

**CANE CREEK, LLC.**

**FLAT TOP MINE, P-3882, R-6**

**ALABAMA SURFACE MINING COMMISSION  
SURFACE MINING PERMIT APPLICATION**

**P A R T   I I I**

Prepared by:

**MCGEHEE ENGINEERING CORP.**

P. O. Box 3431  
450 19th Street West  
Jasper, Alabama 35502-3431  
Telephone (205) 221-0686

**PART III - OPERATION PLAN**

**A. General Operation Information**

1. Describe the type and method of coal mining procedures and major equipment to be used. (780.11)

No change proposed for the type and method of coal mining procedures and major equipment used.

Revision R-6 proposes to allow offsite removal of commercial sandstone overburden.

(See Addendum to Attachment III-A-1)

2. Describe the sequence and timing of increments to be mined (as shown on permit map) over the total life of the permit. (780.11)

The timing increments are as follows:

<u>Increment No.</u>	<u>Acres</u>	<u>From</u>	<u>Dates</u> <u>To</u>
1	551	Effective Date *	60 Months After
7	59	Effective Date *	Life of Mine

The sequence of mining operations will be generally as follows:

- 1) Construction of sediment control structures
- 2) Clearing and grubbing
- 3) Topsoil removal, if required
- 4) Overburden drilling and blasting
- 5) Overburden removal
- 6) Coal Recovery
- 7) Grading
- 8) Revegetation

### **ADDENDUM TO OPERATION PLAN**

The operation plan is proposed to be modified to allow the removal of sandstone rock from the active pit. Madison Materials is proposing a sandstone processing plant located just northwest of Flat Top Mine. This crushed aggregate operation that will utilize sandstone (American Rock) from the Flat Top pit.

Cane Creek, LLC would like to allow the Madison Materials to receive fresh sandstone from the interburden between the Nickle Plate and American coal seams from their active pit at Flat Top. The interburden thickness between the Nickle Plate and American coal seams is approximately 30 feet. The economical sandstone occurs in the lower 20-22 feet of the interburden and is immediately above the American seam. Cane Creek will excavate about 500,000 cubic yards of this interburden per quarter. Approximately 400,000 cubic yards of the excavated interburden each quarter will be sandstone.

Madison Materials would like to receive all of the sandstone American rock that Cane Creek will be excavating. The run of mine sandstone will be hauled to Madison Materials storage area just north of Cane Creek's permit boundary and stockpiled for processing as needed. Cane Creek will be excavating the sandstone rock faster than Madison Materials will be processing and selling the sandstone. Cane Creek will produce an average of 133,000 cubic yards (300,000 tons) per month of run of mine sandstone. Madison Materials will be processing and selling about 50,000 – 75,000 tons of sandstone per month depending on market conditions. Sandstone material excavated by Cane Creek will be hauled to the storage area for future processing or directly to the processing plant once it is operational.

The proposed plan is for the Cane Creek, LLC haul trucks to haul the American sandstone from the active pit area to the processing operation and storage area to be operated by Madison Materials. Once the Cane Creek trucks are loaded they would leave the Flat Top Mine and travel on a haul road to be constructed by Madison Materials. Once the American sandstone leaves the Flat Top pit it will become the property and liability of Madison Materials.

**CANE CREEK, LLC.  
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ATTACHMENT III-A-1**

The Cane Creek permit boundary will be clearly marked and signs will be posted on both sides of the ASMC permit boundary where the haul road connects to the Cane Creek permit. On the Cane Creek side the sign will contain "*Leaving Cane Creek, LLC- Flat Top Mine- ASMC Permit P-3882-02-21-S, MSHA ID 01-00627 Entering Madison Materials, Inc. – Flat Top Processing Plant – OSHA Jurisdiction*". On the Madison side the sign will contain "*Entering Cane Creek, LLC- Flat Top Mine- ASMC Permit P-3882-02-21-S, MSHA ID 01-00627 Leaving Madison Materials, Inc. – Flat Top Processing Plant – OSHA Jurisdiction*". See attached [Operations Map](#) that shows the layout of the proposed Madison Materials sandstone operation and the road to be constructed for receiving the raw sandstone material.

The sandstone overburden is considered a commercial product and is not mine waste. Madison Materials had this sandstone tested for use as an erosion control stone and the Flat Top Mine has been approved by the Vicksburg ACOE office as an approved source for erosion control stone. Madison Material will produce rip-rap in various sizes, crushed aggregate products in various sizes and grades as well as coarse and fine sand products used in concrete and asphalt mixes and as filter material.

There may be a small portion of sandstone or sand material generated in the crushing and screening process that is not useful for any commercial application and will be considered waste. This small amount of waste material will be backhauled by the Cane Creek trucks and disposed of in the active pit and/or reclamation operation of Cane Creek or it will be hauled by Madison Materials trucks to Madison's designated waste disposal area above Madison proposed outfall 001.

Previous overburden analysis has shown the overburden to be non-toxic and non-acid forming and should present no problems to the area water quality if it leaves the mine site. See attached [acid base accounts](#) Acid base account will be run on the sandstone material annually to insure the innocuous environmental character of the material.

Cane Creek, LLC currently removes about one third to one half of the overburden with dozers. The remaining overburden is removed with a loader/ truck operation. The overburden removed by the trucks is hauled to previously mined areas and dumped.

As of January 1, 2017 the total amount of overburden and inter-burdens to be removed at the Flat Top Mine is 50,668,000 bank cubic yards. The 20-22 foot thick sandstone interburden between the Nickle Plat and America coal seams remaining as of 1-1-2017 is 8,701,000 bank cubic yards of 17% of the total material excavated.

Removing this amount of sandstone material from the Flat Top pit will have no adverse effect on the reclamation of the area. There will be no problem in meeting the AOC requirements if this material is removed.

See revised reclamation [cross-section A-A](#) and [cross-section B-B and C-C](#) in Part 4.

It is not anticipated that the removal of the sandstone will cause any delays in mining that would require any other changes to the existing operation plan. The haul road from the sandstone storage area connecting to the Cane Creek permit boundary is shown on the operations map. It will be constructed with available on-site spoil material and will be constructed with the current, prudent engineering practices.

The following guidelines will be used in constructing the road:

- Road will be located on ridges or high areas so as to control and prevent erosion
- Grades – Maximum grade will be 17%
- Cut and Fill Slopes – shall be no steeper than 2 horizontal to 1 vertical.
- Road way embankments will be constructed to be stable under normal construction and operating conditions.
- All drainage control structures will be designed and constructed to safely pass the peak runoff from a 10 year, 6 hour precipitation event
- The minimum to width of the road will be 16 feet and will be of a maximum width necessary to facilitate two-lane travel of the largest equipment using the road.
- The final road surface will have a minimum of 4 inches of durable, non-toxic, non-acid forming material.
- Routine inspection and maintenance (regrading, resurfacing, and maintenance of sediment control structure and dust control) will be conducted regularly.
- Dust control will be achieved by the periodic application of water, chemical binders and/or other dust suppressants.

No crushing or processing will occur within the P-3882 permit boundary. The crushing and screening plant to be operated by Madison will be located outside of the Cane Creek permit boundary near Basin 016A. The exact location of Madison's crushing and screening plant may change slightly depending on how much run-of-mine sandstone is stockpiled when the crushing and screening operation begins.

Due to the numerous products to be produced by Madison Materials, the area needed to screen, and stockpile finished products ready for sale and delivery will increase over time. The initial Madison footprint outside of the Cane Creek permit boundary should suffice Madison until Cane Creek completes coal mining at Flat Top.

However, Madison may need to expand their screening/stockpile area onto a portion (about 8 acres in Inc. 7) of the Cane Creek permit prior to coal mining being completed at Flat Top. This area is hatched and labeled on the Operations Map as "Possible expansion of Madison Footprint-prior to Cane Creek Completing Mining"

If this situation arises, it will be handled in one of two ways.

Option 1 - The area inside Cane Creek's permit that Madison may desire to expand on currently drains to the southwest down the drain in Increment 7 to Sediment Basins 007B, 007A and eventually discharges into Basin 007. Madison would get a joint use agreement for Cane Creek's outfall 007 for their disturbance inside Cane Creek's permit boundary. No revision would be needed.

Option 2 – The 8 acres inside Increment 7 needed for would be deleted (industrial release) by revision from Cane Creeks permit and made to drain to Madison's Basin 016A.

Madison's proposed sandstone operation will have a projected life of at least 15 years will continue operation long after Cane Creek has completed coal mining at the Flat Top Mine. Madison has surface agreements with City of Adamsville/Big Sky Environmental to utilize approximately 45 acres within the existing Cane Creek permit boundary.

Madison will likely utilize this additional area after mining is completed by Cane Creek. This area is hatched and labeled on the Operations Map as "Possible expansion of Madison Footprint-after mining is completed by Cane Creek".

**Cane Creek, LLC - Flat Top Mine - P-3882, R-6**  
**Average Acid Base Account of Interburden**  
**Between Nickle Plate and America Coal Seams**

Hole ID	Interval (ft.)	Thickness (ft.)	% Sulfur	NP	ABA
E-16	129.5 - 149.9	20.4	0.03	16.50	15.56
E-16	149.9 - 157.35	7.5	0.04	18.50	17.25
<b>E-16 Thickness Weighted Average</b>		<b>27.9</b>	<b>0.03</b>	<b>17.04</b>	<b>16.01</b>
802-011	135.0 - 140.0	5.0	0.01	8.50	8.19
802-011	140.0 - 145.0	5.0	0.03	10.50	9.56
802-011	145.0 - 150.0	5.0	0.06	16.50	14.63
<b>802-011 Thickness Weighted Average</b>		<b>15.0</b>	<b>0.03</b>	<b>11.83</b>	<b>10.79</b>
802-012	100.0 - 105.0	5.0	0.06	6.30	4.43
802-012	105.0 - 110.0	5.0	0.02	8.50	7.88
802-012	110.0 - 115.0	5.0	0.01	26.50	26.19
802-012	115.0 - 120.0	5.0	0.07	48.30	46.11
802-012	120.0 - 126.2	6.2	0.13	18.00	13.94
<b>802-012 Thickness Weighted Average</b>		<b>26.2</b>	<b>0.06</b>	<b>21.36</b>	<b>19.45</b>
<b>Numerical Average All</b>		69.1	<b>0.05</b>	<b>17.81</b>	<b>16.37</b>
<b>Thickness Weighted Average All</b>			<b>0.04</b>	<b>17.55</b>	<b>16.18</b>

OVERBURDEN ANALYSIS SPREADSHEET  
 OPERATOR: **UNITED LAND CORPORATION**  
 PERMIT NO: **FLAT TOP** DRILL HOLE: **E-16**  
 COUNTY: **JEFFERSON** TOWNSHIP:  
 THRESHOLD SULFUR NP FIZZ NP FIZZ  
 VALUES: 0 0.00 0

BOTTOM DEPTH (FT)	THICKNESS FEET	ROCK TYPE	FIZZ RATING	SULFUR %	NP	DEFICIENCY /EXCESS	ACREAGE	UNIT WT TONS/AC-FT	FRACTION SPOILED	TONS MPA	TONS NP	NET NP (TONS)	TONS OF OVERBURDEN
5.00	5.00	CL	0	0.00	2.25	2.25	1.00	3450	1.00	0.00	38.81	38.81	17250
10.00	5.00	CL	0	0.05	13.20	11.64	12.24	3450	1.00	329.93	2787.25	2457.32	211155
21.50	11.50	SH	0	0.09	24.25	21.44	24.61	3700	1.00	2944.63	25389.28	22444.64	1046980
39.10	17.60	SS	0	0.10	25.00	21.88	46.41	3670	1.00	9368.51	74948.08	65579.57	2997923
55.00	15.90	SH	0	0.09	23.50	20.69	71.52	3700	1.00	11833.31	98873.86	87040.55	4207398
74.70	19.70	SS	0	0.08	24.75	22.25	98.20	3670	1.00	17748.74	175712.48	157963.75	7099494
95.00	20.30	SS	0	0.08	25.50	23.00	128.17	3670	1.00	23872.36	243498.08	219625.72	9548944
119.10	24.10	SS	0	0.10	19.75	16.63	161.45	3670	1.00	44622.92	282016.84	237393.92	14279333
121.70	2.60	SH	0	0.65	13.50	-6.81	181.45	3700	1.00	35457.22	23565.42	-11891.81	1745586
122.80	1.10	CO	0			0.00	149.01	1800	0.00	0.00	0.00	0.00	0
127.30	4.50	SH	0	0.44	2.50	-11.25	188.42	3700	1.00	43137.15	7843.12	-35294.03	3137247
129.50	2.20	CO	0			0.00	193.44	1800	0.00	0.00	0.00	0.00	0
149.90	20.40	SS	0	0.03	16.50	15.56	210.38	3670	1.00	14766.34	259887.61	245121.27	15750764
157.35	7.45	SS	0	0.04	18.50	17.25	231.25	3670	1.00	7903.44	116970.89	109067.45	6322751
161.30	3.95	CO	0			0.00	239.79	1800	0.00	0.00	0.00	0.00	0
164.80	3.50	SS	0	0.02	1.50	0.88	248.00	3670	1.00	1990.98	4778.34	2787.37	3185560

TOTAL OVERBURDEN VOL. (ACRE-FT): 18933  
 PERCENT SANDSTONE: 85%  
 NP/MPA RATIO: 6.15  
 TONS/ACRE REQUIRED (1:1): 4445 EXCESS

ABA SUMMARY VALUES USING % SULFUR \* 62.5 = MPA:

NP/MPA RATIO: 3.08  
 TONS/ACRE REQUIRED (1:1): 3582 EXCESS

TOTAL (TONS): 213975.52  
 TOTAL (TONS/THOUSAND): 3.0766

69550388

TOTAL (TONS): 1316310.05  
 TOTAL (TONS/THOUSAND): 18.9260

15.85

TOTAL (TONS): 427951.03  
 TOTAL (TONS/THOUSAND): 6.15

888359.01  
 12.77



OVERBURDEN ANALYSIS SPREADSHEET  
 OPERATOR: **UNITED LAND CORPORATION**  
 PERMIT NO: **FLAT TOP** DRILL HOLE: **802011**  
 COUNTY: **JEFFERSON** TOWNSHIP:

CLAY CL 3450  
 SHALE SH 3700  
 SILTSTONE ST 3750 ALK ADD(tns/ac CaCO3):  
 SANDSTONE SS 3670 COAL SEAMS:  
 LIMESTONE LS 3670 STATE PLANE ZONE:  
 COAL CO 1800 FEET (NORTH/SOUTH):  
 CARBONOLITH CB 2580 FEET (EAST/WEST):  
 OTHER OT 3670 SURFACE ELEV. (FT):

THRESHOLD SULFUR NP 0.00  
 FIZZ 0  
 VALUES: 0 0.00 0

BOTTOM DEPTH (FT)	THICKNESS FEET	ROCK TYPE	FIZZ RATING	SULFUR %	NP	DEFICIENCY /EXCESS	ACREAGE	UNIT WT TONS/AC-FT	FRACTION SPOILED	TONS MPA	TONS NP	NET NP (TONS)	TONS OF OVERBURDEN
5.00	5.00	CL	0	0.01	0.00	-0.31	1.00	3450	1.00	5.39	0.00	-5.39	17250
10.00	5.00	CL	0	0.01	0.00	-0.31	15.55	3450	1.00	83.80	0.00	-83.80	268159
15.00	5.00	CL	0	0.01	0.00	-0.31	25.24	3450	1.00	136.07	0.00	-136.07	435432
20.00	5.00	CL	0	0.01	1.00	0.69	34.94	3450	1.00	188.35	602.70	414.36	602705
25.00	5.00	CL	0	0.00	3.00	3.00	44.64	3450	1.00	0.00	2309.93	2309.93	769977
30.00	5.00	SH	0	0.09	14.30	11.49	54.33	3700	1.00	2827.03	14373.88	11546.85	1005167
35.00	5.00	SH	0	0.03	4.00	3.06	64.03	3700	1.00	1110.53	4738.24	3627.72	1184561
40.00	5.00	SH	0	0.11	11.50	8.06	73.73	3700	1.00	4688.59	15685.48	10996.88	1363955
45.00	5.00	SH	0	0.10	18.80	15.68	83.42	3700	1.00	4822.96	29014.95	24191.99	1543348
50.00	5.00	SH	0	0.11	21.50	18.06	78.58	3700	1.00	4996.93	31253.51	26256.58	1453652
55.00	5.00	SH	0	0.10	27.50	24.38	102.82	3700	1.00	5944.18	52308.75	46364.57	1902136
60.00	5.00	SH	0	0.07	27.50	25.31	112.52	3700	1.00	4553.35	57242.08	52688.74	2081530
65.00	5.00	SH	0	0.10	28.30	25.18	122.21	3700	1.00	7065.39	63984.16	56918.77	2260924
70.00	5.00	SH	0	0.08	21.30	18.80	131.91	3700	1.00	6100.80	51978.78	45877.98	2440318
75.00	5.00	SH	0	0.14	21.30	16.93	141.61	3700	1.00	11461.24	55799.87	44338.63	2619712
80.00	5.00	SH	0	0.01	50.00	49.69	151.30	3700	1.00	874.72	139955.30	139080.58	2799706
85.00	5.00	SH	0	0.06	50.00	48.13	161.00	3700	1.00	5584.69	148925.00	143340.31	2978500
90.00	5.00	SH	0	0.03	11.80	10.86	170.70	3700	1.00	2960.53	37263.15	34302.62	3157894
95.00	5.00	SH	0	0.09	28.30	25.49	180.39	3700	1.00	9386.12	94445.25	85059.12	3337288
100.00	5.00	SH	0	0.09	28.30	25.49	190.09	3700	1.00	9890.67	99522.10	89631.43	3516682
105.00	5.00	SS	0	0.09	30.00	27.19	199.79	3670	1.00	10310.93	109983.23	99672.30	3666708
110.00	5.00	SH	0	0.24	26.30	18.80	209.48	3700	1.00	29066.02	101924.85	72858.83	3875470
115.00	5.00	SH	0	0.19	25.00	19.06	219.18	3700	1.00	24075.75	101371.59	77295.84	4054864
120.00	5.00	SH	0	1.76	2.50	-52.50	228.88	3700	1.00	232884.17	10585.64	-222298.52	4234258
123.00	3.00	CO	0			0.00	236.64	1800	0.00	0.00	0.00	0.00	0
130.00	7.00	SH	0	0.04	10.00	8.75	246.33	3700	1.00	7975.04	63800.33	55825.29	6380033
135.00	5.00	CO	0			0.00	257.97	1800	0.00	0.00	0.00	0.00	0
140.00	5.00	SS	0	0.01	8.50	8.19	267.67	3670	1.00	1534.90	41749.31	40214.41	4911683
145.00	5.00	SS	0	0.03	10.50	9.56	277.36	3670	1.00	4771.52	53441.04	48669.52	5089623
150.00	5.00	SS	0	0.06	16.50	14.63	287.06	3670	1.00	9876.68	86914.78	77038.10	5267562
153.00	3.00	CO	0			0.00	294.82	1800	0.00	0.00	0.00	0.00	0
160.00	7.00	SH	0	0.03	5.75	4.81	304.52	3700	1.00	7394.01	45349.92	37955.91	7866942
165.00	5.00	SS	0	0.02	4.75	4.13	321.00	3670	1.00	3681.47	27979.16	24297.69	5890350

TOTAL OVERBURDEN VOL.(ACRE-FT): 23608  
 PERCENT SANDSTONE: 29%  
 NP/MPA RATIO: 3.72  
 TONS/ACRE REQUIRED (1:1): 3515 EXCESS

ABA SUMMARY VALUES USING % SULFUR \* 62.5 = MPA:

NP/MPA RATIO: 1.86  
 TONS/ACRE REQUIRED (1:1): 2224 EXCESS

TOTAL (TONS): 414251.81  
 TOTAL (TONS/THOUSAND): 414.25  
 TOTAL (TONS): 1542502.98  
 TOTAL (TONS/THOUSAND): 1542.50  
 TOTAL (TONS): 828503.62  
 TOTAL (TONS/THOUSAND): 828.50  
 TOTAL (TONS): 713999.36  
 TOTAL (TONS/THOUSAND): 713.99  
 TOTAL (TONS): 17.73  
 TOTAL (TONS/THOUSAND): 17.73

OVERBURDEN ANALYSIS SPREADSHEET  
 OPERATOR: **UNITED LAND CORPORATION**  
 PERMIT NO: **FLAT TOP** DRILL HOLE: **802012**  
 COUNTY: **JEFFERSON** TOWNSHIP:

CLAY CL 3450  
 SHALE SH 3700  
 SILTSTONE ST 3750 ALK ADD(mn/ac CaCO3):  
 SANDSTONE SS 3670 COAL SEAMS:  
 LIMESTONE LS 3670 STATE PLANE ZONE:  
 COAL CO 1800 FEET (NORTH/SOUTH):  
 CARBONOLITH CB 2580 FEET (EAST/WEST):  
 OTHER OT 3670 SURFACE ELEV. (FT):

THRESHOLD SULFUR NP 0.00  
 FIZZ 0  
 VALUES: 0 0.00 0

BOTTOM DEPTH (FT)	THICKNESS FEET	ROCK TYPE	FIZZ RATING	SULFUR %	NP	DEFICIENCY /EXCESS	ACREAGE	UNIT WT TONS/AC-FT	FRACTION SPOILED	TONS MPA	TONS NP	NET NP (TONS)	TONS OF OVERBURDEN
5.00	5.00	CL	0	0.01	5.25	4.94	1.00	3450	1.00	5.39	90.56	85.17	17250
10.00	5.00	CL	0	0.01	6.30	5.99	3.95	3450	1.00	21.27	428.88	407.60	68076
15.00	5.00	SH	0	0.01	6.00	5.69	5.91	3700	1.00	34.17	656.09	621.92	109348
20.00	5.00	SH	0	0.05	9.25	7.69	7.88	3700	1.00	227.64	1347.61	1119.97	145688
25.00	5.00	SH	0	0.09	21.00	18.19	9.84	3700	1.00	511.95	3822.56	3310.61	182027
30.00	5.00	SH	0	0.18	25.25	19.63	11.80	3700	1.00	1228.31	5513.74	4285.43	218366
35.00	5.00	SH	0	0.11	27.50	24.06	13.77	3700	1.00	875.55	7004.40	6128.85	254705
40.00	5.00	SH	0	0.13	23.50	19.44	15.73	3700	1.00	1182.37	6839.55	5657.18	291045
45.00	5.00	SH	0	0.20	22.00	15.75	17.70	3700	1.00	2046.15	7202.45	5156.30	327384
50.00	5.00	SH	0	0.11	25.80	22.36	16.71	3700	1.00	1062.92	7977.73	6914.80	309214
55.00	5.00	SH	0	0.09	26.30	23.49	21.63	3700	1.00	1125.18	10521.64	9396.47	400063
60.00	5.00	SH	0	0.09	23.80	20.99	23.59	3700	1.00	1227.38	10386.36	9158.98	436402
65.00	5.00	SH	0	0.08	24.00	21.50	25.55	3700	1.00	1181.85	11345.79	10163.93	472741
70.00	5.00	SH	0	0.07	27.30	25.11	27.52	3700	1.00	1113.61	13897.89	12784.28	509080
75.00	5.00	SH	0	0.09	22.30	19.49	29.48	3700	1.00	1533.99	12162.86	10628.87	545420
80.00	5.00	SH	0	0.16	25.30	20.30	31.45	3700	1.00	2908.79	14718.50	11809.71	581759
85.00	5.00	SH	0	0.09	22.80	19.99	33.41	3700	1.00	1738.40	14092.64	12354.24	618098
91.70	6.70	CO	0	0.48	1.30	0.00	35.71	1800	0.00	0.00	0.00	0.00	0
96.80	5.10	SH	0	0.48	1.30	-13.70	38.03	3700	1.00	10763.48	932.84	-9830.65	717565
100.00	3.20	CO	0	0.00	0.00	0.00	39.66	1800	0.00	0.00	0.00	0.00	0
105.00	5.00	SH	0	0.06	6.30	4.43	41.27	3700	1.00	1431.48	4809.77	3378.29	763455
110.00	5.00	SH	0	0.02	8.50	7.88	43.23	3700	1.00	499.87	6798.25	6298.38	799795
115.00	5.00	SH	0	0.01	26.50	26.19	45.20	3700	1.00	261.29	22157.55	21896.26	836134
120.00	5.00	SH	0	0.07	48.30	46.11	47.16	3700	1.00	1908.54	42140.46	40231.92	872473
126.20	6.20	SH	0	0.13	18.00	13.94	49.36	3700	1.00	4600.11	20382.03	15781.92	1132335
130.00	3.80	CO	0	0.00	0.00	0.00	51.33	1800	0.00	0.00	0.00	0.00	0
135.00	5.00	SS	0	0.21	5.00	-1.56	53.05	3670	1.00	6388.81	4867.67	-1521.15	973533
140.00	5.00	SS	0	0.10	8.80	5.68	56.00	3670	1.00	3211.25	9042.88	5831.63	1027600

TOTAL OVERBURDEN VOL.(ACRE-FT): 3414  
 PERCENT SANDSTONE: 16%  
 NP/MPA RATIO: 5.08  
 TONS/ACRE REQUIRED (1:1): 3429 EXCESS

ABA SUMMARY VALUES USING % SULFUR \* 62.5 = MPA:

NP/MPA RATIO: 2.54  
 TONS/ACRE REQUIRED (1:1): 2589 EXCESS

TOTAL (TONS): 47089.76  
 TOTAL (TONS/THOUSAND): 3.7345

TOTAL (TONS): 94179.53  
 TOTAL (TONS/THOUSAND): 7.47

192050.92  
 15.23

144961.16  
 11.50

239140.69  
 18.9650

239140.69  
 18.97

192050.92  
 15.23

144961.16  
 11.50

47089.76  
 3.7345

94179.53  
 7.47

192050.92  
 15.23

144961.16  
 11.50

239140.69  
 18.9650

239140.69  
 18.97

192050.92  
 15.23

144961.16  
 11.50

47089.76  
 3.7345

94179.53  
 7.47

192050.92  
 15.23

144961.16  
 11.50

239140.69  
 18.9650

239140.69  
 18.97

192050.92  
 15.23

144961.16  
 11.50

**B. Engineering Plans.**

All cross sections, maps and plans related to operations, reclamation and structures must comply with Section 780.10. Plans, appropriate calculation and conclusions shall be presented in a clear and logical sequence and shall take into account all applicable factors necessary to evaluate the proposed plan or design.

1. Existing Structures. (780.12, 786.21)
  - (a) Describe each existing structure to be used, its location, current condition, approximate dates of construction and evidence (including relevant monitoring data) showing whether or not the structure meets the performance standards of Subchapter K or Subchapter B, whichever is more stringent and demonstrate whether or not the use of existing structures will pose a significant harm to the environment or public health or safety.

Not Applicable

- (b) If an existing structure requires modification or reconstruction to meet the performance standards, attach a compliance plan which includes design specifications, construction schedule, monitoring procedures, and evidence that the risk of harm to the environment or public health or safety is not significant during modification or reconstruction.

Not Applicable

**CANE CREEK, LLC.  
FLAT TOP MINE, P-3882  
REVISION NO. 6**

2. Ponds, impoundments, banks, dams and embankments. (780.25)

- (a) Submit a general plan which complies with Section 780.25 (a)(1) for each proposed sedimentation pond, water impoundment, and coal processing waste bank, dam or embankment to be located within the proposed permit area.

[See Attachment III-B-2-A](#)

- (b) Submit detailed design plans which comply with Sections 780.25(a)(2)(3) and 816.46, for each sedimentation pond to be constructed on the increment you currently propose to mine. If the sediment pond is to remain as a permanent water impoundment, design plans shall also comply with Section 816.49.

[See Attachment III-B-2-A](#)

- (c) Submit detailed design plans which comply with Sections 780.25(a) (2&3) and 816.49, for each temporary or permanent water impoundment to be constructed on the increment you currently propose to mine.

[See Attachment III-B-2-A](#)

- (d) Submit detailed design plans, which comply with Section 780.25(a) (2&3) and 816.81-816.85, for coal mine waste bank to be constructed on the increment you currently propose to mine.

None Proposed

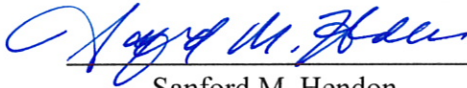
- (e) Submit detailed plans which comply with Sections 780.25 (a)(2&3) and 816.91-816.93 for each coal mine waste dam and embankment to be constructed on the increment which you currently propose to mine.

None Proposed

CANE CREEK, LLC.  
FLAT TOP MINE, P-3882  
REVISION NO. 6  
ATTACHMENT III-B-2(a)

**GENERAL ENGINEERING PLAN CERTIFICATION STATEMENT**

I, Sanford M. Hendon, a registered professional engineer, hereby certify that the information, cross sections, data, maps, etc. contained in this addendum to the General Plan in Attachment III-B-2-(a) is true and correct to the best of my knowledge and belief.



Sanford M. Hendon  
AL. Reg. No. 18208



3-16-17

Date

## **GENERAL PLAN**

Revision No. 6 proposes to add commercial sandstone removal to the operations plan and remove Sediment Basin 001P from the permit due to the deletion of mine area. Madison Materials is proposing to operate a sandstone processing operation just outside of the Flat Top Mine permit area.

Please see the attached [Operations Map](#) to see the initial footprint of the Madison Materials Sandstone Operation and its proximity to the Flat Top permit area. The total drainage area draining through Increment 7 to Basin 007B will also be reduced by approximately 12.6 acres by the Madison operation due to deleting permit area and grading of a portion of the previously mined and reclaimed area outside Cane Creek's permit boundary for the proposed crusher and yard stockpile and causing it to drain to ADEM outfall 016 instead of basin 007B.

As described in the Addendum to the Operation Plan, the run-of-mine sandstone material will be hauled by Cane Creek haul trucks from the Cane Creek pit area to the Madison Materials raw sandstone storage area, a large bowl shaped depression located in the portions of the N ½ of the NW ¼ of Section 19 and the S ½ of the SW ¼ of Section 18. Disturbed runoff from Madison's sandstone storage area will be controlled by ADEM outfall 016.

Cane Creek has an NPDES permitted outfall at this location, but it is not permitted on their ASMC P-3882 permit. A [joint-use agreement](#) has been signed by Cane Creek to allow Madison to use the Cane Creek NPDES outfall 016 until Madison's NPDES permit is issued.

Madison Materials has applied for an NPDES permit and anticipates issuance in July. Basin 016 and 016A will be constructed and certified to ADEM under Cane Creek's NPDES Permit AL0077691 prior to any disturbance within the drainage boundary of Basin 016 and 016A. Drainage from the sandstone storage area, entrance road, office/scale area, asphalt plant area and the sandstone crusher and yard stockpiles will be controlled by Basins 016 and 016A and Madison Basin 001.

Madison Materials will not begin processing any sandstone until their NPDES permit is issued. Monitoring and reporting for outfall 016 will be submitted under Cane Creek's NPDES permit until Madison's NPDES permit is issued. Upon issuance of the Madison permit, Cane Creek will delete Outfall 016 from their NPDES permit AL0077961.

No crushing or processing will occur within the P-3882 permit boundary. The crushing and screening plant to be operated by Madison will be located outside of the Cane Creek permit boundary near Basin 016A. The exact location of Madison's crushing and screening plant may change slightly depending on how much run-of-mine sandstone is stockpiled when the crushing and screening operation begins.

**CANE CREEK, LLC.  
FLAT TOP MINE, P-3882  
REVISION NO. 6  
ATTACHMENT III-B-2(a)**

Due to the numerous products to be produced by Madison Materials, the area needed to screen, and stockpile finished products ready for sale and delivery will increase over time. The initial Madison footprint outside of the Cane Creek permit boundary should be suffice Madison until Cane Creek completes coal mining at Flat Top.

However, Madison may need to expand their screening/stockpile area onto a portion (about 8 acres in Inc. 7) of the Cane Creek permit prior to coal mining being completed at Flat Top. This area is hatched and labeled on the Operations Map as “Possible expansion of Madison Footprint-prior to Cane Creek Completing Mining”

If this situation arises, it will be handled in one of two ways.

Option 1 - The area inside Cane Creek’s permit that Madison may desire to expand on currently drains to the southwest down the drain in Increment 7 to Sediment Basins 007B, 007A and eventually discharges into Basin 007. Madison would get a joint use agreement for Cane Creek’s outfall 007 for their disturbance inside Cane Creek’s permit boundary. No revision would be needed.

Option 2 – The 8 acres inside Increment 7 needed for would be deleted (industrial release) by revision from Cane Creeks permit and made to drain to Madison’s Basin 016A.

Madison’s proposed sandstone operation will have a projected life of at least 15 years will continue operation long after Cane Creek has completed coal mining at the Flat Top Mine. Madison has surface agreements with City of Adamsville/Big Sky Environmental to utilize approximately 45 acres within the existing Cane Creek permit boundary.

Madison will likely utilize this additional area after mining is completed by Cane Creek. This area is hatched and labeled on the Operations Map as “Possible expansion of Madison Footprint-after mining is completed by Cane Creek”.

Madison would construct one additional outfall (003P) to control the additional area. Additional area would be deleted from the Cane Creek permit area (industrial release) by revision to be submitted at the conclusion of coal mining.

See [Watershed Map](#).

See [Operations Map](#)



**AGREEMENT FOR USE OF OUTFALL 016P**

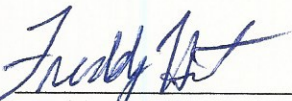
**CANE CREEK, LLC. - Flat Top Mine – NPDES Permit – AL0077691**

This agreement between Madison Materials, Inc. and Cane Creek, LLC concerns the use of Outfall 016P located in the SE/SW of Section 18 and the NE/NW of Section 19 all in Township 16 South, Range 4 West Jefferson County, Alabama and permitted under Cane Creek LLC's NPDES Permit AL0077691.

1. Outfall 016P is to be utilized by Madison Materials to capture runoff from Madison's proposed sandstone operation.
2. Madison Materials agrees to submit an NPDES permit application to ADEM that will include Outfall 016P to ADEM as soon as possible.
3. Cane Creek will be responsible for DMR reporting on Outfall 016 after the outfall is constructed until Madison's NPDES permit is issued.
4. Madison Materials will be responsible for any water monitoring/analysis costs and any water quality violations or fines associated with Outfall 016P.
5. Upon issuance of Madison Materials NPDES permit, Cane Creek will no longer have any liability or responsibility for Outfall 016P and will promptly delete Outfall 016P from Cane Creek's NPDES permit AL0077691.
6. Madison Materials agrees not to process or crush any of the stockpiled material until they have their own NPDES permit in hand.

Effective Date of Agreement 3-7-17

**Cane Creek, LLC**

  
\_\_\_\_\_  
Freddy Hunt

**Madison Materials, Inc.**

  
\_\_\_\_\_  
David Reed - President



**SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS**  
**(Basin 016 & 016A only)**

**To be constructed by Madison Materials under Cane Creek NPDES Permit AI0077691 and ADEM regulations)**

Proposed sediment basins (temporary or permanent) will be designed and constructed using the following as minimum specifications:

**1. EMBANKMENT REQUIREMENTS**

- A) The minimum width of the top of the embankment will under no circumstance be less than twelve (12) feet.
- B) The embankment will have a minimum front and back slope no steeper than 3 horizontal to 1 vertical.
- C) The foundation area of the embankment will be cleared and grubbed of all organic matter with no surface slope steeper than 1 horizontal to 1 vertical.
- D) A core will be constructed in a cutoff trench along the centerline of the embankment. The cutoff trench will be at least eight (8) feet wide with the side slope steepness to be no greater than 1 horizontal to 1 vertical. The material placed in the cutoff trench will be compacted to ninety-five (95%) percent of the standard proctor density, as set forth in ASTM.
- E) The embankment construction material will be free of sod, roots, stumps, rocks, etc., which exceed six (6") inches in diameter. The embankment material will be placed in layers of twelve (12") inches or less and compacted to ninety five (95%) percent of the standard proctor density, as set forth in ASTM.
- F) The embankment, foundation and abutments will be designed and constructed to be stable under normal construction and operating conditions, with a minimum static safety factor of 1.5 and a minimum seismic safety factor of 1.2, at normal pool level with steady seepage saturation conditions.
- G) The actual constructed height of the embankment will be a minimum of five (5%) percent higher than the design height to allow for settling over the life of the embankment.
- H) All basins will have a minimum of 1.5 feet of freeboard between the normal overflow and the emergency spillway and a minimum 1.5 feet of freeboard between the height of the maximum design flow and the top of the dam anticipated from a 25 Year - 24 Hour precipitation event.

## SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS

(continued) (Basin 016 & 016A only)

- I) For embankments constructed as point source discharges, the embankment will be constructed and abutments keyed into undisturbed, virgin, ground if at all possible. In the event that this cannot be achieved, additional design and construction specifications will be submitted in the Detailed Basin Design Plans.
- J) The embankment and all areas disturbed in the construction of the embankment will be seeded with a mixture of perennial and annual grasses, fertilized and mulched to prevent erosion and ensure re-stabilization. Hay dams, silt fences, and rock check dams, etc. will be installed, where deemed necessary, as additional erosion prevention methods.

### 2. DISCHARGE STRUCTURE REQUIREMENTS

- A) The primary spillway will be designed to adequately carry the anticipated peak runoff from a 25 Year - 24 Hour precipitation event. The combination primary and secondary (emergency) spillway system will be designed to safely carry the anticipated peak runoff from a 25 Year - 24 Hour precipitation event. When sediment basins are proposed in the drainage course of a public water supply, the spillway system will be designed and constructed to adequately carry the runoff from a 50 Year - 24 Hour precipitation event. The emergency spillway in the control section will be at least 20 feet in length; the side slopes will be no steeper than 2:1, and the percent slope from the entrance to the exit section of the emergency spillway will be no greater than that stated in the design plans.
- B) Channel linings, for single channel spillway systems, will be riprap or concrete.
- C) When consisting of pipe, the primary spillway will be installed according to Class "C" pipe installation for embankment bedding. Where exposed above ground along the back slope of the embankment, the pipe will have an anti-seep collar installed at each joint of the discharge pipe to radiate at least two (2) feet from the pipe in all directions.
- D) Sediment basins with a single spillway system, such as a skimmer board, will be a trapezoidal open channel constructed in consolidated, non-erodible material and lined with riprap, concrete, asphalt or durable rock.

**SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS**  
(continued) (**Basin 016 & 016A only**)

- E) The primary spillway will be designed and constructed with a device to eliminate floating solids from leaving the impoundment. This device will consist of a turned down elbow when using pipe or a skimmer system when using an open channel spillway.
- F) When necessary, to prevent erosion of the embankment or discharge area, a splash pad of riprap, durable rock, saccrete, etc. will be installed at the discharge end of the primary spillway.
- G) The combined spillway systems, for sediment basins constructed in series, will be designed to adequately accommodate the entire drainage area.

**3. INSPECTION, MAINTENANCE AND CERTIFICATION REQUIREMENTS**

- A) Inspections will be conducted regularly during construction of the sediment basin by a qualified registered professional engineer or other qualified person under the direction of a professional engineer. Upon completion of construction, the sediment basin will be certified, by a qualified registered professional engineer, to the Regulatory Authority as having been constructed in accordance with the approved detailed design plans.
- B) Sediment basins will be inspected semi-monthly for erosion, instability, etc., until the removal of the structure or an NPDES Permit is no longer required at this site.
- C) Sediment basins will be examined quarterly for structural weakness, instability, erosion, slope failure, or other hazardous conditions.
- D) If during the above described periodic inspections, it is determined that there exists signs of structural weakness, instability, erosion, slope failure, improper functioning, or other hazardous conditions, these will be repaired immediately.
- E) Standard anticipated maintenance will include repairing rills and gullies, repairing slope failures, re-seeding areas of failed or scarce vegetation, cleaning out or removing debris obstructing pipes and/or spillways to allow proper functioning, etc. Standard maintenance discovered during the above described periodic inspections will be performed immediately. Hazardous conditions observed during inspections will be reported immediately to the Regulatory Authority for further consultation or instructions.

**SEDIMENT BASIN CONSTRUCTION SPECIFICATIONS**  
(continued) (**Basin 016 & 016A only**)

- F) Retained sediment will be removed from each sediment basin when the accumulated sediment reaches sixty (60%) percent of its design capacity.

**4. BASIN REMOVAL REQUIREMENTS**

- A) Upon completion of mining, reclamation, restabilization and effluent standards being met, the operator will submit to ADEM a request in writing to abandon, remove, or permanently leave the sediment basin(s) and measures that will be taken to comply with applicable ADEM regulations.
- B) Once the operator has received approval from ADEM, each sediment basin not proposed as a permanent water impoundment will be de-watered in a controlled manner by either pumping or siphoning. Upon successful dewatering, a determination will be made as to the retained sediment level in the basin. After determining the retained sediment level, a channel will be cut into the embankment down to the retained sediment level on the side of the embankment deemed most suitable to reach natural ground without encountering prohibiting rock. The embankment material removed from this newly constructed channel will be spread and compacted over the previous impoundment (wet area) area to prevent erosion and ensure re-stabilization. The newly constructed channel will be of adequate width (minimum 30 feet) and sloped to a grade (approximately 1% to 3%) which will cause all surface drainage to travel across this area in sheet flow, minimizing the possibility of erosion. Also, where necessary, hay dams will be installed in strategic locations across the width of the channel to retain sediment and slow the water velocity to a favorable rate. Upon removal of the embankment section, all disturbed areas will be graded in such a manner to ensure slope stability, successful re-stabilization and to minimize erosion. All disturbed areas will be seeded with a mixture of annual and perennial grasses fertilized and mulched. No slope, existing or created in the removal of the sediment basin, will be left on a grade that will slip or slough.

**5. PERMANENT WATER IMPOUNDMENT REQUIREMENTS**

- A) All sediment basins remaining as permanent water impoundments will have supplemental data submitted to the Regulatory Authority concerning water quality, water quantity, size, depth, configuration, post mining land use, etc.
- B) Final grading slopes of the entire permanent water impoundment area will not exceed a slope of 2 Horizontal to 1 Vertical to provide for safety and access for future water users.