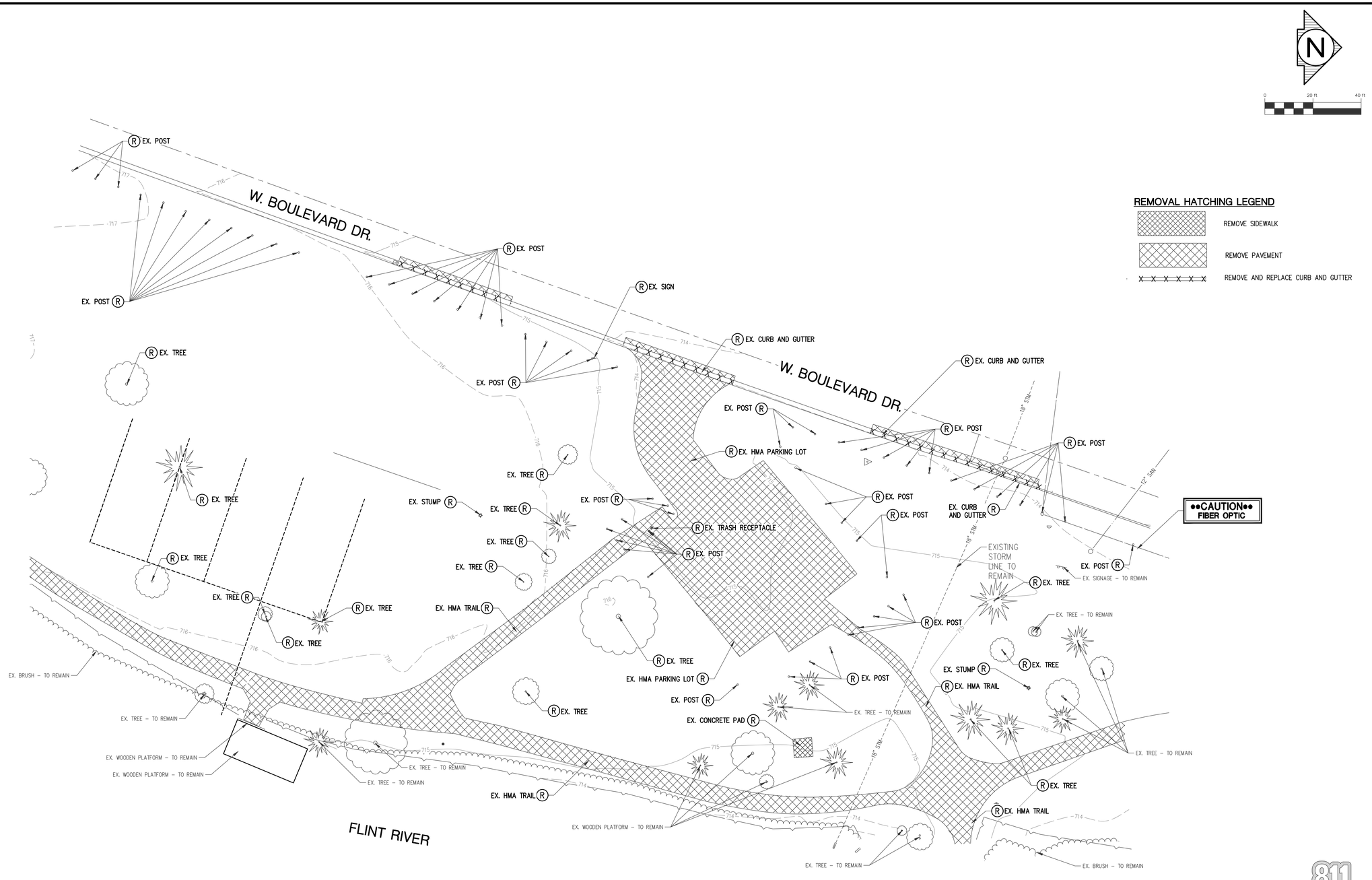

Know what's **below.**
Call before you dig.

PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

DATE	DESCRIPTION
4/12/2026	ISSUED FOR BIDS

PLAN DATE: APRIL 2026
PROJECT MGR: D.R.S.
REVIEWER: N.G.W.
SCALE: 1" = 20'

ROWE PROFESSIONAL SERVICES COMPANY
The Rowe Building
540 S. Saginaw St., Suite 200
Flint, MI 48502
O: (810) 341-7500
www.rowepsc.com

PREPARED FOR
CITY OF FLINT

ST. JOHN'S MEMORIAL TRAIL & IMPROV.

FLINT, GENESEE COUNTY, MICHIGAN
REMOVAL SHEET

REV:

SHT# 1 OF 5

JOB No: 2500057

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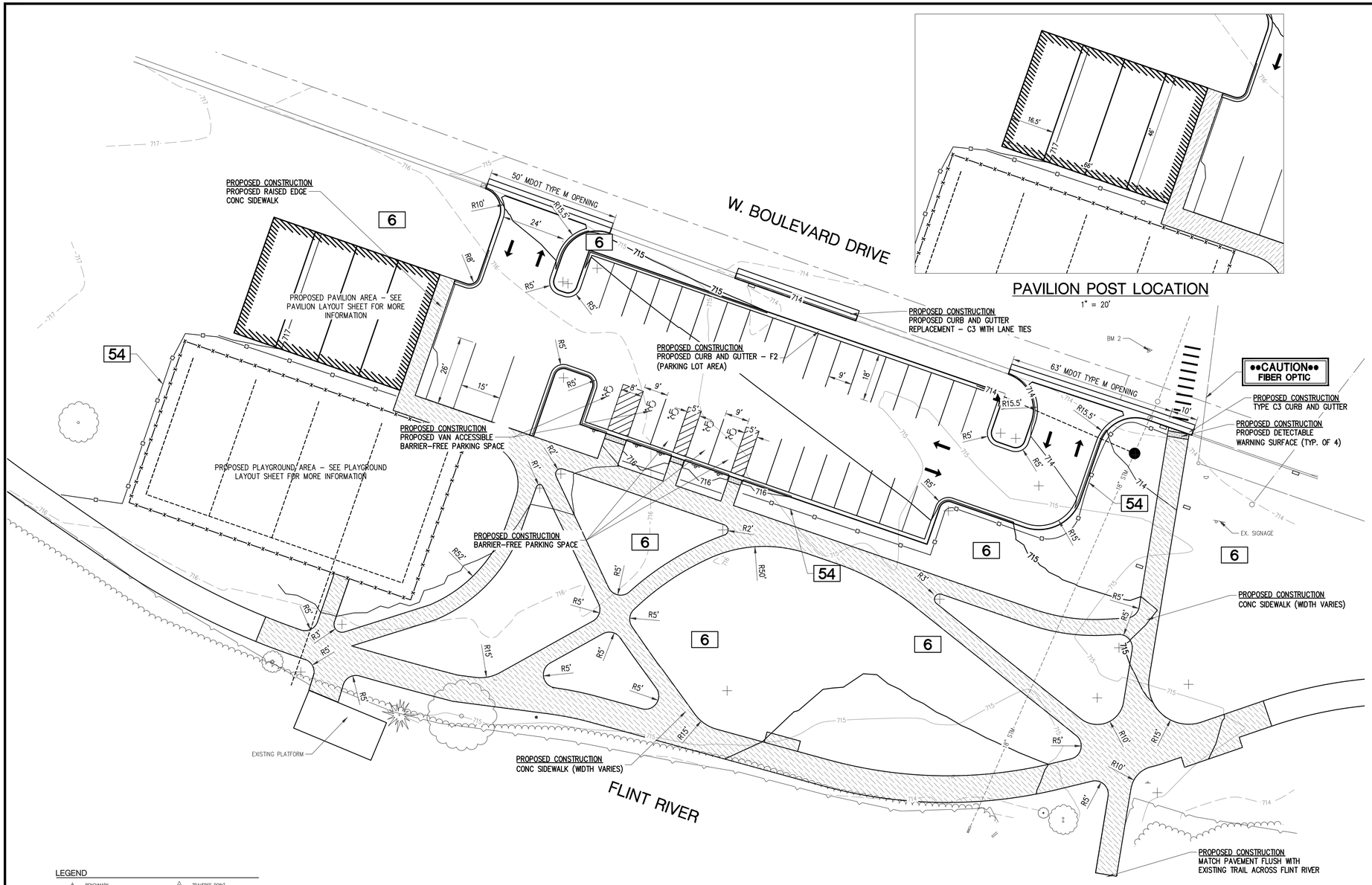

PROPOSED HATCHING LEGEND

- PROPOSED FLOW CURB AND GUTTER
- PROPOSED PAVEMENT
- PROPOSED 4 INCH CONCRETE SIDEWALK

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL MAKE MODIFICATIONS TO THE LOCATION OF THE PROPOSED IMPROVEMENTS AS NECESSARY TO AVOID CONFLICT WITH EXISTING UTILITIES AND LANDSCAPING. ALL MODIFICATIONS SHALL BE REVIEWED WITH THE OWNER PRIOR TO PERFORMING THE WORK.
2. ALL WORK SHALL BE COORDINATED WITH THE OWNER PRIOR TO THE START OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE A DETAILED CONSTRUCTION SEQUENCE FOR APPROVAL PRIOR TO STARTING.
3. THE EXISTING UTILITY INFORMATION SHOWN ON THE PLANS IS BASED ON THE BEST AVAILABLE RECORDS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL UTILITY LOCATIONS AND NOTIFYING MISS DIG PRIOR TO PERFORMING ANY WORK. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE OWNER.
4. ALL DISTURBED AREAS SHALL BE RESTORED AND ESTABLISHED WITH TURF.
5. ANY DAMAGED VEGETATION OR OTHER FEATURES NOT IDENTIFIED FOR REMOVAL WILL BE REPLACED IN-KIND AS APPROVED BY OWNER AT NO ADDITIONAL COST TO THE OWNER.
6. MATCH PROPOSED PAVEMENT AREAS FLUSH WITH EXISTING PAVEMENT.
7. SEE SHEET 2 FOR SURVEY CONTROL, BENCHMARK INFORMATION AND TRAIL ALIGNMENT DATA.

LEGEND

△ BENCHMARK △ TRAVERSE POINT

NOTES:

VERTICAL DATUM IS NAVD88
HORIZONTAL DATUM IS MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE NAD83 (2011)
UNITS ARE INTERNATIONAL FEET.
ALIGNMENT IS BASED UPON BEST FIT OF THE NORTHERLY EDGE OF THE PATH

EDGE OF PATH ALIGNMENT

BENCHMARK DATA TABLE

NUMBER	NORTHING	EASTING	ELEVATION	STATION	OFFSET	DESCRIPTION
BM 2	564558	13308486	713.39	21+87.47	138.62' LT	SET CHISELED "X" ON SOUTHEAST CORNER OF CATCH BASIN, NORTHWEST QUADRANT OF MASSACHUSETTS AVENUE AND WEST BOULEVARD DRIVE
BM 4	563916	13308308	716.43	13+81.46	10.62' LT	FOUND RAILROAD SPIKE IN NORTH FACE OF POWER POLE, OVERHEAD WIRES GO OVER FLINT RIVER AND I-475
BM 6	565214	13308707	717.36	28+02.99	58.42' LT	FOUND SQUARE BAR IN SOUTH FACE OF FIFTH LIGHT POLE EAST OF MASSACHUSETTS AVENUE

TRAVERSE POINT DATA TABLE

NUMBER	NORTHING	EASTING	STATION	OFFSET	DESCRIPTION
TP 1	564503.8390	13308506.3370	21+17.91	134.92' LT	SET IRON AND ROWE TRAVERSE CAP, 11'± SOUTH OF BACK OF CURB ALONG WEST BOULEVARD DRIVE AND 90°± WEST OF CENTERLINE MASSACHUSETTS AVENUE
TP 3	563923.1780	13308290.6660	13+83.23	29.11' LT	SET IRON AND ROWE TRAVERSE CAP IN LINE WITH ELECTRIC TRANSMISSION LINE OVER THE FLINT RIVER AND I-475, 4'± SOUTH OF BACK OF CURB ALONG WEST BOULEVARD DRIVE
TP 5	565200.4960	13308741.7570	28+02.79	20.74' LT	SET IRON AND ROWE TRAVERSE CAP, 6'± SOUTH OF BACK OF CURB ALONG WEST BOULEVARD DRIVE IN LINE WITH FIFTH LIGHT POLE EAST OF MASSACHUSETTS AVENUE

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PLAN SHEET

REV:

SHT# 2 OF 4
JOB No: 2500057

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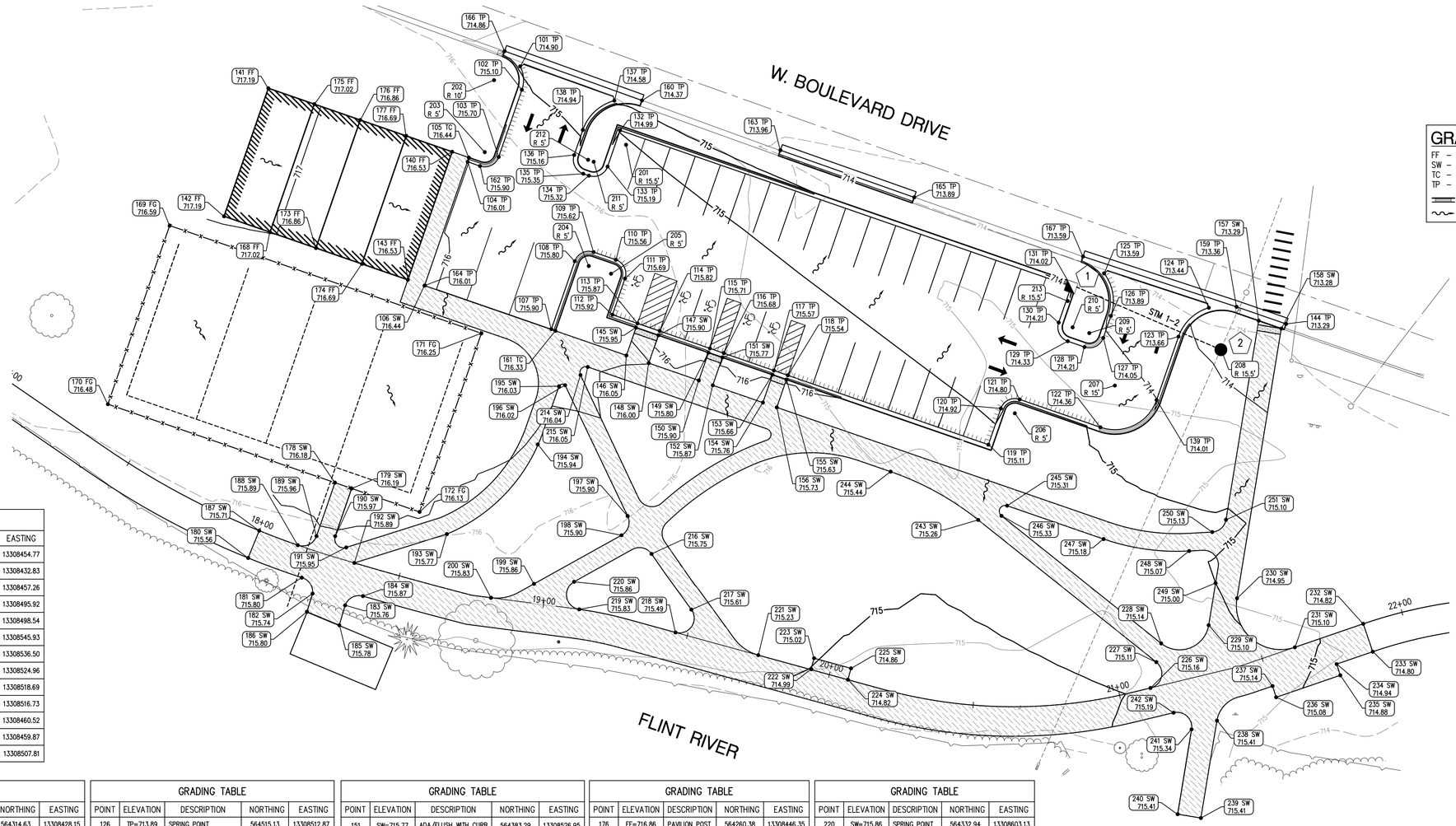

N

0 20 ft 40 ft

GRADING LEGEND

FF – FINISH FLOOR ELEVATION
SW – TOP OF SIDEWALK
TC – TOP OF CURB
TP – TOP OF PAVEMENT
PROPOSED TRANSITIONAL CURB AND GUTTER
FLOW DIRECTION

RADIUS POINTS			
POINT	DESCRIPTION	NORTHING	EASTING
201	15.5' RADIUS POINT (EP)	564350.58	13308454.77
202	10' RADIUS POINT (EP)	564305.79	13308432.83
203	5' RADIUS POINT (EP)	564302.63	13308457.26
204	5' RADIUS POINT (EP)	564337.94	13308495.92
205	5' RADIUS POINT (EP)	564345.50	13308498.54
206	5' RADIUS POINT (EP)	564482.54	13308545.93
207	15' RADIUS POINT (EP)	564516.48	13308536.50
208	15.5' RADIUS POINT (EP)	564552.74	13308524.96
209	5' RADIUS POINT (EP)	564507.82	13308518.69
210	5' RADIUS POINT (EP)	564502.15	13308516.73
211	5' RADIUS POINT (EP)	564339.60	13308460.52
212	5' RADIUS POINT (EP)	564337.71	13308459.87
213	15.5' RADIUS POINT (EP)	564500.48	13308507.81

GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
101	TP=714.90	M OPENING	564314.63	13308428.15
102	TP=715.10	SPRING POINT	564315.24	13308436.10
103	TP=715.70	SPRING POINT	564307.36	13308458.89
104	TP=716.01		564296.84	13308460.55
105	TC=716.44	FLUSH WITH SIDEWALK	564297.24	13308459.10
106	SW=716.44	RAISED EDGE SIDEWALK	564282.20	13308502.57
107	TP=715.90		564325.24	13308517.35
108	TP=715.80	SPRING POINT	564333.21	13308494.29
109	TP=715.62	SPRING POINT	564339.57	13308491.20
110	TP=715.56	SPRING POINT	564347.13	13308493.81
111	TP=715.69	SPRING POINT	564350.22	13308500.17
112	TP=715.92		564345.97	13308512.46
113	TP=715.87		564354.48	13308515.40
114	TP=715.82		564362.04	13308518.01
115	TP=715.71		564379.05	13308523.90
116	TP=715.68		564383.78	13308525.53
117	TP=715.57		564400.79	13308531.41
118	TP=715.54		564405.51	13308533.05
119	TP=715.11		564473.56	13308556.58
120	TP=714.92	SPRING POINT	564477.81	13308544.29
121	TP=714.80	SPRING POINT	564484.17	13308541.20
122	TP=714.36	SPRING POINT	564511.58	13308550.68
123	TP=713.66	SPRING POINT	564538.09	13308519.89
124	TP=713.44	M OPENING	564548.37	13308510.09
125	TP=713.59	M OPENING	564512.81	13308498.42

GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
126	TP=713.89	SPRING POINT	564515.13	13308512.87
127	TP=714.05	SPRING POINT	564512.55	13308520.33
128	TP=714.21	SPRING POINT	564506.19	13308523.42
129	TP=714.33	SPRING POINT	564500.52	13308521.46
130	TP=714.21	SPRING POINT	564497.43	13308515.10
131	TP=714.02	LOW POINT	564501.68	13308502.81
132	TP=714.99		564348.57	13308449.87
133	TP=715.19	SPRING POINT	564344.32	13308462.15
134	TP=715.32	SPRING POINT	564337.96	13308465.25
135	TP=715.35	SPRING POINT	564336.07	13308464.59
136	TP=715.16	SPRING POINT	564332.98	13308458.23
137	TP=714.58	M OPENING	564346.62	13308439.79
138	TP=714.94	SPRING POINT	564335.93	13308449.71
139	TP=714.01	SPRING POINT	564530.66	13308541.40
140	FF=716.53	PAVILION AREA	564291.57	13308457.14
141	FF=717.19	PAVILION AREA	564229.19	13308435.57
142	FF=717.19	PAVILION AREA	564214.16	13308479.04
143	FF=716.53	PAVILION AREA	564276.53	13308500.61
144	TP=713.29	MATCH EXISTING	564574.59	13308515.59
145	SW=715.95	ADA/FLUSH WITH CURB	564353.99	13308516.82
146	SW=716.05	LEVEL LANDING	564350.72	13308526.27
147	SW=715.90	ADA/FLUSH WITH CURB	564361.55	13308519.43
148	SW=716.00	LEVEL LANDING	564358.28	13308528.88
149	SW=715.80	ADA/FLUSH WITH CURB	564378.56	13308525.31
150	SW=715.90	LEVEL LANDING	564375.29	13308534.76

GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
151	SW=715.77	ADA/FLUSH WITH CURB	564383.29	13308526.95
152	SW=715.87	LEVEL LANDING	564380.02	13308536.40
153	SW=715.66	ADA/FLUSH WITH CURB	564400.30	13308532.83
154	SW=715.76	LEVEL LANDING	564397.03	13308542.28
155	SW=715.63	ADA/FLUSH WITH CURB	564405.02	13308534.46
156	SW=715.73	LEVEL LANDING	564401.76	13308543.91
157	SW=713.29	ADA/FLUSH WITH CURB	564565.30	13308514.49
158	SW=713.28	ADA/FLUSH WITH CURB	564572.99	13308517.15
159	TP=713.36	CATCH BASIN	564557.78	13308509.77
160	TP=714.37	MATCH EXISTING	564355.99	13308439.72
161	TC=716.33	FLUSH WITH SIDEWALK	564326.62	13308517.93
162	TP=715.90	SPRING POINT	564301.00	13308461.99
163	TP=713.96	MATCH EXISTING	564402.98	13308456.61
164	TP=716.01		564282.33	13308502.51
165	TP=713.89	MATCH EXISTING	564448.39	13308472.61
166	TP=714.86	MATCH EXISTING	564309.38	13308422.96
167	TP=713.59	MATCH EXISTING	564505.69	13308492.68
168	FF=717.02	PAVILION POST	564229.75	13308484.43
169	FG=716.59	PLAYGROUND AREA	564195.71	13308482.18
170	FG=716.48	PLAYGROUND AREA	564174.74	13308542.83
171	FG=716.25	PLAYGROUND AREA	564301.49	13308518.76
172	FG=716.13	PLAYGROUND AREA	564280.52	13308579.41
173	FF=716.86	PAVILION POST	564245.34	13308489.83
174	FF=716.69	PAVILION POST	564260.94	13308495.22
175	FF=717.02	PAVILION POST	564244.78	13308440.96

GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
176	FF=716.86	PAVILION POST	564260.38	13308446.35
177	FF=716.69	PAVILION POST	564275.97	13308451.74
178	SW=716.18		564251.81	13308569.48
179	SW=716.19		564257.48	13308571.44
180	SW=715.56		564222.33	13308595.03
181	SW=715.80	SPRING POINT	564240.54	13308601.72
182	SW=715.74	SPRING POINT	564244.20	13308607.11
183	SW=715.76	SPRING POINT	564255.25	13308611.10
184	SW=715.87	SPRING POINT	564261.29	13308607.99
185	SW=715.78		564253.27	13308617.86
186	SW=715.80		564242.29	13308613.28
187	SW=715.71		564226.09	13308585.77
188	SW=715.89	SPRING POINT	564239.17	13308590.70
189	SW=715.96	SPRING POINT	564245.54	13308587.61
190	SW=715.97	SPRING POINT	564251.88	13308587.62
191	SW=715.95	SPRING POINT	564255.62	13308591.46
193	SW=715.77		564289.79	13308586.91
194	SW=715.94		564320.61	13308566.49
195	SW=716.03		564327.84	13308536.73
196	SW=716.02		564329.91	13308536.39
214	SW=716.04		564335.13	13308532.94
215	SW=716.05		564337.60	13308530.19
216	SW=715.75		564359.24	13308593.65
217	SW=715.61	SPRING POINT	564372.76	13308612.56
218	SW=715.49	SPRING POINT	564367.39	13308620.32

GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
220	SW=715.86	SPRING POINT	564332.94	13308603.13
227	SW=715.11	SPRING POINT	564530.54	13308630.39
228	SW=715.14	SPRING POINT	564532.22	13308624.05
230	SW=714.95	SPRING POINT	564557.93	13308608.73
231	SW=715.10	SPRING POINT	564577.60	13308625.35
232	SW=714.82		564600.78	13308617.39
233	SW=714.80		564604.02	13308626.85
234	SW=714.94		564591.78	13308631.05
235	SW=714.88		564592.99	13308634.87
236	SW=715.08		564571.24	13308642.33
237	SW=715.14		564570.02	13308638.52
238	SW=715.41		564551.14	13308650.25
239	SW=715.41		564545.69	13308683.30
240	SW=715.41		564537.80	13308682.01
241	SW=715.34	SPRING POINT	564542.52	13308653.23
242	SW=715.19	SPRING POINT	564536.41	13308647.56
243	SW=715.26		564470.12	13308582.12
244	SW=715.44		564440.38	13308565.74
245	SW=715.31		564479.92	13308577.29
246	SW=715.33		564478.02	13308580.74
247	SW=715.18		564512.66	13308588.62
248	SW=715.07		564541.69	13308592.67
249	SW=715.00		564550.67	13308603.55
250	SW=715.13	SPRING POINT	564549.55	13308586.23
251	SW=715.10	SPRING POINT	564554.21	13308582.05

PROPOSED STORM SEWER STRUCTURE TABLE							
STRUCT NO.	DIA.	SUMP DEPTH	COVER TYPE	RIM ELEVATION	INVERT	NORTHING	EASTING
1	48"	2'	K	T/C=714.44	12" 710.50 NE (PR)	564501.84	13308502.34
2	48"	0'	B	RIM=713.84	18" 709.08 SE (EX) 12" 710.22 SW (PR) 18" 709.08 NW (EX)	564552.47	13308524.34

PROPOSED STORM SEWER PIPE TABLE						
PIPE NUMBER	DIAMETER	PAY ITEM	TOTAL LENGTH	SLOPE	TRENCH DETAIL A (T.D. A)	TRENCH DETAIL B (T.D. B)
STM 1-2	12"	RCP CL-II	55'	0.50%	0'	55'

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PLAN SUBMITTALS AND CHANGES

PRELIMINARY PLANS – **NOT FOR CONSTRUCTION**

DATE	DESCRIPTION

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REV:

SHT# 3 OF 5
JOB No: 2500057

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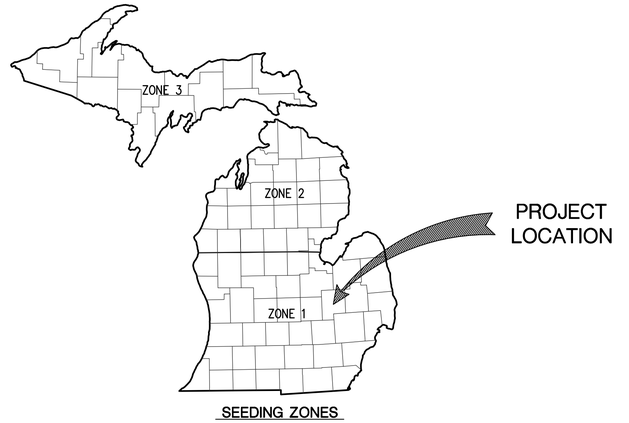
MICHIGAN UNIFIED KEYING SYSTEM

SOIL EROSION SEDIMENTATION CONTROL MEASURES

✱ INDICATES APPLICABILITY OF A SPECIFIC CONTROL MEASURE TO ONE OR MORE OF THE SEVEN PROBLEM AREAS

KEY	DETAIL	CHARACTERISTICS	A SLOPES	B STREAMS AND WATERWAYS	C SURFACE DRAINAGEWAYS	D ENCLOSED DRAINAGE (Inlet & Outfall Control)	E LARGE FLAT SURFACE AREAS	F BORROW AND STOCKPILE AREAS	G ADJACENT PROPERTIES
1	STRIPPING & STOCKPILING TOPSOIL	TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS A DIVERSION. STOCKPILE SHOULD BE TEMPORARILY SEEDED.	✱				✱	✱	
2	SELECTIVE GRADING & SHAPING	WATER CAN BE DIVERTED TO MINIMIZE EROSION. FLATTER SLOPES EASE EROSION PROBLEMS.	✱				✱	✱	✱
3	GRUBBING OMITTED	SAVES COST OF GRUBBING, PROVIDES NEW SPROUTS, RETAINS EXISTING ROOT MAT SYSTEM, REDUCES WIND FALL AT NEW FOREST EDGE DISCOURAGES EQUIPMENT ENTRANCE	✱				✱		✱
4	VEGETATIVE STABILIZATION	MAY UTILIZE A VARIETY OF PLANT MATERIAL STABILIZES SOIL SLOWS RUNOFF VELOCITY FILTERS SEDIMENT FROM RUNOFF	✱	✱	✱		✱	✱	✱
5	SEEDING	INEXPENSIVE AND VERY EFFECTIVE STABILIZES SOIL, THUS MINIMIZING EROSION PERMITS RUNOFF TO INFILTRATE SOIL, REDUCING RUNOFF VOLUME SHOULD INCLUDE PREPARED TOPSOIL BED	✱		✱		✱	✱	✱
6	SEEDING WITH MULCH AND/OR MATTING	FACILITATES ESTABLISHMENT OF VEGETATIVE COVER EFFECTIVE FOR DRAINAGEWAYS WITH LOW VELOCITY EASILY PLACED IN SMALL QUANTITIES BY INEXPERIENCED PERSONNEL SHOULD INCLUDE PREPARED TOPSOIL BED	✱		✱			✱	✱
7	HYDRO-SEEDING	EFFECTIVE ON LARGE AREAS MULCH TACKING AGENT USED TO PROVIDE IMMEDIATE PROTECTION UNTIL GRASS IS ROOTED SHOULD INCLUDE PREPARED TOPSOIL BED	✱				✱	✱	✱
8	SODDING	PROVIDES IMMEDIATE PROTECTION CAN BE USED IN STEEP SLOPES WHERE SEED MAY BE DIFFICULT TO ESTABLISH EASY TO PLACE; MAY BE REPAIRED IF DAMAGED SHOULD INCLUDE PREPARED TOPSOIL BED	✱		✱		✱	✱	✱
9	VEGETATIVE BUFFER STRIP	SLOWS RUNOFF VELOCITY FILTERS SEDIMENT FROM RUNOFF REDUCES VOLUME OF RUNOFF ON SLOPES	✱	✱					✱
10	MULCHING	USED ALONE TO PROTECT EXPOSED AREAS FOR SHORT PERIODS PROTECTS SOIL FROM IMPACT OF FALLING RAIN PRESERVES SOIL MOISTURE AND PROTECTS GERMINATING SEED FROM TEMPERATURE EXTREMES	✱				✱	✱	
11	ROUGHENED SURFACE	REDUCES VELOCITY AND INCREASES INFILTRATION RATES COLLECTS SEDIMENT HOLDS WATER, SEED, AND MULCH BETTER THAN SMOOTH SURFACES	✱				✱		
12	COMPACTION	HELPS HOLD SOIL IN PLACE, MAKING EXPOSED AREAS LESS VULNERABLE TO EROSION	✱				✱		
13	RIPRAP, RUBBLE, GABIONS	USED WHERE VEGETATION IS NOT EASILY ESTABLISHED EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATIONS PERMITS RUNOFF TO INFILTRATE SOIL DISSIPATES ENERGY FLOW AT SYSTEM OUTLETS	✱	✱	✱				
14	AGGREGATE COVER	STABILIZES SOIL SURFACE, THUS MINIMIZING EROSION PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS					✱		
15	PAVING	PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASES RUNOFF VOLUME AND VELOCITY IRREGULAR SURFACE WILL HELP SLOW VELOCITY	✱				✱		
16	CURB & GUTTER	KEEPS HIGH VELOCITY RUNOFF ON PAVED AREAS FROM LEAVING PAVED SURFACE COLLECTS AND CONDUCTS RUNOFF TO ENCLOSED DRAINAGE SYSTEM OR PREPARED DRAINAGEWAY					✱		✱
17	BENCHES	REDUCES RUNOFF VELOCITY BY REDUCING EFFECTIVE SLOPE LENGTH COLLECTS SEDIMENT PROVIDES ACCESS TO SLOPES FOR SEEDING, MULCHING AND MAINTENANCE	✱					✱	
18	DIVERSION BERM	DIVERTS WATER FROM VULNERABLE AREAS COLLECTS AND DIRECTS WATER TO PREPARED DRAINAGEWAYS MAY BE PLACED AS PART OF NORMAL CONSTRUCTION OPERATION	✱					✱	✱
19	DIVERSION DITCH	COLLECTS AND DIVERTS WATER TO REDUCE EROSION POTENTIAL MAY BE INCORPORATED IN PERMANENT PROJECT DRAINAGE SYSTEMS	✱					✱	✱
20	BERM & DITCH	DIVERTS WATER TO A PREPARED DRAINAGEWAY MAY BE USED AT INTERVALS ACROSS SLOPE FACE TO REDUCE EFFECTIVE SLOPE LENGTH	✱					✱	✱
21	FILTER BERM	CONSTRUCTED OF GRAVEL OR STONE INTERCEPTS AND DIVERTS RUNOFF TO STABILIZED AREAS OR PREPARED DRAINAGE SYSTEMS SLOWS RUNOFF AND COLLECTS SEDIMENT	✱	✱					✱
22	BRUSH FILTER	USES SLASH AND LOGS FROM CLEARING OPERATIONS CAN BE COVERED AND SEEDED RATHER THAN REMOVED ELIMINATES NEED FOR BURNING OR REMOVAL OF MATERIAL FROM SITE							✱
23	BARE CHANNEL	LEAST EXPENSIVE FORM OF DRAINAGEWAY MAY BE USED ONLY WHERE GRADIENT IS VERY LOW AND WITH SOILS OF MINIMUM EROSION POTENTIAL			✱				
24	GRASSED WATERWAY	MUCH MORE STABLE FORM OF DRAINAGEWAY THAN BARE CHANNEL GRASS TENDS TO SLOW RUNOFF AND FILTER OUT SEDIMENT USED WHERE BARE CHANNEL WOULD BE ERODED			✱				✱
25	SLOPE DRAIN (SURFACE PIPE)	PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA USUALLY PERMANENT CAN BE CONSTRUCTED OR EXTENDED AS GRADING PROGRESSES	✱						✱
26	SLOPE DRAIN (PIPE CHUTE)	PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA USUALLY PERMANENT CAN BE CONSTRUCTED OR EXTENDED AS GRADING PROGRESSES	✱						✱
27	SLOPE DRAIN (SUBSURFACE PIPE)	PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA USUALLY PERMANENT CAN BE CONSTRUCTED AS GRADING PROGRESSES	✱						✱

KEY	DETAIL	CHARACTERISTICS	A SLOPES	B STREAMS AND WATERWAYS	C SURFACE DRAINAGEWAYS	D ENCLOSED DRAINAGE (Inlet & Outfall Control)	E LARGE FLAT SURFACE AREAS	F BORROW AND STOCKPILE AREAS	G ADJACENT PROPERTIES
28	DROP SPILLWAY	SLOWS VELOCITY OF FLOW, REDUCING EROSIVE CAPACITY		✱	✱				
29	PIPE DROP	REDUCES RUNOFF VELOCITY REMOVES SEDIMENT AND TURBIDITY CAN BE DESIGNED TO HANDLE LARGE VOLUMES OF FLOW			✱				
30	PIPE SPILLWAY	REMOVES SEDIMENT AND TURBIDITY FROM RUNOFF MAY BE PART OF PERMANENT EROSION CONTROL PLAN			✱				
31	ENERGY DISSIPATER	SLOWS RUNOFF VELOCITY TO NON-EROSIVE LEVEL PERMITS SEDIMENT COLLECTION FROM RUNOFF	✱		✱	✱			
32	LEVEL SPREADER	CONVERTS COLLECTED CHANNEL OR PIPE FLOW BACK TO SHEET FLOW AVOIDS CHANNEL EASEMENTS AND CONSTRUCTION OFF PROJECT SITE SIMPLE TO CONSTRUCT			✱				
33	SEDIMENTATION TRAP	MAY BE CONSTRUCTED OF A VARIETY OF MATERIALS TRAPS SEDIMENT AND REDUCES VELOCITY OF FLOW CAN BE CLEANED AND EXPANDED AS NEEDED		✱	✱				
34	SEDIMENT BASIN	TRAPS SEDIMENT RELEASES RUNOFF AT NON-EROSIVE RATES CONTROLS RUNOFF AT SYSTEM OUTLETS CAN BE VISUAL AMENITIES		✱	✱	✱			
35	STORM SEWER	SYSTEM REMOVES COLLECTED RUNOFF FROM SITE, PARTICULARLY FROM PAVED AREAS CAN ACCEPT LARGE CONCENTRATIONS OF RUNOFF CONDUCTS RUNOFF TO MUNICIPAL SEWER SYSTEM OR STABILIZED OUTFALL LOCATION USE CATCH BASINS TO COLLECT SEDIMENT					✱		✱
36	CATCH BASIN, DRAIN INLET	COLLECTS HIGH VELOCITY CONCENTRATED RUNOFF MAY USE FILTER CLOTH OVER INLET					✱		✱
37	SOD FILTER	INEXPENSIVE AND EASY TO CONSTRUCT PROVIDES IMMEDIATE PROTECTION PROTECTS AREAS AROUND INLETS FROM EROSION				✱			
38	STRAW BALE FILTER	INEXPENSIVE AND EASY TO CONSTRUCT CAN BE LOCATED AS NECESSARY TO COLLECT SEDIMENT MAY BE USED IN CONJUNCTION WITH SNOW FENCE FOR ADDED STABILITY				✱			✱
39	ROCK FILTER	CAN UTILIZE MATERIAL FOUND ON SITE EASY TO CONSTRUCT FILTERS SEDIMENT FROM RUNOFF				✱			✱
40	INLET SEDIMENT TRAP	EASY TO SHAPE COLLECTS SEDIMENT MAY BE CLEANED AND EXPANDED AS NEEDED				✱			
41	STONE AND ROCK CROSSING	MAY BE ROCK OR CLEAN RUBBLE MINIMIZES STREAM TURBIDITY INEXPENSIVE MAY ALSO SERVE AS DITCH CHECK OR SEDIMENT TRAP		✱					
42	TEMPORARY CULVERT	ELIMINATES STREAM TURBULENCE AND TURBIDITY PROVIDES UNOBSTRUCTED PASSAGE FOR FISH AND OTHER WATER LIFE CAPACITY FOR NORMAL FLOW CAN BE PROVIDED WITH STORM WATER FLOWING OVER ROADWAY		✱					
43	CULVERT SEDIMENT TRAP	EASY TO INSTALL AT INLET KEEPS CULVERT CLEAN AND FREE FLOWING MAY BE CONSTRUCTED OF LUMBER OR LOGS		✱					✱
44	CULVERT SEDIMENT TRAP	DEFLECTS CURRENTS AWAY FROM STREAMBANK AREAS		✱					
45	TEMP. STREAM CHANNEL CHANGE	NEW CHANNEL KEEPS NORMAL FLOWS AWAY FROM CONSTRUCTION REQUIRES STATE PERMIT		✱					
46	SHEET PILINGS	PROTECTS ERODIBLE BANK AREAS FROM STREAM CURRENTS DURING CONSTRUCTION MINIMAL DISRUPTION WHEN REMOVED		✱					
47	COFFERDAM	WORK CAN BE CONTINUED DURING MOST ANTICIPATED STREAM CONDITIONS CLEAR WATER CAN BE PUMPED DIRECTLY BACK INTO STREAM		✱					
48	CONSTRUCTION DAM	PERMITS WORK TO CONTINUE DURING NORMAL STREAM STAGES CONTROLLED FLOODING CAN BE ACCOMPLISHED DURING PERIODS OF INACTIVITY		✱					
49	CHECK DAMS	REDUCES FLOW VELOCITY CATCHES SEDIMENT CAN BE CONSTRUCTED OF LOGS, STRAW, HAY ROCK, LUMBER, MASONRY, OR SAND BAGS		✱	✱				
50	WEIR	CONTROLS SEDIMENTATION IN LARGE STREAMS CAUSES MINIMAL TURBIDITY		✱	✱				
51	RETAINING WALL	REDUCES GRADIENT WHERE SLOPES ARE EXTREMELY STEEP PERMITS RETENTION OF EXISTING VEGETATION, KEEPING SOIL STABLE IN CRITICAL AREAS MINIMIZES MAINTENANCE	✱						✱
52	SEEPAGE CONTROL	PREVENTS PIPING AND SOIL SLIPPAGE ON CUT SLOPES	✱						✱
53	WINDBREAK	MINIMIZES WIND EROSION MAY BE SNOW FENCE					✱		
54	SILT FENCE	USES GEOTEXTILE FABRIC AND POSTS OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY.			✱				✱



SEEDING ZONES

PERMANENT SEEDING GUIDE

	APR	MAY	JUN	JUL	AUG	SEP	OCT	
IRRIGATED AND/OR MULCH								ZONE 1
WITHOUT IRRIGATION OR MULCH								
IRRIGATED AND/OR MULCHED								ZONE 2
WITHOUT IRRIGATION OR MULCH								
IRRIGATED AND/OR MULCHED								ZONE 3
WITHOUT IRRIGATION OR MULCH								

TEMPORARY SEEDING GUIDE

ZONE 1

TYPE OF SEED	APR	MAY	JUN	JUL	AUG	SEP	OCT	
SPRING OATS/BARLEY OR DOMESTIC RYEGRASS								15TH
SUDANGRASS								
RYE OR PERENNIAL RYE								15TH 15TH
WHEAT								

ZONE 2

TYPE OF SEED	APR	MAY	JUN	JUL	AUG	SEP	OCT	
SPRING OATS/BARLEY OR DOMESTIC RYEGRASS								15TH
SUDANGRASS								
RYE OR PERENNIAL RYE								15TH 15TH
WHEAT								

ZONE 3

TYPE OF SEED	APR	MAY	JUN	JUL	AUG	SEP	OCT	
SPRING OATS/BARLEY OR DOMESTIC RYEGRASS								
SUDANGRASS								
RYE OR PERENNIAL RYE								
WHEAT								

SOIL EROSION & SEDIMENTATION CONTROL

1. DEVELOPER/PROPERTY OWNER SHALL SUBMIT A DETAILED EROSION CONTROL PLAN AND OBTAIN A SOIL EROSION & SEDIMENTATION CONTROL PERMIT PRIOR TO ANY EARTH CHANGES.
2. CONSTRUCTION OPERATION SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING AND/OR GRADING OPERATIONS.
3. BORROW AND FILL DISPOSAL AREAS WILL BE SELECTED AND APPROVED AT TIME OF PLAN REVIEW.
4. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
5. CLEANUP WILL BE DONE IN A MANNER TO ENSURE THAT EROSION CONTROL MEASURES ARE NOT DISTURBED.
6. THE PROJECT WILL CONTINUALLY BE INSPECTED FOR SOIL EROSION AND SEDIMENTATION CONTROL COMPLIANCE. DEFICIENCIES WILL BE CORRECTED BY THE DEVELOPER WITHIN 24 HOURS.
7. TEMPORARY EROSION CONTROL MEASURES SHALL BE COMPLETELY REMOVED BY THE DEVELOPER UPON ESTABLISHMENT OF PERMANENT CONTROL MEASURES.
8. ALL TEMPORARY SOIL EROSION CONTROL MEASURES MUST BE REMOVED FROM ROAD RIGHT-OF-WAY AREAS PRIOR TO ACCEPTANCE OF STREETS FOR ROUTINE MAINTENANCE.
9. VEGETATION MUST BE ACCEPTABLY ESTABLISHED PRIOR TO FINAL RELEASE OF THE CONSTRUCTION GUARANTEE BY THE DESIGNATED SOIL EROSION SEDIMENTATION CONTROL AGENT.

SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
STRIP & STOCKPILE TOPSOIL												
ROUGH GRADE SEDIMENT CONTROL												
TEMP. CONTROL MEASURES												
STORM FACILITIES												
TEMP. CONSTRUCTION ROADS												
SITE CONSTRUCTION												
PERM. CONTROL MEASURES												
FINISH GRADING												

CONSTRUCTION SEQUENCE

1. IMPLEMENTATION OF TEMPORARY EROSION CONTROL MEASURES; SELECTIVE GRADING, DIVERSIONS AS REQUIRED IN FIELD, PROTECTION OF STORM SEWER FACILITIES.
2. EXCAVATION AND STOCKPILING OF SOIL.
3. PERIODIC MAINTENANCE OF AFFECTED EROSION CONTROL MEASURES.
4. PERMANENT MEASURES; FINAL GRADING, SEEDING AND MULCHING.

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

PLAN SUBMITTALS AND CHANGES

BIDDING DOCUMENTS

DATE	DESCRIPTION
4/12/2026	ISSUED FOR BIDS

PLAN DATE: APRIL 2026
PROJECT MGR: D.R.S.
REVIEWER: N.G.W.
SCALE: NOT TO SCALE

ROWE PROFESSIONAL SERVICES COMPANY
The Rowe Building
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PREPARED FOR
CITY OF FLINT
ST. JOHN'S MEMORIAL TRAIL & IMPROV.
FLINT, GENESEE COUNTY, MICHIGAN
SESC SHEET

REV:

SHT# 4 OF 4
JOB No: 2500057

PLOTTED: 4/13/2026 4:22 PM
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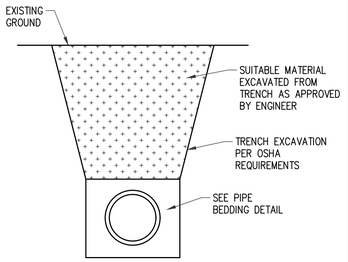
NOTES:

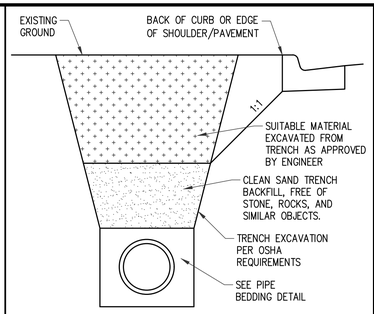
1. SUFFICIENT TRENCH WIDTH SHALL BE PROVIDED TO ALLOW FREE WORKING SPACE AND TO PERMIT COMPACTING THE BACKFILL AROUND THE PIPE.
2. THE FOLLOWING ARE MINIMUM TRENCH WIDTHS:

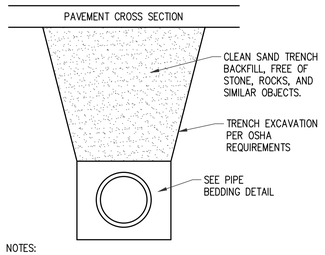
I.D. PIPE SIZE (INCHES)	18 OR SMALLER	21	24	30	36	42	48	54
"W" TRENCH WIDTH (FEET)	3.0	3.5	4.0	5.0	6.0	7.0	8.0	9.5

I.D. PIPE SIZE (INCHES)	60	66	72	78	84	90	96	102	108
"W" TRENCH WIDTH (FEET)	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0



TRENCH DETAIL A
BACKFILL DETAIL
NOT TO SCALE

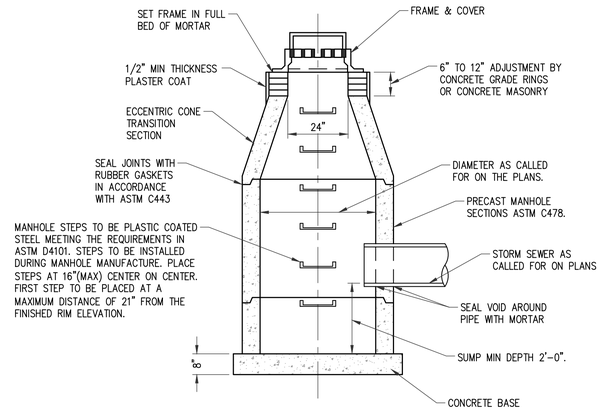




NOTES:

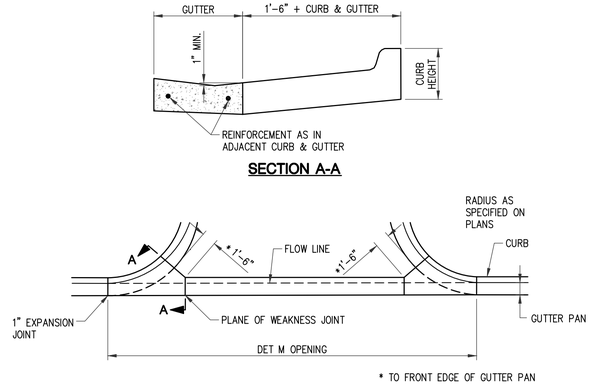
1. SAND SHALL BE MDOT GRANULAR MATERIAL CLASS II.
2. SAND SHALL BE COMPACTED TO 95% OF ITS MAXIMUM UNIT WEIGHT.

TRENCH DETAIL B
BACKFILL DETAIL
NOT TO SCALE



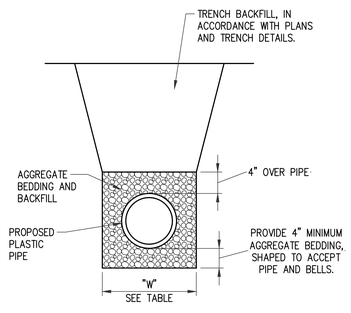
STANDARD DRAINAGE STRUCTURE WITH 2' SUMP
NOT TO SCALE

08-23



NOTES:
1. TO BE INCLUDED IN THE CURB AND GUTTER PAY ITEM.

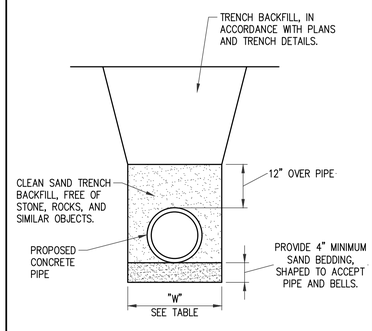
DETAIL M OPENING
NOT TO SCALE



NOTES:

1. AGGREGATE SHALL BE MDOT, SERIES 6AA.

FLEXIBLE GRAVITY PIPE
AGGREGATE BEDDING DETAIL
NOT TO SCALE

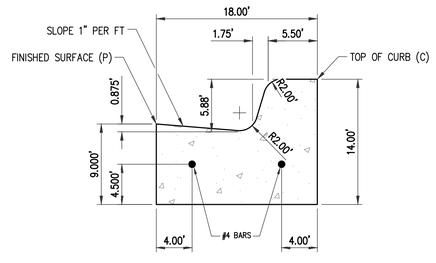


NOTES:

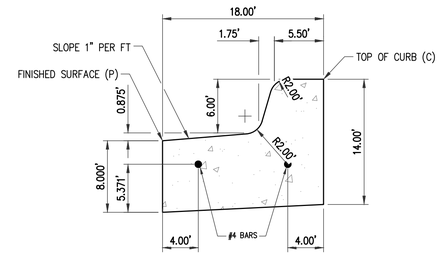
1. SAND SHALL BE MDOT GRANULAR MATERIAL CLASS II.
2. SAND SHALL BE COMPACTED TO 95% OF ITS MAXIMUM UNIT WEIGHT.

RIGID GRAVITY PIPE
SAND BEDDING DETAIL
NOT TO SCALE

07-24



CONCRETE CURB AND GUTTER DETAIL
M.D.O.T. F-2
NOT TO SCALE



CONCRETE CURB AND GUTTER DETAIL
M.D.O.T. F-2, MODIFIED
NOT TO SCALE

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

PLAN SUBMITTALS AND CHANGES	
PRELIMINARY PLANS – **NOT FOR CONSTRUCTION**	
DATE	DESCRIPTION

PLAN DATE: APRIL 2026
PROJECT MGR: D.R.S.
REVIEWER: N.G.W.
SCALE: NOT TO SCALE

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REV:

SHT# 5 OF 5
JOB No: 2500057

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