12. **Primary future (Post-mining) land use (check one)**:

☐ Cropland(CR)	☐ Pastureland(PL)	☐ General Agriculture(GA)
☑ Rangeland(RL)	☐ Forestry(FR)	☐ Wildlife Habitat(WL)
☐ Residential(RS)	☐ Recreation(RC)	☐ Industrial/Commercial(IC)
☐ Developed Water Resources(WR)		☐ Solid Waste Disposal(WD)

13. **Primary present land use (check one)**:

☐ Cropland(CR)	☐ Pastureland(PL)	☐ General Agriculture(GA)
☑ Rangeland(RL)	☐ Forestry(FR)	☐ Wildlife Habitat(WL)
☐ Residential(RS)	☐ Recreation(RC)	☐ Industrial/Commercial(IC)
☐ Developed Water Resources(WR)		

14. **Method of Mining**: Briefly explain mining method (e.g. truck/shovel): Surface Mining with Front End Loader

15. **On Site Processing**: ☐ Crushing/Screening

13.1 Briefly explain mining method (e.g. truck/shovel): No onsite Processing, Gravel removed with front end loader

List any designated chemicals or acid-producing materials to be used or stored within permit area: None

16. **Description of Amendment or Conversion**:

If you are amending or converting an existing operation, provide a brief narrative describing the proposed change(s).

This amendment expands the permit area to include all currently disturbed areas. Additionally, the mining plan and reclamation plans are updated to be more consistent with what theoperators intend to conduct.

Outlook

Re: Notice of Filing Laster Gravel Pit Permit Amendment

From Sedgwick County Conservation District <sedgcocd@gmail.com>
Date Thu 8/14/2025 11:17 AM
To Ryan Smith <rsmith@aecdenver.com>

Received.

Stephanie McCormick
Sedgwick County Conservation District Manager
sedgcocd@gmail.com

On Mon, Aug 11, 2025, 3:29 PM Ryan Smith <rsmith@aecdenver.com> wrote:

> Hi,
>
> Please see the attached notice for a permit amendment for the Laster Gravel Pit, just south of the Sedgwick County Landfill.
>
> Please return a receipt that this was received as I need it to file the permit.
>
> Thanks,
> Ryan
>
> **Ryan Smith EI**
> Staff Engineer
>
> **American Environmental Consulting, LLC**
> 8191 Southpark Lane, Suite 107
> Littleton, CO 80120
> Office: (303) 948-7733
> Cell: (303) 726-7185
> **AEC**

5.0 EXHIBIT E - Reclamation Plan

5.1 Post Reclamation Land Use

Reclamation will be done so the land may be used as rangeland. This was chosen since the area is currently used as rangeland. The total area to be reclaimed will be approximately 30.0 acres.

On the Sedgwick County Assessor map, current land use in the permit area is marked for agriculture. All adjoining parcels are also marked for agricultural use. The primary use of this land for agriculture is grazing. This land is also used for hunting mule deer and upland birds.

5.2 General Requirements

At the entrance of the mine site the Operator shall post a sign, which shall be clearly visible from the access road, with a minimum size equaling one hundred and eighty-seven (187) square inches, such as eleven (11) inches in height and seventeen (17) inches in width, with appropriate font size, with the following:

(a) the name of the Operator and the operation name;
(b) a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and
(b) the permit number

The boundaries of the affected area will be marked by monuments or other markers that are clearly visible and adequate to delineate such boundaries.

Reclamation work will begin as soon as feasible after the mining area has been fully excavated and graded according to the mining plan. All reclamation work will be completed, including revegetation within 5 years of mining operations ceasing.

Final site stabilization must include establishment of a uniform vegetative cover with an individual plant density equal to 70 percent of pre-disturbance levels as required by regulation. This criterion will be validated based on pre-construction site photographs and those of post-closure photographic records and written visual inspections carried out by the owner or its designated representative. At the completion of the vegetative cover establishment and at such time that the 70% vegetation criterion can validated (per Section F), a final set of photographic records will be

Outlook

Re: Laster Gravel Pit Reclamation Permit Amendment Filing

From Chris Beckman <CBeckman@sedgwickcountygov.net>
Date Thu 8/28/2025 2:31 PM
To Ryan Smith <rsmith@aecdenver.com>

Received today on August 28, 2025.

Thank you!

Christy M Beckman

Sedgwick County Clerk

From: Ryan Smith <rsmith@aecdenver.com>
Sent: Thursday, August 28, 2025 2:29 PM
To: Chris Beckman <CBeckman@sedgwickcountygov.net>
Subject: Re: Laster Gravel Pit Reclamation Permit Amendment Filing

Electronic Submittal COMPLETE R1.pdf

Hi Christy,

I made small revisions to the permit application. All I did was rename some of the Section titles. Attached are the pages I have changed as well as the complete document.

I need to file the changes with you per the requirements of the application.

Can you please return a received email again so I may send it in as proof that I did this?

Thanks,
Ryan Smith EI
Staff Engineer

American Environmental Consulting, LLC
8191 Southpark Lane, Suite 107
Littleton, CO 80120
Office: (303) 948-7733
Cell: (303) 726-7185

AEC

From: Chris Beckman <CBeckman@sedgwickcountygov.net>
Sent: Monday, August 11, 2025 3:28 PM
To: Ryan Smith <rsmith@aecdenver.com>
Subject: Re: Laster Gravel Pit Reclamation Permit Amendment Filing

Thank you, Received!

Christy M Beckman
Sedgwick County Clerk

From: Ryan Smith <rsmith@aecdenver.com>
Sent: Monday, August 11, 2025 3:27 PM
To: Chris Beckman <CBeckman@sedgwickcountygov.net>
Cc: SC Road and Bridge <scroadbridge@gmail.com>
Subject: Laster Gravel Pit Reclamation Permit Amendment Filing

Electronic Submittal COMPLETE 3.pdf

Hi Christy,

We are submitting a permit amendment for the Laster Gravel Pit. Please save the attached amended permit for the Sedgwick County Clerk and Recorder records.

Can you please return something confirming that this was received?

Thanks,
Ryan

Ryan Smith EI
Staff Engineer

American Environmental Consulting, LLC
8191 Southpark Lane, Suite 107
Littleton, CO 80120
Office: (303) 948-7733
Cell: (303) 726-7185

AEC

Appendices

Appendix A 1993 Geotechnnical Report

Appendix B NRCS Recomendations

Appendix C Hydromulch Product Guide

Appendix D CPW Letter

Appendix E Morgan County Bid Documents

Appendix F Seed Mix Quote

Appendix G Laster Gravel Agreement

Appendix H Rainfall Supporting Documentation

Appendix I National Biogeographic Map Summary Report

Figures

Figure 1 USGS Topographic Map

Figure 2 Property Owners Map

Figure 3 Mining Plan Map

Figure 4 Final Mining Grades/Permit Area Map

Figure 5 Final Reclamation Grade Map

Figure 6 Water Flow Direction and Sedimentation Pond Locations

Figure 7 NRCS Soil Survey Map

1.0 EXHIBIT A - Legal Description

This permit is for the land area in section 10, township 11, range 44. It is located within three quarter-quarter sections. These quarter-quarters are the southeast quarter of the northwest quarter of the section and the southwest quarter of the northeast quarter section. Additionally, the affected area is immediately south of the Sedgwick County Landfill located at 13901 US Highway 385.

The location of the main entrance to the site will be at Lat:40.94997, Long: -102.24149. It will only be accessible through the entrance to the Sedgwick County Landfill.

See Figure 1 for a map of the affected land. See Figure 2 for a map of adjacent property owners.

2.0 EXHIBIT B – Index Map

See Figure 1

3.0 EXHIBIT C – Pre-Mining and Mining Plan Map(s) of Affected Lands

See Figure 2 for Adjacent Property Owners

See Figure 3 for Mining Plan Map

4.0 EXHIBIT D - Mining Plan

4.1 Process Description

Mining shall be conducted over 20 years. Mining will be accomplished by first removing 6-12 inches of topsoil over time that will be stockpiled for reclamation use after excavation has been completed. Gravel will then be removed with the use of a front-end loader. The expected amount of material to be mined is 5,000 tons per year for 20 years.

As shown in Figures 3 and 4, mining will start in the southwest corner of the permit area and generally progress to the northeast. Mining shall be done such that there are no slopes greater than a 3:1 gradient in the mining area. Approximately 62,000 cubic yards of gravel will be removed. The specific areas to be mined are left at the discretion of the operator since the specific areas that have material with favorable characteristics are unknown. Figure 4 depicts an acceptable mining grade but is only supposed to be approximate in nature as specific areas to be mined and the dimensions of those areas will be left at the discretion of the operator. Extracted gravel will not be processed on site. Material that is removed but contains insufficient gravel for use (overburden) will be stockpiled to be used as backfill after mining activities have ceased. Any additional mining after the first 20 years will be carried out in the similar manner as described in this mining plan.

After extraction, any backfilling and final grading will be done to control erosion from stormwater runoff and ensure that there are no slopes greater than 3:1 in the mined area. Backfill will be compacted so that the ground remains stable.

After any backfilling and grading a 6-12 inch thick topsoil cover will be placed and seeded in accordance with the reclamation plan.

4.2 Water Diversions and Impoundments

Four siltation ponds will be built prior to any mining activities in an area. They will be located downslope of all active mined areas in existing depressions in the ground. Their proposed locations are shown in Figure 6. The ground will be excavated to the approximate boundaries shown such that there is sufficient volume to collect the expected rainfall from a 2-year 24 hour storm, 2.15 inches, see Appendix H for supporting documentation for this claim.

4.3 Projected Extraction Rate

5,000 tons of gravel are expected to be removed each year for 20 years. About 100,000 tons and 62,000 cubic yards of material will be extracted.

4.4 Mining Area and Volumes

Years of mining: 2024-2044

Permit Area: 41.7 acres

Potential Mining Area/Area of disturbed land: 36.0 acres

Volume Extracted: 62,000 cubic yards

4.5 Stockpile Handling

Figure 3 shows the proposed locations of stockpiles. These locations are approximate in nature and the specifics of where and what dimensions the stockpiles will have shall be left at the discretion of the operator.

Topsoil

Each mining phase will consist of the following, 6-12 inches of topsoil removed and stockpiled for reclamation use. Woody vegetation will be removed from topsoil prior to stockpiling. Stockpiles of topsoil will be located away from mining areas so that they are not disturbed prior to reclamation activities as shown on Figure 3. Stockpiles of topsoil shall not be more than 2 feet in height to allow enough air exposure to maintain soil quality. Stockpiles of topsoil shall not be compacted. Individual stockpiles of topsoil will be stabilized against erosion. Erosion stabilization of topsoil stockpiles shall be done using temporary seeding, the seed and seeding rate to be used depending on time of year is shown in Table 1 below.

Overburden

The 1993 Geotechnical report from empire laboratories indicates that there is a clay stratum that is approximately 3 feet thick. This clay will be stockpiled as overburden material and backfilled after mining operations have ceased. The amount of overburden material to be removed is estimated to be 10%. Overburden stockpiles will be located away from mining areas as indicated in Figure 3. Stockpiles of overburden shall be approximately 10 feet in height and the approximate lateral dimensions are shown in Figure 3. Erosion stabilization of overburden stockpiles shall be

done using temporary seeding, the seed and seeding rate to be used depending on time of year is shown in Table 1 below.

Table 1 - Overburden and Topsoil Stockpile Stabilization

Common Name	Botanical Name	Application Time	Seeding Rates (LBS PLS / Acre)	Planting Depth (inches)
Oats	Avena sativa	October 1 - May 1	35	1-2
Foxtail Millet	Setaria italica	May 2 - September 30	30	1/2 - 3/4

Product (Gravel)

Gravel intended for use will be stockpiled in the current mining phase area.

4.5 Nature of Extracted Material

A geotechnical engineering report was done by Empire Laboratories, dated June 1993, for the landfill less than a quarter mile north of the proposed gravel pit. Since the land of the gravel pit is close and is in the same geological zone it is assumed that there will be similar conditions at the proposed gravel pit. The geotechnical engineering report is attached in Appendix A.

The upper granular stratum containing various amounts of silt and gravel will be encountered at the surface and extend 2 ½ to 6 ½ feet below the surface.

The clay stratum was encountered below the granular stratum containing varying amounts of sand and clay extends 7 -10 feet below the surface.

The lower granular stratum was encountered below the clay layer and extends to depths of 18 ½ feet to 21 ½ feet below the surface. It contains varying amounts of clay and gravel.

4.6 Nature of Stratum Immediately Beneath Extracted Material

The material beneath the mined deposit is sandstone bedrock of the Ogallala formation. In the geotechnical report this material had an observed permeability to water of 0.11×10^{-7} which is relatively impermeable.

4.7 Commodities to be Mined

Gravel for county roads will be extracted. There are no expected incidental products that will be extracted.

4.8 Refuse and Acid Forming or Toxic Producing Materials

There is no refuse and acid-forming or toxic producing materials expected to be extracted.

4.9 Use of Explosives

There is no expectation that explosives will be used in conjunction with mining or reclamation operations.

4.10 Access Roads

Current roads at the landfill will be used to access the mining site. A dirt road will be constructed for mining and hauling equipment. The beginning of the road will exit the landfill at the designated mining entrance. It will generally head southeast from there into mining areas. It will be lengthened over time as mining operations progress northeast. The constructed road will be about 20 feet in width. Figure 3 shows the proposed route of the access road.

5.0 EXHIBIT E - Reclamation Plan

5.1 Post Reclamation Land Use

Reclamation will be done so the land may be used as rangeland. This was chosen since the area is currently used as rangeland. The total area to be reclaimed will be approximately 30.0 acres.

On the Sedgwick County Assessor map, current land use in the permit area is marked for agriculture. All adjoining parcels are also marked for agricultural use. The primary use of this land for agriculture is grazing. This land is also used for hunting mule deer and upland birds.

5.2 General Requirements

At the entrance of the mine site the Operator shall post a sign, which shall be clearly visible from the access road, with a minimum size equaling one hundred and eighty-seven (187) square inches, such as eleven (11) inches in height and seventeen (17) inches in width, with appropriate font size, with the following:

(a) the name of the Operator and the operation name;
(b) a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and
(b) the permit number

The boundaries of the affected area will be marked by monuments or other markers that are clearly visible and adequate to delineate such boundaries.

Reclamation work will begin as soon as feasible after the mining area has been fully excavated and graded according to the mining plan. All reclamation work will be completed, including revegetation within 5 years of mining operations ceasing.

Final site stabilization must include establishment of a uniform vegetative cover with an individual plant density equal to 70 percent of pre-disturbance levels as required by regulation. This criterion will be validated based on pre-construction site photographs and those of post-closure photographic records and written visual inspections carried out by the owner or its designated representative. At the completion of the vegetative cover establishment and at such time that the 70% vegetation criterion can validated (per Section F), a final set of photographic records will be

collected for future reference and record purposes. Once these conditions have been met, a letter of project completion will be provided to DRMS as a final record of permit compliance.

Final Grading will be done so that no slopes are greater than 3:1, stormwater runoff is reasonably controlled, and that the land is traversable by livestock. This will ensure that the land is appropriate for rangeland uses.

Any drill or auger holes will be filled with available gravel or soil materials from mining.

5.3 Water Diversions and Impoundments

After all mining has ceased, the 2 western siltation ponds in the mining plan will not be removed or reclaimed since they may be used as stock ponds for livestock. The 2 eastern ponds will have their berms removed and be filled with compacted backfill from overburden stockpiles to bring up the ponds to surrounding grade and reclaimed with 6-12 inches of topsoil and revegetated according to this plan. Backfilling shall be done such that there are no slopes greater than 3:1.

5.4 Soil Management

Any overburden stockpiles will be backfilled into mining pits. Backfill will be compacted for stability. Existing stockpiles of topsoil from mining will be used to cover mined areas at final grade. Topsoil will be placed in a thickness of 6-12 inches. Compaction of topsoil cover shall be avoided as much as feasible.

5.5 Reclamation

Reclamation Timeline: 2045-2049

Area: 30.0 acres

During reclamation:

1. The access road in mining areas will be reclaimed last to allow access for seeding/mulching equipment.
2. Backfilling shall be done as soon as feasible over areas where mining operations have ceased.
3. Backfilling shall be done in flat lifts with the edges of the mining area graded to a 3:1 slope.

4. Topsoil shall be placed as soon as feasible over areas where final mining grades have been reached.
5. After backfilling stockpiles, the locations of stockpiles that are outside of the mining area shall be reclaimed according to this plan. Figure 5 shows a proposed final grade for reclamation if no overburden is backfilled, however the amount of overburden that will be stockpiled and backfilled is unknown so Figure 5 is only a representation of an acceptable final grade.

Seeding of topsoil will be done as soon as feasible after topsoil has been placed, ideally not more than 2 days after placement to prevent loss of topsoil quality and invasion of undesirable plant species.

The reclaimed area will be monitored for three years with general observation from operators that good revegetation is taking place. Areas where no vegetation has grown or where there is invasion from noxious weeds shall be recorded. This will ensure that proper vegetation occurs within five years of ceased mining operations. Observations will be recorded 4 times a year for 3 years after seeding.

If acceptable revegetation to control erosion is not taking place the ground in the area of poor vegetation will be revegetated according to this plan and the area will be monitored for three additional years. Additionally, if noxious weed invasion threatens the continued development of the desired vegetation it will be removed and the area that had noxious weeds will be revegetated according to this plan and the area will be monitored for one additional year.

5.6 Seeding

The NRCS has provided recommendations for reclamation. This includes seed bed preparation, method of seeding, and seed mix to be planted. They are described below. These recommendations are shown in Appendix B and Table 2 below.

5.6.1 Seedbed Preparation

A no till seedbed preparation is recommended, topsoil will be placed in one 6-12 inch lift and compaction of topsoil shall be avoided as much as feasible.

5.6.2 Seeding Method

Seeding will be done with a no-till seed drill applicator.

The NRCS did not provide specifications on drill seeding. To ensure good revegetation, the same drill seeding method will be used that is in an approved permit for the Colorado Land Board pit in Washington County. Permit No. M2010009.

Ideally, seed drilling will be done with 7-12 inch spacing. Ideally, the seed drill should have the capability to plant fluffy seeds, be equipped with a seed box agitator, a small seed box for heavier seeds, double disc furrow openers with depth bands and packer wheels. Seeding should be done at depth from ¼ " to ¾".

Table 2-Seed Mix

Common name	**Genus, species** Required	**Recommended Cultivar** Required	**% of Seed Mix** required	**PLS Seed Rate** (lbs/ac)	**Targeted PLS Seeds /Sq-Ft**
Bluestem, Little PA	*Schizachyrium scoparium*	*aldous, camper, cimmaron, blaze*	20.0%	0.67	4.00
Grama, Sideoats PA	*Bouteloua curtipendula*	*el reno, vaughn, butte*	15.0%	0.68	3.00
Grama, Blue PA	*Bouteloua gracilis*	*alma, bad river, hachita, lovington*	25.0%	0.31	5.00
Wheatgrass, Western PA	*Pascopyrum smithii*	*arriba, barton*	10.0%	0.26	2.00
Switchgrass PA	*Panicum virgatum*	*alamo, NE 28, blackwell*	10.0%	0.22	2.00
Bluestem, Sand PA	*Andropogon hallii*	*woodward, elida, garden*	10.0%	0.79	2.00
Buffalograss (bur) PA	*Buchloe dactyloides*	*mesa, sharps, texoka, codie, bowie*	10.0%	1.56	2.00

5.6.3 Fertilization

The NRCS recommendations state that the use of a hydromulch applicator for fertilization would be ideal, but is not required. If hydromulch is used it will be done in accordance with the following. These requirements come from CDOT standard practices.

Type I Hydromulch Specifications

Spray-on Mulch Blanket (Type 1) shall be a hydraulically applied matrix containing organic fibers, water soluble crosslinked tackifier, and reinforcing biodegradable fibers. The reinforcing fibers shall completely break down (be compostable) and shall not release metals or toxins. Mulch Blanket (Type 1) shall conform to the following:

Table 3- Type I Hydromulch Specifications

Properties	Requirement	Test Method
Organic Fibers	71% Min.	ASTM D2974
Cross linked Tackifiers	10% ± 2% Min.	
Reinforcing Fibers	2.5% Min.	
Biodegradability	100%	ASTM D5338
Ground Cover at Application Rate	90% Min.	ASTM D6567
Functional Longevity	12 Months Min.	
Cure Time	< 8 hours	
Application Rate	3,000 lb/acre	

The organic fiber shall not contain lead paint, printing ink, varnish, petroleum products, seed germination inhibitors, or chlorine bleach. The organic fibers and reinforcing interlocking fibers cannot be produced from sawdust, cardboard, paper, or paper by-products.

Type II Hydromulch Specifications

Spray-on Mulch Blanket (Type 2) shall be a hydraulically applied matrix pre-packaged containing both a soil and fiber stabilizing compound and thermally processed wood fiber. The sterilized weed-free wood fiber mulch shall be manufactured through a thermo-mechanical defibrating process containing a specific range of fiber lengths averaging 0.25 inches or longer. Mulch Blanket (Type 2) shall meet the following requirements:

Table 4A- Type II Hydromulch Specifications

Property	Requirement	Test Method
Fiber Retention On 28-Mesh Screen	≥ 40%	Tyler Ro-Tap Method
Moisture Content	12% ± 2%	Total Air Dry Weight Basis
Organic Matter	99.2% ± 0.2%	Oven Dry Weight Basis
Ash Content	0.8% ± 0.2%	Oven Dry Weight Basis
pH At 3% Consistency In Water	4.5-7.0 ± 0.5%	
Sterilized Weed-Free	Yes	
Non-Toxic To Plant Or Animal Life	Yes	
Application rate	3,000 lb./acre	

The soil and fiber stabilizing compound shall be composed of linear anionic copolymers of acrylamide pre-packed within the bag having a minimum content of 1.0 percent. The compound shall conform to the following:

Table 4B- Type II Hydromulch Specifications

Property	Requirement
Molecular Weight	≥ 12x106
Charge Density	> 25%
Non-Toxic To Plant Or Animal Life	Yes

The NRCS does not recommend any trees or shrubs to be used for reclamation of the mining area.

6.0 EXHIBIT F - Reclamation Plan Map

See Figure 5 for a representation of an acceptable final Reclamation Grade

7.0 EXHIBIT G – Water Information

7.1 Groundwater

The operation is not expected to directly affect groundwater systems. Below is the reasoning used to come to this conclusion.

In the geotechnical engineering report in Appendix A, there is a minimum depth to groundwater of 150 ft. This report was done in 1993 and water levels in the Ogallala aquifer have fallen since then so there still should be a minimum depth to groundwater of 150 feet below the ground surface. There is also bedrock at a minimum depth of 40 feet below the site.

The only potential source of groundwater contamination from the gravel pit is sedimentation in stormwater runoff directly entering the groundwater. It can be assumed that there will be no groundwater contamination from the mining operations since the depth of the water table is sufficient to allow natural filtration of particulates before stormwater runoff encounters the groundwater system.

7.2 Surface Water/Erosion Control

There will be minimal effect on surface water systems the majority of the time since the permeability of the soil is moderately high to high (Ksat=0.2-6 inches/hr) and it is a semi-arid climate (average annual rainfall is 16.7 inches).

The operation may affect surface water systems during heavy rainfall. Stormwater runoff control/sedimentation control detention ponds will be built downslope of mining areas to prevent loose material from the mine site from entering surface water systems. All final grading will be done to prevent erosion.

There will be four sedimentation control detention ponds to collect runoff for any disturbed areas, piled material, or operating surfaces. Stockpiles of soil will be stabilized against erosion in accordance with the mining plan. Figure 6 shows the locations of the proposed sedimentation basins.

7.3 Water Use

Water is not expected to be used unless hydro mulching is done. If Hydromulching is used, reclamation will use about 179,210 gallons of water for hydromulching. This is estimated by assuming a 30.0 acre area to reclaim and water requirement rate from erosion control products information guide from Mat, Inc (Appendix C). This amount of water will be required in bulk as the mining completes.

Water trucks shall provide the water for hydromulching if it is used.

8.0 EXHIBIT H – Wildlife Information

No change from previous permit application.

9.0 EXHIBIT I – Soils Information

No change from previous permit application.

10.0 EXHIBIT J – Vegetation Information

10.1 General Information

No change from previous permit application.

10.2 Site Considerations

No change from previous permit application.

11.0 EXHIBIT K – Climate

No change from previous permit application.

12.0 EXHIBIT L – Reclamation Costs

12.1 Cost of Earthworks for Topsoil

In October 2022, AEC bid out construction of a final cover system for Morgan County landfill. As part of this bid there were estimated costs of placing a protective cover soil. This is a very similar process to what will be done for topsoil placement for reclamation of the gravel pit. Both processes involve placement of a 6-inch thick layer of topsoil that is not compacted and use soils that are in an immediate area. The inflation adjusted average bid cost for the placement of the protective cover soil will be used as the cost of earthworks for the gravel pit. The bid costs are shown in Appendix E.

Cost of Earthworks for topsoil = $5.59/CY

For the cost estimate, it will be assumed that a 30.0 acre area will need to be reclaimed. It will also be assumed that the topsoil layer will be 9 inches thick since it shall be 6-12 inches thick in reality.

Area to be reclaimed = 30.0 Acres

Total volume of soil to be placed= 30.0 acres*9 inches=36,300 CY

Total Cost of earthworks for topsoil = $202,935

12.2 Cost of Earthworks for Backfill

Also, as part of the construction bid there were cost estimates for placement of soils to be compacted. This involved using soils that were already on site and compacting them to 95% of the standard proctor density. This is very similar to the proposed activities for reclaiming the gravel pit so costs should be similar.

Cost of earthworks for backfill = $6.84/CY

Since the amount of backfill material that will be extracted is unknown it will be estimated by assuming that 10% of the weight of gravel extracted will be backfill.

Backfill Volume = Gravel Volume*0.10 = 64,410 cubic yards*0.10 = 6,441 cubic yards.

Total Cost of Backfill = $44,039

12.3 Cost of Seed Mix

Buffalo Brand seed mix, a local seed grower, has provided a quote for the cost of seed mix. It is $16.00/lb (Appendix F). Using 20 lbs per acre seeding rate suggested by the NRCS and assuming 30.0 acres of land to be reclaimed and using the total cost of the seed mix will be $9,600.

12.4 Cost of Seeding

The South Platte Natural Resources Conservation district rent drill seeders at $50/day. It will be assumed that three days of use will be required to drill-seed and that will include a laborer working at $30/hr for 24 hours.

Cost of Seeding Equipment for single day=$50

Total Cost of Seeding Equipment =3 days * $50 =$150

Cost of Seeding Labor for single phase = 24 hrs 30/hr = $720

Total Cost of Seeding=$870

12.5 Cost of Fertilization

For the cost estimate, it is assumed that no fertilization will be done.

12.6 Total Estimated Reclamation Cost

Total Cost=247,694

13.0 EXHIBIT M - Other Permits and Licenses

No change from previous permit application.

14.0 EXHIBIT N - Source of Legal Right to Enter

No change from previous permit application.

15.0 EXHIBIT O – Owner of Affected Land and Substance to be Mined

No change from previous permit application.

16.0 EXHIBIT P - Municipalities Within Two Miles

No change from previous permit application.

17.0 EXHIBIT Q - Proof of Mailing of Notices to Board of County Commissioners and Conservation District

Notices are sent, awaiting response for proof of notice.

18.0 EXHIBIT R - Proof of Filing with County Clerk and Recorder

Proof of filing sent separately.

19.0 EXHIBIT S - Permanent Man-made Structures

There are 2 monitoring wells and a boundary fence associated with the adjacent landfill within 200 feet of the permit area. These structures are owned by Sedgwick County, the permit applicant.

There are no roads, power/communication lines, creeks, buildings, or oil and gas wells and lines in or within 200 feet of the affected area. A map of the permit area is included in Figure 3.

Insert Figures 1-7

Appendix A
Geotechnical Report

Appendix B

NRCS Recommendations

Appendix C
Hydromulch Product Guide