

Appendix K-1

Waterbodies Crossed by Proposed LSr Pipeline Route

MP	Name	Flow ^a	Top-of-Bank Width (ft)	Proposed Crossing Method ^b	Alternative Crossing Method ^b	Special Regulation/Classification ^c
North Dakota - Pembina						
775.5	Pembina River	P	100	HDD	DP	<ul style="list-style-type: none"> • Listed - Nationwide Rivers Inventory • Recreational Canoeing River • North Dakota Impaired Water
778.7	Ditch #42	I	50	OC		
781.2	Drain #8	I	0	OC		
781.2	Drain #8	I	0	OC		
781.4	Auger Coulee	I	50	OC		
782.6	Tributary to Tongue River / County Drain #33	I	30	OC		
783.3	Tongue River "cutoff"	P	100	OC		
786.2	Tongue River	P	50	OC		
788.7	unnamed ditch	I	20	OC		
789.9	unnamed ditch	I	20	OC		
790.6	unnamed ditch	I	50	OC		
792.1	Drain #64	I	20	DP		
793.5	unnamed ditch	I	30	OC		
793.5	unnamed ditch	I	30	OC		
794.4	unnamed ditch	I	20	OC		
794.9	unnamed ditch	I	20	OC		
795.7	County Ditch #39	I	42	OC		
797.1	County Ditch #7	I	50	OC		
797.8	unnamed ditch	I	50	OC		
798.5	County Ditch #6	I	30	OC		
799.2	unnamed ditch	I	50	OC		
799.2	unnamed ditch	I	50	OC		
799.9	Drain #5	I	50	OC		
800.9	Drain #66-1/ Tributary to Red River	I	100	OC		
Minnesota - Kittson						
801.7	Red River	P	500	HDD	HDD	<ul style="list-style-type: none"> • Minnesota Protected Water/Impaired • North Dakota Impaired Water • Listed - Nationwide Rivers Inventory • Navigable RHA §10 Waters • Recreational Canoeing Rivers
805.4	Tributary to Red River	I	10	OC		<ul style="list-style-type: none"> • Minnesota Protected Water
810.0	unnamed ditch	I	20	OC		
810.0	unnamed road ditch	I	20	OC		
811.5	County Ditch #19	I	25	DP		
812.8	County Ditch #7	I	20	OC		

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814.2	Ditch #16	I	20	DP		
815.6	Judicial Ditch #10	I	40	OC		
Minnesota - Marshall						
817.1	Unknown	I	25	HDD		
818.9	unnamed ditch	I	15	OC		
821.0	unnamed ditch	I	30	OC		
823.5	unnamed ditch	I	30	DP		
825.7	Unknown	I	20	OC		
826.1	unnamed ditch	I	30	DP		
828.8	Tamarac River	P	20	HDD	DP	• Minnesota Protected Water/Impaired
831.1	unnamed drain	I	25	OC		
831.3	Unknown	I	20	OC		
833.1	Unknown	I	20	OC		
835.9	Middle River	P	30	HDD	DP	• Minnesota Protected Water/Impaired • Listed - Nationwide Rivers Inventory
838.3	Unknown	I	25	OC		
838.3	Unknown	I	25	OC		
839.7	unknown	I	30	OC		
839.8	unnamed ditch	I	6	OC		
843.2	Snake River	P	30	OC		• Minnesota Protected Water • Navigable RHA §10 Waters • Recreational Canoeing Rivers
847.2	Trib. to Snake River	P	40	OC		• Minnesota Protected Water
Minnesota - Pennington						
853.0	Unnamed Ditch	I	25	OC		
855.0	County Ditch/Black River	P	30	DP	HDD	• Minnesota Impaired Water
857.2	unnamed ditch	I	25	OC		
858.7	unnamed ditch	I	20	OC		
860.1	unnamed ditch	I	25	OC		
861.7	unnamed ditch	I	25	OC		
863.3	unnamed ditch	I	20	OC		
863.4	unnamed ditch	I	30	OC		
863.5	unnamed ditch	P	40	OC		
864.3	Red Lake River	P	170	HDD	DP	• Listed - Nationwide Rivers Inventory • Minnesota Protected Water/Impaired • Navigable RHA §10 Waters • Recreational Canoeing Rivers
864.8	unnamed ditch	I	40	OC		
866.2	Tributary to Red Lake River	I	25	DP		• Minnesota Protected Water
867.4	Road Ditch Waterway to Red Lake River	I	35	OC		
868.1	Tributary to Red Lake River	I	15	OC		

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MP	Name	Flow ^a	Top-of-Bank Width (ft)	Proposed Crossing Method ^b	Alternative Crossing Method ^b	Special Regulation/Classification ^c
869.7	Tributary to Red Lake River/ County Ditch #62	I	25	OC		• Minnesota Protected Water
869.7	Tributary to Red Lake River	I	20	OC		• Minnesota Protected Water
Minnesota - Red Lake						
871.4	Judicial Ditch #15	I	30	OC		
872.0	Tributary to Judicial Ditch #15	I	25	OC		
872.4	Tributary to Judicial Ditch #15	I	25	OC		
873.8	Tributary to Judicial Ditch #15	I	20	OC		
875.4	Clearwater River	P	60	DP		• Minnesota Protected Water/Impaired
880.2	County Ditch #18	I	35	OC		
882.4	unnamed ditch	I	25	OC		
884.7	County Ditch #61	P	35	OC		
885.8	Lost River	P	70	DP	HDD	• Minnesota Protected Water/Impaired
886.7	County Ditch #71	P	40	OC		
Minnesota - Polk						
888.0	unnamed ditch to Lost River	I	20	OC		
889.7	State Ditch #87/61	P	40	DP		
890.8	unnamed ditch	P	25	OC		
890.8	unnamed ditch ^d	I	35	OC		
891.3	unnamed ditch	I	25	OC		
892.5	unnamed ditch	P	30	DP		
892.4	unnamed ditch	I	25	OC		
893.9	unknown	P	25	OC		
894.0	unnamed ditch	I	35	OC		
894.9	unnamed ditch	P	20	OC		
Minnesota - Clearwater						
902.9	Tributary to Lost River	P	4	OC		• Minnesota Protected Water
903.5	Tributary to Lost River	I	12	OC		
904.0	Tributary to Lost River	P	18	DP		• Minnesota Protected Water
907.1	Silver Creek	P	20	DP	HDD	• Minnesota Protected Water/Impaired
907.4	Silver Creek	P	12	DP	HDD	• Minnesota Protected Water/Impaired
907.7	Silver Creek	P	15	DP	HDD	• Minnesota Protected Water/Impaired
908.9	unknown	I	7	OC		
909.2	Tributary to Silver Creek	P	7	OC		• Minnesota Protected Water

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Waterbodies Crossed by Proposed LSr Pipeline Route

MP	Name	Flow ^a	Top-of-Bank Width (ft)	Proposed Crossing Method ^b	Alternative Crossing Method ^b	Special Regulation/Classification ^c
<p>^a I – Intermittent, P – Perennial ^b OC -Open Cut, DP - Dam and Pump, HDD - Horizontal Directional Drill ^c Nationwide Rivers Inventory (National Wild and Scenic Rivers Act, National Park Service); Minnesota River Inventory (MN Department of Natural Resources); Recreational Canoeing Rivers (ND Parks and Recreation); Impaired Waters under §303 (c), CWA; Navigable Waters under RHA §10; Minnesota Protected Water – License to Cross Protected Water. ^d Waterbody is within the survey corridor, but not crossed by the construction right-of-way for LSr.</p>						

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Wetlands Crossed by Proposed LSR Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
North Dakota - Pembina County										
775.48	775.5	775a	PFO1B	7	FF	NA	0.02	0	0.08	normal
781.25	781.28	781a	PEMAdf	1	SFB	NA	0.03	0.37	0	farmed, normal, atypical, problem
781.4	781.41	781b	PEMAdf	1	SFB	NA	0.01	0.05	0	farmed, atypical, problem
		782a ^h	PEMAdf	1	SFB	NA	not crossed by centerline	<0.01	0	farmed, atypical, problem
782.61	782.62	782b	PEMC	3	SM	NA	0.01	0.12	0	normal, problem
783.27	783.28	783a	PEMFx	NA	DM	NA	0.01	0.07	0	normal
783.99	784	784a	PEMAdf	1	SFB	NA	0.01	0.13	0	farmed, atypical, problem
		784b ^h	PEMAdf	1	SFB	NA	not crossed by centerline	0.01	0	farmed, atypical, problem
784.21	784.28	784c	PEMAdf	1	SFB	NA	0.07	0.54	0	farmed, atypical, problem
790.71	790.93	790a	PEMC	3	SM	NA	0.22	1.97	0	normal, problem
790.58	790.59	790b	PEMCx	3	SM	NA	0.01	0.07	0	normal, atypical
791.44	791.52	791a	PEMCd	3	SM	NA	0.08	0.61	0	normal

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Wetlands Crossed by Proposed Lsr Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
791.56	792.03	791b	PEMC	3	SM	NA	0.47	2.15	0	normal, problem
791.14	791.34	791c	PEMC	3	SM	NA	0.2	1.83	0	normal, problem
790.97	791.1	791d	PEMC	3	SM	NA	0.13	1.12	0	normal, problem
792.11	792.16	792a	PEMC	3	SM	NA	0.05	0.57	0	normal, problem
792.28	792.83	792b	PEMC	1	SM	NA	0.55	4.92	0	normal, problem
792.87	792.98	792c	PEMC	3	SM	NA	0.11	0.6	0	normal, problem
792.98	793.43	793a	PEMC	3	SM	NA	0.45	2.02	0	partial farmed, normal, problem
794.69	794.72	794a	PEMAf	3	FM	NA	0.03	0.34	0	farmed, normal, problem
794.99	795	795a	PEMAf	1	FM	NA	0.01	0.15	0	partial farmed, normal, problem
800.88	800.89	800a	PEMC	3	SM	NA	0.01	0.1	0	partial farmed, normal, problem
Minnesota – Kittson County										
801.77	802.03	801a	PEM/FO1A	1	FM/HS	No	0.26	1.38	0	normal
802.95	802.96	802a	PEM1Ad	2	FM	No	0.01	0.07	0	normal, problem
803.12	803.14	803a	PEM1C	3	SM	No	0.02	0.18	0	normal

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Wetlands Crossed by Proposed LSR Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
		803b ^h	PEM1C	3	SM	No	not crossed by centerline	0.08	0	normal
		803c ^g	PEM1C	3	SM	No	not crossed by centerline	outside 75ft ROW	0	normal
		803d ^g	PEMA1d	1	FM	No	not crossed by centerline	outside 75ft ROW	0	normal
803.57	803.57	803e	PEMA	1	SFB	No	0	0.05	0	normal, problem
805.37	805.41	805a	PEMB	2	FM	No	0.04	0.37	0	normal, problem
		809a	PFO1A	7	HS	No	not crossed by centerline	0.16	0.05	farmed, normal, problem
816.96	816.97	817a	PEMA	1	SFB	No	0.01	0	0	normal, atypical
Minnesota – Marshall County										
818.87	818.88	818a	PEMA	1	FM	No, public ditch	0.01	0.06	0	normal
		828a ^g	PUBG	5	SOW	No	not crossed by centerline	outside 75ft ROW	0	normal
		828b ^g	PEMA ^d	1	FM	No	not crossed by centerline	outside 75ft ROW	0	normal, atypical
833.67	833.72	833a	PEM1C	3	SM	No	0.05	0.41	0	normal
833.76	833.81	833b	PEM1C	3	SM	No	0.05	0.35	0	normal
833.07	833.09	833c	PEMA	1	FM	No	0.02	0.18	0	normal

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LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
		837a ^g	PEMAf	1	FM	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal
837.39	837.4	837b	PEMA/Cf	1	SM	No	0.01	0.08	0	farmed, normal
837.14	837.23	837c	PSS/EMC	6	SC/SM	No	0.09	0.73	0	normal
		837d ^g	PEMA	1	FM	No	not crossed by centerline	outside 75ft ROW	0	normal
		837e ^h	PSS1A	6	SC	No	not crossed by centerline	<0.01	0	normal
838.17	838.34	838a	PEMAdx	1	FM	No	0.17	1.12	0	farmed, normal
		838b ^h	PEM/SSB	2	FM/SC	No	not crossed by centerline	<0.01	0	normal
		838c ^g	PEM/SS1B	2	FM/SC	No	not crossed by centerline	outside 75ft ROW	0	normal
		838d ^g	PEMA	1	FM	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal
839.72	839.73	839a	PSS1B	6	SC	No	0.01	0.08	0	normal
840.4	840.4	840a	PSS1A	6	SC	No	0	0.09	0	normal
840.94	840.95	840b	PEMA	1	SFB	No	0.01	0.14	0	normal
843.15	843.16	843a	PEMC	3	SM	No	0.01	0.06	0	normal
844.08	844.2	844a	PSS/EMB	6	SC/FM	No	0.12	1.35	0	normal

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LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
845.98	846.02	845a	PSS1B	6	SC	No	0.04	0.26	0	normal, problem
		845b ^g	PSS1B	6	SC	No	not crossed by centerline	outside 75ft ROW	0	normal, problem
845.8	845.84	845c	PSS1B	6	SC	No	0.04	0.34	0	normal
845.69	845.76	845d	PSS1B	6	SC/WMP	No	0.07	0.63	0	normal
845.44	845.68	845e	PEM1B	2	SEM	No	0.24	1.96	0	normal
845.11	845.38	845f	PEM1B	2	FM	No	0.27	1.28	0	normal
		846a ^h	PEM/SS1B	6	FM/SC	No	not crossed by centerline	0.01	0	normal, problem
846.24	846.29	846b	PFO/EM1C	7	HS/SM	No	0.05	0.48	0.24	normal, atypical, problem
846.38	846.4	846c	PSS1B	6	SC	No	0.02	0.12	0	normal
		846d ^h	PFO1Ax	7	HS	No	not crossed by centerline	0.01	0	normal, atypical
847.17	847.18	847a	PFO1A	7	FF	No	0.01	0.13	0.07	normal
848.06	848.14	848a	PEMCD	3	SM	No	0.08	0.62	0	normal, atypical
849.8	849.85	849a	PEM1Cd	3	WMP	No	0.05	0.5	0	partial farmed, normal, atypical
		849b ^g	PEMCD	3	SM	No	not crossed by centerline	outside 75ft ROW	0	normal, atypical

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LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
849.73	849.76	849c	PEM1Cd	3	SM	No	0.03	0.28	0	normal, atypical
849.78	849.79	849d	PEM1Cd	3	SM	No	0.01	0.09	0	normal, atypical
849.25	849.33	849e	PEM/SS1B	6	FM/SC	No	0.08	0.5	0	farmed, normal, atypical, problem
850.61	850.98	850a	PEM1C	3	SM	No	0.37	3.16	0	normal
		851a ^h	PEM1Af	1	SFB	No	not crossed by centerline	0.06	0	farmed, normal atypical, problem
		851b ^g	PEM1Af	1	SFB	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal atypical, problem
851.2	851.35	851c	PEM1A	1	SFB	No	0.15	1.01	0	farmed, normal atypical, problem
Minnesota – Pennington County										
		852a ^h	PUBGx	5	SOW	No	not crossed by centerline	0.01	0	normal, atypical
		852b ^g	PEM1A	1	SFB	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal, atypical, problem

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Wetlands Crossed by Proposed LSR Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
		852c ^h	PEM1A	1	SFB	No	not crossed by centerline	0.01	0	farmed, normal, atypical
		853a ^g	PEMF	4	DM	Yes, 3W	not crossed by centerline	1.59	0	normal
		853b ^g	PSS1B	6	SC/CF	Yes, 3W	not crossed by centerline	outside 75ft ROW	0	normal
853.21	853.3	853c	PEM/SS1B	6	WMP/SC	Yes, 3W	0.09	0.85	0	normal
852.97	853.09	853d	PEM/SS1B	6	WMP/SC	Yes, 3W	0.12	1.11	0	normal
		853e ^g			FM	No	not crossed by centerline	outside 75ft ROW	0	
		853f ^g			FM	No	not crossed by centerline	outside 75ft ROW	0	
853.98	854.05	854a	PEMCd	3	SEM	Yes, 21W	0.07	0.58	0	normal
854.1	854.32	854b	PEMC	3	SM/SC	Yes, 21W	0.22	1.58	0	partial farmed, normal
854.36	854.38	854c	PEM1Cx	3	SM	No	0.02	0.15	0	partial farmed, normal
854.46	854.66	854d	PEMCd	3	SM	No	0.2	0.9	0	partial farmed, normal, atypical
854.68	854.69	854e	PEMCd	3	SM	No	0.01	0.05	0	normal, atypical

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Wetlands Crossed by Proposed Lsr Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
		854f ^h	PEMCd	3	SM	No	not crossed by centerline	0.02	0	farmed, normal, atypical
		854g ^g	PEMCd	3	SM	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal, atypical
855.76	855.95	855a	PEM1C	3	SM	No	0.19	1.47	0	normal
		855b ^h	PEM1A	1	SFB	No	not crossed by centerline	0.02	0	farmed, normal, atypical
856.61	856.68	856a	PEM/SS1B	2	SFB/SC	No	0.07	0.28	0	normal, atypical, problem
856	856.49	856b	PEM/SS/FO	7	SEM/SC/HS	No	0.49	4.34	0	normal
858.06	858.11	857a	PEMAd	1	SFB	No	0.05	0.04	0	normal, atypical
857.92	857.93	857b	PUBFx	5	SOW	No	0.01	0.09	0	normal, atypical
857.8	857.8	857c	PEM1Bd	2	SEM	No	0	0.03	0	normal, atypical
857.62	857.75	857d	PEM/FO1B	2	WMP/HS	No	0.13	0.84	0	normal
		857e ^g	PEM/SSAd	2	WMP/SC	No	not crossed by centerline	outside 75ft ROW	0	normal, problem
857.41	857.41	857f	PEM1Afx	1	SFB	No	0	0.02	0	farmed, normal, atypical
858.12	858.29	858a	PEM/SS/FO	2	WMP/SC/HS	No	0.17	1.24	0	normal, problem
858.45	858.47	858b	PFO1B	7	HS	No	0.02	0.2	0.09	normal

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		858c ^h	PEM1A	1	SFB	No	not crossed by centerline	<0.01	0	normal, problem
859.62	859.75	859a	PSS1B	6	SM/SC	Yes, 28W	0.13	1.12	0	normal
859.86	859.92	859b	PEMC	3	SM	Yes, 28W	0.06	0.5	0	normal
		859c ^g	PEM/SS1B	6	SC/SM	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal
		859d ^g	PSS1/EMC	6	SC/SM	Yes, 28W	not crossed by centerline	outside 75ft ROW	0	normal
859.45	859.58	859e	PEM/SS1C	6	SM/SC	Yes, 28W	0.13	0.81	0	normal, problem
859.38	859.44	859f	PEMAfd	1	SFB	No	0.06	0.18	0	normal, atypical
		860a ^h	PEMBd	2	FM	No	not crossed by centerline	0.02	0	normal, atypical
860.61	860.66	860b	PUBGxd	5	SOW	No	0.05	0.4	0	partial farmed, normal, atypical
860.46	860.47	860c	PEMA	1	FM	No	0.01	0.07	0	farmed, normal, atypical, problem
		860d ^h	PEMA	1	SFB	No	not crossed by centerline	0.11	0	farmed, normal, atypical, problem

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		860e ^h	PEMA	1	FM	No	not crossed by centerline	0.04	0	normal, atypical, problem
863.49	863.5	863a	PEMBd	2	FM	No	0.01	0.07	0	normal, atypical
864.13	864.15	864a	PEMA	1	FM	No	0.02	0.14	0	normal, problem
		864b ^g	PEMA	1	FM	No	not crossed by centerline	outside 75ft ROW	0	normal, problem
864.18	864.19	864c	PEMA	1	FM	No	0.01	0.12	0	normal, problem
		864d ^g	PEMA	1	FM	No	not crossed by centerline	outside 75ft ROW	0	normal, problem
866.01	866.02	865a	PEMAf	1	SFB	No	0.01	0.06	0	farmed, normal, atypical, problem
865.85	865.86	865b	PEMAf	1	SFB	No	0.01	0.09	0	farmed, normal, atypical, problem
		865c ^h	PEMAf	1	SFB	No	not crossed by centerline	0.02	0	farmed, normal, atypical, problem
866.18	866.19	866a	PEMA ^d	1	SFB	No	0.01	0.1	0	normal, atypical
866.3	866.3	866b	PEMA	1	FM	No	0	0.05	0	normal, problem

Appendix K-2

Wetlands Crossed by Proposed Lsr Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
868.59	868.66	868a	PEM1F	3	DM	No	0.07	0.61	0	normal
868.46	868.47	868b	PSS1A	6	SC	No	0.01	0.06	0	normal, problem
		868c ^g	PEMA	1	SFB	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal, problem
868.38	868.39	868d	PEM1Adf	1	SFB	No	0.01	0.07	0	partial farmed, normal
868.08	868.08	868e	PEMBd	2	FM	No	0	0.03	0	normal, atypical
868.3	868.33	868f	PEMAf	1	SFB	No	0.03	0.08	0	farmed, normal, atypical
869.58	869.69	869a	PEMBd	2	FM	No	0.11	0.38	0	normal, atypical
870.92	870.94	870a	PEM1Af	1	SFB	No	0.02	0.15	0	farmed, normal, atypical
870.79	870.8	870b	PEMC/Af	3	SM/SFB	No	0.01	0.06	0	partial farmed, normal, atypical
		870c ^g	PEMAf	1	SFB	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal, atypical
		870d ^h	PEMAf	1	SFB	No	not crossed by centerline	0.02	0	farmed, normal, atypical, problem

Appendix K-2

Wetlands Crossed by Proposed LSR Pipeline Route ^a

LSr Project Location		Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
MP begin	MP end									
870.43	870.45	870e	PEMAf	1	SFB	No	0.02	0.1	0	farmed, normal, atypical, problem
871.25	871.28	871a	PEMA	1	SFB	No	0.03	0.22	0	farmed, normal, atypical
		871b ^g	PSS1A	6	SC	No	not crossed by centerline	outside 75ft ROW	0	normal, problem
		871c ^g	PEM/SS1B	2	FM	No	not crossed by centerline	outside 75ft ROW	0	normal
		871d ^g	PSS1Bd	6	SC	No	not crossed by centerline	outside 75ft ROW	0	normal
871.24	871.24	871e	PEM1Cd	3	SM	No	0	0.05	0	normal
Minnesota - Red Lake County										
873.76	873.77	873a	PEMCdx	3	SM	No	0.01	0.04	0	normal, atypical
873.34	873.38	873b	PEMCf	3	SM	No	0.04	0.12	0	farmed, normal, atypical
874.6	874.62	874a	PEM1Af	1	SFB	No	0.02	0.14	0	farmed, normal, atypical
		874b ^h	PUBGx	5	SOW	No	not crossed by centerline	0.02	0	normal, atypical
875.38	875.52	875a	PFO/SS1C	7	FF/SC	No	0.14	1.29	0	normal

Appendix K-2

Wetlands Crossed by Proposed Lsr Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
875.36	875.37	875b	PFO1	7	FF	No	0.01	0.05	0.02	normal
		876a ^g	PEMB	2	FM	No	not crossed by centerline	outside 75ft ROW	0	normal
876.35	876.46	876b	PEMB	2	FM	No	0.11	0.56	0	normal
		878a ^h	PEMC	3	SM	No	not crossed by centerline	0.02	0	normal
878.62	878.86	878b	PEMC	3	FM	No	0.24	2.23	0	normal
879.84	879.91	879a	PEMC	3	FM	No	0.07	0.65	0	normal
879.63	879.76	879b	PEMB	2	FM	No	0.13	1.23	0	normal
879.39	879.59	879c	PEMB	2	FM/HS	No	0.2	1.68	0	normal
		880a ^g	PEMBf	2	FM	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal atypical
880.44	880.45	880b	PEMBf	2	FM	No	0.01	0.08	0	farmed, normal, atypical
880.3	880.32	880c	PFO1B	7	HS	No	0.02	0.23	0.09	partial farmed, normal, atypical
882.43	882.75	882a	PEMB	2	FM	No	0.32	0.31	0	normal
883.72	883.85	883a	PEMB	2	FM	No	0.13	1.14	0	normal
884.22	884.36	884a	PEMCf	3	SM	No	0.14	1.25	0	farmed, normal, atypical
		884b ^h	PEMFx	5	DM	No	not crossed by centerline	0.02	0	normal

Appendix K-2

Wetlands Crossed by Proposed Lsr Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
883.91	884.01	884c	PEMB	2	FM	No	0.1	0.45	0	normal
885.57	885.65	885a	PEM/SS1C	3	SM/SC	No	0.08	0.71	0	normal, atypical
		885b ^g	PEM/SS1C	3	SM/SC	No	not crossed by centerline	outside 75ft ROW	0	normal
886.09	886.16	886a	PEMCd	3	SM	No	0.07	0.73	0	normal, atypical
Minnesota – Polk County										
890.15	890.22	890a	PEMBd	2	SM	No	0.07	0.47	0	normal, atypical
892.19	892.25	892a	PEM/SS1C	3	SM/SC	No	0.06	0.46	0	normal, atypical
891.88	892.15	892b	PEMC	3	SM/SC	No	0.27	2.44	0	normal
892.58	893.59	893a	PEM/SS1C	3	SM/SC	No	1.01	9.17	0	normal, atypical
894.69	894.78	894a ^g	PEMCfd	3	SM	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal, atypical
893.98	894.43	894c	PEMCf	3	SM	No	0.45	4.23	0	normal
894.81	895.54	895a	PEMC	3	SM	No	0.73	6.56	0	normal
		897a ^h	PFO/SS1C	7	HS/SC	No	not crossed by centerline	0.07	0.01	normal
		898a ^g	PEMB	2	FM	No	not crossed by centerline	outside 75ft ROW	0	farmed, normal, atypical
899.88	899.93	899a	PEMCd	3	SM	No	0.05	0.52	0	normal, atypical

Appendix K-2

Wetlands Crossed by Proposed Lsr Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
899.74	899.81	899b	PEMCd	3	SM	No	0.07	0.7	0	normal, atypical
899.41	899.45	899c	PEMCd	3	SM	No	0.04	0.34	0	normal, atypical
899.24	899.28	899d	PEMCd	3	SM	No	0.04	0.32	0	normal, atypical
		899e ^h	PEMBd	2	SM	No	not crossed by centerline	0.02	0	farmed, normal, atypical
Minnesota – Clearwater County										
900.83	900.87	900a	PEMCd	3	SM	No	0.04	0.33	0	normal, atypical
		901a ^g	PEMC	3	SM	No	not crossed by centerline	outside 75ft ROW	0	normal
901.71	901.72	901b	PEMCd	3	SM	No	0.01	0.1	0	farmed, normal, atypical
901.55	901.58	901c	PEMCd	3	SM	No	0.03	0.31	0	normal, atypical
901.27	901.47	901d	PEMCd	3	SM	No	0.2	1.79	0	normal, atypical
902.88	902.89	902a	PEMC	3	SM	No	0.01	0.05	0	normal
903.71	903.76	903a	PEM/FO1B	2	SM/HS	No	0.05	0.34	0	normal
903.53	903.54	903b	PEM/FO1B	2	FM/HS	No	0.01	0.12	0	normal
903.25	903.26	903c	PSS1B	6	SC	No	0.01	0.1	0	normal
903.13	903.17	903d	PEM/SS1B	2	FM/SC	No	0.04	0.31	0	normal
902.96	902.97	903e	PEMB	2	SC	No	0.01	0.08	0	normal
904.81	904.86	904a	PEMC	3	SM	No	0.05	0.51	0	normal

Appendix K-2

Wetlands Crossed by Proposed LSR Pipeline Route ^a

LSr Project Location										
MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
		904b ^g	PEMC/SS1	3	SM/SC	No	not crossed by centerline	outside 75ft ROW	0	normal
904.58	904.59	904c	PEMA	1	SFB	No	0.01	0.03	0	normal
904.32	904.34	904d	PEMA	1	SFB	No	0.02	0.13	0	farmed, normal
903.97	904.03	904e	PEMB	2	FM	No	0.06	0.62	0	normal
905.4	905.52	905a	PEMC	3	SM	No	0.12	1.06	0	normal
		905b ^g	PEMA	1	SFB	No	not crossed by centerline	outside 75ft ROW	0	normal, problem
905.68	905.7	905c	PEMB	2	FM	No	0.02	0.13	0	normal, problem
		905d ^h	PEMC	3	SM	No	not crossed by centerline	0.02	0	normal
905.08	905.14	905e	PEMC ^f	3	SM	No	0.06	0.46	0	farmed, normal
905.92	906.71	906a	PEM/FO1B	2	FM/HS	No	0.79	6.62	0	normal, atypical, problem
907.43	907.71	907a	PEMB	2	FM	No	0.28	0.12	0	normal
907.61	907.62	907b	PEMB	2	FM	No	0.01	0.16	0	normal
		907c ^g	PEMB	2	FM	No	not crossed by centerline	outside 75ft ROW	0	normal, atypical
		907d ^g	PEMB	2	FM	No	not crossed by centerline	outside 75ft ROW	0	normal, atypical

Appendix K-2

Wetlands Crossed by Proposed LSr Pipeline Route ^a

LSr Project Location

MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
907.09	907.1	907e	PEMA	1	SFB	No	0.01	0.06	0	normal
908.83	908.86	908a	PEMC	3	SM	No	0.03	0.3	0	normal
909.15	909.19	909a	PEM1B	2	FM	No	0.04	0.37	0	normal
909.07	909.11	909b	PEMB	2	FM	No	0.04	0.31	0	normal
909.01	909.02	909c	PSS1B	6	SC	No	0.01	0.15	0	normal, atypical, problem

Appendix K-2

Wetlands Crossed by Proposed LSr Pipeline Route ^a

LSr Project Location		Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
MP begin	MP end									

^a Wetlands delineated during previous field surveys, however, due to route refinements further delineations will occur in spring 2008.

^b Cowardin Classifications:

- PEM (1) – Palustrine Emergent (persistent)
- PSS (1) – Palustrine Shrub-Scrub (broad-leaved deciduous)
- PFO (1) – Palustrine Forested (broad-leaved deciduous)
- POW – Palustrine Open Water
- PUB – Palustrine Unconsolidated Bottom

Modifiers:

- A – Temporarily flooded
- B – Saturated
- C – Seasonally Flooded
- F – Semipermanently Flooded
- G – Intermittently Exposed
- H – Permanently Flooded
- d – Partially Drained / Ditched
- f – Farmed
- x - Excavated

^c Eggers and Reed Classifications:

- FF = Floodplain Forest
- HS = Hardwood Swamp
- CB = Coniferous Bog
- CS = Coniferous Swamp
- OB = Open Bog
- CF = Calcareous Fen
- AT = Alder thicket
- SC = Shrub Carr
- SEM = Sedge Meadow
- SM = Shallow Marsh
- DM = Deep Marsh
- WMP = Wet to Wet-Mesic Prairie
- FM = Fresh Meadow
- SOW = Shallow Open Water
- SFB = Seasonally Flooded Basin

Appendix K-2

Wetlands Crossed by Proposed LSr Pipeline Route ^a

LSr Project Location

MP begin	MP end	Unique ID	Cowardin Classification ^b	Circular 39	Eggers and Reed Classification	MDNR Protected Water (with Associated Protected waterbody) ^d	Centerline Crossing Length (mi)	Approx. Acres within Construction ROW ^e	Approx. Acres of PFO Wetlands within Permanent ROW ⁱ	Other Characters ^f
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^a Based on MN DNR Protected Waters Maps.

^b Based on a 75-foot-wide construction right-of-way.

^f "Normal" circumstances were encountered during surveys. "Atypical" situation refers to a location where vegetation has been removed by humans, "problem" area refers to a location where the wetland was difficult to identify because of its ephemeral nature (e.g. playa, pond, pothole, etc.), and "farmed wetland" indicates an area which has been converted to cropland.

^g Wetlands identified during survey, within the 215 foot survey corridor, but are not within the LSr 75-foot-wide construction right-of-way corridor.

^h Wetlands within the 75-foot-wide construction right-of-way but not crossed by the centerline.

ⁱ Based on an assumed 35-foot-wide permanent right-of-way.

