COLORADO
Division of Water Resources
Department of Natural Resources

October 7, 2020

Greg Geras
Asphalt Specialties Co.
10100 Dallas St
Henderson CO 80640

Mr. Peter Wayland
Weiland, Inc.
P.O. Box 18087
Boulder, CO 80308

Re: **Turnpike Mining Resources Substitute Water Supply Plan (WDID 0602547)**
DRMS File No. M-2004-009 (0603016)
Section 31, T 2N, R 68W of the 6th P.M.
Water Division 1, Water District 6, Weld County
SWSP ID: 4644

Approval Period: **March 1, 2020 through December 31, 2020**

Contact Information for Mr. Greg Geras: 303-289-8555 and GregG@asphaltspecialties.com
Contact Information for Mr. Peter Wayland: 303-823-0951 and pwayland@weilandinc.com

Dear Mr. Geras:

This letter is in response to your application of November 18, 2019 requesting a renewal of the above-referenced substitute water supply plan ("SWSP") for a sand and gravel pit operated by Asphalt Specialties Co., Inc. ("Asphalt Specialties" or "Applicant") in accordance with § 37-90-137(11), C.R.S. The required fee of $257.00 for the renewal of this substitute supply plan ("SWSP") has been submitted (receipt no. 3695698). This plan was originally approved in 2006 and expired July 31, 2008. This plan was most recently approved again May 23, 2018.

SWSP Operations

This plan seeks to replace depletions resulting from mining at the Turnpike Mining Resource Gravel Pit ("Turnpike Pit"). Cell 1 has been reclaimed. Cells 2 through 6 will be reclaimed for agricultural purposes. During this SWSP period, depletions will consist of evaporation losses from the exposed ground water, water lost with the mined product, and water used for dust control. Losses from evaporation and mined aggregate will occur due to mining operations in Cell 3. Evaporation losses will occur from the exposed free water surface of the pump basin and the dewatering trench (6 feet wide and 3,000 feet long). The dewatering trench is oriented around the perimeter of the mining slope. Water from the pump basin is pumped via enclosed piping and discharged to Boulder Creek. Mining and backfill operations for Cells 2A and 2B are complete. Losses associated with these cells will be due to evaporation from a wash pond, settling pond, and dust control. Dewatering depletions and accretions are not considered in this SWSP. The proposed replacement of depletions for this site will come from a lease of fully consumable water from the City of Louisville ("City").

In accordance with the letter dated April 30, 2010 (attached) from the Colorado Division of Reclamation, Mining, and Safety ("DRMS"), all sand and gravel mining operators must comply with the requirements of the Colorado Reclamation Act and the Mineral Rules and Regulations for the protection of water resources. The April 30, 2010 letter from DRMS requires that you provide information to DRMS to demonstrate you can replace long-term injurious stream depletions that result from mining related exposure of groundwater. The DRMS letter identifies four approaches to satisfy this requirement.

In accordance with approach nos. 1 and 3, you have indicated that a bond has been obtained for $1,114,000.00 through the DRMS for lining of this site to assure that depletions from groundwater evaporation do not occur in the unforeseen event(s) that would lead to the abandonment of the Pit.

Depletions

The projected depletions for the period of this SWSP consist of net evaporation losses from the exposed groundwater, water lost with the mined product, and water used for dust control. The SWSP anticipates that groundwater will be exposed within Cell 3, Cell 2A, and Cell 2B as shown in Table A below:

Table A: Exposed Surface Area by Cell (Acres)

Cell 3 Pump Basin	Cell 3 Dewatering Trench	Cell 2A	Cell 2B	**Total**
0.25	0.41	2.0	2.0	**4.66**

The Applicant proposes to replace evaporation from exposed groundwater at the site based upon evaporation atlases in NOAA Technical Report NWS 33 and the SEO monthly distribution factors for sites below 6,500 feet, as shown in attached Tables 1 and 2 (attached). Gross annual evaporation at the gravel pit location is estimated to be 39.00 inches per year. Net evaporation is defined as gross evaporation less the consumptive use of water by vegetation that naturally occurred at the site prior to construction of the pit. The historical consumptive use was assumed to be equal to the effective precipitation, which was estimated based on the data from the Longmont South (record 1994-2018) NCWCD weather station. The net evaporation from the exposed water surface is estimated at 28.25 inches per year. Total depletions from evaporation are estimated at 10.96 acre-feet per year (or 2.35 acre-feet per year per acre).

Computation of evaporation under this SWSP was reduced during the ice covered period. It was assumed that the ice covered period will occur during the months of December and January based on average monthly temperatures less than 32°F taken from the Longmont South (record 1994-2016) NCWCD weather station (Table 1, attached). However, for the purpose of this SWSP, the Applicant shall replace the net evaporation depletions from the exposed groundwater surface area that may occur during the assumed ice covered period (the months of December and January) for any time that the pit is not completely covered by ice.

Computation of the net evaporation during any time that the pit is not completely covered by ice shall be determined as the pro-rata amount of the monthly gross evaporation rate distribution amount identified in the State Engineer's *General Guidelines for Substitute Supply Plans for Sand and Gravel Pits*, subtracting the pro-rata amount of the effective precipitation for that period.

In addition to the evaporation, water is lost with the mined product removed from the mine site. The Applicant projected that they will produce 200,000 tons of gravel for each year during the SWSP period. Gravel mined will be in a dewatered state and will be washed therefore the groundwater lost with the mined product during this period is estimated at 4 percent by weight. The water lost with the mined product is projected to total 5.88 acre-feet for each year during the SWSP period, as shown in column (2) of Table 3 (attached).

The total consumptive use at this site is acre-feet during 2020 will be 18.60 acre-feet, which includes 10.96 acre-feet of net evaporative loss, 5.88 acre-feet/year of water lost with the mined product, and 1.76 acre-feet/year of water used for dust control.

The IDS AWAS stream depletion model was used to determine the lagged depletions from evaporation, and operational losses to Boulder Creek. The aquifer characteristics used in the model are as shown in Table B:

Table B: Exposed Surface Area by Cell (Acres)

Cell	Transmissivity (gpd/ft)	Specific Yield	W, distance to boundary (ft)	X, distance to stream (ft)
3	44,883	2.0	3,400	1,65
2A and 2B	44,883	2.0	3,400	3,050

The total lagged depletions for 2020 is equal to 19.77 acre-feet, of which 6.96 acre-feet are associated with Cell 3 and 12.81 acre-feet are associated with the Cells 2A and 2B (Table 4, attached).

Replacements

Out-of-priority depletions associated with the mining operation at this site will be replaced using fully consumable municipal return flows leased from the City of Louisville. A copy of the lease with this City was provided to this office with the SWSP request and is attached to this letter. The current lease is valid for the period of January 1, 2020 through December 31, 2020 therefore the SWSP will expired on December 31, 2020. Louisville will deliver fully consumable water to Coal Creek a tributary to Boulder Creek, at Louisville's discharge point (WDID 0602301) on Coal Creek located in the NW 1/4 of the SE 1/4 of Section 9, Township 1 South, Range 69 West of the 6th P.M. A 15 percent transit loss will be applied to all deliveries as specified in Tables 4 and 5 (attached) subject to modification as determined by the Division engineer.

Conditions of Approval

I hereby approve the proposed SWSP in accordance with § 37-90-137(11), C.R.S. subject to the following conditions:

1. This SWSP shall be valid for the period of March 1, 2020 through December 31, 2020, unless otherwise revoked, or superseded by decree. If this plan will not be made absolute by a water court action by the plan's expiration date, a renewal request must be submitted to this office with the statutory fee (currently $257), with all necessary leases and other supporting documentation, **no later than November 1, 2020.** If a renewal request is received after the expiration date of this plan, it may be considered a request for a new SWSP and the $1,593 filing fee will apply.

2. Well Permit 82220-F has been issued for this pit, and this permit remains valid. The permit covers up to 8 acres of exposed surface area and allows for annual water uses of up to 25.81 acre-feet for evaporation losses, water lost with the mined product, and dust control. Actual depletions cannot exceed these amounts and are limited to those uses specifically approved through this SWSP.

3. The total surface area of the groundwater exposed at the Turnpike Mining Resources site must not exceed the acreage described in Table A.

4. The annual water used for dust control at the Turnpike Mining Resources site shall not exceed 1.76 acre-feet/year. The total product mined at the Turnpike Mining Resources site shall not exceed 200,000 tons per year, which results in 5.88 acre-feet/year of water lost with the mined aggregate.

5. Total consumption at the Turnpike Mining Resources site must not exceed these aforementioned amounts unless an amendment is made to this SWSP.

6. Approval of this SWSP is for the purposes as stated herein. This office must first approve any additional uses for the water. Any future additional historical consumptive use credit given (e.g., agricultural water transfer) for this site must consider all previous credits given.

7. All pumping for dust control shall be measured in a manner acceptable to the Division engineer.

8. The replacement water that is the subject of this SWSP cannot be sold or leased to any other entity. As a condition of subsequent renewals of this SWSP, the replacement water must be appurtenant to this site until a plan for augmentation is obtained. All replacement water must be concurrent with depletions in quantity, timing, and locations.

9. The applicant shall maintain daily records of all diversions, replacements, and the amount of water used for each particular purpose. The applicant shall provide a report of these records to the Division engineer at Div1Accounting@state.co.us and to the District 6 Water Commissioner at Lauren.Berrien@state.co.us. Submitted accounting shall conform to the Administration Protocol *"Augmentation Plan Accounting, Division One – South Platter River"* (attached).

   In addition, **the Applicant** shall verify that the entity making replacements has included the Applicant on their accounting and submitted their accounting to the Division office and the water commissioner. For this SWSP, that entity is the City of Louisville.

10. Conveyance loss for delivery of augmentation water to the point of depletion on the South Platte River is subject to assessment and modification as determined by the Division engineer.

11. The Division engineer, or his designated representative, will administer all such water transported in the South Platte River or its tributaries under this SWSP, including water for replacement of depletions, past intervening headgates to ensure that such water is not intercepted or otherwise diminished in quantity by diversion, use or other interference by intervening water rights and to assure that such water remains available and suitable for Applicant's uses under this SWSP, except when any intervening headgate is diverting the

entire flow of ("sweeping") the river. In the event that delivery past headgates which sweep the river requires the installation of a bypass structure or the use of an existing bypass structure by agreement with a third-party, Applicant is responsible for either installing a new bypass structure with a continuous recording measuring device(s) as approved by the Water Commissioner or securing an agreement with a third-party to use an existing bypass structure and providing such information and agreement to the Division engineer.

12. The Division of Water Resources will not be responsible for any enforcement or administration of third party agreements that are not included in a decree of the water court.

13. The name, mailing address, and phone number of the contact person who will be responsible for operation and accounting of this plan must be provided on the accounting forms to the Division engineer and water commissioner.

14. Dewatering at this site will produce delayed depletions to the stream system. As long as the pit is continuously dewatered at a relatively constant rate, the water returned to the stream system should be adequate to offset the depletions attributable to the dewatering operation. If dewatering at the site ceases, or is significantly reduced, the delayed depletions must be addressed. At least three years prior to completion of dewatering, a plan must be submitted that specifies how the post pumping dewatering depletions (including refilling of the pit) will be replaced, in time, place and amount.

15. **All dewatering activities must be metered with a totalizing flow meter that is recorded and reported on the submitted monthly accounting. In addition, if the dewatering operations have not reached a steady-state rate the Applicant must perform a lag dewatering depletion analysis to show true pumping impacts from dewatering.**

16. In accordance with the letter dated April 30, 2010 (copy attached) from the Colorado Division of Reclamation, Mining, and Safety ("DRMS"), all sand and gravel mining operators must comply with the requirements of the Colorado Reclamation Act and the Mineral Rules and Regulations for the protection of water resources. The April 30, 2010 letter from DRMS requires that you provide information to DRMS to demonstrate you can replace long term injurious stream depletions that result from mining related exposure of groundwater. The DRMS letter identifies four approaches to satisfy this requirement.

    In accordance with approach nos. 1 and 3, you have indicated that a bond has been obtained for $1,114,000.00 through the DRMS for lining of this site to assure that depletions from groundwater evaporation do not occur in the unforeseen event, or events, that would lead to the abandonment of the Pit.

17. All releases of replacement water must be sufficient to cover all out of priority depletions and be made under the direction and/or approval of the water commissioner (including the proposed aggregated replacement for winter depletions).

18. The approval of this SWSP does not relieve the Applicant and/or landowner of the requirement to obtain a Water Court decree approving a permanent plan for augmentation or mitigation to ensure the permanent replacement of all depletions, including long-term evaporation losses and lagged depletions after gravel mining operations have ceased. If reclamation of the mine site will produce a permanent water surface exposing

groundwater to evaporation, an application for a plan for augmentation must be filed with the Division 1 Water Court at least three (3) years prior to the completion of mining to include, but not be limited to, long-term evaporation losses and lagged depletions. If a lined pond results after reclamation, replacement of lagged depletions shall continue until there is no longer an effect on stream flow.

19. The State Engineer may revoke this SWSP or add additional restrictions to its operation if at any time the State Engineer determines that injury to other vested water rights has occurred or will occur as a result of the operation of this SWSP. Should this SWSP expire without renewal or be revoked prior to adjudication of a permanent plan for augmentation, all excavation of the product from below the water table, and all other use of water at the pit, must cease immediately.

20. In accordance with amendments to Section § 25-8-202(7), C.R.S. and "Senate Bill 89-181 Rules and Regulations" adopted on February 4, 1992, the State Engineer shall determine if this substitute water supply plan is of a quality to meet requirements of use to which the senior appropriation receiving the substitute supply has normally been put. As such, water quality data or analyses may be requested at any time to determine if the requirement of use of the senior appropriator is met.

21. The decision of the State Engineer shall have no precedential or evidentiary force, shall not create any presumptions, shift the burden of proof, or serve as a defense in any water court case or any other legal action that may be initiated concerning the SWSP. This decision shall not bind the State Engineer to act in a similar manner in any other applications involving other plans or in any proposed renewal of this plan, and shall not imply concurrence with any findings of fact or conclusions of law contained herein, or with the engineering methodologies used by the Applicant.

If you have any questions concerning this approval, please contact Wenli Dickinson in Denver at (303) 866-3581 x8206 or Michael Hein in Greeley at (970) 352-8712 x1219.

Sincerely,

Joanna Williams for

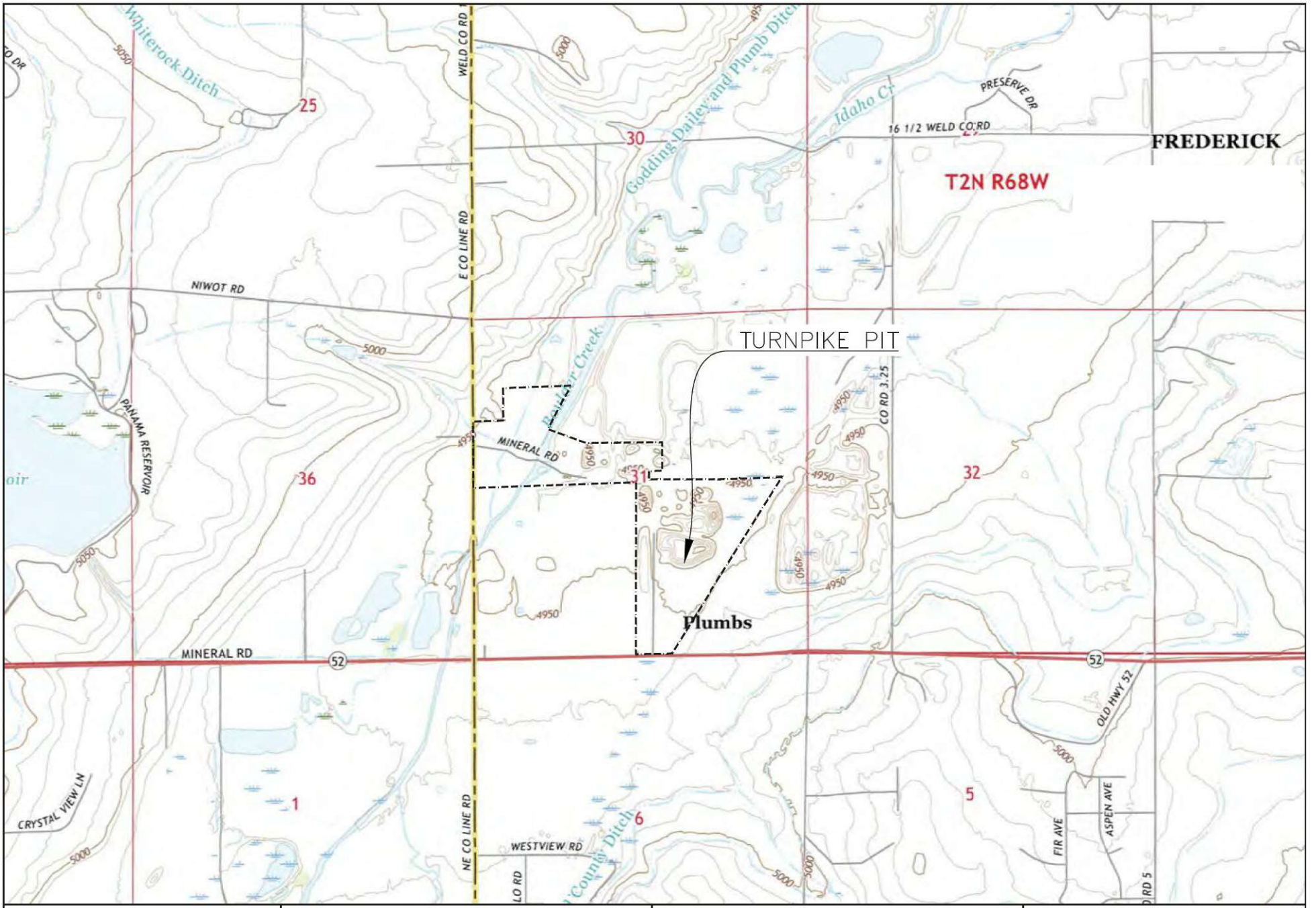
Jeff Deatherage, P.E.
Chief of Water Supply

Attachments: Figures 1, 2-1, 2-2, Tables 1-5, Appendices A-D
City of Louisville Lease
Letter from DRMS dated April 30, 2010
Augmentation Plan Accounting, Division One – South Platte River

cc: Michael Hein, Assistant Division Engineer, Div1Accounting@state.co.us
Lauren Berrien, Water Commissioner District 6, Lauren.Berrien.@state.co.us
Louis Flinck, Tabulations/Diversion Records Coordinator, Louis.Flink@state.co.us
Division of Reclamation Mining and Safety, Peter.Hayes@state.co.us

JD/jmw: Turnpike Mining Resources Approval 2020.docx

FIGURES



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

Asphalt Specialties Co., Inc.
10100 Dallas Street
Henderson, CO 80640
Phone: 303-289-8555

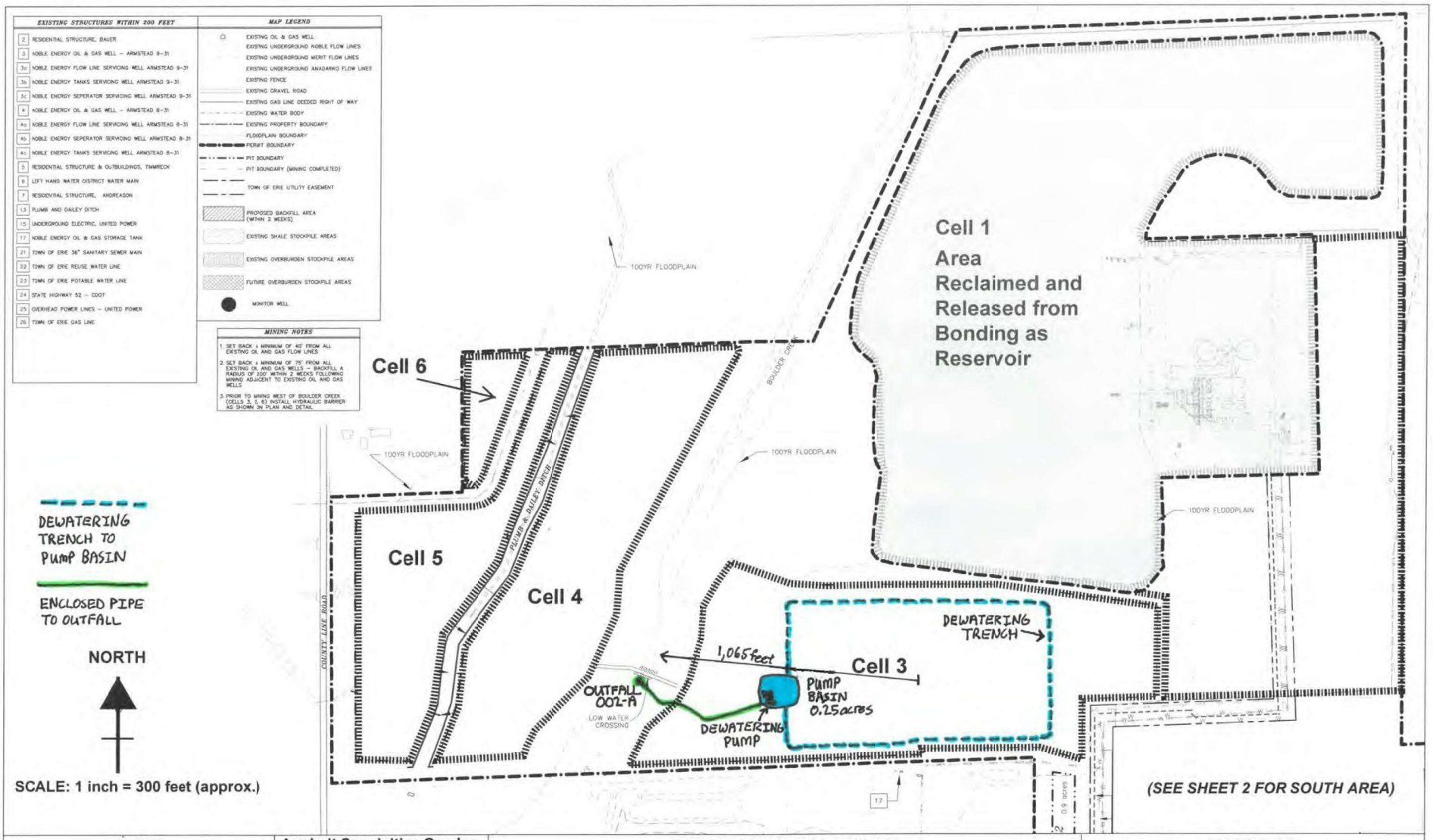
TURNPIKE MINING RESOURCE
TEMP. SUBSTITUTE WATER SUPPLY PLAN
PLAN YEAR 2020

PREPARED FOR: ASPHALT SPECIALTIES CO., INC

FIGURE 1
SITE LOCATION MAP

SCALE	DWG NO.	REV.
1"=2000'	FIGURE 1.DWG	

DRAWN BY:	CHECKED BY:	DATE:	SHEET
GRG	DK	10/24/2019	1 OF 1



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

Asphalt Specialties Co., Inc.
10100 Dallas Street
Henderson, CO 80640
Phone: 303-289-8555
Fax: 303-289-7707

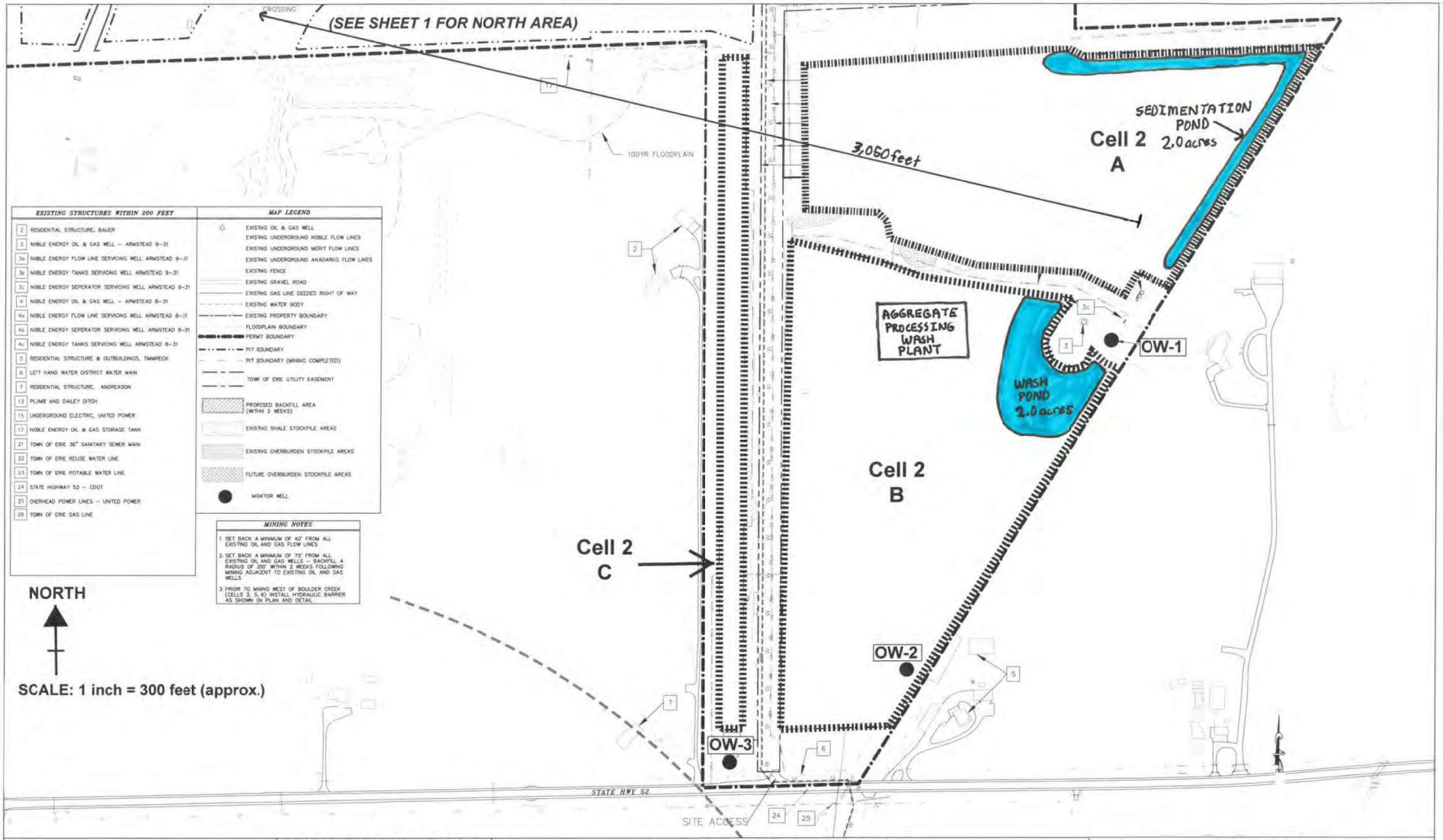
TURNPIKE MINING RESOURCE
TEMPORARY SUBSTITUTE WATER SUPPLY PLAN
PLAN YEAR 2020

PREPARED FOR: ASPHALT SPECIALTIES CO., INC.

FIGURE 2-1
SITE PLAN MAP - NORTH AREA

DRMS PERMIT #: M-2004-009 REV

DRAWN BY: GRG | DATE: 11/1/2019 | SHEET 1 OF 2



REVISIONS			
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Asphalt Specialties Co., Inc.
10100 Dallas Street
Henderson, CO 80640
Phone: 303-289-8555
Fax: 303-289-7707

TURNPIKE MINING RESOURCE
TEMPORARY SUBSTITUTE WATER SUPPLY PLAN
PLAN YEAR 2020

PREPARED FOR: ASPHALT SPECIALTIES CO., INC.

FIGURE 2-2
SITE PLAN MAP - SOUTH AREA

DRMS PERMIT #: M-2004-009

DRAWN BY: GRG | DATE: 11/1/2019 | SHEET 2 OF 2

TABLES

Turnpike Mining Resource **Table 1**
SWSP Plan Year 2020
Mean Climate Data

Month	Mean Tempurature 1994 - 2016[a] [°F]	Mean Precipitation 1994 - 2018[b] [inches]
January	31.29	0.41
February	32.71	0.44
March	41.34	0.88
April	47.47	1.92
May	56.35	2.27
June	66.54	1.30
July	72.13	1.08
August	70.32	1.05
September	62.06	1.40
October	49.94	1.07
November	38.97	0.61
December	30.38	0.40

Notes:

[a] = From DWR: LONGMONT SOUTH Station, NCWCD Data (1-1994 to 5-2016)

[b] = From DWR: LONGMONT SOUTH Station, NCWCD Data (1-1994 to 12-2018)

Turnpike Mining Resource
SWSP Plan Year 2020
Free Water Surface (FWS) Evaporative Water Depletions

Table 2

Cell 3 FWS Sources	FWS Area	Cells 2A & 2B FWS Sources	FWS Area
Pump Basin	0.25 acres	Settling Pond	2.0 acres
Dewatering Trench	0.41 acres	Wash Pond	2.0 acres
Length = 3,000 feet			
Width = 6 feet			

Month - Year	Climate Data					Total FWS Area		FWS Net Evaporation		Total Evaporative Depletions
	(1) Gross FWS Evaporation [inches]	(2) Monthly Evaporation [%]	(3) Mean Precipitation [inches]	(4) Effective Precipitation [inches]	(5) Net Evaporation [inches]	(6) Cell 3 [acre]	(7) Cells 2A & 2B [acre]	(8) Cell 3 [acre-feet]	(9) Cells 2A & 2B [acre-feet]	(10) Sum of Water Evaporated [acre-feet]
January - 2020	*ice*	3.0%	0.41	0.29	0.00	0.66	4.00	0.00	0.00	0.00
February - 2020	39	3.5%	0.44	0.31	1.06	0.66	4.00	0.06	0.35	0.41
March - 2020	39	5.5%	0.88	0.62	1.53	0.66	4.00	0.08	0.51	0.59
April - 2020	39	9.0%	1.92	1.34	2.17	0.66	4.00	0.12	0.72	0.84
May - 2020	39	12.0%	2.27	1.59	3.09	0.66	4.00	0.17	1.03	1.20
June - 2020	39	14.5%	1.30	0.91	4.75	0.66	4.00	0.26	1.58	1.84
July - 2020	39	15.0%	1.08	0.76	5.09	0.66	4.00	0.28	1.70	1.98
August - 2020	39	13.5%	1.05	0.74	4.53	0.66	4.00	0.25	1.51	1.76
September - 2020	39	10.0%	1.40	0.98	2.92	0.66	4.00	0.16	0.97	1.13
October - 2020	39	7.0%	1.07	0.75	1.98	0.66	4.00	0.11	0.66	0.77
November - 2020	39	4.0%	0.61	0.43	1.13	0.66	4.00	0.06	0.38	0.44
December - 2020	*ice*	3.0%	0.40	0.28	0.00	0.66	4.00	0.00	0.00	0.00
TOTALS:		**100.0%**	**12.83**	**8.98**				**1.55**	**9.41**	**10.96**

Notes:

(1) = Gross free water surface evaporation from NOAA Technical Report NWS 33 [*ice* verified by temperature data from LONGMONT SOUTH Station, NCWCD Data (1-1994 to 5-2016)]

(2) = Evaporation monthly distribution for elevations below 6500 feet msl from *General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits*

(3) = Mean Precipitation from LONGMONT SOUTH Station, NCWCD Data (1-1994 to 12-2018)

(4) = Effective Precipitation = 70% Mean Precipitation per *General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits.*
= [Column (3) x 0.7]

(5) = [Column (1) x Column (2)] - Column (4)

(6) = Pump Basin Area + Dewatering Trench Area

(7) = Wash Pond Area + Settling Pond Area

(8) = [Column (5)/12] x Column (6)

(9) = [Column (5)/12] x Column (7)

(10) = [Column (8) + Column (9)]

Turnpike Mining Resource
SWSP Plan Year 2020
Operational Water Depletions

Table 3

Operational Depletion Sources	Amount
Sand & Gravel Aggregate Production (Annual)	200,000 tons
Dust Control	1.76 acre-feet

Month - Year	Cell 3		Cells 2A & 2B	Operational Depletions		Total Operational Depletions
	(1) Monthly Aggregate Mined [tons]	(2) Water Extracted with Aggregate [acre-feet]	(3) Water Used for Dust Control [acre-feet]	(4) Cell 3 [acre-feet]	(5) Cells 2A & 2B [acre-feet]	(6) Sum of Operational Water Used [acre-feet]
January - 2020	10,000.00	0.29	0.08	0.29	0.08	0.37
February - 2020	15,000.00	0.44	0.08	0.44	0.08	0.52
March - 2020	15,000.00	0.44	0.10	0.44	0.10	0.54
April - 2020	18,000.00	0.53	0.14	0.53	0.14	0.67
May - 2020	20,000.00	0.59	0.19	0.59	0.19	0.78
June - 2020	22,000.00	0.65	0.22	0.65	0.22	0.87
July - 2020	22,000.00	0.65	0.22	0.65	0.22	0.87
August - 2020	20,000.00	0.59	0.22	0.59	0.22	0.81
September - 2020	18,000.00	0.53	0.19	0.53	0.19	0.72
October - 2020	15,000.00	0.44	0.14	0.44	0.14	0.58
November - 2020	15,000.00	0.44	0.10	0.44	0.10	0.54
December - 2020	10,000.00	0.29	0.08	0.29	0.08	0.37
TOTALS:	**200,000.00**	**5.88**	**1.76**	**5.88**	**1.76**	**7.64**

Notes:

(1) = Estimated monthly portion of annual sand & gravel production (200,000 tons)

(2) = Water removed with mined product (assumes 4% water by mass per *General Guidelines for Substitute Water Supply Plans for Sand and Gravel Pits)*

= [Column (1) x (0.04) x (2,000 lbs./ton) x (1 ft^3/62.4 lbs.) x (1 acre-ft/43,560 ft^3)]

(3) = Predicted volume of water used for dust control

(4) = Total monthly water used for operations from Cell 3

(5) = Total monthly water used for operations from Cells 2A & 2B

(6) = Total operational water depletions

= [Column (4) + Column (5)]

Turnpike Mining Resource **Table 4**

SWSP Plan Year 2020

Unlagged/Lagged Depletions and Total Replacement Water Required

Location	Depletion Source(s)
Cell 3	Pump Basin & Dewatering Trench (Evaporative Depletions) and Water Extracted with Aggregate Mined (Operational Depletions)
Cell 2A & 2B	Wash Pond & Settling Pond (Evaporative Depletions) and Dust Control (Operational Depletions)

Month - Year	Unlagged Source Depletions		Lagged Source Depletions		Net Water Depletions	Replacement Required
	(1) Cell 3 [acre-feet]	(2) Cell 2A & 2B [acre-feet]	(3) Cell 3 [acre-feet]	(4) Cells 2A & 2B [acre-feet]	(5) Sum of Lagged Source Depletions [acre-feet]	(6) Total Lagged Depletions Plus Transit Loss [acre-feet]
January - 2020	0.29	0.08	0.32	1.26	1.58	1.82
February - 2020	0.50	0.43	0.40	1.08	1.48	1.70
March - 2020	0.53	0.61	0.46	0.94	1.40	1.61
April - 2020	0.65	0.86	0.51	0.86	1.37	1.58
May - 2020	0.76	1.22	0.58	0.84	1.42	1.63
June - 2020	0.91	1.80	0.67	0.87	1.54	1.77
July - 2020	0.93	1.92	0.74	0.97	1.71	1.97
August - 2020	0.84	1.73	0.76	1.12	1.88	2.16
September - 2020	0.69	1.16	0.72	1.23	1.95	2.24
October - 2020	0.55	0.80	0.66	1.27	1.93	2.22
November - 2020	0.50	0.48	0.61	1.23	1.84	2.12
December - 2020	0.29	0.08	0.53	1.14	1.67	1.92
TOTALS:	**7.43**	**11.17**	**6.96**	**12.81**	**19.77**	**22.74**

Notes:

(1) = Depletions from Pump Basin & Dewatering Trench (Evaporative) and Water Extracted with Aggregate Mined (Operational)
= [Table 2 - Column (8)] + [Table 3 - Column (4)]

(2) = Depletions from Wash Pond and Settling Pond (Evaporative) and Dust Control (Operational)
= [Table 2 - Column (9)] + [Table 3 - Column (5)]

(3) = Column (1) Lagged (Real Time) Stream Depletions Using AWAS

(4) = Column (2) Lagged (Real Time) Stream Depletions Using AWAS

(5) = Total Lagged Depletions
= [Column (3) + Column (4)]

(6) = Column (5) plus Transit Loss of 15%
= [Column (5) + (Column (5) x 0.15)]

Turnpike Mining Resource **Table 5**

SWSP Plan Year 2020

ASCI Replacement Water Requirements and City of Louisville Water Lease Allotments

Year	Month	Total Replacement Water Required[1] (acre-feet)	Replacement Water from City of Louisville Lease[2] (acre-feet)	Net Affect on River (acre-feet)
2020	January - 2020	1.82	2.12	0.30
	February - 2020	1.70	2.00	0.30
	March - 2020	1.61	1.91	0.30
	April - 2020	1.58	1.88	0.30
	May - 2020	1.63	1.93	0.30
	June - 2020	1.77	2.07	0.30
	July - 2020	1.97	2.40	0.44
	August - 2020	2.16	2.68	0.52
	September - 2020	2.24	2.78	0.53
	October - 2020	2.22	2.72	0.50
	November - 2020	2.12	2.55	0.43
	December - 2020	1.92	2.30	0.38
TOTALS:		**22.74**	**27.34**	**4.60**

Notes:

[1] = Includes lagged depletions and transit Loss [Table 4 - Column (6)]

[2] = Lease volumes submitted to City of Louisville on 11/7/2019

APPENDIX A
DWR TEMPERATURE & PRECIPITATION DATA

Data Type: Mean Temperature (degrees Fahrenheit [°F])
Station ID: 103
Station Name: LONGMONT SOUTH
Data Source: NCWCD
Data Range: 1-1994 to 5-2016

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
January	32.18	30.5	25.97	27.4	33	35	33.27	30.02	30.21	36.75
February	28.95	35.6	34.72	31.2	34.51	39.21	38.94	29.3	33.41	29.28
March	42.73	39.67	36.58	42.39	37.57	43.25	40.88	39.85	34.34	42.08
April	46.61	43.31	48.69	42.15	46.28	43.77	49.99	49.05	50.27	50.18
May	59.78	49.81	58.23	57.01	59.43	54.96	60.04	56.33	55.2	56.46
June	70.57	61.24	67.37	66.47	62.46	65.01	66.62	68.18	69.72	62.67
July	69.77	69.22	70.72	71.21	72.26	73.32	73.9	74	75.71	74.08
August	70.63	72.41	68.47	69.55	70.23	69.52	71.37	70.35	69.61	71.24
September	63.27	59.37	59.53	63.97	65.98	57.91	62.11	63.32	62.52	58.25
October	49.22	49.21	50.44	49.82	49.77	50.39	49.22	50.24	43.85	54.04
November	34.66	42.35	36.71	35.38	42.57	44.48	30.18	40.83	37.39	36.16
December	32.15	33.87	34.38	31.25	28.28	35.39	28.19	32.35	34.03	31.96

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
January	31.37	32.66	38.16	21.62	27.43	35.01	29.14	29.6	36.93	30.78
February	31.61	36.94	31.09	29.8	34.02	36.73	27.98	28.63	30.43	30.38
March	46.53	40.27	38.26	45.97	39.87	41.45	41.21	43.3	49.35	39.33
April	46.95	47.39	51.81	46.33	45.94	45.79	47.43	48.37	53.77	42.68
May	58.2	56.68	59.33	56.85	55.63	58.32	52.88	53.06	59.32	58
June	61.43	65.04	70.39	66.85	65.41	63.53	67.11	67.07	73.33	69.78
July	68.93	73.56	73.85	73.71	72.96	68.98	71.31	74.42	76.04	72.06
August	65.83	68.85	69.81	72.15	68	68.12	71.32	74.23	72.93	71.75
September	60.6	63.43	56.85	63.23	59.57	60.97	63.18	62.57	65.01	63.89
October	50.03	51.13	48.64	52.18	49.88	42.11	53.57	51.36	48.94	46.07
November	37.82	42.65	39.64	40.95	42.08	41.09	37.76	39.49	41.98	39.7
December	34.42	30.71	30.62	24.84	26.7	22.46	34.2	26.32	30.61	27.42

Year	2014	2015	2016
January	29.07	33.62	29.98
February	28.22	33.67	37.78
March	40.25	44.6	40.99
April	48.59	48.43	47.95
May	55.92	52.19	52.34
June	64.91	68.65	--
July	65.41	71.43	--
August	68.76	71.82	--
September	63.21	66.62	--
October	54.1	54.54	--
November	35.56	37.84	--
December	29.37	28.91	--

Month	MIN (°F)	MAX (°F)	MEAN (°F)
January	**21.62**	**38.16**	**31.29**
February	**27.98**	**39.21**	**32.71**
March	**34.34**	**49.35**	**41.34**
April	**42.15**	**53.77**	**47.47**
May	**49.81**	**60.04**	**56.35**
June	**61.24**	**73.33**	**66.54**
July	**65.41**	**76.04**	**72.13**
August	**65.83**	**74.23**	**70.32**
September	**56.85**	**66.62**	**62.06**
October	**42.11**	**54.54**	**49.94**
November	**30.18**	**44.48**	**38.97**
December	**22.46**	**35.39**	**30.38**

Data Type: Mean Precipitation (inches [in])
Station ID: 103
Station Name: LONGMONT SOUTH
Data Source: NCWCD
Data Range: 1-1994 to 12-2018

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
January	0.43	0.28	1.1	0.48	0.11	0.25	0.24	0.53	0.62	0.01
February	0.61	0.62	0.13	0.71	0.22	0.06	0.21	0.36	0.38	0.53
March	0.76	0.57	1.18	0.44	1.45	0.56	1.07	1.24	0.57	1.65
April	2.29	2.21	0.58	3.23	2.47	5.1	0.67	2.08	0.18	1.76
May	0.61	6.07	2.72	1.16	0.73	1.18	1.8	2.6	2.16	1.92
June	1.23	3.71	1.76	3.04	0.75	0.49	0.68	0.68	0.94	2.28
July	0.37	0.29	2.06	1.21	0.82	2.12	1.15	1.02	0.04	0.32
August	0.91	0.47	0.63	2.14	0.96	1.08	0.69	0.56	0.6	2.71
September	0.71	1.2	3.52	1	0.25	1.39	1.58	0.21	0.97	0.32
October	1.46	0.13	0.39	1.25	1.07	0.65	0.48	0.15	1.04	0.03
November	1.51	0.55	0.62	0.68	0.68	0.62	0.56	0.59	0.5	0.63
December	0.28	0.07	0.18	0.38	0.66	0.33	0.28	0.2	0.03	0.36

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
January	0.62	0.84	0.21	0.54	0.05	0.16	0.34	0.26	0.15	0.16
February	0.43	0.21	0.22	0.34	0.27	0.13	0.75	0.43	0.72	0.62
March	0.31	1.14	0.98	1.42	0.72	0.76	1.16	0.19	0	0.77
April	3	2.13	0.42	1.65	0.45	2.79	2.93	1.88	0.95	2.3
May	1.1	1.54	0.6	1.26	2.07	1.86	1.61	3.95	1.55	1.76
June	2.53	2.49	0.21	0.22	1.21	1.93	1.72	0.79	0.28	0.33
July	2.2	0.49	2.24	0.53	0	1.3	1.06	2.28	1.57	0.66
August	2.17	1.66	0.67	1.31	2.24	0.09	0.65	0.41	0.11	1.24
September	2.27	0.32	0.65	2.07	1.52	0.38	0.1	1.49	1.13	8.88
October	0.8	2.4	2.39	1.22	0.32	1.69	0.82	1.36	0.99	1.19
November	1.13	0.21	0.46	0.26	0.32	0.64	0.54	0.39	0.34	0.21
December	0.16	0.22	0.99	1.02	0.51	0.94	0.27	0.71	0.17	0.27

Year	2014	2015	2016	2017	2018
January	1.01	0.23	0.39	0.91	0.32
February	0.28	1.33	0.66	0.25	0.61
March	0.98	0.32	1.53	0.87	1.47
April	0.99	3.24	2.09	1.61	0.92
May	2.01	6.28	0.61	4.79	4.81
June	0.47	1.12	--	0.12	2.28
July	0.93	0.82	--	0.23	2.15
August	0.72	0.66	--	1.39	1.24
September	1.27	0.09	--	1.66	0.59
October	0.84	1.91	--	1.83	1.16
November	0.55	1.75	--	0.45	0.55
December	0.56	0.73	--	0.28	0.1

Month	MIN (in)	MAX (in)	MEAN (in)
January	**0.01**	**1.10**	**0.41**
February	**0.06**	**1.33**	**0.44**
March	**0.00**	**1.65**	**0.88**
April	**0.18**	**5.10**	**1.92**
May	**0.60**	**6.28**	**2.27**
June	**0.12**	**3.71**	**1.30**
July	**0.00**	**2.28**	**1.08**
August	**0.09**	**2.71**	**1.05**
September	**0.09**	**8.88**	**1.40**
October	**0.03**	**2.40**	**1.07**
November	**0.21**	**1.75**	**0.61**
December	**0.03**	**1.02**	**0.40**

APPENDIX B
IDS AWAS MODEL INPUTS AND OUTPUTS

Turnpike Mining Resource **Appendix B**
SWSP 2020
IDS AWAS Model Inputs and Outputs

Model Parameters

(1) Well Name	(2) Boundary Condition	(3) W to Boundary [ft]	(4) Transmissivity [gpd/ft]	(5) Specific Yield	(6) Distance to Well [ft]
Cell 3	Alluvial Aquifer	3,400	44,883	0.2	1,065
Cell 2A & 2B	Alluvial Aquifer	3,400	44,883	0.2	3,050

Notes:
(1) Well Name: Modeled Depletion Category
(2) Type of Aquifer: Alluvial with Boundary
(3) Distance from the River to the Boundary of the Gravel Deposit
(4) Transmissivity Value Based on SEO Recommended Value
(5) Specific Yield Based on SEO Recommended Value
(6) Distance from the Well to the Boulder Creek
ft = feet
gpd = gallons per day

Cell 3	Model Inputs		Model Outputs		
Month - Year	Pumping Rate [gpm]	Time On [month]	Dep. Rate (cfs)	Vol. of Dep. [acre-feet]	Vol. of Dep. This Step [acre-feet]
January - 2020	2.19	1.0	0.0058	19.65	0.32
February - 2020	3.72	1.0	0.0073	20.05	0.40
March - 2020	3.91	1.0	0.0079	20.51	0.46
April - 2020	4.83	1.0	0.009	21.02	0.51
May - 2020	5.64	1.0	0.0102	21.61	0.58
June - 2020	6.76	1.0	0.0118	22.27	0.67
July - 2020	6.90	1.0	0.0126	23.01	0.74
August - 2020	6.23	1.0	0.0125	23.77	0.76
September - 2020	5.14	1.0	0.0116	24.50	0.72
October - 2020	4.09	1.0	0.0104	25.16	0.66
November - 2020	3.75	1.0	0.0097	25.76	0.61
December - 2020	2.19	1.0	0.0079	26.29	0.53

Notes:
cfs = cubic foot per second
gpm = gallons per minute

Cell 2A & 2B	Model Inputs		Model Outputs		
Month - Year	Pumping Rate [gpm]	Time On [month]	Dep. Rate (cfs)	Vol. of Dep. [acre-feet]	Vol. of Dep. This Step [acre-feet]
January - 2020	0.60	1.0	0.0194	29.83	1.26
February - 2020	3.22	1.0	0.0166	30.91	1.08
March - 2020	4.54	1.0	0.0148	31.85	0.94
April - 2020	6.41	1.0	0.0139	32.71	0.86
May - 2020	9.08	1.0	0.014	33.55	0.84
June - 2020	13.40	1.0	0.0151	34.42	0.87
July - 2020	14.27	1.0	0.0173	35.39	0.97
August - 2020	12.87	1.0	0.0196	36.51	1.12
September - 2020	8.65	1.0	0.021	37.74	1.23
October - 2020	5.95	1.0	0.021	39.01	1.27
November - 2020	3.55	1.0	0.0198	40.25	1.23
December - 2020	0.60	1.0	0.0177	41.38	1.14

Notes:
cfs = cubic foot per second
gpm = gallons per minute

APPENDIX C
CITY OF LOUISVILLE WATER LEASE

Appendix C – 2020 Water Lease with City of Louisville to be provided once finalized.

APPENDIX D
EXAMPLE MONTHLY WATER ACCOUNTING WORKSHEET

TURNPIKE MINING RESOURCE - EXAMPLE MONTHLY WATER ACCOUNTING WORKSHEET 2020

DRMS PERMIT NO. M-2004-009 WDID NO. 0602547

CONTACT: Greg Geras, Land Resource Manager for Asphalt Specialties Co., Inc. 10100 Dallas St., Henderson, CO 80640

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Month	Monthly Fraction of Evaporation	Gross Free Surface Evaporation	Mean Rainfall	Effective Rainfall	Monthly Net Unit Evap.	Predicted Free Water Surface Area	Observed Free Water Surface Area	Monthly Net Volumetric Evap.	Predicted Monthly Gravel Extraction	Actual Monthly Gravel Extraction	Volume of Water Extracted	Volume of Water Used for Dust Control	Total Unlagged Depletions	Total Lagged Depletions	Total Replacement Requirement	Actual Delivery by Louisville	Net Effect on River
	[%]	[in.]	[in.]	[in.]	[in.]	[acre]	[acre]	[acre-ft.]	[tons]	[tons]	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]	[acre-ft.]
January	3.00%	39.00	0.41	0.29	0.00	4.66	*4.66*	0.00	10,000.00	*10,000.00*	0.29	0.08	0.37	1.58	1.82	2.12	0.30
February	3.50%	39.00	0.44	0.31	1.06	4.66	*4.66*	0.41	15,000.00	*15,000.00*	0.44	0.08	0.93	1.48	1.70	2.00	0.30
March	5.50%	39.00	0.88	0.62	1.53	4.66	*4.66*	0.59	15,000.00	*15,000.00*	0.44	0.10	1.14	1.40	1.61	1.91	0.30
April	9.00%	39.00	1.92	1.34	2.17	4.66			18,000.00								
May	12.00%	39.00	2.27	1.59	3.09	4.66			20,000.00								
June	14.50%	39.00	1.30	0.91	4.75	4.66			22,000.00								
July	15.00%	39.00	1.08	0.76	5.09	4.66			22,000.00								
August	13.50%	39.00	1.05	0.74	4.53	4.66			20,000.00								
September	10.00%	39.00	1.40	0.98	2.92	4.66			18,000.00								
October	7.00%	39.00	1.07	0.75	1.98	4.66			15,000.00								
November	4.00%	39.00	0.61	0.43	1.13	4.66			15,000.00								
December	3.00%	39.00	0.40	0.28	0.00	4.66			10,000.00								
TOTALS	100.00%		12.83	8.98	28.25			1.00	200,000.00	*40,000.00*	*1.18*	0.26	2.44	4.46	5.13	6.03	0.90

Notes:

(1) = Monthly fraction of evaporation for elevations below 6500 ft per SEO guidelines

(2) = Gross free water surface evaporation from NOAA Technical Report NWS 33

(3) = Mean Rainfall

(4) = Effective Rainfall = 70% Mean Rainfall

(5) = [Column (1) x Column (2)] - Column (4)

(6) = Predicted total free water surface area

(7) = *Observed free water surface area*

(8) = [Column (5)/12] x Column (7)

(9) = Predicted Gravel Extraction

(10) = *Actual Gravel Extraction*

(11) = Column (10) x (2000 lbs/ton) x (0.04) x (1/62.4 ft^3/lbs) x (1/43,560 acre-ft/ft^3)

(12) = Volume of water used for Dust Control

(13) = Column (8) + Column (11) + Column (12)

(14) = Column (13) Lagged with IDS AWAS

(15) = Replacement Requirement = Column (14) + [Column (14) x 0.15]

Transit Loss = 15%

(16) = Actual water delivery made by City of Louisville

(17) = Column (17) - Column (16)

Positive Value = Stream Accretion

City of Louisville | Department of Public Works
COLORADO · SINCE 1882

January 21, 2020

[via email]

Daniel W. Hunt, President
Asphalt Specialties Co., Inc.
10100 Dallas St.
Henderson, CO. 80640

Subject: Annual Lease of Reuse Water for Turnpike Mining Resource, DRMS Permit No. M-2004-009, Located in Weld County, Colorado

Dear Mr. Hunt:

This is to confirm our arrangement (this "Agreement") regarding the lease of fully consumable, reusable water ("Leased Water") discharged to Coal Creek or alternate points in the Boulder Creek Basin by the City of Louisville (the "City") to be used by Asphalt Specialties Co., Inc. ("Lessee"), sometimes hereafter referred to as "Party" in the singular or "Parties" in the plural.

BACKGROUND

Pursuant to the terms and conditions of the decree entered in Case No. 92CW079, District Court, Water Division No. 1 (the "Decree"), the City can make additional and successive uses of its municipal return flow credits from the fully consumable portion of the City's decreed water rights upon approval by the Office of the State Engineer ("SEO") prior to implementation.

To obtain the necessary approval from the SEO for the Leased Water to be used by Lessee, the City submitted its request for a Substitute Water Supply Plan ("SWSP") pursuant to C.R.S. § 37-92-308(5) on January 14, 2020 ("City SWSP"). The requested period of operation for the City SWSP is January 1, 2020 through January 1, 2021.

Lessee intends to use the Leased Water for the purpose of replacing depletions to Boulder Creek in the amounts calculated in the SWSP for mining activities at the Turnpike Mining Resource - Colorado Division of Reclamation, Mining, and Safety (DRMS) Permit #: M-2004-009. Lessee filed with the SEO a request to renew its SWSP pursuant to C.R.S. § 37-92-308(5) on November 18, 2019 ("Lessee SWSP"). The requested period of operation for the Lessee SWSP is January 1, 2020 through December 31, 2020.

For and in consideration of the covenants provided for in this Agreement, the parties agree as follows:

1) Term of Lease. Subject to SEO approvals described in paragraph 7, below, this Agreement shall be effective for a 12-month period beginning on January 1, 2020 and ending on December 31, 2020.

2) Good Faith Negotiations. The Parties hereto desire to discuss satisfactory terms to make fully consumable, reusable water available to Lessee in future years and hereby agree to negotiate in good faith to enter into future annual lease agreements, subject to and in accordance with C.R.S. § 37-92-308.

3) Lease Price. Payment for the lease is $500 per acre-foot (AF) during the term of this lease. The Replacement Schedule (as provided by Lessee) is attached showing the delivery schedule of reuse water to be released by the City. Payment shall be due and owing to the City upon execution of this letter for the lease of reusable water during the term of this lease. The cost for the term of the lease has been calculated to be $13,670.00.

4) Delivery of Water. The City will deliver fully consumable, reusable water into the Boulder Creek Basin at Louisville's discharge point on Coal Creek, or at other points in the Boulder Creek Basin designated by the City and acceptable to the District 6 Water Commissioner to meet the requested needs of Lessee, per the Replacement Schedule, attached. Notwithstanding any other provision in this Agreement, the City's obligation to provide Leased Water to Lessee is expressly conditioned on the legal and physical availability of reuse water under the City's decrees and water rights and shall be subordinate to the City's water needs.

5) The fully consumable, reusable water can be provided from any of the City's decreed water rights that contain fully consumable and reusable credits. Monthly deliveries will be accounted for daily during the irrigation season and on the last day(s) of the month during the non-irrigation season. Deliveries will be made in hundredths (0.00) of an acre-foot increment. The City will provide the Lessee with monthly accounting for the reuse water delivered to the system on behalf of the Lessee. Lessee is solely responsible for meeting the terms, conditions and reporting requirements of the Lessee SWSP.

6) Lessee is responsible for calculating transit losses, including transit losses in the replacement schedule and for assuring delivery of the reuse water to the required point of return.

7) State Engineer Approval. The Parties expressly acknowledge that SEO approval pursuant to section 37-92-308, C.R.S. is necessary to put the Leased Water to the intended use. Use of the Leased Water under this Agreement is expressly conditioned on SEO approval of the City SWSP and the Lessee SWSP. All terms and conditions of SEO approved SWSPs shall be incorporated into this Agreement.

   a. The City is responsible for obtaining the approvals necessary to lease its fully consumable effluent under the terms and conditions of the Decree. All expenses associated with such approval(s), including engineering, legal and filing fees associated with the City SWSP, will be the sole responsibility of the Lessee and Lessee agrees to reimburse the City for such expenses actually incurred by the City. The City will provide Lessee with a copy of any approvals.

b. Lessee is responsible for obtaining any approvals necessary for Lessee's proposed use of the Leased Water. All expenses associated with such approval(s) will be the sole responsibility of the Lessee. All such approvals shall be done in such a manner that they will not burden the City's use of the reuse water after the end of the lease term or in the event of Lessee's breach of this Agreement. No such plan or approval sought by Lessee for use of the Leased Water may involve a change or review of the City's water rights in Water Court. The City will cooperate with Lessee to obtain any such approvals, at no cost to the City. Lessee will provide the City with a copy of any approvals.

8) Notices. All required notices shall be in writing and shall be deemed given to a Party when a copy thereof, addressed to such Party is provided herein, is actually received, by personal delivery, certified mail, commercial courier or a successful facsimile transmission at the address or facsimile number of such Party provided below. All notices to Lessee shall be address to Lessee at the following address and facsimile number or such other addresses or facsimile numbers which Lessee provides to the City:

Daniel W. Hunt, President
Asphalt Specialties Co., Inc.
10100 Dallas St.
Henderson, CO 80640
Telephone: (303) 289-8555
Facsimile: (303) 289-7707

All notices to the City shall be addressed to the following physical or email address or such other addresses or facsimile numbers which the City provides to Lessee:

City of Louisville
c/o Cory Peterson
749 Main Street
Louisville, CO 80027
Telephone: (303) 335-4610
Email: cpeterson@louisvilleco.gov

9) Warranties and Cooperation. The City makes no warranties as to quality of the reuse water. If, through no fault of the City, reuse water cannot physically or legally be delivered as provided in this Agreement, Lessee's sole remedy shall be to either cancel this Agreement and receive a refund for water not delivered or receive a prorated refund for future undeliverable water in proportion to the amount of water physically and legally unavailable. This Agreement does not preclude the City from entering into other reuse water lease agreements.

10) Assignment. Neither Party may assign this Agreement without the prior written approval of the other Party hereto, which approval shall not be unreasonably withheld.

11) Binding Effect. The agreements and obligations contained herein shall extend to, bind and inure to the benefit of the Parties hereto, as well as their respective successors and assigns.

12) Entire Agreement. This Agreement constitutes the entire agreement between the Parties pertaining to the subject matter contained herein and supersedes all prior agreements, representations and understandings of the Parties. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by the Parties hereto. No waiver of any of the provisions of this Agreement shall be deemed, or shall constitute, a waiver of any other provision, whether or not similar, nor shall any waiver constitute a continuing waiver.

13) Responsibility for Use and Indemnification. Lessee shall bear all responsibility for its use of the Leased Water upon the City's delivery of the Leased Water under this Agreement, together with all costs associated with that use. Lessee agrees to and shall indemnify, defend, save and hold harmless the City and its officers, employees and agents, against any and all claims, damages, liability and court awards including costs, expenses and attorney's fees, arising from Lessee's use of the Leased Water.

14) Governmental Immunity. No terms or conditions of this Agreement shall be construed or interpreted as a waiver, either expressed or implied, of the monetary limitations on liability or any of the immunities, rights, benefits or protections provided to the City under the Colorado Governmental Immunity Act, 5 24-1,0-101, *et seq*. C.R.S., as it shall be amended from time to time.

15) Attorney Fees. In the event of litigation or other dispute resolution process arising out of this Agreement the prevailing party shall be awarded its costs and expenses including attorneys' fees.

Agreed to as of the 18 day of September, 2020.

The City
Cory Peterson, Water Resources Engineer
City of Louisville

Lessee
Daniel W. Hunt, President
Asphalt Specialties Co., Inc.

Attachment: Replacement Schedule

ASPHALT SPECIALTIES CO., INC.
REPLACEMENT SCHEDULE
January 2020 – December 2020

Turnpike Mining Resource (DRMS Permit No. M-2004-009)
Located in Weld County, Colorado

Month	Required Deliveries (including 15% Transit Loss) [acre-ft]	Price per acre-foot [dollars]	Total Price [$]
January – 2020	2.12	$500.00	$1,060.00
February – 2020	2.00	$500.00	$1,000.00
March – 2020	1.91	$500.00	$955.00
April - 2020	1.88	$500.00	$940.00
May – 2020	1.93	$500.00	$965.00
June – 2020	2.07	$500.00	$1,035.00
July – 2020	2.40	$500.00	$1,200.00
August – 2020	2.68	$500.00	$1,340.00
September – 2020	2.78	$500.00	$1,390.00
October – 2020	2.72	$500.00	$1,360.00
November – 2020	2.55	$500.00	$1,275.00
December – 2020	2.30	$500.00	$1,150.00
TOTAL	**27.34 AF**		**$13,670.00**

NOTES:
(1) Replacement Schedule provided by Asphalt Specialties Co., Inc.
(2) Amounts returned are in hundredth of a unit (0.00) - AF or cfs.
(3) Required Deliveries is the total amount to be returned and includes transit losses and all other required amounts.

April 30, 2010

Permittee Address

RE: Mining Operations with Exposed Ground water

To Whom It May Concern:

The Division of Reclamation Mining and Safety is responsible for ensuring that Sand and Gravel mining operators comply with the requirements of the Colorado Land Reclamation Act for the Extraction of Construction Materials (Act) and the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials (Rules). Among these requirements are provisions for the protection of water resources. The Act requires that reclamation plans must ensure minimization of disturbances to the prevailing hydrologic balance, including disturbances to the quantity of water in the area affected by mining and in the surrounding areas. § 34-32.5-116(4)(h). Rule 3.1.6(1)(a) requires compliance with Colorado water laws and regulations governing injury to existing water rights both during and after mining. Permits must specify how the permittee will comply with applicable Colorado water laws and regulations governing injury to existing water right rights. Rule 6.3.3(j); Rule 6.4.5(2)(c). After an extensive review, the Division determined that several operators may not have appropriate permit conditions to address certain reclamation liabilities arising from impacts to water resources.

In September 2009 the Division of Water Resources (DWR) updated its Guidelines for Sand and Gravel Pits. These guidelines provide guidance on achieving compliance with state law regarding replacement of depletions from sand and gravel mining, thus the guidelines provide a benchmark for the protection of hydrologic balance required under the Act and Rules. As noted in the Guidelines, sand and gravel operations which expose groundwater without complying with state law create a reclamation liability by impacting available groundwater.

State law requires that any person exposing ground water must obtain a well permit from the SEO pursuant to § 37-90-137(11). Because exposed groundwater results in out-of-priority water depletions, operations which expose ground water must also eventually obtain a water-court approved augmentation plan. Currently, several operators do not have either an augmentation plan or bonding to provide an alternative method to mitigate injurious stream depletions that result from mining-related exposure of ground water. The Division has a statutory duty to ensure that lands affected by mining are reclaimed in a manner that complies with state law and to ensure that operators have sufficient bonding to achieve reclamation. In order to assist operators in achieving compliance with these requirements, the Division proposes that, by April 30, 2011, operators should contact the Division and agree upon a plan for achieving compliance.

The Division has identified four approaches for operators:

1. File a financial warranty that will ensure backfilling of the pit to cover the exposed ground water to a depth of two feet above the static ground water level or,

2. Obtain a court approved augmentation plan prior to exposing ground water or,

3. File a financial warranty to cover the cost of installing a clay liner or slurry wall that meets the Division of Water Resources requirements for preventing ground water exposure or,

4. Obtain approval from the Division of Water Resources that acknowledges compliance with the SEO's requirements pursuant to § 37-90-137(11).

The Division will work with operators on an individual basis as they move to implement one of these plans. It is likely that options 1 and 3 will require the submittal of a technical revision or an amendment to the existing permit depending on the nature of the current mining and reclamation plan and the proposed changes. Increased financial warranties, as a result of these modifications, may be posted in a phased manner not to exceed three years. Amendments or revisions currently under review will be required to be approved by April 30, 2011 and may use the phased financial warranty approach described above. New applications going forward or presently under review by the Division will be required to meet the requirements of one of the options 1-4 at the time of application approval. Failure of affected operators to initiate contact with the Division and gain compliance as described above could result in an enforcement action being issued by the Division.

If you have any questions, please contact Tony Waldron at 303-866-3567, extension 8150.

cc: Permit Id Site Name

ADMINISTRATION PROTOCOL
Augmentation Plan Accounting
Division One – South Platte River

This protocol establishes the accounting and reporting process required to enable the division engineer's office to confirm that depletions from all out-of-priority diversions are being replaced so as to prevent injury to vested water rights. The accounting must comport with established "cradle to grave" accounting standards, which allow an audit of the information to track exactly how the data is manipulated as it is translated from raw input data to the resultant impact on the river. While this protocol is subordinate to any decreed language addressing specific accounting requirements, it generally addresses the minimum requirements of such accounting.

The accounting must use the standard convention where a depletion is "negative" and an accretion or other replacement source is "positive". The sum of the impacts will then result in either a "negative" or "positive" impact on the stream.

Wells in plans that have a negative stream impact must provide additional replacement water, curtail pumping or both until the impact is no longer negative. Plans with a negative stream impact that fail to curtail pumping will be ordered to stop pumping until such time as the projected impact of the wells is no longer negative.

1. Accounting must be submitted electronically to the water commissioner (call 970-352-8712 to obtain email address) and division engineer at Div1Accounting@state.co.us within 30 days of the end of the month for which the accounting is being submitted.
2. The accounting must provide the **contact information** including name and address for:
    a. the owner(s) of each well
    b. the person responsible for submitting the accounting
    c. the plan administrator and/or the plan attorney.
3. All **input data** must be in one location, such as an "Input" worksheet, etc. The accounting must show all pumping. Input data includes the information listed below.
    a. The required input data for each **well** is:
        i. the monthly meter reading for wells that use a **presumptive depletion factor** (PDF) to determine the associated consumptive use (CU); or
        ii. the monthly CU in acre-feet (AF) for wells that have a decree or approved SWSP that allows the wells to use a **water balance methodology** to determine the CU of the well. The analysis used to determine the CU must be included with the accounting.
        iii. Wells that are decreed as an **alternate point of diversion** (APOD) to a surface water right must report pumping on a daily basis if any of the diversion during the month is claimed as being "in priority". (See *Administration Protocol – APOD Wells* for more details.)

iv. The well meter serial readings for each meter shall be included if there is more than one meter on a well.

b. Each **recharge site** must comply with the *Administration Protocol - Recharge* and must report the:

i. daily volume in AF diverted into the site;

ii. monthly volume in AF released from the site;

iii. monthly net evaporative loss in AF;

iv. volume of water in AF remaining at the end of the month.

c. The accounting must identify each source of **fully consumable replacement water** actually delivered to the location impacted by the depletions. To demonstrate the water was actually delivered to the required location will require the following information:

i. the originating source of the water, date released and volume of water released;

ii. transportation losses to point of diversion or use, if any, using stream loss factors approved by the water commissioner;

iii. the volume of water actually delivered on a daily basis past any surface water diversion that was sweeping the river as corroborated by the water commissioner.

(See *Administration Protocol – Delivery of Water* for more details on delivering water.)

d. For each source of **replacement water that has been "changed"** for use as a source of augmentation, such as changed reservoir shares, ditch bypass credits or credits from dry-up, etc., the following input information must be reported:

i. the basis and volume of the return flow obligation;

ii. the location the changed water was historically used; this will be the location used to determine the timing of the return flow impact on the river.

4. The accounting must include a monthly **projection** of the plan's operation at least through March 31 of the next calendar year.

5. The accounting must include all input and output files associated with **modeling the delayed impact** of diversions. The output from the modeling must report to a summary table that shows, by month, the ongoing depletions associated with pumping, return flow obligations, etc. and accretions from recharge operations.

6. A **net impact** summary must show the out-of-priority depletions, accretions from each recharge site, volume of replacement water actually delivered to the location of the depletions and the resultant net impact on **a daily basis**. If necessary, the net impact must be done by river reach.

   While **modeling** may use a **monthly step function** to determine the depletions from pumping and accretions from recharge, the monthly result must then be **divided by the number of days in the month** in order to **simulate a daily impact**, as water rights are administered on a daily and not monthly basis.

Replacement water must be provided such that the **daily net impact** (using the simulated daily numbers from the modeling) **is not negative**. If a well is out-of-priority for 15 days during a month, replacement must be made only for the 15 days the well is out-of-priority. The replacement must be made, however, on a daily basis as opposed to, for instance, making an aggregated release equal to the volume of the out-of-priority depletions. Likewise, the simulated daily accretion will only count toward replacing the depletion on the days the well is out-of-priority. The accretions that report to the river when the well is in priority cannot be used to replace the out-of-priority depletions.

The **accretions that impact the river when the well is in priority** are not considered "excess" unless the cumulative net impact of the well is not negative for the entire irrigation year to date. (The irrigation year for this purpose is April 1 thru the following March 31.) Until such time as the cumulative net impact is not negative, the accretions must simply be released to the river and cannot be leased to other plans or recaptured. Plans that show a positive cumulative net impact are still required to make replacements on a daily basis; the cumulative analysis only effects whether or not accretions reporting to the river when the well is in priority are considered "excess" and are, therefore, able to be recaptured.

7. The basis for determining that the depletions are **out-of-priority** must be clearly established and all steps in the calculation included in the accounting. The analysis may be done, unless otherwise limited by decree, for each well or groups of wells, provided the most junior water right associated with the group of wells is used as the reference water right for the group's out-of-priority status.
8. Accounting must include **actual information** for the irrigation year through the month for which the accounting is being submitted **AND projections** of the plan operation through March 31 of the next calendar year.
9. The following **naming convention** must be used for all files submitted pursuant to item 1:

   "Plan**WDID**_YYMMDD"

   where: PlanWDID is the WDID assigned by the division engineer's office
   YYMMDD corresponds to the date the accounting is submitted.

   As an example, the assigned WDID for the former GASP plan was 0103333. If accounting using Excel® was submitted for that plan on May 15, 2004, the file name would be:

   "0103333_040515.xls"

   The name of the file must be in the subject line of the email.
10. All accounting must be reported using the **WDID** for the structure, at a minimum. Other information such as well name, permit number, etc. may also be included as desired. <u>All wells must be decreed by the water court, permitted by the state engineer or included in a decreed plan for augmentation</u>. Unregistered and undecreed wells cannot, in the opinion of the division engineer, be effectively administered because of the need to know the location, allowable diversion rate and use of the well - information that is only available from the decree or permitting process.

11. If a well is covered in multiple SWSP's or augmentation plans, the monthly meter readings must be the same in the accounting for each plan covering the subject well. The accounting for every plan covering the well shall state the proportionate pumping amount covered by each plan to assure all out-of-priority depletions are replaced.

12. The following additional accounting is required for sources of replacement water used for more than one plan. The water right owner of the replacement water is responsible for accounting for the total replacement amount and how much each plan is using of that total amount. The accounting for portions of the replacement water by other users must match the accounting of the water right owner. The amount of replacement water used by the water right owner and other users together shall not exceed the total replacement amount available.

    (See *Administration Protocol – Use Of Unnamed Sources For Replacement* for additional requirements concerning required notice and approval of sources of replacement not specifically described in a SWSP or augmentation plan)