




AGENDA

**Baxter City Council Work Session
June 19, 2018
6:15 p.m.**

1. 2017 Audit Exit Interview
2. 2018 Mill & Overlay and Full Depth Improvements Project – Cedar Scenic Road Bed Correction Options



MEMORANDUM

TO: Baxter City Council
FROM: Finance Director Vacinek 
DATE: July 13, 2017
RE: 2017 Audit Exit Interview on June 19, 2018

At Tuesday's council work session, Caroline Stutsman, audit manager with BerganKDV, will present the results and findings of the city's 2017 audit. Ms. Stutsman will provide a summary of the city's general and enterprise funds and recommendations contained in the Communications Letter and Independent Auditor's Reports with the council. A clean, unqualified opinion was issued.

The financial statements drafted by the city's finance department have been completed and distributed to the council. Upon acceptance, the financial statements will be posted on the city's website.

Should you have any questions, please let me know.



Memorandum

To: *Honorable Mayor & City Council
Trevor Walter, PE, Public Works Director/City Engineer
City of Baxter*

From: *Chris Sonmor PE
WSB & Associates*

Copy: *Chuck Rickart, PT, PTOE
WSB & Associates*

Date: *June 13, 2018*

Re: *2018 Mill & Overlay and FDR Improvements Project
WSB Project No. 011248-000
City Project No. 4418*

WSB & Associates has completed additional soil borings along Cedar Scenic Road to better identify the thickness and limits of the existing peat layer.

Of the two original borings performed on Cedar Scenic Road, Boring PB-4 encountered approximately 1-½ feet of peat about 6 feet below existing grade. The other boring (PB-3) did not encounter peat within its profile.

The additional borings indicate that the peat layer is about 2 to 5 feet thick and the peat layer was encountered at depths ranging from 2 to 6 ½ feet. This indicates the peat layer was thicker than in our previous borings and generally higher in the roadway profile.

Because of the depth of the peat layers, leaving the peat in place is not recommended. Using the limited data obtained in our borings, we estimate settlement beneath the existing road would be on the order of 12 inches where the peat is closest to the top of roadway. Outside the existing roadway, we did not perform any soil borings. Assuming fill placed in widening areas will be about 4 feet thick and placed directly on the peat, estimated settlement would be on the order of 3 ½ feet. This option would require filling with intermittent waiting periods to allow settlement to occur prior to constructing the final road surface.

At the regular Utilities Commission meeting on June 6, 2018, WSB reviewed three options with the Commission on how to address the peat. Those options were:

1. Remove the peat layer completely (approximately \$280,000).
2. Use lightweight fill which would allow some of the peat to remain in place (approximately \$400,000).
3. Leave the road as a gravel surface to allow the soils/peat to settle naturally.

The Commission's recommendation was to remove the peat layer completely prior to constructing the road. In addition to recommending complete removal of the peat layer, the Commission has suggested reducing the road width from 40-feet to 26-feet which is the standard residential road section in Baxter.

The Commission understands that the 40-foot road width was proposed to accommodate future trail connections that are part of the City's long range plan to provide connectivity to the trail systems in the City of East Gull Lake and Sylvan Township, but they felt that the additional costs associated with the removal of the peat layer to construct the 40-foot section were not feasible at this time since there are no trails on either end of this project.

The estimated costs to excavate and replace the peat layer were approximately \$280,000. WSB was asked to analyze the costs differences to reduce the section to 26-feet. There are still costs associated with the excavation/removal of the peat, but there are decreases in costs of a narrower pavement. Reducing the section from 40-feet to 26-feet decreases the costs of the original project by approximately \$80,000 (bituminous pavement, class 5, grading, etc.). Costs for removal of the peat layer are also decreased. Cost for muck excavation and fill are approximately \$60,000 less than the 40-foot section (\$280,000).

To summarize, the three options are as follows:

Option 1 – 40-foot typical section without peat removal (not recommended)	\$380,000
Option 2 – 40-foot typical section with peat removal	\$660,000
Option 3 – 26-foot typical section with peat removal (no trail option)	\$520,000

Given the apparent limited thickness and relatively shallow termination depths, it is our opinion the best option would be to completely remove the peat from beneath the proposed roadway.

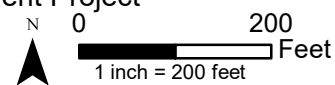
Please note that all of the quantities and costs for the muck excavation are estimated. Quantities of the in-place peat are estimated off of 10 soil borings taken along the roadway. Actual thicknesses may vary throughout the road section and will not be known until excavation begins. Cost for the additional work would also have to be negotiated with the Contractor.

We are asking for a recommendation on how to proceed with the improvements on Cedar Scenic Road. Does the Council want to proceed with the 40-foot section or reduce the width to 26-feet to reduce costs? Does the Council agree with the Utilities Commission recommendation to muck out all of the peat in the project area for the selected option (40-foot or 26-foot option).



Geotechnical Report

Cedar Scenic Road
 2018 Mill & Overlay and Full Depth Reclamation Improvement Project
 Baxter, MN
 WSB #: 011248-000





LOG OF TEST BORING

PROJECT NAME: 2018 Mill and Overlay
 CLIENT/WSB #: 011248-000

PROJECT LOCATION: Baxter, MN
 SURFACE ELEVATION: 1187.9 ft

BORING NUMBER FA-B

PAGE 1 OF 1

DEPTH (ft)	ELEV. (ft)	DESCRIPTION OF MATERIAL	USCS	GEOLOGIC ORIGIN	WL	SAMPLE		LABORATORY TESTS				
						No.	TYPE	MC (%)	DD (pcf)	LL (%)	PL (%)	
1	1187	5 1/2" of BITMINOUS, 11" of AGGEGRATE BASE		Pavement Section	∇	1	AU					
2	1186	SILTY SAND, fine to medium grained, dark brown, moist to waterbearing	SM	Fill		2	AU					
3	1185											
4	1184											
5	1183											
6	1182											
7	1181	PEAT WELL DECOMPOSED, black, wet	PT	Swamp Deposits								
8	1180					4	AU					
9	1179											
10	1178	SAND, fine to medium grained, brown, waterbearing	SP	Glacial Outwash		5	AU					
		End of Boring 10.0 ft.										
11	1177											
12	1176											
13	1175											
14	1174											
15	1173											

WSB BORING LOG - WSB.GDT - 4/27/18 09:32 - K:\011248-000\GEOTECH-CM\2018 MILL AND OVERLAY.BAXTER.MN 4-25-2018.GPJ

WATER LEVEL MEASUREMENTS

START: 4/25/2018

END: 4/25/2018

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	WATER DEPTH	WATER ELEVATION	METHOD	Crew Chief:	Logged By:
4/25/2018	12:35 pm	10		3	3.5	1184.4	6" SSA 0' - 10'	R. Kurth	DEH
								Notes:	



LOG OF TEST BORING

PROJECT NAME: 2018 Mill and Overlay
 CLIENT/WSB #: 011248-000

PROJECT LOCATION: Baxter, MN
 SURFACE ELEVATION: 1186.4 ft

BORING NUMBER FA-C
 PAGE 1 OF 1

DEPTH (ft)	ELEV. (ft)	DESCRIPTION OF MATERIAL	USCS	GEOLOGIC ORIGIN	WL	SAMPLE		LABORATORY TESTS				
						No.	TYPE	MC (%)	DD (pcf)	LL (%)	PL (%)	
1	1185	5" of BITUMINOUS, 20" of AGGREGATE BASE with bituminous		Pavement Section	▽	1	AU					
2	1184	SILTY SAND, fine to medium grained, dark brown, moist to waterbearing	SM	Fill		2	AU					
3	1183	PEAT WELL DECOMPOSED, black wet	PT	Swamp Deposits		3	AU					
4	1182					4	AU					
5	1181	SAND, fine to medium grained, dark brown, waterbearing	SP	Glacial Outwash		5	AU					
6	1180											
7	1179											
8	1178											
9	1177											
10	1176	End of Boring 10.0 ft.										
11	1175											
12	1174											
13	1173											
14	1172											
15	1171											

WSB BORING LOG - WSB.GDT - 4/27/18 09:32 - K:\011248-000\GEOTECH-CMT\2018 MILL AND OVERLAY.BAXTER.MN 4-25-2018.GPJ

WATER LEVEL MEASUREMENTS

START: 4/25/2018

END: 4/25/2018

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	WATER DEPTH	WATER ELEVATION	METHOD	Crew Chief:	Logged By:
4/25/2018	1:10 pm	10		2.5	2.0	1184.4	6" SSA 0' - 10'	R. Kurth	DEH
								Notes:	



LOG OF TEST BORING

PROJECT NAME: 2018 Mill and Overlay
 CLIENT/WSB #: 011248-000

PROJECT LOCATION: Baxter, MN
 SURFACE ELEVATION: 1186.4 ft

BORING NUMBER FA-D
 PAGE 1 OF 1

DEPTH (ft)	ELEV. (ft)	DESCRIPTION OF MATERIAL	USCS	GEOLOGIC ORIGIN	WL	SAMPLE		LABORATORY TESTS				
						No.	TYPE	MC (%)	DD (pcf)	LL (%)	PL (%)	
1	1185	4" of BITUMINOUS, 18" of AGGREGATE BASE		Pavement Section	▽	1	AU					
2	1184	SILTY SAND, fine to medium grained, dark brown, wet	SM	Fill		2	AU					
3	1183	PEAT WELL DECOMPOSED, black, frozen to moist	PT	Swamp Deposits								
4	1182	PEAT WELL DECOMPOSED, black, frozen to moist										
5	1181	PEAT WELL DECOMPOSED, black, frozen to moist										
6	1180	PEAT WELL DECOMPOSED, black, frozen to moist										
7	1179	PEAT WELL DECOMPOSED, black, frozen to moist										
8	1178	SAND, fine to medium grained, grayish brown, waterbearing	SP	Glacial Outwash		4	AU					
9	1177	SAND, fine to medium grained, grayish brown, waterbearing										
10	1176	SAND, fine to medium grained, grayish brown, waterbearing										
		End of Boring 10.0 ft.										
11	1175											
12	1174											
13	1173											
14	1172											
15	1171											

WSB BORING LOG - WSB.GDT - 4/27/18 09:32 - K:\011248-000\GEOTECH-CMT\2018 MILL AND OVERLAY.BAXTER.MN 4-25-2018.GPJ

WATER LEVEL MEASUREMENTS

START: 4/25/2018

END: 4/25/2018

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	WATER DEPTH	WATER ELEVATION	METHOD	Crew Chief:	Logged By:
4/25/2018	1:35 pm	10		4	1.5	1184.9	6" SSA 0' - 10'	R. Kurth	DEH
								Notes:	



LOG OF TEST BORING

PROJECT NAME: 2018 Mill and Overlay
 CLIENT/WSB #: 011248-000

PROJECT LOCATION: Baxter, MN
 SURFACE ELEVATION: 1186.5 ft

BORING NUMBER FA-F
 PAGE 1 OF 1

DEPTH (ft)	ELEV. (ft)	DESCRIPTION OF MATERIAL	USCS	GEOLOGIC ORIGIN	WL	SAMPLE		LABORATORY TESTS				
						No.	TYPE	MC (%)	DD (pcf)	LL (%)	PL (%)	
1	1186	5" of BITUMINOUS, 24" of AGGREGATE BASE, with bituminous		Pavement Section	▽	1	AU					
2	1185					2	AU					
3	1184	SILTY SAND, fine to medium grained, with little gravel, dark brown wet	SM	Fill								
4	1183	PEAT WELL DECOMPOSED, black, wet	PT	Swamp Deposits								
5	1182					3	AU					
6	1181											
7	1180											
8	1179	SAND, fine to medium grained, grayish brown, waterbearing	SP	Glacial Outwash		4	AU					
9	1178											
10	1177	End of Boring 10.0 ft.										
11	1176											
12	1175											
13	1174											
14	1173											
15	1172											

WSB BORING LOG - WSB.GDT - 4/27/18 09:32 - K:\011248-000\GEOTECH-CMT\2018 MILL AND OVERLAY.BAXTER.MN 4-25-2018.GPJ

WATER LEVEL MEASUREMENTS

START: 4/25/2018

END: 4/25/2018

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	WATER DEPTH	WATER ELEVATION	METHOD	Crew Chief:	Logged By:
4/25/2018	2:15 pm	10		4	1.5	1185		R. Kurth	DEH
								Notes:	



LOG OF TEST BORING

PROJECT NAME: 2018 Mill and Overlay
 CLIENT/WSB #: 011248-000

PROJECT LOCATION: Baxter, MN
 SURFACE ELEVATION: 1186 ft

BORING NUMBER FA-H
 PAGE 1 OF 1

DEPTH (ft)	ELEV. (ft)	DESCRIPTION OF MATERIAL	USCS	GEOLOGIC ORIGIN	WL	SAMPLE		LABORATORY TESTS					
						No.	TYPE	MC (%)	DD (pcf)	LL (%)	PL (%)		
1	1185	4 1/2" of BITUMINOUS, 10" of AGGREGATE BASE		Pavement Section		1	AU						
2	1184	SILTY SAND, fine to medium grained, with gravel, dark brown, wet Note: Strong petroleum odor noted during drilling at 1 1/2'	SM	Fill	▽	2	AU						
3	1183	PEAT WELL DECOMPOSED, black, wet	PT	Swamp Deposits		3	AU						
4	1182												
5	1181												
6	1180												
7	1179	SAND, fine to medium grained, grayish blue, waterbearing	SP	Glacial Outwash									
8	1178					5	AU						
9	1177												
10	1176	End of Boring 10.0 ft.											
11	1175												
12	1174												
13	1173												
14	1172												
15	1171												

WSB BORING LOG - WSB.GDT - 4/27/18 09:32 - K:\011248-000\GEOTECH-CMT\2018 MILL AND OVERLAY.BAXTER.MN 4-25-2018.GPJ

WATER LEVEL MEASUREMENTS

START: 4/25/2018

END: 4/25/2018

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	WATER DEPTH	WATER ELEVATION	METHOD	Crew Chief:	Logged By:
4/25/2018	2:35 pm	10		2	1.5	1184.5	6" SSA 0' - 10'	R. Kurth	DEH
								Notes:	



LOG OF TEST BORING

PROJECT NAME: 2018 Mill and Overlay
 CLIENT/WSB #: 011248-000

PROJECT LOCATION: Baxter, MN
 SURFACE ELEVATION: 1186.2 ft

BORING NUMBER FA-J

PAGE 1 OF 1

DEPTH (ft)	ELEV. (ft)	DESCRIPTION OF MATERIAL	USCS	GEOLOGIC ORIGIN	WL	SAMPLE		LABORATORY TESTS				
						No.	TYPE	MC (%)	DD (pcf)	LL (%)	PL (%)	
1	1185	4 1/2" of BITUMINOUS, 6" of AGGREGATE BASE		Pavement Section	▽	1	AU					
2	1184	SILTY SANDY, fine to medium grained, with gravel, dark brown, moist to wet Note: Strong petroleum odor noted during drilling at 1' PEAT WELL DECOMPOSED, black, wet	SM	Fill		2	AU					
3	1183					3	AU					
4	1182					4	AU					
5	1181											
6	1180											
7	1179	SAND, fine to medium grained, gray, waterbearing	SP	Glacial Outwash								
8	1178					5	AU					
9	1177											
10	1176	End of Boring 10.0 ft.										
11	1175											
12	1174											
13	1173											
14	1172											
15	1171											

WSB BORING LOG - WSB.GDT - 4/27/18 09:32 - K:\011248-000\GEOTECH-CM\2018 MILL AND OVERLAY - BAXTER, MN 4-25-2018.GPJ

WATER LEVEL MEASUREMENTS

START: 4/25/2018

END: 4/25/2018

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	WATER DEPTH	WATER ELEVATION	METHOD	Crew Chief:	Logged By:
4/25/2018	3:00 pm	10		4.5	2.0	1184.2	6" SSA 0' - 10'	R. Kurth	DEH
								Notes:	



LOG OF TEST BORING

PROJECT NAME: 2018 Mill and Overlay
 CLIENT/WSB #: 011248-000

PROJECT LOCATION: Baxter, MN
 SURFACE ELEVATION: 1186.8 ft

BORING NUMBER FA-K

PAGE 1 OF 1

DEPTH (ft)	ELEV. (ft)	DESCRIPTION OF MATERIAL	USCS	GEOLOGIC ORIGIN	WL	SAMPLE		LABORATORY TESTS					
						No.	TYPE	MC (%)	DD (pcf)	LL (%)	PL (%)		
1	1186	4 1/2" of BITUMINOUS, 4 1/2" of AGGREGATE BASE		Pavement Section		1	AU						
2	1185	SILTY SAND, fine to medium grained, with trace gravel, dark brown, wet Note: Strong petroleum odor noted during drilling at 8 1/2"	SM	Fill	▽	2	AU						
3	1184					3	AU						
4	1183	PEAT WELL DECOMPOSED, black, wet	PT	Swamp Deposits									
5	1182												
6	1181					4	AU						
7	1180	LEAN CLAY, with sand, bluish gray, saturated	CL	Lacustrine									
8	1179					5	AU						
9	1178												
10	1177	End of Boring 10.0 ft.											
11	1176												
12	1175												
13	1174												
14	1173												
15	1172												

WSB BORING LOG - WSB.GDT - 4/27/18 09:32 - K:\011248-000\GEOTECH-CMT\2018 MILL AND OVERLAY.BAXTER.MN 4-25-2018.GPJ

WATER LEVEL MEASUREMENTS

START: 4/25/2018

END: 4/25/2018

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	WATER DEPTH	WATER ELEVATION	METHOD	Crew Chief:	Logged By:
4/25/2018	3:30 pm	10		4	2.0	1184.8	6" SSA 0' - 10'	R. Kurth	DEH
								Notes:	