City of Escanaba
Water System Improvements

Michigan Drinking Water State Revolving Fund Project Plan (2023)
Volume 2 – Appendix

22-0320

May 3, 2023

c2ae
architecture • engineering

1211 Ludington Street
Escanaba, MI 49829

APPENDIX A

Basis of Cost

Appendix A

Part 1: Estimated Project Construction Costs

City of Escanaba 2023 DWSRF Project Plan Costing Priorities

Versions: ANH 3/14/2023

				W1		W2		W3		V4		W5		W6		V7		W8		W9		V10		V
				South Water Tank Improvements		2nd Ave N (N 18th to 19th St)		N 11th St (2nd to 3rd Ave N)		S 17th St (Ludington St to 2nd Ave S)		S 2nd St (Ludington ST to 1st Ave S)		2nd Ave S (S 8th to 9th St)		S 9th St (2nd to 3rd Ave S)		S 7th St (2nd to 3rd Ave S)		S 6th St (2nd to 3rd Ave S)		S 12th St (3rd to 5th Ave S)		Ogden Ave (S
Item	Description	Price	Unit	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units
General																								
101	Mobilization, General Conditions, Bonds & Insurance (5% of Total Construction Cost)	5%			$ 28,760		$ 14,223		$ 29,960		$ 39,690		$ 17,779		$ 25,939		$ 31,385		$ 28,121		$ 22,409		$ 64,656	
102	Environmental Mitigation, Traffic Control, Etc. (2.5% of Total Construction Cost)	2.5%			$ 14,380		$ 7,112		$ 14,980		$ 19,845		$ 8,890		$ 12,970		$ 15,693		$ 14,061		$ 11,205		$ 32,328	
				Total	$ 43,140	Total	$ 21,335	Total	$ 44,941	Total	$ 59,534	Total	$ 26,669	Total	$ 38,909	Total	$ 47,078	Total	$ 42,182	Total	$ 33,614	Total	$ 96,984	Total
Restoration																								
201	3" Type 'E' HMA Pavement Replacement (Full Width of 24'w, Except Eli Ave 40'w)	$27	SY	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
202	12" Gravel Base in Type 'E' Pavement Areas (Full Width of 24'w, Except Eli Ave 40'w)	$27	SY	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
203	3" Type 'A' HMA Pavement Replacement (Half Width-Trench Only)	$42	LF	613	$ 25,725	441	$ 18,522	613	$ 25,725	1,103	$ 46,305	551	$ 23,153	551	$ 23,153	637	$ 26,754	637	$ 26,754	637	$ 26,754	1,286	$ 54,023	1,838
204	12" Gravel Base in Type 'A' Pavement Areas (Half Width-Trench Only)	$15	LF	613	$ 9,188	441	$ 6,615	613	$ 9,188	1,103	$ 16,538	551	$ 8,269	551	$ 8,269	637	$ 9,555	637	$ 9,555	637	$ 9,555	1,286	$ 19,294	1,838
205	3" Type 'B' HMA Pavement Replacement (3" Trench Plus 1.5" Full Width Cap)	$79	LF	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
206	12" Gravel Base in Type 'B' Pavement Areas (Trench Only)	$17	LF	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
207	12" Gravel Surface Replaement (15'w)	$30	SY	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
208	Pavement Marking	$1	LF	613	$ 613	441	$ 441	613	$ 613	1,103	$ 1,103	551	$ 551	551	$ 551	637	$ 637	637	$ 637	637	$ 637	1,286	$ 1,286	1,838
209	Curb and Gutter Replacement (both sides)	$25	LF	1,225	$ 30,625	882	$ 22,050	1,225	$ 30,625	2,205	$ 55,125	1,103	$ 27,563	1,103	$ 27,563	1,274	$ 31,850	1,274	$ 31,850	1,274	$ 31,850	2,573	$ 64,313	3,675
210	Curb and Gutter Removal (both sides)	$8	LF	1,225	$ 9,800	882	$ 7,056	1,225	$ 9,800	2,205	$ 17,640	1,103	$ 8,820	1,103	$ 8,820	1,274	$ 10,192	1,274	$ 10,192	1,274	$ 10,192	2,573	$ 20,580	3,675
211	Storm Repair (1-48" Manhole with 15' of Storm Pipe & 2-36" Catch Basins with 30' Lead every 400')	$20,500	EA	10	$ 205,000	1	$ 22,601	2	$ 31,391	3	$ 56,503	1	$ 28,252	1	$ 28,252	2	$ 32,646	2	$ 32,646	2	$ 32,646	3	$ 65,920	5
212	6" Concrete Driveway Replacement (every 800', 10sy)	$60	SY	8	$ 459	6	$ 331	8	$ 459	14	$ 827	7	$ 413	7	$ 413	8	$ 478	8	$ 478	8	$ 478	16	$ 965	23
213	3" Bituminous Driveway Replacement (every 300', 10sy)	$45	SY	20	$ 919	15	$ 662	20	$ 919	37	$ 1,654	18	$ 827	18	$ 827	21	$ 956	21	$ 956	21	$ 956	43	$ 1,929	61
214	4" Concrete Sidewalk (5'w)	$8	SF	6,125	$ 49,000	4,410	$ 35,280	6,125	$ 49,000	11,025	$ 88,200	5,513	$ 44,100	5,513	$ 44,100	6,370	$ 50,960	6,370	$ 50,960	6,370	$ 50,960	12,863	$ 102,900	18,375
215	6" Concrete Sidewalk at Drive Crossings (every 200' @ 5'x15')	$12	SF	230	$ 2,756	165	$ 1,985	230	$ 2,756	413	$ 4,961	207	$ 2,481	207	$ 2,481	239	$ 2,867	239	$ 2,867	239	$ 2,867	482	$ 5,788	689
216	6" Concrete ADA Ramps w/ Iron Warning Plate (every 400' @100sf)	$20	SF	153	$ 3,063	110	$ 2,205	153	$ 3,063	276	$ 5,513	138	$ 2,756	138	$ 2,756	159	$ 3,185	159	$ 3,185	159	$ 3,185	322	$ 6,431	459
217	Adjust Existing Casting before Final Paving (2 ea @ 400')	$390	EA	3	$ 1,194	2	$ 860	3	$ 1,194	6	$ 2,150	3	$ 1,075	3	$ 1,075	3	$ 1,242	3	$ 1,242	3	$ 1,242	6	$ 2,508	9
218	Miscellaneous Topsoil, Seed & Mulch / Sod Restoration	$8	LF	613	$ 4,900	441	$ 3,528	613	$ 4,900	1,103	$ 8,820	551	$ 4,410	551	$ 4,410	637	$ 5,096	637	$ 5,096	637	$ 5,096	1,286	$ 10,290	1,838
219	Gravel Shoulder Replacement (6" d, 2' w)	$5	LF	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
220	Excess Cut, (15% of Pipe LF)	$3	LF	92	$ 289	66	$ 208	92	$ 289	165	$ 521	83	$ 260	83	$ 260	96	$ 301	96	$ 301	96	$ 301	193	$ 608	276
				Total	$ 343,531	Total	$ 122,343	Total	$ 169,921	Total	$ 305,858	Total	$ 152,929	Total	$ 152,929	Total	$ 176,718	Total	$ 176,718	Total	$ 176,718	Total	$ 356,835	Total
Water Related Items																								
301	Granular Fill Over Water Main (5% of Trench Length)	$25	LF	25	$ 625	18	$ 450	25	$ 625	45	$ 1,125	23	$ 563	23	$ 563	26	$ 650	26	$ 650	26	$ 650	53	$ 1,313	75
302	12" Trench Undercut and Stone Refill for Water Main (25% of TL)	$12	LF	125	$ 1,496	90	$ 1,077	125	$ 1,496	225	$ 2,692	113	$ 1,346	113	$ 1,346	130	$ 1,556	130	$ 1,556	130	$ 1,556	263	$ 3,141	375
303	16" CL 350 DI Water Main	$220	LF	500	$ 110,000	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
304	12" CL 350 DI Water Main	$200	LF	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
305	10" CL 350 DI Water Main	$180	LF	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
306	8" CL 350 DI Water Main	$160	LF	0	$ -	360	$ 57,600	500	$ 80,000	900	$ 144,000	450	$ 72,000	450	$ 72,000	520	$ 83,200	520	$ 83,200	520	$ 83,200	1,050	$ 168,000	1,500
307	6" CL 350 DI Water Main (30' Hydrant Leads & Connection to Existing Main)	$150	LF	113	$ 16,875	81	$ 12,150	113	$ 16,875	203	$ 30,375	101	$ 15,188	101	$ 15,188	117	$ 17,550	117	$ 17,550	117	$ 17,550	236	$ 35,438	338
308	8" to 10" Gate Valve and Box (4 Ea. @ 400')	$2,750	EA	0	$ -	4	$ 9,900	5	$ 13,750	9	$ 24,750	5	$ 12,375	5	$ 12,375	5	$ 14,300	5	$ 14,300	5	$ 14,300	11	$ 28,875	15
309	12" to 16" Gate Valve and Box (4 ea. @ 400')	$6,000	EA	5	$ 30,000	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0
310	Hydrant Assembly (Every 400')	$8,000	EA	1	$ 10,000	1	$ 7,200	1	$ 10,000	2	$ 18,000	1	$ 9,000	1	$ 9,000	1	$ 10,400	1	$ 10,400	1	$ 10,400	3	$ 21,000	4
311	Dewatering (15% of Water Main)	$5	LF	75	$ 375	54	$ 270	75	$ 375	135	$ 675	68	$ 338	68	$ 338	78	$ 390	78	$ 390	78	$ 390	158	$ 788	225
312	Connect to Existing Water Main (2 Ea @ 400')	$3,500	EA	3	$ 8,750	2	$ 6,300	3	$ 8,750	5	$ 15,750	2	$ 7,875	2	$ 7,875	3	$ 9,100	3	$ 9,100	3	$ 9,100	5	$ 18,375	8
313	Lead Service Line Replacement	$16,000	EA	3	$ 48,000	4	$ 64,000	18	$ 288,000	15	$ 240,000	5	$ 80,000	15	$ 240,000	19	$ 304,000	15	$ 240,000	8	$ 128,000	40	$ 640,000	25
314	Utility Location Investigation (1 Ea. @ 1,000')	$1,000	EA	1	$ 1,000	0	$ -	1	$ 1,000	1	$ 1,000	0	$ -	0	$ -	1	$ 1,000	1	$ 1,000	1	$ 1,000	1	$ 1,000	2
315	Rock or Boulder Excavation (2% of Total Water Cos	2.0%			$ 4,542		$ 3,179		$ 8,417		$ 9,567		$ 3,974		$ 7,174		$ 8,843		$ 7,563		$ 5,323		$ 18,359	
				Total	$ 231,663	Total	$ 162,126	Total	$ 429,288	Total	$ 487,935	Total	$ 202,657	Total	$ 365,857	Total	$ 450,988	Total	$ 385,708	Total	$ 271,468	Total	$ 936,287	Total
Total Construction Costs																								
General					$ 43,140		$ 21,335		$ 44,941		$ 59,534		$ 26,669		$ 38,909		$ 47,078		$ 42,182		$ 33,614		$ 96,984	
Restoration					$ 343,531		$ 122,343		$ 169,921		$ 305,858		$ 152,929		$ 152,929		$ 176,718		$ 176,718		$ 176,718		$ 356,835	
Water					$ 231,663		$ 162,126		$ 429,288		$ 487,935		$ 202,657		$ 365,857		$ 450,988		$ 385,708		$ 271,468		$ 936,287	
Total					$ 618,400		$ 305,900		$ 644,200		$ 853,400		$ 382,300		$ 557,700		$ 674,800		$ 604,700		$ 481,900		$ 1,390,200	

City of Escanaba 2023 DWSRF Project Plan Costing Priorities

Versions: ANH 3/14/2023

				W11	W12		W13		W14		W15		W16		W17		W18		W19		W20		W21	
				7th to 4th St)	S 11th St (5th to 6th Ave S)		S 10th St (5th Ave S to Lake Shore Dr)		S 9th St (5th to 6th Ave S)		6th Ave S (S 9th to 10th St)		8th Ave S (S 16th to 17th St)		10th Ave S (S 15th St to Lake Shore Dr)		S 4th St (Ogden Ave to Lake Shore Dr)		S 4th St (1st to 2nd Ave S)		2nd Ave N (N 11th to 13th St)		2nd Ave N (N 16th to Stephenson Ave)	
Item	Description	Price	Unit	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost
General																								
101	Mobilization, General Conditions, Bonds & Insurance (5% of Total Construction Cost)	5%		$ 66,166		$ 26,700		$ 86,613		$ 25,064		$ 21,859		$ 16,367		$ 87,539		$ 15,441		$ 17,378		$ 34,404		$ 16,866
102	Environmental Mitigation, Traffic Control, Etc. (2.5% of Total Construction Cost)	2.5%		$ 33,083		$ 13,350		$ 43,307		$ 12,532		$ 10,930		$ 8,184		$ 43,770		$ 7,721		$ 8,689		$ 17,202		$ 8,433
				$ 99,250	Total	$ 40,051	Total	$ 129,920	Total	$ 37,597	Total	$ 32,789	Total	$ 24,551	Total	$ 131,309	Total	$ 23,162	Total	$ 26,066	Total	$ 51,607	Total	$ 25,299
Restoration																								
201	3" Type 'E' HMA Pavement Replacement (Full Width of 24'w, Except Eli Ave 40'w)	$27	SY	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
202	12" Gravel Base in Type 'E' Pavement Areas (Full Width of 24'w, Except Eli Ave 40'w)	$27	SY	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
203	3" Type 'A' HMA Pavement Replacement (Half Width-Trench Only)	$42	LF	$ 77,175	582	$ 24,439	2,266	$ 95,183	613	$ 25,725	551	$ 23,153	429	$ 18,008	2,205	$ 92,610	490	$ 20,580	502	$ 21,095	956	$ 40,131	515	$ 21,609
204	12" Gravel Base in Type 'A' Pavement Areas (Half Width-Trench Only)	$15	LF	$ 27,563	582	$ 8,728	2,266	$ 33,994	613	$ 9,188	551	$ 8,269	429	$ 6,431	2,205	$ 33,075	490	$ 7,350	502	$ 7,534	956	$ 14,333	515	$ 7,718
205	3" Type 'B' HMA Pavement Replacement (3" Trench Plus 1.5" Full Width Cap)	$79	LF	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
206	12" Gravel Base in Type 'B' Pavement Areas (Trench Only)	$17	LF	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
207	12" Gravel Surface Replaement (15'w)	$30	SY	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
208	Pavement Marking	$1	LF	$ 1,838	582	$ 582	2,266	$ 2,266	613	$ 613	551	$ 551	429	$ 429	2,205	$ 2,205	490	$ 490	502	$ 502	956	$ 956	515	$ 515
209	Curb and Gutter Replacement (both sides)	$25	LF	$ 91,875	1,164	$ 29,094	4,533	$ 113,313	1,225	$ 30,625	1,103	$ 27,563	858	$ 21,438	4,410	$ 110,250	980	$ 24,500	1,005	$ 25,113	1,911	$ 47,775	1,029	$ 25,725
210	Curb and Gutter Removal (both sides)	$8	LF	$ 29,400	1,164	$ 9,310	4,533	$ 36,260	1,225	$ 9,800	1,103	$ 8,820	858	$ 6,860	4,410	$ 35,280	980	$ 7,840	1,005	$ 8,036	1,911	$ 15,288	1,029	$ 8,232
211	Storm Repair (1-48" Manhole with 15' of Storm Pipe & 2-36" Catch Basins with 30' Lead every 400')	$20,500	EA	$ 94,172	1	$ 29,821	6	$ 116,145	2	$ 31,391	1	$ 28,252	1	$ 21,973	6	$ 113,006	1	$ 25,113	1	$ 25,740	2	$ 48,969	1	$ 26,368
212	6" Concrete Driveway Replacement (every 800', 10sy)	$60	SY	$ 1,378	7	$ 436	28	$ 1,700	8	$ 459	7	$ 413	5	$ 322	28	$ 1,654	6	$ 368	6	$ 377	12	$ 717	6	$ 386
213	3" Bituminous Driveway Replacement (every 300', 10sy)	$45	SY	$ 2,756	19	$ 873	76	$ 3,399	20	$ 919	18	$ 827	14	$ 643	74	$ 3,308	16	$ 735	17	$ 753	32	$ 1,433	17	$ 772
214	4" Concrete Sidewalk (5'w)	$8	SF	$ 147,000	5,819	$ 46,550	22,663	$ 181,300	6,125	$ 49,000	5,513	$ 44,100	4,288	$ 34,300	22,050	$ 176,400	4,900	$ 39,200	5,023	$ 40,180	9,555	$ 76,440	5,145	$ 41,160
215	6" Concrete Sidewalk at Drive Crossings (every 200' @ 5'x15')	$12	SF	$ 8,269	218	$ 2,618	850	$ 10,198	230	$ 2,756	207	$ 2,481	161	$ 1,929	827	$ 9,923	184	$ 2,205	188	$ 2,260	358	$ 4,300	193	$ 2,315
216	6" Concrete ADA Ramps w/ Iron Warning Plate (every 400' @100sf)	$20	SF	$ 9,188	145	$ 2,909	567	$ 11,331	153	$ 3,063	138	$ 2,756	107	$ 2,144	551	$ 11,025	123	$ 2,450	126	$ 2,511	239	$ 4,778	129	$ 2,573
217	Adjust Existing Casting before Final Paving (2 ea @ 400')	$390	EA	$ 3,583	3	$ 1,135	11	$ 4,419	3	$ 1,194	3	$ 1,075	2	$ 836	11	$ 4,300	2	$ 956	3	$ 979	5	$ 1,863	3	$ 1,003
218	Miscellaneous Topsoil, Seed & Mulch / Sod Restoration	$8	LF	$ 14,700	582	$ 4,655	2,266	$ 18,130	613	$ 4,900	551	$ 4,410	429	$ 3,430	2,205	$ 17,640	490	$ 3,920	502	$ 4,018	956	$ 7,644	515	$ 4,116
219	Gravel Shoulder Replacement (6" d, 2' w)	$5	LF	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
220	Excess Cut, (15% of Pipe LF)	$3	LF	$ 868	87	$ 275	340	$ 1,071	92	$ 289	83	$ 260	64	$ 203	331	$ 1,042	74	$ 232	75	$ 237	143	$ 451	77	$ 243
				$ 509,764	Total	$ 161,425	Total	$ 628,709	Total	$ 169,921	Total	$ 152,929	Total	$ 118,945	Total	$ 611,717	Total	$ 135,937	Total	$ 139,335	Total	$ 265,077	Total	$ 142,734
Water Related Items																								
301	Granular Fill Over Water Main (5% of Trench Length)	$25	LF	$ 1,875	24	$ 594	93	$ 2,313	25	$ 625	23	$ 563	18	$ 438	90	$ 2,250	20	$ 500	21	$ 513	39	$ 975	21	$ 525
302	12" Trench Undercut and Stone Refill for Water Main (25% of TL)	$12	LF	$ 4,487	119	$ 1,421	463	$ 5,534	125	$ 1,496	113	$ 1,346	88	$ 1,047	450	$ 5,385	100	$ 1,197	103	$ 1,226	195	$ 2,333	105	$ 1,256
303	16" CL 350 DI Water Main	$220	LF	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
304	12" CL 350 DI Water Main	$200	LF	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
305	10" CL 350 DI Water Main	$180	LF	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
306	8" CL 350 DI Water Main	$160	LF	$ 240,000	475	$ 76,000	1,850	$ 296,000	500	$ 80,000	450	$ 72,000	350	$ 56,000	1,800	$ 288,000	400	$ 64,000	410	$ 65,600	780	$ 124,800	420	$ 67,200
307	6" CL 350 DI Water Main (30' Hydrant Leads & Connection to Existing Main)	$150	LF	$ 50,625	107	$ 16,031	416	$ 62,438	113	$ 16,875	101	$ 15,188	79	$ 11,813	405	$ 60,750	90	$ 13,500	92	$ 13,838	176	$ 26,325	95	$ 14,175
308	8" to 10" Gate Valve and Box (4 Ea. @ 400')	$2,750	EA	$ 41,250	5	$ 13,063	19	$ 50,875	5	$ 13,750	5	$ 12,375	4	$ 9,625	18	$ 49,500	4	$ 11,000	4	$ 11,275	8	$ 21,450	4	$ 11,550
309	12" to 16" Gate Valve and Box (4 ea. @ 400')	$6,000	EA	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
310	Hydrant Assembly (Every 400')	$8,000	EA	$ 30,000	1	$ 9,500	5	$ 37,000	1	$ 10,000	1	$ 9,000	1	$ 7,000	5	$ 36,000	1	$ 8,000	1	$ 8,200	2	$ 15,600	1	$ 8,400
311	Dewatering (15% of Water Main)	$5	LF	$ 1,125	71	$ 356	278	$ 1,388	75	$ 375	68	$ 338	53	$ 263	270	$ 1,350	60	$ 300	62	$ 308	117	$ 585	63	$ 315
312	Connect to Existing Water Main (2 Ea @ 400')	$3,500	EA	$ 26,250	2	$ 8,313	9	$ 32,375	3	$ 8,750	2	$ 7,875	2	$ 6,125	9	$ 31,500	2	$ 7,000	2	$ 7,175	4	$ 13,650	2	$ 7,350
313	Lead Service Line Replacement	$16,000	EA	$ 400,000	15	$ 240,000	37	$ 592,000	12	$ 192,000	10	$ 160,000	7	$ 112,000	40	$ 640,000	4	$ 64,000	6	$ 96,000	13	$ 208,000	5	$ 80,000
314	Utility Location Investigation (1 Ea. @ 1,000')	$1,000	EA	$ 2,000	0	$ -	2	$ 2,000	1	$ 1,000	0	$ -	0	$ -	2	$ 2,000	0	$ -	0	$ -	1	$ 1,000	0	$ -
315	Rock or Boulder Excavation (2% of Total Water Cos	2.0%		$ 15,952		$ 7,306		$ 21,638		$ 6,497		$ 5,574		$ 4,086		$ 22,335		$ 3,390		$ 4,083		$ 8,294		$ 3,815
				$ 813,564	Total	$ 372,583	Total	$ 1,103,560	Total	$ 331,368	Total	$ 284,257	Total	$ 208,396	Total	$ 1,139,069	Total	$ 172,887	Total	$ 208,217	Total	$ 423,013	Total	$ 194,587
Total Construction Costs																								
General				$ 99,250		$ 40,051		$ 129,920		$ 37,597		$ 32,789		$ 24,551		$ 131,309		$ 23,162		$ 26,066		$ 51,607		$ 25,299
Restoration				$ 509,764		$ 161,425		$ 628,709		$ 169,921		$ 152,929		$ 118,945		$ 611,717		$ 135,937		$ 139,335		$ 265,077		$ 142,734
Water				$ 813,564		$ 372,583		$ 1,103,560		$ 331,368		$ 284,257		$ 208,396		$ 1,139,069		$ 172,887		$ 208,217		$ 423,013		$ 194,587
Total				$ 1,422,600		$ 574,100		$ 1,862,200		$ 538,900		$ 470,000		$ 351,900		$ 1,882,100		$ 332,000		$ 373,700		$ 739,700		$ 362,700

City of Escanaba 2023 DWSRF Project Plan Costing Priorities

Versions: ANH 3/14/2023

				V22		V23				Additional LSLR	
				Buck Inn Loop		N 30th St (Danforth Rd to College Ave)		US2 Corridor		Additional LSLRs	
Item	Description	Price	Unit	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost	No. of Units	Cost
General											
101	Mobilization, General Conditions, Bonds & Insurance (5% of Total Construction Cost)	5%			$ 126,524		$ 53,379		$ 256,148		$ 360,000
102	Environmental Mitigation, Traffic Control, Etc. (2.5% of Total Construction Cost)	2.5%			$ 63,262		$ 26,690		$ 128,074		$ 180,000
				Total	$ 189,785	Total	$ 80,069	Total	$ 384,222	Total	$ 540,000
Restoration											
201	3" Type 'E' HMA Pavement Replacement (Full Width of 24'w, Except Eli Ave 40'w)	$27	SY	0	$ -	0	$ -	0	$ -	0	$ -
202	12" Gravel Base in Type 'E' Pavement Areas (Full Width of 24'w, Except Eli Ave 40'w)	$27	SY	0	$ -	0	$ -	0	$ -	0	$ -
203	3" Type 'A' HMA Pavement Replacement (Half Width-Trench Only)	$42	LF	4,533	$ 190,365	2,940	$ 123,480	0	$ -	0	$ -
204	12" Gravel Base in Type 'A' Pavement Areas (Half Width-Trench Only)	$15	LF	4,533	$ 67,988	2,940	$ 44,100	0	$ -	0	$ -
205	3" Type 'B' HMA Pavement Replacement (3" Trench Plus 1.5" Full Width Cap)	$79	LF	0	$ -	0	$ -	0	$ -	0	$ -
206	12" Gravel Base in Type 'B' Pavement Areas (Trench Only)	$17	LF	0	$ -	0	$ -	0	$ -	0	$ -
207	12" Gravel Surface Replaement (15'w)	$30	SY	0	$ -	0	$ -	0	$ -	0	$ -
208	Pavement Marking	$1	LF	4,533	$ 4,533	2,940	$ 2,940	0	$ -	0	$ -
209	Curb and Gutter Replacement (both sides)	$25	LF	9,065	$ 226,625	0	$ -	0	$ -	0	$ -
210	Curb and Gutter Removal (both sides)	$8	LF	9,065	$ 72,520	0	$ -	0	$ -	0	$ -
211	Storm Repair (1-48" Manhole with 15' of Storm Pipe & 2-36" Catch Basins with 30' Lead every 400')	$20,500	EA	11	$ 232,291	7	$ 150,675	0	$ -	0	$ -
212	6" Concrete Driveway Replacement (every 800', 10sy)	$60	SY	57	$ 3,399	0	$ -	0	$ -	0	$ -
213	3" Bituminous Driveway Replacement (every 300', 10sy)	$45	SY	151	$ 6,799	98	$ 4,410	0	$ -	0	$ -
214	4" Concrete Sidewalk (5'w)	$8	SF	45,325	$ 362,600	0	$ -	0	$ -	0	$ -
215	6" Concrete Sidewalk at Drive Crossings (every 200' @ 5'x15')	$12	SF	1,700	$ 20,396	0	$ -	0	$ -	0	$ -
216	6" Concrete ADA Ramps w/ Iron Warning Plate (every 400' @100sf)	$20	SF	1,133	$ 22,663	0	$ -	0	$ -	0	$ -
217	Adjust Existing Casting before Final Paving (2 ea @ 400')	$390	EA	23	$ 8,838	15	$ 5,733	0	$ -	0	$ -
218	Miscellaneous Topsoil, Seed & Mulch / Sod Restoration	$8	LF	4,533	$ 36,260	2,940	$ 23,520	0	$ -	0	$ -
219	Gravel Shoulder Replacement (6" d, 2' w)	$5	LF	0	$ -	2,940	$ 14,700	0	$ -	0	$ -
220	Excess Cut, (15% of Pipe LF)	$3	LF	680	$ 2,142	441	$ 1,389	0	$ -	0	$ -
				Total	$ 1,257,417	Total	$ 370,947	Total	$ -	Total	$ -
Water Related Items											
301	Granular Fill Over Water Main (5% of Trench Length)	$25	LF	185	$ 4,625	120	$ 3,000	685	$ 17,125	0	$ -
302	12" Trench Undercut and Stone Refill for Water Main (25% of TL)	$12	LF	925	$ 11,068	600	$ 7,179	3,425	$ 40,983	0	$ -
303	16" CL 350 DI Water Main	$220	LF	0	$ -	0	$ -	0	$ -	0	$ -
304	12" CL 350 DI Water Main	$200	LF	3,700	$ 740,000	0	$ -	1,700	$ 340,000	0	$ -
305	10" CL 350 DI Water Main	$180	LF	0	$ -	2,400	$ 432,000	2,000	$ 360,000	0	$ -
306	8" CL 350 DI Water Main	$160	LF	0	$ -	0	$ -	10,000	$ 1,600,000	0	$ -
307	6" CL 350 DI Water Main (30' Hydrant Leads & Connection to Existing Main)	$150	LF	833	$ 124,875	540	$ 81,000	3,083	$ 462,375	0	$ -
308	8" to 10" Gate Valve and Box (4 Ea. @ 400')	$2,750	EA	0	$ -	24	$ 66,000	120	$ 330,000	0	$ -
309	12" to 16" Gate Valve and Box (4 ea. @ 400')	$6,000	EA	37	$ 222,000	0	$ -	17	$ 102,000	0	$ -
310	Hydrant Assembly (Every 400')	$8,000	EA	9	$ 74,000	6	$ 48,000	34	$ 274,000	0	$ -
311	Dewatering (15% of Water Main)	$5	LF	555	$ 2,775	360	$ 1,800	2,055	$ 10,275	0	$ -
312	Connect to Existing Water Main (2 Ea @ 400')	$3,500	EA	19	$ 64,750	12	$ 42,000	69	$ 239,750	0	$ -
313	Lead Service Line Replacement	$16,000	EA	0	$ -	0	$ -	77	$ 1,232,000	450	$ 7,200,000
314	Utility Location Investigation (1 Ea. @ 1,000')	$1,000	EA	4	$ 4,000	2	$ 2,000	14	$ 14,000	0	$ -
315	Rock or Boulder Excavation (2% of Total Water Cos	2.0%			$ 24,962		$ 13,660		$ 100,450		$ -
				Total	$ 1,273,055	Total	$ 696,639	Total	$ 5,122,958	Total	$ 7,200,000
Total Construction Costs											
General					$ 189,785		$ 80,069		$ 384,222		$ 540,000
Restoration					$ 1,257,417		$ 370,947		$ -		$ -
Water					$ 1,273,055		$ 696,639		$ 5,122,958		$ 7,200,000
Total					$ 2,720,300		$ 1,147,700		$ 5,507,200		$ 7,740,000

Appendix A

Part 2: Lead Service Line Replacement
Cost Estimates – 2022 Bid Summary

	BID TABULATION						
	City of Escanaba - Lead Service Line Replacements						
	Project #21-0093, DWSRF #7607-01			Bidder 1		Bidder 2	
	Bid Opening 04-05-22						
Item	**Description**	**Unit**	**Quantity**	**Bid Unit Price**	**Bid Amount**	**Bid Unit Price**	**Bid Amount**
	Base Bid						
General Items							
101	General Requirements, Bonds, Insurances and Mobilization (Li	LS	1	$200,000.00	$200,000.00	$190,000.00	$190,000.00
102	Traffic Control	LS	1	$43,000.00	$43,000.00	$50,000.00	$50,000.00
103	Preconstruction Audiovisual Coverage	LS	1	$40,000.00	$40,000.00	$10,000.00	$10,000.00
104	Project Clean Up (Year 1)	LS	1	$15,000.00	$15,000.00	$1,000.00	$1,000.00
105	Project Clean Up (Year 2)	LS	1	$15,000.00	$15,000.00	$1,000.00	$1,000.00
Water Only Related Items							
201	Building Penetration/Restoration of Building Wall	EA	291	$250.00	$72,750.00	$475.00	$138,225.00
202	Inside Plumbing Connection	EA	291	$700.00	$203,700.00	$500.00	$145,500.00
203	Corporation Stop, 1"	EA	283	$600.00	$169,800.00	$1,700.00	$481,100.00
204	Curb Stop and Box, 1"	EA	303	$850.00	$257,550.00	$1,900.00	$575,700.00
205	Curb Stop and Box, 2" with Saddle and Monument Box, and Co	EA	9	$1,500.00	$13,500.00	$4,500.00	$40,500.00
206	Type 'K' Copper Water Service Special, 1'	LF	18,143	$90.00	$1,632,870.00	$77.00	$1,397,011.00
207	SDR9 CTS Water Service Special, with Tracer Wire, 1.25"	LF	1,722	$86.00	$148,092.00	$72.00	$123,984.00
208	Type 'K' Copper Water Service Special, 2"	LF	57	$125.00	$7,125.00	$250.00	$14,250.00
209	Connect to Ex. Water Service/Curb Stop	EA	41	$225.00	$9,225.00	$1,700.00	$69,700.00
210	Meter Pit	EA	20	$2,500.00	$50,000.00	$1,000.00	$20,000.00
211	Insulation	LF	800	$8.00	$6,400.00	$5.00	$4,000.00
212	Utility Location Investigation	EA	45	$850.00	$38,250.00	$1,500.00	$67,500.00
213	Temporary Water Service to Critical Customer During Installat	EA	20	$250.00	$5,000.00	$500.00	$10,000.00
Restoration Items							
301	Pavt, Rem, Modified	SY	20,251	$3.00	$60,753.00	$9.00	$182,259.00
302	Curb, Rem.	LF	4,888	$8.00	$39,104.00	$2.50	$12,220.00
303	Curb and Gutter, Rem.	LF	2,873	$8.00	$22,984.00	$2.75	$7,900.75
304	Curb, Conc	LF	4,888	$29.00	$141,752.00	$23.00	$112,424.00
305	Curb and Gutter, Conc	LF	2,873	$33.00	$94,809.00	$26.45	$75,990.85
306	HMA, 5E1	TON	1,272	$160.00	$203,520.00	$154.00	$195,888.00
307	HMA, 4E1	TON	1,272.00	$151.00	$192,072.00	$145.00	$184,440.00
308	Hand Patching	TON	44	$300.00	$13,200.00	$275.00	$12,100.00
309	Aggregate Base, 9-inch	SY	3,569	$18.00	$64,242.00	$11.75	$41,935.75
310	Sidewalk, Conc., 4-inch	SF	25,452	$6.00	$152,712.00	$4.00	$101,808.00
311	Sidewalk, Conc., 6-inch	SF	7,272	$8.20	$59,630.40	$6.25	$45,450.00
312	Concrete, Pavt, Non-reinf, 6-inch	SF	6,787	$8.20	$55,653.40	$5.10	$34,613.70
313	Excavation, Rock	CY	25	$230.00	$5,750.00	$300.00	$7,500.00
314	Dr Structure Cover, Adj, Case 1	EA	10	$1,050.00	$10,500.00	$1,000.00	$10,000.00
315	Gate Box, Adj, Case 1	EA	10	$275.00	$2,750.00	$250.00	$2,500.00
316	Slope Restoration, Non-Freeway, Type A	SY	13,867	$5.50	$76,268.50	$10.09	$139,918.03
317	Misc, Site Restoration Item (Allowance) $600	EA	90	$600.00	$54,000.00	$600.00	$54,000.00
Base Bid Total of All Unit Price Bid Items					**$4,176,962.30**		**$4,560,418.08**

Appendix A

Part 3: Operating Budget

Statement of Revenues, Expenses and Changes in Fund Net Position

Proprietary Funds
For the Year Ended June 30, 2022

	Business-type Activities - Enterprise Funds		
	Electric Utility Fund	Waste Water Utility Fund	Water Utility Fund
Operating revenues			
Charges for services	$ 14,600,423	$ 3,351,190	$ 4,554,870
Provisions for self-insurance	-	-	-
Other revenue	98,260	18,922	20,409
Total operating revenues	14,698,683	3,370,112	4,575,279
Operating expenses			
Production	9,462,706	-	-
Personnel services	877,666	804,285	732,339
Overhead	1,028,664	230,156	240,911
Fuel	-	1,084	1,849
Contracted services	118,411	135,942	270,532
Insurance	264,470	86,825	42,658
Dues and training	120,948	3,575	9,635
Sales and promotion	223,856	785	6,270
Repairs and maintenance	59,187	76,056	385,546
Claims	-	-	-
Equipment rental	7,402	33,117	32,540
Depreciation/amortization	758,783	298,837	527,961
Supplies	18,156	100,460	184,776
Bad debt	3,177	724	992
Other	61,347	5,013	14,018
Total operating expenses	13,004,773	1,776,859	2,450,027
Operating income (loss)	1,693,910	1,593,253	2,125,252
Nonoperating revenues (expenses)			
Gain (loss) on sale of capital assets	(13)	-	-
Investment loss	(476,048)	(29,925)	(163,795)
Interest expense	-	(184,240)	(61,617)
Total nonoperating revenues (expenses)	(476,061)	(214,165)	(225,412)
Income (loss) before capital contributions & transfers	1,217,849	1,379,088	1,899,840
Capital contributions	-	-	670,867
Income (loss) before transfers	1,217,849	1,379,088	2,570,707
Transfers in	-	-	-
Transfers out	(765,790)	-	-
Change in net position	452,059	1,379,088	2,570,707
Net position, beginning of year	18,518,774	7,868,377	11,483,766
Net position, end of year	$ 18,970,833	$ 9,247,465	$ 14,054,473

The accompanying notes are an integral part of these basic financial statements.

Appendix A

Part 4: Bond Schedule

Bond Schedule

Date: ***03/09/23***

Borrower Name:	**City of Escanaba**	***Type of Bond:***	**40**
Interest Rate:	1.875%		
Yrs Deferred Principle	0		
Principal:	**$19,998,400** (round to nearest $1000)		
Ammort. Factor	0.0358		
Ammortized Payment:	$715,125		
Monthly Debt Service	$59,594		
Estimated System EDUs	8141		
User Rate Impact	$7.32		

Year	1st Interest	2nd Interest	Principal Paid	Total Year Payment	Loan Balance
					19,998,400
1	187,485	187,485	340,000	714,970	19,658,400
2	184,298	184,298	347,000	715,595	19,311,400
3	181,044	181,044	353,000	715,089	18,958,400
4	177,735	177,735	360,000	715,470	18,598,400
5	174,360	174,360	366,000	714,720	18,232,400
6	170,929	170,929	373,000	714,858	17,859,400
7	167,432	167,432	380,000	714,864	17,479,400
8	163,869	163,869	387,000	714,739	17,092,400
9	160,241	160,241	395,000	715,483	16,697,400
10	156,538	156,538	402,000	715,076	16,295,400
11	152,769	152,769	410,000	715,539	15,885,400
12	148,926	148,926	417,000	714,851	15,468,400
13	145,016	145,016	425,000	715,033	15,043,400
14	141,032	141,032	433,000	715,064	14,610,400
15	136,973	136,973	441,000	714,945	14,169,400
16	132,838	132,838	449,000	714,676	13,720,400
17	128,629	128,629	458,000	715,258	13,262,400
18	124,335	124,335	466,000	714,670	12,796,400
19	119,966	119,966	475,000	714,933	12,321,400
20	115,513	115,513	484,000	715,026	11,837,400
21	110,976	110,976	493,000	714,951	11,344,400
22	106,354	106,354	502,000	714,708	10,842,400
23	101,648	101,648	512,000	715,295	10,330,400
24	96,848	96,848	521,000	714,695	9,809,400
25	91,963	91,963	531,000	714,926	9,278,400
26	86,985	86,985	541,000	714,970	8,737,400
27	81,913	81,913	551,000	714,826	8,186,400
28	76,748	76,748	562,000	715,495	7,624,400
29	71,479	71,479	572,000	714,958	7,052,400
30	66,116	66,116	583,000	715,233	6,469,400
31	60,651	60,651	594,000	715,301	5,875,400
32	55,082	55,082	605,000	715,164	5,270,400
33	49,410	49,410	616,000	714,820	4,654,400
34	43,635	43,635	628,000	715,270	4,026,400
35	37,748	37,748	640,000	715,495	3,386,400
36	31,748	31,748	652,000	715,495	2,734,400
37	25,635	25,635	664,000	715,270	2,070,400
38	19,410	19,410	676,000	714,820	1,394,400
39	13,073	13,073	689,000	715,145	705,400
40	6,613	6,613	702,000	715,226	3,400

APPENDIX B

SUPPORTING INFORMATION

Appendix B

Part 1: Overburdened Community Form

EGLE

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

OVERBURDENED AND SIGNIFICANTLY OVERBURDENED COMMUNITY STATUS DETERMINATION WORKSHEET

The following data is required from each State Revolving Fund (SRF) applicant requesting a determination for overburdened and significantly overburdened community status.

The most recent census and tax data are available in a searchable table on EGLE's State Revolving Fund – Overburdened Community Definition and Scoring Criteria Development webpage along with an excel worksheet to help determine blended Median Annual Household Income (MAHI) and blended taxable value per capita for regional systems. The MAHI and taxable value per capita table will be used to make all FY24 determinations. Applicants are encouraged to visit this page prior to completing this form to see if they qualify based on MAHI (blended MAHI if applicable) or taxable value per capita (blended taxable value per capita if applicable) alone. If so, they only need to fill out lines 1 and 2 of this form, electronically sign it on page 2, and submit.

Alternately, **if the applicant's MAHI or blended MAHI is above the state average - $63,498 for FY24 – they cannot be determined as being overburdened or significantly overburdened for FY24 funding and should not complete or turn in this form.**

For applicants whose MAHI or blended MAHI is below $63,498 but do not automatically qualify based on MAHI or taxable value per capita alone, please complete the entire form and return to:

Mark Conradi
conradim@michigan.gov

Name of Applicant

City of Escanaba

Please check the box indicating which funding source this determination is for:

DWSRF ☑

CWSRF ☐

1. Is this a regional system? A regional system refers to any system that serves more than one municipality (cities, townships, and/or villages)

   Yes ☑
   No ☐

   If yes, refer to the instructions at the end of this form to complete calculations for a blended MAHI and blended taxable value per capita. Additionally, page 3 of this form will also need to be completed.

2. Median Annual Household Income from table on the overburdened webpage (blended if applicable)

   $36,902

3. Taxable Value Per Capita from table on the overburdened webpage (blended if applicable)

   $25,551

4. Total amount of anticipated debt for the proposed project (amount of loan requested for FY24 loan)

   $19,850,000

5. Annual payments on the existing debt for the system

   $475,000 - Does not include debt for SRF projects in progress

6. Total operation, maintenance, and replacement expenses (OM&R) for the system on an annual basis

   $1,922,066

7. Number of residential equivalent users (REUs) in the system

   8,141

***I (James McNeil) hereby certify that the information in this form is complete, true, and correct to the best of my knowledge.**

James McNeil — 2/28/2023

Signature — Date

For determinations made using anticipated debt, a final determination will be made based upon the awarded loan amount and not the anticipated amount provided on this form.

Regional System Breakdown (If applicable)

Name of municipality	Percentage of flow
City of Escanaba	98.04%
Name of municipality	Percentage of flow
Wells Township	1.96%
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow
Name of municipality	Percentage of flow

If more spaces are needed, please include them in the email along with this submission. Percentages of flow must add up to 100%.

OVERBURDENED AND SIGNIFICANTLY OVERBURDENED COMMUNITY STATUS INSTRUCTIONS AND GUIDANCE

The following instructions provide guidance to fill out the overburdened and significantly overburdened determination community status worksheet. Systems across the state use many types of methods for billing and some include items that others do not. The purpose of the determination is to put all systems on a level playing field by breaking down system debt, expenses, and number of customers in the same manner. The instructions address each question in the order they are presented on the worksheet.

1. **Regional systems (if applicable) – Blended MAHI and taxable value per capita calculations**

   The definition of overburdened and significantly overburdened communities first requires "(a) Users within the area served by a proposed drinking water project, sewage treatment works project, or stormwater treatment project are directly assessed for the costs of construction." That means that the calculations need to be based on who is paying for the proposed SRF loan.

   For systems that serve more than one municipal entity a blended MAHI and taxable value per capita calculation must be completed. Page 3 of the worksheet includes spaces for a system to list all the municipalities (cities, townships, and/or villages) and the percentage of flow they provide to the system. The flow percentages should be based on the most recent data available.

   The reason flow is used is because most systems add debt costs to customers' bills and those are determined by flow. In rare cases there might be municipal agreements that vary slightly from this method and those will require the applicant to contact EGLE and provide the data separate from this worksheet. EGLE will take each municipality's MAHI and taxable value per capita and multiply it by the percentage of flow and then add them all together to come up with the blended number to be used in the determination (e.g., (municipality A MAHI * flow) + (municipality B MAHI * flow) + (municipality C MAHI * flow = Blended MAHI for the system)). The same formula will be repeated swapping out taxable value per capita for MAHI to determine a blended taxable value per capita.

   The most recent census and tax data are available in a searchable table on EGLE's State Revolving Fund – Overburdened Community Definition and Scoring Criteria Development webpage. This table will be used to make all FY24 determinations. Use the excel FY24 Overburdened Calculation Template also located on the State Revolving Fund – Overburdened Community Definition and Scoring Criteria Development webpage. Tab 1 titled, "Blended MAHI and TVPC calcs" will allow the applicant to input the names of the municipalities, their percentage of flow, the MAHI for each found in the table listed above, and the taxable value per capita for each in the table listed above, to calculate a blended MAHI and blended taxable value per capita of the regional system. **If the blended MAHI is above $63,498 the project cannot qualify for overburdened or significantly overburdened status and the rest of the form should not be filled out or turned in.**

2. **Median Annual Household Income**

   Use the "Fiscal Year 2024 Overburdened Median Annual Household Income (MAHI) and Taxable Values List for SRF Projects; the State of Michigan MAHI is $63,498 for FY24 Projects" searchable table located on the State Revolving Fund – Overburdened Community Definition and Scoring Criteria Development webpage. Search for the system's MAHI and enter it. **If the**

MAHI is above $63,498 the project cannot qualify for overburdened or significantly overburdened status and the rest of the form should not be filled out or turned in.

For regional systems that serve more than on municipality (cities, townships, and/or villages), refer to the instructions for regional systems in step 1 if you have not already completed calculating a blended MAHI for the system. Once the blended MAHI is determined, enter it on line 2 of the worksheet.

3. **Taxable Value Per Capita**

This data is found in the same location as the MAHI data and was likely already entered by the applicant while completing line 2. If not, repeat the directions for step 2 and enter the taxable value per capita from the table.

For regional systems that serve more than on municipality (cities, townships, and/or villages), refer to the instructions for regional systems in step 1 if you have not already completed calculating a blended taxable value per capita for the system. Once the blended taxable value per capita is determined, enter it on line 3 of the worksheet.

4. **Total amount of anticipated debt for the proposed project**

Fill in the total amount of the proposed loan for the project requesting State Revolving Loan financing in FY24.

EGLE will amortize this amount to determine a yearly cost to the applicant. The excel FY24 Overburdened Calculation Template, also located on the State Revolving Fund – Overburdened Community Definition and Scoring Criteria Development webpage, has this calculation built in so the applicant only needs to enter full FY24 the loan amount when completing that as well.

Note that this loan amount is an estimate and often changes after project plans are submitted and bids come in. EGLE will run this determination again prior to finalizing the Project Priority List (PPL). Changes in the loan amount can sometimes change an applicant's status from overburdened to not or vice versa if the initial calculation is close to the 1% MAHI threshold.

Thus, if a system is determined to be overburdened or not based on annual user costs being greater than 1% of system's MAHI vs being determined overburdened by MAHI or state taxable value per capita alone, a loan amount will be provided to the applicant that provides the cutoff loan value to either gain or lose overburdened status.

5. **Annual Payments on the existing debt of the system**

Fill in the yearly total of any current debt payments for the system. If coming in for a CWSRF project only include debt payments for the wastewater system and if coming in for a DWSRF project only include debt payments for the drinking water system.

In a regional system the additional debt payments of connected systems may be added if the connected systems are included in the blended MAHI and taxable value per capita calculations and there is no double-counting. For example, if a regional treatment system is coming in for the loan, a connected collection system could add any additional annual debt costs that the

collection system passes onto its customers after paying all debt and expenses to the regional treatment system. This is to account for the fact that the MAHI and state taxable values are being blended so the annual debt payments of the regional system can be blended as well to determine the average user cost of the regional system.

6. **Total operation, maintenance, and replacement (OM&R) expenses for the system on an annual basis**

   As with the annul debt payments, the amount listed here should include only wastewater OM&R for CWSRF loans and only drinking water OM&R for DWSRF loans. If the accounting is combined split the costs as accurately as possible.

   The OM&R costs should reflect all annual expenses for the system that are recovered annually through rates. This means that if a community makes an annual contribution of $50,000 a year to a capital improvement fund, they could add that number to the yearly OM&R costs. If they have accumulated $250,000 in that account and plan on using all in the calendar year they are applying for the loan, they cannot claim that amount as it is not a yearly expense; only the $50,000 is. This is also true for depreciation expenses with no cash value or yearly contribution. They cannot be included.

   In a regional system the additional OM&R expenses of connected systems may be added if the connected systems are included in the blended MAHI and taxable value per capita calculations, there is no double-counting, and the expenses follow the same OM&R rules listed above. For example, if a regional treatment system is coming in for the loan, a connected collection system could add any additional annual OM&R costs that the collection system passes onto its customers after paying all debt and expenses to the regional treatment system. This is to account for the fact that the MAHI and state taxable values are being blended so the annual OM&R expenses of the regional system can be blended as well to determine the average user cost of the regional system.

7. **Number of residential equivalent users (REUs) in the system**

   REUs refer to number of standard household hookups in a system. In a bedroom community, with little to no commercial or industrial customers, this number clear. However, most systems have a combination of customer types. The purpose of this form is to determine the average bill for a typical residential customer to determine if it is high enough to pose a burden on the ratepayer.

   There are two standard ways of determining REUs: meter size and average flow.

   - Meter size

     This is the preferred method as it eliminates most variables that using flow may have. To determine the number of REUs in a system take all the systems' meters and convert them down to 5/8^{ths}-inch or ¾-inch (whichever is the system's standard residential size). Use the capacity of the pipe to convert down (e.g., a 2-inch meter would be equivalent to about 8, 5/8^{ths}-inch meters, a 4-inch meter would be equivalent to about 25, 5/8^{ths}-inch meters, etc.). The resulting number of equivalent 5/8^{ths}-inch or ¾-inch meters would be the number of REUs in the system.

- Average flow

  The average flow method requires the system to determine the average yearly flow for a typical residential household (i.e., a 5/8^{ths}-inch or ¾-inch connection). The system takes the most recent yearly flow data of the entire system and divides by the average household usage number to come up with the number of REUs.

EGLE will look at the numbers provided and may have questions based on the population size vs number of REUs. EGLE will reach out and ask to see the calculations in some instances. Applicants are encouraged to include an excel sheet with these calculations along with the submittal of this form to reduce any back-and-forth communications.

Signature

A typed name and accompanying electronic signature are required for the form to be accepted. If this section is left blank the form will be returned to the sender and not reviewed until it has been signed and sent back.

Final Determination

If the system's MAHI or blended MAHI (if applicable) is over the state average - $63,498 for FY24 – it cannot be determined as being overburdened or significantly overburdened for FY24 funding.

EGLE will take the information provided on this form and enter it into the FY24 Overburdened Calculation Template spreadsheet to calculate the average yearly cost per REU. If a community or system is not determined to be overburdened or significantly overburdened based on MAHI or taxable value per capita alone, this calculation will determine if the costs are greater than 1% of the system's MAHI.

The FY24 Overburdened Calculation Template spreadsheet with the calculations and final determination will be sent to the applicant after the review has been completed by EGLE. A blank version is available on the State Revolving Fund – Overburdened Community Definition and Scoring Criteria Development webpage. Ideally the applicant has already completed the calculations using the instructions above prior to submitting. If the applicant completes the worksheet and determines they do not qualify for overburdened status it is requested that they do not submit the completed worksheet unless they have questions. The applicant's preliminary findings using the FY24 Overburdened Calculation Template are not official until they have been reviewed by EGLE as discrepancies and/or questions about some of the numbers may arise. However, EGLE is providing the template to allow applicants to have a good idea of how the determination will result prior to hearing back officially from EGLE.

Please contact Mark Conradi (conradim@michigan.gov) with any questions on the completion of the form.

If you need this information in an alternate format, contact EGLE-Accessibility@Michigan.gov or call 800-662-9278.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations. Questions or concerns should be directed to the Nondiscrimination Compliance Coordinator at EGLE-NondiscriminationCC@Michigan.gov or 517-249-0906.

This form and its contents are subject to the Freedom of Information Act and may be released to the public.

Regional Systems - Blended MAHI and TVPC Calculations

Name of Municipality	Percentage of Flow (Total must = 100)	Taxable Value Per Capita (TVPC)	Median Annual Household Income (MAHI)	TVPC Percentage (automatically calculated)	MAHI Percentage (Automatically calculated)
City of Escanaba	98.04%	$25,387	$36,173	$24,889	$35,464
Wells Township	1.96%	$33,731	$73,385	$661	$1,438
				$0	$0
				$0	$0
				$0	$0
				$0	$0
				$0	$0
				$0	$0
				$0	$0
				$0	$0
				$0	$0
				$0	$0
				$0	$0
				$0	$0
				$0	$0
Total	100%			Blended TVPC	Blended MAHI
				$25,551	$36,902

Instructions for Regional Systems (single municipality systems skip this tab and click the "Overburdened calculations" tab at the bottom of this page)

-For blended taxable value per capita and blended MAHIs use the searchable chart on EGLE's Overburdened Community Definition and Scoring Criteria website. The chart is titled, "Fiscal Year 2024 Overburdened Median Annual Household Income (MAHI) and Taxable Values List For SRF Projects; the State of Michigan MAHI is $63,498 for FY24 Projects." Clicking the + sign next to the title will open the table and a search box will appear at the top right of the table.

-Fill in the municipalities that make up the regional system in Column A
-Enter the percentage of flow each municipality contributes to the system in column B. The total in cell B18 must equal 100%
-Use the search function to find the municipality's taxable value per capita on the Overburdened website listed above and enter it in column C
-Use the search function to find the municipality's MAHI on the Overburdened website listed above and enter it in column D

The sheet will calculate the blended TVPC for the regional system in cell E19 and blended MAHI in cell F19. Click the "Overburdened calculations" tab below to complete the

Overburdened and Significantly Overburdened Calculation Worksheet

2. Median Annual Household Income (blended if necessary)	$36,902
3. Taxable Value Per Capita (blended if necessary)	$25,551
4. Amount of anicipated debt - FY24 SRF loan only	$19,850,000
Terms	20
Rate	2.75%
New Annual debt from SRF loan	$1,303,584
5. Annual Payments on existing debt	$475,000
6. Total OM&R	$1,922,066
7. Number of REUs	8141
Total Annual Cost	$3,700,650
Annual User Cost	$455
MAHI Threshold $ amount	**$369**

			Result
125% of Federal Poverty MAHI	$37,500	**Significantly Overburdened**	YES
Lowest 10% TVPC	$15,170	**Significantly Overburdened**	NO
Lowest 20% TVPC	$22,920	**Overburdened without calculation needed**	NO
Michigan MAHI	$63,498	**Overburdened with calculation**	YES

Appendix B

Part 2: Water Main Replacement List

Priority	Label	Install Year	Material	Size	Length (ft)
Priority 1	W1	1/1/1968	CAS	12"	79
Priority 1	W1	1/1/1968	CAS	12"	26
Priority 1	W1	1/1/1968	CAS	12"	32
Priority 1	W1	1/1/1968	CAS	12"	249
Priority 1	W2	1/1/1880	CAS	4"	279
Priority 1	W3	1/1/1880	CAS	4"	468
Priority 1	W5	1/1/1880	DIP	8"	205
Priority 1	W5	1/1/1974	DIP	8"	186
Priority 1	W6	1/1/1956	CAS	8"	381
Priority 1	W8	1/1/1880	CAS	4"	56
Priority 1	W8	1/1/1880	CAS	6"	391
Priority 1	W9	1/1/1880	CAS	4"	448
Priority 1	W12	1/1/1880	CAS	4"	396
Priority 1	W13	1/1/1880	CAS	8"	375
Priority 1	W13	1/1/1880	CAS	8"	383
Priority 1	W13	1/1/1960	CAS	8"	56
Priority 1	W13	1/1/1880	CAS	6"	382
Priority 1	W13	1/1/1960	CAS	8"	175
Priority 1	W13	1/1/1880	CAS	6"	462
Priority 1	W15	1/1/1880	CAS	6"	81
Priority 1	W15	1/1/1880	CAS	6"	324
Priority 1	W16	1/1/1880	CAS	6"	343
Priority 1	W19	NEW LOOP	N/A	N/A	N/A
Priority 1	W20	NEW LOOP	N/A	N/A	N/A
Priority 1	W21	NEW LOOP	N/A	N/A	N/A
Priority 2	V4	1/1/1967	CAS	4"	48
Priority 2	V4	1/1/1967	CAS	4"	169
Priority 2	V4	1/1/1967	CAS	4"	192
Priority 2	V4	1/1/1880	CAS	4"	376
Priority 2	V4	1/1/1958	CAS	4"	81
Priority 2	V7	1/1/1880	CAS	4"	55
Priority 2	V7	1/1/1880	CAS	4"	434
Priority 2	V10	1/1/1880	CAS	4"	562
Priority 2	V10	1/1/1880	CAS	4"	397
Priority 2	V11	1/1/1960	CAS	4"	994
Priority 2	V11	1/1/1880	CAS	4"	57
Priority 2	V11	1/1/1880	CAS	4"	163
Priority 2	V11	1/1/1880	CAS	4"	226
Priority 2	V14	1/1/1880	CAS	6"	453
Priority 2	V22	NEW LOOP	N/A	N/A	N/A
Priority 2	V17	1/1/1880	CAS	4"	1148
Priority 2	V17	1/1/1880	CAS	4"	241
Priority 2	V17	1/1/1880	CAS	4"	381
Priority 2	V18	1/1/1960	CAS	6"	389
Priority 2	V23	NEW LOOP	N/A	N/A	N/A

Appendix B

Part 3: Approval of Source Water Protection Plan

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

RICK SNYDER
GOVERNOR

DAN WYANT
DIRECTOR

May 9, 2011

Mr. James O'Toole
City of Escanaba
410 Ludington Street
Escanaba, Michigan 49829

Dear Mr. O'Toole:

Congratulations! The City of Escanaba Surface Water Intake Protection Plan is approved.

We commend you on your efforts and encourage you to keep the program viable by updating it as changes occur within the intake protection area. If you have any questions or need assistance implementing the program, please contact Mr. Jason Berndt, Environmental Quality Analyst, Drinking Water and Environmental Health Section, Resource Management Division, at 517-241-4796; or Department of Environmental Quality (DEQ), P.O. Box 30241, Lansing, Michigan 48909-77741, and he would be happy to assist you.

Again, congratulations on the approval of your program.

Sincerely,

Carrie Monosmith

Carrie Monosmith, Chief
Drinking Water and Environmental
Health Section
Resource Management Division
517-241-2853

cc: Mr. Donald French, City of Escanaba
Mr. Paul Seegert, Michigan Rural Water Association
Mr. Richard Benzie, P.E., DEQ
Mr. Scott Swenor, P.E., DEQ
Mr. Wayne Kukuk, DEQ

APPENDIX C

Environmental Information and Correspondence

Appendix C

Part 0: Typical Submittal Package

PROJECT SUMMARY
For Environmental Reviews

CITY OF ECANABA, MICHIGAN
WATER DISTRIBUTION SYSTEM IMPROVEMENTS
(DWRF PROJECT PLAN)

March 2020

Administrative

The City of Escanaba, Michigan has contracted with C2AE Engineers of Escanaba to prepare an EGLE DWRF Program Project Plan. The purpose of the Project Plan is to evaluate needs and recommend alternatives for improvements to the Escanaba Water Distribution System.

Project Planning Area

Project planning concentrates on the existing Escanaba water distribution system within the City limits (township, range, and section: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36). The City is located in Delta County near the south end of Michigan's Upper Peninsula.

Existing Facilities

The City of Escanaba's water system is sourced from Lake Michigan and is treated at the City-owned 8.0 MGD Water Treatment Plant. The City also owns a 1,000,000 gallon concrete storage tank, two 500,000 gallon elevated storage tanks, and 100 miles of 4-to-16 inch distribution main. The service area includes a small portion of users in Wells Township.

The City has owned and operated the municipal system since its inception in the 1870s. The present Water Treatment Plant was constructed and upgraded over years with major projects in 1950, 1972, 1996, 2002, 2008, and 2010. Much of the City's distribution system dates back to the original construction in the early 1880s.

Need for the Project

Reliable operation of water distribution lines within the City of Escanaba's utility systems are imperative to protect the health and safety of the City's citizens and visitors. Deficient water mains can waste treated water and permit contamination of treated drinking water. Unplanned failures and downtime during repairs affects the ability of the distribution system to safely and adequately serve the system users. Traditional lead and galvanized components may expose users to unsafe levels of exposure.

The original water pipes and structures are at least 140 years old. Pipe and joint materials are not up to modern standards. Leaking joints, structural problems, and capacity issues require increasing operation, maintenance, and repair expenditures.

The circumstances unique to this DWRF application are because the State of Michigan recently changed its lead and copper drinking water rules to require water service material identification and

possible replacement. The City must afford replacement costs for lead impacted service lines on privately owned property.

Alternatives Considered

Cost effectiveness of treatment and distribution alternatives has been an ongoing evaluation. Based on the cost effectiveness analysis and long term desires of the City, this DWRF application will be focused on improvements to the existing water distribution system and replacements of service lines.

- No Action – continued use of existing system as is, in violation of Lead and Copper Rule
- Optimize Performance of Existing Facilities – Minimize new construction with direct replacement of distribution lines and services, maintaining current water source.

Recommended Alternative

The current recommended alternative, pending environmental and other evaluations, is to upgrade the existing water distribution system, including individual service lines. Water main replacement is cost effective, and replacement of lead impacted galvanized service leads is required by law. This includes the following improvements:

- Replacement of lead and galvanized service lines
- Replacement of undersized water main, pipes, and valves

Anticipated Schedule

The initial project is scheduled for submission of a EGLE Project Plan in 2020 with construction in 2021 through 2025.

Figure 1: Location Map

Legend

- Water Service Replacement
- Project Area

0 1,000 2,000 4,000 6,000 8,000 Feet

N

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/ Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Center for Environmental Information, U.S. Coastal Relief Model. Data refreshed February, 2020.

c2ae architecture • engineering

CITY OF ESCANABA
PROJECT: 20-0023
DELTA COUNTY, MICHIGAN

CITY OF ESCANABA DWRF PROJECT
PROJECT LOCATION

PLOTTED BY: ASHLEY.HENDRICKS 03/17/2020 04:51 PM N:\2020\200023_Escanaba_DWRF\Drawings\GIS\MXDs\Escanaba_DWRF_GISPro\Escanaba_DWRF_GISPro.aprx

Appendix C

Part 1: Air Quality

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2020

Ed Lancaster, Air Quality Division
1504 W. Washington Street
Marquette, MI 49855

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Mr. Lancaster,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Project Summary and Location Maps. We are requesting your review and comment. Comments received within 30 days will allow them to be incorporated into the project plan prior to the preparation of the final DWRF Project Plan.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

Hendricks, Ashley

From: Lancaster, Edward (EGLE) <LANCASTERE1@michigan.gov>
Sent: Tuesday, April 7, 2020 3:55 PM
To: Hendricks, Ashley
Cc: Bruestle, Sydney (EGLE)
Subject: Escanaba water distribution system

Ashley,

Thanks for the opportunity to review the plans for the City of Escanaba's improvement to their existing waster distribution system.

Based on the description in your letter, dated March 20, 2020, the main source of concern from an air quality perspective would be any fugitive dust that may be produced during construction activities. Fugitive dust emissions are regulated, in part, by the State of Michigan Air Pollution Control Rule 901, which reads as follows:

> Rule 901 Air contaminant or water vapor, when prohibited.
>
> Notwithstanding the provisions of any other commission rule, a person shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other contaminants, either of the following:
>
> a) Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.
> b) Unreasonable interference with the comfortable enjoyment of life and property.

The use of water or other dust suppressants may be required to control fugitive dust on the work site and prevent violations of Rule 901.

In addition, if applicable, the demolition of a regulated structure is also subject to the asbestos NESHAP National Emission Standards for Asbestos Air Pollution Control Rule 942. A thorough inspection for asbestos-containing materials (ACMs) must be conducted and all friable materials must be properly removed and landfilled prior to starting demolition activities. If ACMs in amounts greater than the threshold amounts are removed, a Notification of Intent to Renovate/Demolish must be submitted for the renovation activities. Even if no ACMs are found, a Notification of Intent to Renovate/Demolish must be submitted for the demolition activities.

Please feel free to contact me, if you have any questions.

Sincerely,

Ed Lancaster
District Supervisor
Air Quality Division/Marquette District Office
Department of Environment, Great Lakes, and Energy
906-250-5124
Lancastere1@michigan.gov

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

1. Air Quality

The MDEQ was contacted to review and comment on the potential direct or indirect air pollutant emissions impact that would result from the construction or operation of the proposed project. Fugitive dust emissions on the worksite are a potential during construction. If this would become an issue, dust suppressants will be used to control the fugitive dust to prevent violations of Rule 901.

Appendix C

Part 2: Archaeological and Historic Resources

Hendricks, Ashley

From: Hendricks, Ashley
Sent: Friday, March 6, 2020 1:40 PM
To: 'SHPOresearch@michigan.gov'
Cc: Pionk, Darren
Subject: SHPO Research Request for City of Escanaba DWRF (200023)
Attachments: Escanaba_DWRF_QuadMap_01.pdf; Escanaba_DWRF_QuadMap_02.pdf

The City of Escanaba, Michigan has contracted with C2AE to prepare an EGLE DWRF Program Project Plan. The purpose of the project will be to make improvements on their existing water distribution system and replace lead water services in the City of Escanaba, Delta County. A list of the township, range, and sections can be found below. Please refer to attached USGS Quadrangle Maps of Escanaba showing research area. Are there relevant files available for us to view, and if so, can we request a research appointment?

Township, Range, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36

Thank you,

Ashley Hendricks, EIT
Civil Engineer

C2AE
architecture | engineering
1211 Ludington Street
Escanaba, MI 49829
O: 906.217.1014

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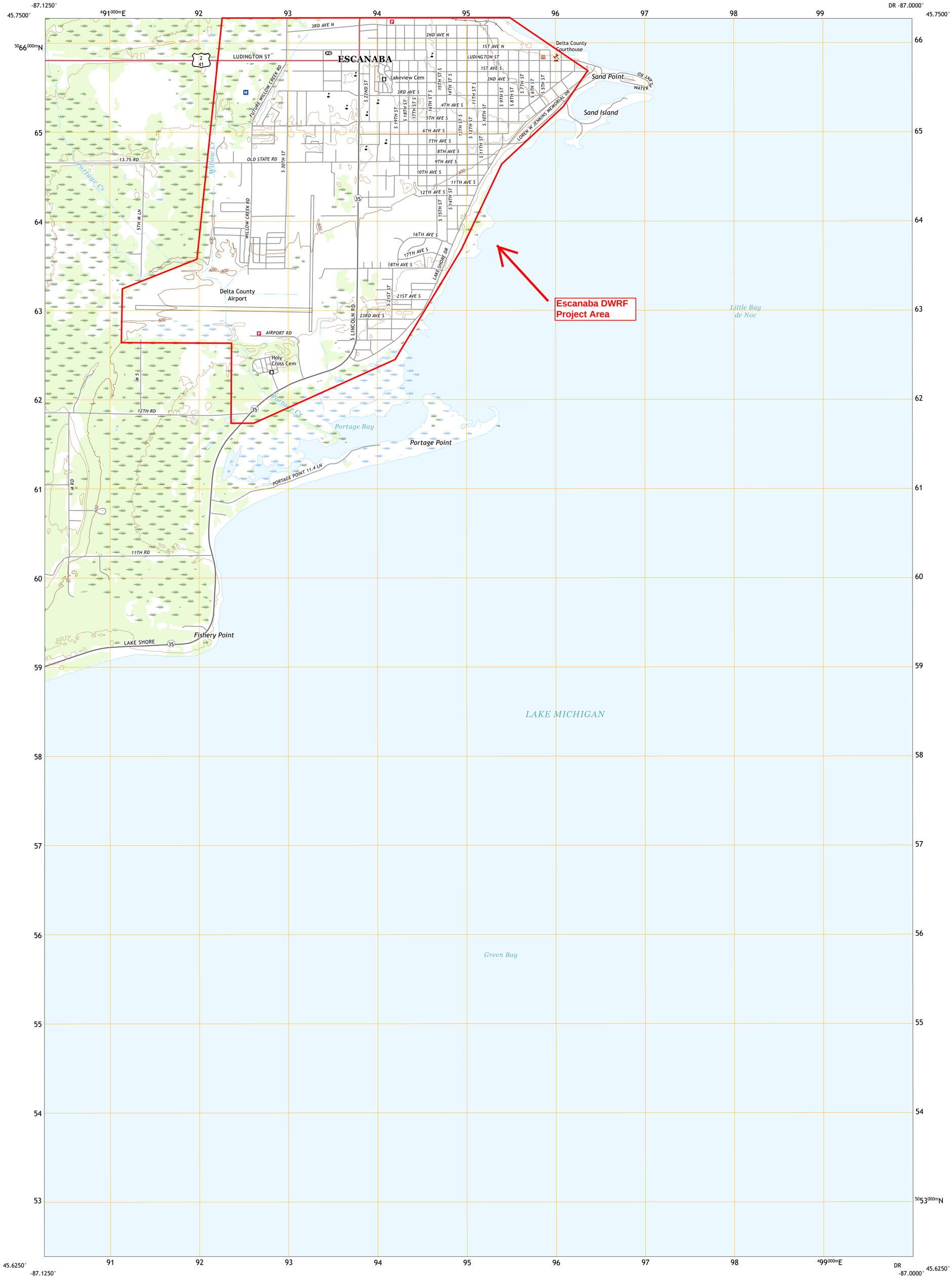
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

ESCANABA QUADRANGLE
MICHIGAN - DELTA COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 16T

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, August 2016 - October 2016
Roads..... U.S. Census Bureau, 2016
Names.....GNIS, 1980 - 2019
Hydrography.....National Hydrography Dataset, 2003 - 2019
Contours.....National Elevation Dataset, 2018
Boundaries.....Multiple sources; see metadata file 2017 - 2018
Public Land Survey System.....BLM, 2018
Wetlands.....FWS National Wetlands Inventory 2005

MN
GN
5°9'
92 MILS
0°3'
1 MILS
UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
DR
Grid Zone Designation
16T

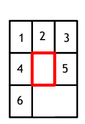
SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

QUADRANGLE LOCATION



ADJOINING QUADRANGLES

1 Chandler
2 Gladstone
3 Maywood
4 Ford River
5 Peninsula Point
6 Henderson Lakes

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

ESCANABA, MI
2019

NSN 7643016370967
NGA REF NO. USGSX24K14528

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

GLADSTONE QUADRANGLE
MICHIGAN - DELTA COUNTY
7.5-MINUTE SERIES

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 16T

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery	NAIP,	August 2016 - October 2016
Roads	U.S. Census Bureau,	2016
Roads within US Forest Service Lands	FSTopo Data with limited Forest Service updates,	2013 - 2016
Names	GNIS,	1980 - 2019
Hydrography	National Hydrography Dataset,	2003 - 2019
Contours	National Elevation Dataset,	2018
Boundaries	Multiple sources; see metadata file	2017 - 2018
Public Land Survey System	BLM,	2018
Wetlands	FWS National Wetlands Inventory	2005

MN
GN
5°10'
92 MILS
0°3'
1 MILS
UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
DR
Grid Zone Designation
16T

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES
1 Cornell
2 Perkins
3 Rapid River
4 Chandler
5 Maywood
6 Ford River
7 Escanaba
8 Peninsula Point

ROAD CLASSIFICATION

Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD
Interstate Route	US Route
State Route	
FS Primary Route	FS Passenger Route
FS High Clearance Route	

Check with local Forest Service unit for current travel conditions and restrictions.

GLADSTONE, MI
2019

NSN. 7643016371043
NGA REF NO. USGSX24K17350

Hendricks, Ashley

From: MSF-SHPOResearch <MSF-SHPOResearch@michigan.gov>
Sent: Friday, March 6, 2020 5:12 PM
To: Hendricks, Ashley
Subject: Re: SHPO Research Request for City of Escanaba DWRF (200023)
Attachments: MICHIGAN ARCHAEOLOGICAL SITE FILE (Escanaba).pdf; Escanaba Quad.png; Gladstone Quad.png

A couple sites have come up in the TRS you have provided. Site files and quad scans are included (the sites are numbered and marked in pencil). Site locations are not to be shown to members of the public. If you have any questions moving forward - contact our staff archaeologist, Stacy Tchorzynski.

Thank you

From: Hendricks, Ashley <ashley.hendricks@C2AE.COM>
Sent: Friday, March 6, 2020 1:39 PM
To: MSF-SHPOResearch <MSF-SHPOResearch@michigan.gov>
Cc: Pionk, Darren <darren.pionk@c2ae.com>
Subject: SHPO Research Request for City of Escanaba DWRF (200023)

The City of Escanaba, Michigan has contracted with C2AE to prepare an EGLE DWRF Program Project Plan. The purpose of the project will be to make improvements on their existing water distribution system and replace lead water services in the City of Escanaba, Delta County. A list of the township, range, and sections can be found below. Please refer to attached USGS Quadrangle Maps of Escanaba showing research area. Are there relevant files available for us to view, and if so, can we request a research appointment?

Township, Range, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36

Thank you,

Ashley Hendricks, EIT
Civil Engineer

C2AE
architecture | engineering
1211 Ludington Street
Escanaba, MI 49829
O: 906.217.1014

Infrastructure that enables, Architecture that empowers.
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1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2020

State Historic Preservation Office
Michigan Economic Development Corporation
300 N. Washington Square
Lansing, MI 48913

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Mr. or Ms.,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Section 106 Review Application, Project Summary, Location Maps, APE photos, and previous correspondence from SHPO. We are requesting your review and comment.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

Revised August 22, 2019

STATE HISTORIC PRESERVATION OFFICE
Application for Section 106 Review

SHPO Use Only					
☐ IN	Received Date ____ / ____ / ____	Log In Date ____ / ____ / ____
☐ OUT	Response Date ____ / ____ / ____	Log Out Date ____ / ____ / ____
	Sent Date ____ / ____ / ____	

Submit one copy for each project for which review is requested. This application is required. Please type. Applications must be complete for review to begin. Incomplete applications will be sent back to the applicant without comment. Send only the information and attachments requested on this application. Materials submitted for review cannot be returned. Due to limited resources we are unable to accept this application electronically.

I. GENERAL INFORMATION

☒ THIS IS A NEW SUBMITTAL ☐ THIS IS MORE INFORMATION RELATING TO ER#

a. Project Name: City of Escanaba, Water Distribution System Improvements
b. Project Address (if available): Multiple streets city-wide
c. Municipal Unit: City of Escanaba County: Delta
d. Federal Agency, Contact Name and Mailing Address (*If you do not know the federal agency involved in your project please contact the party requiring you to apply for Section 106 review, not the SHPO, for this information*.): EPA/EGLE DWRF Program, Project Manager, Valerie White, 517-284-5420
e. State Agency (if applicable), Contact Name and Mailing Address: EGLE DWRF Program, Valerie White, 517-284-5420
f. Consultant or Applicant Contact Information (if applicable) *including mailing address*: CONSULANT: C2AE, Attn. Ashley Hendricks, 1211 Ludington Street, Escanaba, MI 49829, ashley.hendricks@c2ae.com, 906-233-9360 APPLICANT: City of Escanaba, Attn: Jeff Lampi, Superintendent, 1900 Willow Creek Road, Escanaba, MI 49829, jlampi@escanaba.org, 906-786-1301

II. GROUND DISTURBING ACTIVITY (INCLUDING EXCAVATION, GRADING, TREE REMOVALS, UTILITY INSTALLATION, ETC.)

DOES THIS PROJECT INVOLVE GROUND-DISTURBING ACTIVITY? ☒ YES ☐ NO (If no, proceed to section III.)

Precise project location map (preferably USGS 7.5 min Quad with quad name, date, and location) with previously recorded archaeological sites visible (this site information is available to qualified archaeologists at the SHPO Office) Portions, photocopies of portions, and electronic USGS maps are acceptable as long as the location is clearly marked.

a. USGS Quad Map Name: Escanaba Quadrangle and Gladstone Quandrangle
b. Township: var. Range: var. Section: var.
c. Site plan showing limits of proposed excavation. Description of width, length and depth of proposed ground disturbing activity: The trench dimensions for the water main will approximately be 14' wide by 8' deep
d. Previous land use and disturbances: The City of Escanaba utilities were originally constructed in the 1880s. Irregular patching and modifications have occurrred.
e. Current land use and conditions: Land use is residential and commercial, with some industry adjacent.
f. Did you check the State Archaeological Site Files located at the SHPO? ☒ YES ☐ NO

III. PROJECT WORK DESCRIPTION AND AREA OF POTENTIAL EFFECTS (APE)
Note: Every project has an APE.

a. Provide a detailed written description of the project (plans, specifications, Environmental Impact Statements (EIS), Environmental Assessments (EA), etc. **cannot** be substituted for the written description): See attached project summary
b. Provide a localized map indicating the location of the project; road names must be included and legible.

c. On the above-mentioned map, identify the APE.
d. Provide a written description of the APE (physical, visual, auditory, and sociocultural), the steps taken to identify the APE, and the justification for the boundaries chosen. The APE is the entire area along the route. The construction of this project will effect transportation and residences along the route by disrupting traffic along the roadways and into driveways. After construction the only effect will be the few hydrants that will be visible.

IV. IDENTIFICATION OF HISTORIC PROPERTIES

a. List and date **all** properties 50 years of age or older located in the APE. **The Section 106 Above-Ground Resources inventory form is the preferred format for providing this information and a completed form should be included as an attachment to this application.** If the property is located within a National Register eligible, listed or local district it is only necessary to identify the district: Most of the buildings in the City are over 50 years old. The only impact on them will be that they will be within the visual distance of construction.

b. Describe the steps taken to identify whether or not any **historic** properties exist in the APE and include the level of effort made to carry out such steps: Reviewed the Register of Historic Places wesbite and did not find any near the vicinity of the APE. Contacted SHPO for a preliminary investigation on whether there are applicable files for fruther research; their response is attached on the last pages of this application. The previously recorded archaeological sites provided by SHPO are not in the APE of this project.

c. Based on the information contained in "b", please choose one:

- ☐ Historic Properties Present in the APE
- ☒ No Historic Properties Present in the APE

d. Describe the condition, previous disturbance to, and history of any historic properties located in the APE: The older buildings in the City of Escanaba fall within water distribution and wastewater collection service areas with most street right-of-ways previously disturbed for those utility installations.

V. PHOTOGRAPHS

Note: All photographs must be keyed to a localized map.

a. Provide photographs of the site itself.

b. Provide photographs of all properties 50 years of age or older located in the APE (faxed or photocopied photographs are not acceptable).

VI. DETERMINATION OF EFFECT

Note: you must provide a statement explaining/justifying your determination.
Include statement as an attachment if necessary.

☒ No historic properties affected based on [36 CFR § 800.4(d)(1)], **please provide the basis for this determination**.

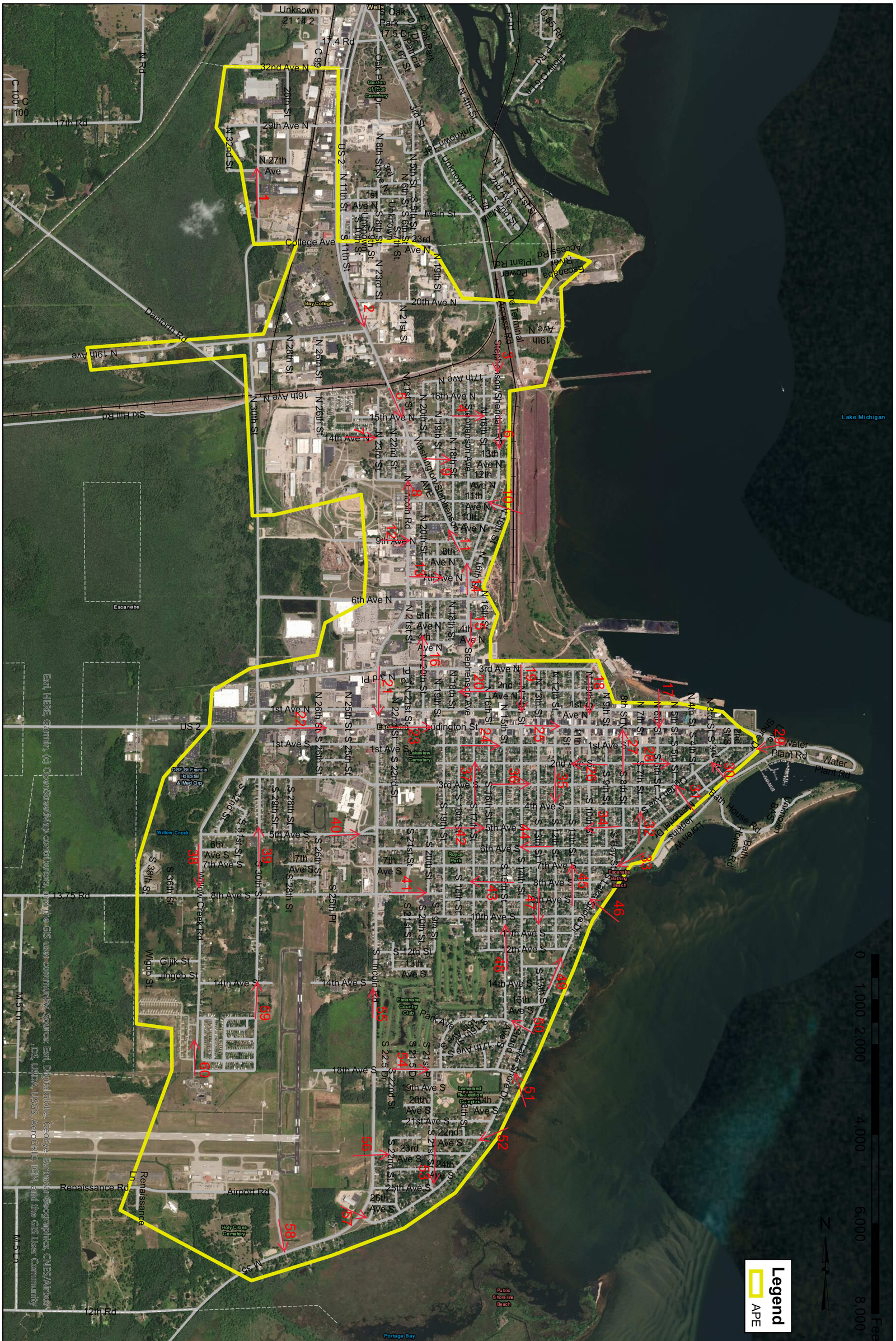
☐ No Adverse Effect [36 CFR § 800.5(b)] on historic properties, **explain why the criteria of adverse effect, 36 CFR Part 800.5(a)(1), were found not applicable**.

☐ Adverse Effect [36 CFR § 800.5(d)(2)] on historic properties, **explain why the criteria of adverse effect, [36 CFR Part 800.5(a)(1)], were found applicable.**

Please print and mail completed form and required information to:

State Historic Preservation Office, Cultural Resources Management Section
Michigan Economic Development Corporation
300 North Washington Square, Lansing, MI 48913

PLOTTED BY: ASHLEY.HENDRICKS 03/23/2020 04:20 PM N:\2020\200023_Escanaba_DWRF\Drawings\GIS\MXDs\Escanaba_DWRF_GISPro\Escanaba_DWRF_GISPro.aprx



CITY OF ESCANABA
AREA OF POTENTIAL EFFECTS (APE)

CITY OF ESCANABA
PROJECT: 20-0023
DELTA COUNTY, MICHIGAN

c2ae architecture · engineering

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

City of Escanaba DWRF Project Plan
Water Distribution System Improvements
SHPO 106 Application – Area of Potential Effects Photos

1. N 30th Street and 27th Ave N, looking north

2. N 19th Ave and N Lincoln Rd, looking south

3. Co Rd 426 and 17th Ave N, looking south

4. 15th Ave N and N 16th St, looking west

5. 15th Ave N and N Lincoln Rd, looking south

6. Sheridan Rd and 13th Ave N, looking south

7. 14th Ave N and N 23rd St, looking east

8. N Lincoln Rd and 12th Ave N, looking north

9. 13th Ave N and N 18th St, looking east

10. 11th Ave N and Sheridan Rd, looking west

11. 10th Ave N and Stephenson Ave, looking north

12. 9th Ave N and N Lincoln Rd, looking east

13. 7th Ave N and N 19th St, looking east

14. Stephenson Ave and 7th Ave N, looking north

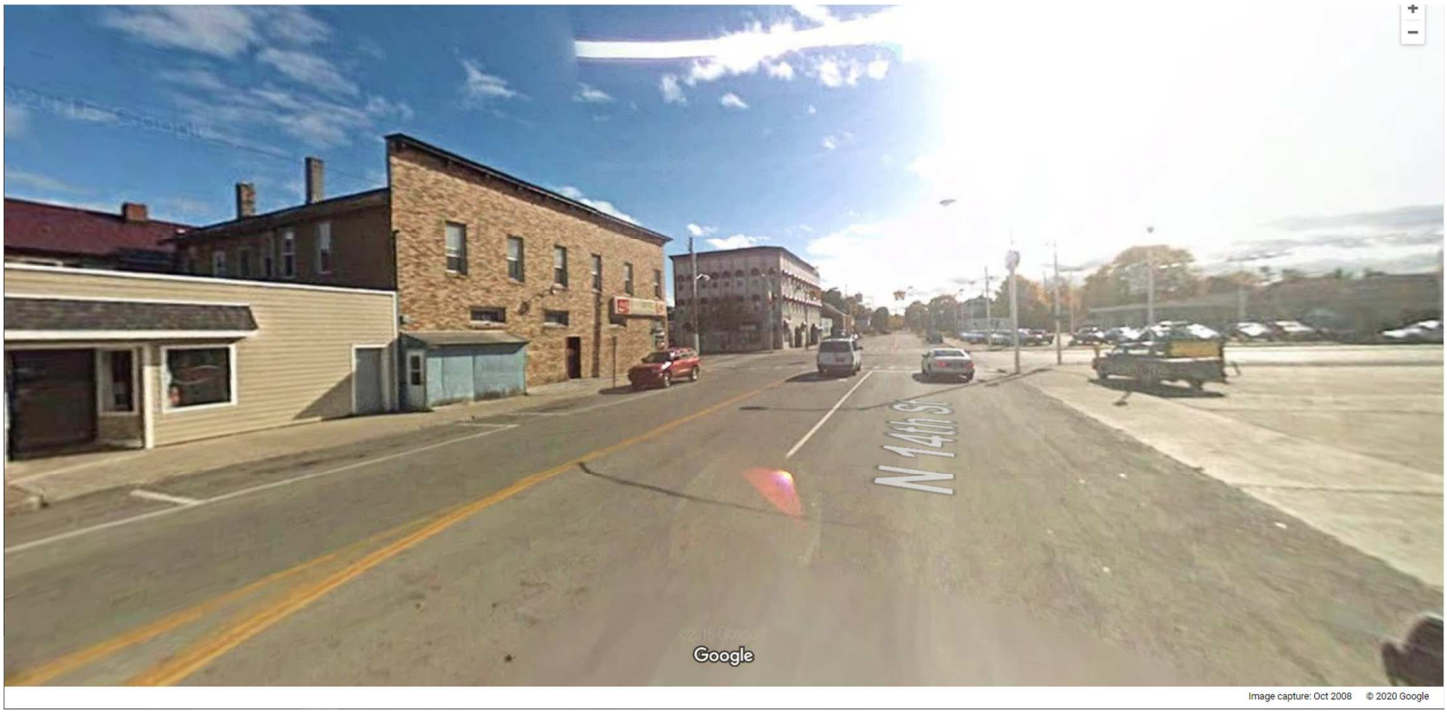
15. Stephenson Ave and 4th Ave N, looking south

16. 4th Ave N and N 20th St, looking north

17. Ludington St and N 6th St, looking south

18. N 10th St and Ludington St, looking south

19. N 14th St and Ludington St, looking south



20. Stephenson Ave and 2nd Ave N, looking west

21. S Lincoln Rd and Ludington St, looking south

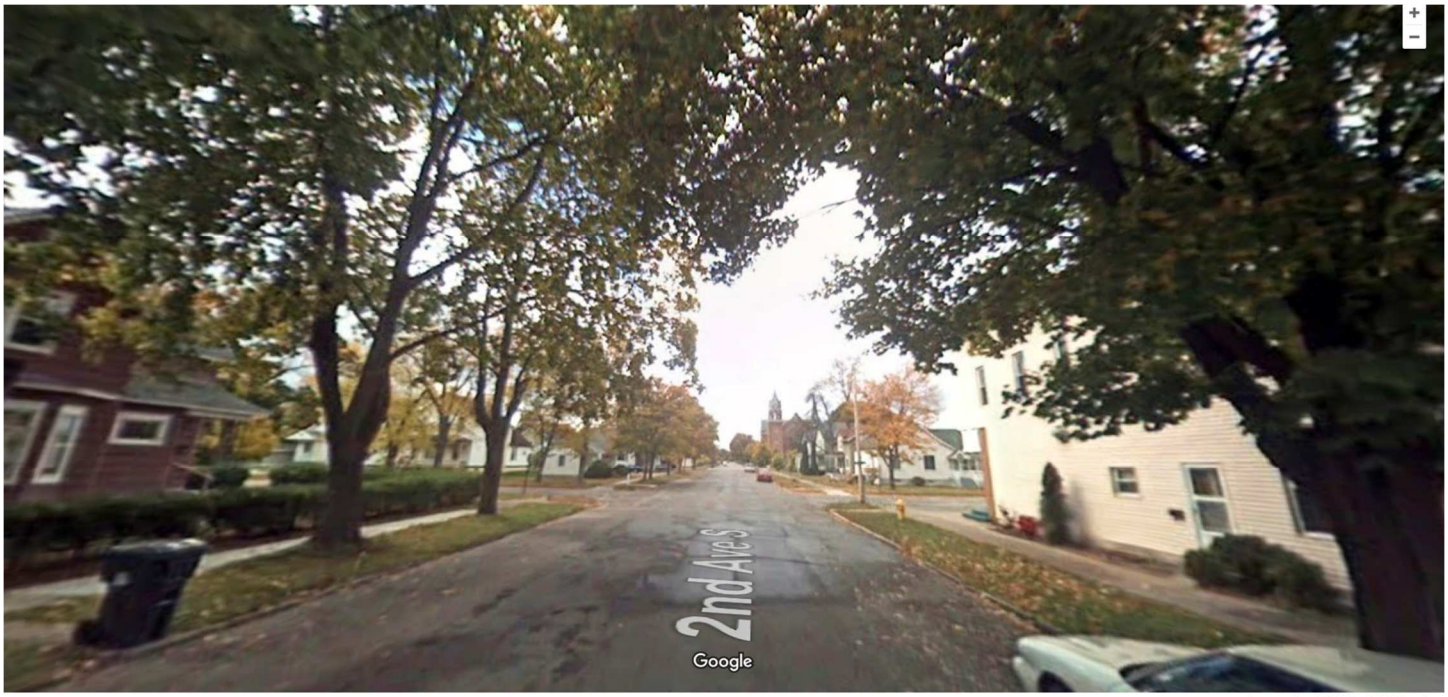
22. N 26th St and Ludington St, looking east

23. Ludington St and N 19th St, looking east

24. 1st Ave S and N 15th St, looking east

25. Ludington St and N 12th St, looking east

26. 2nd Ave S and S 11th St, looking west



27. S 8th St and Ludington St, looking north

28. 2nd Ave S and S 5th St, looking east

29. Lake Shore Dr and 1st Ave S, looking west

30. S 3rd St and Ogden Ave S, looking north

31. S 5th St and Ogden Ave S, looking north

32. Ogden Ave S and S 7th St, looking north

33. Lake Shore Dr and S Bay St, looking south

34. S 10th St and 5th Ave S, looking west

35. S 12th St and 4th Ave S, looking south

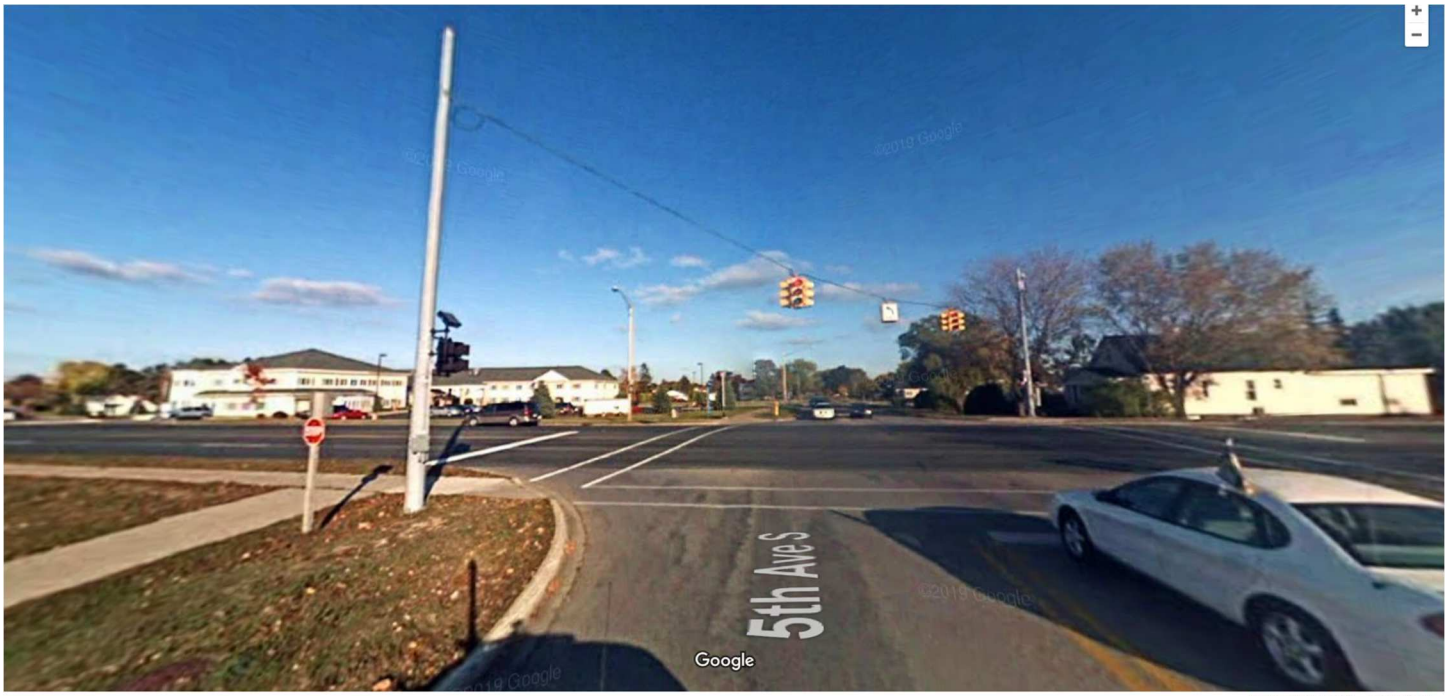
36. S 14th St and 3rd Ave S, looking east

37. S 17th St and 2nd Ave S, looking north

38. Willow Creek Rd and 8th Ave S, looking south

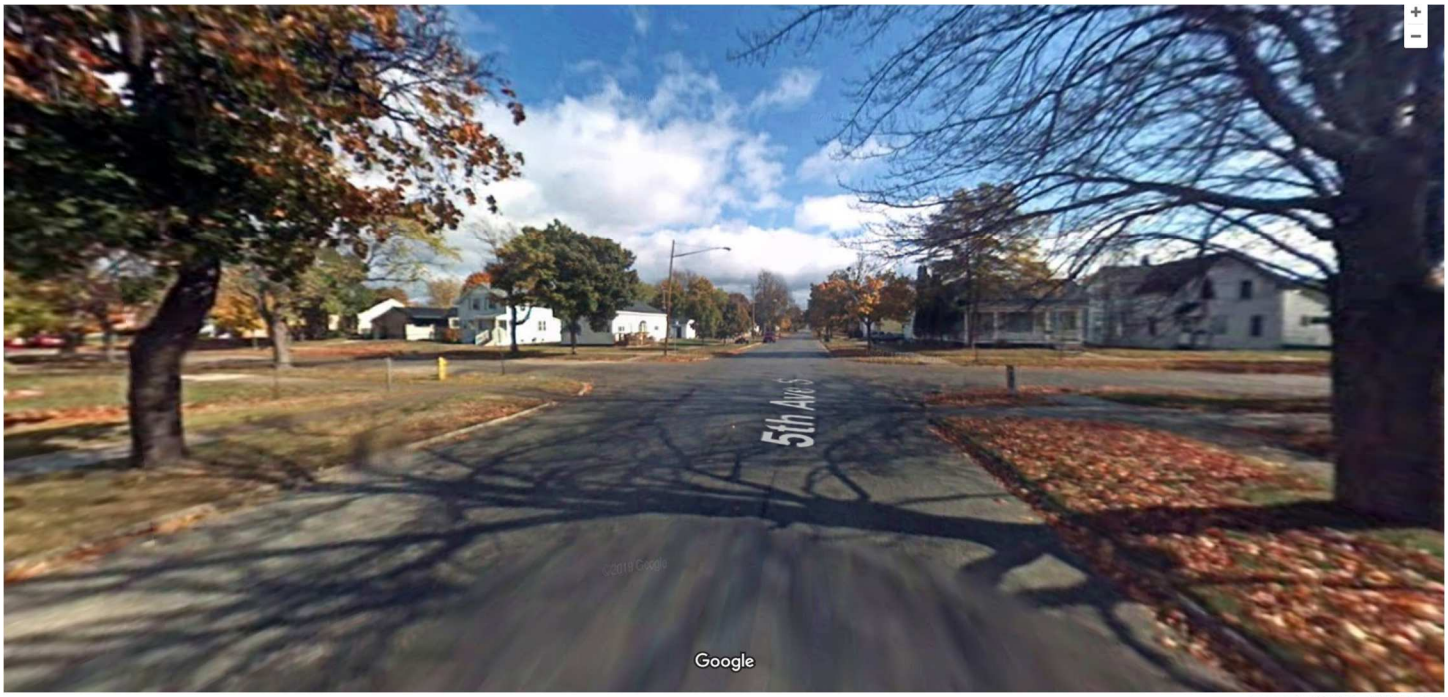
39. S 30th St and 5th Ave S, looking north

40. 5th Ave S and S Lincoln Rd, looking west



41. 8th Ave S and S 20th St, looking west

42. 5th Ave S and S 16th St, looking west



43. S 17th St and 8th Ave S, looking east

44. 6th Ave S and S 14th St, looking west

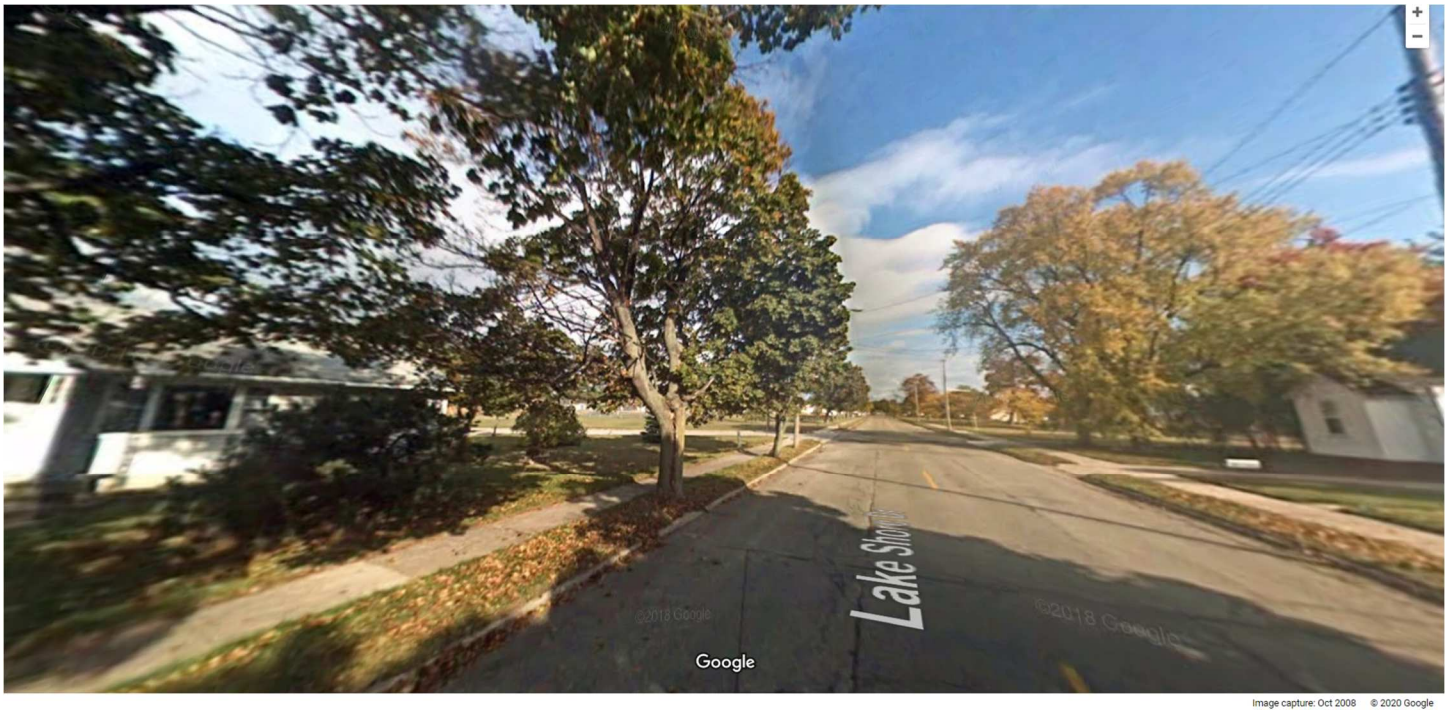
45. 7th Ave S and S 11th St, looking north

46. Lake Shore Dr and 10th Ave S, looking west

47. S 13th St 10th Ave S, looking south

48. S 15th St and 10th Ave S, looking north

49. Lake Shore Dr and 13th Ave S, looking north



50. S 15th St and 16th Ave S, looking north

51. Lake Shore Dr and 18th Ave S, looking north

52. Lake Shore Dr and 22nd Ave S, looking south

53. S 21st St and 25th Ave S, looking south

54. 18th Ave S and S 21st St, looking east

55. S Lincoln Ave and 14th Ave S, looking north

56. 23rd Ave S and S 22nd St, looking east

57. S Lincoln Rd and Lake Shore Dr, looking south

58. M35 and Airport Dr, looking south

59. 14th Ave S and S 30th St, looking north

60. Willow Creek Rd looking north

Hendricks, Ashley

From: Grennell, Brian (LEO) <GrennellB@michigan.gov>
Sent: Monday, April 20, 2020 11:33 AM
To: Hendricks, Ashley
Cc: Cain, David; Pionk, Darren; MSF-SHPOResearch
Subject: RE: Escanaba DWRF SHPO Status (200023)

It appears that we received it on 4/6 (ER20-619). We will try to complete a review within the 30 day response period, but under the current circumstances, I can't guarantee it.

Brian G. Grennell
Cultural Resource Management Coordinator
State Historic Preservation Office
Michigan Economic Development Corporation
300 N. Washington Square | Lansing, MI 48913
Direct Phone (517) 335-2721

Grennellb@michigan.gov www.michigan.gov/shpo

In accordance with Gov. Gretchen Whitmer and the Michigan Department of Health and Human Services' recommendations designed to help prevent the spread of Coronavirus Disease 2019 (COVID-19), the Michigan Economic Development Corporation and the State Historic Preservation Office will be closed for research appointments beginning March 17th.

> **The state is taking proactive steps to mitigate the spread of COVID-19 in Michigan, and we are approaching all of our operations with public health and safety as our top priority. We apologize for any inconvenience and will reach out with additional communications as we learn more. We appreciate your understanding and cooperation in reducing the coronavirus risk to Michigan residents.**
>
> **For current and up-to-date information regarding the Coronavirus visit http://www.Michigan.gov/Coronavirus or http://www.CDC.gov/Coronavirus.**
>
> **SHPO Staff will work to complete research requests via email but please understand that some files are not digitally accessible and in some cases it will be necessary to wait for the office to reopen to complete you research. Staff will continue to keep this email updated. We appreciate your patience.**

From: MSF-SHPOResearch <MSF-SHPOResearch@michigan.gov>
Sent: Monday, April 20, 2020 10:29 AM
To: Grennell, Brian (LEO) <GrennellB@michigan.gov>
Subject: FW: Escanaba DWRF SHPO Status (200023)

Katie Kolokithas
Survey Coordinator
State Historic Preservation Office
Michigan Economic Development Corporation
300 N. Washington Square | Lansing, MI 48913
Office: 517.335.9840 | Desk: 517.241.6062

kolokithask1@michigan.gov

From: Hendricks, Ashley <ashley.hendricks@C2AE.COM>
Sent: Monday, April 20, 2020 10:24 AM
To: MSF-SHPOResearch <MSF-SHPOResearch@michigan.gov>
Cc: Cain, David <david.cain@C2AE.COM>; Pionk, Darren <darren.pionk@c2ae.com>
Subject: Escanaba DWRF SHPO Status (200023)

Good Morning,

I received initial correspondence for the City of Escanaba's DWRF Project on March 6, 2020 from Stacy Tchorzynski at SHPO with the sites near the TRS; upon reviewing these sites it was found that none of them were within the project area. On March 26th, I submitted a SHPO Section 106 Application for this project via hardcopy in the mail. From what I understand, you guys are unable to meet the 30-day turn around with the Stay Home order. However, I wanted to confirm you guys have received this application and also wanted to check on when it is expected that this application will be reviewed.

Thank you,

Ashley Hendricks, EIT
Civil Engineer

C2AE
architecture | engineering
1211 Ludington Street
Escanaba, MI 49829
O: 906.217.1014
M: 920.562.9158

Infrastructure that enables, Architecture that empowers.
www.c2ae.com | Facebook | LinkedIn

In response to COVID-19, C2AE's staff is continuing to provide fully integrated services from the safety of our homes using a robust telecommunication system and following our clients' established protocols. We remain committed to serving our clients and working with our contracting and vendor partners. We wish you good health in this period of uncertainty.

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

2. Archaeological and Historical Resources

An application was submitted to SHPO on March 26th and received by SHPO on April 6, 2020 (refer to correspondence on previous two pages). Under the circumstances of the Stay at Home Order and the Covid-19 virus, the response from SHPO may be delayed. Responses will be included when they are received.

May 11, 2020

SONYA T BUTLER
MICHIGAN DEPARTMENT OF ENVIRONMENT GREAT LAKES AND ENERGY
P O BOX 30817
LANSING MI 48909

RE: ER20-619 City of Escanaba Water Distribution System Improvements, T38N, R22W, T38N, R23W, T39N, R22W, T39N, R23W, City of Escanaba, Delta County (EPA)

Dear Ms. Butler:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-referenced undertaking. Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that the proposed undertaking will have **no adverse effect** [36 CFR § 800.5(b)] on historic properties within the area of potential effects for the above-cited undertaking
provided the following condition is met:

- If landscape changes or tree removals are to occur as part of this project, information (plans, maps, photos, addresses, historical information, etc.) regarding locations where mature trees (larger than 6 inches in diameter) will be removed or other landscape changes may occur will be submitted to the SHPO for review, comment and meaningful consultation.

If you concur, the accompanying form must be signed by an agency official with legal authority to act on behalf of the agency [36 CFR § 800.2(a)]. Please return the signed original to us. Please note that the Section 106 review process will not be complete and the EPA's responsibility to comply with 36 CFR § 800.4, "Identification of historic properties," and 36 CFR § 800.5, "Assessment of adverse effects," will not be fulfilled until we have received this letter with the original signature of the agency official. **If the agency official disagrees with this condition, then consultation with this office shall be reopened per 36 CFR § 800.5(a).**

We remind you that federal agency officials or their delegated authorities are required to involve the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties per 36 CFR § 800.2(d). The National Historic Preservation Act also requires that federal agencies consult with any Indian tribe and/or Tribal Historic Preservation Officer (THPO) that attach religious and cultural significance to historic properties that may be affected by the agency's undertakings per 36 CFR § 800.2(c)(2)(ii).

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. **If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.**

If you have any questions, please contact Brian G. Grennell, Cultural Resource Management Coordinator, at 517-335-2721 or by email at GrennellB@michigan.gov. **Please reference our project number in all communication with this office regarding this undertaking**. Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

Martha MacFarlane Faes
Deputy State Historic Preservation Officer

MMF:SAT:BGG

Enclosure(s)

copy: Jeff Lampi, City of Escanaba
Ashley Hendricks, C2AE

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
MICHIGAN STRATEGIC FUND
STATE HISTORIC PRESERVATION OFFICE

MARK A. BURTON
PRESIDENT

May 11, 2020

~~SONYA T BUTLER~~ City of Escanaba, MI
~~MICHIGAN DEPARTMENT OF ENVIRONMENT GREAT LAKES AND ENERGY~~
~~P O BOX 30817~~
~~LANSING MI 48909~~

RE: ACCEPTANCE LETTER

ER20-619 City of Escanaba Water Distribution System Improvements, T38N, R22W, T38N, R23W, T39N, R22W, T39N, R23W, City of Escanaba, Delta County (EPA)

We have received comments from the State Historic Preservation Office (SHPO) regarding the above-cited undertaking at the location noted above. We intend to follow the conditions as specified by the SHPO.

I concur: x Patrick S Jordan Date: x 6-12-2020

Printed name and title of agency official: x Patrick S Jordan

MICHIGAN SHPO STATE HISTORIC PRESERVATION OFFICE

300 NORTH WASHINGTON SQUARE • LANSING, MICHIGAN 48913
michigan.gov/shpo • (517) 335-9840

Appendix C

Part 3: Tribal Historic Preservation Officers

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2020

Melissa Wiatrolik, THPO
Little Traverse Bay Bands of Odawa Indians
7500 Odawa Cir.
Harbor Springs, MI 49740

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Ms. Wiatrolik,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Project Summary and Location Maps. We are requesting your review and comment. Comments received within 30 days will allow them to be incorporated into the project plan prior to the preparation of the final DWRF Project Plan.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2020

Daisy McGeshick, THPO
P.O. Box 249
Watersmeet, MI 49969

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Ms. McGeshick,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Project Summary and Location Maps. We are requesting your review and comment. Comments received within 30 days will allow them to be incorporated into the project plan prior to the preparation of the final DWRF Project Plan.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2020

Earl Meshigaud, Hannahville Indian Community
N-14911 Hannahville B1 Rd.
Wilson, MI 49896

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Mr. Meshigaud,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Project Summary and Location Maps. We are requesting your review and comment. Comments received within 30 days will allow them to be incorporated into the project plan prior to the preparation of the final DWRF Project Plan.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2020

Bay Mills Indian Community
Paula Carrick, THPO
12140 W. Lakeshore Drive
Brimley, MI 49715

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Ms. Carrick,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Project Summary and Location Maps. We are requesting your review and comment. Comments received within 30 days will allow them to be incorporated into the project plan prior to the preparation of the final DWRF Project Plan.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2020

Colleen Medicine, Cultural Repatriation Specialist
523 Ashmun St.
Sault Ste Marie, MI 49783

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Ms. Medicine,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Project Summary and Location Maps. We are requesting your review and comment. Comments received within 30 days will allow them to be incorporated into the project plan prior to the preparation of the final DWRF Project Plan.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

Appendix C

Part 4: Facility Discharge Permits
SEE APPENDIX B

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

4. Facility Discharge Permit

The proposed project does not require a NPDES Permit.

Appendix C

Part 5: Farmland and Open Space Preservation

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2020

MI Department of Agriculture & Rural Development
Farmland Preservation Program
Envrionmental Stewardship Division
PO BOX 30499
Lansing, MI 48909

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Mr. or Ms.,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Project Summary and Location Maps. We are requesting your review and comment. Comments received within 30 days will allow them to be incorporated into the project plan prior to the preparation of the final DWRF Project Plan.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2020

Farmland Preservation Program
USDA Natural Resources Conservation Service
3001 Coolidge Road, Suite 250
East Lansing, MI 48823-6362

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Mr. or Ms.,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

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Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

Hendricks, Ashley

From: Hendricks, Ashley
Sent: Tuesday, March 24, 2020 11:08 AM
To: 'Rosek, Martin - NRCS, East Lansing, MI'
Cc: Skinner, Lorrie (CTR) - NRCS, East Lansing, MI; Pionk, Darren; Cain, David
Subject: RE: Escanaba Water Distribution Improvements
Attachments: 200023_200324_EscanabaDWRF_WaterServiceReplacementLocs.pdf

Hi Marty,

We will be replacing existing water service lines (previously disturbed areas) that are outside the right-of-way. There are about 4,000 services are scattered throughout the City of Escanaba that need to be replaced. If the service cannot be replaced by directionally drilling, we would have to open trench (width of 10 feet). If we assume an average service length of 30 feet for about 4,000 services, this would come out to 28 acres total. None of these services are on farmland. I think the map with all the service replacement locations was with the letter I sent, but I have attached it to this email for reference. Please let us know if you have any further questions.

Thank you,

Ashley Hendricks, EIT
Civil Engineer

C2AE
architecture | engineering
1211 Ludington Street
Escanaba, MI 49829
O: 906.217.1014

Infrastructure that enables, Architecture that empowers.
www.c2ae.com | Facebook | LinkedIn

From: Rosek, Martin - NRCS, East Lansing, MI [mailto:martin.rosek@usda.gov]
Sent: Tuesday, March 24, 2020 10:34 AM
To: Hendricks, Ashley <ashley.hendricks@C2AE.COM>
Cc: Skinner, Lorrie (CTR) - NRCS, East Lansing, MI <lorrie.skinner@usda.gov>
Subject: Escanaba Water Distribution Improvements

Ashley,

I just received the Escanaba Water Distribution Improvements Plan. In order to complete my review of this proposed project, I need to know if any of the improvements are outside the existing road right-of way. If so, which ones, and were are they located, and how many acres are involved.

Thank you for this opportunity to review this project.

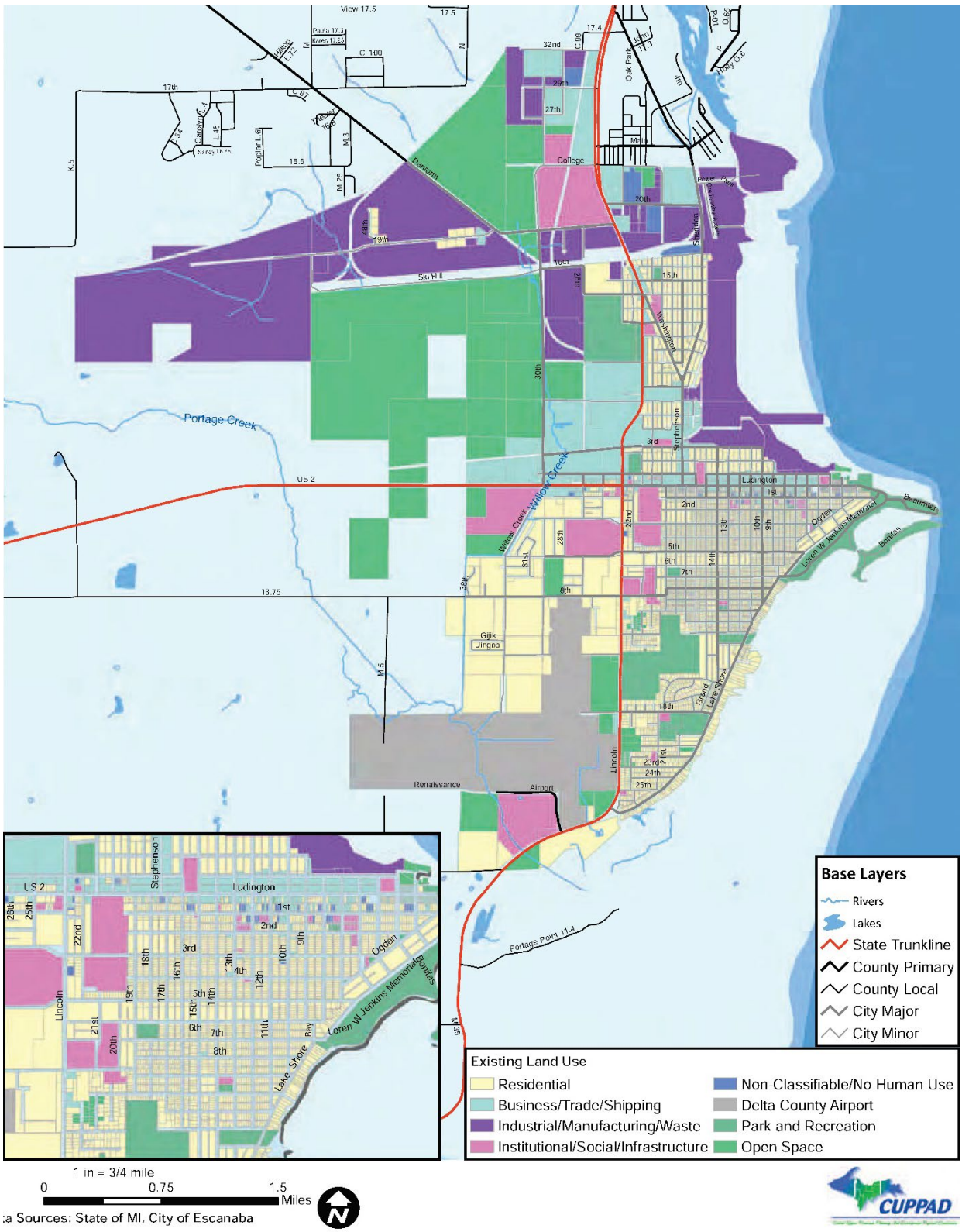
Marty

Martin J. Rosek, Ph.D.
State Soil Scientist
3001 Coolidge Road

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

5. Farmland and Open Space Preservation

A map of the Land Uses in the City of Escanaba from the 2016 Master Plan is on the following page. It is not anticipated that the proposed project would involve converting farmlands to nonagricultural uses. Construction will be replacing water main or services in previously disturbed areas.



Map 22: City of Escanaba, Existing Land Uses

Appendix C

Part 6: Local Health Department

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

6. Health Department Permits

The proposed project does not involve the construction, alteration, extension, or replacement of onsite septic systems. Thus the local health department was not contacted.

Appendix C

Part 7: Lagoon Berm Permits
NOT APPLICABLE

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

7. Lagoon Berm Permits

The proposed project will not impact a lagoon as defined where the berm encloses more than five acres. Thus the DEQ WRD Damstaff was not contacted.

Appendix C

Part 8: National Natural Landmarks

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

8. National Natural Landmarks

A list of national natural landmarks was reviewed, the following three designated National Natural Landmarks in the Upper Peninsula of Michigan were found:

1. Dukes Research Natural Area (Marquette County): 231 acres in the U.S. Forest Service Upper Peninsula Experimental Station, 22 miles southeast of Marquette near Maple Grove.
2. Porcupine Mountains (Gogebic and Ontonagon Counties): 47,761 acres on the southern shore of Lake Superior, 14 miles north of Wakefield.
3. Strangmoor Bog (Schoolcraft County): 9,700 acres within the Seney National Wildlife Refuge, 14 miles southwest of Seney.

None of which are near the vicinity of the project location.

Appendix C

Part 9: Project Site Contamination

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 30, 2020

Tom Flaminio
Brownfield Redevelopment, Marquette District Office
Michigan Department of Environment, Great Lakes, and Energy (EGLE)
1504 West Washington Street
Marquette, MI 49855

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Mr. Flaminio,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Project Summary and Location Maps. We are requesting your review and comment. Comments received within 30 days will allow them to be incorporated into the project plan prior to the preparation of the final DWRF Project Plan.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

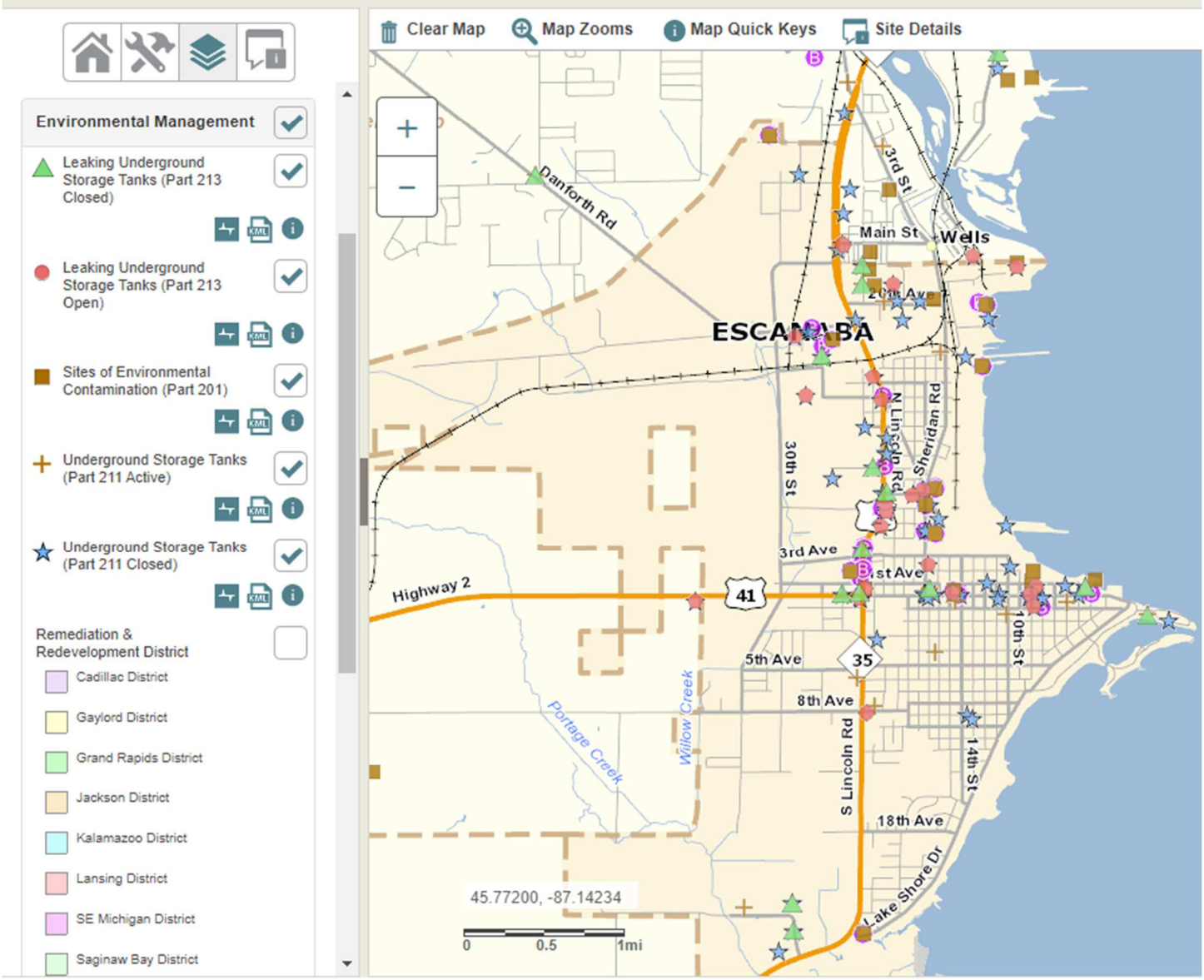
1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

9. Project Site Contamination

The EGLE Environmental Mapper was used to examine for potential areas with contamination. The possible and/or confirmed contamination sites and sites with underground storage tanks (116 sites) are shown in the map below and listed in the following tables attached. When individual projects are designed contaminated areas will be avoided via utility routing where possible. When construction may infringe on impacted areas, a FOIA request for these sites will be made, EGLE permitting will be pursued if appropriate, and mitigation and safety measures will be required by contractor via construction documents:

> *Compliance with all applicable health and safety regulations, use of properly trained personnel in accordance with OSHA requirements, preparation of a Site Health and Safety Plan in accordance with OSHA requirements, monitoring of hydrocarbon levels in the work area, proper material segregation, storage and backfill of affected soils, and use of hydrocarbon resistant gaskets (Nitrile or Viton) on the utility being installed.*

EGLE **Environmental Mapper**
Department of Environment, Great Lakes, and Energy



City of Escanaba

4/6/2020

Open Part 201 Sites

	Site Name	Address	City	Zip Code	County	Source	Pollutants	Latitude	Longitude
21000001	Bay de Noc Oil Company - Escanaba	2715 South Lincoln Road	Escanaba	49829	Delta	Gasoline Service Station	Benzene; Ethylbenzene; Xylenes	45.715608	-87.079615
21000002	Chicago and Northwestern RNDHS	1st Avenue North	Escanaba	49829	Delta	null	Diesel fuel	45.747862	-87.05802
21000006	Escanaba Highway Garage	Ist Ave North, 800 Block	Escanaba	-0-	Delta	General Government	Na; Salt	45.746586	-87.058178
21000018	South Ninth St Vlg of Wells	6344 US 2	Wells	49894	Delta	Petroleum Products	Benzene; Ethylbenzene; MTBE; Toluene; Xylenes; trans-1,2 DCE	45.776364	-87.078706
21000021	Amoco Terminal Escanaba	2230 20th Avenue North	Escanaba	48829	Delta	Petroleum Bulk Stations & Term	Benzene; Ethylbenzene; MTBE; Toluene; Xylenes	45.773389	-87.078273
21000027	Basic Marine Inc	440 North 10th Street	Escanaba	49829	Delta	Misc Repair Services	Ethylbenzene; Zn	45.747861	-87.057978
21000086	Northern Motors Rebuilders SA	800 1st Ave. North	Escanaba	49829	Delta	Transformers	null	45.74704	-87.058137
21000092	NuWay Cleaners, Escanaba	106 North 15th Street	Escanaba	49829	Delta	null	PCE; TCE	45.746164	-87.0681099
21000111	Escanaba Ore Dock Creosote	Escanaba Ore Dock 1660 Sheridan Avenue	Escanaba	49829	Delta	Railroad Transportation	Naphthalene; Coal tar	45.766128	-87.0644
21000116	Klemm/Sem-Fuels AST Overfill	2222 N 23rd Street	Escanaba	49829	Delta	null	null	45.77486	-87.078927
21000117	Former Cloverland Manufacturing, Inc.	2501 Danforth Road	Escanaba	49829	Delta	null	PCE; TCE	45.768525	-87.083559
21000120	Stephenson Ave Bulk Plant	514 Stephenson Avenue	Escanaba	49829	Delta	Petroleum Bulk Stations & Term	1,2,4 TMB; Benzene; Ethylbenzene; Xylenes	45.751277	-87.070465
21000121	Citgo Quick Food Mart	102 N Lincoln Rd	Escanaba	49829	Delta	null	null	45.746313	-87.079407
21000122	Fleet Maintenance (Act 381)	1700 20th Avenue North	Escanaba	49829	Delta	null	null	45.772169	-87.070735
21000124	Escanaba Municipal Electric Utility	2000 Power Plant Road	Escanaba	49829	Delta	null	null	45.77169	-87.06394
21000127	Former Delta County Sportsman's Club	3000 32nd Avenue North	Escanaba	49829	Delta	null	Pb	45.786672	-87.091615
21000128	Delta Plaza PCE Contamination	301 North Lincoln Rd	Escanaba	49829	Delta	null	null	45.74791	-87.08128
21000129	Commercial Property 718 Stephenson Ave	718 Stephenson Avenue	Escanaba	49829	Delta	null	null	45.75382	-87.07162
21000506	Caron Property	Street	Escanaba	null	Delta	null	null	45.747084	-87.0500457
21000536	Coplan's Iron & Metal	1610 7th Avenue North	Escanaba	null	Delta	null	null	45.755291	-87.0704452

City of Escanaba

4/6/2020

Storage Tank Facilities

Facility ID	Facility Name	Address	City	Zip Code	County	Latitude	Longitude
3540	United Parcel Service	2129 N 23RD ST	ESCANABA	49829	Delta	45.773473	-87.07975
5758	ECO Fuels	2300 Ludington St	Escanaba	49829	Delta	45.745992	-87.080185
9790	Driftwood Mobil	120 Stephenson Ave	Escanaba	49829	Delta	45.74632	-87.071227
10010	Delta County Jail	310 Ludington St	Escanaba	49829	Delta	45.746497	-87.051345
11645	Escanaba Garage & Strm	2301 23RD AVE	ESCANABA	49829	Delta	45.775179	-87.079755
14658	Bark River Culvert & Equip. Co	430 N LINCOLN RD	ESCANABA	49829	Delta	45.749899	-87.079755
14709	Delta County Airport	3300 Airport Rd	Escanaba	49829	Delta	45.718338	-87.088715
18545	Jacklin Steel Supply Co	1701 N 26th St	Escanaba	49829	Delta	45.767051	-87.084939
36214	First Bank, Upper Michigan N.a.	2301 9TH AVE	ESCANABA	49829	Delta	45.757193	-87.078411
36450	Tuff-kote Dinol Automotive Rust	800 N LINCOLN RD	ESCANABA	49829	Delta	45.754974	-87.076753
40792	Escanaba Vortac	3300 AIRPORT RD AIRPORT ENTRANCE RD	ESCANABA	49829	Delta	45.715915	-87.088587
50000286	Town & Country Motors Inc	2600 Ludington St	Escanaba	49829	Delta	45.745868	-87.082361
1224	Escanaba Schools Garage	2220 20TH AVE	ESCANABA	49829	Delta	45.773504	-87.075848
2312	Hengesh Service Station	1422 LUDINGTON ST	ESCANABA	49829	Delta	45.745961	-87.068225
5464	Former Jerrys Marathon	2301 LUDINGTON ST	ESCANABA	49829	Delta	45.745478	-87.080009
6791	Purchasing Department	120 N 8TH ST	ESCANABA	49829	Delta	45.746585	-87.057692
12327	Gas Station	1325 N LINCOLN RD	ESCANABA	49829	Delta	45.76317	-87.07736
12901	Holiday Stationstore #200	700 N Lincoln Rd	Escanaba	49829	Delta	45.753968	-87.076822
13558	Gross Common Carrier, Inc	1803 7TH AVE	ESCANABA	49829	Delta	45.754743	-87.073321
14461	Chuck Dubord Automotive	801 Stephenson Ave	Escanaba	49829	Delta	45.755128	-87.07202
15298	Krist Food Mart #5	102 N Lincoln Rd	Escanaba	49829	Delta	45.746313	-87.079407
15304	Citgo Quick Food Mart	2730 LAKE SHORE DR	ESCANABA	49829	Delta	45.777122	-87.082277
18838	The Store	901 S LINCOLN RD	ESCANABA	49829	Delta	45.73528	-87.079257
18839	Dunlaps Service	129 S 8TH ST	ESCANABA	49829	Delta	45.744782	-87.057895

Facility ID	Facility Name	Address	City	Zip Code	County	Latitude	Longitude
35264	Freudenberg/nok G.p.	2803 DANFORTH RD	ESCANABA	49829	Delta	45.768841	-87.08842
36464	Dunlaps Service	800 Ludington St	Escanaba	49829	Delta	45.745849	-87.058299
37194	Lafaves Small Engine	1507 N LINCOLN RD	ESCANABA	49829	Delta	45.765182	-87.078309
38856	Up Car Care	536 N LINCOLN RD	ESCANABA	49829	Delta	45.751957	-87.077422
38882	Escanaba Taxi Co	318 STEPHENSON AVE	ESCANABA	49829	Delta	45.748507	-87.071302
50001036	Esky Quick Lube, Inc	626 N LINCOLN RD	ESCANABA	49829	Delta	45.753262	-87.076671
50001620	Harnishferger Corp	2525 14TH AVE	ESCANABA	49829	Delta	45.763553	-87.087018
1042	Northern Motor Co	1419 LUDINGTON ST	ESCANABA	49829	Delta	45.74519813	-87.06793793
3540	United Parcel Service	2129 N 23RD ST	ESCANABA	49829	Delta	45.773473	-87.07975
3742	Delta Sports Complex	6645 N.75 DR	ESCANABA	49829	Delta	45.740671	-87.070457
5465	Stropich Oil Co	1325 Washington Ave	Escanaba	49829	Delta	45.762948	-87.076902
5474	St. Anne Parish	2230 8TH AVE	ESCANABA	49829	Delta	45.735892	-87.078178
5758	ECO Fuels	2300 Ludington St	Escanaba	49829	Delta	45.745992	-87.080185
9790	Driftwood Mobil	120 Stephenson Ave	Escanaba	49829	Delta	45.74632	-87.071227
11705	Escanaba CO (M29120)	1005 1ST AVE	ESCANABA	49829	Delta	45.744077	-87.061372
12901	Holiday Stationstore #200	700 N Lincoln Rd	Escanaba	49829	Delta	45.753968	-87.076822
15298	Krist Food Mart #5	102 N Lincoln Rd	Escanaba	49829	Delta	45.746313	-87.079407
17526	Admiral Petroleum #5790	720 N LINCOLN RD	ESCANABA	49829	Delta	45.754367	-87.07659
18838	The Store	901 S LINCOLN RD	ESCANABA	49829	Delta	45.73528	-87.079257
19558	Amoco Oil Co	2230 20TH AVE	ESCANABA	49829	Delta	45.771902	-87.076972
21478	Immanuel Lutheran Church	600 S Lincoln Rd	Escanaba	49829	Delta	45.738412	-87.080475
33282	Harbor Tower	110 S 5th St	Escanaba	49829	Delta	45.745112	-87.053668
36134	Fueling Station	1711 SHERIDAN RD	ESCANABA	49829	Delta	45.767397	-87.069788
40742	Visitors Hospital	15198 Main St	Buchanan	49107	Berrien	45.717898	-87.09484
720	Kmart #9065	801 N LINCOLN RD	ESCANABA	49829	Delta	45.754974	-87.077146
985	State Bank Of Escanaba	112 N 11th St	Escanaba	49829	Delta	45.745943	-87.062254
1224	Escanaba Schools Garage	2220 20TH AVE	ESCANABA	49829	Delta	45.773504	-87.075848

Facility ID	Facility Name	Address	City	Zip Code	County	Latitude	Longitude
1677	Peninsula Beverage Co	2800 29TH AVE	ESCANABA	49829	Delta	45.783253	-87.087787
1840	Holy Cross Cemetery	HIGHWAY M-35	ESCANABA	49829	Delta	45.714058	-87.090403
2312	Hengesh Service Station	1422 LUDINGTON ST	ESCANABA	49829	Delta	45.745961	-87.068225
2826	Larrys Marathon	200 N 12th St	Escanaba	49829	Delta	45.74688	-87.063744
2905	Upper Peninsula State Fair	N LINCOLN RD	ESCANABA	49829	Delta	45.760803	-87.07944
2988	Coyne Chevrolet Inc	501 Stephenson Ave	Escanaba	49829	Delta	45.751544	-87.071676
3123	E&m Enterprises, Inc	400 LUDINGTON ST	ESCANABA	49829	Delta	45.745841	-87.052166
3782	Farmers Supply & Equip. Co Inc	717 Stephenson Ave	Escanaba	49829	Delta	45.745902	-87.071928
4008	Chicago & Northwestern	PO BOX 395	ESCANABA	49829	Delta	45.767068	-87.06665
4101	Jaeger Brothers, Inc	2500 9TH AVE	ESCANABA	49829	Delta	45.756265	-87.083607
5273	Escanaba Steam Laundry, Inc	707 LUDINGTON ST	ESCANABA	49829	Delta	45.745572	-87.056853
5464	Former Jerrys Marathon	2301 LUDINGTON ST	ESCANABA	49829	Delta	45.745478	-87.080009
6791	Purchasing Department	120 N 8TH ST	ESCANABA	49829	Delta	45.746585	-87.057692
8991	Shoreline Battery Co	1000 N LINCOLN RD	ESCANABA	49829	Delta	45.758344	-87.07675
9311	Upper Peninsula Concrete Pipe Co	6480 US 2-41	ESCANABA	49829	Delta	45.782025	-87.08128
10009	Miracle Shield Car Care Center	1402 Ludington St	Escanaba	49829	Delta	45.745858	-87.067175
10010	Delta County Jail	310 Ludington St	Escanaba	49829	Delta	45.746497	-87.051345
11645	Escanaba Garage & Strm	2301 23RD AVE	ESCANABA	49829	Delta	45.775179	-87.079755
12327	Gas Station	1325 N LINCOLN RD	ESCANABA	49829	Delta	45.76317	-87.07736
12385	Garceau Insurance	823 LUDINGTON ST	ESCANABA	49829	Delta	45.745575	-87.058527
13221	Escanaba Station	328 N 10TH ST	ESCANABA	49829	Delta	45.748387	-87.06096
13272	Holy Name Central Grade School	409 S 22nd St	Escanaba	49829	Delta	45.741898	-87.077937
13398	St Francis Hospital	1018 S 13TH ST	ESCANABA	49829	Delta	45.734822	-87.065699
13558	Gross Common Carrier, Inc	1803 7TH AVE	ESCANABA	49829	Delta	45.754743	-87.073321
14461	Chuck Dubord Automotive	801 Stephenson Ave	Escanaba	49829	Delta	45.755128	-87.07202
14650	Lakeshore Warehouse Co	2020 N 19TH ST	ESCANABA	49829	Delta	45.770416	-87.074608
14658	Bark River Culvert & Equip. Co	430 N LINCOLN RD	ESCANABA	49829	Delta	45.749899	-87.079755
14709	Delta County Airport	3300 Airport Rd	Escanaba	49829	Delta	45.718338	-87.088715

Facility ID	Facility Name	Address	City	Zip Code	County	Latitude	Longitude
15163	Emery Viau	1920 20TH AVE	ESCANABA	49829	Delta	45.772042	-87.075282
15304	Citgo Quick Food Mart	2730 LAKE SHORE DR	ESCANABA	49829	Delta	45.777122	-87.082277
16259	Old Dnr Garage	1126 N LINCOLN RD	ESCANABA	49829	Delta	45.759847	-87.076751
16448	Mead Corp (mead Garage)	101 POOR FARM RD	ESCANABA	49829	Delta	45.771998	-87.07245
18545	Jacklin Steel Supply Co	1701 N 26th St	Escanaba	49829	Delta	45.767051	-87.084939
18839	Dunlaps Service	129 S 8TH ST	ESCANABA	49829	Delta	45.744782	-87.057895
19175	P & J Auto Sales	622 N LINCOLN RD	ESCANABA	49829	Delta	45.753512	-87.076757
19176	Groos Auto Parts	1636 LUDINGTON ST	ESCANABA	49829	Delta	45.74586	-87.070485
19177	Autoway Truck Stop	1022 N LINCOLN RD	ESCANABA	49829	Delta	45.758569	-87.07675
19362	Clark Service Station	823 LUDINGTON ST	ESCANABA	49829	Delta	45.745462	-87.062515
19413	Delta Service Center	117 STEPHENSON AVE	ESCANABA	49829	Delta	45.745991	-87.071785
20305	Independent Roofing & Siding Co	700 Stephenson Ave	Escanaba	49829	Delta	45.753807	-87.071273
33191	St Francis Hospital	3401 Ludington St	Escanaba	49829	Delta	45.735128	-87.066408
35264	Freudenberg/nok G.p.	2803 DANFORTH RD	ESCANABA	49829	Delta	45.768841	-87.08842
35502	Great Lakes Energy Sys Sales Sev	1930 N Lincoln Rd	Escanaba	49829	Delta	45.770424	-87.080661
36214	First Bank, Upper Michigan N.a.	2301 9TH AVE	ESCANABA	49829	Delta	45.757193	-87.078411
36450	Tuff-kote Dinol Automotive Rust	800 N LINCOLN RD	ESCANABA	49829	Delta	45.754974	-87.076753
36464	Dunlaps Service	800 Ludington St	Escanaba	49829	Delta	45.745849	-87.058299
36503	Former Pearson Building	2717 DANFORTH RD	ESCANABA	49829	Delta	45.769295	-87.086607
36905	Krist Oil Co	514 Stephenson Ave	Escanaba	49829	Delta	45.751627	-87.071283
37194	Lafaves Small Engine	1507 N LINCOLN RD	ESCANABA	49829	Delta	45.765182	-87.078309
37320	Schleis Service Station	2429 LUDINGTON ST	ESCANABA	49829	Delta	45.745594	-87.080109
38409	Hilltop Campers Inc	2905 N Lincoln Rd	Escanaba	49829	Delta	45.776593	-87.08294
38653	Gasman News Agency Inc	511 1ST AVE	ESCANABA	49829	Delta	45.746617	-87.05389
38856	Up Car Care	536 N LINCOLN RD	ESCANABA	49829	Delta	45.751957	-87.077422
38882	Escanaba Taxi Co	318 STEPHENSON AVE	ESCANABA	49829	Delta	45.748507	-87.071302
39021	Escanaba Machine	1700 LUDINGTON ST	ESCANABA	49829	Delta	45.745866	-87.0718
39353	Escanaba Machine Co-owner	1719 LUDINGTON ST	ESCANABA	49829	Delta	45.745589	-87.071359

Facility ID	Facility Name	Address	City	Zip Code	County	Latitude	Longitude
40792	Escanaba Vortac	3300 AIRPORT RD AIRPORT ENTRANCE RD	ESCANABA	49829	Delta	45.715915	-87.088587
50000286	Town & Country Motors Inc	2600 Ludington St	Escanaba	49829	Delta	45.745868	-87.082361
50000986	Gallagher Marine Construction Co	PO BOX 315	ESCANABA	49829	Delta	45.77047	-87.06365
50001036	Esky Quick Lube, Inc	626 N LINCOLN RD	ESCANABA	49829	Delta	45.753262	-87.076671
50001620	Harnishferger Corp	2525 14TH AVE	ESCANABA	49829	Delta	45.763553	-87.087018
50002405	Degrand Oil Co	616 N 16TH ST	ESCANABA	49829	Delta	45.752582	-87.069979

Appendix C

Part 10: Protected Plants and Animals

c2ae
architecture • engineering

1211 Ludington St.
Escanaba, MI 49829
O: 906.233.9360
www.c2ae.com

March 20, 2019

Michigan Natural Features Inventory
PO Box 13036
Lansing, MI 48901-3036

Re: City of Escanaba, Michigan
Delta County
Water Distribution System Improvements
To Evaluate Needs and Recommend Alternatives for Improvements
Environmental Review and Evaluation

Dear Mr. or Ms.,

On behalf of the City of Escanaba, Delta County, we are requesting review and comment of plans for improvements to their existing water distribution system.

The City of Escanaba is preparing an EGLE DWRF Program Project Plan to evaluate needs and recommended alternatives for improvements to the water distribution system. The project location spans across the following townships, ranges, and sections: 38N 22W 06, 38N 23W 01, 38N 23W 02, 39N 22W 07, 39N 22W 18, 39N 22W 19, 39N 22W 29, 39N 22W 30, 39N 22W 31, 39N 22W 32, 39N 23W 12, 39N 23W 13, 39N 23W 14, 39N 23W 24, 39N 23W 25, and 39N 23W 36.

We have enclosed a Project Summary and Location Maps. We are requesting your review and comment. Comments received within 30 days will allow them to be incorporated into the project plan prior to the preparation of the final DWRF Project Plan.

Comments can be mailed to our Escanaba office or emailed to ashley.hendricks@c2ae.com.

Sincerely,
C2AE

Ashley N. Hendricks, E.I.T.

Enclosure
cc: 20-0023 File B-10

MICHIGAN STATE UNIVERSITY | Extension

March 20, 2020

Ashley Hendricks, EIT
Civil Engineer
C2AE
1211 Ludington Street
Escanaba, MI 49829

Rare Species Review - INVOICE #:2579

2020 DWRF Project Plan City of Escanaba Delta County, MI T38-39N R22-23W several sections	$340.00 Standard order

*Please note: Prices will change as of October 1st.

Payment Options:

If you would like to pay with credit card you can go out to the MNFI web site and use MSU's secure credit card server. Under the Information Requests section you will see the Credit Card Payment heading, a link to this site is listed below. Please enter your own information and submit your payment accordingly. If you have any questions feel free to contact the MNFI staff person you have been working with

Link to credit card payment:
http://mnfi.anr.msu.edu/services/rare-species-review.cfm

If paying with check or money order, please make payable to Michigan State University. If needed, our Federal Identification Number is 38-6005984

Mail to: Michigan Natural Features Inventory
P.O. Box 13036
Lansing, MI 48901-3036

MSU EXTENSION

Michigan Natural Features Inventory

P.O. Box 13036
Lansing, MI 48901

(517) 284-6200
fax: (517) 373-9566

mnfi.anr.msu.edu

MICHIGAN STATE UNIVERSITY | Extension

Information Agreement

The Michigan Natural Features Inventory (MNFI) is a member of the Natural Heritage Program Network and is part of Michigan State University Extension. MNFI is an organization of professionals dedicated to the conservation of Michigan's special natural features. MNFI has the responsibility for inventorying and collecting information about the state's "elements of biological diversity". These data are used to guide conservation and land management activities throughout the state.

MNFI manages an ongoing and continuously updated information and research database. The database is proprietary and the most comprehensive single source of existing information on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features. This database cannot provide a definitive statement on the presence, absence, or condition of the natural features in any given locality, since most sites have not been specifically or thoroughly surveyed. Furthermore, plant and animal populations and natural communities change with time. Therefore, the information services provided should not be regarded as a complete statement on the occurrence of special natural features of the area in question. In many cases the information may require the interpretation of a trained scientist.

The recipient(s) of the information understand that state endangered and threatened species are protected under state law (Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection). Any questions, observations, new findings, violations or permitting of project activities should be conducted with the Michigan Department of Natural Resources, Wildlife Division. Contact the Endangered Species Coordinator at (517) 284-6194. The recipient(s) of the information understand that federally endangered and threatened species are protected under federal law (Endangered Species Act of 1973). Any questions, observations, new findings, violations or permitting of project activities should be conducted with the U.S. Fish and Wildlife Service in East Lansing. Their phone number is (517) 351-2555. Recipients of the information are responsible for ensuring the protection of protected species before project activities begin.

MNFI is a not-for-profit entity and fees for the data are turned back into database maintenance and program support. The costs for information can be obtained on our website MNFI.ANR.MSU.EDU **under** the services heading.

By acceptance of the information services made available through MNFI, the recipient understands that access to the information is provided for primary use only. MNFI requests that the user respect the confidential and sensitive nature of the information and restrict access to only those individuals requiring the information for the primary use. There should be no redistribution of the information. Distribution of information regarding locations of many rare species represents a threat to their protection. Additionally, since the information is constantly being updated MNFI requests that any information service provided by MNFI is destroyed upon completion of the primary use. This information should be considered valid for one year only.

The user should identify MNFI as information contributors on any map or publication using MNFI information, as follows: **Michigan Natural Features Inventory. [Year]. Biotics 5 - Michigan's Natural Heritage Database. Lansing, Michigan. (Accessed: Month Day, Year).** Abbreviations are acceptable on maps if referenced in full on accompanying documents.

MSU EXTENSION

Michigan Natural Features Inventory

P.O. Box 13036
Lansing, MI 48901

(517) 284-6200
fax: (517) 373-9566

mnfi.anr.msu.edu

Rare Species Review #2579 - 2020 DWRF Project Plan, City of Escanaba, Delta County, MI

☒ Standard turn around

☐ Eight-day turn around

Project or primary use of Information: Review of data for potential impacts to protected and rare species

Description of Information: For the intended area (T38-39N R22-23W several sections) and 1.5 miles surrounding

Ashley Hendricks
Recipient (Please Print)

Ashley Hendricks
Signature

CAAE
Organization/Association

3/23/20
Date

MICHIGAN STATE UNIVERSITY | Extension

Ms. Ashley Hendricks, EIT
C2AE
1211 Ludington Street
Escanaba, MI 49829
(906) 217-1014

March 26, 2020

Re: Rare Species Review #2579 – 2020 DWSRF application, City of Escanaba, Delta County, MI (T38-39N, R22-23W several sections).

Ms. Hendricks:

The location for the proposed project was checked against known localities for rare species and unique natural features, which are recorded in the Michigan Natural Features Inventory (MNFI) natural heritage database. This continuously updated database is a comprehensive source of existing data on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features. Records in the database indicate that a qualified observer has documented the presence of special natural features. The absence of records in the database for a particular site may mean that the site has not been surveyed. The only way to obtain a definitive statement on the status of natural features is to have a competent biologist perform a complete field survey.

Under Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection, "a person shall not take, possess, transport, …fish, plants, and wildlife indigenous to the state and determined to be endangered or threatened," unless first receiving an Endangered Species Permit from the Michigan Department of Natural Resources (MDNR), Wildlife Division. Responsibility to protect endangered and threatened species is not limited to the lists below. Other species may be present that have not been recorded in the database.

At-risk species have been documented within 1.5 miles of the project site and **it is possible** that negative impacts will occur. Keep in mind that MNFI cannot fully evaluate this project without visiting the project site. MNFI offers several levels of Rare Species Reviews, including field surveys which I would be happy to discuss with you.

Sincerely,

Michael A. Sanders

Michael A. Sanders
Environmental Review Specialist/Zoologist
Michigan Natural Features Inventory

MSU EXTENSION

Michigan Natural Features Inventory

PO Box 13036
Lansing MI 48901

(517) 284-6200
Fax (517) 373-9566

mnfi.anr.msu.edu

Comments for Rare Species Review #2579: It is important to note that it is the applicant's responsibility to comply with both state and federal threatened and endangered species legislation. Therefore, if a state listed species occurs at a project site, and you think you need an endangered species permit please contact: Casey Reitz, Michigan DNR Wildlife Division, 517-284-6210, or ReitzC@michigan.gov. If a federally listed species is involved and, you think a permit is needed, please contact Carrie Tansy, Endangered Species Program, U.S. Fish and Wildlife Service, East Lansing office, 517-351-8375, or Carrie_Tansy@fws.gov.

Please consult MNFI's Rare Species Explorer for additional information regarding the table below.

Special concern species and natural communities are not protected under endangered species legislation, but efforts should be taken to minimize any or all impacts. Species classified as special concern are species whose numbers are getting smaller in the state. If these species continue to decline they would be recommended for reclassification to threatened or endangered status.

Table 1: Occurrences of threatened & endangered species within 1.5 miles of #2579

ELCAT	SNAME	SCOMNAME	USESA	SPROT	G_RANK	S_RANK	FIRSTOBS	LASTOBS
Animal	*Sterna hirundo*	Common tern		T	G5	S2	1976	2007-06-08
Animal	*Hydroprogne caspia*	Caspian tern		T	G5	S2	1996	1996-06-13
Animal	*Sander canadensis*	Sauger		T	G5	S1	1970-04-15	1972-05-18
Animal	*Charadrius melodus*	Piping plover	LE	E	G3	S2	2006-06-21	2008-06-22
Animal	*Sterna hirundo*	Common tern		T	G5	S2	2006-06-21	2007-06-05
Animal	*Ixobrychus exilis*	Least bittern		T	G4G5	S3	2007-06-10	2007-06-10
Animal	*Coturnicops noveboracensis*	Yellow rail		T	G4	S2	2007-06-09	2007-06-09

Of concern:

No concerns with these listed species.

Table 2: Occurrences of special concern species & natural communities within 1.5 miles of #2579

ELCAT	SNAME	SCOMNAME	USESA	SPROT	G_RANK	S_RANK	FIRSTOBS	LASTOBS
Animal	*Pandion haliaetus*	Osprey		SC	G5	S4	2000-07-31	2007-06-06
Animal	*Botaurus lentiginosus*	American bittern		SC	G5	S3	2006-08-07	2019-05-21
Animal	*Cistothorus palustris*	Marsh wren		SC	G5	S3	2007-06-09	2007-06-11
Animal	*Nycticorax nycticorax*	Black-crowned night-heron		SC	G5	S3	2009	2009
Animal	*Physella magnalacustris*	Great Lakes physa		SC	G5	SNR		
Animal	*Bombus terricola*	Yellow banded bumble bee		SC	G3G4	SNR	1958-06-29	1958-06-29
Animal	*Haliaeetus leucocephalus*	Bald eagle		SC	G5	S4	2017	2017
Animal	*Haliaeetus leucocephalus*	Bald eagle		SC	G5	S4	2017	2017

Of concern:

Osprey - the state special concern osprey *(Pandion haliaetus)* has been known to nest in Section 18 of T39NR22W. Ospreys are most found in forested regions near lakes, large rivers, and floodings. They will nest in snags, dead topped pines, tamaracks, and man-made platforms near bodies of water. They feed on fish caught in relatively clear rivers or lakes.

Management and Conservation: their past decline has been attributed to habitat loss, human intrusion, and chemical pollution. It is recommended that land altering activities not occur within 400 meters (1/4 mile) of an active nest(s) during the nesting season (March 15 to August 31). Impacts will be minimized if work is avoided during the nesting season. If the landowner wishes to provide nesting habitat for osprey, leaving supercanopy trees, both dead and alive, which have strong wide branches high up in the canopy would be useful.

Bald eagle - the special concern bald eagle (*Haliaeetus leucocephalus*) has been known to nest in Section 25 of T39NR23W. Bald eagle nests are usually located within ½ - mile of water and at the top of tall, established trees. These birds prefer forested habitats adjacent to the shorelines of lakes, large rivers, floodings, and other bodies of water where prey is available throughout the breeding season which runs from mid-March through the end of June. Live trees are generally preferred over dead ones. In Michigan, eagles arrive on nesting territories between mid-February and mid-March. Nesting pairs are usually faithful to previous nesting sites. By October and November, immature bald eagles and most adults move southward, with many remaining in Michigan throughout the winter. Bald eagles are extremely sensitive to human activity during the first 12 weeks of the breeding season. Maintain a ¼ - mile buffer zone around the nest from mid-March through the end of June. Any maintenance and construction activities within the buffer zone should take place between August and February.

Effective August 8, 2007, the bald eagle in the lower 48 States was **removed** from the Federal List of Endangered and Threatened Wildlife (Federal Register Vol. 72, No. 130; July 9, 2007) but are still protected under the Migratory Bird Treaty Act, the Lacey Act and the Bald and Golden Eagle Protection Act: which prohibits anyone from "taking" bald eagles, including their parts, eggs or nests.

To help provide clarity on the management of bald eagles after delisting, the U.S. Fish and Wildlife Service (USFWS) published National Bald Eagle Management Guidelines in May 2007. These guidelines as well as other information regarding bald eagles can be viewed at the USFWS Midwest Bald Eagle page. The management guidelines were established to help people minimize harmful impacts, especially where they may constitute a "disturbance." A variety of human activities can potentially interfere with bald eagles, affecting their ability to forage, nest, roost, breed or raise young. A **permit** from USFWS is recommended if you are unable to minimize or prevent disturbance, injury of potential mortality of bald or golden eagles as a result of an otherwise lawful activity. For permit information in Michigan contact Ms. Carrie Tansy, USFWS East Lansing Field Office, 2651 Coolidge Road, East Lansing, MI 48823, Ph: 517-351-8375, Carrie_Tansy@fws.gov

Codes to accompany Tables:

State Protection Status Code Definitions (SPROT)
E: Endangered
T: Threatened
SC: Special concern

Federal Protection Status Code Definitions (USESA)
LE = listed endangered
LT = listed threatened
LELT = partly listed endangered and partly listed threatened
PDL = proposed delist
E(S/A) = endangered based on similarities/appearance
PS = partial status (federally listed in only part of its range)
C = species being considered for federal status

Global Heritage Status Rank Definitions (GRANK)
The priority assigned by NatureServe's national office for data collection and protection based upon the element's status throughout its entire world-wide range. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.
G1 = critically imperiled globally because of extreme rarity (5 or fewer occurrences range-wide or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
G2 = imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.
G3: Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g. a single western state, a physiographic region in the East) or because of other factor(s) making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.
G4: Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
G5: Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
Q: Taxonomy uncertain

State Heritage Status Rank Definitions (SRANK)
The priority assigned by the Michigan Natural Features Inventory for data collection and protection based upon the element's status within the state. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.
S1: Critically imperiled in the state because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extirpation in the state.
S2: Imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from the state.
S3: Rare or uncommon in state (on the order of 21 to 100 occurrences).
S4 = apparently secure in state, with many occurrences.
S5 = demonstrably secure in state and essentially ineradicable under present conditions.
SX = apparently extirpated from state.

Section 7 Comments for Rare Species Review #2579
C2AE
2020 DWRF Project Plan
City of Escanaba
Delta County, MI
March 26, 2020

For projects involving Federal funding or a Federal agency authorization

The following information is provided to assist you with Section 7 compliance of the Federal Endangered Species Act (ESA). The ESA directs all Federal agencies "to work to conserve endangered and threatened species. Section 7 of the ESA, called "Interagency Cooperation," is the means by which Federal agencies ensure their actions, including those they authorize or fund, do not jeopardize the existence of any listed species."

The project falls within the range of seven (7) federally listed species which have been identified by the U.S. Fish and Wildlife Service (USFWS) to occur in Delta County, Michigan:

Federally Endangered

Gray wolf – there appears to be suitable habitat within the 1.5-mile search buffer. The gray wolf (*Canis lupus*) is the largest member of the Canid (dog) family, which includes coyotes, red fox and gray fox. Wolves have no specific habitat requirements, other than minimal disturbance from humans and a sufficiently large mammal prey base (primarily white-tailed deer but also snowshoe hare, beaver, and other mammals). Gray wolves require large extensive tracts of contiguous forests in which to range; home ranges are over 100 mi^2.

Management and Conservation: general management recommendations for the gray wolf include maintaining large areas of mature vegetation, maintaining a healthy prey base (primarily deer), and reducing probability of encounters with humans (settlements as well as roads). One of the greatest threats is an anti-wolf attitude by the general public based on erroneous beliefs. Education and outreach to increase public awareness and understanding of gray wolf ecology, behavior and management would enhance conservation efforts for this species.

Piping plover – there is a documented occurrence within the 1.5-mile search buffer. In the Great Lakes region, the piping plover (*Charadrius melodus*) prefers to nest and forage on sparse or non-vegetated sand-pebble beaches, averaging 100 feet in width. Vegetative cover is usually less than 5 %. Associated bodies of water and interdunal wetlands enhance these areas by increasing food availability. Optimal foraging areas are especially crucial along Lake Superior, where shoreline and benthic invertebrate communities are known to be naturally sparse. Nests are generally placed in level areas between the water's edge and the first dune. While feeding, open shoreline is preferred to vegetated beach areas. Piping plovers begin arriving in mid- to late-April. The nesting season is under way by mid-May and lasts until mid-August. The nests are simple depressions in the sand and are difficult to see. This species is declining throughout the Midwest due to habitat destruction and disturbance. People walking on the beach may inadvertently destroy nests. Dogs on the beach can be especially dangerous for chicks and adults.

Management and Conservation: this species is declining throughout the Midwest due to habitat destruction and disturbance. The nests are simple depressions in the sand and are difficult to see. People walking on the beach may inadvertently destroy nests. Dogs on the beach can be especially dangerous for chicks and adults. Piping plovers are protected under the Federal Endangered Species Act and are very sensitive to human disturbance. Please avoid activity along the shoreline in this compartment between May and September.

Federally Threatened

Northern long-eared bat - Northern long-eared bat (*Myotis septentrionalis)* numbers in the northeast US have decline Northern long-eared bat (*M. septentrionalis*) numbers in the northeast US have declined up to 99 percent. Loss or degradation of summer habitat, wind turbines, disturbance to hibernacula, predation, and pesticides have contributed

to declines in Northern long-eared bat populations. However, no other threat has been as severe to the decline as White-nose Syndrome (WNS). WNS is a fungus that thrives in the cold, damp conditions in caves and mines where bats hibernate. The disease is believed to disrupt the hibernation cycle by causing bats to repeatedly awake thereby depleting vital energy reserves. This species was federally listed in May 2015 primarily due to the threat from WNS.

Although no known hibernacula or roost trees have been documented within 1.5 miles of the project area, this activity occurs within the designated WNS zone (i.e., within 150 miles of positive counties/districts impacted by WNS. In addition, there appears to be suitable habitat as well. The USFWS has prepared a dichotomous key to help determine if this action may cause prohibited take of this bat. Please consult the USFWS Endangered Species Page for more information.

Also called northern bat or northern myotis, this bat is distinguished from other *Myotis* species by its long ears. In Michigan, northern long-eared bats hibernate in abandoned mines and caves in the Upper Peninsula; they also commonly hibernate in the Tippy Dam spillway in Manistee County. This species is a regional migrant with migratory distance largely determined by locations of suitable hibernacula sites.

Northern long-eared bats typically roost and forage in forested areas. During the summer, these bats roost singly or in colonies underneath bark, in cavities or in crevices of both living and dead trees. Roost trees are selected based on the suitability to retain bark or provide cavities or crevices. Common roost trees in southern Lower Michigan include species of ash, elm and maple. Foraging occurs primarily in areas along woodland edges, woodland clearings and over small woodland ponds. Moths, beetles and small flies are common food items. Like all temperate bats this species typically produces only 1-2 young per year.

Management and Conservation: when there are no known roost trees or hibernacula in the project area, we encourage you to conduct tree-cutting activities and prescribed burns in forested areas during October 1 through March 31 when possible, but you are not required by the ESA to do so. When that is not possible, we encourage you to remove trees prior to June 1 or after July 31, as that will help to protect young bats that may be in forested areas but are not yet able to fly.

Red knot – there appears to be suitable habitat within the 1.5-mile search buffer. The red knot (*Calidris canutus rufa)* is one of the longest-distance migrants in the animal kingdom, flying some 18,000 miles annually between its breeding grounds in the Canadian Arctic to the wintering grounds at the southern-most tip of South America. Primarily occurring along the Atlantic and Gulf coasts, small groups of this shorebird regularly use the interior of the United States such as the Great Lakes during the annual migration. The Great Lakes shorelines provide vital stopover habitat for resting and refueling during their long annual journey.
The largest concentration of rufa red knots is found in May in Delaware Bay, where the birds stop to gorge on the eggs of spawning horseshoe crabs; a spectacle attracting thousands of birdwatchers to the area. In just a few days, the birds nearly double their weight to prepare for the final leg of their long journey to the Arctic. This species may be especially vulnerable to climate change which affects coastal habitats due to rising sea levels.

Management and Conservation: applies to actions that occur along coastal areas during the Red Knot migratory window of MAY 1 - SEPTEMBER 30.

Canada Lynx – there appears to be suitable habitat within the 1.5-mile search buffer. With its large paws and long hind legs, the Canada lynx (*Lynx canadensis*) is adapted to hunting its primary prey, the snowshoe hare (*Lepus americanus*). Lynx and hares are associated with moist, cool, boreal spruce-fir forests. Hares require forests with dense understories that provide food and cover, especially during periods of deep snow. Snowshoe hares comprise a majority of the lynx diet throughout its range. Lynx prey opportunistically on other small mammals, particularly red squirrels (*Tamiasciurus hudsonicus*), and birds, especially when hare numbers are low. Canada lynx experience widespread food shortages and many die of starvation or abandon home ranges to search for adequate prey.

Management and Conservation: any management that promotes snowshoe hare populations while retaining large blocks of conifers on the larger landscape will likely benefit this species. It is quite shy of humans, so areas of minimal

intrusion (roads, snowmobile trails, campsites, etc.) should be maintained. The species is still threatened by illegal poaching, natural population lows combined with continued human-induced mortality, mismanagement of mature coniferous forests, and incidental trapping.

Dwarf lake Iris – there appears to be suitable habitat within the 1.5-mile search buffer. Dwarf lake iris (*Iris lacustris*) usually occurs near Great Lakes shorelines on sand or in thin soils over calcareous gravel or bedrock. It tolerates full sun to nearly complete shade, but appears to flower best in semi-open edge or ecotonal habitats, typically amongst scattered trees or on shoreline forest margins where is occurs with northern white cedar (*Thuja occidentalis*) and balsam fir (*Abies balsamea*). Dwarf lake iris is almost invariably associated with northern white cedar, though spruce (principally white spruce, *Picea glauca*), balsam fir, and trembling aspen *(Populus tremuloides)* may also be present in the overstory. This species has demonstrated that under certain conditions it can readily spread into artificially cleared areas with dryish, calcareous substrates, where it may clone aggressively. This species usually flowers from mid-May to early June, depending on site exposure and annual weather variations. Each flower remains open approximately three days.

Management and Conservation: since *Iris lacustris* is largely restricted to the Great Lakes shores, it is highly vulnerable to ongoing shoreline development and intensive recreation. Fortunately, this species is a persistent and rather ecologically resilient plant, and can often withstand less-than-catastrophic disturbances (e.g. overstory removal, occasional trampling, shading). It is clearly sensitive to mechanical disturbance or removal of its substrate but can often recolonize small disturbed areas if it flourishes nearby.

Pitcher's thistle – there does not appear to be suitable habitat within 1.5 miles of the search buffer. Pitcher's thistle (*Cirsium pitcheri*) grows on the open and grassland sand dunes and along the shorelines of Lakes Michigan, Superior and Huron. It is occasionally found on lag gravel associated with dunes. It is mainly found in near-shore plant communities but can also grow in all non-forested areas of a dune system. This monocarpic (once-flowering) plant produces a rosette that will mature to flowering in 2-8 years, after which the plant dies. Seeds germinate in June, and most seedlings (rosettes) appear within 1-3 meters of parent plants. The taproot of this thistle, which can reach 2 m in length, enhances its ability to survive the often desiccating conditions of its dune habitat. Pitcher's thistle blooms from approximately late-June to early September. The blooms are pollinated by insects mainly bees; some thirty insect species have been observed visiting the blooms.

Management and Conservation: - Pitcher's thistle can be locally extirpated by destruction or major disturbance of its habitat (e.g. by shoreline development, vehicular or ORV traffic, heavy foot traffic and/or intensive recreation).

USFWS Section 7 Consultation Technical Assistance can be found at:

https://www.fws.gov/midwest/endangered/section7/index.html

The website offers step-by-step instructions to guide you through the Section 7 consultation process with prepared templates for documenting "no effect." as well as requesting concurrence on "may affect, but not likely to adversely affect" determinations.

Please let us know if you have questions.

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10. Protected Plants and Animals

The MNFI found at-risk species documented within 1.5 miles of the project site; of concern was the Osprey and Bald Eagle. Disturbance to these species will be minimized. Water service replacements will be in previously disturbed areas; typically, either in paved or frequently mowed areas.

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10. Protected Plants and Animals

The U.S. Fish and Wildlife Services technical assistance website on Section 7 Endangered Species Act Consultation was used to determine if the project will impact any federally listed species. According to the website, there may be the following endangered and/or threatened species present in Delta County: Canada Lynx, Gray Wolf, Northern Long-eared Bat, Piping Plover, Red Knot, Dwarf Lake Iris, and Pitcher's Thistle. There were no critical habitats found at the Action Area location. Also possibly present in Delta County includes the migratory birds: American Britten, Bald Eagle, Black Tern, Bobolink, Canada Warbler, Cape May Warbler, Dunlin, Least Bittern, Lesser Yellowlegs, Lesser Yellowlegs, Long-eared Owl, Marbled Godwit, Red-headed Woodpecker, Ruddy Turnstone, Rusty Blackbird, and Whimbrel. Furthermore, there are no refuge lands, fish hatcheries. Although there are wetlands within the IPAC area (the entire IPAC area is the City's water service area), no construction is anticipated to be near the wetlands.

The action area will be limited to already developed area (an area that is already paved or supports structures and the only vegetation is limited to frequently mowed grass or conventional landscaping). Therefore, this project will not affect suitable habitat for federally listed species. For these reasons, it can be concluded that the project will have "no effect" on listed species, their habitats, or proposed or designated critical habitat.