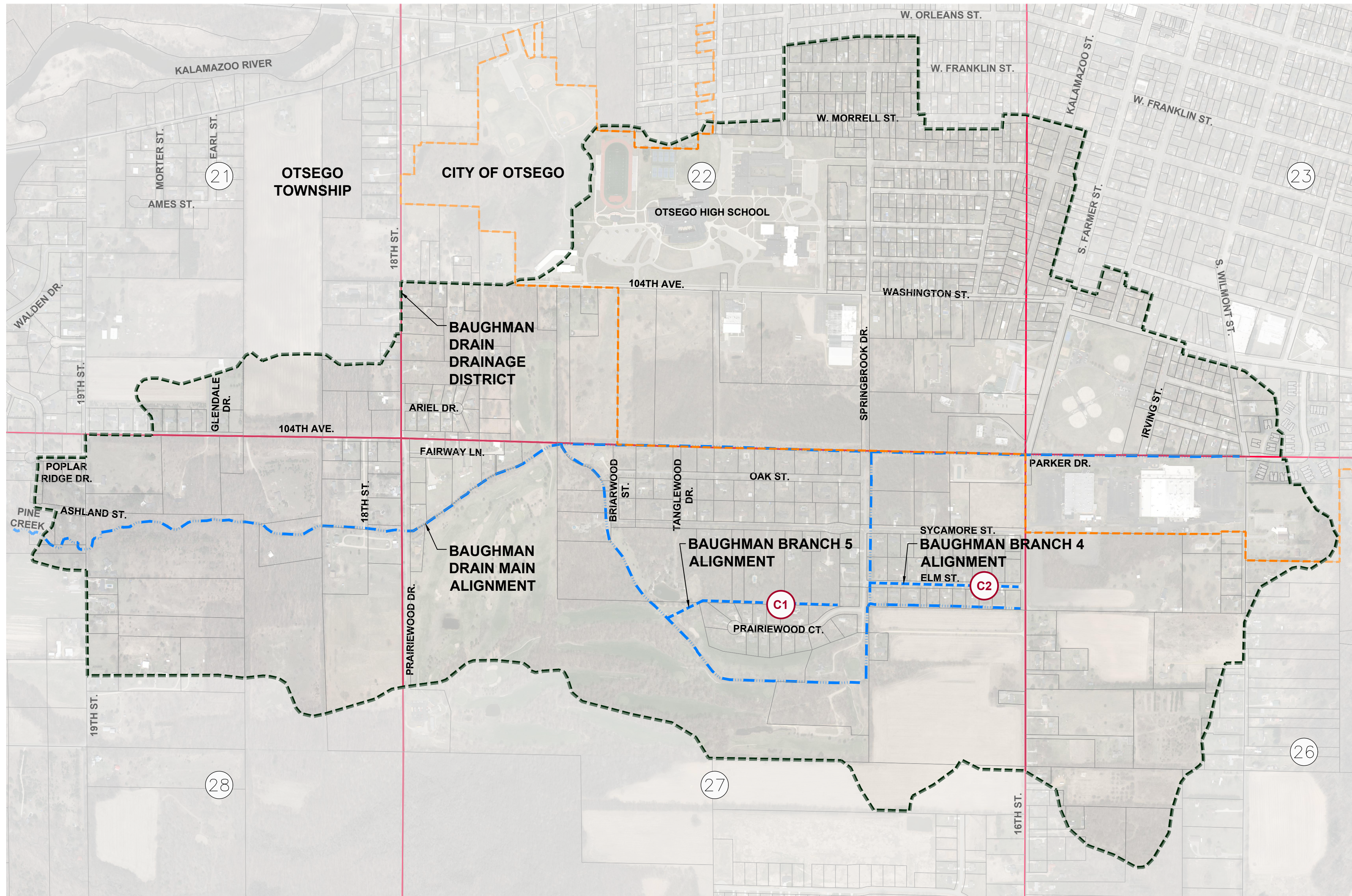
CS - COVER SHEET

C1 - PLAN & PROFILE  
BRANCH NO. 5 (STA. 0+00 - 15+00)

C2 - PLAN & PROFILE  
BRANCH NO. 4 (STA. 0+00 - 13+00)

C3 - DETAILS

C4 - SESC PLAN



### DRAIN INFORMATION

BAUGHMAN BRANCH 4 LENGTH	0.28 MILES
BAUGHMAN BRANCH 5 LENGTH	0.24 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	05/22/2024
	4	ISSUED FOR BIDS	05/19/2024
	5		

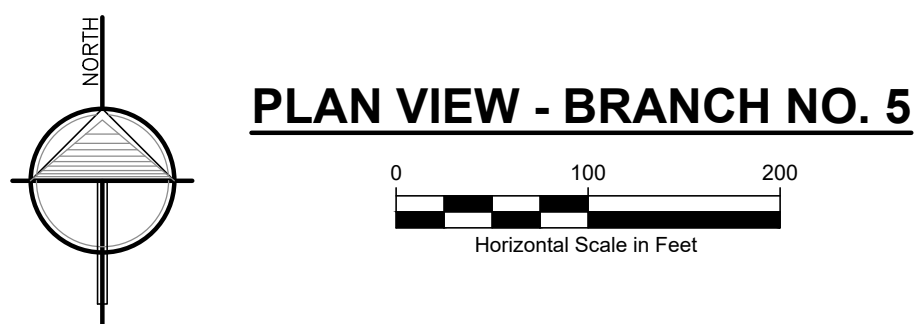
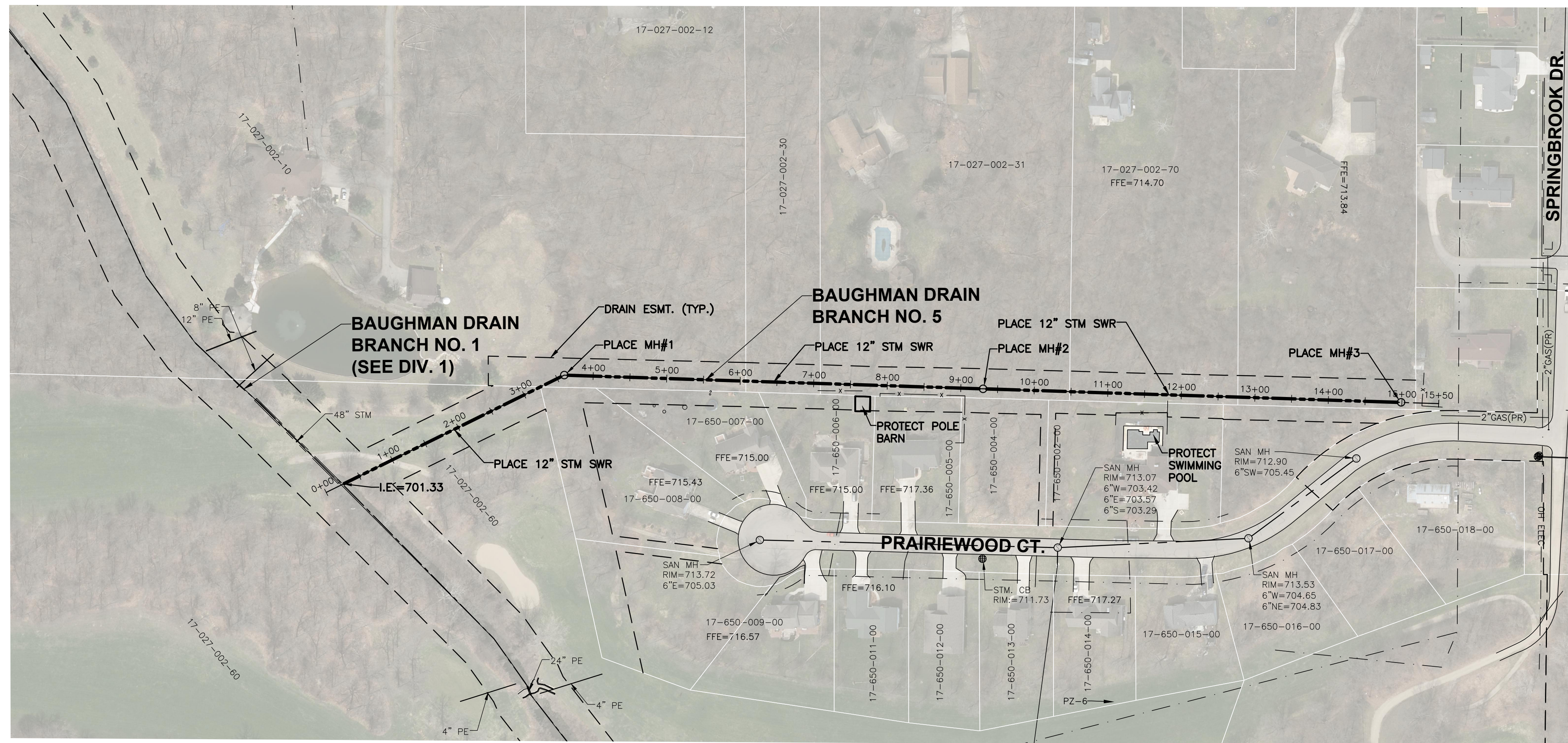
CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER  
113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010  
PROJECT: BAUGHMAN DRAIN - DIVISION 2  
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

DATE	PROJECT
07/2016	113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010
02/2019	BAUGHMAN DRAIN - DIVISION 2
02/2019	OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN
04/30/2024	

COVER SHEET

SHEET NUMBER  
**CS**



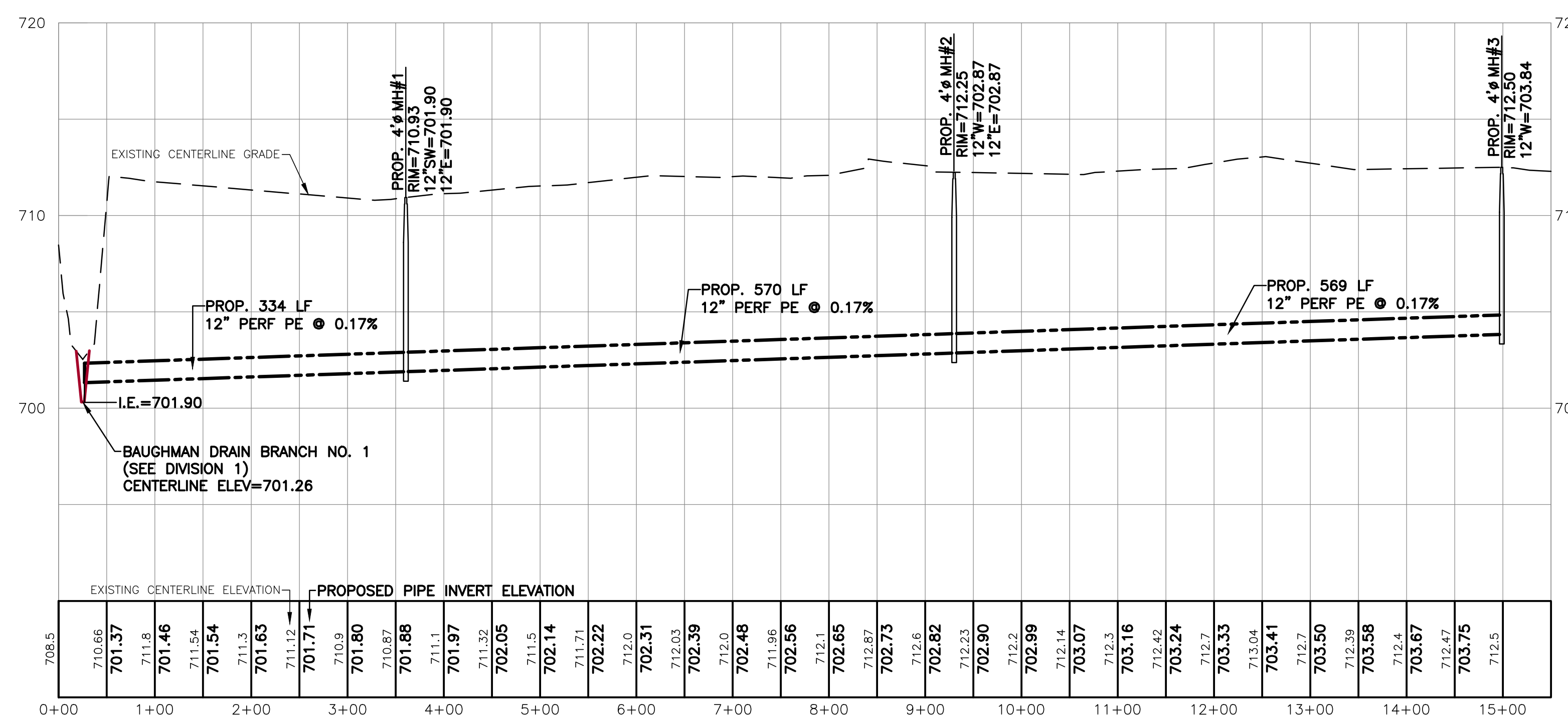


**NOTES:**

1. DRAIN EASEMENT: AS SHOWN ON DRAWINGS.
2. SELECTIVELY CLEAR, GRUB AND SNAG 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. CONTRACTOR SHALL COORDINATE TREE REMOVALS WITH PROPERTY OWNERS.

**MISCELLANEOUS QUANTITIES**

MOBILIZATION (5% MAX)	1 LS
TRAFFIC CONTROL	1 LS
UTILITY PROTECTION AND COORDINATION	1 LS
STORM SEWER RESTORATION	1,473 LF
SILT FENCE	3,000 LF
SITE RESTORATION	1 LS



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

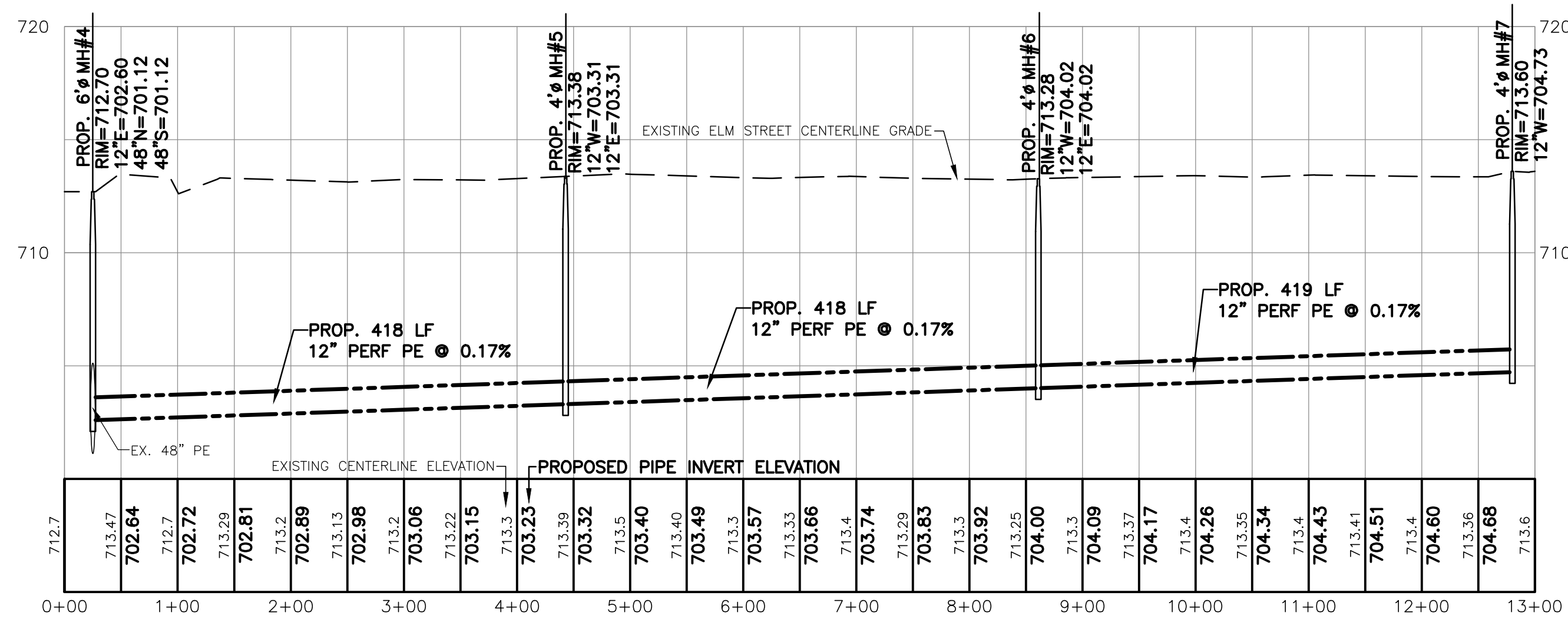
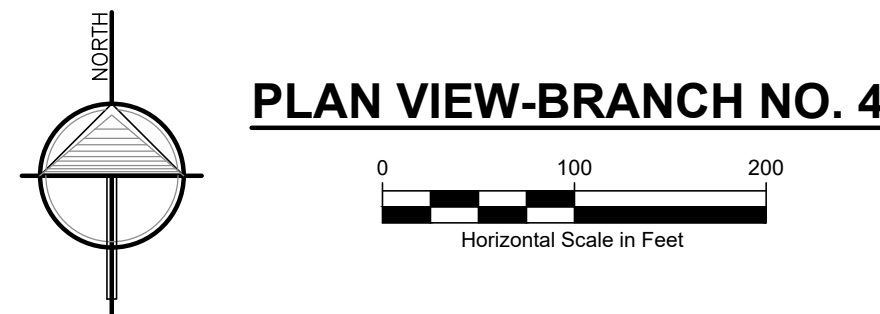
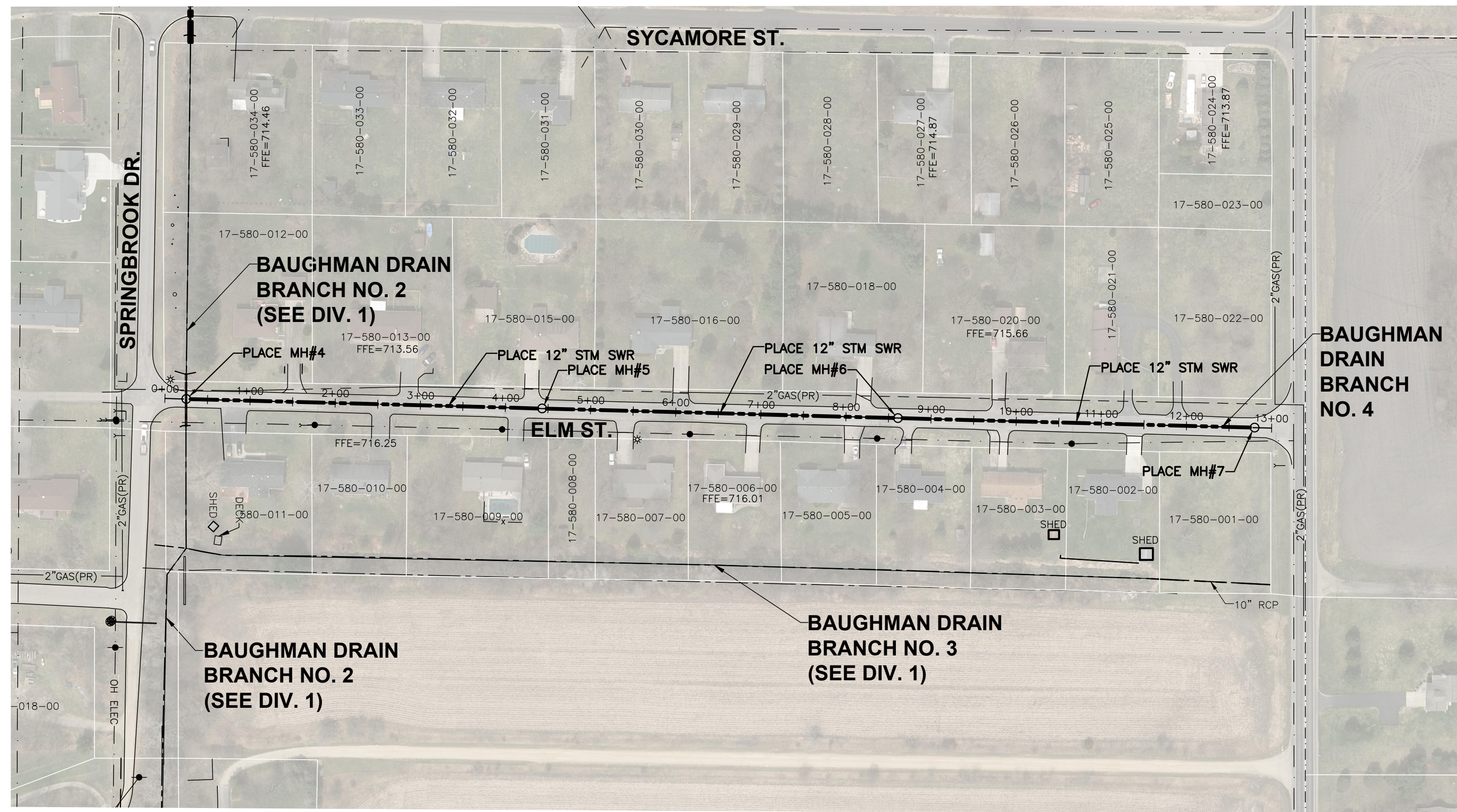


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<p>PROJECT NUMBER: 15043</p> <p>SHEET NAME: PLAN &amp; PROFILE BRANCH NO. 5 STA: 0+00 - 15+00</p> <p>SHEET NUMBER: C1</p>	<p>CLIENT: ALLEGAN COUNTY DRAIN COMMISSIONER 113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010</p> <p>PROJECT: BAUGHMAN DRAIN - DIVISION 2 OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>ISSUED FOR</th> <th>DATE</th> </tr> <tr> <td>1</td> <td>PRELIMINARY REVIEW</td> <td>11/2016</td> </tr> <tr> <td>2</td> <td>PRELIMINARY REVIEW</td> <td>01/2019</td> </tr> <tr> <td>3</td> <td>PRELIMINARY REVIEW</td> <td>02/2019</td> </tr> <tr> <td>4</td> <td>OWNER REVIEW</td> <td>02/22/2024</td> </tr> <tr> <td>5</td> <td>ISSUED FOR BIDS</td> <td>05/19/2024</td> </tr> </table>	NO.	ISSUED FOR	DATE	1	PRELIMINARY REVIEW	11/2016	2	PRELIMINARY REVIEW	01/2019	3	PRELIMINARY REVIEW	02/2019	4	OWNER REVIEW	02/22/2024	5	ISSUED FOR BIDS	05/19/2024
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<p>2121 3 Mile Rd. NW Walker, MI 49544 Ph: 616-501-7888 www.LREMI.com</p>																			





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

**NOTES:**

1. DRAIN EASEMENT: ALL WORK SHALL BE COMPLETED WITHIN ELM STREET R.O.W.
2. SELECTIVELY CLEAR, GRUB AND SNAG 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.
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**MISCELLANEOUS QUANTITIES**

ROADWAY RESTORATION 2,600 LF

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113 CHESTNUT STREET ALLEGAN, MICHIGAN 49010  
PROJECT: BAUGHMAN DRAIN - DIVISION 2  
OTSEGO TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

PROJECT NUMBER:	DATE
15043	07/2016
	02/2019
	02/2019
	04/30/2024

SURVEYED BY: CVF, RLB  
DESIGNED BY: KJV  
DRAFTED BY: NDI  
CADC:DJF

SHEET NAME: PLAN & PROFILE  
BRANCH NO. 4  
STA: 0+00 - 13+00

SHEET NUMBER

**C2**

3 WORKING DAYS  
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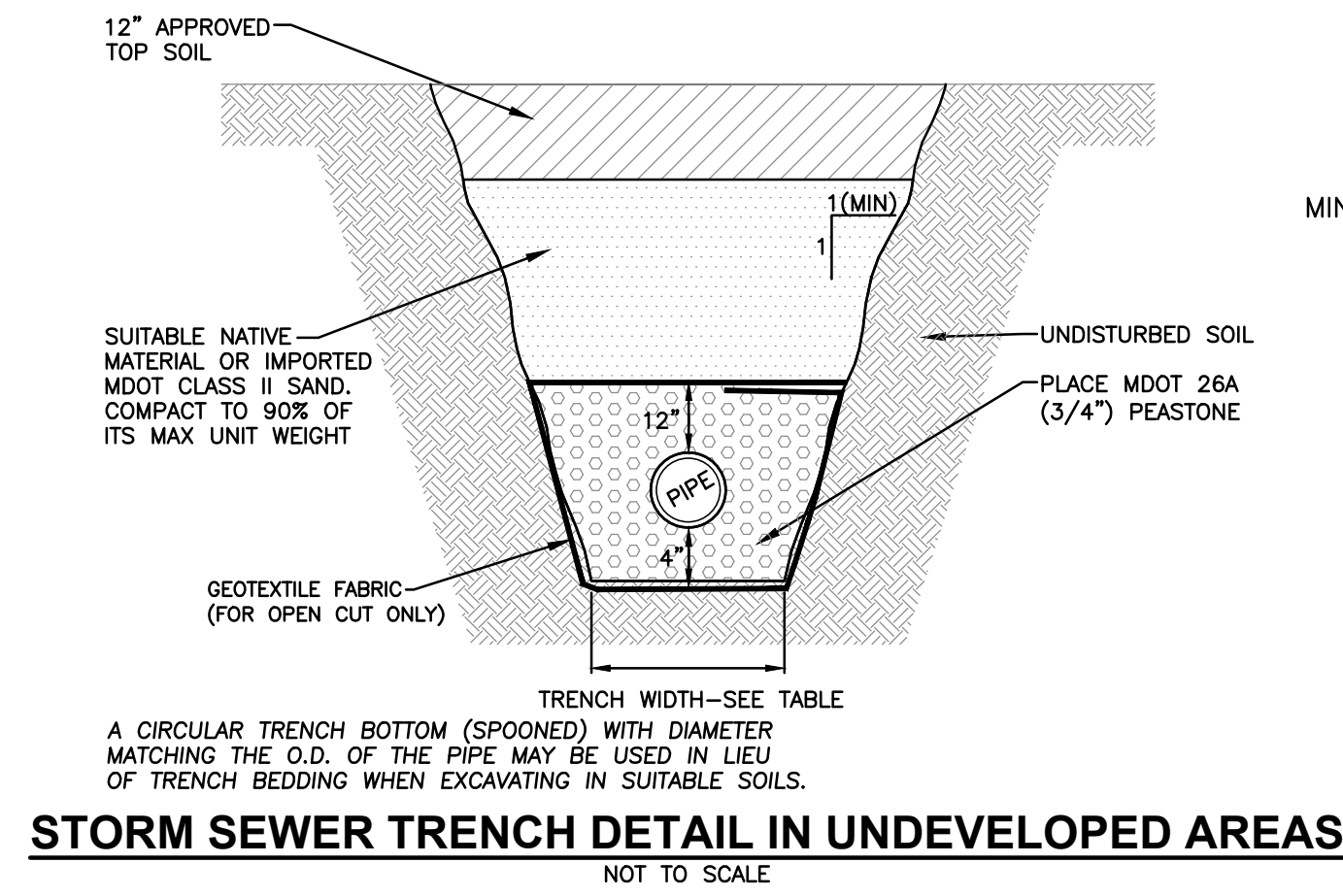
SURVEYED BY: CVF, RLB  
DESIGNED BY: KJV  
DRAFTED BY: NDI  
CADC: DJF

### 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
GUY ANCHOR	UTILITY MANHOLE
UTILITY 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

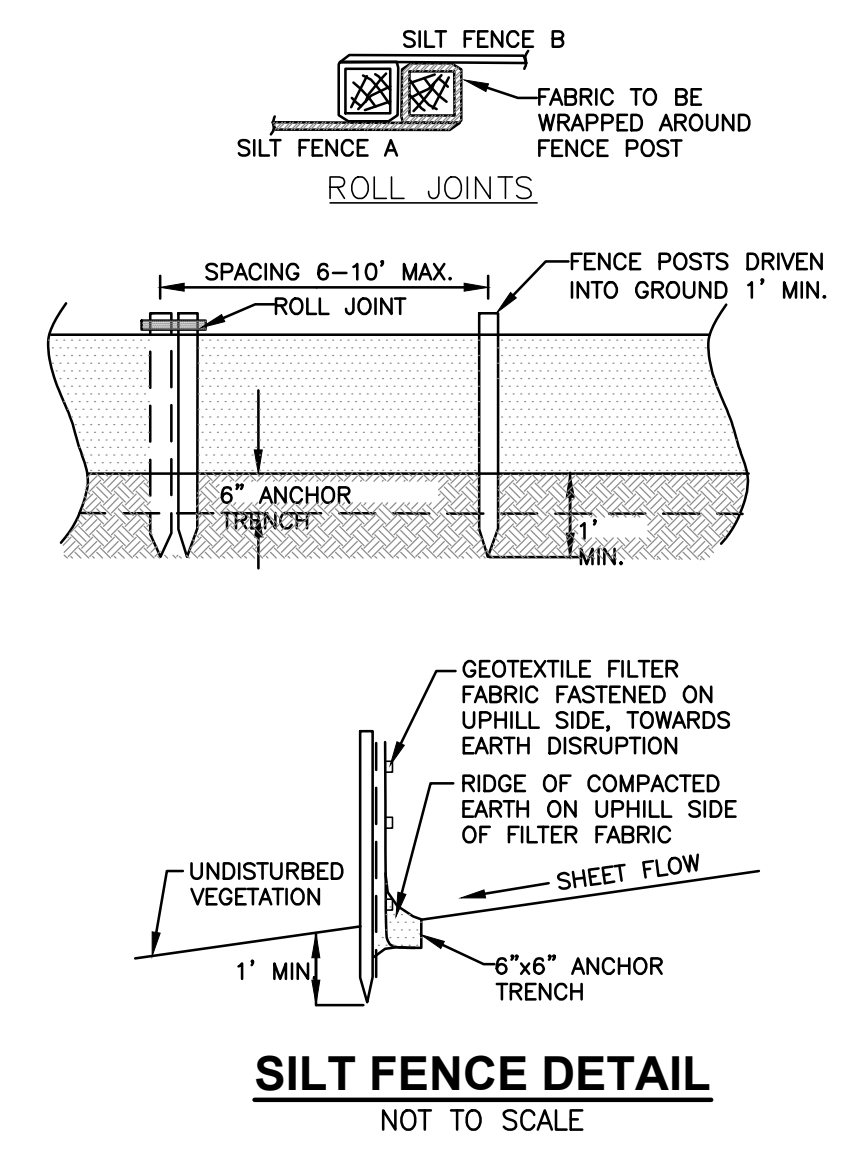
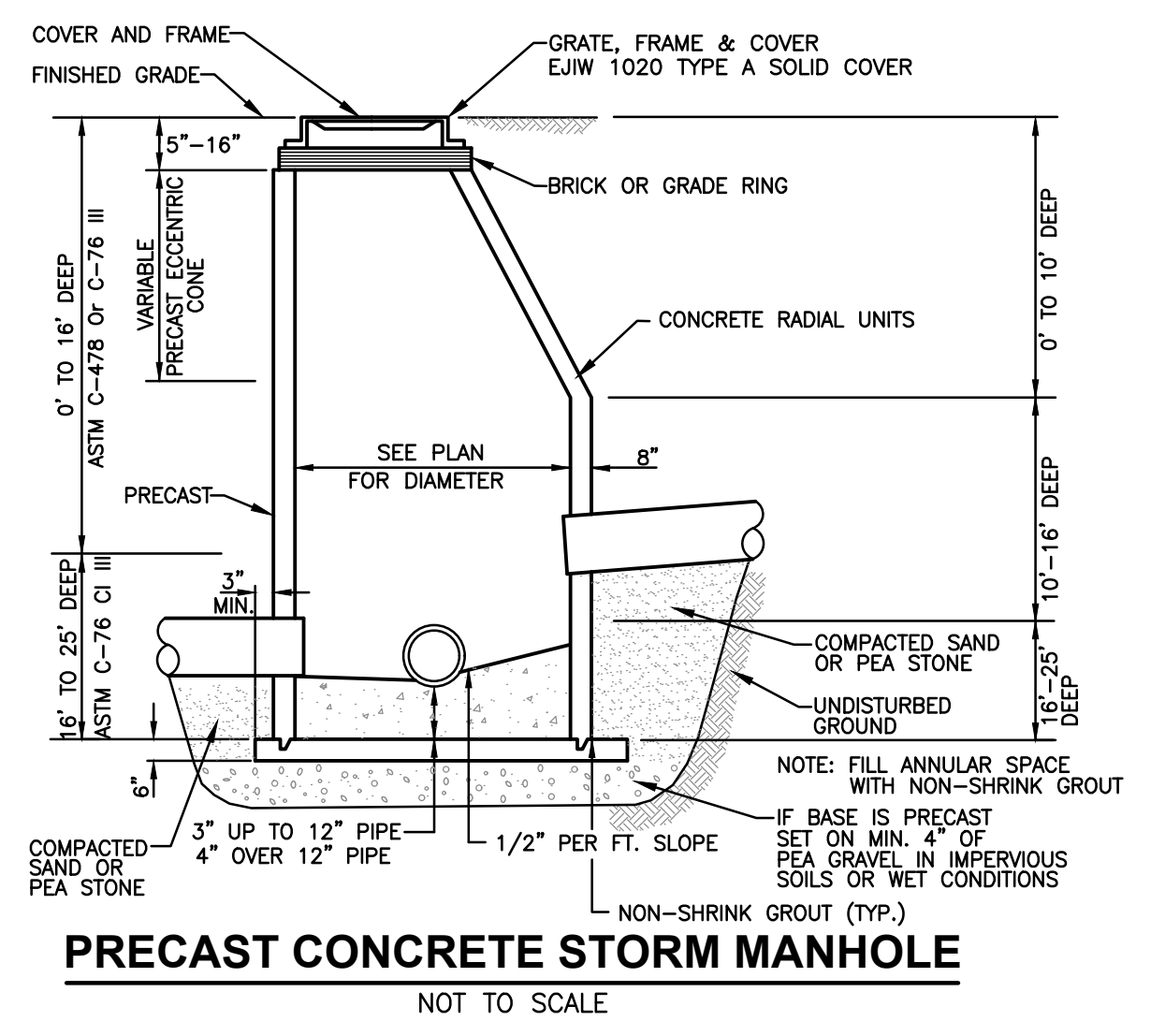
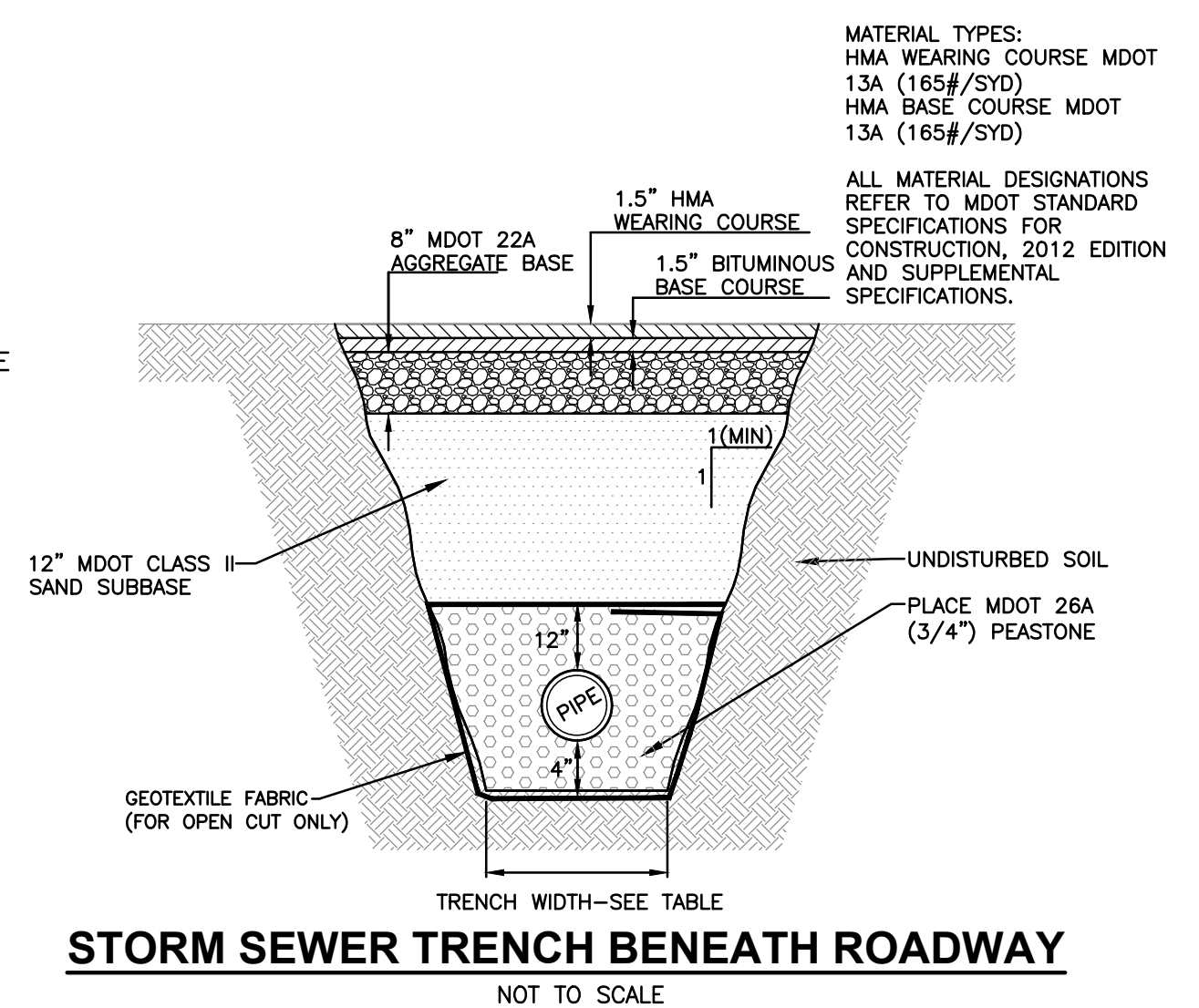
	WATER UTILITY LINE
	TELEPHONE UTILITY LINE
	ELECTRIC UTILITY LINE
	GAS UTILITY LINE
	STEAM UTILITY LINE
	STORM UTILITY LINE
	SANITARY UTILITY LINE
	FIBER OPTIC UTILITY LINE
	OVERHEAD UTILITY LINE
	LAKE LINE
	EXISTING CONTOUR



### TRENCH WIDTH TABLE

MINIMUM TRENCH WIDTH FOR N-12 PLASTIC PIPE  
(PER ADS STANDARD DRAWING STD-101)

PIPE DIAMETER	TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
60"	96"





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.
61	Silt Fence		As a temporary measure used to capture sediment from sheet flow. May also divert small volumes of sheet flow to protected outlets.

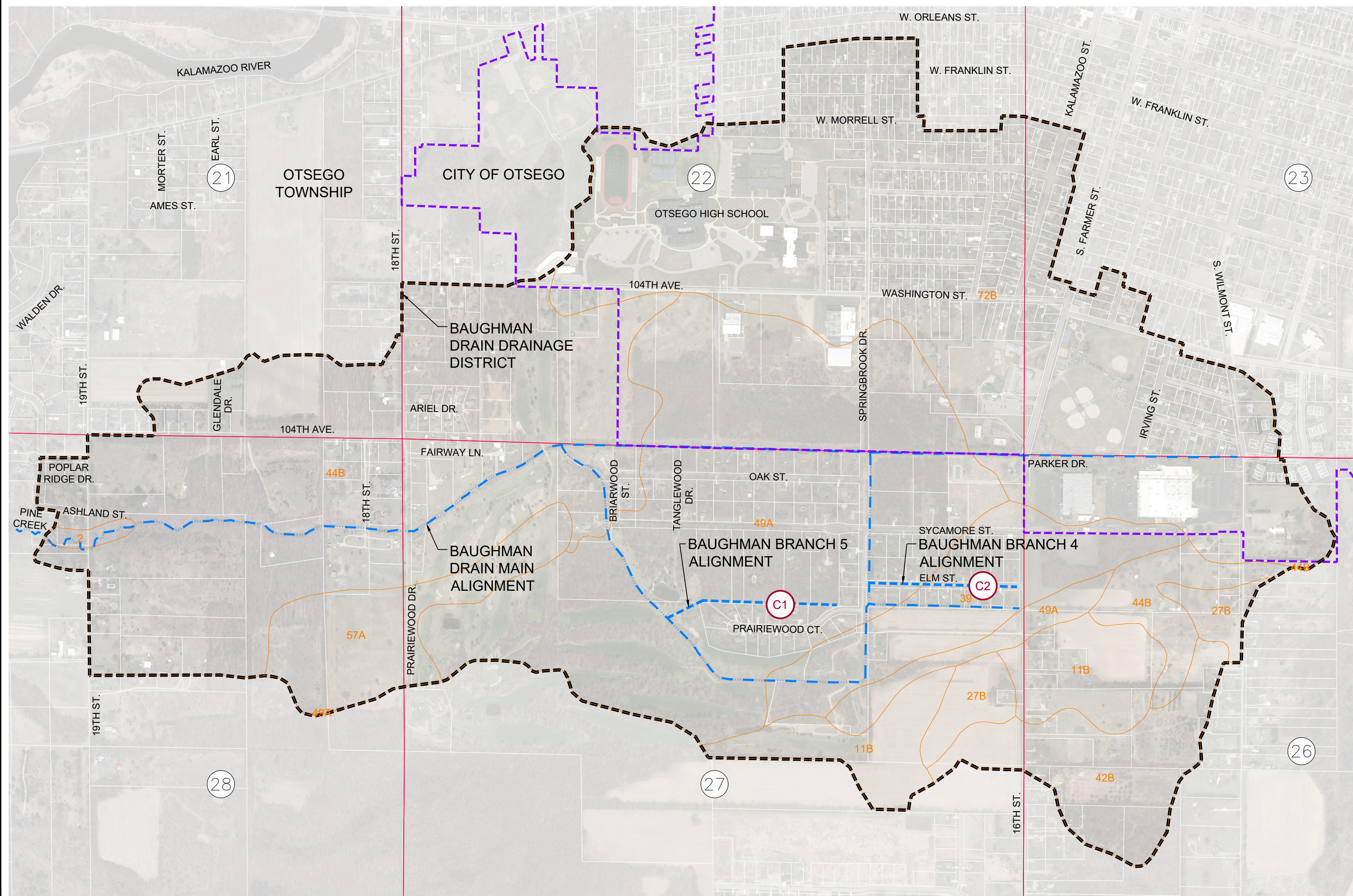
MACDC UNIFIED KEYING SYSTEM - ROUTINE MAINTENANCE ACTIVITIES		
KEY	BEST MANAGEMENT PRACTICE	SESC PLAN
A	Debris Removal	NO
B	Sediment Removal	> 100 FEET

### DRAIN INFORMATION

BAUGHMAN BRANCH 4 LENGTH 0.28 MILES  
 BAUGHMAN BRANCH 5 LENGTH 0.24 MILES  
 BAUGHMAN DRAIN DRAINAGE DISTRICT AREA 968.27 ACRES

### 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



SOILS MAP

### LEGEND

- ENCLOSED CHANNEL DRAIN
- OPEN CHANNEL DRAIN
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- SOIL TYPE

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