ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





WAYNE COUNTY, MICHIGAN GLRI EPA AWARD NO. GL-00E02040-0

FOR CONSTRUCTION - JUNE 2021



PREPARED BY:



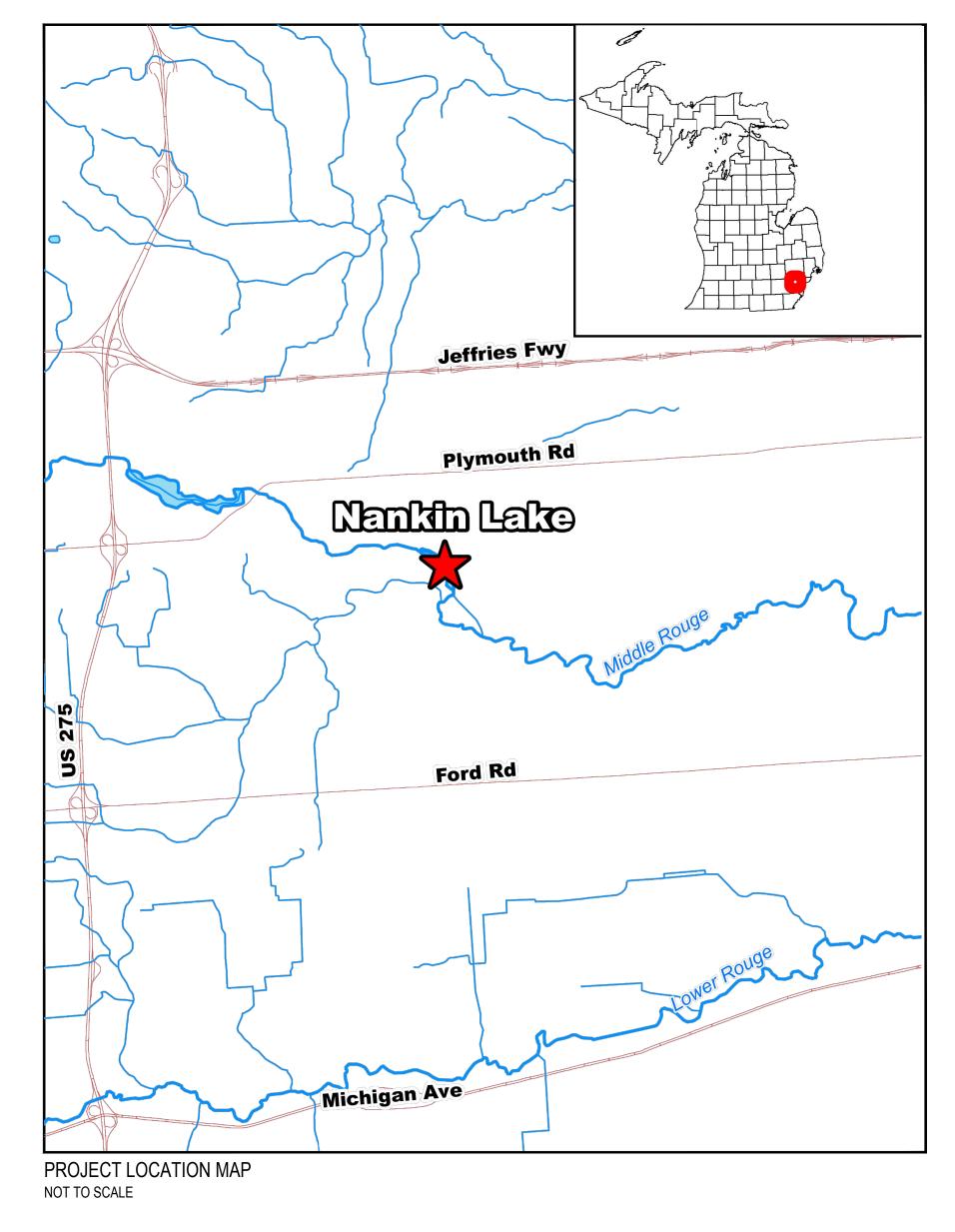
Environmental Consulting & Technology, Inc. 2200 Commonwealth Boulevard, Suite 300

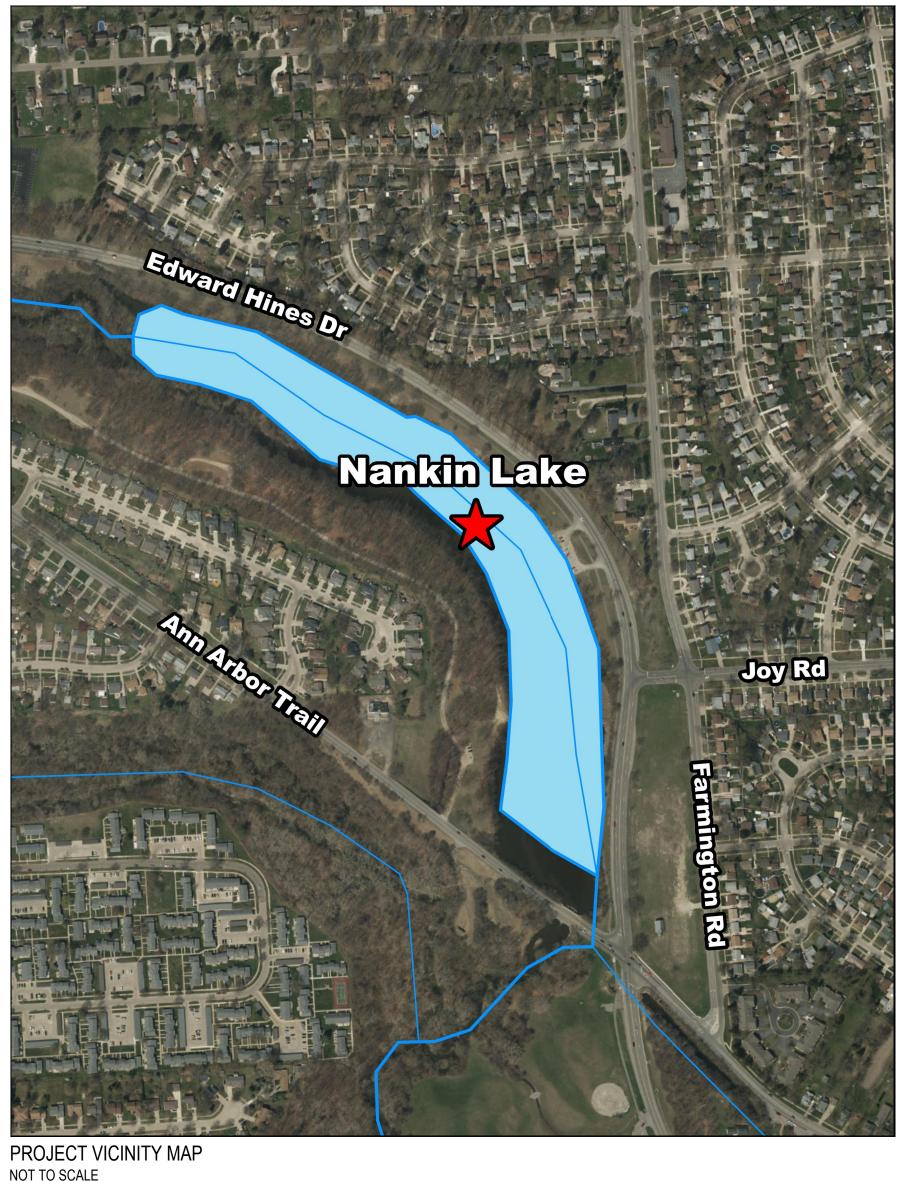
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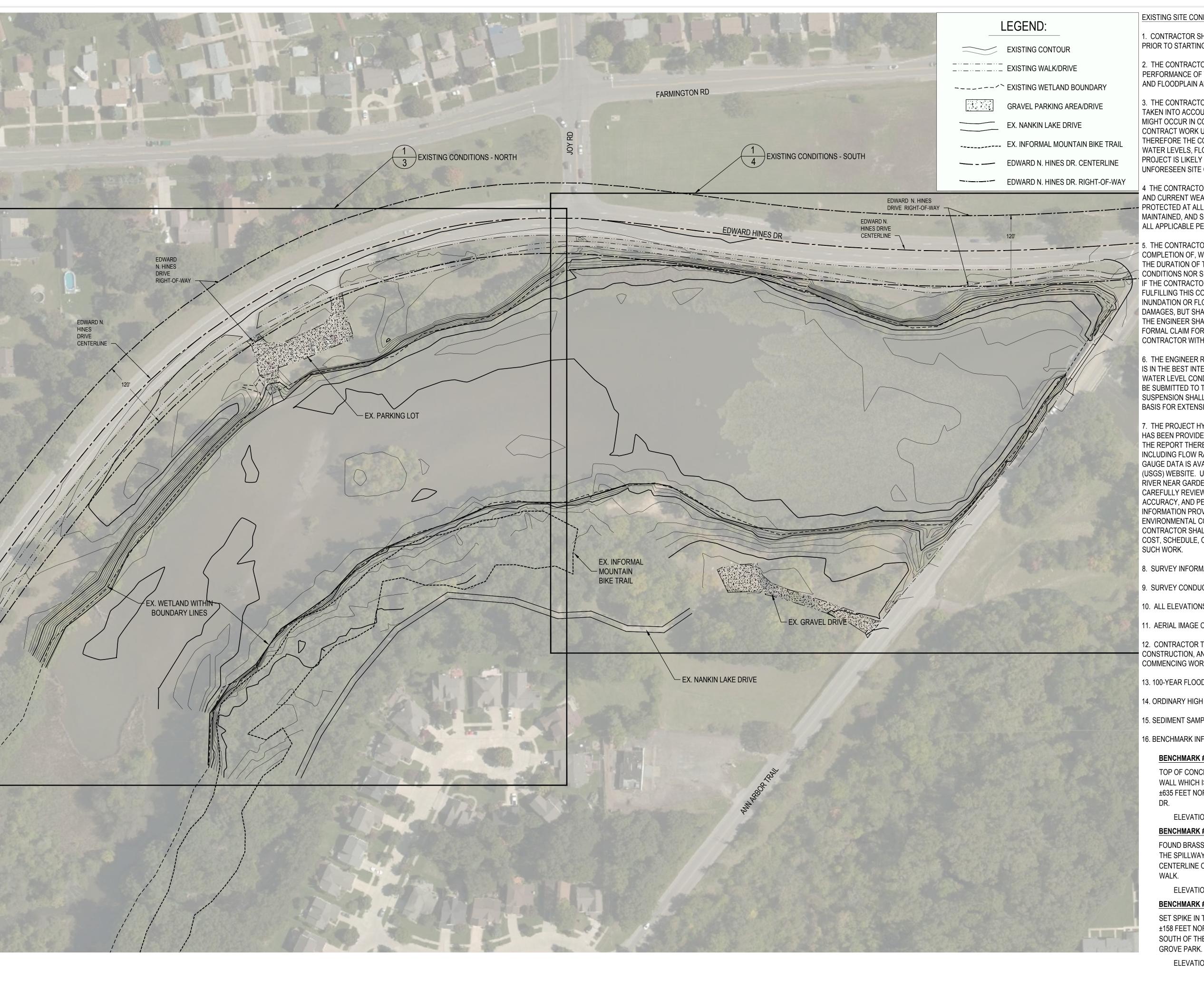




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ADDITIONAL PLANS FOR "ANN ARBOR TRAIL **CONNECTOR" PARKING LOT (15 SHEETS)**



EXISTING SITE CONDITIONS:

- 1. CONTRACTOR SHALL BECOME FAMILIAR WITH ALL EXISTING SITE CONDITIONS PRIOR TO STARTING WORK.
- 2. THE CONTRACTOR UNDERSTANDS AND ACKNOWLEDGES THAT THE PERFORMANCE OF THE WORK IS REQUIRED WITHIN THE ROUGE RIVER SYSTEM AND FLOODPLAIN AND THAT THE ROUGE RIVER WATER LEVEL FLUCTUATES.
- 3. THE CONTRACTOR UNDERSTANDS AND ACKNOWLEDGES THAT THEY HAVE TAKEN INTO ACCOUNT THE POTENTIAL FOR ANY WATER LEVEL CHANGES THAT MIGHT OCCUR IN COSTING, SCHEDULING, AND FEASIBILITY OF PERFORMING THE CONTRACT WORK UNDER THE PREVAILING ENVIRONMENTAL CONDITIONS THEREFORE THE CONTRACTOR ACKNOWLEDGES THAT ANY FLUCTUATION IN WATER LEVELS, FLOODING, OR INUNDATION DURING/OVER THE COURSE OF THE PROJECT IS LIKELY AND DOES NOT CONSTITUTE A CHANGE IN CONDITIONS OR AN UNFORESEEN SITE CONDITION.
- 4 THE CONTRACTOR SHALL BE FULLY AWARE OF THE ROUGE RIVER HYDROLOGY AND CURRENT WEATHER CONDITIONS SO THAT WORK CAN BE SECURED AND PROTECTED AT ALL TIMES, SO THAT SAFE JOB SITE WORKING CONDITIONS ARE MAINTAINED, AND SO THAT SOIL EROSION IS CONTROLLED IN ACCORDANCE WITH ALL APPLICABLE PERMITS AND ENVIRONMENTAL LAWS.
- 5. THE CONTRACTOR ACKNOWLEDGES THAT DELAYS IN THE START OF, OR COMPLETION OF, WORK DUE TO FLUCTUATIONS IN WATER LEVEL THROUGHOUT THE DURATION OF THE PROJECT SHALL NOT CONSTITUTE A CHANGE IN CONDITIONS NOR SHALL BE A BASIS FOR ANY EXTENSION OF TIME OR DAMAGES. IF THE CONTRACTOR SHALL BE UNAVOIDABLE DELAYED IN BEGINNING OR FULFILLING THIS CONTRACT BY REASONS OF CHANGING WATER LEVELS, STORMS INUNDATION OR FLOODS, THE CONTRACTOR SHALL HAVE NOT VALID CLAM FOR DAMAGES, BUT SHALL IN SUCH CASE BE ENTITLED TO AN EXTENSION OF TIME AS THE ENGINEER SHALL ADJUDGE TO BE JUST AND REASONABLE, PROVIDED THAT FORMAL CLAIM FOR AN EXTENSION OF TIME IS MADE IN WRITING BY THE CONTRACTOR WITHIN 14 DAYS OF THE ALLEGED DELAY.
- 6. THE ENGINEER RESERVES THE RIGHT TO SUSPEND WORK ACTIVITIES WHEN I IS IN THE BEST INTEREST OF THE PROJECT TO DO SO DUE TO WEATHER, FLOW, OR WATER LEVEL CONDITIONS. THE DIRECTIVE TO SUSPEND WORK ACTIVITIES SHALL BE SUBMITTED TO THE CONTRACTOR, BY THE ENGINEER, IN WRITING. SUCH SUSPENSION SHALL NOT BE BASIS FOR CLAIM FOR ADDITIONAL COST BUT CAN BE BASIS FOR EXTENSION OF TIME.
- 7. THE PROJECT HYDRAULIC REPORT AS PREPARED BY APPLIED SCIENCE, INC. HAS BEEN PROVIDED IN THE APPENDIX OF THE CONTRACT DOCUMENTS. WITHIN THE REPORT THERE IS PERTINENT DATA ON THE LAKE AND RIVER SYSTEM INCLUDING FLOW RATES AND STAGE ELEVATION INFORMATION. ADDITIONALLY GAUGE DATA IS AVAILABLE FROM THE UNITED STATES GEOLOGICAL SURVEY (USGS) WEBSITE. USGS 04167000 GAUGE IS LOCATED ALONG THE MIDDLE ROUGE RIVER NEAR GARDEN CITY, WAYNE COUNTY, MICHIGAN. THE CONTRACTOR SHALL CAREFULLY REVIEW THE INFORMATION, MAKE THEIR OWN DETERMINATION OF ITS ACCURACY, AND PERFORM ITS OWN INDEPENDENT INVESTIGATIONS OF THE INFORMATION PROVIDED, AS NEEDED, IN AN EFFORT TO FULLY UNDERSTAND ENVIRONMENTAL CONDITIONS ASSOCIATED WITH THE PROJECT SITE. THE CONTRACTOR SHALL UNDERSTAND THE SITE CONDITIONS THAT WILL AFFECT THE COST, SCHEDULE, OR PERFORMANCE OF THE WORK IN ADVANCE OF STARTING
- 8. SURVEY INFORMATION PROVIDED BY MIDWESTERN CONSULTING, INC.
- 9. SURVEY CONDUCTED ON OCTOBER 31, 2018
- 10. ALL ELEVATIONS SHOWN ARE IN NAVD88 DATUM.
- 11. AERIAL IMAGE OBTAINED FROM AUTOCAD ONLINE MAPS
- 12. CONTRACTOR TO CONFIRM EXISTING CONDITIONS PRIOR TO CONSTRUCTION, AND REPORT ANY DISCREPANCIES TO PROJECT TEAM PRIOR TO COMMENCING WORK ACTIVITIES.
- 13. 100-YEAR FLOODPLAIN ELEVATION: 642 FT
- 14. ORDINARY HIGH WATER MARK (OHWM): 639 FT
- 15. SEDIMENT SAMPLE LABORATORY DATA IS AVAILABLE UPON REQUEST
- 16. BENCHMARK INFORMATION:

BENCHMARK #1

TOP OF CONCRETE SEAWALL ±37 FEET NORTH OF THE SOUTH END OF THE WALL WHICH IS LOCATED ON THE WEST SIDE OF EDWARD N. HINES DR. AND ±635 FEET NORTH OF THE INTERSECTION OF ANN ARBOR TRAIL AND HINES

ELEVATION = 638.74 (NAVD 88 DATUM)

BENCHMARK #2

FOUND BRASS DISC LOCATED ON THE TOP OF THE WESTERN HEADWALL FOR THE SPILLWAY AT THE SOUTH END OF NANKIN LAKE, ±25 FEET NORTH OF THE CENTERLINE OF ANN ARBOR TRAIL, AND ±2 FEET NORTH OF THE BACK OF

ELEVATION = 640.77 (NAVD 88 DATUM)

BENCHMARK #3

SET SPIKE IN THE NORTH FACE OF TREE # 206 A 42 INCH OAK TREE LOCATED ±158 FEET NORTH OF THE CENTERLINE OF ANN ARBOR TRAIL AND ±127 FEET SOUTH OF THE SOUTHEAST CORNER OF THE GRAVEL PARKING LOT FOR OAK

ELEVATION = 646.80 (NAVD 88 DATUM)



ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





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

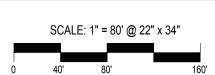
FOR CONSTRUCTION	06-2021
FOR BIDDING	08-2020
95% DESIGN	09-2019

AGENCY REVIEW <u>180406-0300</u> ECT PROJECT NUMBER

_____AB _____MB DESIGNED BY CHECKED BY

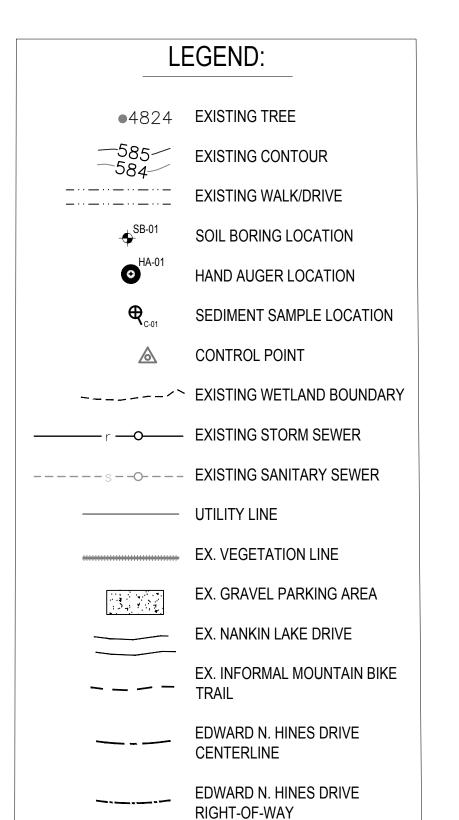
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EXISTING CONDITIONS -OVERVIEW









NOTE: FOR LIST OF EXISTING TREES, SEE SHEET 6

EXISTING SITE CONDITIONS: SEE NOTES ON SHEET 2

SEDIMENT SAMPLE INFORMATION:
DATA CONTAINED IN APPENDIX OF CONTRACT DOCUMENTS

SOIL BORING INFORMATION:

DATA CONTAINED IN APPENDIX OF CONTRACT DOCUMENTS

HAND AUGER INFORMATION:
DATA CONTAINED IN APPENDIX OF CONTRACT DOCUMENTS

Environmenta Consulting & Technology, Inc 2200 Commonwealth Blvd, Suite 300 Ann Arbor, Michigan 48105 734.769.3004 734.769.3164 fax www.ectinc.com

ROUGE RIVER
AOC - NANKIN
LAKE
RESTORATION
PROJECT

WAYNE COUNTY,
MICHIGAN



FOR CONSTRUCTION 06-2021
FOR BIDDING 08-2020
95% DESIGN 09-2019
AGENCY REVIEW 08-02-19

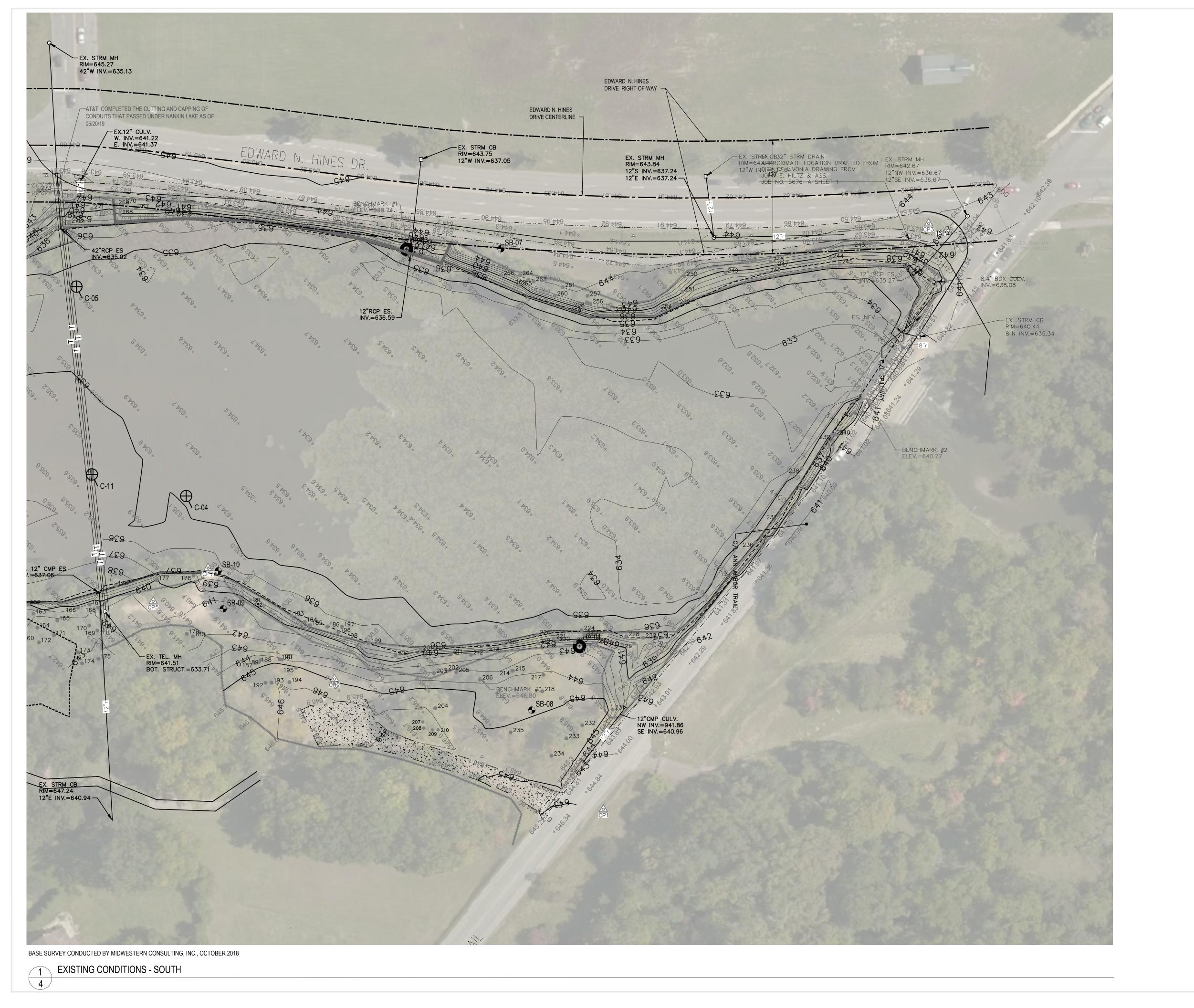
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EXISTING CONDITIONS -NORTH

SCALE: 1" = 50' @ 22" x 34"

NORTH SHE





RIGHT-OF-WAY

NOTE: FOR LIST OF EXISTING TREES, SEE SHEET 6

EXISTING SITE CONDITIONS: SEE NOTES ON SHEET 2

SEDIMENT SAMPLE INFORMATION: DATA CONTAINED IN APPENDIX OF CONTRACT DOCUMENTS

SOIL BORING INFORMATION: DATA CONTAINED IN APPENDIX OF CONTRACT DOCUMENTS

HAND AUGER INFORMATION: DATA CONTAINED IN APPENDIX OF CONTRACT DOCUMENTS

•4824 EXISTING TREE **EXISTING CONTOUR** EXISTING WALK/DRIVE SOIL BORING LOCATION HAND AUGER LOCATION SEDIMENT SAMPLE LOCATION CONTROL POINT ---- EXISTING WETLAND BOUNDARY r — EXISTING STORM SEWER ----- EXISTING SANITARY SEWER UTILITY LINE EX. VEGETATION LINE EX. GRAVEL DRIVE EX. NANKIN LAKE DRIVE EX. INFORMAL MOUNTAIN BIKE EDWARD N. HINES DRIVE EDWARD N. HINES DRIVE

ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT

2200 Commonwealth Blvd, Suite 300 Ann Arbor, Michigan 48105 734.769.3004

734.769.3164 fax www.ectinc.com





06-2021 08-2020 09-2019 FOR CONSTRUCTION 08-02-19 **AGENCY REVIEW**

<u>180406-0300</u> ECT PROJECT NUMBER AB MB
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EXISTING CONDITIONS -SOUTH

SCALE: 1" = 50' @ 22" x 34"

SHEET NUMBER

TAG	DBH	COMMON NAME	GENUS/SPECIES	STEM	%
2	17" 18"	Black Maple Black Maple	Acer nigrum Acer nigrum		
3	28"	Red Oak	Quercus palustris		
4	22" 31"	Red Oak	Quercus palustris		400/
5	31"	Red Oak Red Oak	Quercus palustris Quercus palustris		40%
7	14"	Red Oak	Quercus palustris		
8	21" 10"	Red Oak Red Oak	Quercus palustris		
10	8"	Black Maple	Quercus palustris Acer nigrum	twin	
11	31"	Red Oak	Quercus palustris		
12	33" 28"	Red Oak	Quercus palustris		
13 14	28" 8"	Red Oak Red Maple	Quercus palustris Acer rubrum		
15	8"	American Elm	Ulmus americana		
16 17	28" 13"	White Oak	Quercus alba		
17 18	13" 26"	Red Oak Red Oak	Quercus palustris Quercus palustris		
19	16"	White Oak	Quercus alba		
20	21"	Red Oak	Quercus palustris		
21 22	26" 18"	Red Oak Red Oak	Quercus palustris Quercus palustris		
23	17"	Red Oak	Quercus palustris		40%
24	13"	Red Oak	Quercus palustris		
25 26	15" 20"	White Oak White Oak	Quercus alba Quercus alba		
27	10"	Red Oak	Quercus palustris		40%
28	23"	Red Oak	Quercus palustris		
29 30	20" 15"	Red Oak Sugar Maple	Quercus palustris Acer saccharum		
31	19"	Red Oak	Quercus palustris		
32	22"	Red Oak	Quercus palustris		40%
33 34	16" 24"	Red Oak Red Oak	Quercus palustris Quercus palustris		
3 4 35	8"	Red Oak	Quercus palustris Quercus palustris		
36	9"	White Oak	Quercus alba		
37	18" 19"	Red Oak	Quercus palustris		
38 39	19" 13"	Red Oak Red Oak	Quercus palustris Quercus palustris		
40	20"	Red Oak	Quercus palustris		40%
41	16"	Red Oak	Quercus palustris		
42 43	24" 16"	Red Oak Red Oak	Quercus palustris Quercus palustris		
44	24"	White Oak	Quercus alba		
45 46	19"	White Oak	Quercus alba		
46 47	10" 30"	American Elm Red Oak	Ulmus americana Quercus palustris		
48	27"	Red Oak	Quercus palustris		
49 50	33"	Red Oak	Quercus palustris		
50 51	9" 13"	American Elm White Oak	Ulmus americana Quercus alba		
52	15"	White Oak	Quercus alba		
53	9"	Sugar Maple	Acer saccharum		
54 55	10" 9"	Bitternut Hickory Bitternut Hickory	Carya cordiformis Carya cordiformis		
56	8"	American Elm	Ulmus americana		
57	13"	Silver Maple	Acer saccharinum		
58 59	19" 22"	Red Oak Red Oak	Quercus palustris Quercus palustris		
60	22"	Red Oak	Quercus palustris		
61	25"	Red Oak	Quercus palustris		
62 63	14" 8"	Red Oak American Elm	Quercus palustris Ulmus americana		
64	21"	White Oak	Quercus alba		
65	22"	White Oak	Quercus alba		
66 67	22" 22"	White Oak Red Oak	Quercus alba Quercus palustris		
68	22"	Red Oak	Quercus palustris		
69	17"	Red Oak	Quercus palustris		
70 71	17" 19"	Red Oak Red Oak	Quercus palustris Quercus palustris		
72	18"	Red Oak	Quercus palustris Quercus palustris		
73	30"	Red Oak	Quercus palustris		
74 75	8" 23"	Black Maple	Acer nigrum		
75 76	16"	Red Oak Red Oak	Quercus palustris Quercus palustris		
77	13"	Black Maple	Acer nigrum		
78 70	13" 14"	White Oak	Quercus alba	h.i.	
79 80	14" 10"	Red Oak Red Oak	Quercus palustris Quercus palustris	twin	
81	10"	Silver Maple	Acer saccharinum		
	10" 14"	Sassafras	Sorbusassafras		
82		Silver Maple Silver Maple	Acer saccharinum Acer saccharinum		
82 83 84	11"	American Beech	Fagus grandifolia		
83 84 85	9"		Quercus alba		
83 84 85 86	9" 22"	White Oak			
83 84 85 86 87	9" 22" 8"	Silver Maple	Acer saccharinum Quercus palustris		
83 84 85 86	9" 22" 8" 23" 22"		Acer saccharinum Quercus palustris Quercus palustris		
83 84 85 86 87 88 89	9" 22" 8" 23" 22" 19"	Silver Maple Red Oak Red Oak White Oak	Quercus palustris Quercus palustris Quercus alba		
83 84 85 86 87 88 89 90	9" 22" 8" 23" 22" 19" 16"	Silver Maple Red Oak Red Oak White Oak Red Oak	Quercus palustris Quercus palustris Quercus alba Quercus palustris		
83 84 85 86 87 88 89	9" 22" 8" 23" 22" 19"	Silver Maple Red Oak Red Oak White Oak	Quercus palustris Quercus palustris Quercus alba		
83 84 85 86 87 88 89 90 91 92 93	9" 22" 8" 23" 22" 19" 16" 8" 25" 30"	Silver Maple Red Oak Red Oak White Oak Red Oak American Elm Red Oak Red Oak	Quercus palustris Quercus palustris Quercus alba Quercus palustris Ulmus americana Quercus palustris Quercus palustris		
83 84 85 86 87 88 89 90 91 92 93 94	9" 22" 8" 23" 22" 19" 16" 8" 25" 30" 26"	Silver Maple Red Oak Red Oak White Oak Red Oak American Elm Red Oak Red Oak Red Oak	Quercus palustris Quercus palustris Quercus alba Quercus palustris Ulmus americana Quercus palustris Quercus palustris Quercus palustris		
83 84 85 86 87 88 89 90 91 92 93	9" 22" 8" 23" 22" 19" 16" 8" 25" 30"	Silver Maple Red Oak Red Oak White Oak Red Oak American Elm Red Oak Red Oak	Quercus palustris Quercus palustris Quercus alba Quercus palustris Ulmus americana Quercus palustris Quercus palustris		
83 84 85 86 87 88 89 90 91 92 93 94 95	9" 22" 8" 23" 22" 19" 16" 8" 25" 30" 26" 17"	Silver Maple Red Oak Red Oak White Oak Red Oak American Elm Red Oak Red Oak Red Oak Red Oak Red Oak White Oak	Quercus palustris Quercus palustris Quercus alba Quercus palustris Ulmus americana Quercus palustris Quercus palustris Quercus palustris Quercus palustris Quercus palustris		40%

TAG 101	DBH 17"	COMMON NAME White Oak	GENUS/SPECIES Quercus alba	STEM	%
102	13"	White Oak	Quercus alba		
103 104	14" 21"	White Oak Red Oak	Quercus alba Quercus palustris	+ +	
105	20"	Red Oak	Quercus palustris		
106	12" 17"	White Oak	Quercus alba	1	
107 108	9"	White Oak Black Cherry	Quercus alba Prunus serotina		
109	18"	Red Oak	Quercus palustris		
110	20"	Red Oak	Quercus palustris		
111 112	15" 19"	White Oak Red Oak	Quercus alba Quercus palustris	+ +	40%
113	9"	White Oak	Quercus alba		. 5 70
114	18"	White Oak	Quercus alba		
115 116	15" 10"	Red Oak Red Oak	Quercus palustris Quercus palustris	+ +	
117	8"	Sassafras	Sorbusassafras		
118	10" 13"	Linden	Tilia americana	1	
119 120	13" 20"	American Elm Red Oak	Ulmus americana Quercus palustris	+ +	
121	21"	White Oak	Quercus alba		
122	9"	Linden Pod Oak	Tilia americana		
123 124	20" 10"	Red Oak Pignut Hickory	Quercus palustris Carya glabra	+ +	
125	13"	Red Oak	Quercus palustris		
126	9"	Red Oak	Quercus palustris	1	
127 128	17" 17"	Red Oak Red Oak	Quercus palustris Quercus palustris	+ +	40%
129	17"	White Oak	Quercus alba		70 70
130	8"	Red Oak	Quercus palustris	1	
131 132	20" 12"	White Oak White Oak	Quercus alba Quercus alba	+ +	
133	28"	Red Oak	Quercus palustris		
134	18"	White Oak	Quercus alba		
135 136	15" 17"	White Oak White Oak	Quercus alba Quercus alba	twin	
137	8"	Linden	Tilia americana	<u> </u>	
138	15"	White Oak	Quercus alba		
139 140	9" 19"	American Elm White Oak	Ulmus americana Quercus alba	+	
141	14"	White Oak	Quercus alba	twin	
142	14"	White Oak	Quercus alba		
143 144	14" 9"	White Oak Linden	Quercus alba Tilia americana		
144	16"	White Oak	Quercus alba		
146	16"	White Oak	Quercus alba		
147 148	11" 13"	White Oak White Oak	Quercus alba Quercus alba	twin	
149	14"	White Oak	Quercus alba Quercus alba	LVVIII	
150	19"	White Oak	Quercus alba		
151 152	8" 13"	Black Maple White Oak	Acer nigrum Quercus alba		40%
153	19"	Red Oak	Quercus palustris		رن برن ا
154	11"	Red Oak	Quercus palustris	<u> </u>	
155 156	17" 12"	Red Oak White Oak	Quercus palustris Quercus alba	twin	
157	15"	White Oak	Quercus alba		
158	21"	White Oak	Quercus alba	<u> </u>	
159 160	25" 24"	White Oak Red Oak	Quercus alba Quercus palustris	+ +	
161	14"	White Oak	Quercus alba		
162	26"	Red Oak	Quercus palustris		
163 164	18" 21"	Red Oak White Oak	Quercus palustris Quercus alba	+ +	
165	14"	White Oak	Quercus alba		
166	17"	White Oak	Quercus alba		
167 168	17" 25"	Red Oak White Oak	Quercus palustris Quercus alba	+ +	
169	26"	White Oak	Quercus alba		
170	25"	White Oak	Quercus alba		
171 172	29" 10"	Red Oak White Oak	Quercus palustris Quercus alba	+	
173	13"	Linden	Tilia americana		
174	15"	White Oak	Quercus alba		
175 176	23" 26"	White Oak Red Oak	Quercus alba Quercus palustris	+	
177	34"	Red Oak	Quercus palustris		
178	22"	Red Oak	Quercus palustris		
179 180	8" 8"	Red Oak Linden	Quercus palustris Tilia americana	1	
181	12"	Red Oak	Quercus palustris	1	
182	8"	Red Oak	Quercus palustris		
183 184	33" 15"	White Oak Red Oak	Quercus alba Quercus palustris	+ +	
185	8"	Red Oak	Quercus palustris	1	
186	17"	White Oak	Quercus alba		-
187 188	11" 9"	Black Walnut American Elm	Juglans nigra Ulmus americana	+ +	
188 189	12"	Black Walnut	Juglans nigra	+ +	
190	8"	White Oak	Quercus alba		
191	10"	Black Walnut	Juglans nigra	+ -	
192 193	12" 8"	Red Oak Black Walnut	Quercus palustris Juglans nigra		
194	9"	Black Walnut	Juglans nigra		
	11"	Black Walnut	Juglans nigra		
195 106		Red Oak	Quercus palustris		
196	14" 9"		Quercus naluetris	twin	
	9" 21"	Red Oak Red Oak	Quercus palustris Quercus palustris	twin	

TAG 201	DBH 20"	Red Oak	GENUS/SPECIES Quercus palustris	STEM	%
202	11"	Shagbark Hickory	Carya ovata		
203	12"	Shagbark Hickory	Carya ovata		
204 205	18" 11"	Black Walnut Black Walnut	Juglans nigra Juglans nigra		
205 206	42"	Red Oak	Quercus palustris		
207	10"	Black Walnut	Juglans nigra		
208	9"	Black Walnut	Juglans nigra		
209	9" 13"	Black Walnut	Juglans nigra		
210 211	19"	Northern Red Oak	Celtis occidentalis Quercus palustris		
212	11"	Red Oak	Quercus palustris		
213	16"	Red Oak	Quercus palustris		
214	10"	American Elm	Ulmus americana		
215 216	10" 9"	American Elm Red Oak	Ulmus americana		
<u>210 </u>	19"	Black Walnut	Quercus palustris Juglans nigra		
218	9"	Black Walnut	Juglans nigra		
219	15"	Black Walnut	Juglans nigra		
220	9"	Shagbark Hickory	Carya ovata		
221 222	10" 8"	Red Oak Red Oak	Quercus palustris Quercus palustris		
223	14"	Red Oak	Quercus palustris		
224	13"	Red Oak	Quercus palustris		
225	11"	Linden	Tilia americana	twin	
226	9"	Cottonwood	Populus deltoides		
227	8" 8"	Cottonwood	Populus deltoides		
228 229	8"	Linden Linden	Tilia americana Tilia americana	+	
230	11"	Black Willow	Salix nigra		
231	9"	Black Walnut	Juglans nigra		
232	17"	Sugar Maple	Acer saccharum	1	
233	16" 20"	Sugar Maple	Acer saccharum		
234 235	19"	Black Walnut Black Walnut	Juglans nigra Juglans nigra		
236 236	8"	Black Willow	Salix nigra	twin	
237	8"	Black Willow	Salix nigra	triple	_
238	8"	Linden	Tilia americana	twin	
239 240	8" 11"	Black Willow	Salix nigra	twin	
<u>240 </u>	9"	Black Willow Black Willow	Salix nigra Salix nigra		
242	10"	Black Willow	Salix nigra	twin	
243	9"	Red Oak	Quercus palustris		
244	10"	Linden	Tilia americana		
245	8" 8"	Linden	Tilia americana		
246 247	8"	Linden Linden	Tilia americana Tilia americana		
247 248	9"	Linden	Tilia americana		
249	9"	Red Oak	Quercus palustris		
250	9"	Red Oak	Quercus palustris		
251 252	23" 14"	Red Oak	Quercus palustris		
252 253	12"	Linden Linden	Tilia americana Tilia americana		
254	16"	Linden	Tilia americana		
255	9"	Linden	Tilia americana	twin	
256	22"	Red Oak	Quercus palustris		
257 258	8" 8"	Linden Linden	Tilia americana Tilia americana		
259	8"	American Elm	Ulmus americana		
260	12"	Linden	Tilia americana		
261	24"	Red Oak	Quercus palustris		
262	20"	Red Oak	Quercus palustris		
263 264	8" 9"	Black Maple Red Oak	Acer nigrum Quercus palustris		
264 265	8"	Red Oak	Quercus palustris Quercus palustris	+ +	
266	17"	Red Oak	Quercus palustris		
267	8"	Red Oak	Quercus palustris		
268 260	9" 8"	Red Oak	Quercus palustris		
269 270	9"	Red Oak Red Oak	Quercus palustris Quercus palustris		
<u>270 </u>	12"	Siberian Elm	Ulmus pumila		
272	9"	Red Oak	Quercus palustris		
273	17"	Linden	Tilia americana		4.5.5
274 275	39" 17"	Red Oak Red Oak	Quercus palustris Quercus palustris		40% 40%
<u>275 </u>	13"	Black Willow	Salix nigra	twin	1 07
277	11"	American Elm	Ulmus americana		
278	11"	Linden	Tilia americana		
279	24"	Red Oak	Quercus palustris		
280 281	12" 15"	Black Walnut Red Oak	Juglans nigra Quercus palustris	+ +	
<u> 201 </u>	9"	Red Oak	Quercus palustris Quercus palustris	+ +	
283	28"	Red Oak	Quercus palustris		
284	10"	Black Walnut	Juglans nigra		
285 286	16"	Red Oak	Quercus palustris		
286 287	19" 8"	Red Oak American Elm	Quercus palustris Ulmus americana	+ +	
<u>207</u> 288	11"	Red Oak	Quercus palustris	+ +	
289	9"	Black Cherry	Prunus serotina		40%
290	10"	Red Oak	Quercus palustris		
291	11"	Red Oak	Quercus palustris		
292 293	13" 11"	Red Oak Red Oak	Quercus palustris Quercus palustris		
<u> 293 </u>	13"	Black Willow	Salix nigra	twin	
295	10"	Black Cherry	Prunus serotina	25.111	
296	8"	Linden	Tilia americana		_
297	35"	Red Oak	Quercus palustris		
298	36" 22"	Cottonwood Red Oak	Populus deltoides	+ +	40%
299	. 44	I NEU Var	Quercus palustris		+07

TAG 301	DBH 22"	COMMON NAME Red Oak	GENUS/SPECIES Quercus palustris	STEM	%
302	23"	Red Oak	Quercus palustris		
303	19"	Red Oak	Quercus palustris		
304	14"	Red Oak	Quercus palustris		
305	9"	Black Cherry	Prunus serotina		
306	15"	-			
	28"	Black Cherry	Prunus serotina		
307		Red Oak	Quercus palustris		
308	15"	Red Oak	Quercus palustris		
309	16"	Red Oak	Quercus palustris		
310	15"	Cottonwood	Populus deltoides		
311	20"	N. Pin Oak	Quercus palustris		
312	14"	Red Oak	Quercus palustris		
313	10"	American Beech	Fagus grandifolia		40%
314	13"	Red Oak	Quercus palustris		40%
315	13"	Red Oak	Quercus palustris		
316	9"	Red Oak	Quercus palustris		
317	11"	Red Oak	Quercus palustris		
318	8''	Red Oak	Quercus palustris		
319	8''	Red Oak	Quercus palustris		
320	10"	Red Oak	Quercus palustris		
321	26"	Red Oak	Quercus palustris		
322	13"		<u> </u>		
	9"	Red Oak	Quercus palustris		
323		Red Oak	Quercus palustris		
324	8''	Linden	Tilia americana	 	
325	7''	Hawthorn	Crataegus	twin	
326	5''	Hawthorn	Crataegus	quad	
327	6''	Hawthorn	Crataegus	twin	
328	23"	Red Oak	Quercus palustris		
329	11"	Red Oak	Quercus palustris		
330	11"	Red Oak	Quercus palustris		
331	8''	Red Oak	Quercus palustris		
332	14"	Red Oak	Quercus palustris	twin	
333	27"	Red Oak	Quercus palustris	1	
334	8"	Red Oak	Quercus palustris		
335	13"	Red Oak	Quercus palustris		
336	18"				
	9"	Red Oak	Quercus palustris		
337		Red Oak	Quercus palustris		
338	14"	Red Oak	Quercus palustris		
339	25"	Red Oak	Quercus palustris		
340	25"	Red Oak	Quercus palustris		
341	19"	Red Oak	Quercus palustris		
342	9''	Red Oak	Quercus palustris		
343	15"	Red Oak	Quercus palustris		
344	13"	Red Oak	Quercus palustris		
345	21"	Red Oak	Quercus palustris		
346	17"	Red Oak	Quercus palustris		
347	8''	Red Oak	Quercus palustris		
348	16"	Red Oak	Quercus palustris		
349	15"	Red Oak	Quercus palustris		
350	10"	Red Oak	Quercus palustris		
351	20"	Red Oak	Quercus palustris		
352	20"	Red Oak	Quercus palustris		
353	18"	Red Oak	•		
	17"		Quercus palustris		
354		Red Oak	Quercus palustris		
355	20"	Red Oak	Quercus palustris		
356	10"	American Elm	Ulmus americana		
357	9"	Red Oak	Quercus palustris		
358	8"	Red Oak	Quercus palustris		
359	21"	Sugar Maple	Acer saccharum		
360	25"	Sugar Maple	Acer saccharum		
361	17"	Red Oak	Quercus palustris		
362	10"	Red Oak	Quercus palustris		
363	26"	Red Oak	Quercus palustris		
364	18"	Red Oak	Quercus palustris		
365	9"	Red Oak	Quercus palustris		_
366	18"	Red Oak	Quercus palustris		
367	11"	Red Oak	Quercus palustris		
368	12"	American Beech	Fagus grandifolia		
369	10"	American Beech	Fagus grandifolia		
370	11"	American Beech			
370	12"		Fagus grandifolia	tain	
		American Beech	Fagus grandifolia	twin	
372	8''	Red Oak	Quercus palustris		
373	9''	American Beech	Fagus grandifolia		
374	8''	American Beech	Fagus grandifolia		
375	9''	American Beech	Fagus grandifolia		
376	8''	American Beech	Fagus grandifolia		
377	39"	Red Oak	Quercus palustris		
270	19"	Sweet Cherry	Prunus avuim		
378					



ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





 FOR CONSTRUCTION
 06-2021

 FOR BIDDING
 08-2020

 95% DESIGN
 09-2019

 AGENCY REVIEW
 08-02-19

ECT PROJECT NUMBER

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EVICTING

EXISTING TREE LIST





LEGEND:

- CROSS-SECTION

----> EXISTING WETLAND BOUNDARY

Environmental
Consulting &
Technology, Inc.

2200 Commonwealth Blvd, Suite 300
Ann Arbor, Michigan 48105
734.769.3004
734.769.3164 fax
www.ectinc.com

ROUGE RIVER
AOC - NANKIN
LAKE
RESTORATION
PROJECT





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 180406-0300

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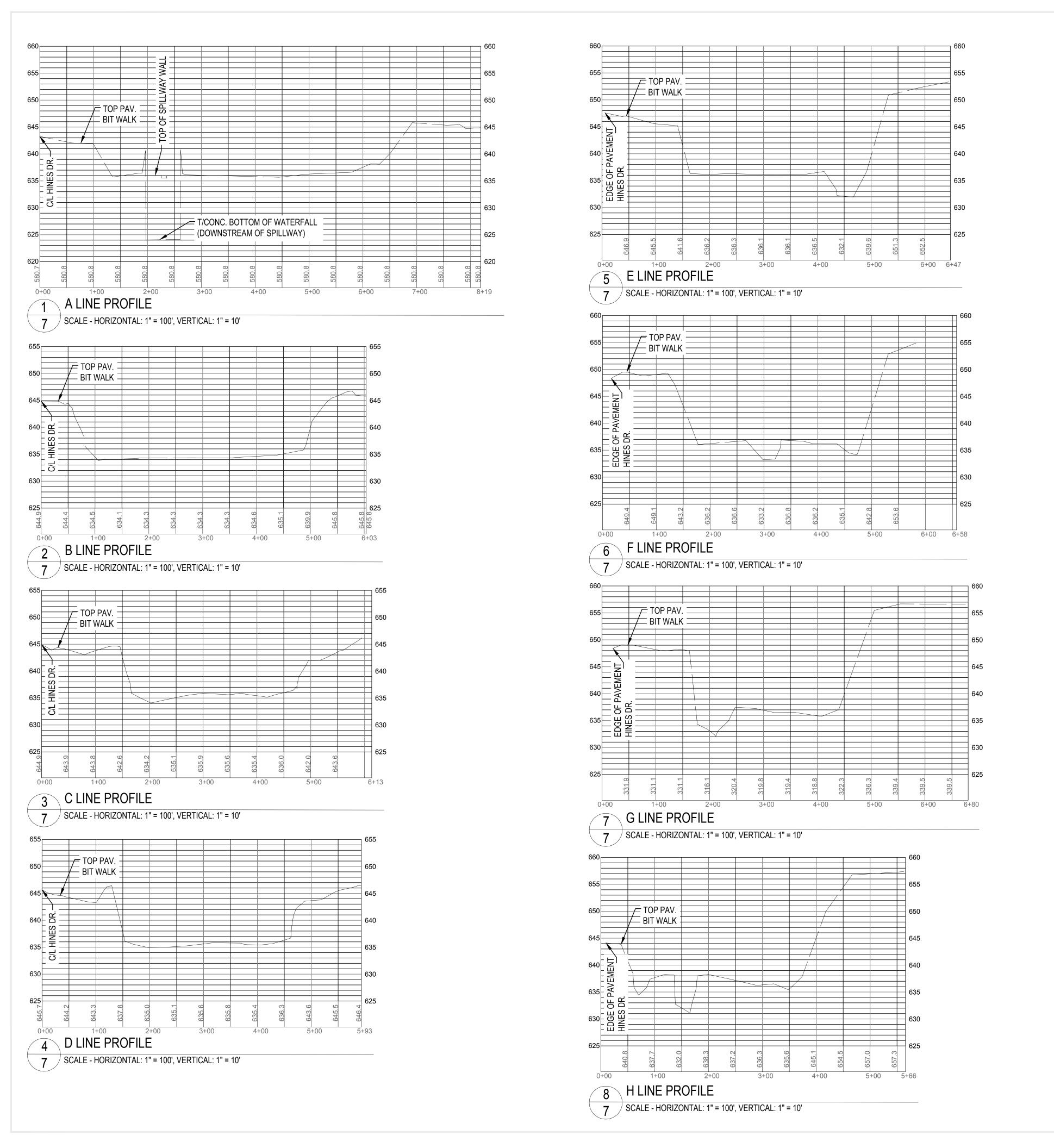
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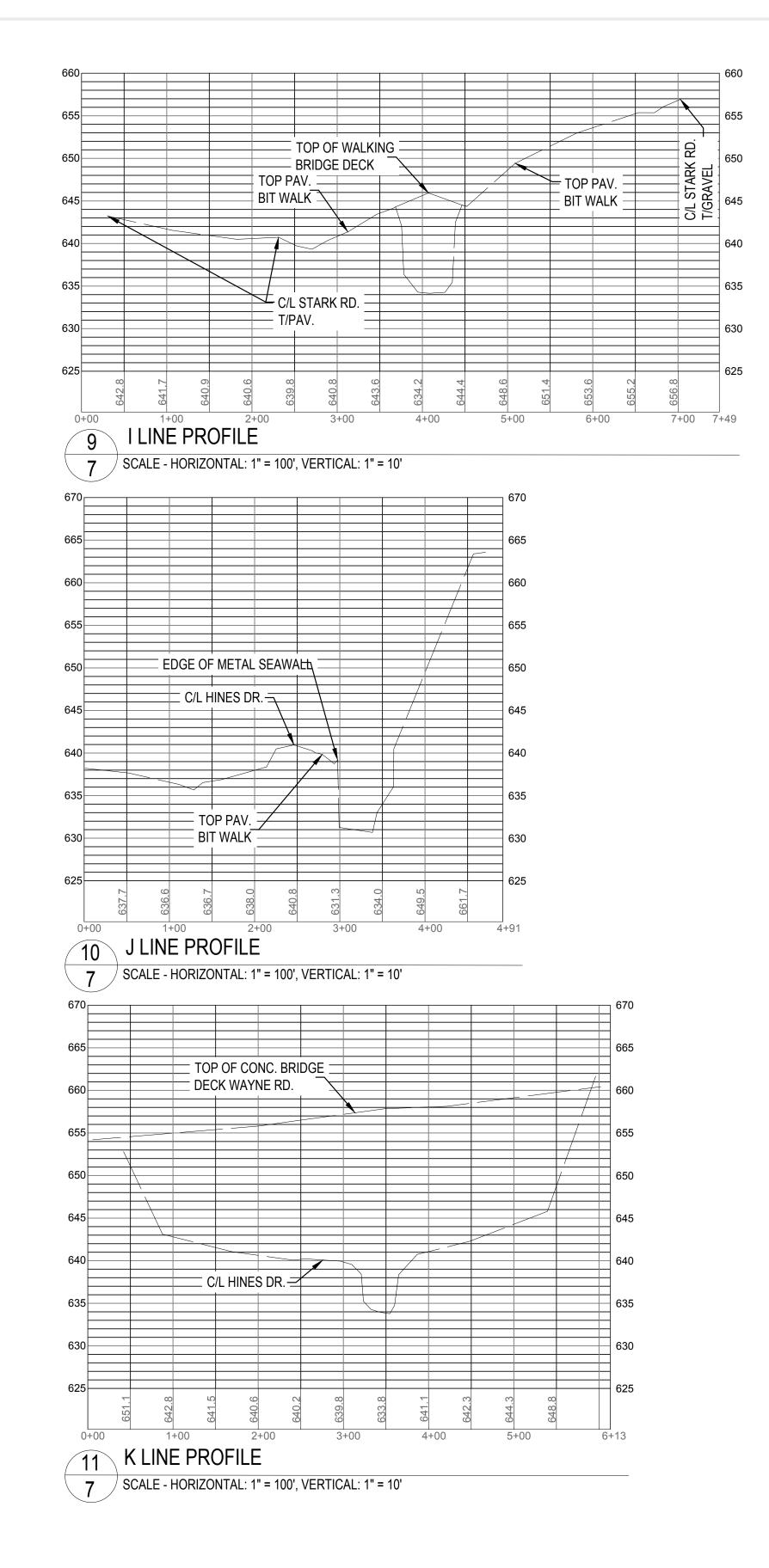
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EXISTING
CONDITIONS CROSS-SECTION
LOCATIONS

LOCATIONS

NORTH SHEET NUMB





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ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





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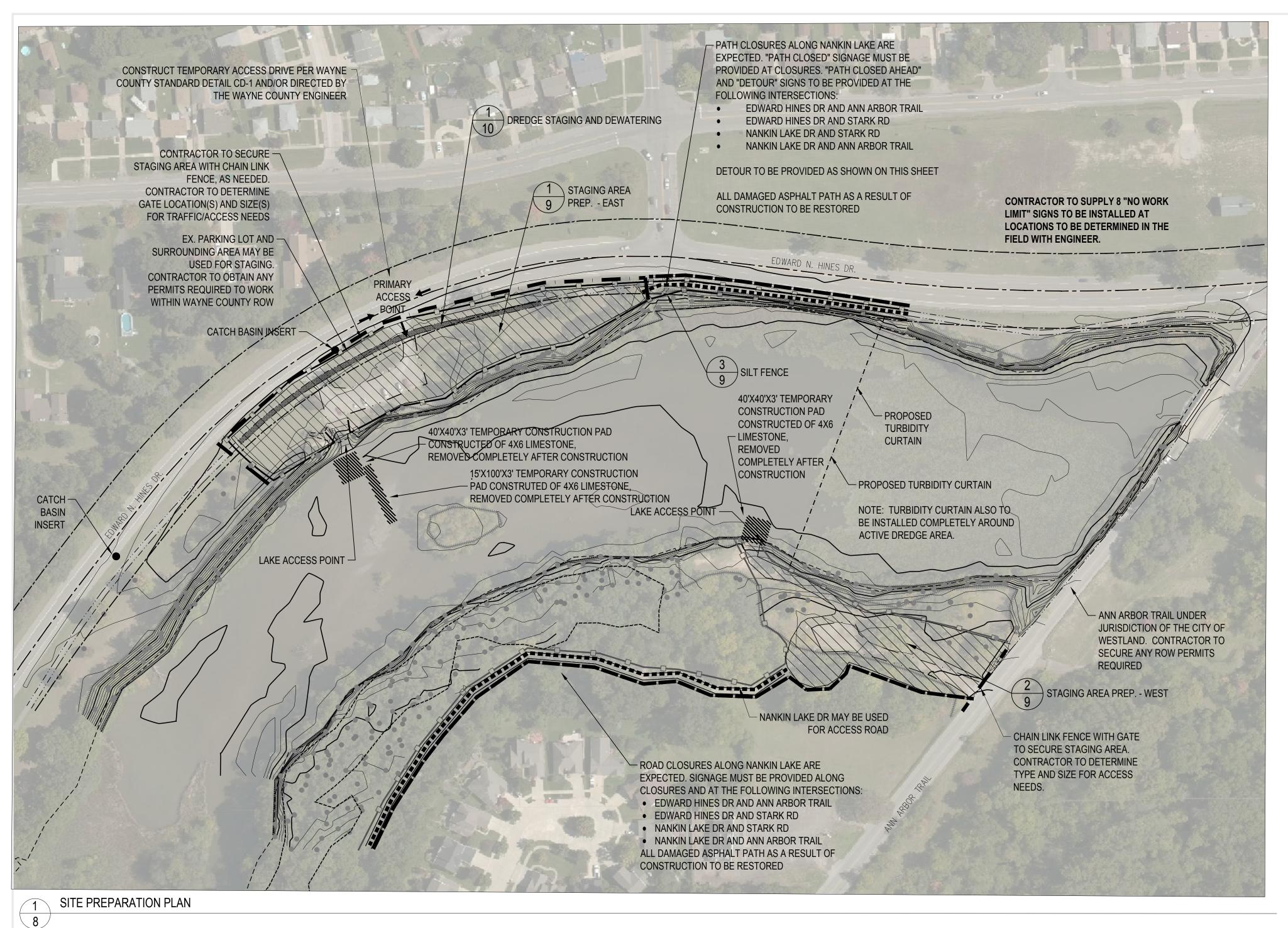
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3 WORKING DAYS

BEFORE YOU DIG

CALL MISS DIG 1-800-482-7171



TEMPORARY CONSTRUCTION SIGN

Nankin Lake Restoration Project Rouge River AOC - Wayne County Wayne County Executive **Warren C. Evans** Tim Killeen Terry Marecki Melissa Daub Jewel Ware Martha G. Scott Al Haidous Ilona Varga Glenn S. Anderson Irma Clark-Coleman Sam Baydoun Monique Baker McCormick Raymond Basham Alisha Bell Joseph Palamara David M. Knezek Jr. This project is funded by the U.S. Environmental Protection Agency Great Lakes National Program Office through a portion of a \$7,900,000 Great Lakes Restoration Initiative Grant received by Wayne County.

ECT Environmental Consulting & Technology, Inc.

CHAIN LINK AND CONSTRUCTION FENCE TO BE INSTALLED AS

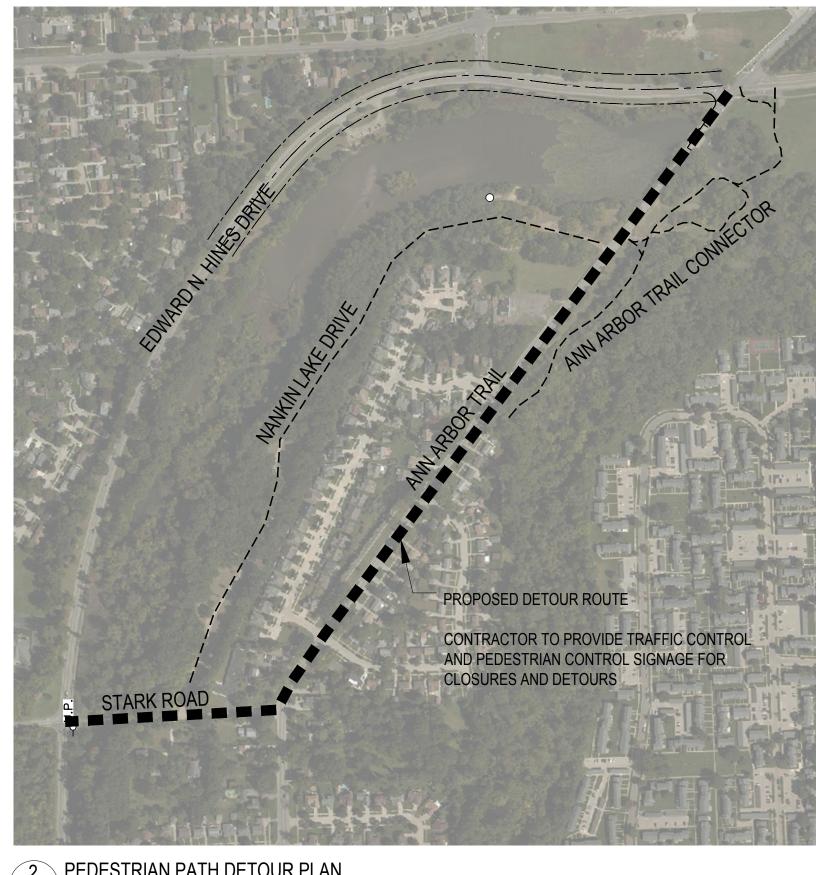
SHOWN ON THE PLAN. FENCING TO SECURE SITE AND ALSO TO PROTECT TREES. FENCING TO BE INSTALLED OUTSIDE OF DRIP LINE OF TREES TO AVOID DAMAGE AND/OR COMPACTION OF ROOTS.

NOTE: CONTRACTOR TO COMPLETE TURBIDITY SAMPLING AS PART OF THE PROJECT. REFER TO THE TURBIDITY SAMPLING PLAN INCLUDED IN THE **CONTRACT DOCUMENTS.**

SIGN DIMENSIONS TO BE APPROXIMATELY 5' x 8' x 3/4" SIGN TO BE PLYWOOD PANEL (APA RATED A-B GRADE - EXTERIOR)

CONTRACTOR TO PROVIDE AND INSTALL CONSTRUCTION SIGN. LOCATION TO BE DETERMINED WITH OWNER PRIOR TO CONSTRUCTION.

LEGEND: EXISTING CONTOUR EXISTING WALK/DRIVE •4824 **EXISTING TREE** ---- EXISTING WETLAND BOUNDARY SILT FENCE ACCESS ROUTE CONSTRUCTION FENCE STAGING AREA PROPOSED TURBIDITY CURTAIN CATCH BASIN INSERT CHAIN LINK FENCE/GATE



PEDESTRIAN PATH DETOUR PLAN

NOTE: PEDESTRIAN PATH DETOUR PLAN TO BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION

SOIL EROSION CONTROL NOTES:

IN ACCORDANCE WITH RULE 1709 PROMULGATED UNDER THE AUTHORITY OF PART 91, SOIL EROSION AND SEDIMENT CONTROL. OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED, AND IN ADDITION TO THE INFORMATION IN THE PROJECT PLANS AND SPECIFICATIONS. THE FOLLOWING GENERAL CONDITIONS APPLY TO THE EARTH CHANGE AUTHORIZED BY THIS DOCUMENT.

1. CONSTRUCT AND COMPLETE THE EARTH CHANGE IN ACCORDANCE WITH THE SOIL EROSION AND SEDIMENT CONTROL PERMIT AND IN A MANNER THAT LIMITS THE EXPOSED AREA OF DISTURBED LAND FOR THE SHORTEST PERIOD OF TIME. 2. LANDWARD TEMPORARY OR PERMANENT CONTROL MEASURES SHALL BE INSTALLED TO CONVEY WATER AROUND, THROUGH OR FROM THE EARTH CHANGE AT A NON-EROSIVE VELOCITY. 3. REMOVE SEDIMENT CAUSED BY ACCELERATED SOIL EROSION FROM RUNOFF WATER BEFORE IT ENTERS NANKIN LAKE.

4. INSTALL TEMPORARY SOIL EROSION AND SEDIMENTATION MEASURES BEFORE OR UPON COMMENCEMENT OF THE EARTH CHANGE ACTIVITY AND MAINTAIN THE MEASURES ON A DAILY BASIS. REMOVE TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AFTER PERMANENT SOIL EROSION MEASURES ARE IN PLACE AND THE AREA IS STABILIZED. ("STABILIZED" MEANS THE ESTABLISHMENT OF LANDWARD

VEGETATION OR THE PROPER PLACEMENT, GRADING OR COVERING OF SOIL TO ENSURE ITS RESISTANCE TO SOIL EROSION, SLIDING, OR OTHER EARTH MOVEMENT.)

5. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SITE DRAINAGE. 6. CONTRACTOR IS RESPONSIBLE TO PROTECT ADJACENT WATER COURSES FROM THE DISCHARGE OF SEDIMENT DURING

CONSTRUCTION. 7. INSTALL PERMANENT EROSION CONTROL MEASURES WITHIN 5 DAYS OF COMPLETING FINAL GRADING OR MAINTAIN TEMPORARY MEASURES UNTIL PERMANENT MEASURES ARE INSTALLED.

9. APPLY TEMPORARY EROSION CONTROL ON OVER EXPOSED SOILS DURING WET WEATHER AND WHEN SITE IS INACTIVE FOR

8. SILT FENCE TO BE INSTALLED AROUND OFF-SITE STOCKPILE

MORE THAN 24 HOURS. 10. DO NOT CONSTRUCT DURING HIGH FLOW OR WET WEATHER. 11. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING LANDSCAPING DURING THE WARRANTY PERIOD.

12. PROTECT ALL DRAIN INLETS WITH SEDIMENT FILTERS. 13. SEE SHEET 10 FOR DETAILS AND NOTES FOR DEWATERING

CONTAINMENT AREA.

14. INSTALL TEMPORARY INLET FILTERS AT ALL ADJACENT AND DOWN-GRADIENT STORM WATER INLETS, CATCH BASINS AND MANHOLES THAT MAY BE IMPACTED. CATCH BASIN INLET FILTERS SHALL BE MAINTAINED CLEAN AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD. IF A FILTER HAS HOLES OR IS INUNDATED WITH SEDIMENT, THE

FILTER WILL REQUIRE REPLACEMENT. 15. INSTALL AN ANTI-TRACKING PAD AT THE SITE ENTRY AND EXIT(S). THE ANTI-TRACKING PAD SHOULD BE CONSTRUCTED OF GEOTEXTILE FABRIC WITH LIMESTONE

16. SILT FENCE, TURBIDITY BARRIER, STRAW BALES AND OTHER TEMPORARY MEASURES SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD. IF REPAIR OR REPLACEMENT IS NECESSARY, IT SHALL BE PERFORMED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. MAINTENANCE INCLUDES THE REMOVING OF BUILT-UP SEDIMENT CONTRACTOR SHALL REMOVE, REPLACE IF IT FAILS. ADDITIONALLY, THE CONTRACTOR SHALL REINSTALL ANY PORTION OF THE FENCING/ BARRIER DAMAGED BY CONSTRUCTION

MACHINERY. 17. PLACE STOCKPILES AND OTHER SPOIL PILES AWAY FROM THE DRAINAGE SYSTEM TO MINIMIZE SEDIMENT TRANSPORT. IF THE STOCKPILE AND/OR SPOIL PILE MUST REMAIN ON-SITE OVERNIGHT, OR IF THE WEATHER CONDITIONS INDICATE THE CHANCE FOR PRECIPITATION, A.) COVER THE PILE WITH WATER REPELLENT MATERIAL TO PREVENT EROSION AND/OR B.) INSTALL SILT FENCING AROUND THE BASE OF THE PILE TO PREVENT TRANSPORT OF SEDIMENT TO THE STORM WATER SYSTEM, OR APPLY OTHER CONTROL METHODS APPROPRIATE TO THE SITE. CONTROL MEASURES TO GUARD AGAINST WIND EROSION MUST ALSO BE EMPLOYED, SUCH AS WETTING OR COVERING THE STOCKPILES. KEEP AS FEW STOCKPILES AS POSSIBLE DURING THE COURSE OF THE PROJECT. 18. THROUGHOUT THE CONSTRUCTION PERIOD, ALL

MUD/SILT TRACKED ONTO EXISTING ROADS FROM THE SITE DUE TO CONSTRUCTION SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR.

19. SEEDING OR OTHER STABILIZATION SHALL BE REQUIRED IMMEDIATELY TO AREAS WHICH HAVE BEEN DAMAGED BY RUNOFF.

20. THE CONTRACTOR SHALL MAINTAIN DUST CONTROL ON THE SITE THROUGHOUT THE DURATION OF THE CONSTRUCTION PROCESS.

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ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





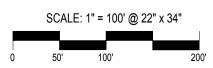
OR CONSTRUCTION	06-2021
FOR BIDDING	08-2020
95% DESIGN	09-2019

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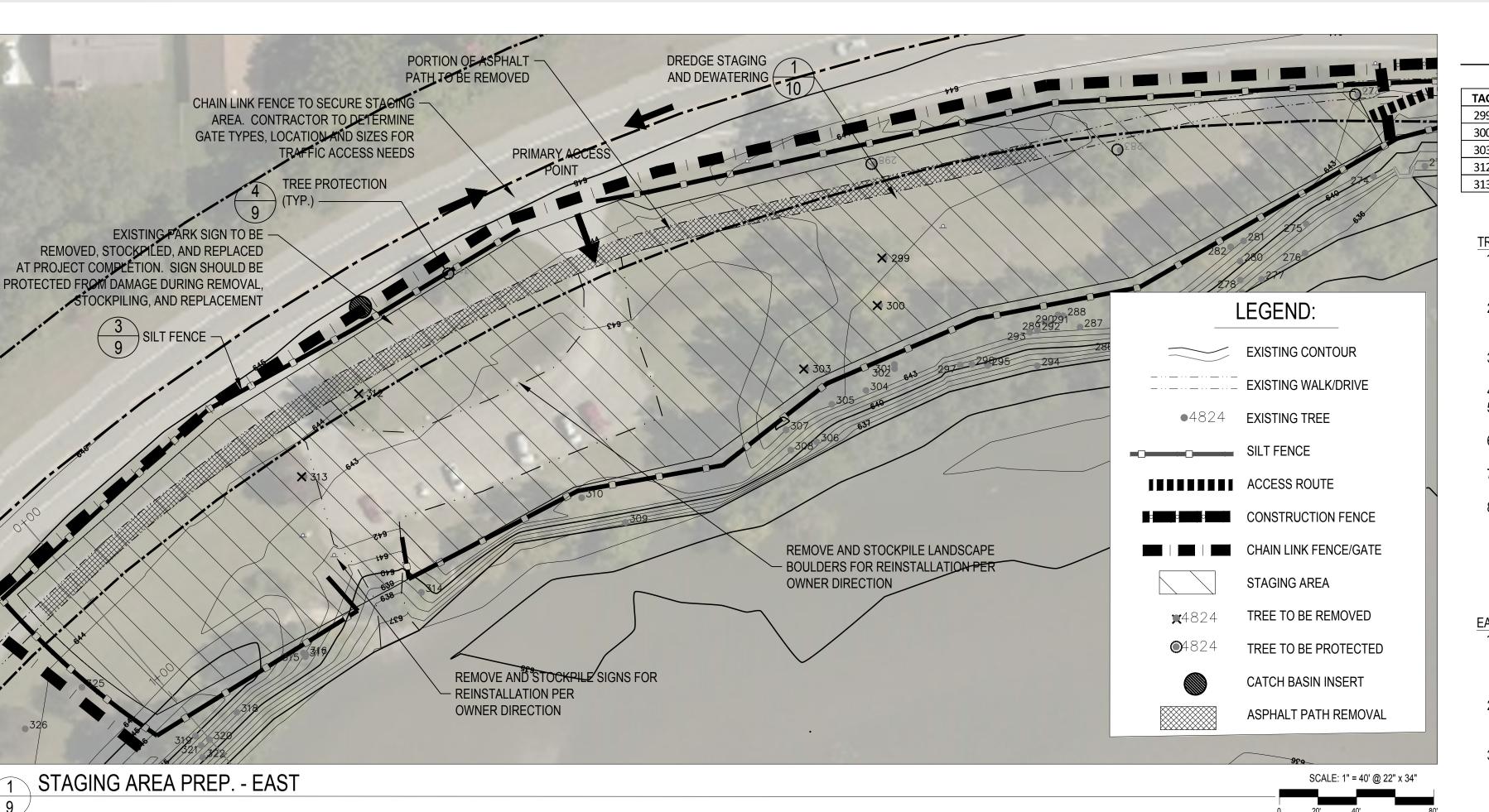
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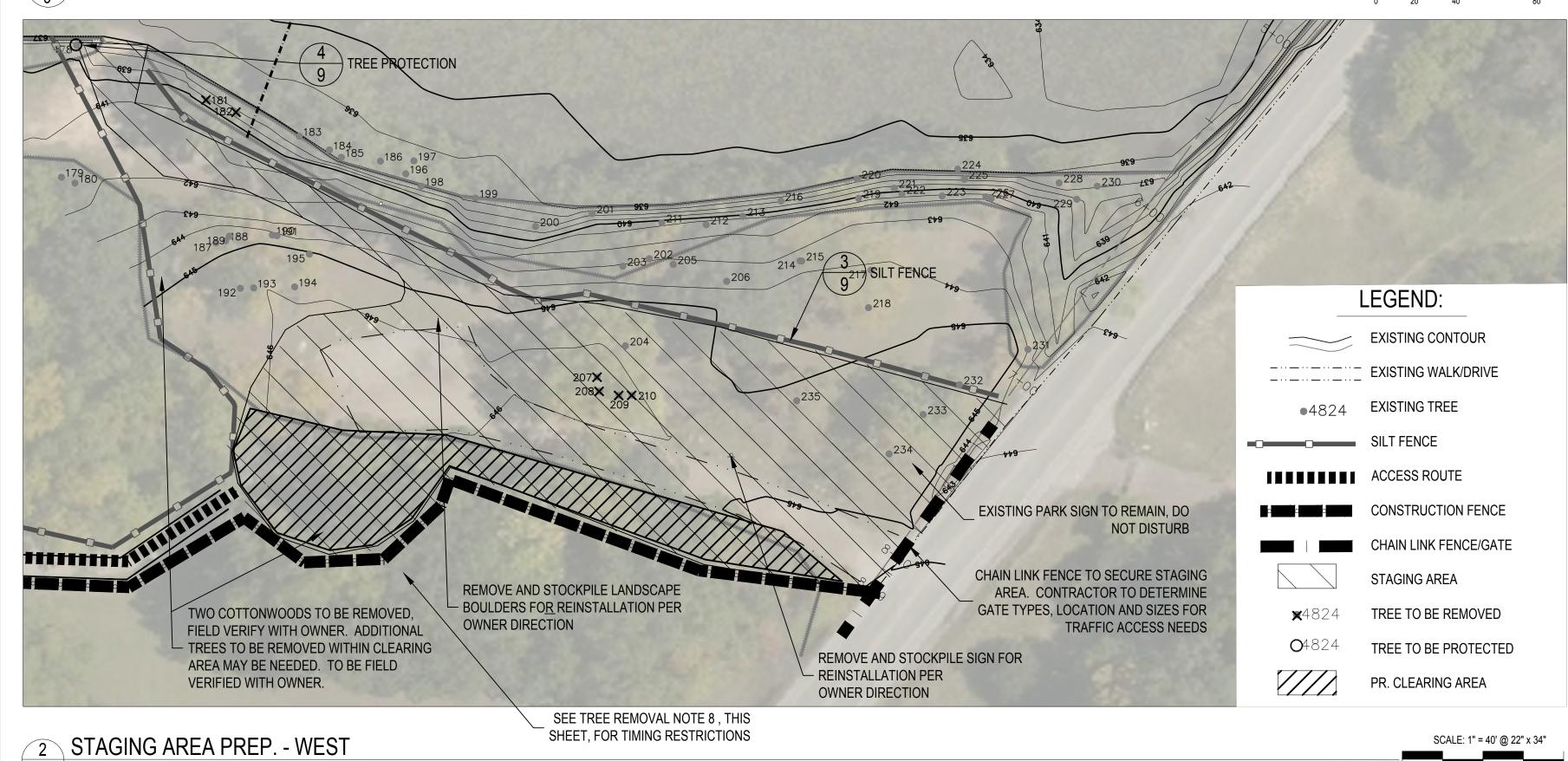
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SITE **PREPARATION PLAN**









TREE REMOVAL - EAST

	_		<u></u>		
TAG	DBH	COMMON NAME	GENUS/SPECIES	STEM	%
299	22	Red Oak	Quercus palustris		40%
300	15	Sugar Maple	Acer saccharum		
303	19	Red Oak	Quercus palustris		
312	14	Red Oak	Quercus palustris		
313	10	American Beech	Fagus grandifolia		40%

TREE REMOVAL NOTES

- TREES AS DESIGNATED ON THE LIST ON THIS SHEET HAVE BEEN FELLED. FELLED TREES TO BE REMOVED AND DISPOSED OF OFF SITE.
- 2. ALL TREES TO BE REMOVED, ALL CLEARING, AND ALL TREE PROTECTION TO BE FIELD VERIFIED BY ENGINEER PRIOR TO WORK
- 3. SOME TREES MAY BE SALVAGED FOR USE AS PROPOSED HABITAT LOGS WITHIN NANKIN LAKE AS SHOWN ON SHEETS 13, 15, AND 16.
- ALL EXCESS WOODY DEBRIS TO BE DISPOSED OF LEGALLY OFFSITE.
 FOR AREAS TO BE GRADED, TREES, STUMPS AND ROOTS TO BE REMOVED TO A DEPTH OF 12 INCHES (MIN) BELOW FINAL GRADE.
- 6. HOLES AND TRENCHES REMAINING AFTER GRUBBING TO BE GRADED OR FILLED IN.
- ANY MERCHANTABLE TIMBER MAY BE CONSIDERED PROPERTY OF THE CONTRACTOR.
- ANY TREES 3 INCHES DBH OR LARGER TO BE CONSIDERED BAT HABITAT. NO TREES OF THIS SIZE TO BE CUT BETWEEN APRIL 1 AND SEPTEMBER 30 IN ANY YEAR TO AVOID TAKE OF MYOTISSODALIS (INDIANA BAT) A FEDERALLY LISTED ENDANGERED SPECIES UNLESS THE TREE IS CERTIFIED BY A BIOLOGIST TO BE NOT APPLICABLE

EASTERN MASSASAUGA RATTLESNAKE (EMR) NOTES:

- CONTRACTOR TO USE WILDLIFE-SAFE MATERIALS FOR EROSION CONTROL AND SITE RESTORATION (MATERIALS THAT DO NOT INCORPORATE PLASTIC-MESH OR OTHER SIMILAR MATERIAL THAT COULD ENSNARE EMR).
- CONTRACTOR AND SUBCONTRACTORS ON SITE SHOULD WATCH MDNR'S "60-SECOND SNAKES: THE EASTERN MASSASAUGA RATTLESNAKE" VIDEO OR REVIEW THE USFWS EMR FACTSHEET.
- 3. CONTRACTOR MUST REPORT ANY EMR OBSERVATIONS, OR OBSERVATION OF ANY OTHER LISTED THREATENED OR ENDANGERED SPECIES, DURING PROJECT IMPLEMENTATION TO PROJECT ENGINEER WITHIN 24 HOURS OF OBSERVANCE.

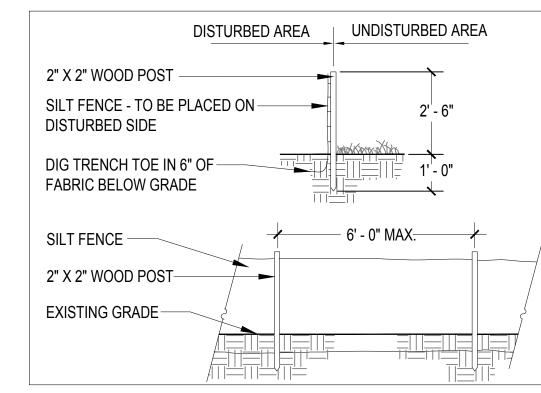
EXISTING SIGNS AND BOULDERS

- 1. EXISTING PARK SIGNS SHALL BE REMOVED, STOCKPILED AND REPLACED AT LOCATIONS IDENTIFIED BY THE OWNER. SIGNS TO BE PROTECTED FROM DAMAGE DURING REMOVAL, STOCKPILING, AND REPLACEMENT.
- ALL BOULDERS TO BE STOCKPILED AND RELOCATED AS DIRECTED BY OWNER.

NOTE: CONSTRUCTION FENCING TO BE USED AROUND WORK AREAS AND AGAINST TREE LINES TO PROTECT TREES. FENCING TO BE INSTALLED OUTSIDE OF TREE DRIP LINES TO PROTECT DAMAGE OR COMPACTION AT ROOTS. TREE PROTECTION AT INDIVIDUAL TREES AS SHOWN ON THE PLANS.

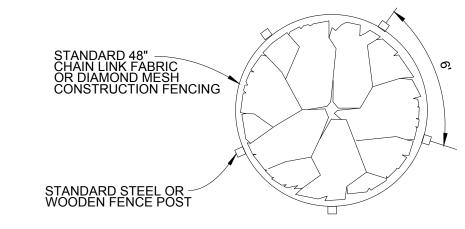
TREE REMOVAL - WEST

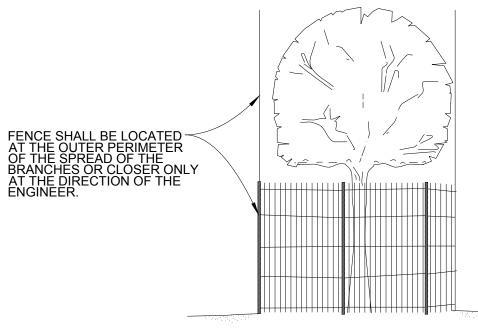
_						
	TAG	DBH	COMMON NAME	GENUS/SPECIES	STEM	%
	181	12	Red Oak	Quercus palustris		
	182	8	Red Oak	Quercus palustris		
	207	10	Black Walnut	Juglans nigra		
	208	9	Black Walnut	Juglans nigra		
	209	9	Black Walnut	Juglans nigra		
_	210	13	Northern Hackberry	Celtis occidentalis		

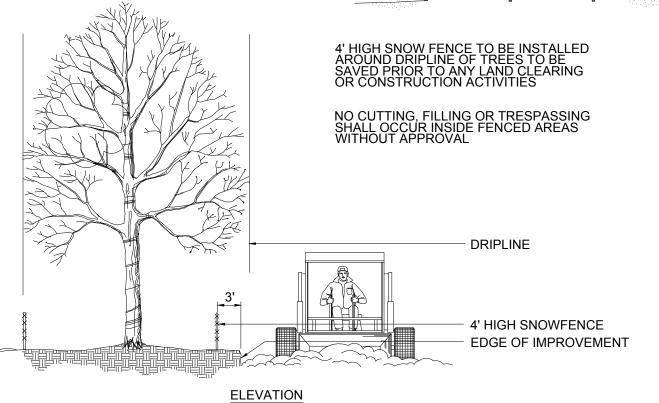




9 NOT TO SCALE







4' HIGH SNOWFENCE (PLASTIC SAFETY FENCE)

STEEL POSTS EVERY 10 FEET 7 FT. LONG #5 REBAR OR EQUAL INSTALL POSTS 2' INGROUND

TREE DRIPLINE

ALTERNATE FENCE LINE WHERE IMPROVEMENTS ENCROACH DRIPLINE

4 TREE PROTECTION PLAN

NOT TO SCALE

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ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





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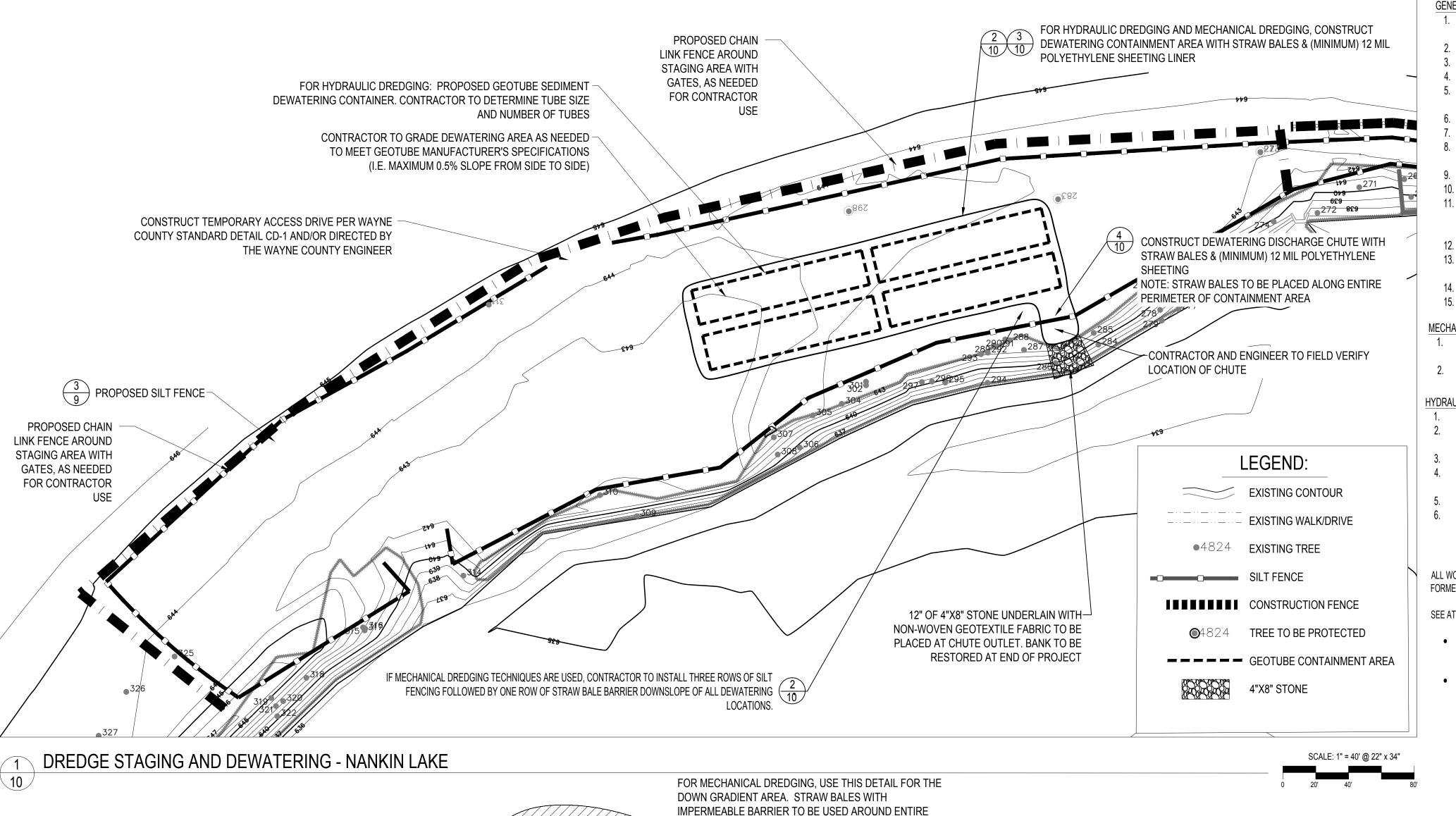
SITE PREPARATION DETAILS

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SCALE AS SHOWN





PERIMETER TO CONTAIN SEDIMENT AND WATER.

CONTAINMENT AREA.

IMPERMEABLE BARRIER NOT NEEDED ON GROUND

SURFACE FOR MECHANICAL DREDGING DEWATERING

SEDIMENT

CONTAINMENT &

DEWATERING AREA

SEDIMENT CONTAINMENT - PLAN VIEW (MECHANICAL DREDGING ONLY)

1. BALES SHALL BE PLACED AT THE TOP OF SLOPE OR ON

ABUTTING THE ADJACENT BALES.

BE DRIVEN FLUSH WITH THE BALE.

STORM FLOW OR DRAINAGE.

4. INSPECTION SHALL BE FREQUENT AND REPAIR

THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY

2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM

EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH

THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE

DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN

ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL

REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE

5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED

3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY

OF 4", AND PLACED SO THAT BINDINGS ARE HORIZONTAL.

NOTES:

NOT TO SCALE

BOUND BALES PLACED

ON CONTOUR

GENERAL DREDGING NOTES:

- 1. CONTRACTOR TO VERIFY EXISTING CONDITIONS, INCLUDING BATHYMETRY, PRIOR TO START OF WORK BY CONDUCTING A PRE-DREDGING SURVEY AS DESCRIBED IN THE SPECIFICATIONS.
 - IF CONTRACTOR'S BATHYMETRIC DATA DIFFERS FROM THE CONTRACT PLANS, CONTACT ENGINEER FOR RESOLUTION PRIOR TO BEGINNING WORK.
 - CONTRACTOR MAY CHOOSE TO REMOVE SEDIMENT FROM NANKIN LAKE BY EITHER MECHANICAL OR HYDRAULIC DREDGING TECHNIQUES OR BOTH.
 - EXISTING LAKE BOTTOM SEDIMENTS MAY BE SOFT AND TEMPORARY HAUL ROADS ALONG THE LAKE BOTTOM MAY BE NECESSARY TO FACILITATE

CONTRACTOR TO SUBMIT A DREDGING PLAN AND PROJECT SCHEDULE TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO START OF CONSTRUCTION.

- CONSTRUCTION TRAFFIC DURING RESTORATION ACTIVITIES. CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO ACCESSING THE DREDGE AREAS.
- REMOVAL OF SEDIMENT FROM NANKIN LAKE TO PROPOSED ELEVATIONS AS SHOWN ON THE DRAWINGS
- CONTRACTOR TO ESTABLISH AND MAINTAIN STAGING AREA AND DEWATERING CONTAINMENT AREA AS SHOWN ON THE DRAWINGS

THIS IS AN URBAN RIVER SYSTEM AND IT SHOULD BE ANTICIPATED THAT 'URBAN DEBRIS' MAY BE ENCOUNTERED.

- CONTRACTOR SHALL DEWATER, LOAD, AND TRANSPORT SEDIMENT AND DEBRIS REMOVED FROM THE LAKE. CONTRACTOR TO ENSURE THAT SOILS HAVE A MINIMUM SOLIDS CONTENT BY WEIGHT OF 30% AND NO FREE LIQUIDS AS DESCRIBED IN THE SPECIFICATIONS OR AS REQUIRED BY THE LANDFILL FACILITY.
- ALL DREDGED MATERIAL TO BE DISPOSED OF AT A TYPE II LANDFILL
- CONTRACTOR IS RESPONSIBLE FOR STAKING AND DEMARCATING LIMITS OF EXCAVATION AND DREDGING. CONTRACTOR MAY UTILIZE WIRELESS INTEGRATED DREDGE POSITIONING TECHNOLOGY, SUCH AS 'CLAMVISION' OR SIMILAR TO CONTROL AND RECORD WORK PROGRESS. THIS INFORMATION WILL BE MADE AVAILABLE TO ENGINEER UPON REQUIST AND/OR FURNISH AS PART OF PAY REQUESTS AS DESCRIBED IN THE SPECIFICATIONS.
- CONTRACTOR TO COMPLETE SOUNDINGS DURING PROGRESS AND SUBMITTED TO ENGINEER AS DESCRIBED IN THE SPECIFICATIONS.
- CONTRACTOR TO COMPLETE POST-DREDGING SEDIMENT ELEVATION SURVEYS FOR THE PROPOSED AREA OF WORK WITHIN NANKIN LAKE. ENGINEER TO APPROVE POST-CONSTRUCTION SURVEY PRIOR TO CONTRACTOR DEMOBILIZING AND PROCEEDING WITH RESTORATION ACTIVITIES
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE RETURN FLOW OF EFFLUENT WATER BACK TO NANKIN LAKE WITHIN THE EXISTING DEWATERING AREA.
- CONTRACTOR TO ENSURE THAT RETURN WATER DOES NOT CAUSE EROSION AT ANY TIME.

MECHANICAL DREDGING NOTES:

- 1. IF MECHANICAL DREDGING TECHNIQUES ARE USED, THREE ROWS OF SILT FENCING FOLLOWED BY ONE ROW OF STRAW BALE FILTER MUST BE INSTALLED DOWNSLOPE OF ALL DEWATERING LOCATIONS. THE STRAW BALE FILTER SHOULD BE INSTALLED DOWNSLOPE OF THE SILT FENCE ROWS.
- FOR MECHANICAL DREDGING, A DEWATER CONTAINMENT AREA SHALL BE CONSTRUCTED. STRAW BALES WITH IMPERMEABLE PLASTIC LINER TO BE USED AROUND PERIMETER TO CONTAIN SEDIMENTS AND WATER. IMPERMEABLE LAYER NOT TO BE USED ON GRADE.

HYDRAULIC DREDGING NOTES:

- FOR HYDRAULIC DREDGING, GEOTUBES (OR APPROVED EQUAL) MUST BE USED TO SUFFICIENTLY DEWATER SEDIMENTS. CONTRACTOR TO CONFIGURE STAGING AREA TO INCLUDE A GEOTUBE CONTAINMENT AREA WITH STRAW BALES INSTALLED AROUND ITS PERIMETER TO A HEIGHT AS SPECIFIED BY THE MANUFACTURER
- CONTRACTOR TO GRADE DEWATERING AREA AS NEEDED TO MEET GEOTUBE MANUFACTURER'S SPECIFICATIONS.
- NO MORE THAN 0.5% GRADE FROM END TO END OF THE GEOTUBE CONTAINMENT AREA AND SHALL BE FREE OF ANY DEBRIS OR SHARP OBJECTS THAT MAY PUNCTURE THE PERMEABLE MEMBRANE OF THE GEOTUBE
- GEOTUBE CONTAINMENT AREA TO BE SLOPED TOWARD THE LAKE WITH SWALE DIRECTED TOWARD LAKE
- CONTRACTOR IS RESPONSIBLE FOR ORDERING THE APPROPRIATE NUMBER OF GEOTUBE DEWATERING CONTAINERS TO PROVIDE ADEQUATE REMOVAL OF SEDIMENTS VIA HYDRAULIC DREDGING.

ALL WORK MUST BE DONE IN ACCORDANCE WITH THE APPROVED PERMITS OBTAINED FROM THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE) FORMERLY THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ). COPIES OF THE PERMITS ARE INCLUDED IN THE APPENDIX OF THE CONTRACT DOCUMENTS.

SEE ATTACHED PERMIT FOR ALL CONDITIONS. A FEW ITEMS NOTED HERE:

 NO WORK OR DREDGING WITHIN THE WATER AUTHORIZED BY THE PERMIT IS ALLOWED FROM DECEMBER 1- APRIL 1 OF ANY GIVEN YEAR. IF MECHANICAL DREDGING IS USED FOR THE PROJECT THE SEASONAL RESTRICTION SHALL BE EXTENDED TO INCLUDE NO WORK OR DREDGING FROM DECEMBER 1- MAY 30 OF ANY GIVEN YEAR DUE TO HIBERNATING AMPHIBIANS AND TURTLES AND CRITICAL SPAWNING, MIGRATION, AND/OR RECREATIONAL USE PERIODS.

NOTE: FOR MECHANICAL DREDGING STRAW BALES WITH

TURBIDITY SAMPLING IS REQUIRED AS PART OF THE CONTRACTOR'S SCOPE OF WORK. SEE TURBIDITY SAMPLING PLAN INCLUDED WITHIN THE CONTRACT DOCUMENTS.

ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT

Ann Arbor, Michigan 48105

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FOR CONSTRUCTION 06-2021 08-2020 FOR BIDDING 09-2019 95% DESIGN 08-02-19 **AGENCY REVIEW**

<u>180406-0300</u> ECT PROJECT NUMBER

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DREDGE STAGING AND DEWATERING **DETAILS**

SHEET NUMBER

IMPERMEABLE BARRIER TO BE USED AROUND ENTIRE PERIMETER TO CONTAIN SEDIMENT AND WATER BUT IMPERMEABLE BARRIER NOT NEEDED ON GROUND SURFACE FOR MECHANICAL DREDGING DEWATERING CONTAINMENT AREA.

EXAMPLE GEOTUBE® DEWATERING CHUTE (HYDRAULIC DREDGING ONLY)

10 NOT TO SCALE



EXAMPLE GEOTUBE® CONTAINMENT AREA (HYDRAULIC DREDGING ONLY)

10 NOT TO SCALE

STRAW BALE BARRIER DETAIL

ANCHORING DETAIL

BEDDING DETAIL

ANGLE FIRST STAKE TOWARD

PREVIOUSLY LAID BALE

THREE (3) ROWS OF-

STRAW BALES

RE-BARS, STEEL PICKETS OR 2"x 2"

STAKES DRIVEN 1.5'-2' INTO GROUND.

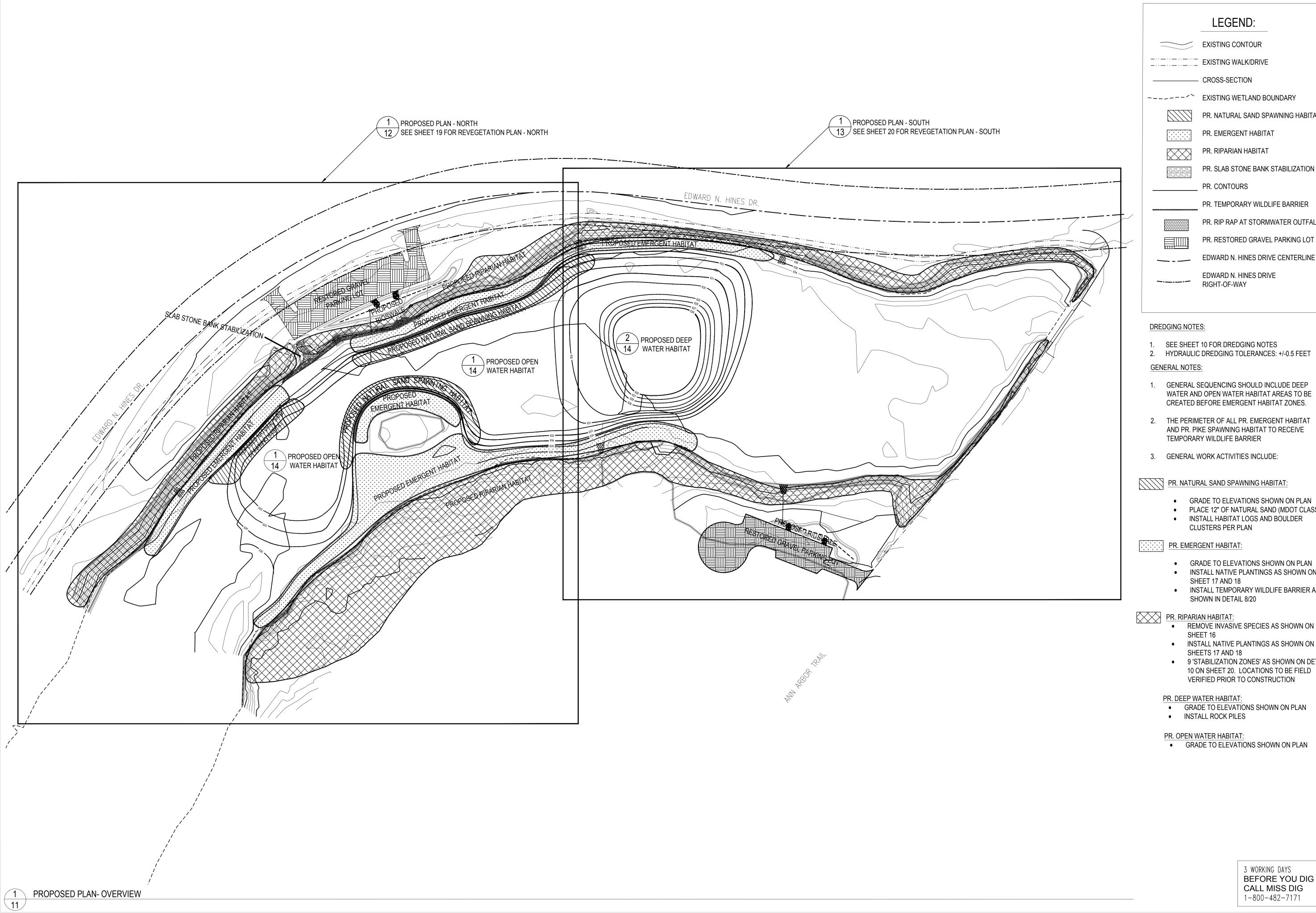
DRIVE STAKES FLUSH WITH BALES.

SILT FENCE

STRAW BALE

~4" DEEP VERTICAL FACE

10 / NOT TO SCALE





EXISTING CONTOUR

CROSS-SECTION

---- EXISTING WETLAND BOUNDARY

PR. NATURAL SAND SPAWNING HABITAT

PR. EMERGENT HABITAT

PR. RIPARIAN HABITAT

PR. SLAB STONE BANK STABILIZATION

PR. CONTOURS

PR. TEMPORARY WILDLIFE BARRIER

PR. RIP RAP AT STORMWATER OUTFALL

EDWARD N. HINES DRIVE CENTERLINE

EDWARD N. HINES DRIVE RIGHT-OF-WAY

- 1. SEE SHEET 10 FOR DREDGING NOTES
- 2. HYDRAULIC DREDGING TOLERANCES: +/-0.5 FEET
- GENERAL SEQUENCING SHOULD INCLUDE DEEP WATER AND OPEN WATER HABITAT AREAS TO BE CREATED BEFORE EMERGENT HABITAT ZONES.
 - THE PERIMETER OF ALL PR. EMERGENT HABITAT AND PR. PIKE SPAWNING HABITAT TO RECEIVE TEMPORARY WILDLIFE BARRIER
- GENERAL WORK ACTIVITIES INCLUDE:

PR. NATURAL SAND SPAWNING HABITAT:

- GRADE TO ELEVATIONS SHOWN ON PLAN
- PLACE 12" OF NATURAL SAND (MDOT CLASS II)
- INSTALL HABITAT LOGS AND BOULDER CLUSTERS PER PLAN

PR. EMERGENT HABITAT:

- GRADE TO ELEVATIONS SHOWN ON PLAN
- INSTALL NATIVE PLANTINGS AS SHOWN ON
- SHEET 17 AND 18 • INSTALL TEMPORARY WILDLIFE BARRIER AS
- SHOWN IN DETAIL 8/20

REMOVE INVASIVE SPECIES AS SHOWN ON

- INSTALL NATIVE PLANTINGS AS SHOWN ON
- SHEETS 17 AND 18
- 9 'STABILIZATION ZONES' AS SHOWN ON DETAIL FOR BIDDING 10 ON SHEET 20. LOCATIONS TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION

PR. DEEP WATER HABITAT:

- GRADE TO ELEVATIONS SHOWN ON PLAN
- INSTALL ROCK PILES

GRADE TO ELEVATIONS SHOWN ON PLAN

3 WORKING DAYS

BEFORE YOU DIG

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PROPOSED PLAN -**OVERVIEW**

<u>180406-0300</u> ECT PROJECT NUMBER

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ROUGE RIVER

AOC - NANKIN

LAKE

RESTORATION

PROJECT

WAYNE COUNTY,

MICHIGAN

Great Lakes RESTORATION

09-23-20

08-2020 09-2019

08-02-19

FOR CONSTRUCTION

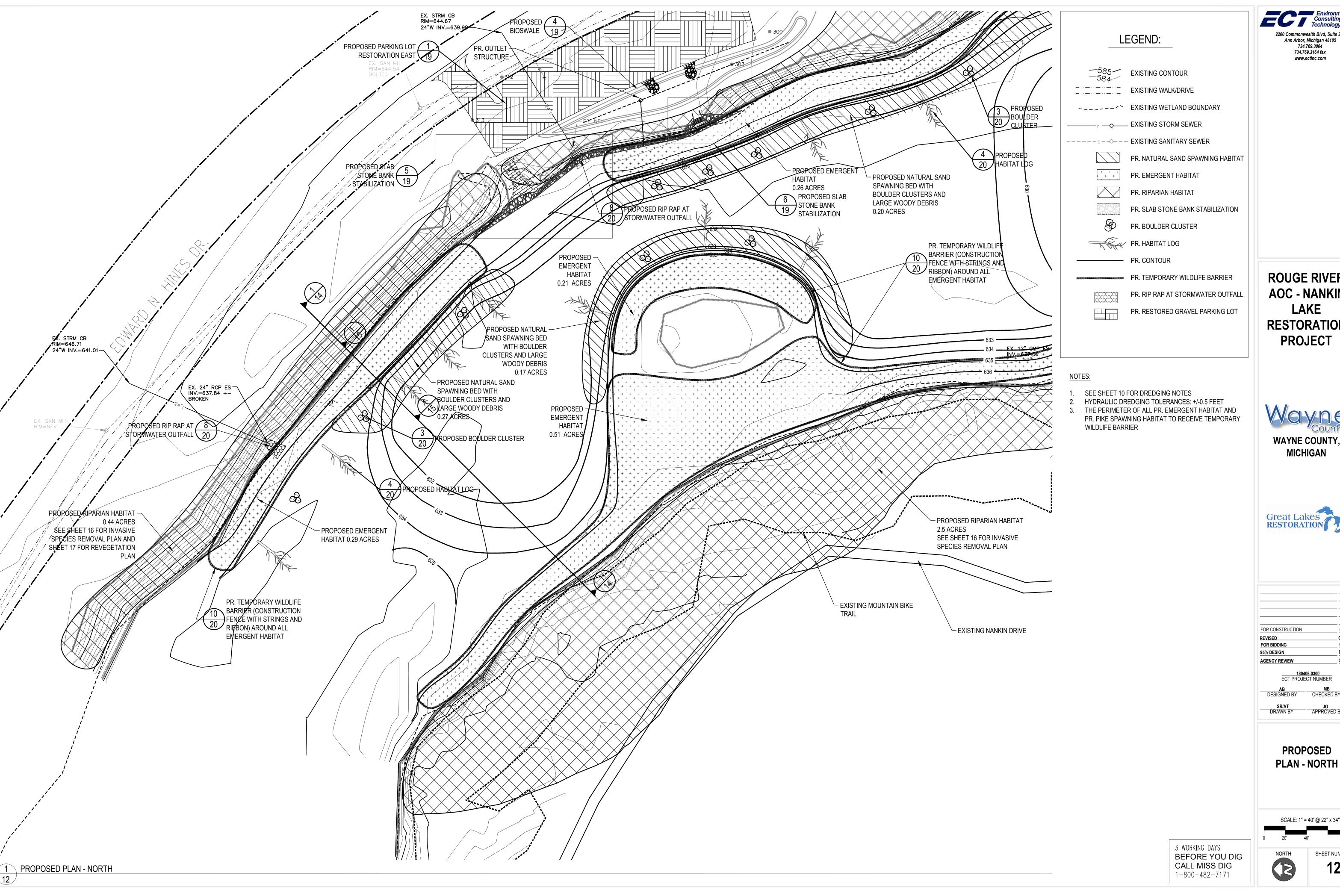
REVISED

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AGENCY REVIEW

SCALE: 1" = 50' @ 22" x 34"





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ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





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<u>180406-0300</u> ECT PROJECT NUMBER AB MB

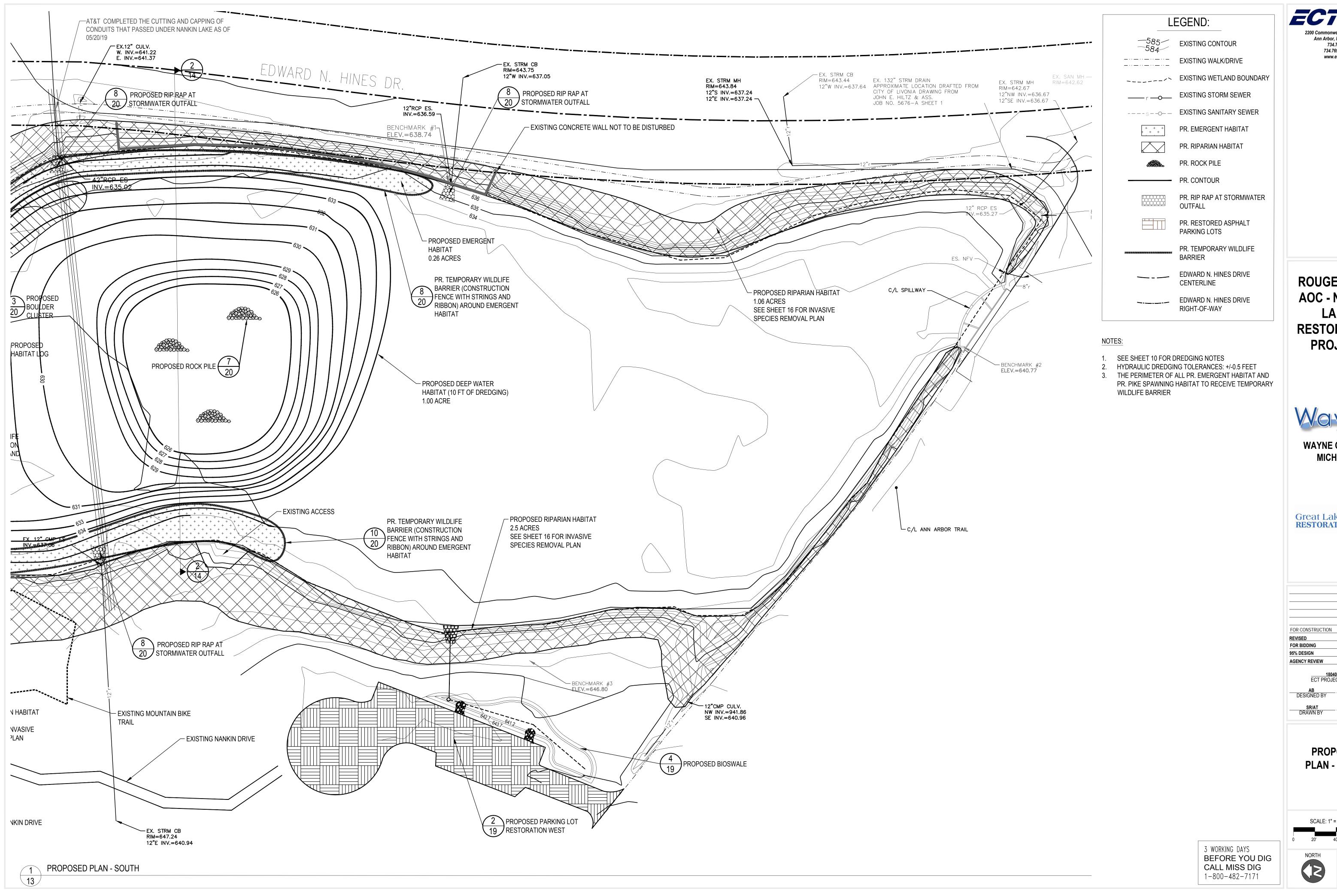
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PROPOSED

SCALE: 1" = 40' @ 22" x 34"





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> **ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT**





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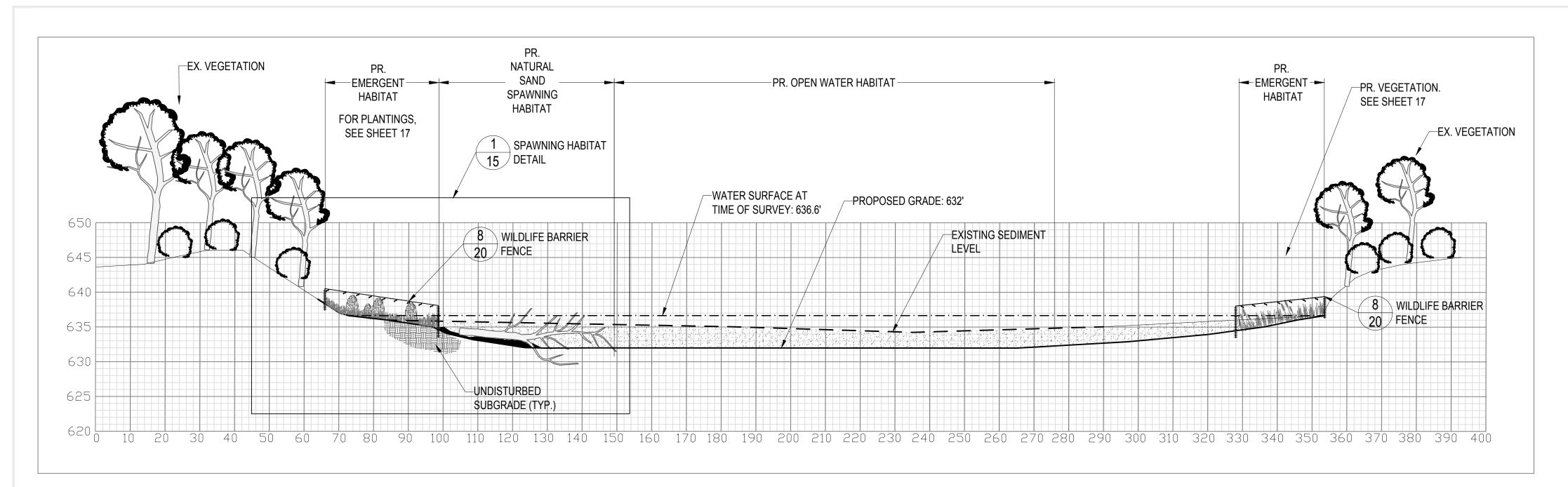
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PROPOSED PLAN - SOUTH

SCALE: 1" = 40' @ 22" x 34"

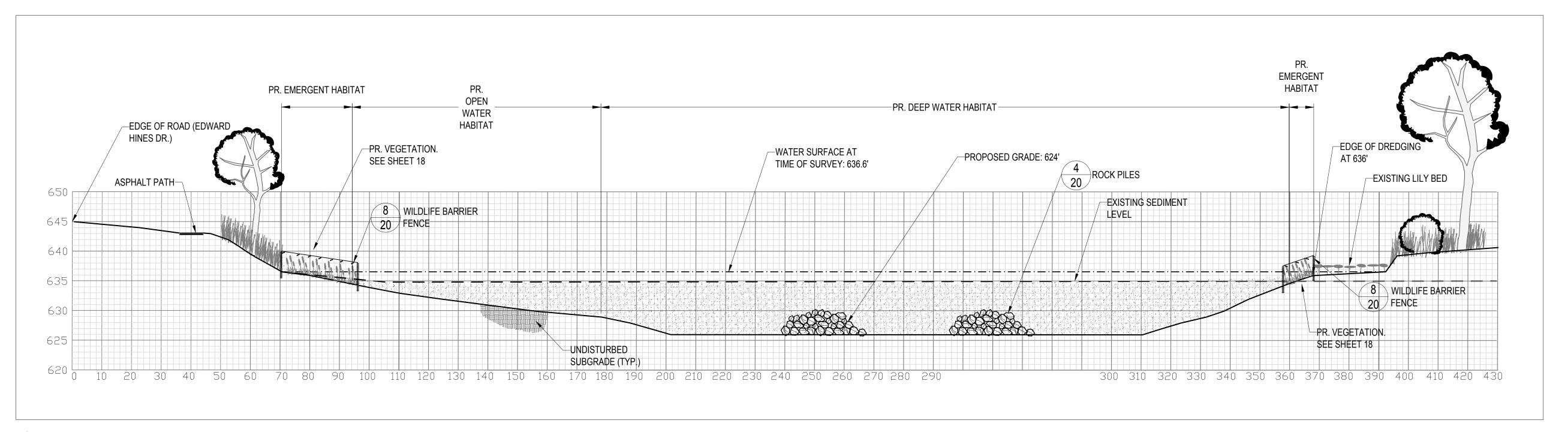




NOTE: PLANTINGS TO OCCUR AT LOCATIONS SHOWN ON SHEETS 17 AND 18. SPECIES AS SHOWN ON SHEET 17 TO BE PLANTED IN WATER DEPTHS AS SPECIFIED. WATER DEPTHS DETERMINED AT TIME OF PLANTING.

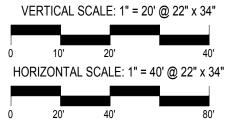
1 14 PROPOSED CROSS SECTION - OPEN WATER HABITAT

VERTICAL SCALE: 1" = 10' @ 22" x 34" HORIZONTAL SCALE: 1" = 20' @ 22" x 34"



PROPOSED CROSS SECTION - DEEP WATER HABITAT

2 14





ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





06-2021 **08-2020** FOR CONSTRUCTION 09-2019 95% DESIGN AGENCY REVIEW

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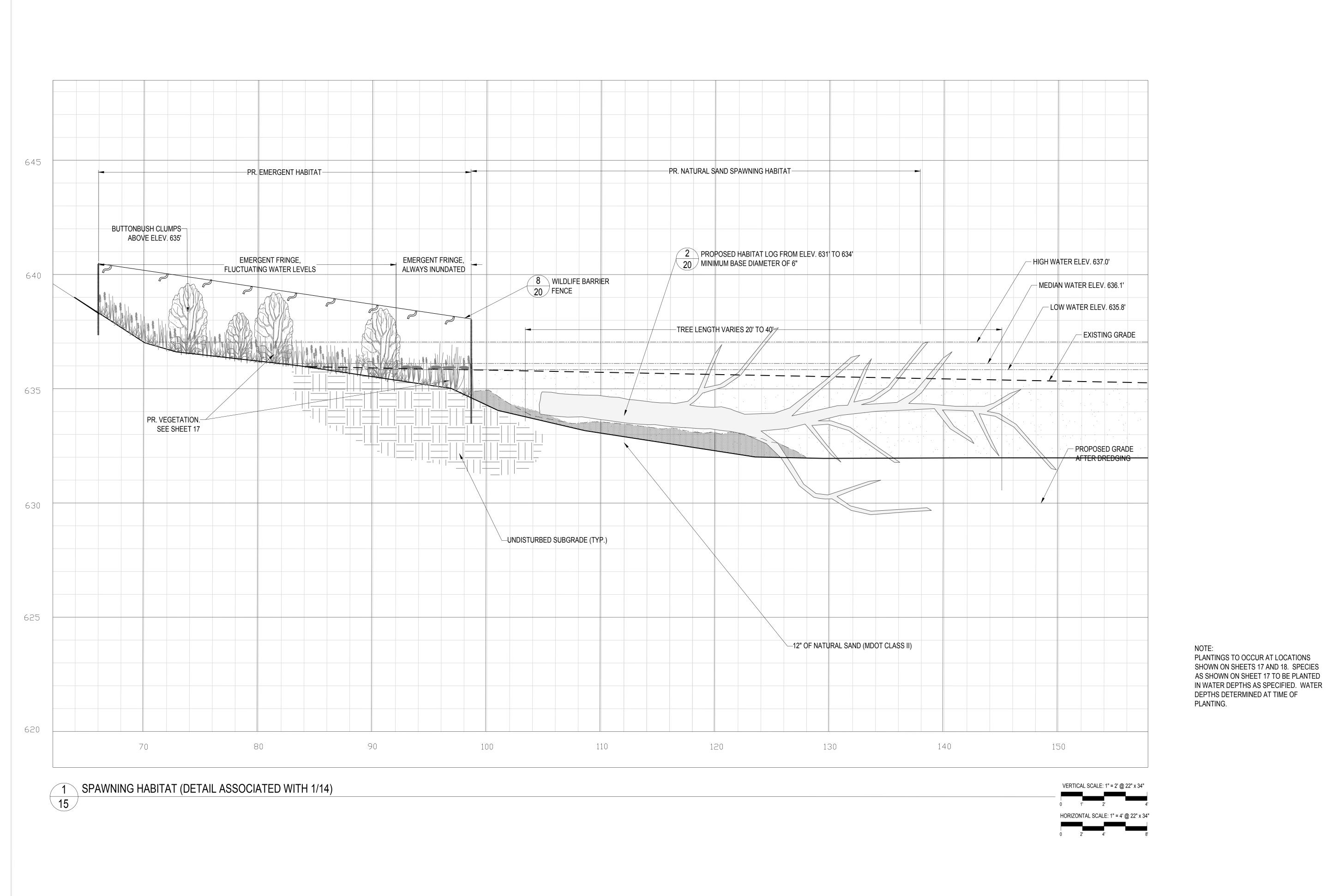
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HABITAT CROSS-SECTIONS

SCALE AS SHOWN







ROUGE RIVER
AOC - NANKIN
LAKE
RESTORATION
PROJECT





 FOR CONSTRUCTION
 06-2021

 FOR BIDDING
 08-2020

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 09-2019

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 08-02-19

ECT PROJECT NUMBER

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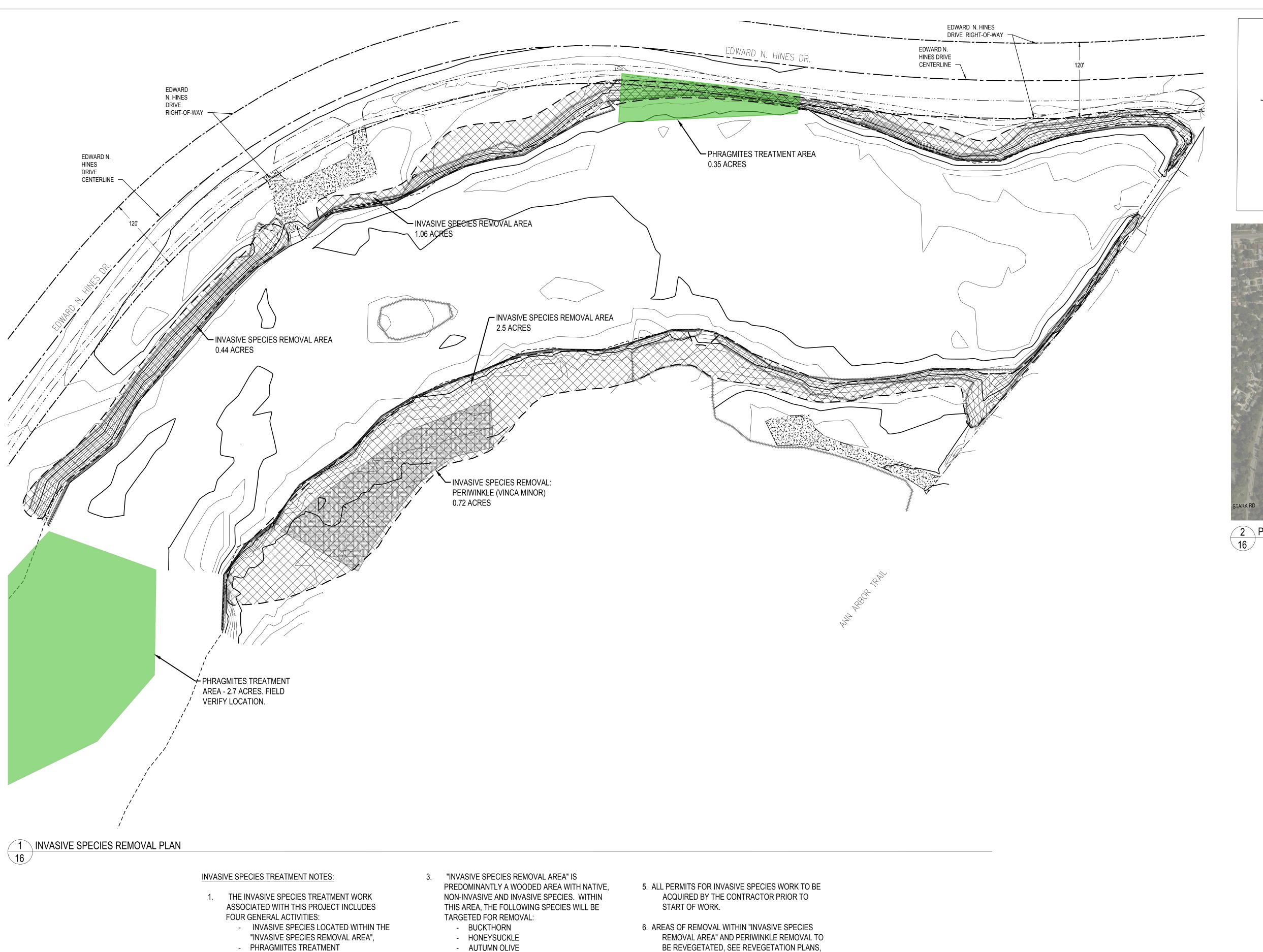
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SPAWNING HABITAT DETAIL

SCALE AS SHOWN





SEE SHEETS 17 AND 18.

TREATMENT WORK.

7. ALL SITE IMPROVEMENTS, EXISTING VEGETATION TO

REMAIN SHALL BE PROTECTED DURING INVASIVE

- PERIWINKLE (VINCA MINOR) REMOVAL

2. FOLLOW UP TREATMENTS ARE INCLUDED IN THIS

PROJECT WORK. SEE SPECIFICATIONS

- STARK ROAD TREE OF HEAVEN REMOVAL

- RUSSIAN OLIVE

FOR REMOVALS.

- TREE OF HEAVEN

GARLIC MUSTARD

4. CONTRACTOR AND ENGINEER/ECOLOGIST TO WALK THE INVASIVE SPECIES REMOVAL AREA TO

ENGINEER/ECOLOGIST TO PROVIDE APPROVAL

IDENTIFY PLANTS TO BE REMOVED.

LEGEND:

EXISTING CONTOUR

EXISTING WALK/DRIVE

---- EXISTING WETLAND BOUNDARY

EXISTING PERIWINKLE (VINCA MINOR)

PHRAGMITES TREATMENT AREA

INVASIVE SPECIES TREATMENT AREA

EDWARD N. HINES DRIVE CENTERLINE

EDWARD N. HINES DRIVE RIGHT-OF-WAY



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Great Lakes RESTORATION

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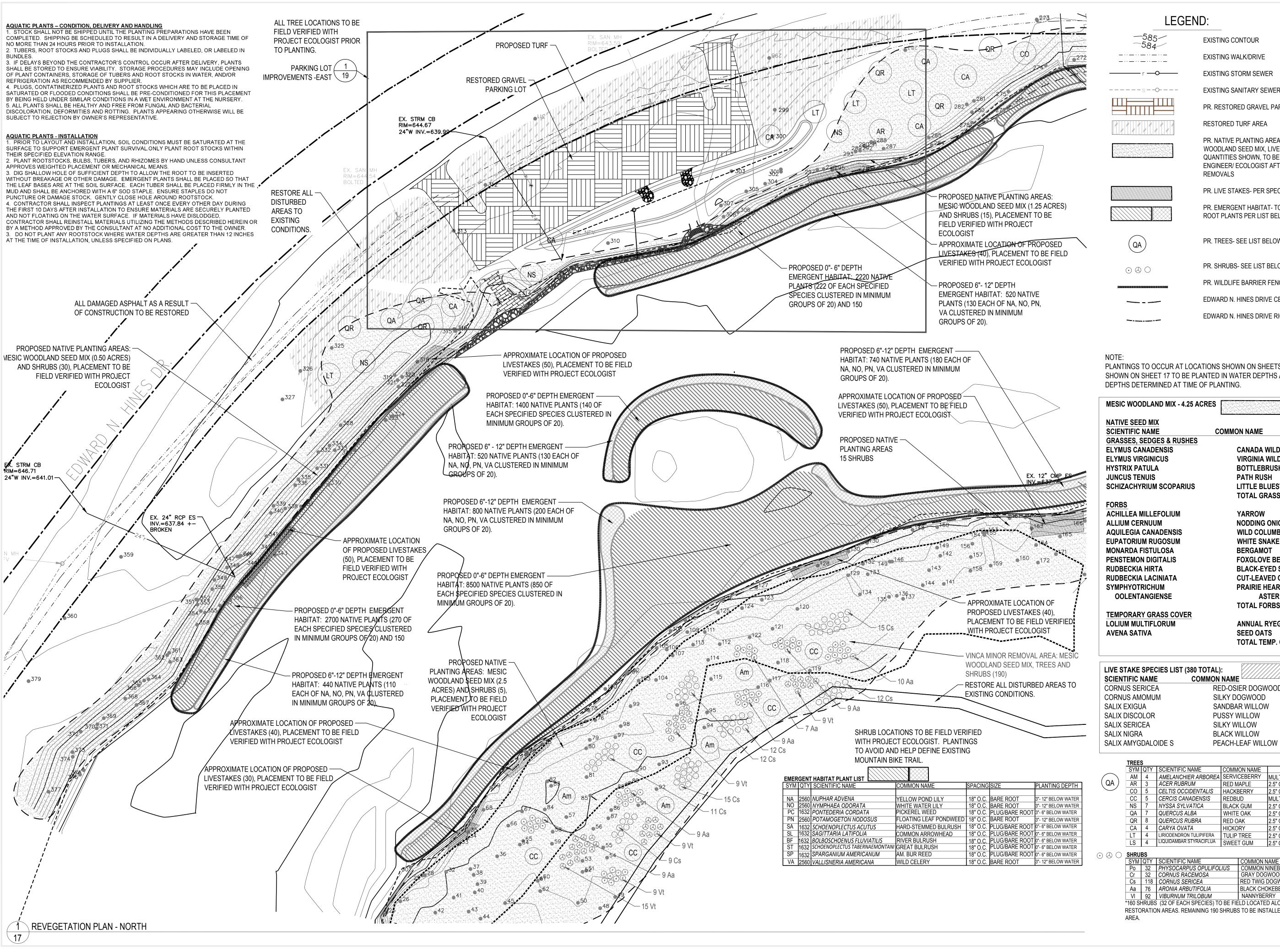
AGENCY REVIEW

INVASIVE SPECIES

REMOVAL PLAN

SCALE: 1" = 50' @ 22" x 34"





LEGEND:

EXISTING CONTOUR EXISTING WALK/DRIVE EXISTING STORM SEWER **EXISTING SANITARY SEWER** ----s--o---PR. RESTORED GRAVEL PARKING LOT RESTORED TURF AREA PR. NATIVE PLANTING AREA- TO RECEIVE MESIC WOODLAND SEED MIX, LIVE STAKES AND SHRUBS IN QUANTITIES SHOWN, TO BE FIELD LOCATED BY ENGINEER/ ECOLOGIST AFTER INVASIVE SPECIES REMOVALS PR. LIVE STAKES- PER SPECIES LISTED BELOW PR. EMERGENT HABITAT- TO RECEIVE PLUG/ BARE **ROOT PLANTS PER LIST BELOW** PR. TREES- SEE LIST BELOW PR. SHRUBS- SEE LIST BELOW $\odot \oslash \bigcirc$ PR. WILDLIFE BARRIER FENCE EDWARD N. HINES DRIVE CENTERLINE

PLANTINGS TO OCCUR AT LOCATIONS SHOWN ON SHEETS 17 AND 18. SPECIES AS SHOWN ON SHEET 17 TO BE PLANTED IN WATER DEPTHS AS SPECIFIED. WATER DEPTHS DETERMINED AT TIME OF PLANTING.

EDWARD N. HINES DRIVE RIGHT-OF-WAY

NATIVE SEED MIX		
SCIENTIFIC NAME	COMMON NAME OZ/AC	
GRASSES, SEDGES & RUSHES		
ELYMUS CANADENSIS	CANADA WILD RYE	20
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	26
HYSTRIX PATULA	BOTTLEBRUSH GRASS	20
JUNCUS TENUIS	PATH RUSH	5
SCHIZACHYRIUM SCOPARIUS	LITTLE BLUESTEM	25
	TOTAL GRASSES	96
FORBS		
ACHILLEA MILLEFOLIUM	YARROW	4
ALLIUM CERNUUM	NODDING ONION	5
AQUILEGIA CANADENSIS	WILD COLUMBINE	5
EUPATORIUM RUGOSUM	WHITE SNAKEROOT	7
MONARDA FISTULOSA	BERGAMOT	10
PENSTEMON DIGITALIS	FOXGLOVE BEARDTONGUE	10
RUDBECKIA HIRTA	BLACK-EYED SUSAN	10
RUDBECKIA LACINIATA	CUT-LEAVED CONEFLOWER	9
SYMPHYOTRICHUM	PRAIRIE HEART LEAVED	
OOLENTANGIENSE	ASTER	4
	TOTAL FORBS	64
TEMPORARY GRASS COVER		
LOLIUM MULTIFLORUM	ANNUAL RYEGRASS	80
AVENA SATIVA	SEED OATS	32
	TOTAL TEMP. COVER	40

LIVE STAKE SPECIES LIST	(300 TOTAL):
SCIENTIFIC NAME	COMMON NAM
CORNUS SERICEA	RED-O
CORNUS AMOMUM	SILKY
SALIX EXIGUA	SANDE
SALIX DISCOLOR	PUSSY
SALIX SERICEA	SILKY

OSIER DOGWOOD **ALL TREE** DOGWOOD LOCATIONS TO BAR WILLOW BE FIELD SY WILLOW **VERIFIED WITH** WILLOW ' **PROJECT BLACK WILLOW ECOLOGIST** PEACH-LEAF WILLOW PRIOR TO

						PLAI	NTING.
	TREES	3					
_	SYM	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	CONT.	
	AM	4	AMELANCHIER ARBOREA	SERVICEBERRY	MULTI-STEM 6-8'	B&B	
QA)	AR	3	ACER RUBRUM	RED MAPLE	2.5" CAL.	B&B	
	CO	5	CELTIS OCCIDENTALIS	HACKBERRY	2.5" CAL.	B&B	
	CC	5	CERCIS CANADENSIS	REDBUD	MULTI-STEM 6-8'	B&B	
	NS	7	NYSSA SYLVATICA	BLACK GUM	2.5" CAL.	B&B	
	QA	7	QUERCUS ALBA	WHITE OAK	2.5" CAL.	B&B	
	QR	8	QUERCUS RUBRA	RED OAK	2.5" CAL.	B&B	
	CA	4	CARYA OVATA	HICKORY	2.5" CAL.	B&B	
	LT	4	LIRIODENDRON TULIPIFERA	TULIP TREE	2.5" CAL.	B&B	
	LS	4	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	2.5" CAL.	B&B	

SYM		SCIENTIFIC NAME	COMMON NAME	SIZE	CONT		
Po	32	PHYSOCARPUS OPULIFOLIUS	COMMON NINEBARK	36" HT.	3 GAL		
Cr	32	CORNUS RACEMOSA	GRAY DOGWOOD	36" HT.	3 GAL		
Cs	118	CORNUS SERICEA	RED TWIG DOGWOOD	36" HT.	3 GAI		
Aa	76	ARONIA ARBUTIFOLIA	BLACK CHOKEBERRY	36" HT.	3 GAI		
VI	92	VIBURNUM TRILOBUM	NANNYBERRY	36" HT.	3 GAI		
*160 SHRUBS (32 OF EACH SPECIES) TO BE FIELD LOCATED ALONG SPECIFIED SHORE							
DECTO		N ADEAC DEMAINING 400 CUDUD	TO DE INICTALLED INIVINI	IOA MINIOD DECTO	DATIO		

RESTORATION AREAS. REMAINING 190 SHRUBS TO BE INSTALLED IN VINCA MINOR RESTORATION

Ann Arbor, Michigan 48105 734.769.3004 734.769.3164 fax

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

ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





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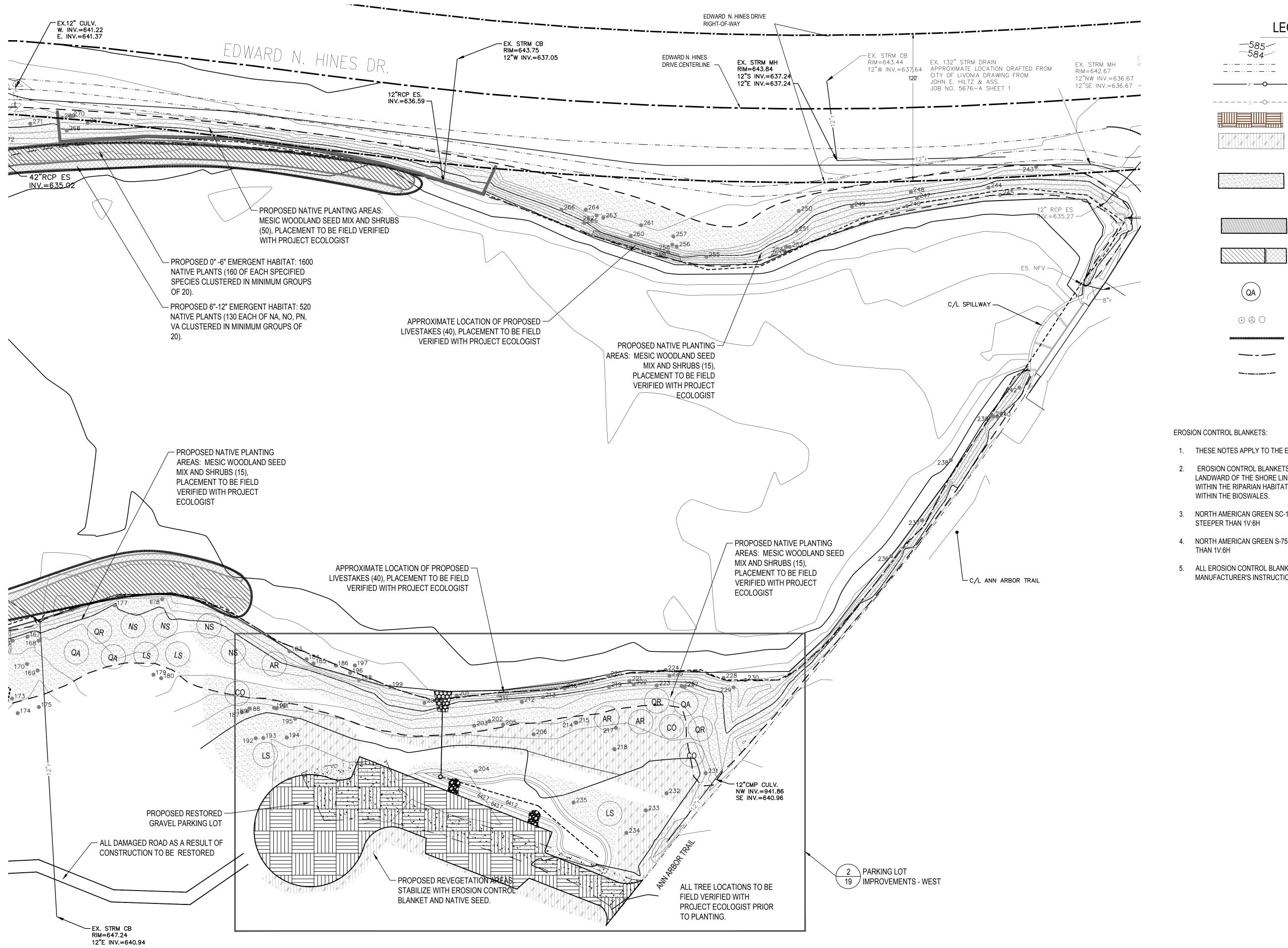
APPROVED BY

REVEGETATION

PLAN - NORTH

SCALE: 1" = 40' @ 22" x 34"





LEGEND:

_____ r **__**___

EXISTING CONTOUR EXISTING WALK/DRIVE

EXISTING STORM SEWER

EXISTING SANITARY SEWER

PR. RESTORED GRAVEL PARKING LOT

RESTORED TURF AREA

PR. NATIVE PLANTING AREA- TO RECEIVE MESIC WOODLAND SEED MIX, LIVE STAKES AND SHRUBS IN QUANTITIES SHOWN, TO BE FIELD LOCATED BY ENGINEER/ ECOLOGIST AFTER INVASIVE SPECIES REMOVALS

PR. LIVE STAKES- PER SPECIES LISTED ON SHEET 17

> PR. EMERGENT HABITAT- TO RECEIVE PLUG/ BARE ROOT PLANTS PER LIST ON SHEET 17

(QA)PR. TREES- SEE LIST ON SHEET 17

 $\odot \oslash \bigcirc$ PR. SHRUBS- SEE LIST ON SHEET 17 PR. WILDLIFE BARRIER FENCE

EDWARD N. HINES CENTERLINE

EDWARD N. HINES RIGHT-OF-WAY

EROSION CONTROL BLANKETS:

- 1. THESE NOTES APPLY TO THE ENTIRE PROJECT SITE.
- 2. EROSION CONTROL BLANKETS TO BE USED ON ALL PLANTED AREAS LANDWARD OF THE SHORE LINE INCLUDING AREAS TO BE SEEDED WITHIN THE RIPARIAN HABITAT ZONE, RESTORATION AREAS, AND WITHIN THE BIOSWALES.
- 3. NORTH AMERICAN GREEN SC-150 TO BE USED ON ANY SLOPES STEEPER THAN 1V:6H
- 4. NORTH AMERICAN GREEN S-75 TO BE USED ON ANY SLOPES FLATTER THAN 1V:6H
- 5. ALL EROSION CONTROL BLANKET TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

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> **ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT**





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<u>180406-0300</u> ECT PROJECT NUMBER AB MB
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REVEGETATION PLAN - SOUTH

SCALE: 1" = 40' @ 22" x 34"

18

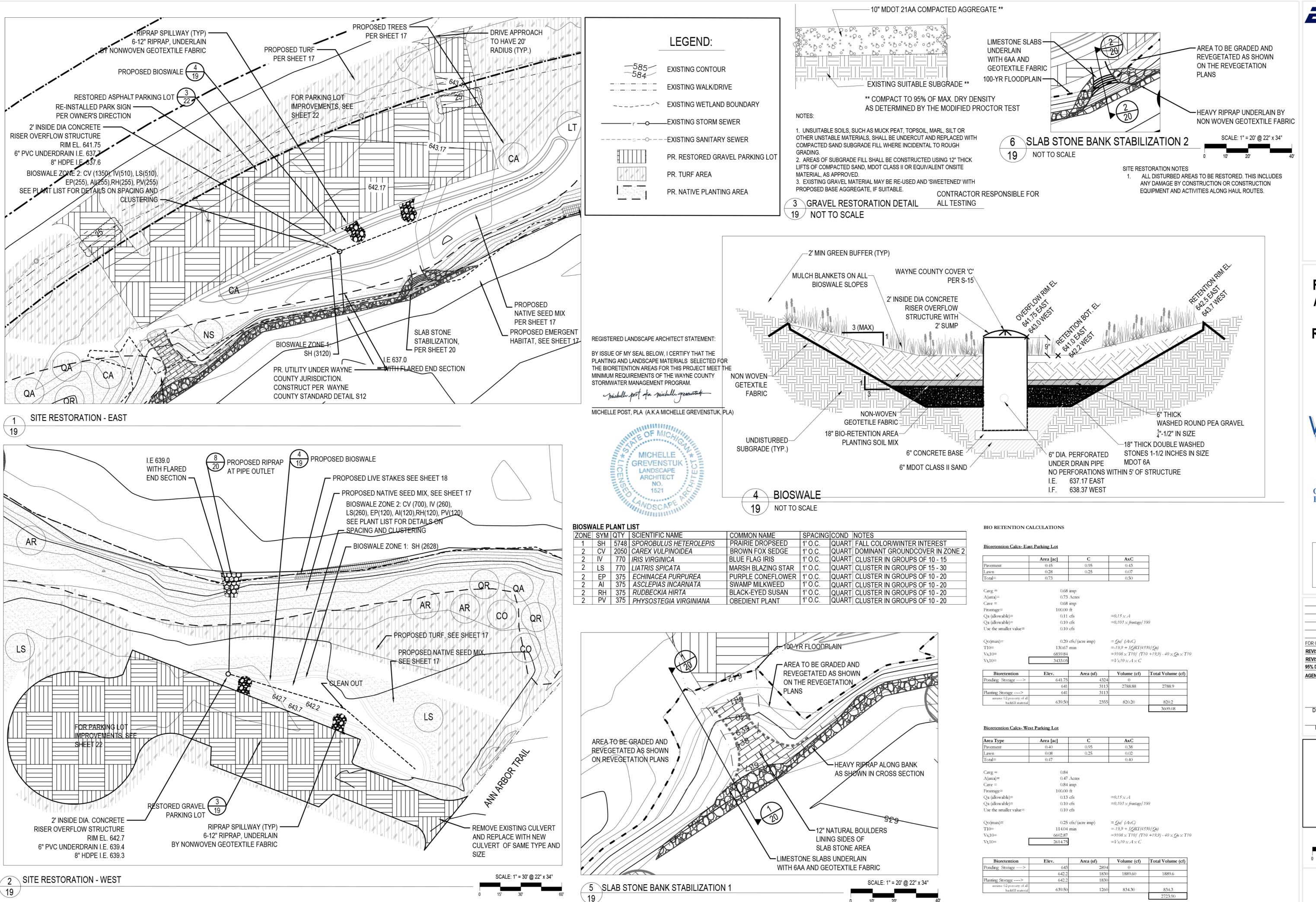
NORTH SHEET NUMBER

3 WORKING DAYS

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FOR CONSTRUCTION 06-2021 02-11-21 REVISED PER WC COMMENTS 09-23-20 REVISED PER WC COMMENTS 09-2019 95% DESIGN 08-02-19 AGENCY REVIEW

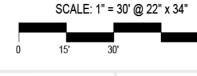
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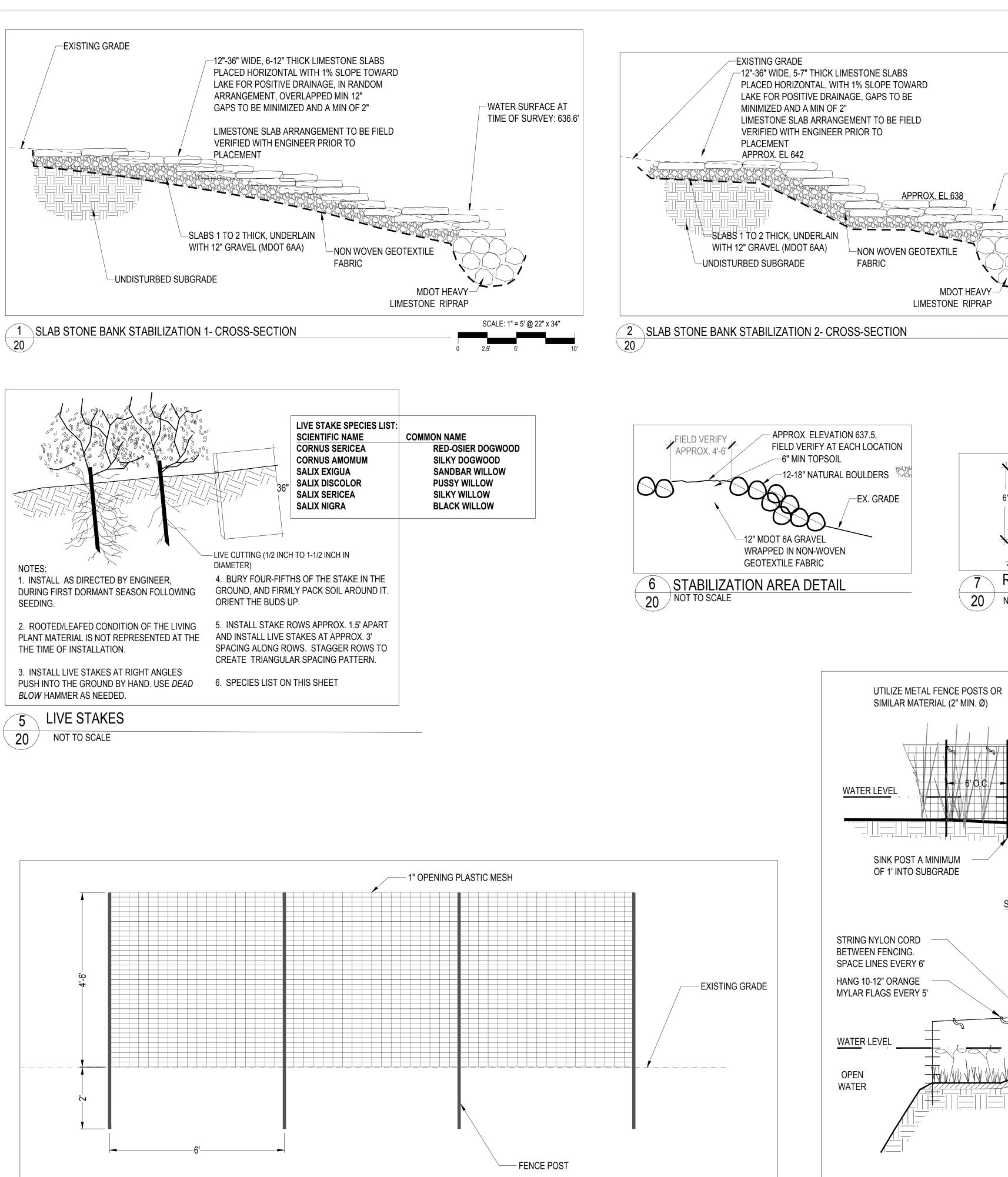
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SITE RESTORATION

DETAILS

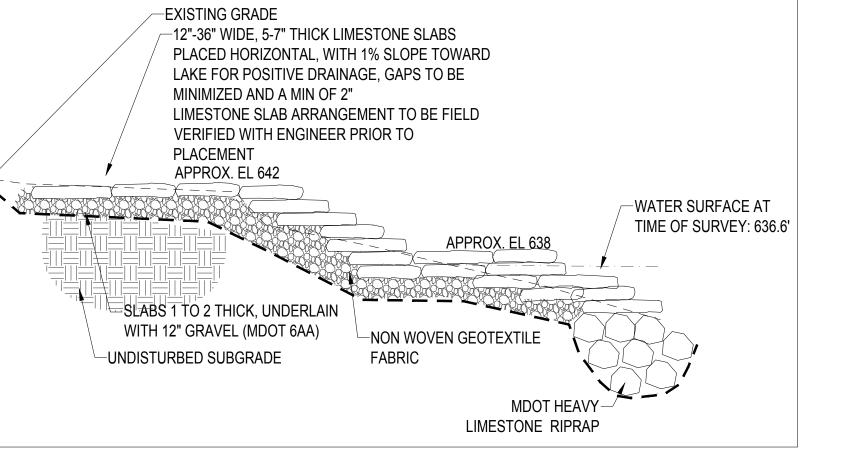


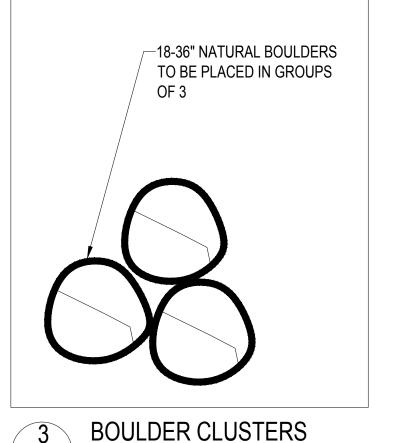
NORTH



TEMPORARY HABITAT/VEGETATION PROTECTION FENCE

20





20 /

FINISH GRADE

EMERGENT HABITAT ZONE

SECTION A-A'

TO KEEP FISH FROM

MIGRATING UNDER FENCE

TOE FENCING INTO SUBGRADE

ROCK PILES

NOT TO SCALE

SECTION B-B'

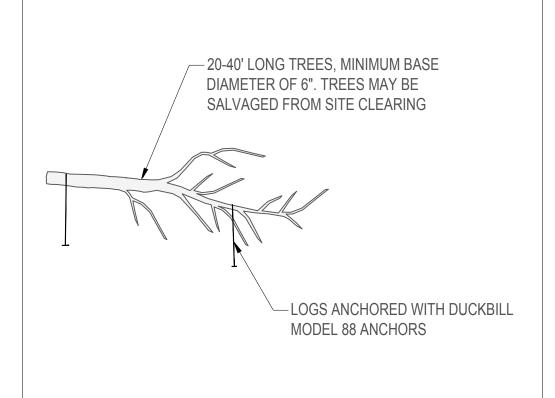
10 TEMPORARY WILDLIFE BARRIER

20 NOT TO SCALE

SCALE: 1" = 2' @ 22" x 34"

NOT TO SCALE

-4"-8" DIA. LIMESTONE RIP RAP



HABITAT LOG ANCHORING DETAIL

RIP RAP AT STORMWATER OUTFALL

20 NOT TO SCALE

-EXISTING GRADE

FENCING SHALL BE PLACED TO MINIMIZE POSSIBLE WILDLIFE PASSAGE

TO SUPPORT FLAG LINE ACROSS LONG REACHES.

EXISTING

PRESERVED UPLAND

4-6' BARRIER FENCE

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TRASH TO BE REMOVED. CONTRACTOR TO REMOVE WILDLIFE BARRIER FENCE AT END OF SECOND GROWING PERIOD. WIRE TIE (TYP) TO POST EVERY FOOT. EVENLY SPACE TIES BETWEEN ONE AT THE TOP AND 2" ABOVE FINISH WILDLIFE BARRIER FENCING - LIGHTWEIGHT 1" OPENING MESH PLASTIC FENCING x 4' MIN. HEIGHT, 6' OR OTHER HEIGHT MAY BE NEEDED ON DEEPER EDGE OF ZONE AND AT PIKE SPAWNING HABITAT AREA. FORESTRY SUPPLY ITEM NO. 25465, OR APPROVED EQUIVALENT. INSTALL FENCE AND FLAG LINES TAUGHT TO PREVENT SAGGING BETWEEN POSTS. PROVIDE ADDITIONAL STAKES

ALL EMERGENT HABITAT ZONES SHALL HAVE WILDLIFE BARRIER FENCING FOR TWO FULL GROWING SEASONS.

CONTRACTOR TO MAINTAIN FENCING FOR THE DURATION OF THE PERIOD DURING WHICH THE FENCE IS IN PLACE. MAINTENANCE TO INCLUDE REPAIR, REPLACE, REINSTALL FENCE ELEMENTS. ALL FENCE POSTS TO BE MAINTAINED

TO BE VERTICAL. ALL CORD TO BE MAINTAINED TO BE HORIZONTAL AND TAUGHT. ACCUMULATED DEBRIS AND

OPEN

WATER

EMERGENT HABITAT EDGE (TYP.) WIDTH VARIES DEEPER EDGE MAY NEED 6' TALL FENCING, AND SHALLOWER EDGE NEAR SHORE MAY USE 4' FENCING

→ 20' MAX. SPACING

95% DESIGN **AGENCY REVIEW** <u>180406-0300</u> ECT PROJECT NUMBER

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08-2020

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HABITAT IMPROVEMENT DETAILS



SHEET NUMBER 20

6 /6 6 /6 G UPLAND METAL FENCE POST SHORE EDGE

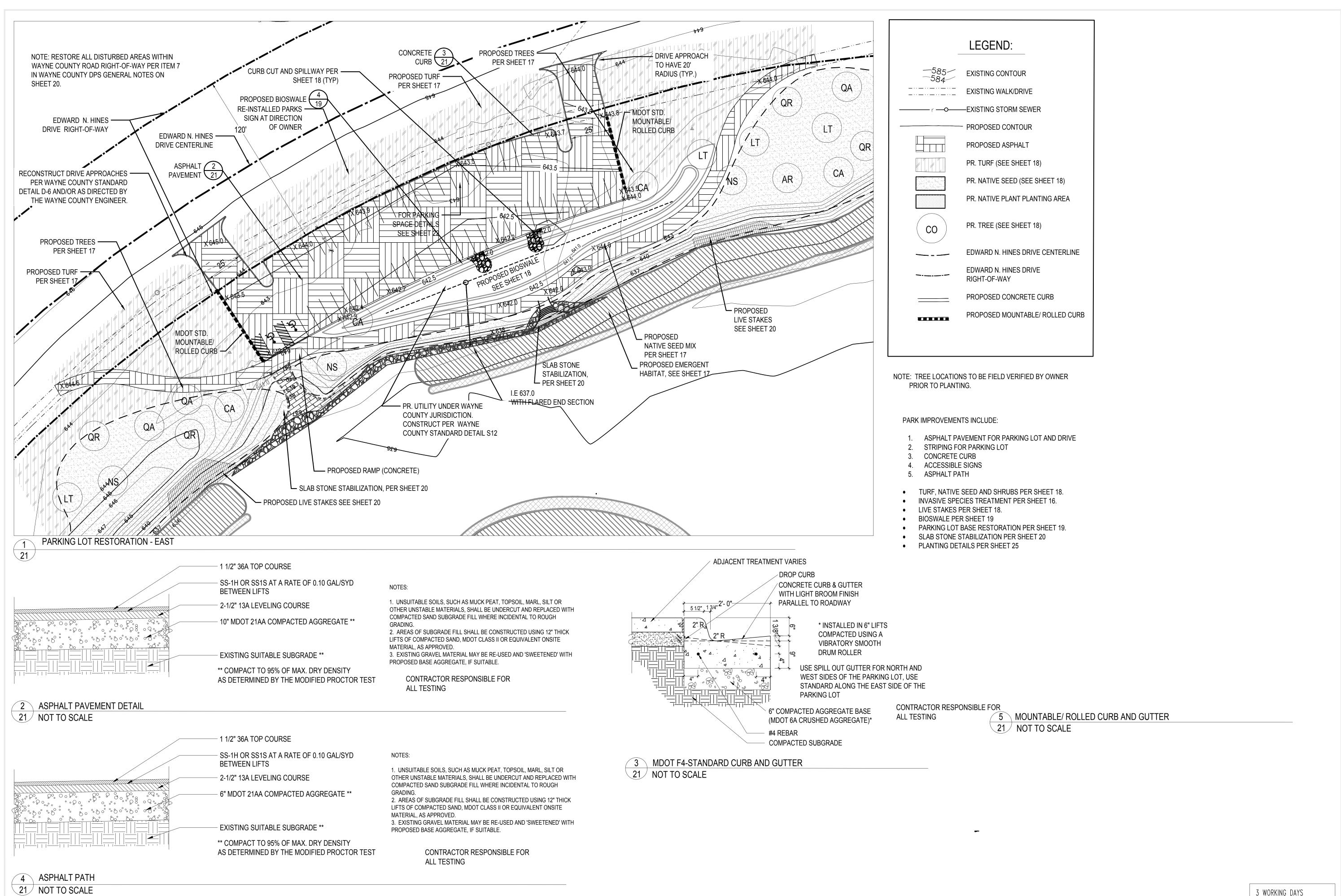
-EXISTING STORMWATER

OUTFALL

-NONWOVEN GEOTEXTILE FABRIC

18" OF 6-12" RIP RAP (MDOT STANDARD)

SCALE AS SHOWN



Environment Consulting & Technology, Inc 2200 Commonwealth Blvd, Suite 300 Ann Arbor, Michigan 48105 734.769.3004 734.769.3164 fax www.ectinc.com

ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





FOR CONSTRUCTION 06-2021

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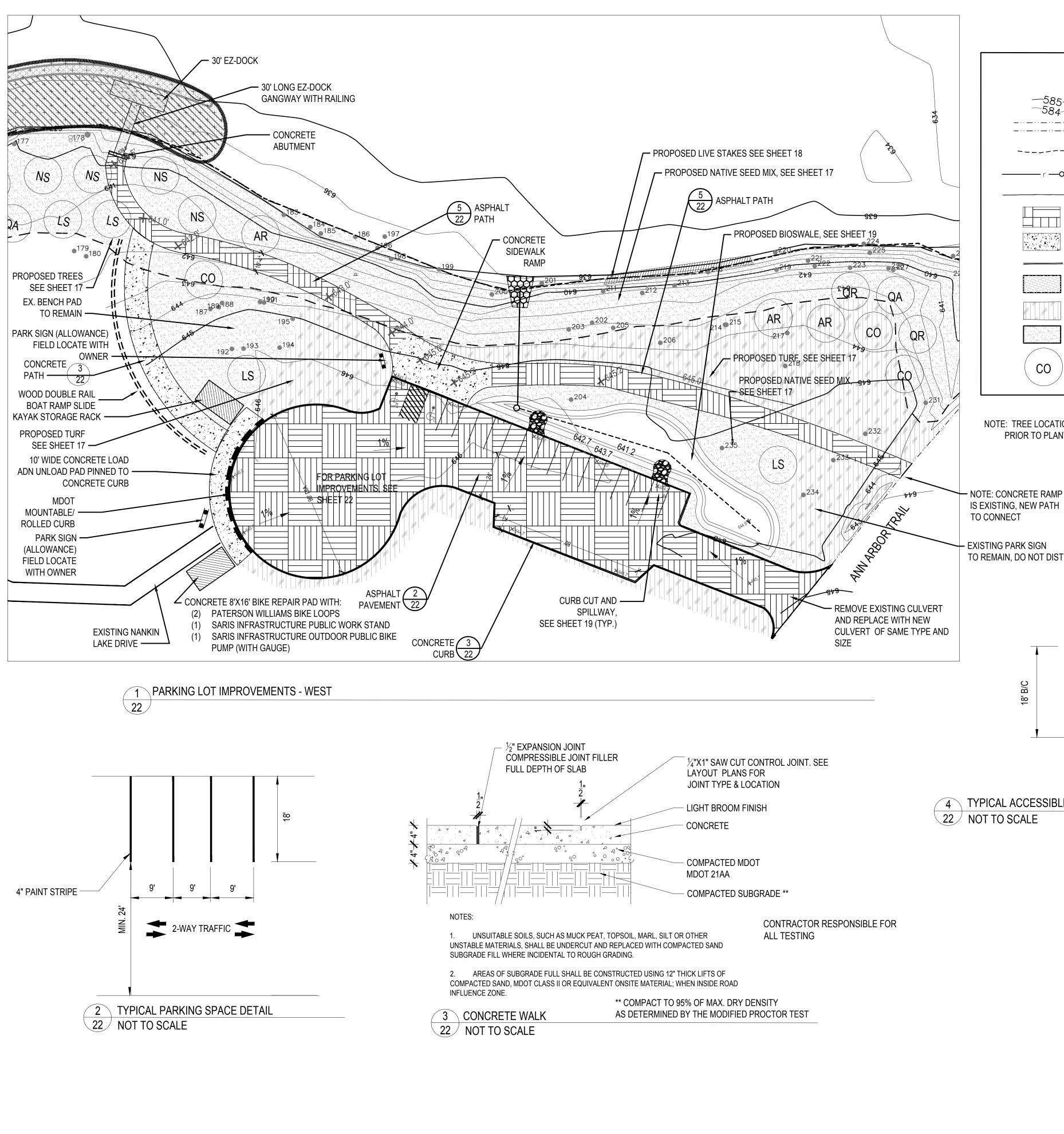
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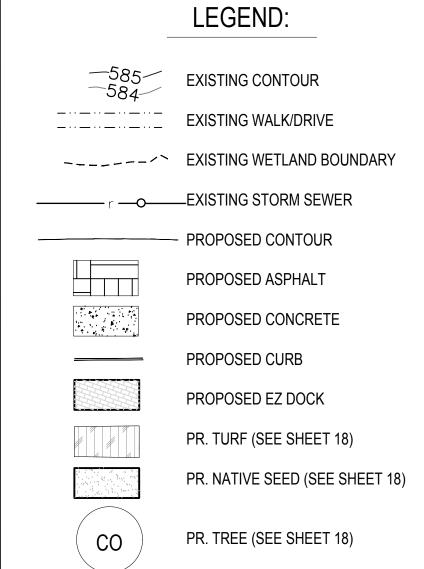
PARKING LOT IMPROVEMENTS-EAST

SCALE: 1" = 30' @ 22" x 34"



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1-800-482-7171





NOTE: TREE LOCATIONS TO BE FIELD VERIFIED BY OWNER PRIOR TO PLANTING.

EXISTING PARK SIGN TO REMAIN, DO NOT DISTURB ACCESSIBLE SIGN CENTERED ON SPACE (TYP.) PARKING BLOCKS - 4" BLUE DIAGONAL PAINT STRIPE - 4" BLUE 24" O.C. PAINT STRIPE 11' (MIN) 60" (MIN) 11'

TYPICAL ACCESSIBLE PARKING DETAIL

22 NOT TO SCALE

PARK IMPROVEMENTS INCLUDE:

- 1. ASPHALT PAVEMENT FOR PARKING LOT
- AND DRIVE 2. STRIPING FOR PARKING LOT
- CULVERT REPLACEMENT AT DRIVE
- CONCRETE CURB
- ACCESSIBLE SIGNS
- ASPHALT PATH
- TWO PARK SIGNS CONCRETE WALK
- CONCRETE WALK HANDRAILING
- 10. EZ DOCK GANGWAY WITH RAILING
- 11. EZ DOCK
- TURF, NATIVE SEED AND SHRUBS PER SHEET 18.
- INVASIVE SPECIES TREATMENT PER
- SHEET 16. LIVE STAKES PER SHEET 18.
- BIOSWALE PER SHEET 19 PARKING LOT BASE RESTORATION PER
- PLANTING DETAILS PER SHEET 25

- NOTES:
 - CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR EZ DOCK ELEMENTS FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR EZ DOCK GANGWAY FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR CONCRETE ABUTMENT FOR EZ DOCK FOR ENGINEER'S
 - APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR HAND RAILING FOR ENGINEER'S APPROVAL PRIOR TO
 - CONSTRUCTION. PARK SIGNS HAVE BEEN INCLUDED AS AN ALLOWANCE FOR BIDDING. SIGN DESIGN TO BE PROVIDED TO
 - CONTRACTOR FOR MANUFACTURE AND INSTALLATION. CULVERT SIZE AND TYPE UNKNOWN. CONTRACTOR TO
 - DETERMINE SIZE AND TYPE OF EXISTING CULVERT PRIOR TO CONSTRUCTION. CULVERT TO BE REPLACED WITH NEW CULVERT OF SAME SIZE AND TYPE AS EXISTING AT LENGTH REQUIRED BY NEW DRIVE.

_4"X4" TREATED POST

5 ACCESSIBLE SIGN

22 NOT TO SCALE

ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT

Ann Arbor, Michigan 48105 734.769.3004 734.769.3164 fax

www.ectinc.com





FOR CONSTRUCTION	06-2021
FOR CONSTRUCTION REVISED	06-2021 09-23-20
FOR CONSTRUCTION REVISED FOR BIDDING	

<u>180406-0300</u> ECT PROJECT NUMBER

AGENCY REVIEW

DESIGNED BY CHECKED BY SR/AT JO
APPROVED BY

PARKING LOT IMPROVEMENTS-WEST

SCALE: 1" = 30' @ 22" x 34"



GENERAL NOTES:

1. UNDERGROUND UTILITIES: FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS. EXCLUDING SATURDAYS. SUNDAYS AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

2. SURVEY DATA PRESENTED IN THESE DRAWINGS WAS PROVIDED BY:

MIDWESTERN CONSULTING

3815 PLAZA DRIVE ANN ARBOR, MICHIGAN 48108

(734) 995-0200 (PH)

3. THE SOIL LOG INFORMATION REPRESENTS POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY INFERS THAT SUBSURFACE CONDITIONS ARE THE SAME OTHER THAN THE EXACT LOCATION OF THE BORINGS OR SEDIMENT SAMPLE LOCATIONS. 4. STORAGE OF EQUIPMENT AND CONSTRUCTION MATERIALS SHALL BE RESTRICTED TO DESIGNATED STAGING AREAS AS INDICATED ON THE PLANS, UNLESS OTHERWISE APPROVED BY ENGINEER AND AT THE CONTRACTOR'S RISK.

5. ALL UTILITIES, CULVERTS AND BENCHMARKS SHALL BE PRESERVED DURING CONSTRUCTION ACTIVITIES UNLESS OTHERWISE SHOWN ON THE DRAWINGS. CONTRACTOR TO REPLACE DAMAGED UTILITIES, CULVERTS OR BENCHMARKS AT OWN EXPENSE.

6. ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO AREAS AS SHOWN ON THE PLANS. WORK BEYOND THESE LIMITS SHALL BE AS DIRECTED BY ENGINEER.

7. TRANSPORTATION OF EQUIPMENT AND MATERIALS TO/FROM THE SITE ON STATE HIGHWAYS AND TRUNK LINES SHALL CONFORM TO ALL LOCAL AND STATE TRAFFIC LAWS. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PERTAINING TO DELIVERY OF EQUIPMENT AND MATERIALS TO/FROM THE SITE. COSTS OF OBTAINING NECESSARY PERMITS IS INCIDENTAL TO THE WORK.

8. ALL WORK SHALL BE COMPLETED BETWEEN THE HOURS OF 7:00AM AND 7:00PM. ALL WORK SHALL BE COMPLETED MONDAY THROUGH

9. CONSTRUCTION ACCESS TO THE SITES FOR ALL ACTIVITIES WILL BE FROM HINES DRIVE OR ANN ARBOR TRAIL AS INDICATED ON THE SITE PREPARATION PLAN. NO OTHER ACCESS IS ALLOWED WITHOUT WRITTEN PERMISSION FROM THE OWNER.

10. ALL MATERIALS REMOVED, EXCEPT WHERE OTHERWISE INDICATED ON THE PLANS, SHALL BE LEGALLY DISPOSED OF OFF SITE. 11. ALL EXCESS SOIL AND FILL GENERATED DURING REQUIRED EXCAVATION AS SHOWN ON DRAWINGS SHALL BE LEGALLY DISPOSED OF

12. THE CONTRACTOR SHALL OBTAIN PERMITS AS REQUIRED FOR THE PROJECT, INCLUDING THE SOIL EROSION AND SEDIMENT CONTROL PERMIT FROM CITY OF LIVONIA AND CITY OF WESTLAND.

13. THE EGLE/ USACE PERMIT HAS BEEN ACQUIRED. ALL WORK SHALL BE DONE TO MEET THE REQUIREMENTS OF THE EGLE (FORMALLY MDEQ) AND/OR USACE PERMITS ISSUED FOR THIS PROJECT. A COPY OF THE PERMIT IS INCLUDED IN THE CONTRACT DOCUMENTS.

CLEARING AND GRUBBING NOTES

1. REVIEW CLEARING LIMITS AND TREE REMOVALS WITH PROJECT ENGINEER PRIOR TO BEGINNING WORK

2. ALL SILT FENCE AND PROTECTIVE FENCE SHALL BE INSTALLED PRIOR TO CLEARING OPERATIONS. ALL FENCING SHALL BE MAINTAINED THROUGHOUT DURATION OF PROJECT. FENCING SHALL BE REMOVED ONLY UPON APPROVAL BY ENGINEER.

3. ALL PLANT MATERIAL NOT MARKED FOR REMOVAL SHALL BE DISTURBED AS LITTLE AS POSSIBLE DURING THE CLEARING AND CONSTRUCTION OPERATIONS. NO EXCAVATION SHALL BE DONE WITHIN THE DRIP LINE (LIMIT OF OVERHANGING BRANCHES) OF TREES TO BE SAVED, UNLESS SPECIFICALLY APPROVED BY THE ENGINEER. THE LOWER BRANCHES OF ALL TREES TO REMAIN SHALL NOT BE REMOVED. OR DAMAGED BY CONSTRUCTION EQUIPMENT. AVOID COMPACTION OF ROOTS.

4. HYDRO AXE AND/OR SIMILAR CLEARING EQUIPMENT SHALL NOT BE PERMITTED ON SITE.

GRADING AND LAYOUT NOTES

1. ALL PROPOSED ELEVATIONS SHOWN ARE FINISHED GRADE. FINAL DESIGN GRADES MAY BE ADJUSTED TO MINIMIZE GRADING ACCORDINGLY.

2. CONTRACTOR SHALL PROVIDE GRADE VERIFICATION STAKES AT ALL PROPOSED SPOT ELEVATIONS SHOWN ON THE PLANS AND EVERY 50. FEET ALONG PROPOSED CONTOURS AS DIRECTED BY THE ENGINEER.

3. THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING VEGETATION ON THE ADJACENT SLOPES. ALL DISTURBED AREAS SHALL BE REVEGETATED AND RESTORED TO EXISTING CONDITIONS.

4. ALL FILL SHALL BE AS SPECIFIED. ALL IMPORTED FILL SOIL SOURCES SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE PROJECT SITE.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A SOIL EROSION AND SEDIMENT CONTROL PERMIT AS REQUIRED.

2. ALL ASPECTS OF THE SOIL EROSION AND SEDIMENT CONTROL PERMIT SHALL BE ADHERED TO THROUGHOUT THE DURATION OF THE PROJECT. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE ENGINEER PRIOR TO THE BEGINNING OF EARTHWORK.

3. DESIGN, CONSTRUCT, AND COMPLETE THE EARTH CHANGE IN A MANNER THAT LIMITS THE EXPOSED AREA OF DISTURBED LAND FOR THE SHORTEST PERIOD OF TIME.

4. TEMPORARY OR PERMANENT CONTROL MEASURES SHALL BE DESIGNED AND INSTALLED TO CONVEY WATER AROUND. THROUGH OR FROM THE EARTH CHANGE AT A NON-EROSIVE VELOCITY.

5. REMOVE SEDIMENT CAUSED BY ACCELERATED SOIL EROSION FROM RUNOFF WATER BEFORE IT LEAVES THE SITE OF THE EARTH CHANGE. 6. INSTALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES BEFORE OR UPON COMMENCEMENT OF THE EARTH CHANGE ACTIVITY AND MAINTAIN THE MEASURES ON A DAILY BASIS. REMOVE TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AFTER PERMANENT SOIL EROSION MEASURES ARE IN PLACE AND THE AREA IS STABILIZED. ("STABILIZED" MEANS THE ESTABLISHMENT OF VEGETATION OR THE PROPER PLACEMENT, GRADING OR COVERING OF SOIL TO ENSURE ITS RESISTANCE TO SOIL EROSION, SLIDING, OR OTHER EARTH MOVEMENT.)

7. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SITE DRAINAGE

8. CONTRACTOR IS RESPONSIBLE TO PROTECT ADJACENT WATER COURSES FROM THE DISCHARGE OF SEDIMENT DURING CONSTRUCTION. 9. INSTALL PERMANENT EROSION CONTROL MEASURES WITHIN 5 DAYS OF COMPLETING FINAL GRADING OR MAINTAIN TEMPORARY MEASURES UNTIL PERMANENT MEASURES ARE INSTALLED.

10. THE USE OF HEAVY EQUIPMENT WILL BE MINIMAL TO CONTROL SEDIMENT TRACKOUT. ANY MUD/SILT TRACKED SHALL BE IMMEDIATELY

11. TEMPORARY SESC MEASURES SUCH AS STRAW WATTLES, COIR LOGS, STRAW BALES OR SILT FENCE SHALL BE INSTALLED ALONG SENSITIVE AREAS AS NECESSARY. MEASURES WILL BE MAINTAINED AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD. IF REPAIR OR REPLACEMENT IS NECESSARY. IT SHALL BE PERFORMED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. MAINTENANCE INCLUDES THE REMOVING OF BUILT-UP SEDIMENT ACCUMULATES TO ½ THE HEIGHT OF WATTLES OR SILT FENCE. CONTRACTOR SHALL REMOVE. REPLACE, RETRENCH, OR RE-BACKFILL WATTLES OR FENCE IF IT FAILS. ADDITIONALLY, THE CONTRACTOR SHALL REINSTALL ANY PORTION OF THE WATTLES OR FENCING DAMAGED BY CONSTRUCTION MACHINERY.

12. PLACE STOCKPILES AND OTHER SPOIL PILES AWAY FROM THE DRAINAGE SYSTEM TO MINIMIZE SEDIMENT TRANSPORT. IF THE STOCKPILE AND/OR SPOIL PILE MUST REMAIN ON-SITE OVERNIGHT, OR IF THE WEATHER CONDITIONS INDICATE THE CHANCE FOR PRECIPITATION, A) COVER THE PILE WITH WATER REPELLENT MATERIAL TO PREVENT EROSION AND/OR B) INSTALL SILT FENCING AROUND THE BASE OF THE PILE TO PREVENT TRANSPORT OF SEDIMENT TO THE STORM WATER SYSTEM, OR APPLY OTHER CONTROL METHODS APPROPRIATE TO THE SIDE. CONTROL MEASURES TO GUARD AGAINST WIND EROSION MUST ALSO BE EMPLOYED, SUCH AS WETTING OR COVERING THE STOCKPILES.

KEEP AS FEW STOCKPILES AS POSSIBLE DURING THE COURSE OF THE PROJECT.

13. SEEDING OR OTHER STABILIZATION SHALL BE REQUIRED IMMEDIATELY TO AREAS WHICH HAVE BEEN DAMAGED BY RUNOFF. 14. CONTRACTOR SHALL MAINTAIN DUST CONTROL ON THE SITE THROUGHOUT THE DURATION OF THE CONSTRUCTION PROCESS.

15. VEGETATED BUFFERS WILL BE USED IN THE PREDOMINANTLY UPLAND AREAS, AS APPROPRIATE.

16. DISTURBED AREAS WILL BE MINIMIZED THROUGH SEQUENCING OF PROJECTS, AS DESCRIBED IN THE DOCUMENT CONSTRUCTION SEQUENCE.

17. WEEKLY INSPECTIONS BY A SESC TRAINED CERTIFIED STORM WATER MANAGEMENT OPERATOR AS WELL AS PERIODIC INSPECTIONS WITHIN 24 HOURS OF ANY RAINFALL WILL BE REQUIRED. THESE INSPECTIONS MAY RESULT IN RECOMMENDATIONS FOR ROUTINE MAINTENANCE OF THE SOIL EROSION CONTROL DEVICES, AS WELL AS ADDITIONAL CONTROLS.

18. SILT FENCE SHALL BE 3' HIGH PRE-ASSEMBLED FILTER FENCE. FABRIC SHALL ALLOW WATER TO PASS THROUGH WHILE RETAINING SEDIMENT AND DEBRIS. STAKES SHALL BE HARDWOOD AND SHALL BE ON 8'4" CENTERS. FABRIC SHALL BE DOUBLE STAPLED TO TOP OF STAKE TO ENSURE DURABILITY.

19. IN THE EVENT OF CONSTRUCTION RELATED DEBRIS ON LOCAL ROADWAYS, CONTRACTOR SHALL CLEAN AND MAINTAIN THE ROAD.

STAGING/ ACCESS NOTES:

1. EQUIPMENT ACCESS AND STAGING AND MATERIALS STORAGE CAN OCCUR WITHIN THE LIMITS OF DISTURBANCE IN ADDITION TO DESIGNATED STAGING AREAS. NO ADDITIONAL VEGETATION CLEARING FOR ACESS OR STAGING IS PERMITTED WITHOUT APPROVAL OF THE ENGINEER AND OWNER.

2. NO MATERIAL STORAGE OR EQUIPMENT STAGING IS PERMITTED ON ANY PORTION OF EDWARD N. HINES DRIVE OR ANN ARBOR TRAIL INCLUDING AREAS CLOSED TO TRAFFIC.

3. CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION OVER EXISTING ASPHALT PEDESTRIAN PATH TO PREVENT PHYSICAL DAMAGE OR CHEMICAL DAMAGE FROM LEAKING PETROLEUM PRDUCTS. REPAIR OF DAMAGED PEDESTRIAN PATH SHALL BE AT CONTRACTOR'S EXPENSE UNLESS SPECIFICALLY ACCOUNTED FOR UNDER CONTRACTOR'S SITE RESTORATION LINE ITEM.

GENERAL EARTHWORK NOTES:

1. CONTRACTOR SHALL PROVIDE ANY SOIL COMPACTION TESTING, AS REQUIRED.

2. DO NOT PLACE OR COMPACT FILL MATERIAL DURING WET OR FREEZING WEATHER THAT PREVENTS ACHIEVEMENT OF SPECIFIED COMPACTION REQUIREMENTS.

MAINTENANCE AND GUARANTEE PERIOD:

1. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FOLLOWING THE APPROVAL OF CONSTRUCTION INSPECTION AT SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL RESPOND WITHIN TWO WEEKS OF WRITTEN REQUESTS BY THE OWNER FOR REPLACEMENT/REPAIR. IF THE CONTRACTOR FAILS TO RESPOND WITHIN THIS TIME, THE OWNER MAY PROCEED WITH

REPLACEMENT WORK AND BILL THE CONTRACTOR. 2. NOTIFY THE OWNER PRIOR TO AND FOLLOWING ANY MAINTENANCE ACTIVITY.

3. FINAL ACCEPTANCE OF WORK WILL BE SUBJECT TO ACCEPTANCE BY PROJECT MANAGER AND OWNER AT THE END OF GUARANTEE PERIOD.

1. ALL MATERIALS SHALL CONFORM TO DETAILS AND SPECIFICATIONS IN THE DRAWINGS.

1. SUBMITTALS FOR APPROVAL BY ENGINEER ARE REQUIRED FOR ALL MATERIALS PRIOR TO MOBILIZATION. ALL EXPENSES INCURRED BY CONTRACTOR PRIOR TO ENGINEER'S APPROVAL SHALL NOT BE PAID BY OWNER

SITE RESTORATION AND CLEAN-UP:

1. IMMEDIATELY CLEAN UP EXCESS SOIL, MULCH, OR OTHER DEBRIS AND PROPERLY DISPOSE OF DELETERIOUS MATERIALS LEGALLY OFF-SITE IN A MANNER CONSISTENT WITH LOCAL LAWS. TAKE NECESSARY PRECAUTIONS TO PREVENT CONTAMINATION OF CLEAN AREAS AS A RESULT OF CLEANING OPERATIONS.

2. PROMPTLY REMOVE EQUIPMENT AND UNUSED MATERIALS AT COMPLETION OF ACTIVITIES.

3. RETURN STOCKPILE AND STORAGE AREAS TO THEIR ORIGINAL GRADE AND RESTORE GROUND SURFACES AFTER STORED MATERIAL HAS BEEN REMOVED.

4. CONTRACTOR SHALL REPAIR DAMAGED VEGETATION AND AERATE SOIL OVER ROOT ZONE OF NEGATIVELY IMPACTED VEGETATION. RE-SEED ALL DISTURBED AREAS TO PRE-EXISTING CONDITIONS OR AS SPECIFIED.

1. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS BUILT DOCUMENTS AT THE COMPLETION OF THE WORK. AS-BUILT DRAWINGS SHALL INCLUDE 1 COPY OF MARKED UP FIELD PLANS AND 3 COPIES OF CERTIFIED AS-BUILT DRAWINGS AND 1 DIGITAL FILE CONTAINING AUTOCAD AS-BUILT INFORMATION. THE BASE SURVEY DRAWING WILL BE PROVIDED TO THE CONTRACTOR.

REVEGETATION NOTES:

MAINTENANCE AND WARRANTY PERIOD:

1. MAINTENANCE PERIOD AND WARRANTY PERIOD SHALL BE DEFINED AS PRESENTED IN THE CONTRACT DOCUMENTS. 2. CONTRACTOR TO WARRANT THAT ALL TREES. SHRUBS. SEEDING. AND PLUG PLANTINGS INSTALLED UNDER THIS CONTRACT WILL BE HEALTHY AND IN FLOURISHING CONDITION OF ACTIVE GROWTH FOR TWO (3) FULL GROWING SEASONS (APRIL THROUGH NOVEMBER) FROM DATE OF PLANTING INSTALLATION ACCEPTANCE. THE CONTRACTOR SHALL RESPOND WITHIN TWO (2) WEEKS OF WRITTEN REQUESTS BY THE OWNER FOR REPLACEMENT OR REPAIR. IF THE CONTRACTOR FAILS TO RESPOND WITHIN THIS TIME. THE OWNER MAY PROCEED WITH REPLACEMENT WORK AND BILL THE CONTRACTOR.

3. ALL DELAYS IN COMPLETION OF PLANTING OPERATIONS WHICH EXTEND THE PLANTING INTO MORE THAN ONE PLANTING SEASON SHALL EXTEND THE WARRANTY PERIOD CORRESPONDINGLY.

4. REPLACEMENTS: AS SOON AS WEATHER CONDITIONS PERMIT. REPLACE, WITHOUT COST TO OWNER, ALL DEAD PLANTS AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE CONSULTANT DURING AND AT THE END OF THE WARRANTY PERIOD. 5. PATCHY OR BARE AREAS (IN EXCESS OF 1 SQUARE METER) WHERE SEED MIX FAILED TO CREATE SUFFICIENT DENSITY OF COVER SHALL BE RESEEDED BY HAND AT THE RECOMMENDED APPLICATION RATE AT NO ADDITIONAL COST TO OWNER.

6. INCORRECT MATERIALS: DURING WARRANTY PERIOD, REPLACE AT NO COST TO OWNER ALL PLANTS REVEALED AS BEING UNTRUE TO NAME. PROVIDE REPLACEMENTS OF A SIZE AND QUALITY TO MATCH THE PLANTED MATERIALS AT THE TIME THE MISTAKE IS DISCOVERED. 7. ALL PLANT STOCK SHALL BE WATERED BY THE CONTRACTOR TO ENSURE THE HEALTH AND VIGOR OF THE PLANTED MATERIALS. THE CONTRACTOR SHALL WATER AS NEEDED BASED ON NATURAL RAINFALL DURING THE WARRANTY PERIOD. WATERING SHALL CONTINUE SO SEEDLINGS DO NOT DRY OUT ONCE WATERING HAS BEGUN. THE WATERING SHALL BE DONE FROM SURFACE METHODS AT A PRESSURE NOT TO EXCEED THE INFILTRATION RATE OF THE SOIL, LIMITING RUNOFF DURING THE WATERING PERIOD. EACH AREA WILL BE WATERED WITH SUFFICIENT WATER TO COMPLETELY SATURATE THE ROOT ZONE. THE CONTRACTOR SHALL INSPECT ALL PLANTS FOR INSECT INFESTATION AND DAMAGE. 8. EROSION SHALL BE REPAIRED BY THE CONTRACTOR.

9. PROTECTION FROM TRAFFIC AND EROSION IN NEWLY SEEDED AREAS AND THE MITIGATION AREAS IS THE RESPONSIBILITY OF THE CONTRACTOR. SAFETY FENCES AND/OR OTHER BARRIER METHODS WITH APPROPRIATE SIGNAGE MAY BE USED FOR ONE YEAR FROM COMPLETION OF CONSTRUCTION ACTIVITIES. ALL COSTS ASSOCIATED WITH THIS IS INCLUSIVE OF CONTRACTOR'S PRICING.

10. NOTIFY THE OWNER PRIOR TO AND FOLLOWING ANY MAINTENANCE ACTIVITY.

11. FINAL ACCEPTANCE OF WORK WILL BE SUBJECT TO ACCEPTANCE BY PROJECT MANAGER AND OWNER AT THE END OF WARRANTY PERIOD.

NATIVE PLANTINGS:

TEXTURE.

1. TREES, SHRUBS, AND PLUGS SHALL BE OF NATIVE PLANT MATERIAL OF GENOTYPES FROM THE NORTH CENTRAL STATES ONLY (IL, IN, IA, MI, OH). AND FROM A RECOGNIZED NURSERY OF THIS REGION. MICHIGAN SOURCES FOR TREE, SHRUBS, AND PLUGS SHALL BE LOCATED BEFORE BRANCHING OUT TO OTHER NORTH CENTRAL STATES. NATIVE PLANTINGS INCLUDE ALL TREES, SHRUBS, AND PLUGS INSTALLED AS PART PF THIS PROJECT.

2. PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES AND MUST MEET APPLICABLE REQUIREMENTS OF ICBN AND ICNCP. PLANTS SHALL BE SOUND, HEALTHY AND VIGOROUS, WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. PLANTS SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS, OR LARVAE. PLANTS SHALL BE FREE OF KINKED, CIRCLING OR GIRDLING TRUNK SURFACE AND CENTER ROOTS, AND SHALL NOT BE ROOT-BOUND. RESPECT MAXIMUM STORAGE TIMES FOR PLANT STOCK. 3. NATIVE PLANTING AREAS SHALL BE INSTALLED AFTER MAY 15 (WHEN SOIL IS FREE OF FROST AND IN WORKABLE CONDITION), BUT BEFORE JUNE

30 OR AFTER SEPT. 1 BUT BEFORE OCTOBER 30 OR AS APPROVED BY THE ENGINEER. 4. FURNISH PLANT SPECIES AND SIZES AS INDICATED ON THE PLANS. PLANT STOCK SHALL BE TRUE TO THEIR NAME (GENUS AND SPECIES), AS

SPECIFIED. CULTIVARS AND SPECIMENS SHALL NOT BE USED WITHOUT PRIOR APPROVAL BY CONSULTANT. 5. NATIVE PLANTINGS TO BE INSTALLED PER DETAILS.

6. PLUGS. CONTAINERIZED PLANTS, AND ROOT STOCKS WHICH ARE TO BE PLACED IN SATURATED OR FLOODED SOIL CONDITIONS SHALL BE PRE-CONDITIONED FOR THIS PLACEMENT BY BEING HELD UNDER SIMILAR CONDITIONS IN A WET ENVIROMENT AT THE NURSERY PRIOR TO SHIPMENT TO THE SITE.

7. REMOVE ALL CONTAINERS AND PACKAGING MATERIAL AND DISPOSE OF LEGALLY OFF-SITE.

8. WATER PLANT STOCK IMMEDIATELY AFTER PLANTING SUCH THAT ROOT ZONE IS THOROUGHLY SOAKED. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP PLUGS ADEQUATELY WATERED, IF NECESSARY, TO ENSURE THEIR SURVIVAL.

9. IF EROSION CONTROL BLANKET IS NEEDED IN AREAS WHERE PLUGS ARE PRESENT, INSTALL EROSION CONTROL BLANKET AFTER SEEDING, BUT PRIOR TO PLANTING. EROSION CONTROL BLANKET SHALL BE INSTALLED WHERE THE CONTRACTOR FEELS IT NECESSARY TO STABILIZE THE SITE AT NO ADDITIONAL COST TO THE OWNER. 10. FIELD ADJUST PLANTINGS TO DIVERSIFY SPECIES ACROSS THE PLANTING AREAS AND TO MEET FINISH GRADE OF THE STREAMBANKS WITH

PLANTING REQUIREMENTS FOR SPECIES BASED ON DEPTH. ANY ADJUSTMENTS WILL BE SHOWN ON AN AS-BUILT PLAN AND SUBMITTED TO THE

CONSULTANT UPON COMPLETION. 11. MULCH FOR TREES AND SHRUBS SHALL BE COARSE GRADE OAK OR MAPLE BARK AGED AT LEAST ONE YEAR AND UNIFORM IN COLOR AND

SEEDING:

1. SEED SHALL BE FRESH, CLEAN, NEW SEED OF NATIVE PLANT MATERIAL OF GENOTYPES FROM THE NORTH CENTRAL STATES ONLY (IL, IN, IA, MI, OH), AND FROM A RECOGNIZED NURSERY OF THIS REGION.

2. NATIVE SEED AREAS SHALL BE SEEDED AFTER MAY 1, (WHEN SOIL IS FREE OF FROST AND IN WORKABLE CONDITION), BUT BEFORE JUNE 30 OR AFTER OCTOBER 1, BUT BEFORE NOVEMBER 30 (OR PRIOR TO FREEZE-UP) OR AS APPROVED BY THE ENGINEER.

3. SEEDBED PREPARATION: CUT ANY EXISTING VEGETATION TO 4 (FOUR) INCH HEIGHT AND APPLY HERBICIDE AS NECESSARY. PRIOR TO SOWING NATIVE SEED, LIGHTLY SCARIFY SO THAT THE BED IS SMOOTH AND FREE OF LARGE CLUMPS. SEED BED SHALL BE FIRM. BUT NOT

COMPACT. SEED IMMEDIATELY AFTER SCARIFYING. DO NOT FERTILIZE. 4. ALL SEEDED AREAS SHALL BE HYDROSEEDED. A HYDROMULCH CONSISTING OF CELLULOSE OR SIMILAR MULCH WITH TACKIFIER SUITABLE

FOR HYDROSEEDING SHALL BE USED AS A SEEING METHOD. NO STRAW MULCH SHALL BE USED. 5. ALL WATER USED IN HYDROMULCH SHALL BE FREE OF SUBSTANCES DETRIMENTAL TO PLANT GROWTH AND SHALL BE SUITABLE FOR DISCHARGE INTO SURFACE WATERS BASED ON LOCAL, STATE, AND FEDERAL REGULATORY REQUIREMENTS. SEEDING METHOD SHALL

ENSURE COMPLETE COVERAGE OF DESIGNATED AREA. RE-SEED AREAS WITH GAPS IN SEEDING AT NO ADDITIONAL COST TO OWNER. 6. DO NOT SOW SEED WHERE STANDING WATER IS PRESENT.

7. SOW NATIVE SEED AT A SPECIES RATE OF POUNDS PER ACRE INDICATED ON THE DRAWING. LIGHTLY RAKE TO INCORPORATE SEED INTO SOIL. DO NOT COVER SEED MORE THAN 1/4 INCH WITH SOIL. SEED DRILLING IS ALSO ACCEPTABLE.

8. CONTRACTOR SHALL REPAIR DAMAGED VEGETATION AND AERATE SOIL OVER ROOT ZONE OF NEGATIVELY IMPACTED VEGETATION. RE-SEED ALL DISTURBED AREAS TO PRE-EXISTING CONDITIONS.

EXISTING SITE CONDITIONS:

CONTRACTOR SHALL BECOME FAMILIAR WITH ALL EXISTING SITE CONDITIONS PRIOR TO STARTING WORK.

2. THE CONTRACTOR UNDERSTANDS AND ACKNOWLEDGES THAT THE PERFORMANCE OF THE WORK IS REQUIRED WITHIN A RIVER SYSTEM AND

3. THE CONTRACTOR SHALL BE FULLY AWARE OF THE ROUGE RIVER HYDROLOGY AND CURRENT WEATHER CONDITIONS SO THAT WORK IN PROGRESS CAN BE SECURED AND PROTECTED, SO THAT SAFE JOB SITE WORKING CONDITIONS ARE MAINTAINED, AND SO THAT SOIL EROSION IS MINIMIZED DURING AND FOLLOWING A RAIN EVENT.

4. ROUGE RIVER HAS A VERY SHORT RESPONSE TIME TO STORM RUNOFF.

5. THE CONTRACTOR ACKNOWLEDGES THAT DELAYS IN THE START OF OR COMPLETION OF WORK DUE TO TYPICAL SEASONAL RAINFALL AND DUE TO TYPICAL PERIODIC HIGH FLOWS IN THE ROUGE RIVER SHALL NOT CONSTITUTE A BASIS FOR ANY EXTENSION OF TIME OR DAMAGES. IF THE CONTRACTOR SHALL BE UNAVOIDABLY DELAYED IN BEGINNING OR FULFILLING THIS CONTRACT BY REASONS OF EXCESSIVE STORM OR FLOODS THE CONTRACTOR SHALL HAVE NO VALID CLAIM FOR DAMAGES. BUT HE SHALL IN SUCH CASE BE ENTITLED TO AN EXTENSION OF TIME AS THE ENGINEER SHALL ADJUDGE TO BE JUST AND REASONABLE: PROVIDED THAT FORMAL CLAIM FOR AN EXTENSION OF TIME IS MADE IN WRITING BY THE CONTRACTOR WITHIN ONE WEEK OF THE ALLEGED DELAY.

WAYNE COUNTY DPS GENERAL NOTES

- ALL WORK WITHIN THE WAYNE COUNTY ROAD RIGHT-OF-WAY (ROW) AND DRAIN EASEMENT SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS, INCLUDING SOIL EROSION AND SEDIMENTATION CONTROL OF THE WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES, AND MDOT 2012 SPECIFICATIONS FOR CONSTRUCTION.
- THESE PLANS ARE NOT VALID WITHOUT ATTACHMENT OF THE WAYNE COUNTY PERMIT SPECIFICATIONS FOR CONSTRUCTION WITHIN THE ROAD ROW, PARKS, DRAIN EASEMENT OR SANITARY SEWER UNDER JURISDICTION OF THE WAYNE COUNTY (07/01/93) REVISED 12/15/2004
- CONTRACTOR SHALL CONTACT MISS DIG AT 811 TO IDENTIFY AND FLAG / MARK THE LOCATIONS OF ALL UNDERGROUND UTILITIES AT THE PROPOSED CONSTRUCTION AREAS PRIOR TO START OF CONSTRUCTION, AND SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES, AND RESOLVE ANY CONFLICT BETWEEN THE PROPOSED WORK AND THE EXISTING UNDERGROUND OR ABOVEGROUND UTILITIES.
- 4. CONTRACTOR SHALL MAINTAIN 18" MINIMUM VERTICAL CLEARANCE AND 3 FEET MINIMUM HORIZONTAL CLEARANCE BETWEEN THE PROPOSED AND EXISTING UTILITIES. ANY PROPOSED UTILITY PERMITTED TO CROSS UNDER THE ROAD OR DRAIN, MUST BE PLACED A MINIMUM OF 7 FEET BELOW THE LOWEST POINT OF THE ROAD, OR 6 FEET BELOW THE DRAIN BOTTOM. OVERHEAD WIRES/CABLES MUST BE INSTALLED 18 FEET MINIMUM ABOVE THE ROAD CENTERLINE. TO RELOCATE ANY UTILITY WITHIN THE ROAD ROW, THE CONTRACTOR SHALL COORDINATE THE RELOCATION WITH THE UTILITY COMPANY AND AS DIRECTED BY THE WAYNE COUNTY ENGINEER.
- 5. ALL SURVEY MONUMENTS / CORNERS AND BENCH MARKS LOCATED WITHIN THE CONSTRUCTION AREA MUST BE PRESERVED IN ACCORDANCE WITH PUBLIC ACT 74 AS AMENDED (INCLUDING ACT 34, P.A. 2000) AND AS PER WAYNE COUNTY PERMIT RULE 1.5. THE PERMIT HOLDER AND CONTRACTOR SHALL COORDINATE THE WORK WITH A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF MICHIGAN DURING CONSTRUCTION ACTIVITIES FOR THE PURPOSE OF WITNESSING, PRESERVING OR REPLACING SURVEY MONUMENTS AND MONUMENT BOXES.
- EXPOSURE OF ANY UTILITIES UNDER THE PAVEMENT WILL NOT BE PERMITTED, UNLESS APPROVED BY THE WAYNE COUNTY ENGINEER. PAVEMENT REMOVAL AND REPLACEMENT SHALL BE PERFORMED PER APPLICABLE WAYNE COUNTY STANDARD DETAILS AN AS DIRECTED BY THE WAYNE COUNTY ENGINEER.
- 7. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS WITHIN THE WAYNE COUNTY ROAD ROW AND DRAIN EASEMENT WITH 3" TOPSOIL, THM SEED MIX AND MULCH. SLOPES STEEPER THAN 1 ON 3 SHALL BE RESTORED BY PLACING SOD ON 2" TOPSOIL.
- 8. ALL BACKFILLS UNDER OR WITHIN 3 FEET OF THE PROPOSED OR EXISTING PAVEMENT, CURB OR SIDEWALK SHALL CONFORM TO THE WAYNE COUNTY TRENCH "B" BACKFILL REQUIREMENTS. TRENCH "A" BACKFILL MAY BE USED WITHIN THE ROAD ROW AREAS UNDER CONDITIONS OTHER THAN THOSE SPECIFIED FOR TRENCH "B". CONTRACTOR IS RESPONSIBLE FOR RESTORING OR REPLACING ALL DISTURBED LANDSCAPED AREAS, SPRINKLER SYSTEMS,
- FENCES, SIGNS, MAIL BOXES, ETC. WITHIN THE WAYNE COUNTY ROAD ROW AND / OR AS DIRECTED BY THE COUNTY ENGINEER. 10. CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES. OTHERWISE, DETOURING TRAFFIC MUST BE PER APPROVED PLANS. ALL SIGNING AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF M.M.U.T.C.D.
- 11. MAINTAIN A SAFE AND ADEQUATE TRAVEL ROUTE FOR PEDESTRIANS AT ALL TIMES THROUGHOUT THE PROJECT DURATION.
- 12. TUNNELING, BORING AND JACKING OPERATIONS SHALL BE IN ACCORDANCE WITH THE WAYNE COUNTY SPECIFICATIONS AND DETAILS. BORE PITS SHALL BE PLACED AT MINIMUM 10 FEET FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
- 13. REMOVE ALL ABANDONED CONDUITS FROM THE COUNTY ROADS ROW OR AS DIRECTED BY THE WAYNE COUNTY ENGINEER.
- 14. CONTRACTOR SHALL PROVIDE COLD WEATHER PROTECTION FOR ALL PROPOSED CONCRETE WORK (PAVEMENTS, SIDEWALKS, DRIVE APPROACHES, ETC.) AS DIRECTED BY THE WAYNE COUNTY ENGINEER.
- 15. OVERNIGHT VEHICLE PARKING AND STORAGE OF CONSTRUCTION MATERIALS AND EQUPMENTS ARE NOT PERMITTED WITHIN THE WAYNE COUNTY ROADS RIGHTS-OF-WAY.
- 16. CONTRACTOR SHOULD OBTAIN A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT FROM THE WAYNE COUNTY DPS. CONTACT THE WAYNE COUNTY SOIL EROSION OFFICE AT (734) 326-5565, OR THE COMMUNITY HAVING JURISDICTION OVER THE SOIL EROSION PERMIT.
- 17. CONTRACTOR SHALL NOTIFY THE WAYNE COUNTY TRAFFIC SIGNAL SHOP AT (734) 955-2154 AT LEAST 72 HOURS PRIOR TO START OF WORK AT OR NEAR ANY SIGNALIZED INTERSECTIONS.
- 18. CONTRACTOR SHALL NOTIFY WAYNE COUNTY 72 HOURS PRIOR TO START OF CONSTRUCTION. CONTACT THE PERMIT OFFICE AT (734) 858-2764.



ROUGE RIVER AOC - NANKIN LAKE RESTORATION **PROJECT**





FOR CONSTRUCTION	06-2021
FOR BIDDING	08-2020

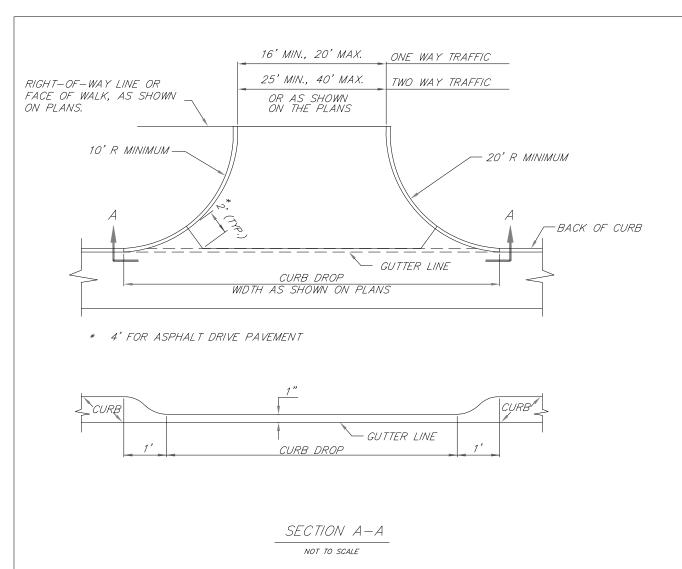
95% DESIGN

AGENCY REVIEW

APPROVED BY

NOTES





DIVISION PERMIT ENGINEER

CONSTRUCT THE DRIVE APPROACH WITH 8" NON-REINFORCED CONCRETE ON 6" OF 21AA AGGREGATE BASE COURSE COMPACTED IN PLACE (CIP) OR 6" HMA LEVELING ON 9" OF 21AA AGGREGATE BASE COURSE (CIP). CURBS SHALL BE CONSTRUCTED WITH HEIGHT VARYING FROM 6" AT BACK OF CURB TO 0" HEIGHT AT FACE OF SIDEWALK OR RIGHT-OF-WAY LINE.

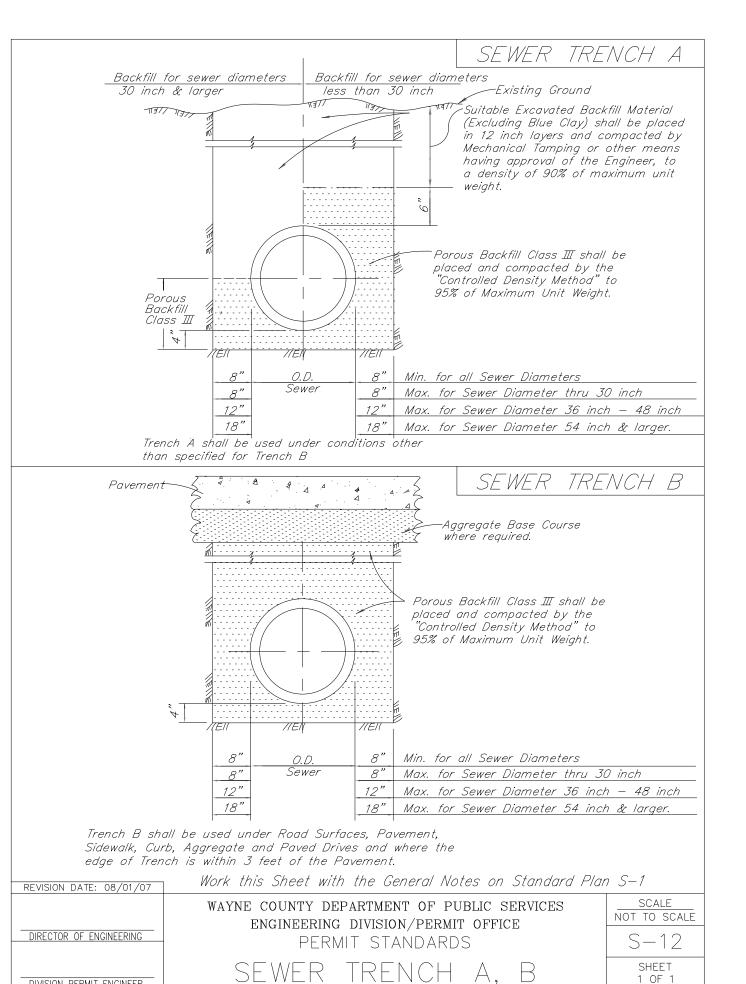
AT ALL CONCRETE DRIVES. PLACE A 1" EXPANSION JOINT AT BACK OF CURB AND 1/2" EXPANSION JOINT AT FACE OF SIDEWALK OR RIGHT-OF-WAY LINE. MAINTAIN NORMAL SIDEWALK GRADE ACROSS DRIVE, 2% SLOPE

INBOUND OR OUTBOUND RADIUS SHALL BE REDUCED TO 5' FOR ONE-WAY TRAFFIC DRIVE APPROACH. DRIVE APPROACH SHALL NOT ENCROACH ACROSS PROPERTY LINE EXTENDED WITHOUT WRITTEN APPROVAL FROM THE ADJOINING PROPERTY OWNER.

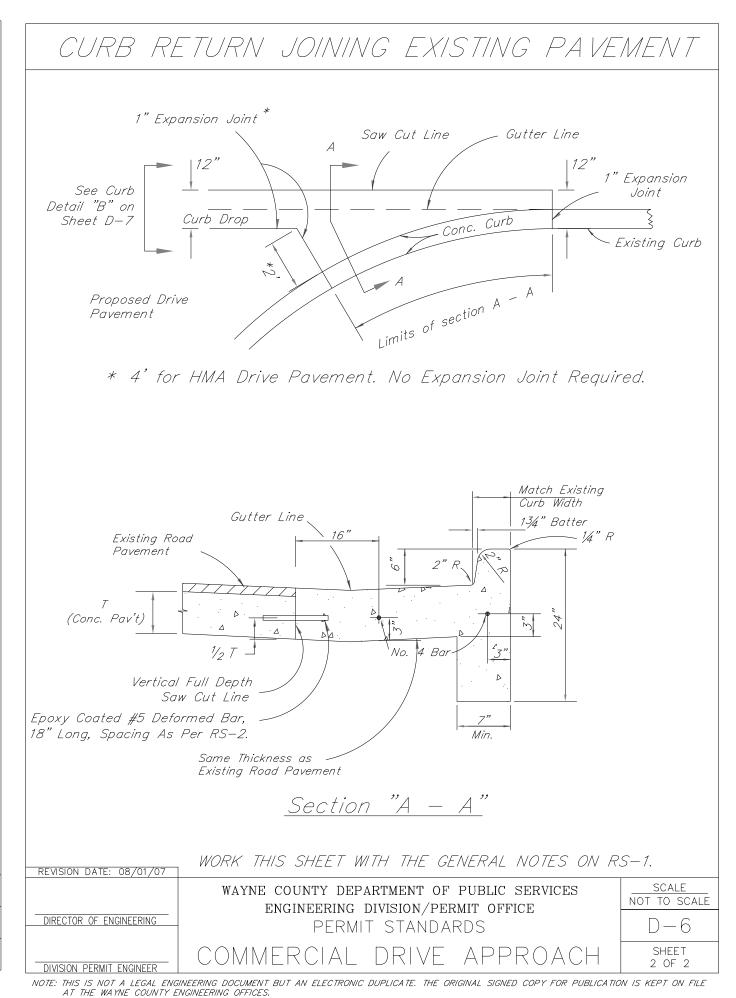
> WORK THIS SHEET WITH THE GENERAL NOTES ON RS-1 AND D-6 SHEET 2-2.

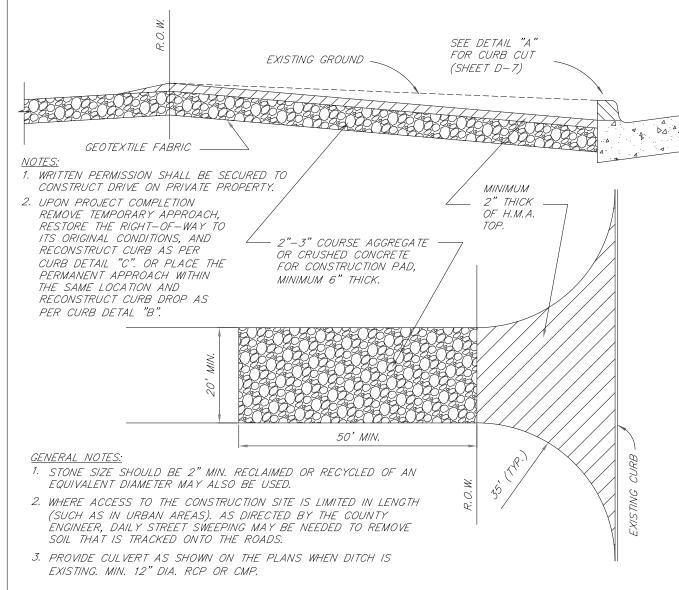
REVISION DATE: 08/01/07 SCALE NOT TO SCALE WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION/PERMIT OFFICE D - 6PERMIT STANDARDS

DIRECTOR OF ENGINEERING SHEET 1 OF 2 COMMERCIAL DRIVE APPROACH DIVISION PERMIT ENGINEER



NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.





CONSTRUCTION CONSIDERATIONS

1. SAW—CUT HORIZONTALY THE EXISTING CONCRETE CURB AS PER WAYNE COUNTY DETAIL "A" AND PREPARE THE EDGE OF PAVEMENT. 2. REMOVE AND DISPOSE OF UNWANTED TREES, OTHER VEGETATION, OR FOREIGN OBJECTS AND DEBRIS FROM THE

3. APPLY THE STONE IN LAYERS AND COMPACT IT AS DIRECTED BY THE WAYNE COUNTY ENGINEER.

4. PLACE H.M.A. TOP AND COMPACT IT TO ITS 97% OF THE UNIT WEIGHT OF THE MATERIALS OR AS DIRECTED BY THE WAYNE COUNTY ENGINEER.

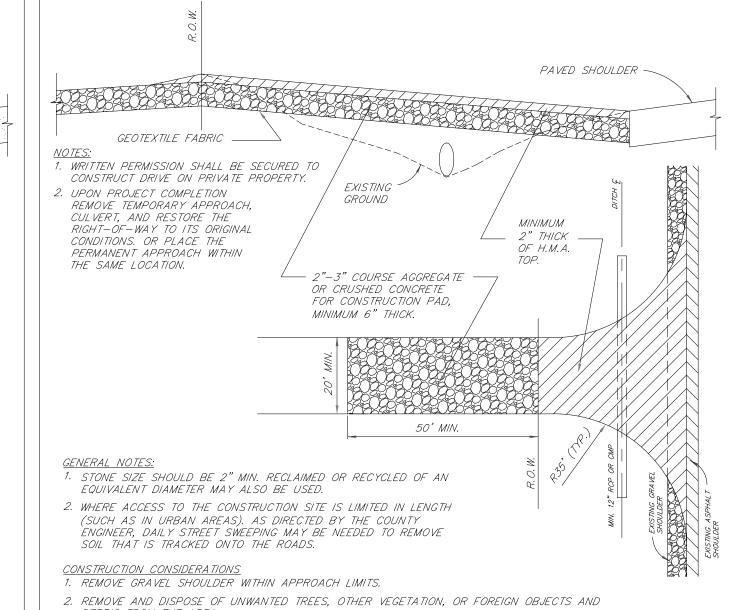
AFTER CONSTRUCTION

IF MUD AND SOIL ATTACHED TO TRUCK TIRES DOES NOT FALL OFF ONTO THE ASPHALT, THEN TRUCK TIRES SHOULD BE WASHED ON AN AREA STABILIZED WITH CRUSHED STONE. WASH RACKS MAY BE USED.

PROPER MAINTENANCE MAY INCLUDE ADDITIONAL LAYERS OF STONE OR H.M.A. WHEN THE ORIGINAL LAYERS BECOMES COVERED WITH MUD OR BECOMES COMPLETELY OR PARTIALLY DETERIORATED DUE TO MOVEMENT OF HEAVY TRUCKS AND VEHICLES. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR DEBRIS AND ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC R.O.W. SHOULD BE REMOVED IMMEDIATELY BY SWEEPING EFFECTIVELY.

REVISION DATE:		
DIRECTOR OF ENGINEERING	WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION/PERMIT OFFICE PERMIT STANDARDS	SCALE NOT TO SCALE CD-1
DIVISION PERMIT ENGINEER	TEMPORARY ASPHALT ACCESS DRIVE	SHEET 1 OF 2

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.



DEBRIS FROM THE AREA.

3. APPLY THE STONE IN LAYERS AND COMPACT IT AS DIRECTED BY THE WAYNE COUNTY ENGINEER. 4. PLACE H.M.A. TOP AND COMPACT IT TO ITS 97% OF THE UNIT WEIGHT OF THE MATERIALS OR AS DIRECTED BY

THE WAYNE COUNTY ENGINEER.

<u>AFTER CONSTRUCTION</u> IF MUD AND SOIL ATTACHED TO TRUCK TIRES DOES NOT FALL OFF ONTO THE ASPHALT, THEN TRUCK TIRES
SHOULD BE WASHED ON AN AREA STABILIZED WITH CRUSHED STONE. WASH RACKS MAY BE USED.

PROPER MAINTENANCE MAY INCLUDE ADDITIONAL LAYERS OF STONE OR H.M.A. WHEN THE ORIGINAL LAYERS BECOMES COVERED WITH MUD OR BECOMES COMPLETELY OR PARTIALLY DETERIORATED DUE TO MOVEMENT OF HEAVY TRUCKS AND VEHICLES. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR DEBRIS AND ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC R.O.W. SHOULD BE REMOVED IMMEDIATELY BY SWEEPING EFFECTIVELY.

REVISION DATE: WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES ENGINEERING DIVISION/PERMIT OFFICE DIRECTOR OF ENGINEERING CD-1PERMIT STANDARDS TEMPORARY ASPHALT ACCESS DRIVE DIVISION PERMIT ENGINEER

NOTE: THIS IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL SIGNED COPY FOR PUBLICATION IS KEPT ON FILE AT THE WAYNE COUNTY ENGINEERING OFFICES.

Ann Arbor, Michigan 48105 734.769.3004 734.769.3164 fax www.ectinc.com

> **ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT**





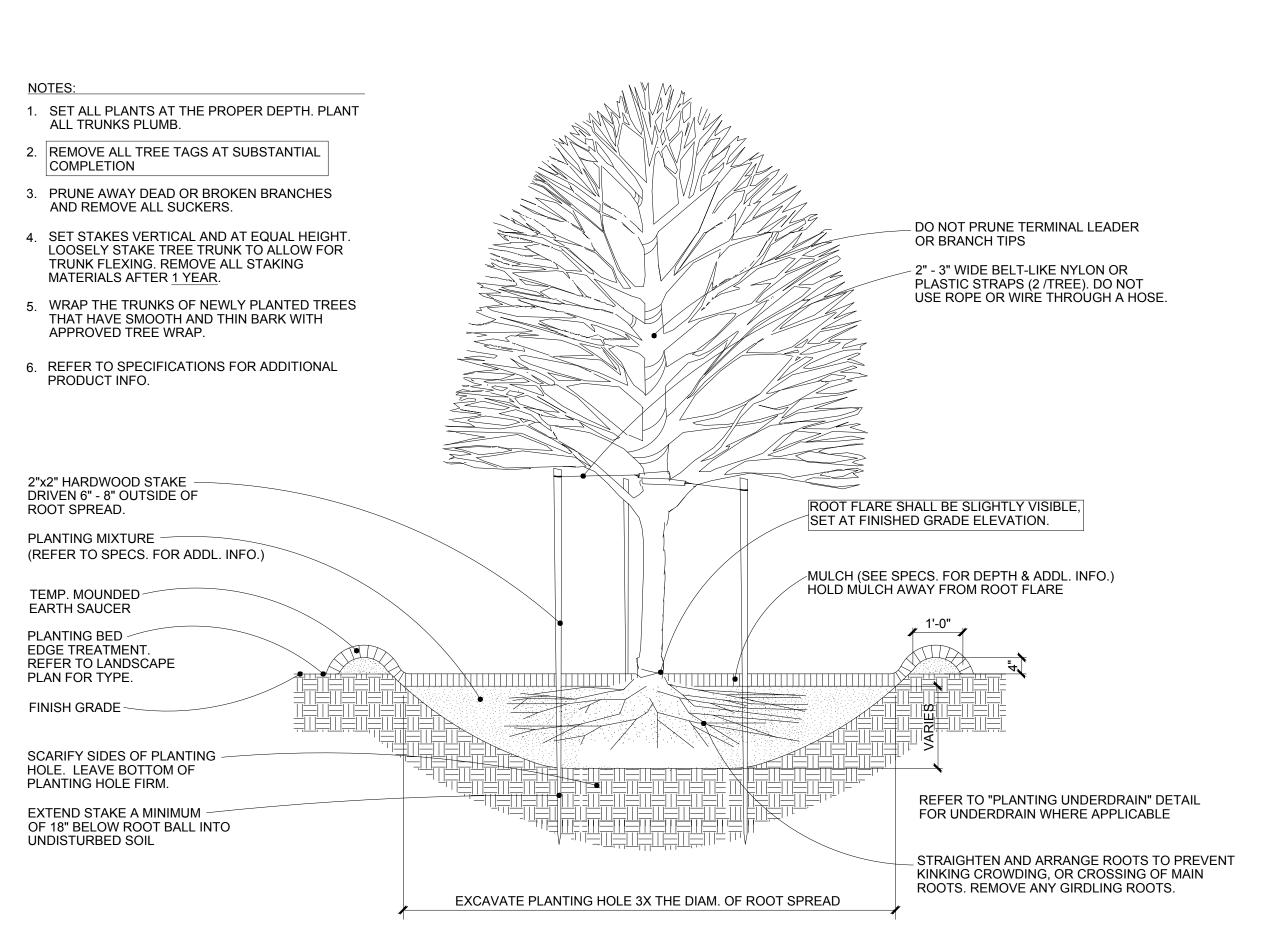
FOR CONSTRUCTION	06-202
FOR BIDDING	08-2020
REVISED PER WC PERMIT COMMENTS	08-03-2
95% DESIGN	09-2019
AGENCY REVIEW	08-02-1

<u>180406-0300</u> ECT PROJECT NUMBER DESIGNED BY CHECKED BY MR

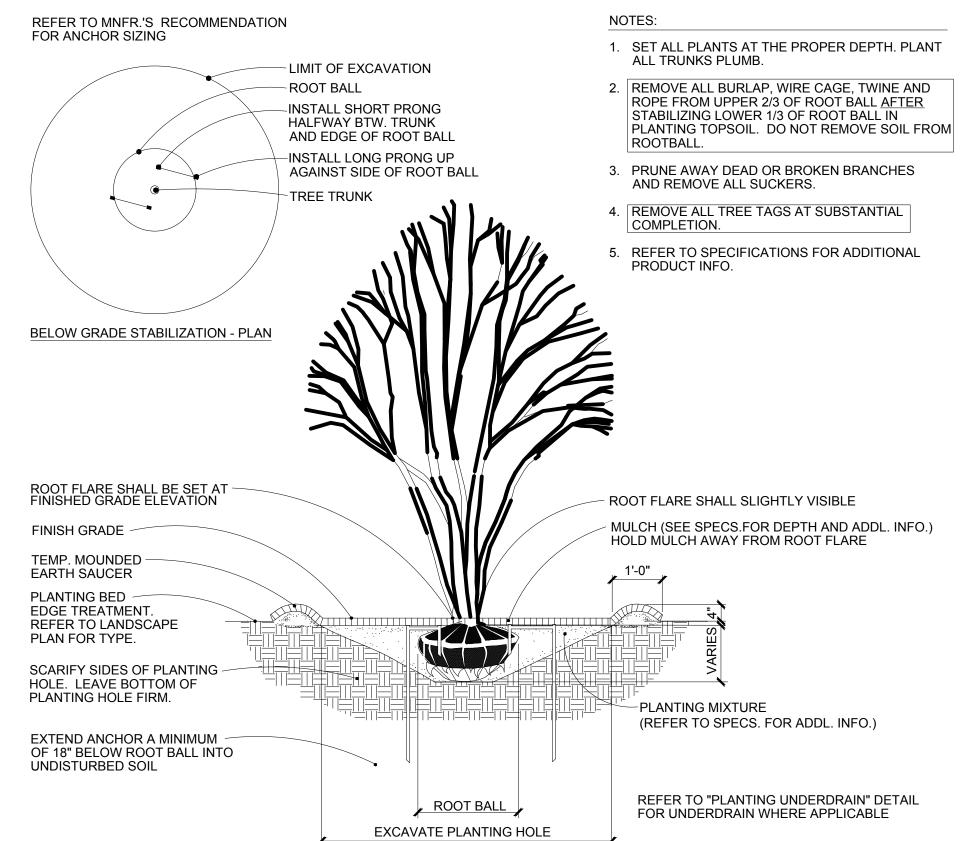
SR/AT DRAWN BY APPROVED BY

WAYNE COUNTY STANDARD DETAILS





DECIDUOUS TREE PLANTING WITH TREE STAKES - BARE ROOT SCALE: N.T.S.



MULTI STEM TREE WITH BELOW GRADE STABILIZATION

NOTES:

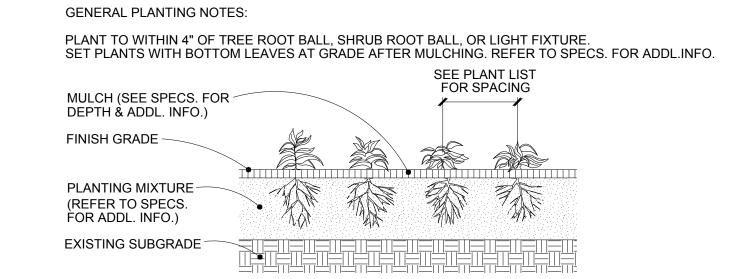
3X THE DIAM. OF ROOT BALL

1. ALL SHRUBS PLANTED IN ROWS OR MASSES SHALL BE MATCHED IN SIZE AND FORM. SET ALL

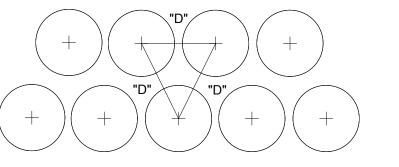
2. STRAIGHTEN AND ARRANGE ROOTS TO PREVENT

KINKING CROWDING, OR CROSSING OF MAIN

PLANTS AT PROPER DEPTH.

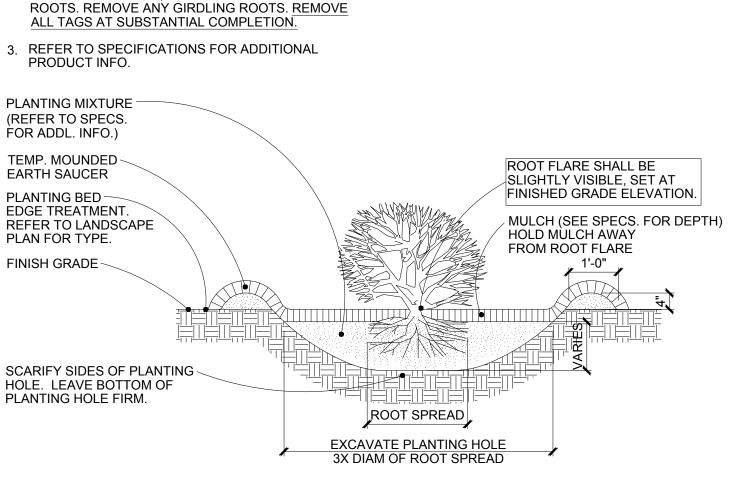


GROUNDCOVER/PERENNIAL PLANTING SCALE: N.T.S.



D = DIMENSION OF PLANT SPACING AS INDICATED IN PLANT LIST.

TYPICAL PLANT SPACING SCALE: N.T.S.



SHRUB PLANTING - BARE ROOT OR CONTAINER

Ann Arbor, Michigan 48105 734.769.3004 734.769.3164 fax www.ectinc.com

> **ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT**





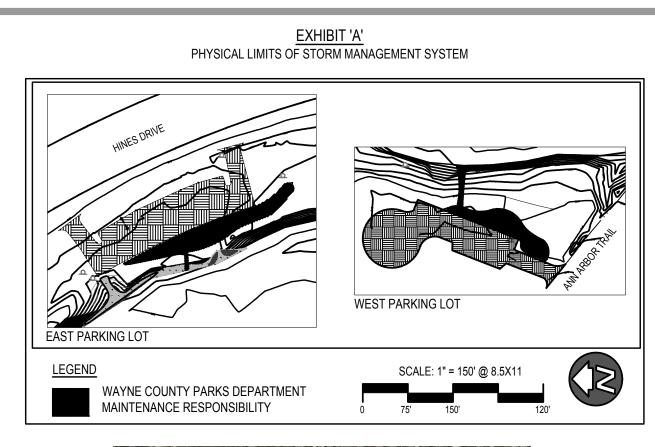
FOR CONSTRUCTION 06-2021 08-2020 FOR BIDDING 09-2019 95% DESIGN **AGENCY REVIEW** 08-02-19

<u>180406-0300</u> ECT PROJECT NUMBER

DESIGNED BY APPROVED BY

DRAWN BY

PLANTING DETAILS





WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES
PARKS DEPARTMENT
NANKIN LAKE HABITAT RESTORATION PROJECT



EXHIBIT B:

STORM WATER MANAGEMENT SYSTEM LONG-TERM MAINTENANCE SCHEDULE

PROPERTY INFORMATION: Edward N. Hines Drive Parking Lot /

Nankin Lake Drive Parking Lot Nankin Lake, Livonia, MI 48150

PROPERTY OWNER: Wayne County Department of

Public Services- Parks Department 33175 Ann Arbor Trail Westland, MI 48185 Contact: Mr. John Gundry

WAYNE COUNTY DPS PERMIT NO. / REVIEW NO.: R 19-997

A. PHYSICAL LIMITS OF THE STORM WATER MANAGEMENT SYSTEM

734-466-3504

The storm water management system (SWMS) subject to this Long-Term Maintenance Plan (Plan) is depicted on Exhibit A to the Permit and includes without limitation bioretention area, overflow structures and outlet.

For purposes of this Plan, this storm water management system and all of its components as shown in Exhibit A is referred to as "Edward N. Hines Drive Parking Lot and Nankin Lake Drive Parking Lot SWMS".

B. TIME FRAME FOR LONG TERM MAINENANCE RESPONSIBILITY

Wayne County Department of Public Services Parks Department has assumed responsibility for maintaining the Edward N. Hines Drive Parking Lot and Nankin Lake Drive Parking Lot SWMS, including complying with applicable requirements until Wayne County releases the construction permit. Long-term maintenance responsibility for the Edward N. Hines Drive Parking Lot and Nankin Lake Drive Parking Lot SWMS commences when defined by the maintenance permit issued by the County. Long Term Maintenance continues in perpetuity.

C. MANNER OF ENSURING MAINTENANCE RESPONSIBILITY

Wayne County Department of Public Services Parks Department has assumed responsibility for long-term maintenance of the Edward N. Hines Drive Parking Lot and Nankin Lake Drive Parking Lot SWMS. The resolution by which the Wayne County Department of Public Services Parks Department has assumed maintenance responsibility is attached to the permit as Exhibit C.

To ensure that Wayne County Department of Public Services Parks Department is maintained in perpetuity, the map of the physical limits of the storm water management system (Exhibit A) this plan (Exhibit B), the resolution attached as Exhibit C, and the Maintenance Agreement by the Property Owner will be recorded with Wayne County Register of Deeds. Upon recording, a copy of the recorded document will be provided to the County.

D. LONG TERM MAINTENANCE PLAN AND SCHEDULE

Maintenance activities to be performed include mowing invasive species before they produce seed to prevent spread, on an as-needed basis; inspection for sediment/ debris accumulation and erosion, semi-annually; removal of sediment and debris, as needed; repair of erosion, as needed; and sweeping of paved surfaces, as needed. These activities will ensure that the storm water management system functions properly as designed. Chemicals will not be applied to the bio-retentions and their buffer areas.

SYSTEM CON	SYSTEM COMPONENT		ı	
MAINTENANCE ACTIVITIES	BIO RETENTION AREAS	OVERFLOW STRUCTURES	PAVEMENT AREAS	FREQUENCY
MONITORING OR INSPECTION				
INSPECT FOR SEDIMENT ACCUMULATION,				
CLOGGING	Х	Х		ANNUALLY
INSPECT FOR FLOATABLE DEAD VEGETATION				ANNUALLY AND AFTER
AND DEBRIS	Χ	Х		MAJOR STORM EVENTS
INSPECT FOR EROSION AND INTEGRITY OF				ANNUALLY AND AFTER
BANKS AND BERMS	Χ			MAJOR STORM EVENTS
INSPECT ALL COMPONENTS DURING WET				ANNUALLY PLANTINGS
WEATHER AND COMPARE TO AS-BUILTS				AFTER MAJOR STORM
PLANS	Χ	Χ	Х	EVENTS
MONITOR PLANTINGS VEGETATION	Х			2 TIMES A YEAR
ENSURE MEANS OF ACCESS FOR				
MAINTENANCE REMAIN CLEAR/OPEN	Х	Χ	Х	ANNUALLY
PREVENTATIVE MAINTENANCE AND REMEDIA	AL A	CTIC	NS	
MOWING	Х			UP TO 2 TIMES PER YEAR
REMOVE ACCUMULATED SEDIMENT	Χ	Χ		AS NEEDED
REMOVE FLOATABLES, DEAD VEGETATION				
AND DEBRIS	Χ	Χ		AS NEEDED
WEEDING OF INVASIVE PLANT SPECIES	Χ			EVERY MONTH
REPLACE LOW QUALITY, DYING, OR				
DISEASED PLANTS	Χ			EVERY 3 MONTHS
REPLACING SOILS AND UNDERDRAINS AS				EVERY 5 YEARS OR IF WATER
NEEDED	Χ			PONDS> 6 HOURS
FUTURE FERTILIZING AS NEEDED TO BE				
ORGANIC	Χ			SEASONAL
PRUNING, PINCHING, OR DEAD HEAD	Χ			EVERY SPRING
WATER PLANTINGS	Χ			AS NEEDED
MAKE ADJUSTMENTS/ REPAIRS TO ENSURE				
PROPER FUNCTIONING	Χ	Χ	Х	AS NEEDED
STRUCTURAL REPAIRS		Χ		AS NEEDED
TEST SOILS FERTILITY	Χ			ANNUALLY



ROUGE RIVER AOC - NANKIN LAKE RESTORATION PROJECT





 ONSTRUCTION
 06-2021

 ED PER WC PERMIT COMMENTS
 02-15-21

 ESIGN
 09-2019

 EY REVIEW
 08-02-19

ECT PROJECT NUMBER

SR/AT
DRAWN BY
AP

WAYNE COUNTY
MAINTENANCE
EXHIBITS



WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES PARKS DEPARTMENT IN COOPERATION WITH MICHIGAN DEPARTMENT OF TRANSPORTATION

AND

FEDERAL HIGHWAY ADMINISTRATION ANN ARBOR TRAIL CONNECTOR ANN ARBOR ROAD AND HINES DRIVE

MDOT JN: 132552 CS: TAU 82457



Wayne County

MANINARI RD. ROUGE JOY ROAD HINES DR. ANN ARBOR TRAIL WARREN RD.

SITE LOCATION MAP

NOTES LEGEND TYPICAL CROSS SECTIONS

MISCELLANEOUS DETAILS SITE FURNISHINGS LANDSCAPE PLAN AND DETAILS ALIGNMENT PLAN REMOVAL, PLAN AND PROFILE 11-20 PARKING LOT LAYOUT PARKING LOT GRADING PAVEMENT MARKING AND SIGNING BIORETENTION DETAILS MAINTENANCE EXHIBITS GENERAL PLAN OF SITE GENERAL PLAN OF STRUCTURE BRIDGE DETAILS ABUTMENT DETAILS SOIL BORING SHEETS 33-34

0.53 MILES
CONTRACT FOR: CONSTRUCTION OF 2000 FEET OF HMA TRAIL AND 800 FEET OF AGGREGATE TRAIL, INCLUDING A 100 FOOT PREFABRICATED TRUSS BRIDGE.

WCP2017-01

WAYNE COUNTY DETAILS

INDEX OF SHEETS



DATE

PREPARED UNDER THE SUPERVISION OF

JEREMY A. CURTIS, PE

WAYNE COUNTY APPROVAL

DIRECTOR OF ENGINEERING

DATE COUNTY HIGHWAY ENGINEER

OWNER

WAYNE COUNTY PARKS 33175 ANN ARBOR TRAIL WESTLAND, MI 48185 (734) 261-1990

PARCEL DESCRIPTION

04B554B LOT 554 AND W2 OF ADJ VAC ST OF SUPERVISORS NANKIN PLAT NO.9 L62 WCR EXC THAT PART THEREOF LYING N'ELY OF THE CENTERLINE OF EDWARD N HINES DRIVE SUPERVISORS NANKIN PLAT NO.9 T2S R93 L65 P82 WCR.

DRAINAGE STRUCTURES SIDEWALK RAMP AND DETECTABLE WARNING DETAILS GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS TEMPORARY TRAFFIC CONTROL DEVICES

MDOT STANDARD PLANS

CONCRETE SHOULDER GUTTER AND SPILLWAY R-35-D

CONCRETE CURB AND CONCRETE

TRANSVERSE PAVEMENT JOINTS (PLAIN

PRECAST CONCRETE END SECTION

R-12-E

R-30-G

R-39-K

R-83-C

R-86-E

R-88-D

R-96-E R-100-H

PAVE-945-C

PAVE-956-C

COVER G

CURB AND GUTTER

CONCRETE PAVEMENT)

UTILITY TRENCHES

FOR PILE CULVERTS

STEEL END SECTION

SEDIMENTATION CONTROL

CROSSWALK MARKINGS

(INCLUDED IN PLANS)

SEEDING AND TREE PLANTING INTERSECTION STOP BAR AND

PARKING AREA PAVEMENT MARKINGS

MDOT SPECIAL DETAILS

SOIL EROSION AND

R-28-J WZD-100-A WZD-125E

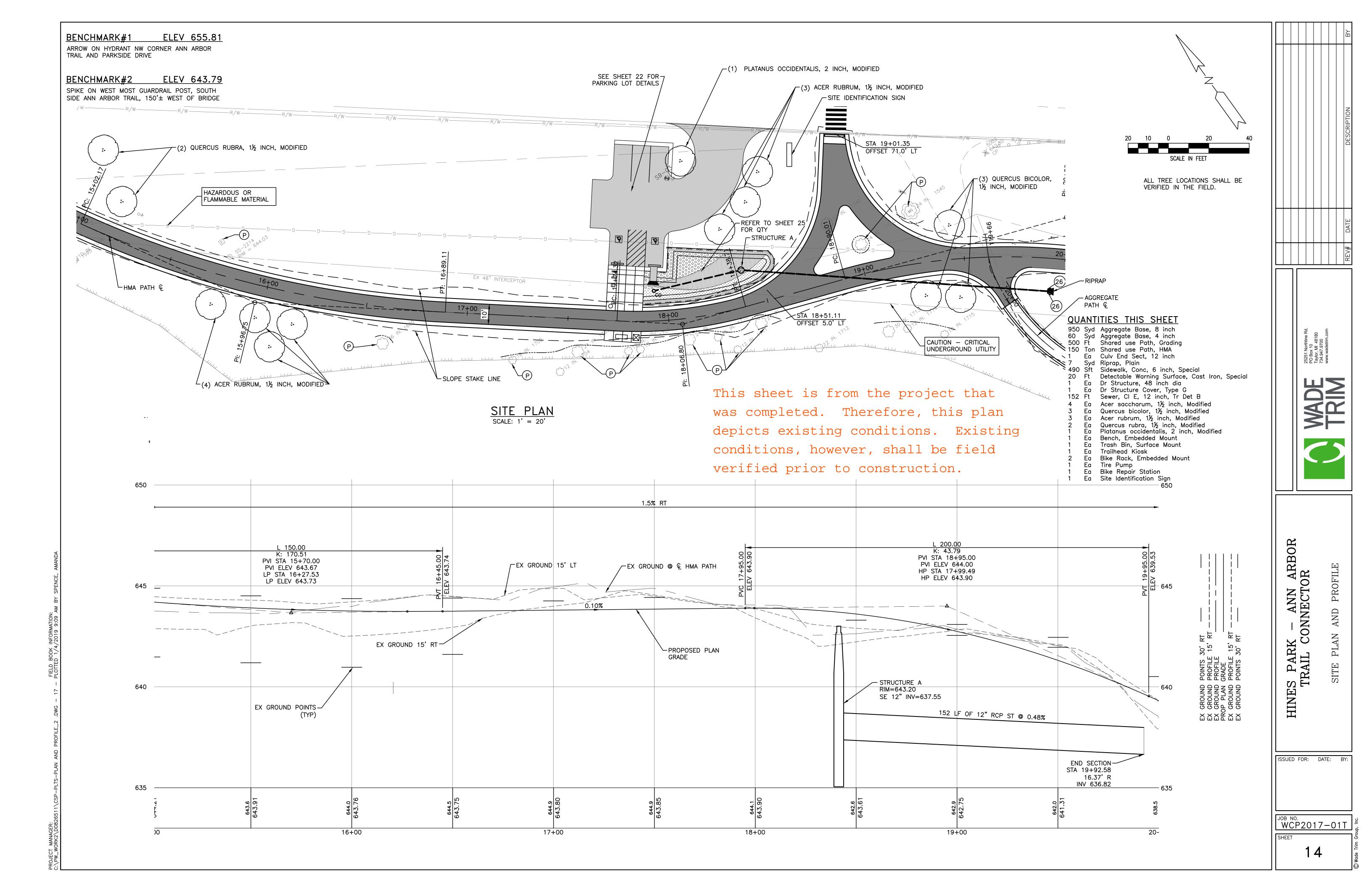
PROJECT LOCATION-

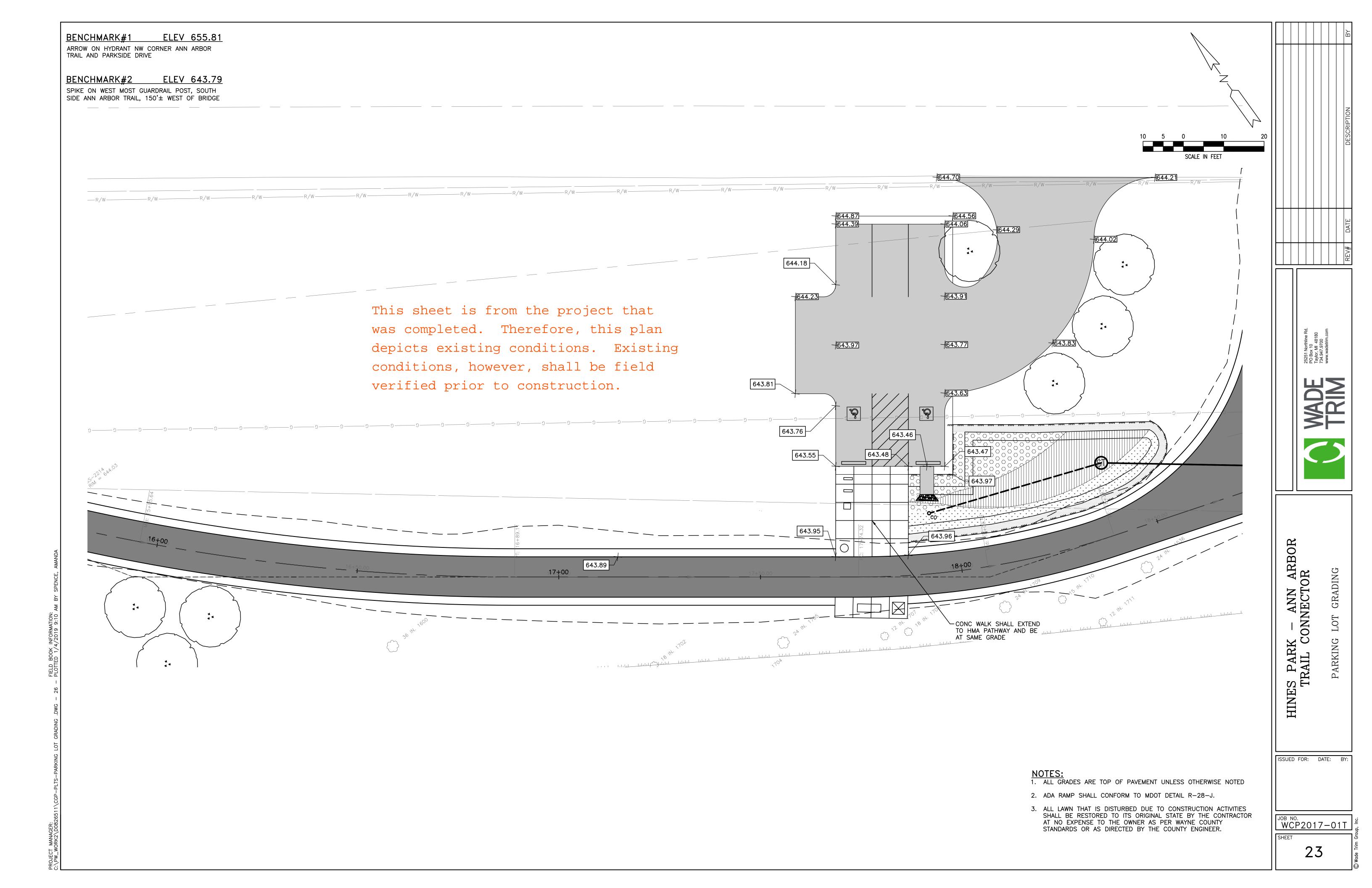
follow are select plan sheets from a project completed for the Ann Arbor Trail Connector. The full parking lot was not constructed due to funding. The bidder is to bid on completing the parking lot and associated bioswale as a part of

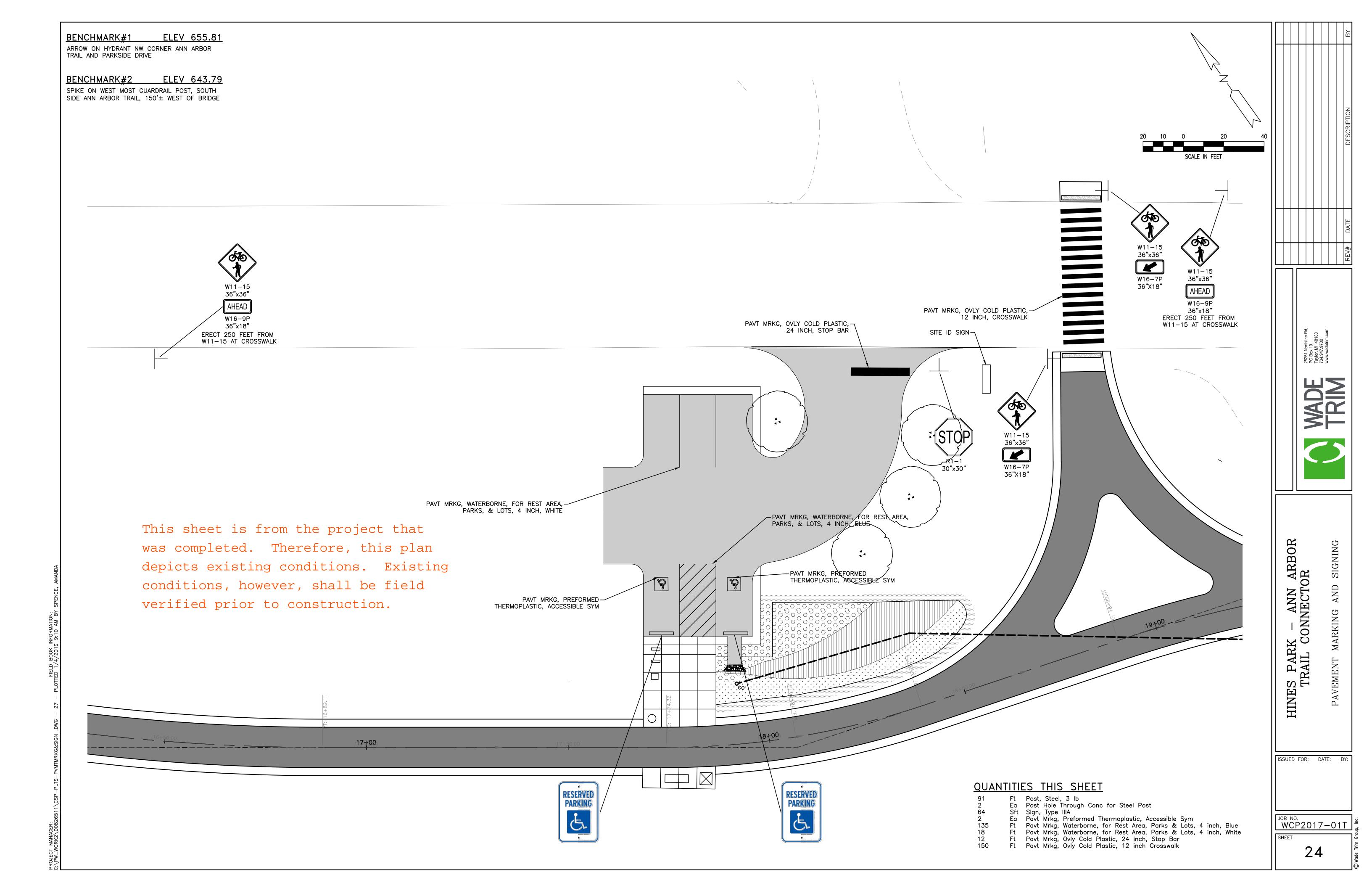
the scope of work for

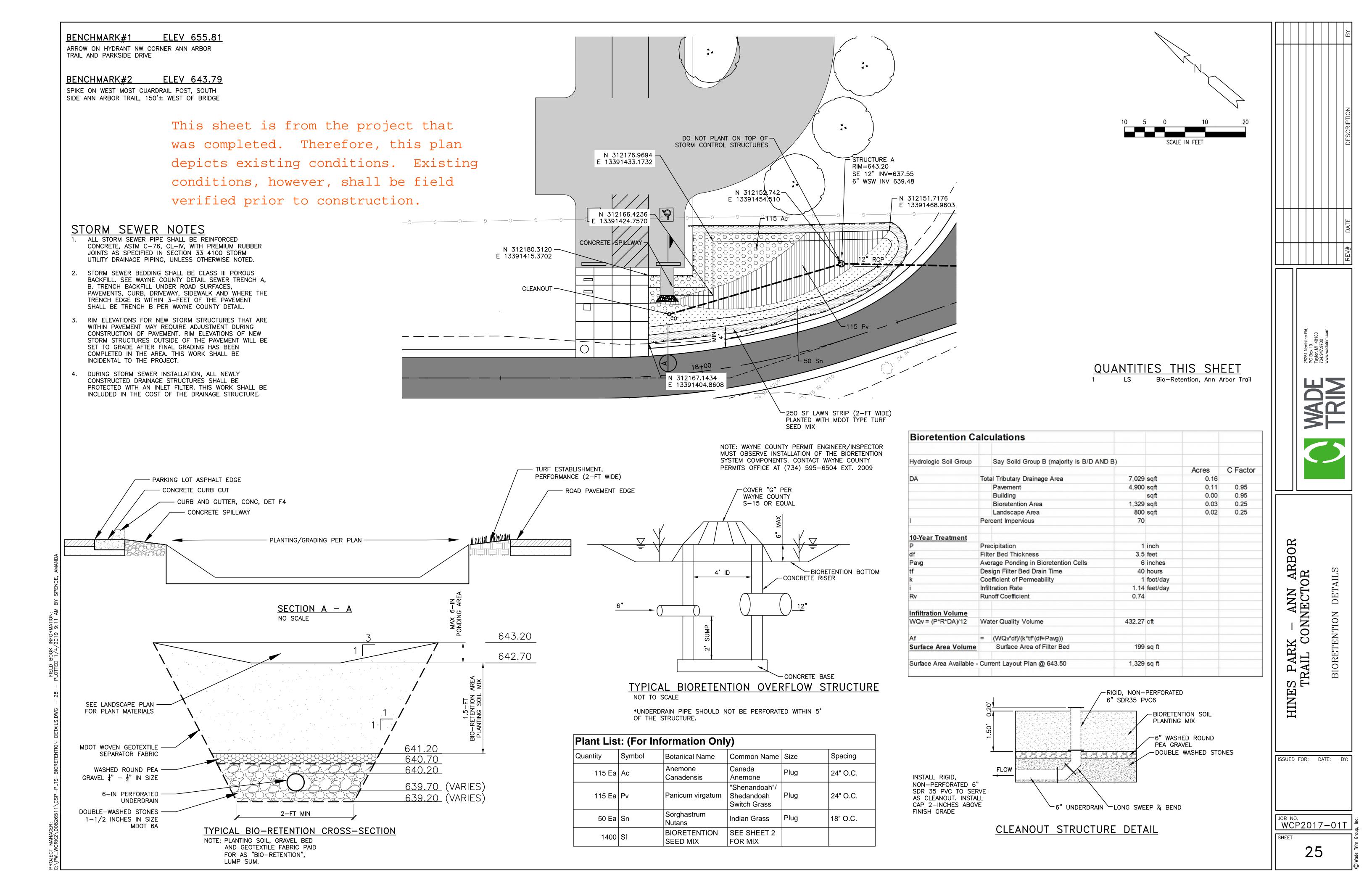
this project.

This and the sheets that









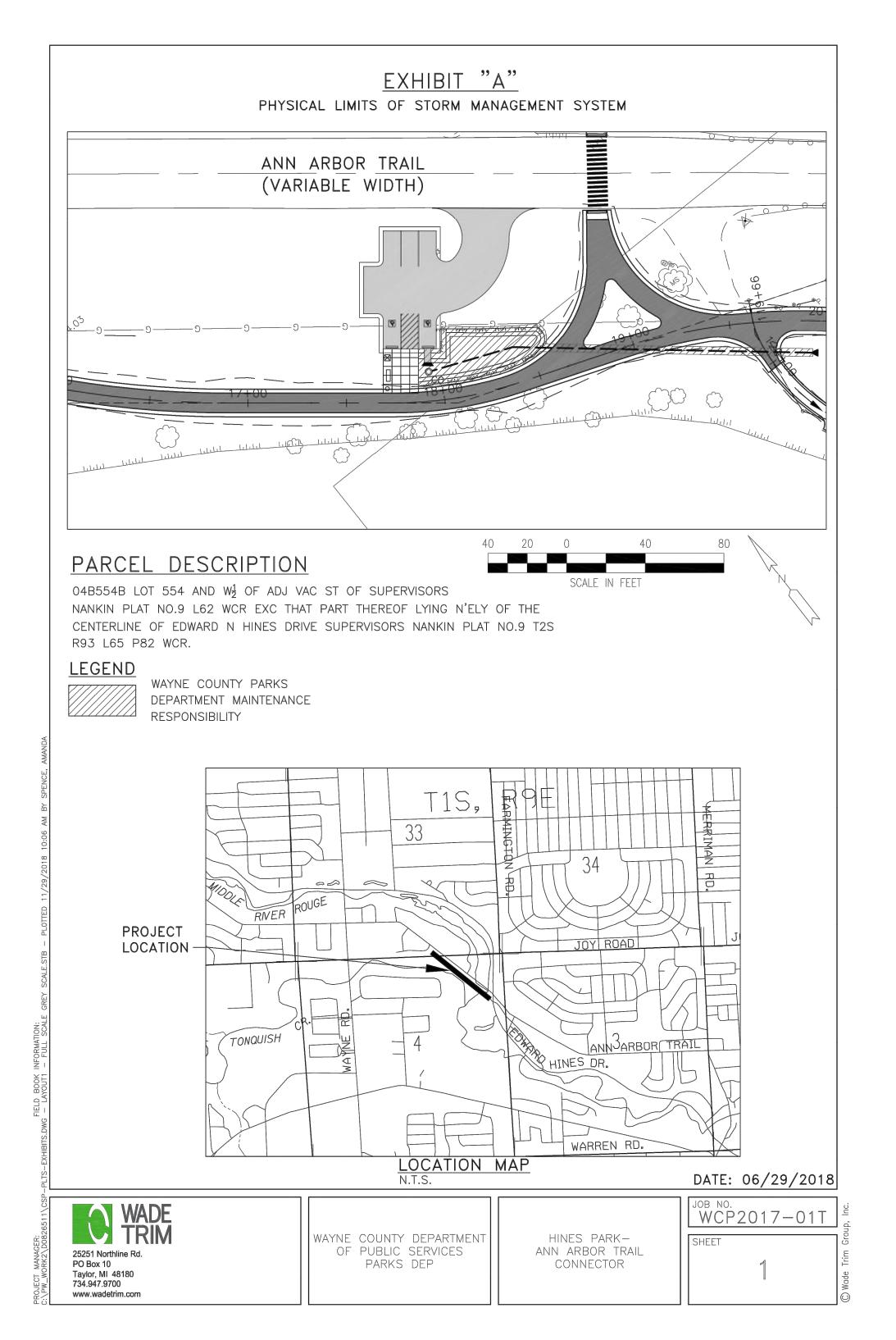


EXHIBIT B
STORM WATER MANAGEMENT SYSTEM LONG-TERM MAINTENANCE SCHEDULE

PROPERTY INFORMATION: Ann Arbor Road Parking Lot Hines Park

Livonia, MI 48150

PROPERTY OWNER: Wayne County Department of Public Services Parks Department

33175 Ann Arbor Trail Westland, MI 48185 Mr. John Gundry

Phone: 734-466-3504

WAYNE COUNTY DPS PERMIT NO. / REVIEW NO.:

PHYSICAL LIMITS OF THE STORM WATER MANAGEMENT SYSTEM

The storm water management system (SWMS) subject to this Long-Term Maintenance Plan (Plan) is depicted on Exhibit A to the Permit and includes without limitation bioretention area, overflow structures and outlet that conveys flow from the bioretention to the Middle Rouge River.

For purposes of this Plan, this storm water management system and all of its components as shown in Exhibit A is referred to as "Ann Arbor Road Parking Lot SMWS".

TIME FRAME FOR LONG-TERM MAINTENANCE RESPONSIBILTY

Wayne County Department of Public Services Parks Department has assumed responsibility for maintaining the Ann Arbor Road Parking Lot SWMS, including complying with applicable requirements of the local or Wayne County soil erosion and sedimentation control program, until Wayne County releases the construction permit. Long-term maintenance responsibility for the Ann Arbor Road Parking Lot SWMS commences when defined by the maintenance permit issued by the County. Long Term Maintenance continues in perpetuity.

MANNER OF ENSURING MAINTENANCE RESPONSIBILITY

Wayne County Department of Public Services Parks Department has assumed responsibility for long-term maintenance of Ann Arbor Road Parking Lot SWMS. The resolution by which the Wayne County Department of Public Services Parks Department has assumed maintenance responsibility is attached to the permit as Exhibit C.

To ensure that Wayne County Department of Public Services Parks Department is maintained in perpetuity, the map of the physical limits of the storm water management system (Exhibit A), this plan (Exhibit B), the resolution attached as Exhibit C, and the Maintenance Agreement by the Property Owner will be recorded with Wayne County Register of Deeds. Upon recording, a copy of the recorded document will be provided to the County.

D. LONG TERM MAINTENANCE PLAN AND SCHEDULE

Table 1 identifies the maintenance activities to be performed, organized by category (monitoring/inspection, preventative maintenance, and remedial actions). Table 1 also identifies site-specific work needed to ensure that the storm water management system functions properly as designed. Chemicals should not be applied to the bio-retentions and their buffer areas.

This sheet is from the project that was completed. Therefore, this plan depicts existing conditions. Existing conditions, however, shall be field verified prior to construction.

TABLE 1

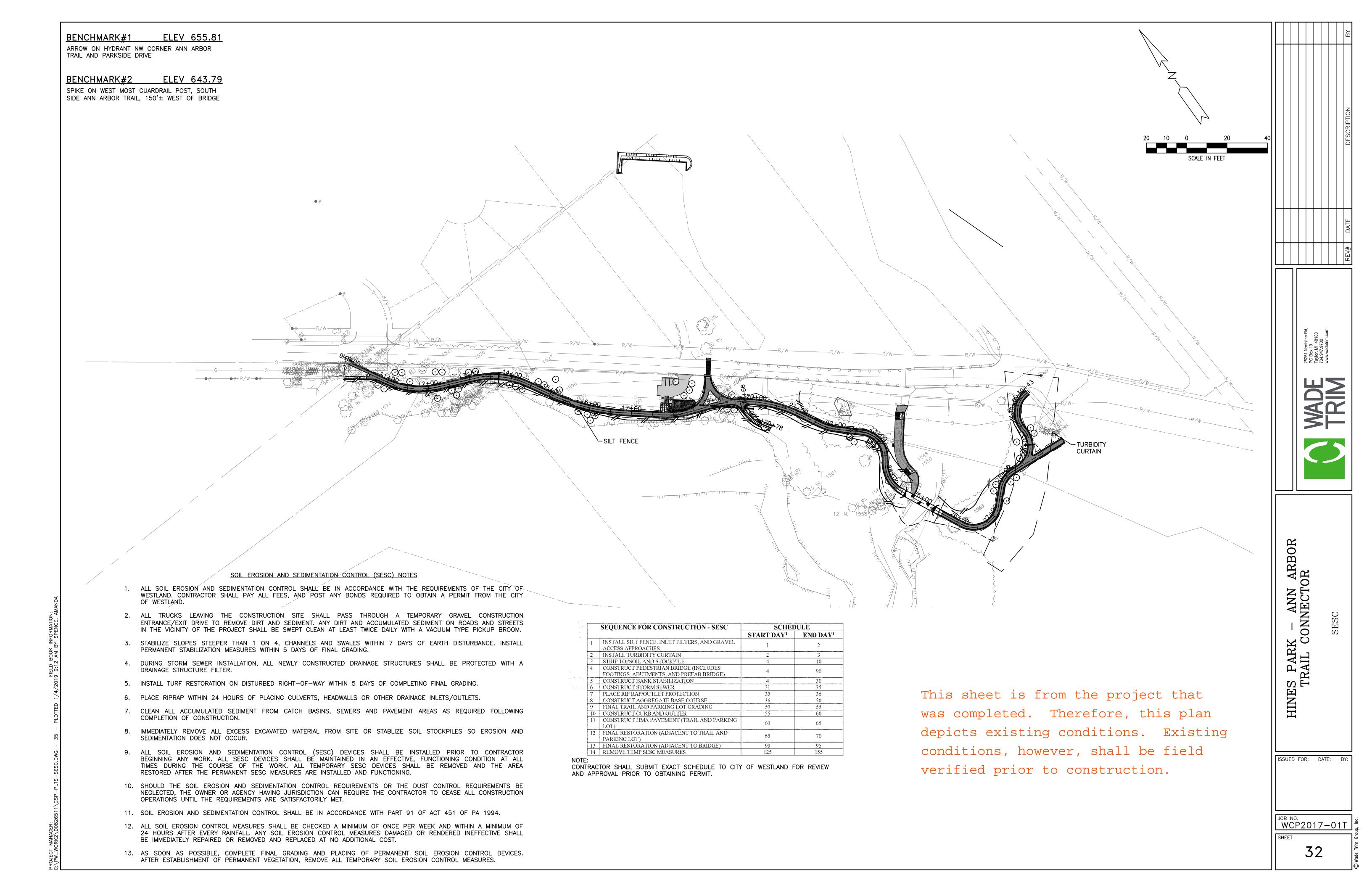
SYSTEM COMI	ONE			
	BIO RETENTION AREAS	OVERFLOW STRUCTURE & OUTLET PIPE	PAVEMENT AREAS	
MAINTENANCE ACTIVITIES		Ž		FREQUENCY
MONITORING OR INSPECTION		0		FREQUENCT
INSPECT FOR SEDIMENT ACCUMULATION,	<u> </u>	I		
CLOGGING OR STONE FILTER	$ \mathbf{x} $	x		ANNUALLY
INSPECT FOR FLOATABLE DEAD VEGETATION				ANNUALLY AND AFTER
AND DEBRIS	X	х		MAJOR STORM EVENTS
INSPECT FOR EROSION AND INTERGRITY OF				ANNUALLY AND AFTER
BANKS AND BERMS	X			MAJOR STORM EVENTS
INSPECT ALL COMPONENTS DURING WET			v	ANNUALLY
WEATHER AND COMPARE TO AS-BUILTS PLANS	X	Х	Х	ANNUALLY
MONITOR PLANTINGS VEGETATION	X			2 TIMES A YEAR
ENSURE MEANS OF ACCESS FOR				Z TIMES / TE/AT
MAINTENANCE REMAIN CLEAR/OPEN	x	х	х	ANNUALLY
PREVENTATIVE MAINTENANCE & REMEDIAL ACTIO	NS			
MOWING	X			UP TO 2 TIMES PER YEAR
REMOVE ACCUMULATED SEDIMENT	X	Х		AS NEEDED
REMOVE FLOATABLES, DEAD VEGETATION AND DEBRIS	x	х		AS NEEDED
AND DEDING	 ^ 	^		AG NEEDED
WEEDING OF INVASIVE PLANT SPECIES	x			EVERY MONTH
REPLACE LOW QUALITY, DYING, OR DISEASED				
PLANTS	X			EVERY 3 MONTHS
REPLACING SOILS AND UNDERDRAINS AS				EVERY 5 YEARS OR IF
NEEDED	X			WATER PONDS > 6 HOURS
FUTURE FERTILIZING AS NEEDED TO BE ORGANIC	x			SEASONAL
				Car to G t V th
PRUNING, PINHCING, OR DEAD HEAD	x			EVERY SPRING
WATER PLANTINGS	X			AS NEEDED
MAKE ADJUSTMENTS/REPAIRS TO ENSURE		ζ,	ζ,	AO NEEDED
PROPER FUNCTIONING	X	Х	Х	AS NEEDED
STRUCTURAL REPAIRS		x		AS NEEDED





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WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES PARKS DEPARTMENT IN COOPERATION WITH MICHIGAN DEPARTMENT OF TRANSPORTATION

AND

FEDERAL HIGHWAY ADMINISTRATION ANN ARBOR TRAIL CONNECTOR ANN ARBOR ROAD AND HINES DRIVE

MDOT JN: 132552 CS: TAU 82457

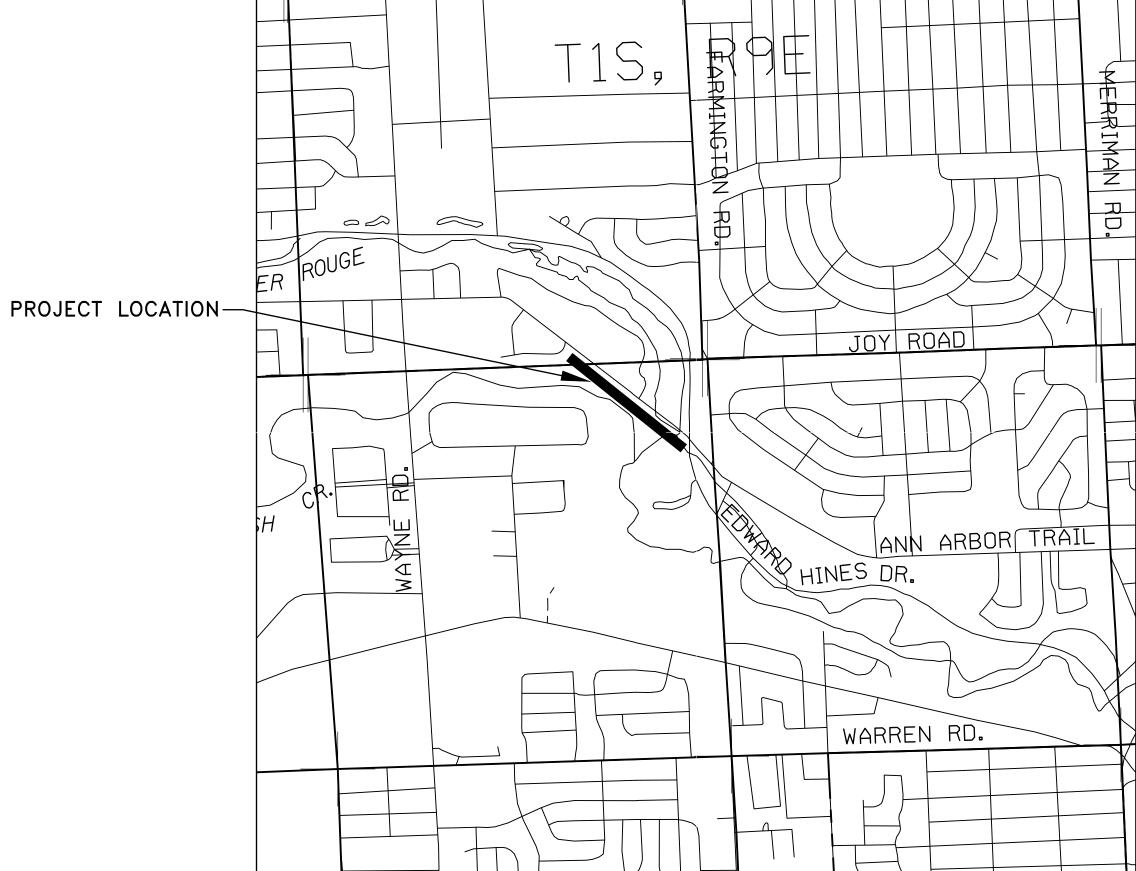
MDOT STANDARD PLANS

COVER G R-12-E CONCRETE CURB AND CONCRETE CURB AND GUTTER R-30-G CONCRETE SHOULDER GUTTER AND SPILLWAY R-35-D UTILITY TRENCHES PRECAST CONCRETE END SECTION FOR PILE CULVERTS R-86-E STEEL END SECTION R-88-D SOIL EROSION AND R-96-E R-100-H SEEDING AND TREE PLANTING INTERSECTION STOP BAR AND PAVE-945-C PARKING AREA PAVEMENT MARKINGS PAVE-956-C

MDOT SPECIAL DETAILS

(INCLUDED IN PLANS) DRAINAGE STRUCTURES SIDEWALK RAMP AND DETECTABLE WARNING DETAILS R-28-J GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS WZD-100-A WZD-125E





SITE LOCATION MAP

This sheet and the ones that follow are select plan sheets for the fully designed project. These depict the fully completed proposed conditions. The bidder shall propose bid to complete the parking lot and proposed bioswale as depicted in these

plans.



INDEX OF SHEETS

COVER	1
NOTES	2
LEGEND	3
TYPICAL CROSS SECTIONS	4-5
MISCELLANEOUS DETAILS	6
SITE FURNISHINGS	7
STAIR PLAN AND SECTION	8
STAIR DETAILS	9
LANDSCAPE PLAN AND DETAILS	10
LANDSCAPE DETAILS	11
ALIGNMENT PLAN	12
REMOVAL, PLAN AND PROFILE	13-22
DETAIL GRADE SHEET	23
PARKING LOT LAYOUT	24
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BIORETENTION DETAILS	27
MAINTENANCE EXHIBITS	28
GENERAL PLAN OF SITE	29
GENERAL PLAN OF STRUCTURE	30
BRIDGE DETAILS	31
ABUTMENT DETAILS	32-33
SOIL BORING SHEETS	34-35

0.53 MILES
CONTRACT FOR: CONSTRUCTION OF 2000 FEET OF HMA TRAIL AND 800 FEET OF AGGREGATE TRAIL, INCLUDING A 100 FOOT PREFABRICATED TRUSS BRIDGE. WCP2017-01



DATE

PREPARED UNDER THE SUPERVISION OF

JEREMY A. CURTIS, PE

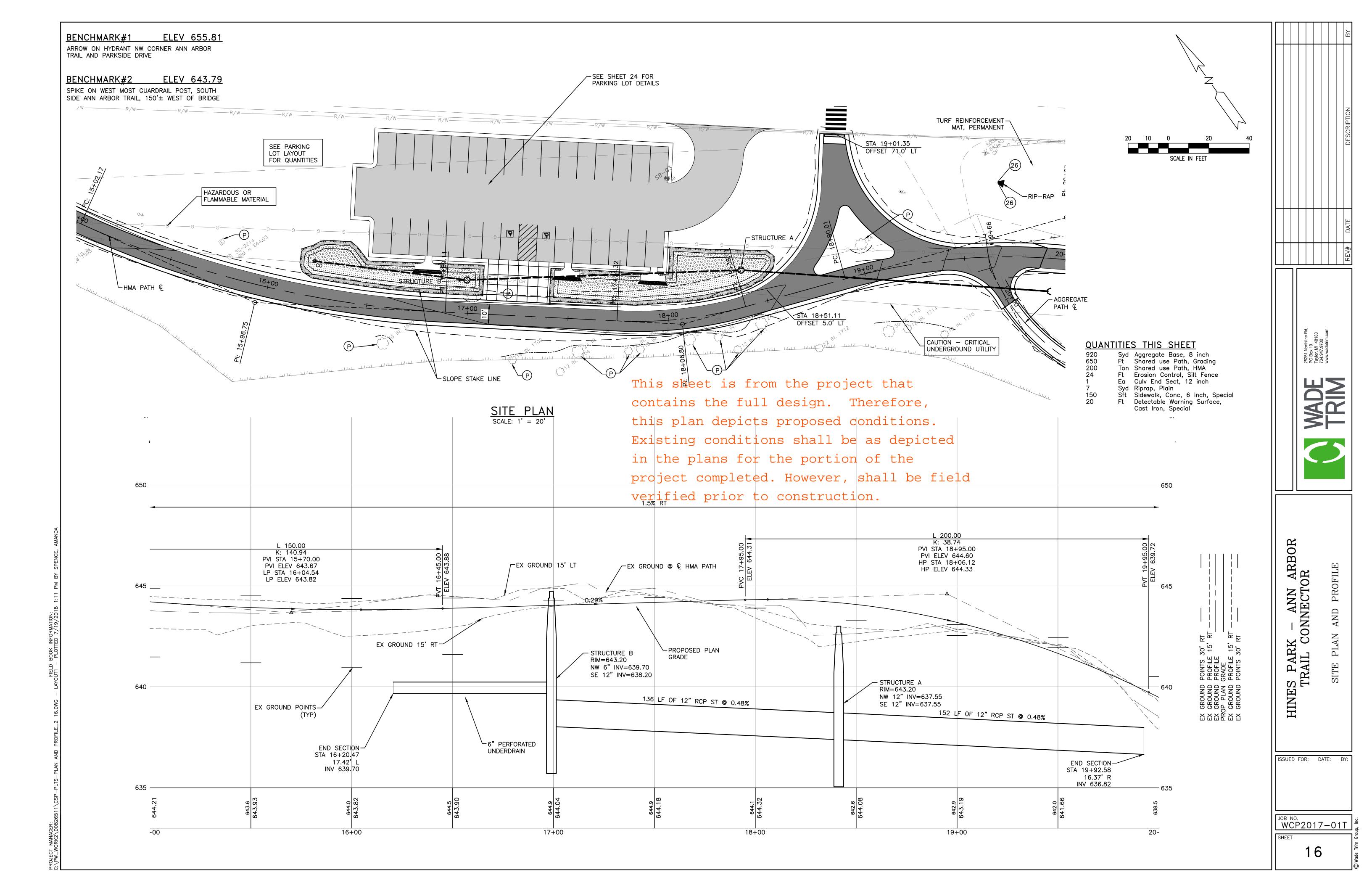
WAYNE COUNTY APPROVAL

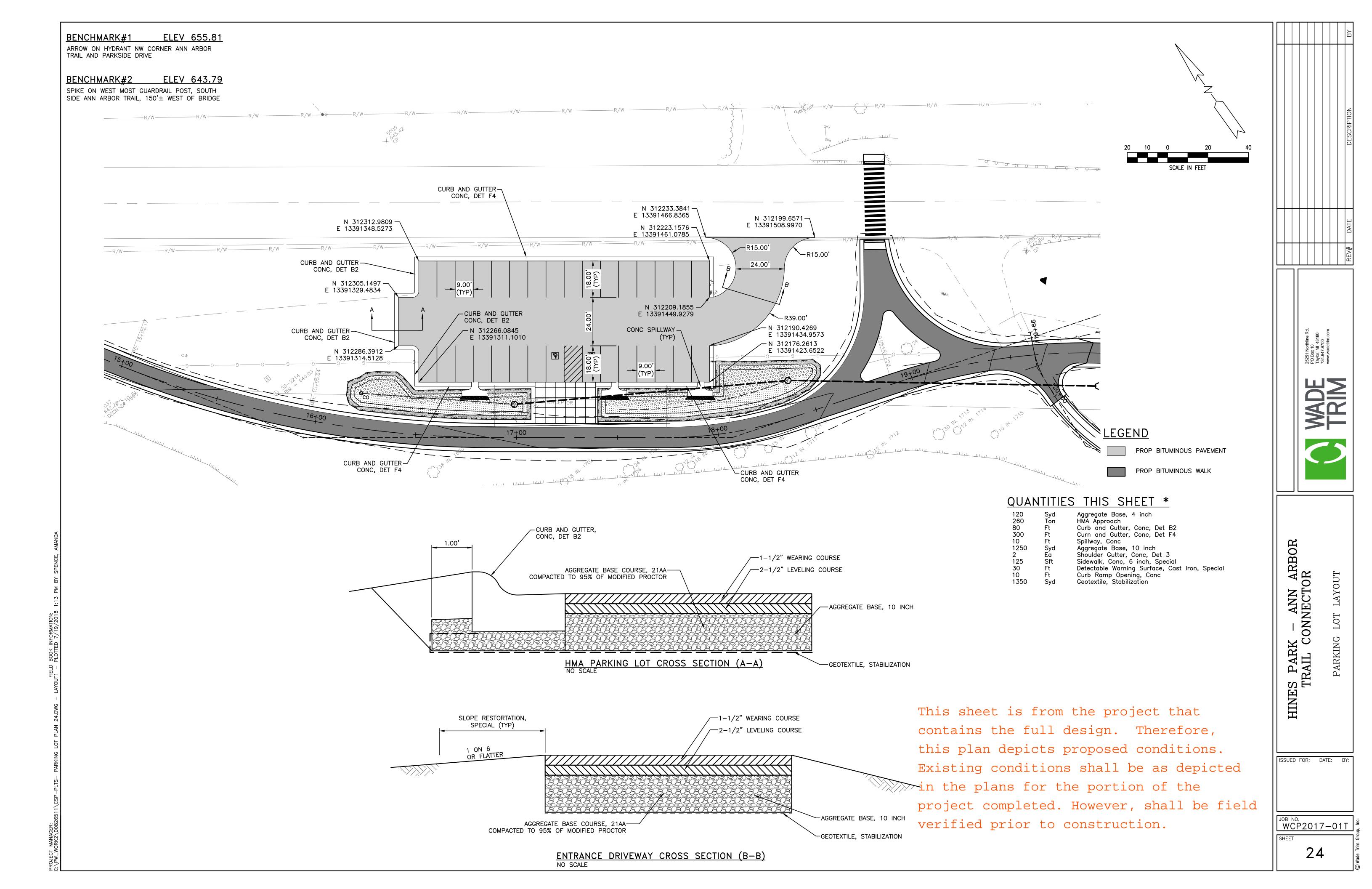
DIRECTOR OF ENGINEERING

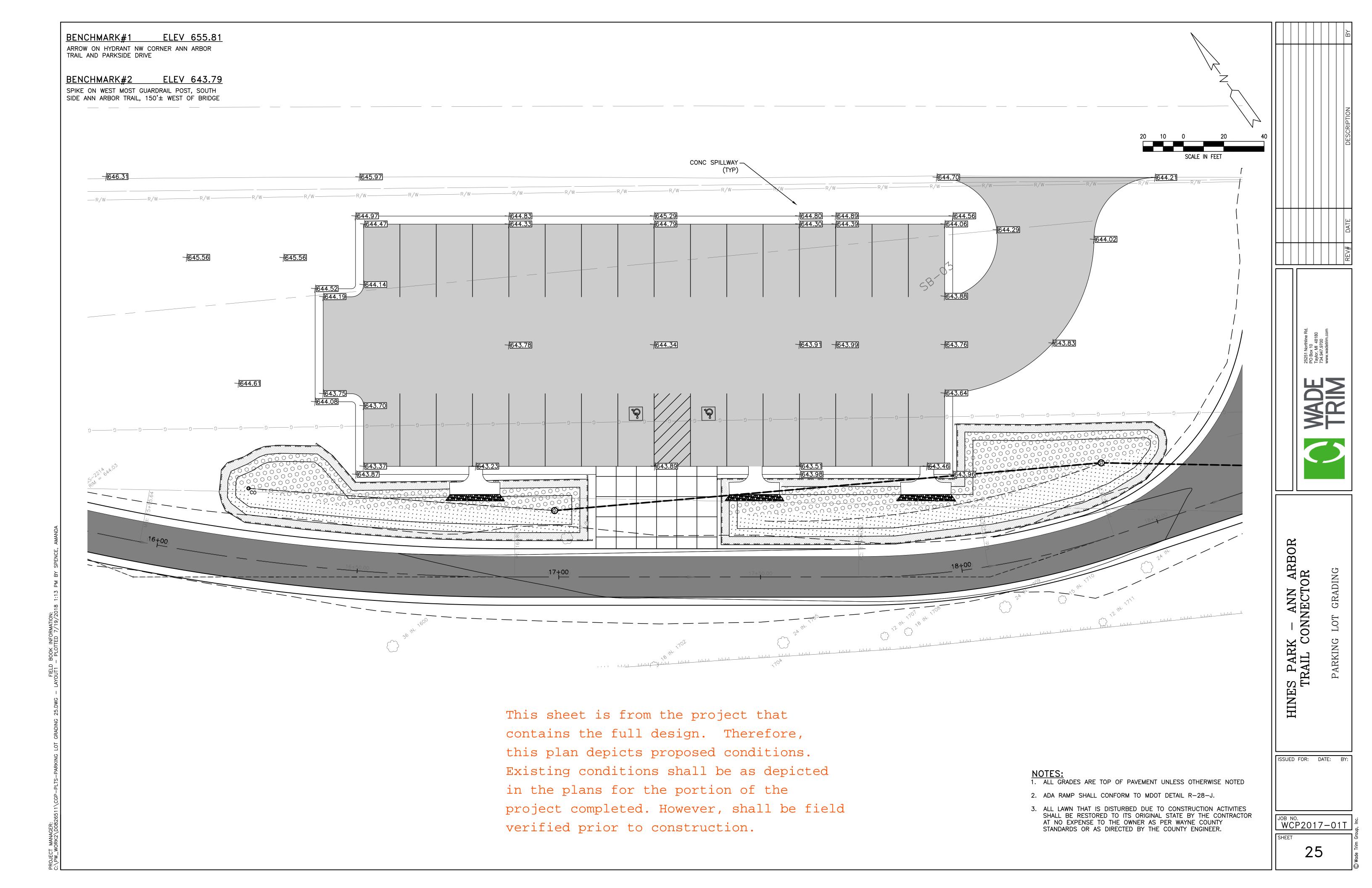
DATE COUNTY HIGHWAY ENGINEER

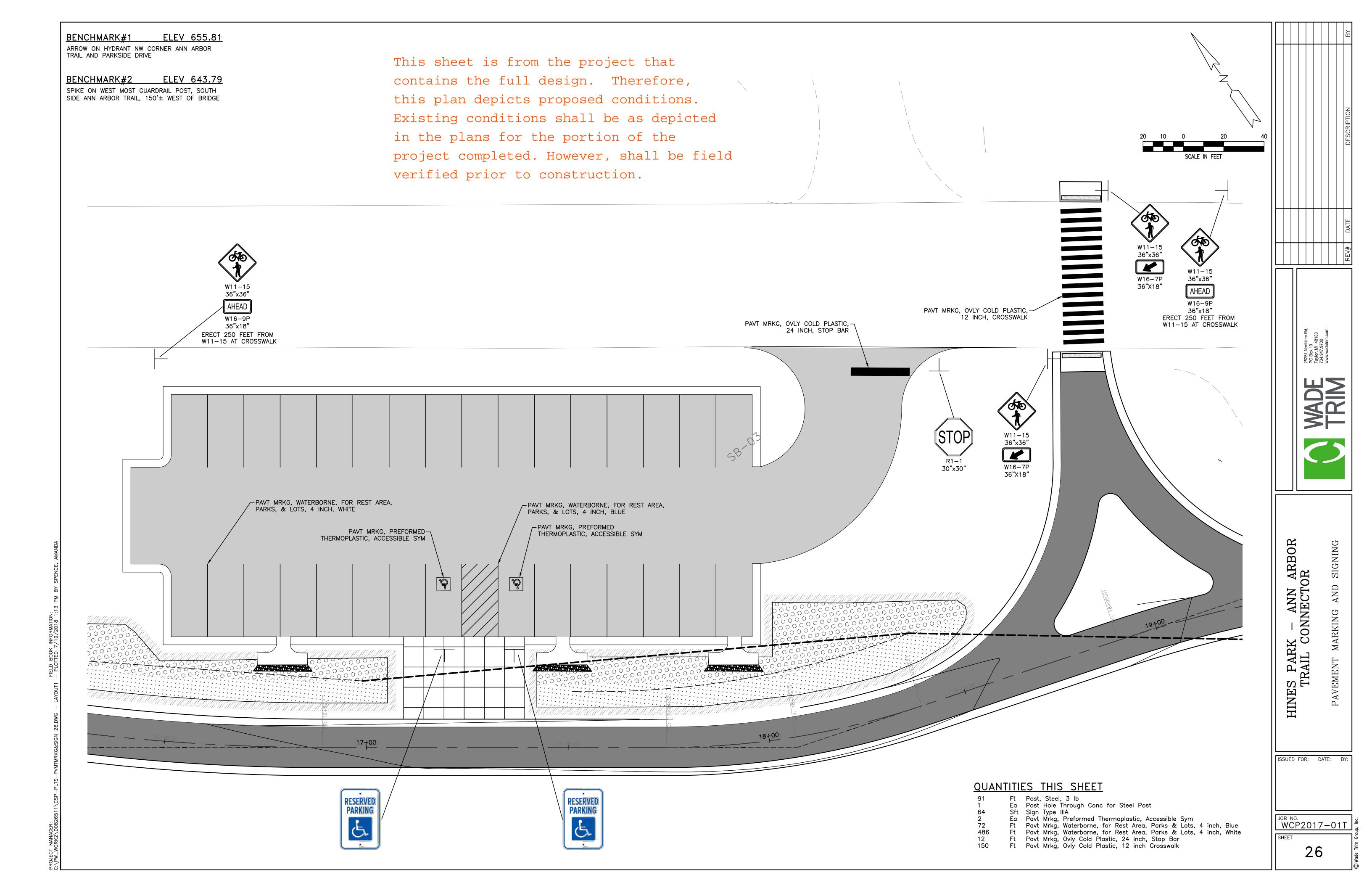
PARCEL DESCRIPTION

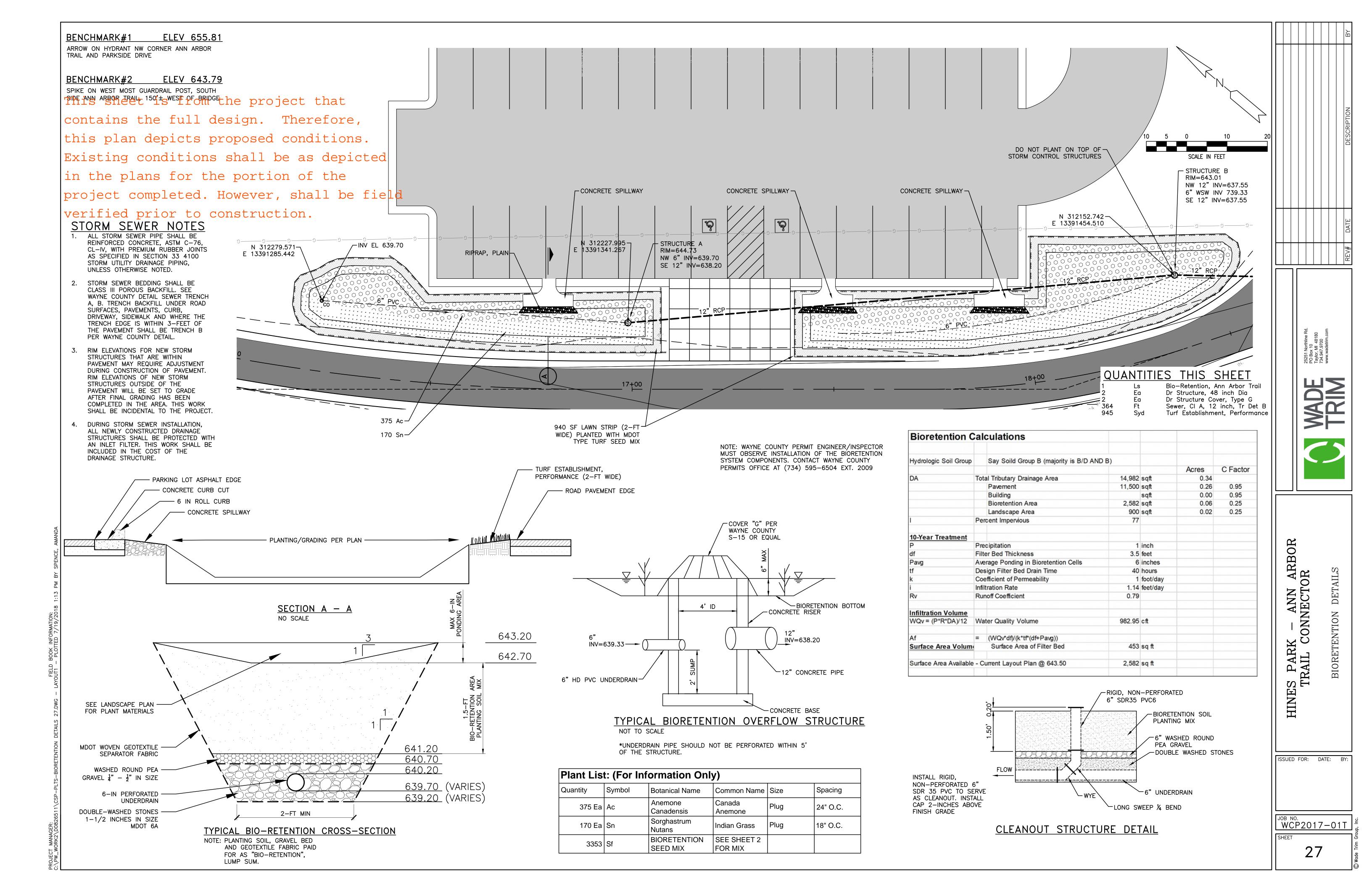
04B554B LOT 554 AND W2 OF ADJ VAC ST OF SUPERVISORS NANKIN PLAT NO.9 L62 WCR EXC THAT PART THEREOF LYING N'ELY OF THE CENTERLINE OF EDWARD N HINES DRIVE SUPERVISORS NANKIN PLAT NO.9 T2S R93 L65 P82 WCR.











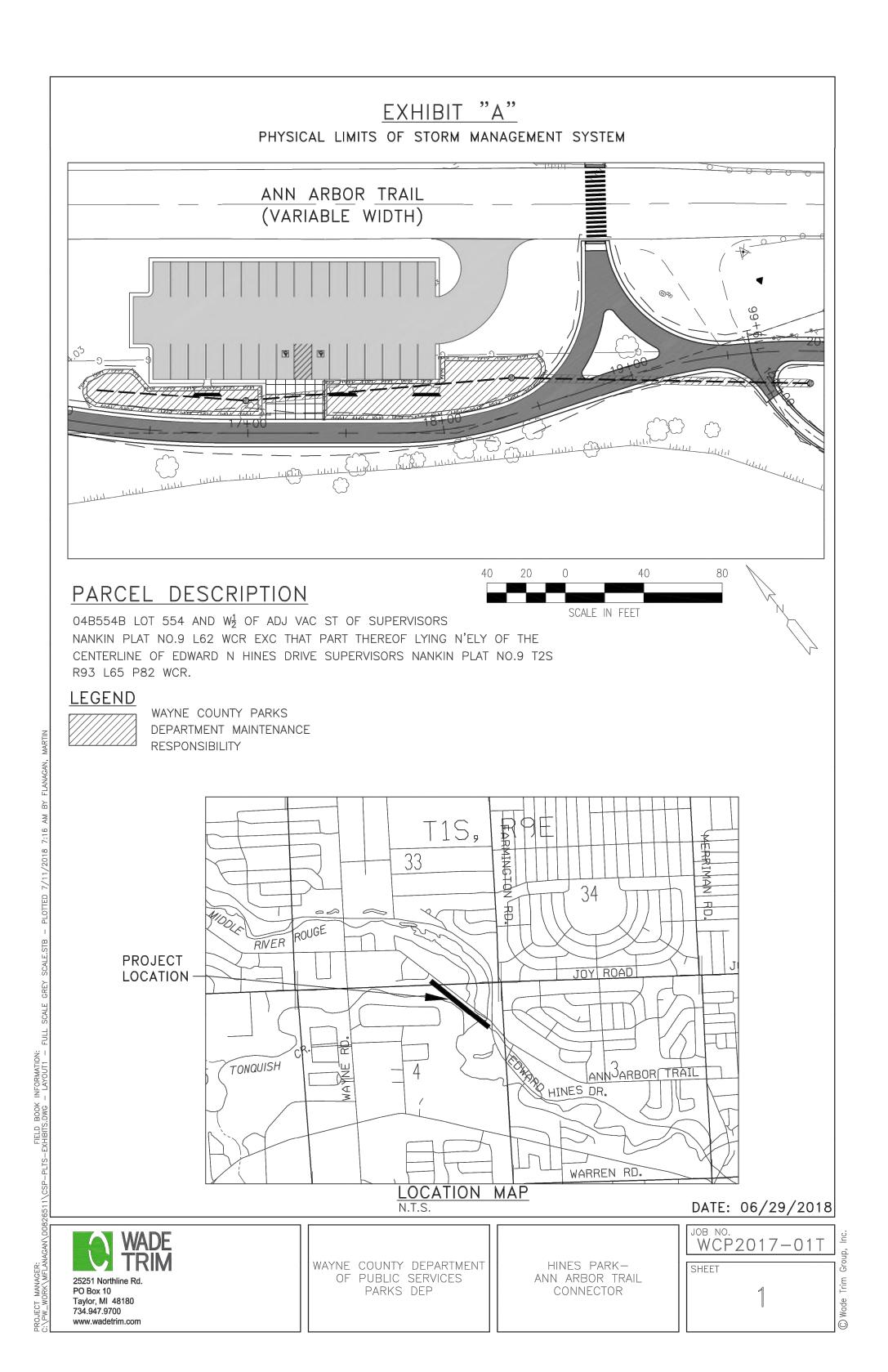


EXHIBIT B
STORM WATER MANAGEMENT SYSTEM LONG-TERM MAINTENANCE SCHEDULE

PROPERTY INFORMATION: Ann Arbor Road Parking Lot Hines Park

Livonia, MI 48150

PROPERTY OWNER: Wayne County Department of Public Services

Parks Department 33175 Ann Arbor Trail Westland, MI 48185 Contact: Mr. John Gundry

Phone: 734-466-3504

WAYNE COUNTY DPS PERMIT NO. / REVIEW NO.:

A. PHYSICAL LIMITS OF THE STORM WATER MANAGEMENT SYSTEM

The storm water management system (SWMS) subject to this Long-Term Maintenance Plan (Plan) is depicted on Exhibit A to the Permit and includes without limitation bioretention area, overflow structures and outlet that conveys flow from the bioretention to the Middle Rouge River.

For purposes of this Plan, this storm water management system and all of its components as shown in Exhibit A is referred to as "Ann Arbor Road Parking Lot SMWS".

B. TIME FRAME FOR LONG-TERM MAINTENANCE RESPONSIBILTY

Wayne County Department of Public Services Parks Department has assumed responsibility for maintaining the Ann Arbor Road Parking Lot SWMS, including complying with applicable requirements of the local or Wayne County soil erosion and sedimentation control program, until Wayne County releases the construction permit. Long-term maintenance responsibility for the Ann Arbor Road Parking Lot SWMS commences when defined by the maintenance permit issued by the County. Long Term Maintenance continues in perpetuity.

C. MANNER OF ENSURING MAINTENANCE RESPONSIBILITY

Wayne County Department of Public Services Parks Department has assumed responsibility for long-term maintenance of Ann Arbor Road Parking Lot SWMS. The resolution by which the Wayne County Department of Public Services Parks Department has assumed maintenance responsibility is attached to the permit as Exhibit C.

To ensure that Wayne County Department of Public Services Parks Department is maintained in perpetuity, the map of the physical limits of the storm water management system (Exhibit A), this plan (Exhibit B), the resolution attached as Exhibit C, and the Maintenance Agreement by the Property Owner will be recorded with Wayne County Register of Deeds. Upon recording, a copy of the recorded document will be provided to the County.

D. LONG TERM MAINTENANCE PLAN AND SCHEDULE

Table 1 identifies the maintenance activities to be performed, organized by category (monitoring/inspection, preventative maintenance, and remedial actions). Table 1 also identifies site-specific work needed to ensure that the storm water management system functions properly as designed. Chemicals should not be applied to the bio-retentions and their buffer areas.

TABLE 1

STSTEINICO	MPONE			
	BIO RETENTION AREAS	OVERFLOW STRUCTURE & OUTLET PIPE	PAVEMENT AREAS	
MAINTENANCE ACTIVITIES		6		FREQUENCY
MONITORING OR INSPECTION				
INSPECT FOR SEDIMENT ACCUMULATION, CLOGGING OR STONE FILTER	x	x		ANNUALLY
INSPECT FOR FLOATABLE DEAD VEGETATION	^	^		ANNUALLY AND AFTER
AND DEBRIS	X	х		MAJOR STORM EVENTS
INSPECT FOR EROSION AND INTERGRITY OF				ANNUALLY AND AFTER
BANKS AND BERMS	X			MAJOR STORM EVENTS
INSPECT ALL COMPONENTS DURING WET WEATHER AND COMPARE TO AS-BUILTS PLANS	x	x	Х	ANNUALLY
WEATHER AND COMITAINE TO AC-DOILTO I LANG				ANIOALLI
MONITOR PLANTINGS VEGETATION	X			2 TIMES A YEAR
ENSURE MEANS OF ACCESS FOR				
MAINTENANCE REMAIN CLEAR/OPEN	X	X	Х	ANNUALLY
PREVENTATIVE MAINTENANCE & REMEDIAL ACT	ONS			
MOWING	x			UP TO 2 TIMES PER YEAR
INIONALIAG	^			OF TO 2 HIVILS FER TEAR
REMOVE ACCUMULATED SEDIMENT	Х	x		AS NEEDED
REMOVE FLOATABLES, DEAD VEGETATION				
AND DEBRIS	X	Х		AS NEEDED
WEEDING OF INVASIVE PLANT SPECIES	x			EVERY MONTH
	^			LVLIXI WONIII
	Х			EVERY 3 MONTHS
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS				EVERY 5 YEARS OR IF
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS		'		WATER PONDS > 6 HOURS
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS NEEDED	x			WATER TONDS - OTISSING
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS NEEDED FUTURE FERTILIZING AS NEEDED TO BE				
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS NEEDED	x			SEASONAL
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS NEEDED FUTURE FERTILIZING AS NEEDED TO BE				
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS NEEDED FUTURE FERTILIZING AS NEEDED TO BE ORGANIC PRUNING, PINHCING, OR DEAD HEAD	x			SEASONAL EVERY SPRING
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS NEEDED FUTURE FERTILIZING AS NEEDED TO BE ORGANIC	x			SEASONAL
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS NEEDED FUTURE FERTILIZING AS NEEDED TO BE ORGANIC PRUNING, PINHCING, OR DEAD HEAD WATER PLANTINGS	x	x	x	SEASONAL EVERY SPRING
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS NEEDED FUTURE FERTILIZING AS NEEDED TO BE ORGANIC PRUNING, PINHCING, OR DEAD HEAD WATER PLANTINGS MAKE ADJUSTMENTS/REPAIRS TO ENSURE PROPER FUNCTIONING	x x x		x	SEASONAL EVERY SPRING AS NEEDED AS NEEDED
REPLACE LOW QUALITY, DYING, OR DISEASED PLANTS REPLACING SOILS AND UNDERDRAINS AS NEEDED FUTURE FERTILIZING AS NEEDED TO BE ORGANIC PRUNING, PINHCING, OR DEAD HEAD WATER PLANTINGS MAKE ADJUSTMENTS/REPAIRS TO ENSURE	x x x	x	x	SEASONAL EVERY SPRING AS NEEDED

This sheet is from the project that contains the full design. Therefore, this plan depicts proposed conditions. Existing conditions shall be as depicted in the plans for the portion of the project completed. However, shall be field verified prior to construction.



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